QUEENSLAND COMPETITION AUTHORITY

Draft Report

SEQ Interim Price Monitoring for 2011-12

Part B - Detailed Assessment

January 2012

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SUBMISSIONS

This report is a draft only and is subject to revision. Public involvement is an important element of the decision-making processes of the Queensland Competition Authority (the Authority). Therefore submissions are invited from interested parties. The Authority will take account of all submissions received.

Written submissions should be sent to the address below. While the Authority does not necessarily require submissions in any particular format, it would be appreciated if two printed copies are provided together with an electronic version on disk (Microsoft Word format) or by e-mail. Submissions, comments or inquiries regarding this paper should be directed to:

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The **closing date** for submissions is **29 February 2012**.

Confidentiality

In the interests of transparency and to promote informed discussion, the Authority would prefer submissions to be made publicly available wherever this is reasonable. However, if a person making a submission does not want that submission to be public, that person should claim confidentiality in respect of the document (or any part of the document). Claims for confidentiality should be clearly noted on the front page of the submission and the relevant sections of the submission should be marked as confidential, so that the remainder of the document can be made publicly available. It would also be appreciated if two copies of each version of these submissions (i.e. the complete version and another excising confidential information) could be provided. Again, it would be appreciated if each version could be provided on disk. Where it is unclear why a submission has been marked "confidential", the status of the submission will be discussed with the person making the submission.

While the Authority will endeavour to identify and protect material claimed as confidential as well as exempt information and information disclosure of which would be contrary to the public interest (within the meaning of the *Right to Information Act 2009 (RTI)*), it cannot guarantee that submissions will not be made publicly available. As stated in s187 of the *Queensland Competition Authority Act 1997* (the QCA Act), the Authority must take all reasonable steps to ensure the information is not disclosed without the person's consent, provided the Authority is satisfied that the person's belief is justified and that the disclosure of the information would not be in the public interest. Notwithstanding this, there is a possibility that the Authority may be required to reveal confidential information as a result of a RTI request.

Public access to submissions

Subject to any confidentiality constraints, submissions will be available for public inspection at the Brisbane office of the Authority, or on its website at www.qca.org.au. If you experience any difficulty gaining access to documents please contact the office (07) 3222 0555.

Information about the role and current activities of the Authority, including copies of reports, papers and submissions can also be found on the Authority's website.

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1. QUEENSLAND URBAN UTILITIES

1.1 Introduction

This is the second year of price monitoring of retail/distribution water and wastewater prices in South East Queensland (SEQ) by the Authority.

The Authority's price monitoring task in 2011-12 has been amended following significant legislative changes made in 2011 affecting retail and distribution water and wastewater pricing.

Amongst other things, these legislative changes imposed a consumer price index (CPI) price cap on the retail and distribution component of water and wastewater prices for 2011-12 and 2012-13, removed references to the Authority's envisaged deterministic role from 1 July 2013 and clarified that participating councils are responsible for pricing. These legislative changes also allowed participating councils to opt out of their distributor/retailer business and revert to council provision of retail and distribution water and wastewater activities from 1 July 2012.

These legislative changes also require councils to publish a price mitigation plan that demonstrates how they intend to mitigate the price impacts on customers in the six years following the end of the CPI cap on 30 June 2013. By 1 July 2013, councils must publish a final price path for this period.

The Authority's price monitoring role was amended to take account of these legislative changes in an amended Ministerial Direction received 25 June 2011.

1.2 Ministerial Direction

Under the Ministerial Direction (**Appendix A**), the Authority must for Queensland Urban Utilities (QUU) and other Distributor-Retailer Authorities (the entities):

(a) monitor the annual change in prices of distribution and retail water and wastewater services for households and small business customers having regard to the CPI price limit (price cap) as described in relevant legislation; and

(b) monitor the annual change in prices for water and wastewater services not included in the CPI price limit (non-capped services), having regard to the change in revenue from these services compared to the change in the total prudent and efficient costs of carrying on the relevant activity.

The Authority must also:

(a) provide timely and transparent information to customers about the costs and other factors underlying the provision of water and wastewater services, including distinguishing the bulk and distribution/retail costs to the extent that it is possible given the availability and reliability of relevant information; and

(b) monitor the entities' revenue from water and wastewater activities against their total prudent and efficient capital and operating costs (the maximum allowable revenue or MAR).

1.3 Background

QUU provides water and wastewater services to 1.3 million people in the Brisbane, Ipswich, Somerset, Scenic Rim and Lockyer Valley local government areas. Key characteristics of QUU's service and asset base, as provided by QUU in its 2011-12 submission, appear in

Table 1.1 below. Changes from QUU's 2010-11 submission reflect updated population and connections and more consistent and robust network data.

QUU's participating councils have chosen to continue with the provision of retail and distribution water and wastewater activities by QUU from 1 July 2012.

Table 1.1: QUU Service and Asset Base

	Brisbane	***Ipswich***	***Somerset***	***Scenic Rim***	***Lockyer Valley***	***Total***
Population	1,067,279	168,131	22,519	38,304	36,591	1,332,824
Residential Water Connections	399,727	63,552	4,667	5,844	10,084	483,874
Non-Residential Water Connections	30,261	1,970*	654	1,354*	543	34,782
Water reservoirs	37#	26#	9	25	16	113
Water supply network (km)	6,227^	1,568	223	300	426	8,744
Wastewater network (km)	7,051	1,475	101	150	146**	8,923
Wastewater treatment plants	9	4	5	6	4	28

*Note: * The decrease in non-residential connections from QUU's 2010-11 submission (reported in the Authority's SEQ Interim Price Monitoring Final Report for 2010-11) reflects more robust data on connections (previous data was based on billing units). # The decrease in reservoirs reflects assets that were transferred to Linkwater and definitional issues. ^ The decrease in network km mains results from decommissioned assets. ** Reflects more consistent and robust network data available in 2011-12. Source: QUU (2011)*

A map of the area serviced by QUU is shown in Figure 1.1 below.

Figure 1.1: QUU Service Area

1.4 Prices and Revenues

Prices for Households and Small Businesses

Capped Prices

Under amendments to the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*, a CPI price cap applies to the retail and distribution component of water and wastewater charges in 2011-12 for specified customers. The specified customers include residential and small business customers and any other customer who passes on charges to either of these groups.

Under the legislation, the CPI cap for 2011-12 is 3.6%, and is applied to the fixed access charge and the charge rate for water consumption or wastewater disposal based on variable measures (the volumetric component) - after deducting the relevant rebates and subsidies.

Consistent with the approaches adopted by the entities, the Authority has reviewed all charges against the CPI cap except those specifically excluded (non-capped prices) which are dealt with further below.

The Authority notes that prices are set for a particular year in the preceding year and reflect an entity's intended (budgeted) revenues and costs for the following year.

In 2011-12, QUU increased the retail and distribution component of residential and non-residential water and wastewater prices by less than 3.6% (**Appendix B**):

(a) changes to residential charges differed across geographic (council) areas, however, all increases were less than 3.6%. In terms of access charges:

  (i) QUU reduced and harmonised the water access charge to $280 per annum in the non-metropolitan areas of Ipswich, Scenic Rim, Lockyer Valley and Somerset. In doing so, QUU noted that the higher water access charge in the regions reflects the higher cost of providing access to water in those areas;

  (ii) QUU reduced the wastewater access charge in Ipswich, Scenic Rim and Somerset (Esk) while this charge was increased by 3.2% in Lockyer Valley and Somerset (Kilcoy); and

  (iii) QUU increased the Brisbane water access charges by 2.6% to $167.16, and the wastewater access charge by 3.2% to $475.92;

(b) residential water consumption charges increased by 2.6% in all geographic areas; and

(c) non-residential water charges increased by 2.6% and wastewater charges by 3.2% in all geographic areas and sundry charges (such as special meter reads and standpipe sales) were increased by 3.0%.

As noted above, changes in council subsidies must also be identified to assess compliance with the CPI cap. Of QUU's participating councils, only Brisbane City Council (BCC) provides subsidies.[1] These relate to:

(a) certain community organisations, including some retirement villages, kindergartens and not-for-profit sporting and community groups. The coverage and rate of this subsidy for wastewater services has been continued in 2011-12; and

[1] One-off council flood rebates are not included in the assessment of increases in prices against the CPI cap.

(b) eligible pensioners in relation to their water and wastewater bills. The coverage and rate of this subsidy has been continued in 2011-12, and the maximum allowable amount increased by 2.6%.[2]

While the 2.6% increase in the maximum allowable amount of the pensioner subsidy is the same as the (2.6%) increase in retail and distribution component of residential water prices, it is slightly less than the (3.2%) increase in wastewater prices. Nonetheless, the increase in charges is offset by the subsidy, such that the increase in the retail and distribution component of the bill is less than the 3.6% CPI limit.

Therefore, the retail and distribution component of residential and non-residential water and wastewater prices have increased by less than 3.6% and relevant subsidies have been continued. The Authority considers that QUU has complied with the legislated CPI price cap for 2011-12.

The Authority notes that QUU was able to conduct some (limited) harmonisation of water access charges in non-metropolitan areas as noted above. Carbon pricing is due to commence on 1 July 2012 and does not affect 2011-12 prices under the approach adopted by QUU.

In relation to the CPI cap, the Somerset Regional Council commented that:

(a) the imposition of price caps has significantly hampered the ability of QUU to simplify its tariff structure prior to 1 July 2013. QUU currently maintains five sets of tariffs for identical services throughout its coverage area. The CPI price cap does not allow QUU to equalise these tariffs. This increases QUU's administrative costs and causes confusion for water and sewerage customers; and

(b) the price cap should be amended to treat carbon pricing in the same way as the above-CPI State Government bulk water price increases.

Residential Bills

The retail and distribution component of residential prices is capped, as noted above. To facilitate comparisons with prices prevailing in 2010-11, the Authority has continued to compare increases in residential bills.

As in last year's price monitoring report, the residential bills used in the Authority's analysis were estimated on the basis of usage of 200kL of water per year, as this is the basis adopted for national performance reporting (NWC 2010). As there is no national standard for wastewater, the analysis was based on the approach adopted in each council area. For Somerset and Lockyer Valley this was one pedestal per household while in other council areas the bill is based on a fixed access charge. The same approach has been adopted by the Queensland Water Commission (QWC) in its analysis of residential water and sewerage bills.[3]

The Authority did not calculate a residential bill consistent with Authority estimates of efficient costs in 2011-12 as costs are not disaggregated to this level by QUU.

Total residential bills for household water and wastewater services increased, except in Scenic Rim and Lockyer Valley (Chart 1.1). Bill increases ranged from $13 in Somerset to $75 in Brisbane. In the Scenic Rim, bills fell by $8 and in Lockyer Valley by $34.

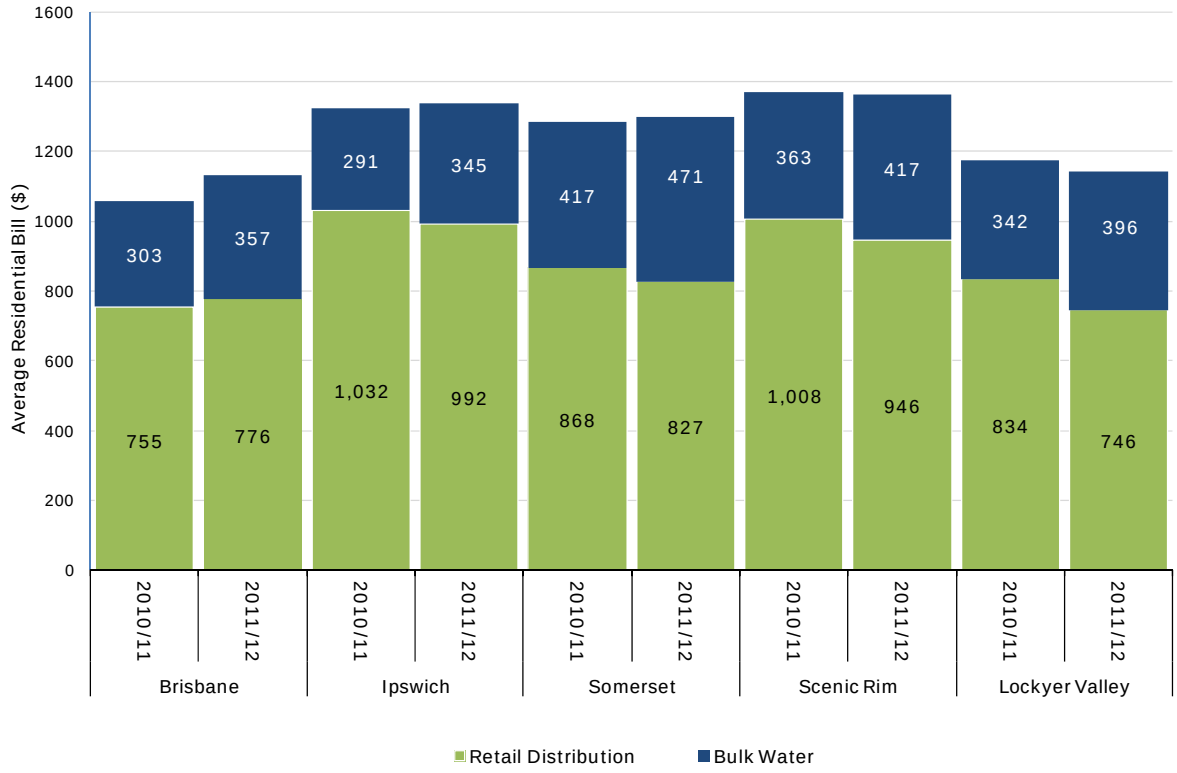
[2] BCC has continued its policy of a full pensioner subsidy of 40% of the total bill (net of the State Government pensioner water subsidy) and part pensioner subsidy of 20% of the total bill (net of the State Government pensioner water subsidy). The maximum amount of council subsidy for a full pensioner in 2011-12 increased to $476 (from $464 in 2010-11) and the maximum for a part pensioner increased to $238 (from $232) – the increase in maximum amount is funded by both council and QUU. While not relevant to the CPI cap which only includes council subsidies, the Authority notes for completeness that the State Government pensioner water subsidy in 2010-11 of up to $100 was increased to $120 in 2011-12.

[3] QWC 2011 'Water and sewerage bills in Brisbane – the facts' www.qwc.qld.gov.au

The retail and distribution component of the residential bill fell in all areas, except for Brisbane. However, the bulk component increased in all areas.

The residential bill includes water and wastewater, and wastewater has no bulk water component.

Chart 1.1: Total Residential Bills



Notes: Based on metered usage of 200kL per annum and one pedestal (where relevant). The retail/distribution component includes water and wastewater. Somerset data does not include Kilcoy. Lockyer Valley data is based on connected households receiving full pressure, and excludes Forest Hill (which had a different charging regime to other areas in the Lockyer Valley in 2010-11). No early payment discounts were applied. Source: QUU (2011)

Prices for Other Users (Non Capped Prices)

Under the Direction, the Authority must monitor the annual change in prices of non-capped services, having regard to the change in revenue from these services compared to the change in the prudent and efficient costs of the relevant activity.

For the purposes of the comparison:

(a) QUU's 2010-11 and 2011-12 revenues are those set at the time prices are determined. Essentially, they reflect an entity's intended (budgeted) level of cost recovery;

(b) the Authority compares the change in QUU's revenues for non-capped services from 2010-11 with those forecast by QUU for 2011-12, with the change implied by the change in the Authority's estimates of prudent and efficient costs.

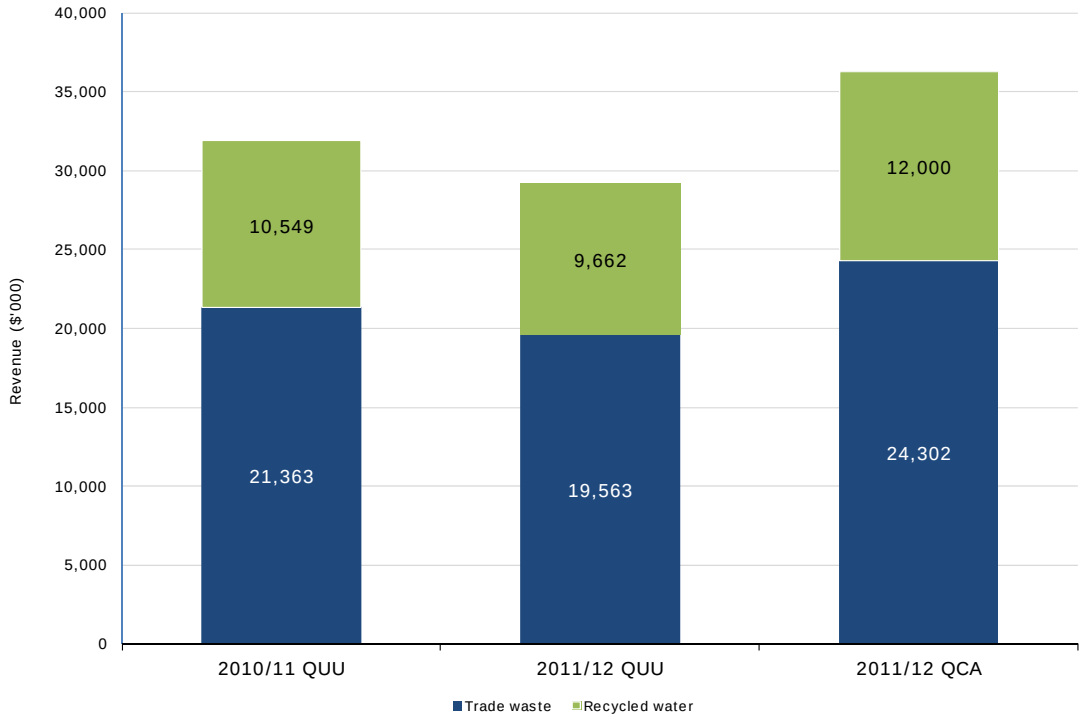
Under the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*, the CPI price cap does not apply to trade waste, seepage[4], or recycled water services. QUU does

[4] Seepage water is water that seeps from the ground into that part of a structure below ground level (e.g. tunnels and underground carparks). QUU does not currently provide services relating to the discharge of seepage water.

not provide seepage water services. Trade waste and recycled water services are included as part of the wastewater activity [5] provided by QUU.

Revenues from these specific non-capped services decreased by 8.42% in 2011-12 (mainly due to a significant fall in revenues expected in Ipswich trade waste[6]) compared to the Authority's estimated increase in prudent and efficient costs for wastewater activities of 13.76% (Chart 1.2 and Table 1.2). The change in revenues from non-capped services therefore is less than the increase in the prudent and efficient costs of the relevant activity. The change in QUU revenues compared with the revenues implied by the increase in the Authority's estimate of prudent and efficient wastewater costs appears below.

Chart 1.2: Non-Capped Revenues ($'000)



Note: 2011-12 QCA data = 2010-11 revenue multiplied by 13.76%, the increase in wastewater activity costs (MAR, see section 1.13). Source QUU (2011), QCA (2010), QCA (2011)

[5] As the 'activity' is a higher-level cost grouping, the costs of the relevant activity include the costs of capped and non-capped services relevant to that activity (see SEQ Framework Report 2010). The Direction does not require a comparison of non-capped revenues with the costs of providing non-capped services. Costs are not available on this disaggregated basis across all geographic areas.

[6] More recent information from QUU indicates that trade waste revenues for Ipswich in 2010-11 are significantly lower than budgeted, due to lower demand. QUU increased trade waste prices by 3.2% in 2011-12.

Table 1.2: Change in Non Capped Revenues

	QUU 2010-11	*QUU 2011-12*	*QCA 2011-12*
Revenues ($m)	$31.91	$29.23	$36.30
% change from 2010-11		-8.42%	13.76%

Source QUU (2011), QCA (2010), QCA (2011)

Average Prices

There is a wide range of prices set by QUU relating to the range of services provided to each of the previous council areas and customer groups in SEQ.

For broad comparative purposes, the Authority has noted the changes in average prices (as well as residential bills above). Average prices provide, at best, a broad overview of price changes.

QUU's average water and wastewater prices increased across all customer groups in 2011-12. For reasons identified further below, the average price charged by QUU differs from that implied by the Authority's assessment of prudent and efficient costs. Charts 1.3 and 1.4, and Table 1.3 refer.

Prices are not necessarily set by the entities on the basis of costs alone, although QUU has advised that costs, demand and customer impacts were key factors in 2011-12.

Also indicated is the share of average prices accounted for by bulk water charges. It is assumed that, based on the Government's policy, the bulk water prices charged by the SEQ Water Grid Manager (WGM) are passed through to customers in full. There is no material bulk water component in wastewater prices.

Average prices were calculated by dividing total revenues by volumes – per kl (for water) and per connection (for wastewater).[7] Revenues and volumes for 2010-11 reflect the information available at the time of setting 2010-11 prices (and correspond with the data published in the Authority's Final Report for 2010-11). Revenues and volumes for 2011-12 reflect the information available at the time of setting 2011-12 prices. Wastewater revenues include those derived from trade waste and recycled water services, as well as from core wastewater services (the acceptance and disposal of sewage directly from users' premises to the sewer network).

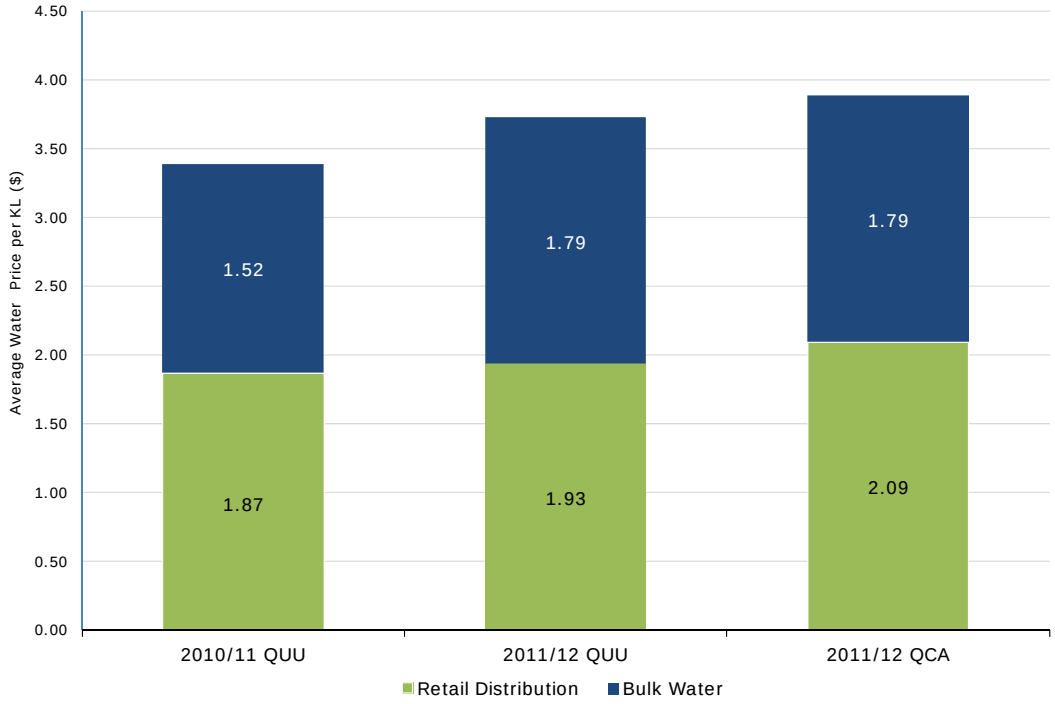
The Authority's analysis suggests that average annual water and wastewater prices are slightly below those implied by full cost recovery for 2011-12. The Authority's higher (than QUU's) estimate of the average price for 2011-12 is primarily due to its higher opening regulatory asset base (RAB) value for 1 July 2011 (discussed further below).

However, as noted in last year's SEQ Interim Price Monitoring Final Report for 2010-11, prices should ideally be set, and smoothed, over a longer period to avoid large annual variations.

The Authority notes that the price mitigation plan published by one of QUU's participating councils (to apply to prices from 2013-14 to 2018-19) refers to the need to take into account cost increases (if any) and the need to minimise year on year fluctuations by smoothing charges over an appropriate period.[8]

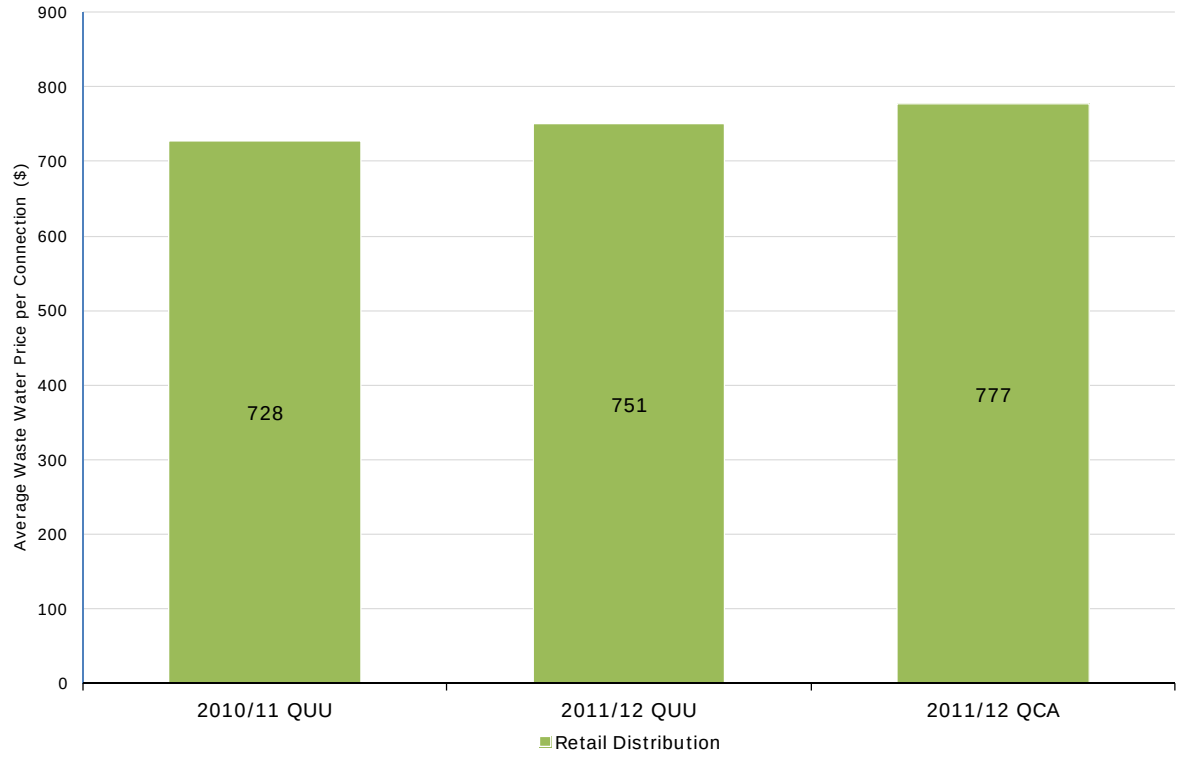
[7] The ABS adopts a similar approach to calculate an average water price in national water accounts – the ABS average price is derived by dividing a state's total residential water revenue ($) by residential water consumption (kL).(ABS, 2010).
[8] The Scenic Rim Regional Council price mitigation plan.

Chart 1.3: Average Water Prices



Source: QUU (2011), QCA (see section 1.1.3)

Chart 1.4: Average Wastewater Prices



Note: Differs from previous data on non-capped revenues as average wastewater prices include revenues from core wastewater services and also take connections into account. Source: QUU (2011), QCA (see section 1.13)

Table 1.3: Average Prices[ab]

	QUU 2010-11	*QUU 2011-12*	*QCA 2011-12[#]*
Water ($/kl)	$3.39	$3.72	$3.88
% increase from 2010-11, attributable to:		9.92%	14.67%
Bulk water price increases		7.98%	7.98%
Distribution and retail price increases		1.94%	6.68%
Wastewater ($/connection)	$728.03*	$750.67	$776.52
% increase from 2010-11		3.11%	6.66%

Note: revised to reflect more robust data on connections (previous data was based on billing units) [a] Average QUU water price = Annual QUU water revenue ($) / total kl sold . [b]Average QUU wastewater price = Annual QUU wastewater revenue ($) / total connections. [#] Average QCA price = QCA MAR / QCA kL (water) or connections (wastewater). Percentages reflect data not rounded for the purposes of this table. Source: QUU (2011, 2010) QCA calculations.*

1.5 Demand

The cost of providing water and wastewater services is affected by the quality and the quantity of the services provided. For the purposes of the current review, the Authority has accepted the current standards of service.

Estimates of demand for water and wastewater have a direct impact on the prudency and efficiency of operating and capital expenditure, as well as on the average prices paid.

QUU's submission

QUU submitted that demand forecasts are essentially based on two core components: an absolute component representing the population or connections; and a rate of usage usually referred to in litres per person per day (l/p/d). Key factors include:

(a) the number of existing residential and non residential connections:

(b) new residential and non-residential connections (growth in connections);

(c) changes in water usage behaviour by customers which can be driven by water restrictions and water efficiencies implemented on customer premises as well as general weather conditions; and

(d) background leakage.

QUU also identified differences in its forecasting approach and estimates for annual pricing purposes and that adopted for longer term capital planning purposes.

Population and Connections

QUU noted that its population forecasts are drawn from a range of sources including the SEQ Water Strategy, the SEQ Regional Plan, town planning decisions made by councils and detailed projections of population dynamics, residential dwelling activity and land supply provided by the Demography and Planning unit within Queensland Treasury's Office of Economic and

Statistical Research (OESR) (formerly known as the Planning Information and Forecasting Unit (PIFU)).

For pricing purposes, the focus is on estimating growth in the number of properties, which is then applied to the properties in the billing system. The State Government's medium term planning forecasts are moderated by QUU using information on property growth reflected in the billing system (although QUU noted this information was limited at the time of pricing in 2011-12).

For capital planning purposes, the serviced equivalent population (EP) projections and planning and design standards define the future capacity of the system. Deriving the required EP projections for capital planning purposes is a detailed and data intensive process that requires:

(a) the residential population estimates to be adjusted for the serviced (connected) population. Non-residential demand is also measured in EP units. Non-residential demand is developed by QUU based on their customer database, planning schemes and density assumptions;

(b) projections to be appropriate to the distribution network planning level. Street level water reticulation planning and sewerage catchment planning typically require the population distribution to be estimated at an individual property level;

(c) projections over long period of time, including the appropriate asset service life (which may be up to 80 years and extend beyond the limit of current population projections), intermediate years (five-yearly for 20 years) and ultimate serviced populations (the EP capacity under current planning schemes); and

(d) data to be drawn a wide variety of sources (OESR being only one source of input) and key assumptions including on land use planning made including on densities (EP/ha) and redevelopment takeup.

Per Capita Demand – Litres Per Person Per Day (l/p/d)

QUU noted that per capita demand has experienced significant fluctuations over the last decade as a result of the millennium drought, and the long term impact is not yet clear. Factors affecting the rate of demand include day-to-day changes in temperature and rainfall, medium term climate effects such as drought and water restrictions, and longer term changes arising from water efficient appliances and permanent water conservation measures.

QUU anticipates that current low levels of per capita demand will continue in the short term, with some upwards creep to a plateau at the regional planning values published by the QWC of 200-230 l/p/d in the SEQ Water Strategy.

QUU noted it has two distinct measures of the level of demand:

(a) a short term (current) measure – adopted for pricing purposes, used as a basis for estimating demand-related operational expenditure such as electricity and chemicals, and in the prioritisation of the five-year capital investment program.

    For pricing purposes in 2011-12, QUU adopted the same daily consumption forecast as used in setting 2010-11 prices, rather than current consumption levels (which are 10-15% lower). QUU submitted that using the higher demand results in 2011-12 prices being set on a conservative (low) basis. QUU submitted this reduces the risk of over-recovery of revenues in 2011-12 as the unusually wet weather (low consumption) in 2010-11 is unlikely to be repeated in 2011-12. A similarly conservative approach was used for non-residential demand;

QUU noted that daily consumption (l/p/d) is converted to consumption per property (kL per annum) based on its estimate of average persons per property;

(b) a long term measure – adopted for capital planning and infrastructure design purposes. Assets with high capital costs and long lives are planned around an underlying long-term average per capita demand and peak demand which is typically a multiple of the long term average l/p/d measure.

For water, QUU has adopted an average day demand of 230 l/p/d and adjusted peak loads (of three to five times this level) in its infrastructure design standards.[9] QUU also noted that local street water mains are typically sized to meet fire fighting requirements as these typically exceed peak customer loads.

For wastewater, QUU's infrastructure design standards reflect average dry weather flows of 210 l/p/day (comprised of internal household water use of 150 l/p/day and groundwater infiltration of 60 l/p/day) and peak wet weather flows of five times the average dry weather flows (in accordance with the Department of Environment and Resource Management (DERM) Planning Guidelines). Sewage treatment plants are designed to provide full treatment at three times the average dry weather flow and primary treatment at up to five times this level.

Authority's Analysis

The Authority engaged SKM to review the appropriateness of QUU's demand forecasts for water and wastewater activities from 1 July 2011. SKM was required to determine whether the demand forecasts have been developed using appropriate forecasting methodologies and reflect reasonable data assumptions. SKM was also required to report on whether the issues identified by the Authority in its SEQ Interim Price Monitoring Final Report for 2010-11 have been addressed.

In relation to demand forecasting, the Authority recommended in 2010-11 that QUU should:

(a) document its approach to forecasting demand for all purposes and establish processes for the collation of data; and

(b) take into account the response of consumers to increasing prices (that is, estimate the price elasticity of demand) when estimating future consumption.

SKM reviewed the methodology adopted by QUU to forecast demand for pricing purposes, its assumptions and demand estimates for pricing purposes, and provided some commentary on the relationship between short and long term demand forecasting.

For comparison purposes, the Authority has provided the previous forecasts for 2010-11 based on the information available at the time of pricing in 2010-11 and published in the SEQ Interim Price Monitoring Final Report for 2010-11 in the below analysis. These previous forecasts are shaded to clearly distinguish them from more recent information now available for 2010-11. The unshaded data is based on the information available at the time of setting 2011-12 prices.

Methodology

SKM noted that water and wastewater demand projections are subject to uncertainty, as they are influenced by a multitude of factors. These include population growth, and residential, industrial and commercial water use patterns, which are in turn affected by water conservation

[9] QUU noted that these parameters were reviewed in 2009 in light of reduced customer usage. The average day water demand of 310 l/p/d was then reduced to 230 l/p/d.

programs and weather conditions. Further economic factors include household disposable income and the price elasticity of demand.

SKM considered the relevance of each factor should be determined by a multivariate regression analysis. However, this requires a time series of robust historical data.

SKM considered that insufficient data was currently available to conduct this statistical analysis. SKM noted that there are data incompatibility issues arising from how data was collected and defined by councils leading to uncertainty about the quality of council data. SKM was informed by QUU that the only robust data is that available from actual QUU billing data in 2010-11. SKM expected that this issue will eventually resolve itself as more time passes and data is collected in the normal course of business.

In particular, SKM noted that QUU had not explicitly considered the impact of price on demand (price elasticity). SKM noted there are a wide range of estimates of the price elasticity of water due to differences in urban design, consumer behaviour, institutional and regulatory factors, climate and custom. The most recent study conducted in Sydney (Abrams et al, 2011) estimated price elasticity of 0.05 but cautioned against its wider use outside of the Sydney area.

SKM considered that the impact of price increases on demand has contributed to the slow rebound from drought consumption levels (discussed further below). SKM recommended that, once consumption has rebounded to normal levels and there is sufficient robust and consistent historical data to estimate the price elasticity of demand, it be made an explicit component of demand forecasting.

Overall, SKM considered the general methodology adopted by QUU for pricing purposes was reasonable. At the same time, SKM made adjustments to reflect more recent data and other minor changes. These are discussed further below.

The Authority notes that QUU has provided further information in its 2011-12 submission to identify and explain (document) its demand forecasting approach for all purposes. QUU has also provided briefings to Authority staff and its consultants on these issues. A review of demand forecasting for capital planning purposes is provided further below.

In relation to price elasticity, the Authority notes that the CPI price cap has effectively limited the increase in price that can be applied in 2011-12 and 2012-13. Therefore, consideration of the price elasticity of demand is less relevant than originally envisaged at the time of the preparing the Authority's SEQ Interim Price Monitoring Final Report for 2010-11. Further, there is a lack of a readily available estimate of price elasticity for SEQ – although this issue appears surmountable.

However, the Authority considers that QUU should take the impact of price increases on demand into account in preparing its price path for the six-year period from 1 July 2013, as SKM has forecast a return to more normal levels of consumption during this period.

The Authority considers that QUU's demand forecasting methodology adopted for pricing purposes can be considered to be appropriate to the purpose of the forecast and the availability of current information.

The Authority considers that QUU's general demand forecasting methodology is reasonable. Explicit inclusion of price elasticity for water should be incorporated once the estimated level of rebound demand is achieved.

Residential Water Connections

QUU's forecasts of residential connections are based on the latest information on 2010-11 properties in the billing system, to which a growth rate is then applied. QUU stated that connections growth is based on the State Government's population forecasts adjusted for property growth in the billing system. SKM stated that QUU's residential connections growth is based on 2010 OESR dwelling projections.

Table 1.4: QUU Residential water connections

	2010-11	***2010-11***	***2011-12***	***2012-13***	***2013-14***	***CAGR 2011-14***
Brisbane	399,922	393,432	399,727	406,123	412,621	1.6%
Ipswich	61,482	61,355	63,552	65,827	68,183	3.6%
Lockyer Valley	10,172	9,765	10,084	10,414	10,755	3.3%
Scenic Rim	5,025	5,755	5,844	5,935	6,027	1.6%
Somerset	4,178	4,596	4,667	4,740	4,813	1.6%
QUU total	**480,779**	**474,903**	**483,874**	**493,038**	**502,398**	**1.9%**

Note: 2010-11 shaded data reflects QUU's forecasts for 2010-11 as published in the SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: QUU (2011) data template, SKM (2011).

SKM accepted that the latest information on 2010-11 properties in the billing system should be used as the basis for forecast residential connections.

SKM used the OESR's May 2011 forecasts of growth in private dwellings to review residential connections growth. The OESR provides the Queensland Government's official population forecasts.

The OESR has advised that, due to the recent slowdown in migration, the low population growth series is more representative of its expectations than the medium series. This view was available in May 2011. Moreover, the previous official projections were based on 2008 data and it was evident that new projections were to be released in May 2011. There was sufficient time for prices developed earlier in the year to be adjusted to reflect more robust forthcoming information. As OESR only publishes a medium series dwelling growth, SKM adjusted this to reflect lower population growth expectations. SKM applied the ratio of the low to medium population series to the dwelling numbers resulting in a lower dwelling series.

SKM compared QUU growth forecasts to the expected rate of dwelling growth, based on May 2011 OESR data. SKM noted that QUU had forecast generally higher growth rates compared to those expected using OESR data.

The Authority notes that QUU's growth rates for residential connections are the same as those applied in its 2010-11 submission (which were adjusted by the Authority in its 2010-11 report).

SKM recommended the generally lower OESR growth rates be applied to the 2010-11 connections data provided by QUU.

Table 1.5: Residential connections growth rates (%)[10]

	QUU 2010-13 Residential 2010 Submission	*QUU 2011-14 Residential*	*OESR 2011-16 Dwellings*
Brisbane	1.6%	1.6%	1.1%
Ipswich	3.6%	3.6%	4.3%
Lockyer	3.3%	3.3%	2.6%
Scenic Rim	1.6%	1.6%	2.3%
Somerset	1.6%	1.6%	2.4%
QUU	**1.9%**	**1.9%**	**1.6%**

Note: 2010_11 shaded data reflects QUU's forecasts for 2010_11 as published in the SEQ Price Monitoring Report for 2010_11. This data is provided for comparison purposes only. Source: QUU (2011) data template, PIFU (2011).

By applying the OESR growth rates to 2010-11 connections, SKM calculated its recommended water connections for 2011/12 (see Table 1.6 below). The Authority's previous forecast of 2010-11 residential connections as published in its SEQ Interim Price Monitoring Final Report for 2010-11 are also provided for comparison purposes. This data is shaded to distinguish it as the Authority's previous forecast. It has not been used by QUU or SKM in their current forecasts.

Table 1.6: Recommended residential water connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Brisbane	397,502	393,432	397,924	402,417	406,909
Ipswich	62,788	61,355	64,238	67,122	70,005
Lockyer Valley	10,013	9,765	10,034	10,303	10,571
Scenic Rim	5,852	5,755	5,892	6,030	6,167
Somerset	4,641	4,596	4,712	4,829	4,945
Total Recommended	**480,796**	**474,903**	**482,801**	**490,700**	**498,598**
QUU Proposed	480,779	474,903	483,872	493,035	502,398
Difference	**18**	**0**	**-1,071**	**-2,335**	**-3,800**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: SKM (2011).

[10] Growth rates are the annual average compound rates.

The Authority accepts SKM's residential water connection estimates.

Residential Water Volumes

QUU estimated water volumes using assumptions of residential occupancy rates, average usage and connections. Connections are adjusted to reflect only those properties that use water, or to exclude undeveloped land where an access charge is levied but no water is consumed. This is a change in the methodology adopted by QUU in its 2011-12 submission.

As noted previously, QUU adopted the same occupancy rates, average usage and connections growth for 2011-12 price setting as it used for price setting in 2010-11 (even though QUU noted that estimated actual usage in 2010-11 was below that forecast (Table 1.7)).

QUU submitted that using the higher demand results in 2011-12 prices being set on a conservative (low) basis. QUU submitted this reduces the risk of over-recovery of revenues in 2011-12 as the unusually wet weather (low consumption) in 2010-11 is unlikely to be repeated in 2011-12.

Table 1.7: QUU Average Residential Use (litres per person per day)

	2010-11	***2010-11***	***2011-12***	***2012-13***	***2013-14***
Brisbane	175.0	169.0	175.0	175.9	176.8
Ipswich	175.0	166.0	175.0	175.9	176.8
Lockyer Valley	157.5	146.0	158.0	158.8	159.6
Scenic Rim	157.5	142.0	158.0	158.8	159.6
Somerset	157.5	136.0	158.0	158.8	159.6

Note: 2010-11 shaded data reflects QUU's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Source: QUU (2011), SKM (2011).

Table 1.8: QUU Residential occupancy rates

	Persons per Connection	***Persons per Connection***
Brisbane	2.36	2.36
Ipswich	2.6	2.6
Lockyer	2.6	2.6
Scenic Rim	2.6	2.6
Somerset	2.6	2.6

Note: 2010-11 shaded data reflects QUU's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison only. Source: QUU (2011).

Table 1.9: QUU Percentage of connections consuming water

	%
Brisbane	97
Ipswich	92
Lockyer	75
Scenic Rim	93
Somerset	87

Note: QUU did not estimate this data in the 2010 submission. Source: QUU (2011).

Table 1.10: QUU Residential Water Demand (ML/year)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Brisbane	60,291	55,620	58,368	59,599	60,855
Ipswich	9,968	8,938	9,744	10,143	10,559
Lockyer Valley	1,066	1,020	1,141	1,184	1,229
Scenic Rim	722	719	816	833	850
Somerset	601	514	608	621	633
QUU	**72,647**	**66,812**	**70,677**	**72,379**	**74,126**

Note: 2010-11 shaded data reflects QUU's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Note: Residential water demand (ML/year) = litres per person per day x residential occupancy rate x number of connections that consume water x 365 / 1,000,000.
Source: QUU (2011).

In reviewing QUU's approach, SKM stated its general preference for using average consumption per connection (litres per connection) instead of per person (litres per person). Data on consumption per connection is directly collected from the billing system and is therefore preferred to the per person method which requires a further assumption on average persons per connection.

However, SKM acknowledged that, given the lack of historical data and as the l/p/d method has been adopted by the State Government for its water strategy, the l/p/d approach is reasonable.

Therefore, SKM first reviewed occupancy rates. SKM considered that the May 2011 OESR data should be adopted to derive the expected estimates. As noted previously, SKM has adopted the low series population data on the basis of OESR advice and adjusted the dwelling data for consistency with this approach.

SKM noted that its occupancy rates are higher than QUU's estimates for Brisbane, Ipswich and Lockyer Valley, while lower for Scenic Rim and Somerset.

Table 1.11: Recommended Residential occupancy rates

	2010-11	*2011-12*
Brisbane	2.36	2.48
Ipswich	2.6	2.74
Lockyer	2.6	2.65
Scenic Rim	2.6	2.46
Somerset	2.6	2.45

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: QUU (2011).

SKM adjusted QUU's estimate of the 2010-11 average consumption per person (l/p/d) to reflect SKM's revised residential occupancy rate for 2010-11 and QUU's estimate of the 2010-11 usage per connection.

In relation to the growth in average consumption per person, SKM noted that QUU anticipated that the current historically low levels residential use will continue in the short term, with potentially some upwards creep over the longer term as a response to relaxed water restrictions. From 2011-12 onwards, QUU forecast average daily residential use to increase by 0.5% per annum.

While SKM concurred that the average consumption rates in 2010-11 are affected by the high incidence of wet weather in the SEQ, SKM considered that consumption will rebound in 2011-12. SKM noted that previous studies have indicated that, in the absence of any ongoing measures or media campaign to retain savings achieved during restrictions, consumption rebounds to normal levels over a period of 18 to 24 months.

SKM considered that QUU's assumption of a 0.5% increase in average residential use from 2011-12 reflects an overly optimistic level of water saving behaviour.

However, SKM noted that it did not expect consumption to return to pre-drought levels, given the measures taken to reduce consumption during the drought (such as water efficient appliances) have resulted in structural changes to reduce water use.

SKM expected a rebound of average consumption to the 200 L/p/d voluntary target set by the Queensland Government for the SEQ as a whole. However, and drawing on a UTS study which noted that measures such as a strong educational program and timely introduction of demand management would limit rapid bounce back, SKM proposed that the rebound period would be 4.5 years for Brisbane and Ipswich.

For the three relatively rural regions of the Lockyer Valley, Scenic Rim and Somerset, SKM expected rebound would take a longer period of time to occur. SKM noted that rural customers are greater users of alternative sources of water including rainwater tanks and ground water which is reflected in the low consumption data for these areas. As rural customers are likely to continue to use these alternative sources, SKM's view is that it will take longer for rural consumption to rebound from a low consumption base. SKM therefore extended the rebound period for Lockyer Valley, Scenic Rim and Somerset to eight years.

Table 1.12: Recommended Average Residential Water Usage (L/p/d)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Rebound Target*
Brisbane	175	161	169	177	186	198
Ipswich	175	158	166	174	182	195
Lockyer Valley	158	143	147	152	156	177
Scenic Rim	158	150	154	159	163	185
Somerset	158	144	148	153	157	178

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: SKM (2011).

Consistent with QUU's methodology, SKM applied these adjusted inputs to form its recommended residential water volume. SKM's estimates of residential water demand in 2011-12 are slightly higher than QUU's.

Table 1.13: Recommended Residential Water Demand (ML/year)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Brisbane	59,926	55,620	59,202	62,668	66,362
Ipswich	10,180	8,938	9,857	10,780	11,775
Lockyer Valley	1,049	1,020	1,083	1,140	1,202
Scenic Rim	841	719	763	801	842
Somerset	667	514	546	573	603
Total Recommended	**72,663**	**66,812**	**71,451**	**75,963**	**80,784**
QUU Proposed	72,647	66,812	70,677	72,379	74,126
Difference	**16**	**0**	**774**	**3,584**	**6,658**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: SKM (2011).

The Authority accepts SKM's residential water demand estimates for 2011-12.

Residential Wastewater Connections

As for water, QUU used the number of billed connections in 2010-11 as the starting point for its residential wastewater connections forecasts. QUU then applied its estimate of growth in connections.

Table 1.14: QUU Residential Wastewater Connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Brisbane	389,215	386,463	392,646	398,929	405,312
Ipswich	44,112	55,238	57,216	59,264	61,385
Lockyer Valley	4,200	3,998	4,129	4,264	4,403
Scenic Rim	3,549	3,994	4,056	4,119	4,183
Somerset	2,991	2,753	2,796	2,839	2,883
Total	**444,067**	**452,446**	**460,842**	**469,414**	**478,166**

Note: 2010-11 shaded data reflects QUU's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Source: QUU (2011).

As for water connections, SKM recommended the use of the most up to date OESR data on dwelling growth be applied to the latest 2010-11 connections data. SKM's estimate of residential wastewater connections are shown below.

Table 1.15: Recommended Residential Wastewater Connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Brisbane	390,486	386,463	390,778	395,142	399,554
Ipswich	56,536	55,238	57,620	60,104	62,695
Lockyer Valley	4,131	3,998	4,102	4,210	4,320
Scenic Rim	3,975	3,994	4,085	4,178	4,274
Somerset	2,818	2,753	2,819	2,888	2,957
Total Recommended	**457,945**	**452,446**	**459,405**	**466,521**	**473,800**
QUU Proposed	444,067	452,446	460,842	469,414	478,166
Difference	**13,878**	**0**	**-1,437**	**-2,893**	**-4,366**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: QUU (2011), SKM (2011).

The Authority accepts SKM's residential wastewater connections estimates for 2011-12.

Non-Residential Water

QUU's non-residential water volumes are calculated based on the number of non-residential connections multiplied by the average daily consumption per connection (l/c/d). The number of non-residential connections are based on 2010-11 data and forecast growth rates.

QUU projected lower growth in non-residential connections and average consumption (than for residential customers). Connection growth is forecast to grow at 1% with the exception of the

Lockyer Valley at 1.4%. Average consumption per connection is forecast to grow at 1% in 2011-12 and 0.25% thereafter. The same growth rates were applied to monthly and quarterly non-residential accounts.

QUU submitted that its lower non-residential growth rates are based on historically lower connections growth and water saving practices have been ingrained into the non-residential customer base.

Table 1.16: QUU Non-residential water connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Brisbane	30,687	29,961	30,261	30,564	np
Ipswich	4,217	1,950	1,970	1,990	np
Lockyer Valley	531	536	544	551	np
Scenic Rim	2,210	1,341	1,355	1,368	np
Somerset	518	648	655	661	np
QUU total	**38,163**	**34,436**	**34,785**	**35,134**	**35,486**

Note: 2010-11 shaded data reflects QUU's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Np: not provided. Source: QUU (2011), SKM (2011).

Table 1.17: QUU Non-residential water demand (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Annual Growth*
Brisbane	28,648	31,889	32,530	32,937	33,350	1.5%
Ipswich	5,813	4,425	4,514	4,571	4,628	1.5%
Lockyer Valley	217	283	289	294	299	1.9%
Scenic Rim	256	338	345	349	353	1.5%
Somerset	482	548	559	566	573	1.5%
QUU	**35,417**	**37,482**	**38,237**	**38,717**	**39,203**	**1.5%**

Note: 2010-11 shaded data reflects QUU's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Source: QUU (2011), SKM (2011).

In relation to connections growth, SKM noted its preference to forecast non-residential connection numbers as a function of economic activity as well as residential connections or population.

However, as historical information is not available, SKM considered that increasing non-residential water connections at the same rate as residential connections – thus maintaining the historical ratio of residential/non-residential connections – is more appropriate than QUU's approach of applying a percentage growth rate (see table below).

Table 1.18: Recommended non-residential water connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*CAGR 2011-14*
Brisbane	30,687	29,961	30,303	30,645	30,987	1.1%
Ipswich	4,217	1,950	2,042	2,133	2,225	4.5%
Lockyer Valley	531	536	551	566	580	2.7%
Scenic Rim	2,210	1,341	1,373	1,405	1,437	2.3%
Somerset	518	648	664	681	697	2.5%
Total Recommended	**38,163**	**34,436**	**34,933**	**35,430**	**35,927**	**1.4%**
QUU Proposed	38,163	34,436	34,785	35,134	35,486	1.0%
Difference	**0**	**0**	**148**	**296**	**441**	**0.4%**

Note: 2010-11 shaded data reflects Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: SKM (2011).

In relation to average non-residential consumption per connection (l/c/d), SKM noted that rebound is unlikely to be a major issue (unlike residential consumption). Reduction in business consumption during the drought is largely structural. Water Efficiency Management Plans (WEMPs) continue to apply and are likely to constrain growth in average water consumption. SKM therefore accepted QUU's estimates of average non-residential consumption per connection, on the basis of available information. QUU estimated average consumption per connection is forecast to grow at 1% in 2011-12 and 0.25% thereafter.

SKM applied its adjusted inputs to connections that use water to form its recommended non-residential water volume.

Table 1.19: Recommended non-residential water demand (ML/year)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*CAGR 2011-14*
Brisbane	28,648	31,889	32,575	33,025	33,477	1.6%
Ipswich	5,813	4,425	4,387	4,595	4,804	2.8%
Lockyer Valley	217	283	293	302	311	3.2%
Scenic Rim	256	338	350	359	368	2.8%
Somerset	482	548	567	583	598	3.0%
Total Recommended	**35,417**	**37,482**	**38,172**	**38,863**	**39,558**	**1.8%**
QUU Proposed	35,417	37,482	38,237	38,717	39,203	1.5%
Difference	**0**	**0**	**-65**	**146**	**355**	**0.3%**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11. This data is provided for comparison purposes only. Source: SKM (2011).

The Authority accepts SKM's non-residential water demand estimates.

Non-residential Wastewater Connections

QUU used the number of connections billed in 2010-11 as the starting point for its non-residential wastewater connections forecasts. QUU then applied its estimate of growth in connections. QUU applied the same growth rates as for non-residential water connections.

Table 1.20: QUU Non-residential wastewater connections

Connections	*2010-11*	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Brisbane	28,959	28,791	29,079	29,370	29,663
Ipswich	28,920	1,779	1,797	1,815	1,833
Lockyer Valley	1,869	380	385	390	396
Scenic Rim	2,933	778	786	794	802
Somerset	1,080	489	494	499	504
Total	na	32,217	32,541	32,867	33,198

*Note: 2010-11 shaded data reflects QUU's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. * not applicable to sum across councils areas as different units are used - Brisbane units are the number of properties, Ipswich, Lockyer Valley and Scenic Rim's units are the number of pedestals, Somerset units are the number of billing units. For non-shaded data all units are connections. Source: QUU (2011).*

As for non-residential water connections, SKM recommended that, in the absence of better information, the ratio of residential to non-residential properties be maintained. SKM's estimates of non-residential wastewater connections are shown in Table 1.21.

Table 1.21: Recommended non-residential wastewater connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Brisbane	28,959	28,791	29,112	29,438	29,766
Ipswich	28,920	1,779	1,856	1,936	2,019
Lockyer Valley	1,869	380	390	400	411
Scenic Rim	2,933	778	796	814	832
Somerset	1,080	489	501	513	525
Total Recommended	**na**	**32,217**	**32,655**	**33,100**	**33,554**
QUU Proposed	na	32,217	32,541	32,867	33,198
Difference	**na**	**0**	**114**	**233**	**356**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11. This data is provided for comparison purposes only. Na Brisbane units are the number of properties, Ipswich, Lockyer Valley and Scenic Rim's units are the number of pedestals, Somerset units are the number of billing units. For non-shaded data all units are connections. Source: SKM (2011).

The Authority accepts SKM's non-residential wastewater connections estimates.

Recycled Water

QUU provides recycled water to non-residential customers in Brisbane and Ipswich. QUU noted that, since 2008-09, the supply of recycled water in Brisbane grew by 19% (in 2009-10) and 14% (in 2010-11) to 6,615 ML.

However, with the easing of restrictions, QUU submitted that it did not expect the use of recycled water to increase. QUU therefore maintained the consumption of recycled water in Brisbane and Ipswich at 2011 levels.

SKM noted that the maintenance of consumption at current levels may be justified, given that the supply of recycled water is to non-residential customers and, with the easing of drought, it is unlikely that new customers will be sought to increase the take up of recycled water.

Consequently, SKM considered QUU's forecasts of recycled water demand reasonable.

Table 1.22: Recommended Recycled Water Demand (ML)

	2010-11	***2010-11***	***2011-12***	***2012-13***	***2013-14***
Total Recommended	6,731	6,731	6,731	6,731	6,731
QUU Proposed	6,731	6,731	6,731	6,731	6,731
Difference	0	0	0	0	0

Note: 2010-11 shaded data reflects the Authority's QUU's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Source: QUU (2011), SKM (2011).

The Authority accepts QUU's recycled water demand estimates.

Non-revenue Water

Non-revenue water is the difference between bulk water supplied by the SEQ WGM and billable consumption from residential and non-residential customers. Non-revenue water includes network leakage, water theft and authorised unbilled water consumption (e.g. fire fighting and pipe flushing). QUU noted a range of approaches are adopted to minimise non-revenue water but estimates are subject to uncertainty.

SKM noted that the leakage component of non-revenue water is loosely related to the number of connections, assuming that water pressure remains the same. However, there are no clear drivers of the other components of non-revenue water. SKM noted that connections (both residential and non-residential) are expected to grow at about 1.6% per annum and consequently SKM would expect leakage to grow at approximately the same rate.

SKM noted that QUU has forecast non-revenue water to grow at 2.7% per annum, which is higher than the growth rate of connections. While SKM acknowledged the uncertainty of these forecasts category, SKM considered that the estimated growth is too high. SKM recommended increasing the allowance for non-revenue water at around 2% per annum. SKM noted that while this allowance is nevertheless still higher than the expected connection growth rate, this reflects the level of uncertainty in estimation.

Table 1.23: Recommended non-revenue water (ML)

	2010-11	***2010-11***	***2011-12***	***2012-13***	***2013-14***
Total Recommended	15,298	12,828	13,085	13,346	13,613
QUU Proposed	15,298	12,828	13,385	13,642	13,905
Difference	**0**	**0**	**-300**	**-296**	**-292**

Note: 2010-11 shaded data reflects forecasts for 2010-11. This data is provided for comparison purposes only. Source: QUU (2011), SKM (2011).

The Authority accepts SKM's non-revenue water estimates.

Bulk Water

QUU's forecasts of bulk water are the total of residential, non-residential and non-revenue water (see below).

Table 1.24: QUU Bulk Water Volumes (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Brisbane	102,464	98,880	102,709	104,560	106,446
Ipswich	16,788	14,216	15,168	15,653	16,156
Lockyer Valley	1,458	1,532	1,682	1,739	1,797
Scenic Rim	1,378	1,244	1,366	1,390	1,416
Somerset	1,274	1,249	1,373	1,396	1,419
QUU total	**123,362**	**117,122**	**122,298**	**124,738**	**127,234**

Note: 2010-11 shaded data reflects QUU's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. Source: QUU (2011) data template, SKM (2011).

SKM revised QUU's estimates of bulk water (see below) demand based on its view of residential, non-residential and non-revenue water (as noted previously). SKM recommended higher bulk water demand estimates than QUU.

Table 1.25: Recommended Bulk Water Volumes (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Brisbane	102,099	98,880	103,376	107,524	111,906
Ipswich	17,000	14,216	15,114	16,262	17,484
Lockyer Valley	1,442	1,533	1,610	1,681	1,757
Scenic Rim	1,497	1,244	1,303	1,354	1,408
Somerset	1,341	1,250	1,304	1,351	1,400
Total Recommended	**123,378**	**117,122**	**122,708**	**128,172**	**133,955**
QUU Proposed	123,362	117,122	122,298	124,738	127,234
Difference	**16**	**0**	**410**	**3,434**	**6,721**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. Source: QUU (2011) data template, SKM (2011).

The Authority notes that the WGM released its Operating Strategy in March 2011, which contained its estimate of QUU's bulk water demand for 2011-12. These demand estimates were required to be used by the Authority in its review of SEQ Grid Service Charges for 2011-12.

As a cross-check on SKM's estimates, the Authority has contrasted the available estimates of QUU's demand for bulk water in 2011-12 in the table below. QUU's recent estimate is 2.9%

lower than the WGM's March 2011 estimate. The SKM estimate is 2.6% lower than the WGM's.

The Authority accepts SKM's bulk water estimate, which forms the most relevant estimate for the purposes of price monitoring and is internally consistent with the proposed adjustments to residential, non-residential and non-revenue water.

Table 1.26: QUU Bulk Water Volumes (ML) 2011-12

	QUU 2010-11 Information Return	*QUU 2011-12 Information Return*	*WGM*	*SKM*
Brisbane	105,600	102,709	105,046	103,376
Ipswich	17,852	15,168	16,137	15,114
Lockyer Valley	1,514	1,682	1,956	1,610
Scenic Rim	1,564	1,366	1,526	1,303
Somerset	1,391	1,373	1,278	1,304
QUU total	**127,920**	**122,298**	**125,943**	**122,708**

Source: QUU (2010) data template, QUU (2011) data template, WGM (2011).

The Authority accepts SKM's bulk water estimates.

Demand for Capital Planning

As noted above, in its first price monitoring report the Authority found that QUU should document its approach to forecasting demand for all purposes.

In response, QUU has provided further information in its submission (summarised above).

In its review, SKM noted that demand for capital planning purposes should be broadly consistent with that adopted for pricing purposes. However, SKM also noted that demand forecasts for capital purposes place a greater emphasis on a range of factors that are less relevant to short term forecasts. These factors include the desired standard of service, peaking factors, long term consumption patterns, and regulatory and fire fighting requirements.

For example, at the local level, fire-fighting requirements are usually the most important considerations in designing network capacity rather than customer demand requirements. While customer demand at this level rarely exceeds six litres per second, minimum fire fighting flow rate requirements are at least seven litres per second up to 60 litres per second depending on the environment.

As a result, SKM noted that estimates of demand for network planning purposes are generally higher than those adopted for pricing purposes. In this context, it should also be noted that demand is expected to rebound in future years above current levels.

In relation to QUU's demand forecasts for capital planning, SKM noted that:

(a) for water, the QUU capital planning standard of 230 l/p/d corresponds to that specified in the QWC Water Strategy for infrastructure planning purposes. However, SKM considered that parts of the QUU network may not need to be based on the 230 l/p/d

criteria including the three rural council areas of Lockyer Valley, Somerset and Scenic Rim where projected consumption is around the 165 to 180 l/p/d level.

SKM did not recommend an adjustment to the design standard in these areas, noting that there is a review of this standard currently underway;

(b) for wastewater, QUU's average dry weather flow of 210 l/p/d, with peak capacity being able to carry five times this flow, appeared reasonable based on DERM Guidelines.

However, SKM noted there was an absence of data on residential wastewater flows and peak wet weather flows which are key drivers of capital expenditure. SKM considered priority should be given to capturing this data.

SKM considered that caution should be exercised in any change of the infrastructure design criteria to reflect short term changes in demand. In support of its view, SKM noted that:

(a) a reduction in short term average consumption per day does not necessarily lead to a corresponding reduction in peak consumption which drives trunk water infrastructure. Peak consumption is a function of human behavioural responses to extreme weather. Consequently, peaking factors may increase as the average day rate decreases.

Without data from a longer period, SKM considered it would not be prudent to use current spare capacity as a long term solution, as the consumption habits of a population may change faster than the ability to augment trunk infrastructure;

(b) the critical design criteria for water reticulation works is usually fire fighting flows, and not average consumption per day;

(c) the augmentation of water distribution trunk infrastructure generally results in a step change in capacity and consequently, variances in short term demand can be accommodated in changes in the timing of works;

(d) a change in average consumption per day does not necessarily lead to a corresponding change in wastewater flow, as not all water consumed is released to sewers (e.g. outdoor irrigation). Wastewater flows are more sensitive to inflow by stormwater and infiltration by groundwater. Reduced infiltration gravity sewers aim to reduce this inflow; and

(e) the critical design criteria for wastewater treatment plants are organic or hydraulic load. A reduction in the amount of water transporting an organic load does not change the load, just the concentration, and reactor tank size is not varied. A variation in hydraulic load may lead to only a small reduction in vessel height or pump capacity. Again, variances in short term demand usually change the anticipated timing of new assets only slightly.

On the basis of SKM advice, there are some legitimate differences in demand estimates for pricing and capital planning as longer term demand for capital planning purposes seeks to achieve service standards and regulatory requirements over the life of the assets and account for risk. Short term demand estimates are used for pricing, operating expenditure and in the annual prioritisation of capital expenditure. Short term demand can depart from long term trends.

In summary, the Authority notes that SKM has cautioned against scaling QUU's proposed capital expenditure to reflect short term demand, as short term consumption patterns can change more rapidly than the ability to augment. Further, variances in short term demand can be accommodated in the review of the timing of works (rather than changes in scope). The Authority has therefore not adjusted capital expenditure for the 200 l/p/d consumption target but has reviewed the timing of works. This approach appears reasonable in the circumstances of

price monitoring and in light of the current 230 l/p/d infrastructure planning standard in the SEQ Water Strategy.

Summary

As noted in the Authority's first price monitoring report, demand estimates are an essential component of price setting. The more reliable the demand estimates, the more informed will be the choices businesses can make about expenditure and prices. It is therefore important that demand forecasts represent the best possible assessment of future consumption given the available information.

The Authority acknowledges that structural change in the SEQ water sector has led to a number of legacy issues, particularly regarding the transfer and robustness of historical data from the councils. Given available information, the Authority's consultants considered the methodology adopted to forecast demand is generally reasonable.

However, the Authority has adjusted QUU's residential and non-residential demand for water and wastewater to reflect updated billing data and OESR forecasts available before prices were released. Nonetheless, the Authority notes that these (revised) estimates broadly confirm QUU's estimates for 2011-12, with differences, where material, only becoming so in later years.

The Authority also considers that QUU should consider the response of consumers to increasing prices when considering its price path from 2013-14 to 2018-19.

The Authority notes that QUU has provided further information on the demand forecasts used for pricing and capital planning purposes. These forecasts are broadly consistent although there are legitimate differences.

1.6 The Initial Regulatory Asset Base

In March 2010, the Minister for Natural Resources, Mines and Energy and Minister for Trade advised the Authority of the initial regulatory asset base (RAB) as at 1 July 2008 for interim price monitoring. The Minister advised the RABs for each entity as well as the RABs for each participating council, and other adjustments. For QUU, the Minister also advised the RAB for the Esk Gatton Laidley Water Board.

QUU's Submission

In its submission, QUU noted that it had allocated the advised RAB of $3.94 billion to each asset on the basis of their audited values (see Table 1.27).

QUU noted that the allocation of its RAB in its 2011-12 submission differs from that provided in its 2010-11 submission. This follows the finalisation of transfer agreements between QUU and its participating councils relating largely to transferred land values which were not available at the time of the 2010-11 submission. QUU noted that this has resulted in the RAB value for water reducing relative to wastewater.

As in its 2010-11 submission and as previously accepted by the Authority, QUU apportioned the $9.48 million initial RAB for the Esk Gatton Laidley Water Board to the Lockyer Valley (80%) and Somerset areas (20%) as agreed by the respective councils. Similarly, the Brisbane billing system was allocated across all geographic areas on the basis of properties serviced.

Table 1.27: QUU RAB as at 1 July 2008 ($m)

	Previously Approved Water	*Previously Approved Wastewater*	*Previously Approved RAB*	*Water*	*Wastewater*	*RAB*
Brisbane City Council	1,377.33	2,039.52	3,416.85	1,333.25	2,083.60	3,416.84
Ipswich City Council	166.26	262.55	428.81	164.43	264.39	428.82
Lockyer Valley Regional Council	24.65	7.63	32.28	24.57	7.71	32.28
Scenic Rim Regional Council	20.45	16.96	37.41	20.55	16.86	37.41
Somerset Regional Council	17.35	12.35	29.70	17.52	12.18	29.70
QUU	**1,606.04**	**2,339.01**	**3,945.05**	**1,560.33**	**2,384.72**	**3,945.05**

Note: Shaded data reflects the Authority's accepted RAB as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: QUU (2011).

Authority's Analysis

The Authority has reviewed the documents provided by QUU in support of its revised apportionment of the initial RAB in each council area. The Authority has confirmed that QUU's adjustment reflects updated information on the value of assets transferred to QUU from its participant councils.

The Authority notes that these adjustments do not materially affect the total RAB allocated to council areas, rather the allocation of the RAB to water and wastewater activities. The total QUU RAB as at 1 July 2008 is not affected.

The Authority has accepted QUU's revised apportionment of the Minister's advised RAB.

1.7 Capital Expenditure

Capital Expenditure from 1 July 2008 to 30 June 2010

The Ministerial Direction requires the Authority to accept as prudent and efficient: actual capital expenditure for water and waste water (excluding establishment costs) as included in councils' financial accounts from 1 July 2008 to 30 June 2010; allowable establishment costs as advised by the Minister for Natural Resources, Mines and Energy and Minister for Trade; and contributed, donated and gifted assets and capital expenditure funded through cash contributions from 1 July 2008 to 30 June 2010.

QUU's submission

In its submission, QUU included capital expenditure for 2008-09 of $182.5 million and $242.4 million in 2009-10 (inclusive of contributed, donated and gifted assets). The 2009-10

data reflects updated and audited actual data for 2009-10 and a downwards revision from the $268.3 million estimate in QUU's 2010-11 submission.

QUU also included establishment costs of $39.1 million as at 30 June 2010, in accordance with the Minister's approved value as advised in February 2011, comprised of $27.5 million of directly incurred costs and $11.5 million related to Council of Mayors SEQ costs.

QUU also included an additional $15.6 million of capital expenditure as at 30 June 2010. QUU submitted that this adjustment represents the purchase of leased fleet from BCC ($11.8 million) and Ipswich City Council ($3.7 million) and the transfer of a shed from Somerset Regional Council ($12,000) to QUU.

Authority's Analysis

The Authority has reconciled the capital expenditure for 2008-09 and 2009-10 against councils' financial accounts for this period. Therefore, this capital expenditure has been included in the Authority's RAB roll-forward to 30 June 2010.

The Authority has accepted QUU's submitted establishment costs as they reflect the costs advised by the Minister. QUU's nominated asset life of five years for establishment costs is consistent with the smoothing period of between 5-8 years endorsed by the Government to avoid unnecessary price shocks to customers.

In relation to the proposed $15.6 million of capital expenditure as at 30 June 2010, the Authority notes that:

(a) BCC's financial statements for 2010-11 refer to the sale of fleet to QUU for $11.8 million on 1 July 2010 and this amount reconciles with that claimed by QUU. Ipswich City Council and Somerset Regional Council statements are not yet available;

(b) QUU has proposed that this item be treated in a similar manner to establishment costs. Under the Authority's templates and consistent with the Minister's advice to the Authority, approved establishment costs as at 30 June 2010 are rolled into the RAB at 1 July 2010. A full year's return on and of capital is calculated on this value;

(c) new capital expenditure is assumed to be incurred evenly throughout the year, such that a return on and of capital is earned for half a year in the year of expenditure. This simplifying assumption obviates the need to consider the detailed pattern of all capital expenditure undertaken throughout the year; and

Unless advised by the Minister that fleet purchase costs are establishment costs, the Authority proposes to treat fleet purchase costs in the same manner as all other capital expenditure incurred during 2010-11. Accordingly, the Authority has excluded QUU's adjustment on 30 June 2010 and treated this amount as capital expenditure in 2010-11.

QUU has indicated it is likely to provide further supporting information on this issue in its reponse to the Draft Report.

Table 1.28: Capital Expenditure 2008-09 and 2009-10 ($m)*

	2008-09	*2009-10*	*2008-09*	*2009-10*
Brisbane City Council	126.61	201.39	126.61	147.26
Ipswich City Council	45.86	55.63	45.92	47.62
Scenic Rim Regional Council	3.08	4.37	3.08	3.38
Somerset Regional Council	2.55	4.54	2.55	3.49
Lockyer Valley Regional Council	4.35	2.32	4.35	1.52
Establishment costs	-	-	-	39.12
QUU	182.44	268.25	182.50	242.38

*Note: Shaded data reflects the Authority's previously accepted capital expenditure in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. *Note: includes contributed, donated and gifted assets. Source QUU (2011)*

The Authority has accepted QUU's capital expenditure in 2009-10 and 2010-11 and the establishment costs approved by the Minister.

The Authority has treated QUU's purchase of assets from councils on 1 July 2010 in a consistent manner to other capital expenditure in 2010-11.

Capital Expenditure from 1 July 2010

The Ministerial Direction requires the Authority to review the prudency and efficiency of capital expenditure for inclusion in the RAB from 1 July 2010. Only expenditure found to be both prudent and efficient can be included in the RAB.

The criteria and processes for determining the prudency and efficiency of capital expenditure are defined in the Information Requirements for 2011-12.

In summary, to establish prudency, an entity must demonstrate that there is a need for the expenditure, typically by reference to an analysis of its driver/s. To establish efficiency, information is required on the scope and standard of the works and the corresponding cost and timing of works. This should be linked, where relevant, to the underlying cost components such as unit rates, on-costs and contingencies and supporting materials such as consultant reports. Information is also required on expenditure approval policies and procedures.

The Authority requires capital expenditure from 1 July 2010 to be included in the RAB only when it is commissioned, and contributes productive capacity to the system.

QUU's submission

In its submission, QUU proposed capital expenditure of $1,416 million over four years (including contributed assets), of which water accounts for $348 million and wastewater $1,068 million.

QUU provided its capital expenditure on a commissioned basis, consistent with its approach in its 2010-11 submission.

(a) Proposed Capital Expenditure

QUU assigned its capital works expenditure to the following cost drivers – growth, renewal, improvement, compliance and contributed assets (Table 1.29). QUU submitted that the noticeable increase in the value of commissioned projects in 2013-14 results from the scheduled commissioning of a number of large capital value, multi-year projects (in particular wastewater treatment projects).

Table 1.29: QUU Forecast Capital Expenditure Water and Wastewater ($m)

	2010-11	*2011-12*	*2012-13*	*2013-14*	*Total*
Growth	13.01	48.72	90.77	491.03	643.53
Renewal	90.36	108.38	89.24	119.49	407.47
Improvement	16.21	22.23	41.65	26.13	106.22
Compliance	11.85	7.90	5.16	4.55	29.46
Contributed Assets	50.62	52.86	64.31	61.91	229.71
Total	**182.05**	**240.10**	**291.13**	**703.11**	**1416.39**
Comprising					
Water	**71.16**	**79.74**	**99.74**	**97.76**	**348.40**
Wastewater	**110.89**	**160.35**	**191.39**	**605.35**	**1067.99**

Note: Capital expenditure is presented here on an 'as commissioned' basis as per QUU's submission. Source: QUU (2011) data template

The water and wastewater costs for each of QUU's five geographic areas are detailed below.

Table 1.30: QUU Capex for Water by Geographic Area ($m)

	2010-11	*2011-12*	*2012-13*	*2013-14*	*Total*
Brisbane	48.02	56.77	64.66	59.50	228.95
Ipswich	18.57	15.87	24.98	25.54	84.96
Lockyer Valley	1.30	1.92	3.68	2.11	9.01
Scenic Rim	2.32	3.25	3.69	8.01	17.27
Somerset	0.95	1.93	2.73	2.60	8.21
Total	**71.16**	**79.74**	**99.74**	**97.76**	**348.40**

Note: Capital expenditure as commissioned and includes contributed assets. Source: QUU (2011) data template

Table 1.31: QUU Capex for Wastewater by Geographic Area ($m)

	2010-11	*2011-12*	*2012-13*	*2013-14*	*Total*
Brisbane	80.41	111.02	131.24	250.60	**573.28**
Ipswich	24.70	28.65	37.57	275.38	**366.31**
Lockyer Valley	1.50	4.26	3.43	29.29	**38.49**
Scenic Rim	2.10	14.16	12.64	2.31	**31.21**
Somerset	2.18	2.25	6.50	47.77	**58.70**
Total	**110.89**	**160.35**	**191.39**	**605.35**	**1067.99**

Note: Capital expenditure as commissioned and includes contributed assets. Source: QUU (2011) data template

Changes to Capital Expenditure Estimates

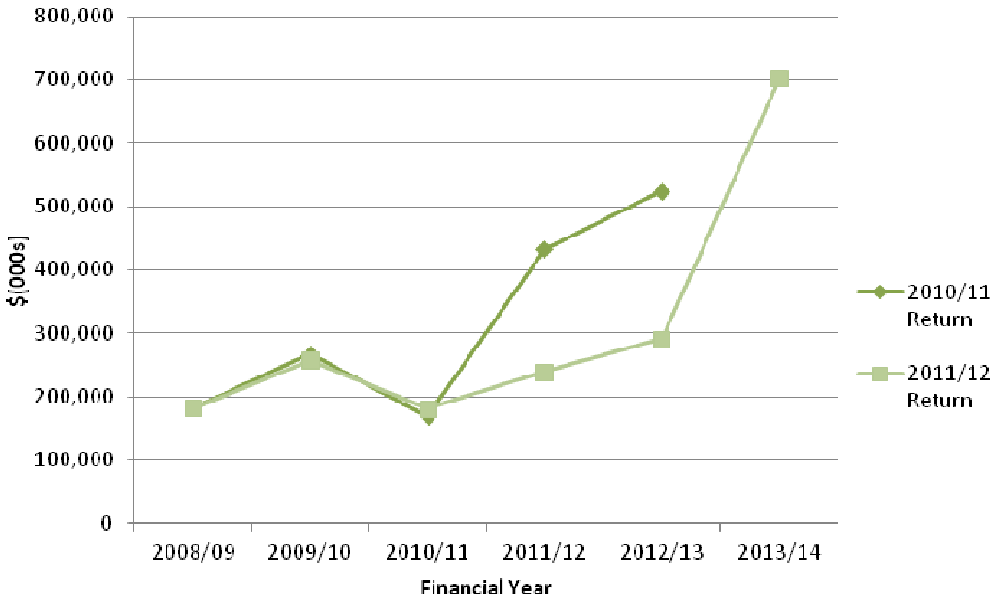
QUU also sought to identify and explain the variation between its forward program and that previously proposed in its 2010-11 submission (see below).

Table 1.32: QUU Capital Expenditure 2010-11 and 2011-12 Submission ($m)

Forecasts	*2010-11*	*2011-12*	*2012-13*	*Total*
2010-11 Submission	169.40	432.50	524.40	1,126.30
2011-12 Submission	182.05	240.10	291.13	713.28
Variance	12.65	-192.40	-233.27	-413.02

Note: capital expenditure as commissioned and includes contributed assets

Figure 1.2: QUU Capital Expenditure 2010-11 and 2011-12 Submission*($m)



Note: capital expenditure as commissioned.

QUU outlined the reasons for the key changes in capital expenditure 'as incurred' for 2010-11 and 2011-12. [QUU did not provide a full reconciliation on an as commissioned basis.][11]

For 2010-11, the main causes of a downwards variation in forecast capital expenditure as incurred of $17.0 million were identified by QUU as:

(a) a fall in donated assets of $3.9 million arising from lower than anticipated property connections;

(b) the removal of $17.6 million in expenditure on a project pending confirmation of Federal funding; and

(c) a net increase in other capital expenditures of $4.5 million. Key variations include:

  (i) flood recovery – $35.7 million increase due to unpredicted flood and damage;

  (ii) Ipswich Goodna Sewerage Treatment Plant (STP) Upgrade project – approximately $20 million reduction due to delay of project and mitigation of key risks[12];

  (iii) Brisbane Trunk Sewers Renewal Programme – $5 million increase as completion of 2009-10 scope, funding required for emergency work and increased costs;

  (iv) Brisbane Bulimba Creek Trunk Sewer – $4.7 million of expenditure brought forward from 2011-12 to 2010-11 in order to align with contractors construction delivery schedule;[13]

  (v) Somerset Fernvale STP Implementation – $4.5 million reduction as the plant was flooded and delayed the completion of revised project specification;[14] and

  (vi) Ipswich Woogaroo Creek (Goodna) Trunk Sewer Augmentation project – $10 million reduction due to mitigation of key risks and retendering for the excavated section of project.

For 2011-12, the main causes of a downwards variation in capital expenditure as incurred of $106.0 million were identified by QUU as:

(a) a fall in forecast donated assets of $35.4 million;

(b) the removal of $8.7 million in expenditure on a project pending confirmation of Federal funding (as above); and

(c) a net reduction of $61.8 million in forecast capital expenditure. Key variations include:

  (i) flood recovery – $15.6 million increase due to unpredicted flood and damage;

  (ii) fleet – $6 million increase as provision of funding for Fleet Renewals not included in the initial budget;

[11] The Authority notes that the majority of the variation in 2011-12 estimates of capital expenditure as commissioned relates to savings identified by QUU. These savings arose from the application of a regional approach to the Goodna wastewater treatment plant and other adjustments (QCA 2010).

[12] The Authority reviewed this project as part of its 2010-11 review and noted that a regional approach subsequently adopted by QUU led to considerable savings.

[13] In 2010-11, the Authority found this project to be prudent and efficient.

[14] In 2010-11, the Authority found this project t0 be prudent and efficient.

(iii) Brisbane Trunk Sewers Renewal Programme – $5.2 million increase due to increased scope identified for 2011-12, also increase in cost estimates;

(iv) Brisbane-Woolloongabba Sewer Catchment Augmentation Parts A & B – $17.5 million reduction due to cash-flow revision in light of the flood and delivery considerations;

(v) Ipswich Goodna STP Upgrade project – $5.2 million increase due to increased scope identified for 2011-12, also increase in cost estimates;

(vi) Lockyer Valley Eastern Regional STP Upgrade project - $14 million reduction due to cash-flow revision in light of the flood, delivery considerations and review of timing;[15]

(vii) Bromelton (Scenic Rim) Water Reclamation Plant (WRP) Implementation – $4.6 million funding deferred due to review of timing;[16]

(viii) Scenic Rim Walker Drive Upgrade – $2.5 million reduction as project has been removed as upgrade is not required until 2050-51;[17] and

(ix) Ipswich Bundamba WRP Upgrade – Stage 5a - $6.8 million reduction due to funding deferred and review of timing.

(b) Service Standards

QUU submitted that its level of capital investment is directly related to the service standards it provides to its customers. QUU provided details of its service standards including its legislative obligations, with key achievements being:

(a) progress to achieving a netserv plan by 1 July 2013. This plan is required to provide an overview of QUU infrastructure planning and development over a 20-year timeframe. QUU noted its draft netserv plan is being prepared in two parts. Part A broadly deals with strategies, infrastructure, planning, standards, connections and charging, while Part B covers operational and technical plans. Part A was released to the public in May 2011 for comment. A draft of Part B will be provided to the QUU Board in late 2011-12; and

(b) alignment of customer service standards. QUU submitted that it inherited a range of customer service standards from its participant councils. As part of QUU's planning and integration, a revised set of customer standards was prepared in late 2010. QUU notes that these customer service standards are equal or better than those previously implemented by participant councils.

QUU also noted that it was the first retail/distribution entity to set up a Customer and Community Reference Group (CCRG) in November 2010. The CCRG meets quarterly to provide feedback on a range of issues, including service standards and pricing.

QUU noted that many of the requirements of the Customer Water and Wastewater Code are already embedded within current QUU business processes and any new requirements within the Code are being rolled out into the business. QUU noted it had very short notice to comply with the legislation which was only passed by Parliament seven days before the date of effect. QUU

[15] In 2010-11, the Authority found this project to be prudent and efficient although expenditure was revised slightly.
[16] In 2010-11, the Authority found this project to be not prudent and efficient and recommended it be removed from QUU's forecasts. QUU has done so in its 2011 submission.
[17] In 2010-11, the Authority found this project is not required during the price monitoring period and recommended it be removed from QUU's forecasts. QUU has done so in its 2011 submission.

noted that a small number of the new code requirements will take time to implement as information systems charges are required (e.g. billing format changes).

(c) Capital Planning

QUU submitted that it takes a multi-level approach to capital planning, including:

(a) strategic planning – developing the overall high-level strategy applying to the entire service area, a holistic approach to planning that looks for opportunities to improve system configuration;

(b) master planning – strategy development and investigation of individual supply area schemes in accordance with the broader strategic plan. It identifies the need for timing and costs of the new infrastructure required to provide adequate system capacity to maintain service standards under projected growth in demand;

(c) integrated water management planning – an extension of the traditional strategic and master planning process taking a broader view of managing the urban water cycle. It considers the linkages between the water supply, sewerage and stormwater systems and examines alternative servicing strategies that provide more efficient use of resources and reduced impacts on the environment through, for example, demand management, rainwater harvesting and smart sewer technologies;

(d) local government priority infrastructure planning – the development of infrastructure plans by local governments in conjunction with QUU assists in planning infrastructure in a coordinated, efficient and orderly way that encourages urban growth in areas where adequate infrastructure exists or can be efficiently provided;

(e) capital investment plans – QUU uses the outcomes of the master planning and asset management process in the development of a 30-year capital investment plan, which details the proposed investment in infrastructure on a year-by year basis. A five-year 'slice' of the 30-year capital investment plan is taken forward for detailed budget deliberations on an annual basis;

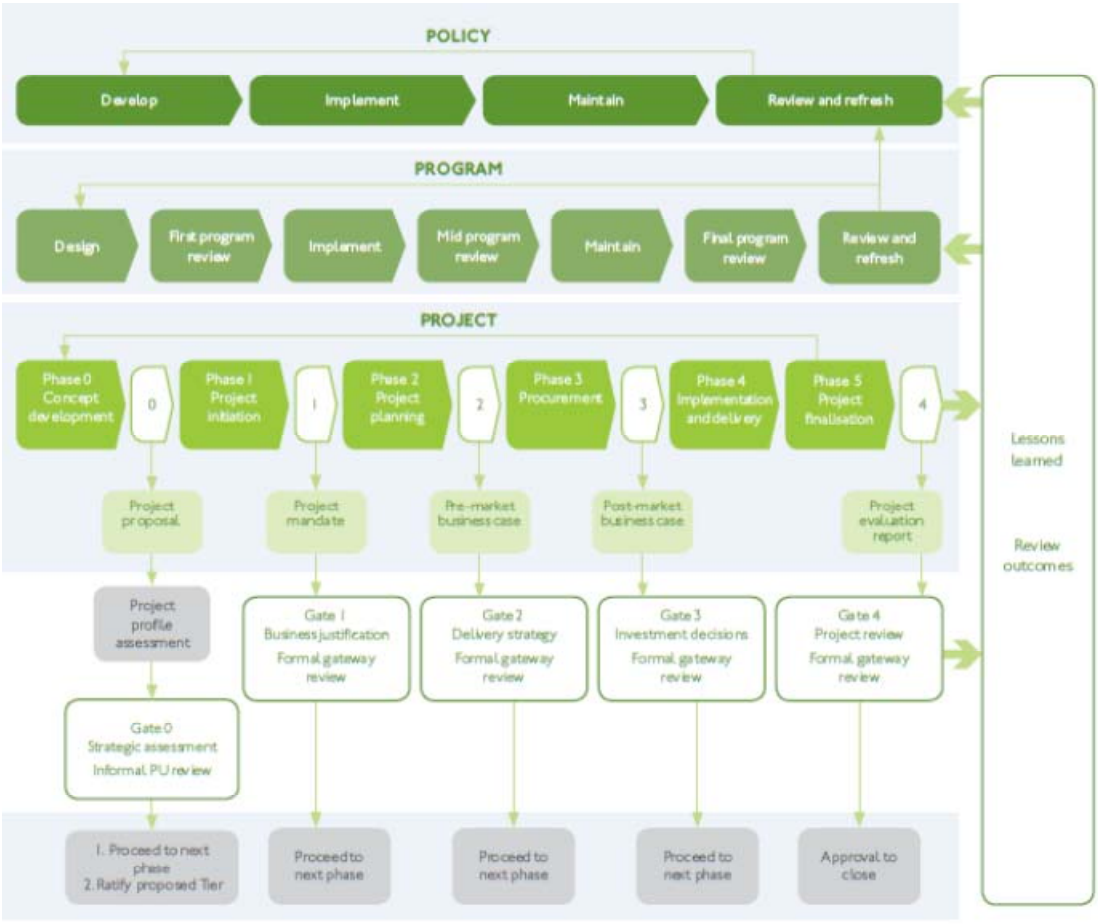
(f) feasibility planning – involves a high level review of the planning assumptions adopted at the master planning stage. Detailed feasibility planning further investigates the infrastructure identified in master plans for construction in the next three to five years. More detailed option analysis and cost estimates are developed. QUU uses standard templates for the cost estimates at the feasibility stage of planning. These contain standard approaches for estimating contingency, preliminaries, design, and project and contract management costs;

(g) annual prioritisation – of the works outlined in the capital investment plan to ensure that fund are direct to the highest priority works. A capital prioritisation model is used through which the risks associated with non-funding of individual line items are calculated and the associated potential adverse impacts identified. During 2010-11, QUU participated in a Water Services Association of Australia (WSAA) project to review capital prioritisation practices across the Australian water industry. QUU intends to implement a formal process incorporating outcomes from the WSAA project (when finalised) for the 2012-13 budget cycle; and

(h) independent review – for major expenditure, QUU attempts to ensure each project is subject to a suitable amount of planning rigour, by commissioning independent reviews of these projects by a third party. These reviews evaluate projects on a range of criteria, including design standards, growth projections, project justification, project deliverability, and cost.

QUU has implemented a gateway review process (see figure below) for major projects. The aim of this process is to provide independent support to projects by having peers examine them at critical moments in their lifecycle.

Figure 1.3: QUU Gateway Review Programme



Authority's Analysis

(a) Adequacy of Capital Expenditure Data

SKM considered that QUU had supplied comprehensive supporting information to enable the assessment of the prudency and efficiency for a sample of capital expenditure of selected projects. SKM noted that supply of adequate information has, in the past, been impacted by the availability of information from QUU's donor councils. As time progresses and as QUU establishes its own ICT services, it is expected that this limitation of donor council information and information systems will have less impact on QUU's ability to provide necessary information for regulatory purposes.

QUU has indexed capital costs by applying the Construction Forecasting Council Engineering Construction Price Index for Australia. The November 2010 forecast for 2011-12 was 2.22%, for 2012-13 it was -0.39% and for 2013-14 it was 0.89%. QUU stated that these indices represent the low end of the likely range.

As noted in the Authority's price monitoring report for 2010-11, there is a range of options for the indexing of asset values. Industry input indices should provide a more accurate estimate but may be subject to step changes over short periods, and would be expected to rise and fall with market conditions.

In the Authority's SunWater Draft Report (QCA 2011), the Authority considered an index of 4% for direct labour, materials and contractor's costs for the regulatory period (2012-17) and 2.5% thereafter; and other direct costs to be indexed by 2.5%. While a range of indices were assessed, the Authority did not consider that historical cost pressures would necessarily be sustained over the long term.

QUU's use of an engineering construction price index includes data from seven construction types (including road, bridge, electricity and pipeline, water and sewerage, telecommunications and mining) and eight states and territories. The Authority notes that QUU's index may therefore be affected by market conditions in the types of construction and geographic areas that are not directly relevant to QUU's water and sewerage business.

Nonetheless, given available benchmarks, the Authority considers the quantum of QUU's indexation for 2011-12 of 2.2% to be conservative and any variations subsequently found between forecast and actual can be taken into account in future reviews.

The Authority notes that QUU has identified the variance in capital expenditure forecasts to its previous estimates in its 2010-11 submission. Estimated expenditure in 2010-11 was higher than originally forecast (due to the flood and other factors). Actual 2010-11 data has been provided by QUU and will be taken into account in the Authority's Final Report for 2011-12.

Expenditure for 2011-12 has been significantly reduced (by around 44.5%) below that originally forecast by QUU in 2010-11.

(b) Service Standards

The Authority did not review service standards as part of this price monitoring review. The Authority accepted the service standards provided by the entities so long as they were been approved by other relevant agencies.

Where service standards are the driver for capital expenditure, SKM reviewed this against the standards provided by QUU to assess the prudency and efficiency of the works.

In relation to service standards, SKM noted that:

(a) on 1 January 2011, a Customer Water and Wastewater Code (the Code) was released by the Minister for Natural Resources, Mines and Energy and Minister for Trade. The Code requires distributor-retailers to have a customer service charter (rights and obligations) and minimum and guaranteed service standards;

(b) QUU has developed a single consolidated set of customer service standards applicable to all customers within the service area and is well advanced in the development of its netserv plan; and

(c) QUU's network design is governed by a set of design standards, which are set through benchmarking and consultation within the Australian water industry.

The Authority supports the development of specific and measurable service standards and notes that this is a first step in the development of a more integrated performance monitoring framework (QCA 2010).

(c) Capital Planning

The Authority in its Final Report on SEQ Price Monitoring for 2010-11 noted that it supported initiatives within the entities to develop their internal processes to the planning and implementation of capital expenditure to allow for:

(a) the consideration of prudency and efficiency of capital expenditure from a regional (whole of entity) perspective;

(b) only commissioned capital expenditure to be included in the regulatory asset base and therefore prices;

(c) a standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects;

(d) a summary document to be prepared for identified major projects so as to facilitate standardised reporting;

(e) an implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process; and

(f) a 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects.

SKM reviewed QUU's implementation of these initiatives and found that:

(a) there is clear evidence from its review that QUU is taking a whole of entity perspective to its identification, option evaluation and selection of capital projects;

(b) capital expenditure is applied to the RAB on an 'as-commissioned' basis and this approach is consistent with the requirement set out by the Authority;

(c) QUU is establishing processes to facilitate a consistent approach to cost estimation. However, the implementation of these processes has not been evident in the sample of capital projects reviewed. This may in part be explained by the timing as to when these projects were initiated, that is, in many cases before the establishment of QUU;

(d) QUU has developed a standardised summary document for major projects and the procedure for developing a standardised summary document has consistently been implemented;

(e) there is evidence that QUU is establishing processes and procedures with a view to ensuring a consistent approach to the implementation strategy documentation; and

(f) the implementation and use of a gateway process by QUU is robust and consistent with the requirements set out by the Authority.

The Authority also noted the additional explanatory information provided by QUU in relation to its capital planning processes.

(d) Prudency and Efficiency

For capital expenditure to be included in the RAB, it must be prudent (there is a demonstrated need for the expenditure) and efficient (it is cost-effective in its scope and standard, using market benchmarks).

As previously noted, in assessing the prudency of the sampled projects, the Authority's consultants have assessed each project individually against planning documents. The nature of the cost driver and reasonableness of the decision-making process were considered in determining the need for a project. Where growth is a driver, underlying estimates of growth are compared to the shorter term estimates used for pricing purposes, to determine whether the timing of the project could be deferred and savings made. As previously noted, the Authority's consultants did not adjust the scope of QUU's capital expenditure projects for adjustments to QUU's short term demand forecasts.

In assessing the efficiency of the sampled projects, the Authority's consultants have reviewed the scope and standard of each project and its cost and timing. In particular, the consultants have reviewed the cost estimates against against available benchmarks and reviewed the cost estimation process adopted. Where a competitive tender approach was adopted and the cost therefore reflects market rates, these have been accepted as efficient.

The consultants also assessed the compliance of each project with the issues identified by the Authority in its 2010-11 Final Report – consideration of prudency and efficiency from a regional perspective, a standardised approach to cost estimation, a summary document for major projects, implementation strategy and gateway review.

The samples chosen for review of prudency and efficiency included the single largest project on an expenditure 'as-incurred' basis over the forecast period, the eight largest projects to be commissioned in 2011-12 and a small project to be commissioned in 2011-12. The Authority focussed on projects commissioned in 2011-12 given their impact on the 2011-12 MAR, but also included a large project with forward expenditure to signal its view of prudency and efficiency, and a smaller project to test the application of policies and procedures in smaller projects.

For QUU, this resulted in a sample of projects for review which accounted for 35.5% of QUU's total commissioned capital expenditure program in 2011-12 (excluding contributed assets[18]). The sample also includes one of the projects reviewed by the Authority in 2010-11 (Brisbane Burst Mains). The projects previously found to be not prudent and efficient have been adjusted in QUU's current forecasts (with Scenic Rim – Bromelton deferred and Walker Drive removed).

The list of capital expenditure programs reviewed in detail for 2011-12 is shown in Table 1.33. SKM reviewed nine of the 10 sampled projects. Halcrow was engaged to review the proposed expenditure related to the Bundamba WRP plant stage 5a augmentation as SKM had a conflict of interest with regards to this project.

[18] Contributed assets were excluded from the sample of projects for detailed review as a detailed list of contributed assets was not provided and they typically reflect small value local network infrastructure.

Table 1.33: Capital expenditure programs reviewed ($m)

Project	*Activity*	*Commissioned in 2011-12*	*As Incurred in 2011-12*
Ipswich Bundamba WRP Upgrade - Stage 5a*	Wastewater	nr	2.05
Sewer Trunk System Renewals Program	Wastewater	13.51#	14.22
ICT Strategy	Corporate	9.00	9.00
Brisbane Water Reticulation System Renewals Program	Water	7.48^	7.81
Brisbane Wastewater Treatment Flood Recovery	Wastewater	6.67	6.67
Fleet Replacement Program	Corporate	6.00	6.00
Auchenflower Branch Sewer Upgrade	Wastewater	9.01	5.51
Canungra Water Reclamation Plant Upgrade	Wastewater	8.26	3.35
Toowong Sewers Upgrade	Wastewater	5.42	4.98
Mellor Place Trunk Sewer Upgrade	Wastewater	1.09	0.70
Total Sampled Expenditure		66.44	60.29
Total Capital Expenditure		**187.23**	**324.82**

**Note: Largest expenditure project over the forecast period. # excludes expensed portion of $0.71 million. ^ excludes expensed portion of $0.33 million. Total capital expenditure excludes contributed assets of $52.86 million in 2011/12. Table may not add due to rounding. Source: QUU supporting information.*

(i) Ipswich Bundamba WRP Upgrade - Stage 5a

The Ipswich Bundamba Water Reclamation Plant (WRP) Upgrade involves increasing the capacity of the existing WRP at an estimated total cost of around $155.2 million by 2013-14 for population growth and upgrading of the biological nutrient removal process (although this is subject to final licence conditions which are yet to be confirmed).

QUU is currently undertaking a detailed review of the project and noted in its submission that $6.8 million of expenditure previously forecast for 2011-12 has been deferred as a result.

Table 1.34: Bundamba WRP Upgrade - Stage 5a proposed Expenditure Profile ($'000)

	2010-11	*2011-12*	*2012-13*	*2013-14*	*Total*
Bundamba WRP Upgrade Stage 5a	653	2,051	106,147	40,495	155,157*

*Note: *QUU total cost estimate of $155.2 million is slightly higher than the sum of QUU's annual expenditure (of $154.7 million which includes prior expenditure of $5.1 million). Halcrow's review was based on QUU's total cost estimate. Source: Halcrow (2011)*

Prudency

Halcrow noted that the Bundamba WRP has a design capacity of approximately 120,000EP, operating capacity of 110,000EP and a current loading in the order of 105,000EP. QUU has forecast that the population serviced by the facility is to increase to 180,000EP by 2022-23.

However, Halcrow cautioned that the timing at which this increase will be achieved is subject to further assessment. The Authority notes that SKM has forecast short term growth of 3.8% per annum in residential population in Ipswich (higher than QUU's short term forecast of 3.5%).[19] The Authority notes that at growth of 3.8% the operating capacity of the existing plant (of 110,000EP) is exceeded in two years.

Halcrow noted that the achievement of 180,000EP by 2022-23 equates to growth of approximately 4.6% per annum. On this basis, Halcrow found that the proposed augmentation (upgrade) works are broadly justified on the basis of predicted population growth.

Recent QUU reviews of the project have recommended that population projections underpinning the upgrade be reviewed. The Authority supports this recommendation.

Documents reviewed by Halcrow indicated that Bundamba WRP currently achieves effluent standards of 5mg/L total nitrogen and 2mg/L total phosphorus in dry weather. However, Halcrow noted that hydraulic constraints result in operational difficulties and some non-compliant discharges during wet weather. Accordingly, augmentation of the plant to achieve compliance in wet weather is required.

Halcrow understood that upgrade of the plant to accommodate growth will trigger negotiation of a new discharge licence with DERM. DERM has previously indicated that a 3 total nitrogen/1 total phosphorus effluent standard would be required on the basis that the Bremer River (point of discharge) has consistently failed annual assessment under the Healthy Waterways Partnership.

While the compliance requirements for the plant are yet to be negotiated, Halcrow noted that it is apparent that augmentation of the plant is justified.

On the basis of the information reviewed, Halcrow found that the augmentation of the Bundamba WRP is justified on the basis of population growth and the requirement to comply with prevailing effluent discharge standards and is therefore prudent.

Efficiency

Halcrow noted that the initial design work (30 percent concept design) was developed for the project by QUU. This comprised a comparison of various process options based on:

(a) the existing (2011) load was taken as 110,000EP. The first augmentation stage (2012) was set at 180,000EP with a second stage (2023) at 240,000EP and ultimate capacity at 380,000EP;

(b) average dry weather flow (ADWF) was set at 230L/EP/day with peak wet weather flow (PWWF) of 5xADWF and peak instantaneous flow (PIF) of 1.25xPWWF; and

[19] Residential population does not equate to EP which include non-residential demand upon the system. However, the Authority notes that SKM recommended that, in the absence of better data, non-residential demand should grow at the same rate as residential demand. This assumption has been applied for this high-level analysis of EP growth.

(c) effluent quality target was set at 2.5mg/L total nitrogen and 0.8mg/L total phosphorus (median values) in anticipation of DERM licence limits of 3mg/L total nitrogen and 1mg/L total phosphorus (median values).

The treatment options were considered were:

(a) Option BC – biological Phosphorus removal, conventional clarifiers and filters; and

(b) Option BM – biological Phosphorus removal and membranes.

QUU conducted a net present value (NPV) analysis of these two options and the Option BM was adopted as the preferred process on the basis of cost, odour impact and reduced footprint. It also provided greater future flexibility in terms of site utilisation and reuse potential.

Halcrow noted that the concept design of the preferred option was further developed to a full concept design level. It is understood that a cost estimate for the final concept design has been independently prepared, however, was not provided.

A review of the proposed Bundamba WRP augmentation staging was undertaken in 2010 with a view to deferring the capital and operating costs whilst meeting discharge obligations. This assessment adopted a base case of a staged upgrade to 180,000EP capacity (based on the preferred Option BM) by 2018 (previously proposed by 2012).

A further review of the previously developed concept design was commissioned in December 2010, with the objective of assessing standardisation of WRP design across QUU, identifying opportunities for cost savings and confirming the design based on new effluent characterisation.

Based on the above, Halcrow found that the proposed upgrade of the Bundamba WRP has been the subject of an extensive and robust planning process over a number of years, although this process is yet to be finalised. Augmentation of the existing facility to a total capacity of 180,000EP has remained a consistent objective, however, the timing and output requirement (effluent standard) is yet to be confirmed.

Halcrow notes that the planning process has been driven by the objective of deferring capital and operating costs to the extent possible, whilst continuing to meet discharge obligations. Finalisation of the concept design (that is, the actual scope and output performance requirements) of the proposed works remains subject to a number of factors including:

(a) plant loading (equivalent population services and raw sewage characteristics); and

(b) plant performance requirements (effluent standards and odour emission impacts).

Halcrow noted that QUU's proposed expenditure amounted to a total of $155.2 million over the life of the project, with $2.1 million to be incurred in 2011-12.

However, Halcrow also found that alignment of this expenditure forecast with the estimated costs of options assessed as part of the planning process was not readily apparent. The total project cost to 2015 are, however, broadly consistent with that identified as a result of the 2010 Review of Augmentation Staging). QUU has confirmed to Halcrow that this is the information upon which its 2011-12 budget allowance has been based.

It was noted by Halcrow that activity in 2011-12 is expected to involve commencement of construction. On the basis of available information, it appeared that construction (implementation) costs are estimated at approximately $149 million, with planning costs amounting to approximately $5.9 million or 4% of the implementation costs. This was considered reasonable by Halcrow.

Whilst a detailed breakdown of the estimated cost developed in conjunction with the 2010 Review of Augmentation Staging were not been sighted by Halcrow, it noted that cost estimate summaries presented in respect of the Feasibility Study and Concept Design both include appropriate cost elements and allowances for contingencies, engineering design, project and construction management and QUU overheads.

Halcrow noted that the costs estimates presented in feasibility and concept design reports the show considerable variation. This is, in part, reflective of the various treatment standards (effluent quality targets) and per capita (EP) hydraulic loading assumptions that have been adopted for the various options considered during the solution development process.

In order to provide a further assessment of the estimated capital cost, the effective unit rate cost, that is, capital cost per EP design capacity, was examined by Halcrow. Given that the capital cost of $155.2 million will augment the plant by 60,000EP, the unit rate cost equates to approximately $2,600 per EP.

Halcrow found that this rate compares favourably to the unit cost of wastewater treatment plant works (both upgrades and new facilities) assessed by Halcrow originally developed in support of the Authority's 2010-11 price monitoring review.

On the basis of the above, Halcrow found that the total project cost as proposed by QUU of $155.2 million is of the appropriate order. This was verified, at an indicative level, by comparison with unit costs previously identified for other wastewater treatment plant development/augmentation works. It was, however, apparent to Halcrow that cost estimates need to be further developed and assessed once drivers (including effluent compliance standards) of the nature/scope of the augmentation are confirmed.

Halcrow found that the proposed timing of construction of the Bundamba WRP Upgrade appeared to be appropriate, although it is currently under review. Halcrow expects the project scoping to be further advanced if construction is to commence during 2012-13.

Conclusion

In summary, Halcrow considered the Bundamba WRP Upgrade Stage 5a project to be prudent on the basis of predicted growth (both population and industrial development) in the catchment and the need to maintain compliance discharge standards.

SKM noted, however, that the final form of the upgrade works and the timing of construction are still subject to the outcomes of detailed review that is currently in hand. Accordingly, a definitive assessment of the efficiency of the proposed expenditure cannot be made at this stage.

Halcrow, however, was of the view that proposed expenditure of $2.05 million in 2011-12 is minimal (by comparison) and will be a prudent investment in respect of finalising design and/or commencing construction of the proposed works.

On the basis of Halcrow's advice, and taking into account QUU's deferral of $6.8 million of 2011-12 expenditure previously forecast to be spent on this project in 2011-12 due to the review of timing, the Authority accepts that the expenditure for 2011-12 for the Bundamba WRP Upgrade is prudent and efficient. The Authority supports the review of scope and timing of the project against updated population projections and environmental discharge requirements.

The Authority, however, notes that this project is not commissioned in 2011-12 and therefore does not enter the MAR in 2011-12. It was selected for review as it is the largest project over the period to 2013-14.

(ii) Brisbane Sewer Trunk System Renewals Program

The Sewer Trunk System Renewals Program is a business wide program which covers the Brisbane, Ipswich, Scenic Rim, Somerset and Lockyer Valley regions. SKM reviewed the Brisbane component of this renewals programme.

The Trunk Sewer Mains Renewals Program is aimed at managing the risk associated with the ongoing deterioration of trunk sewer assets within each of the sewerage networks operated and maintained by QUU. The program aims to achieve the reliable and safe transportation of sewage from the sewerage reticulation networks to wastewater treatment plants without negative impacts on the community and the environment.

The program covers the rehabilitation and/or replacements of the trunk sewer networks. This includes all trunk sewer pipes and maintenance holes structures. For the Brisbane region the program includes: structural relining of 38 sewer main line segments using standard reline technology; structural relining of four sewer main line segments using special reline technology (slip lining with pre-manufactured GRP pipes); structural relining of an additional nine sewer main line segments using special reline technology (slip lining); rehabilitation of six maintenance holes; condition assessment of eleven trunk sewer segments using CCTV and laser profiling; and condition assessment investigations of an additional eleven sewer main line segments.

The capital expenditure proposed is $35.60 million over 2011-12 to 2013-14.

Table 1.35: Trunk Sewer Renewals Program proposed Expenditure Profile ($m)

Project	*2011-12*	*2012-13*	*2013-14*	*Total*
Sewer Trunk Renewals Program	14.22	10.38	11.00	35.60

Source: SKM (2011)

Prudency

In relation to prudency, SKM considered this project to be prudent as trunk sewer mains are critical components in the sewer network, in most cases without redundancy, therefore measures to ensure that network integrity is guaranteed are essential.

Efficiency

In relation to efficiency, SKM noted that the purpose of this rolling program is to rehabilitate trunk sewers that have reached poor structural condition. Individual projects are prioritised based on customer service reliability standards, history of failure, condition of assets and risk assessment.

The Sewer Trunk System Renewals Program provided to SKM lists the following examples of the works to be carried out in 2011-12 including:

(a) Breakfast Ck Sewer from Campbell St to Edmondstone Rd in Bowen Hills - $2.5 million (1.5 km);

(b) Brisbane Trunk Sewer Relines – $2.35 million (5.3 km);

(c) Trunk Maintenance Hole Rehabilitation – $2.4 million; and

(d) Brisbane Cowper Street Syphon Stage 1 – $0.75 million;

SKM noted that trunk sewers to be replaced in 2011-12 have been assessed by QUU as being in Class 5 (very poor) or Class 4 (poor) condition.

SKM found that QUU utilises a cost estimation database for simple rehabilitation submissions. The first set of unit rates used to populate the database was supplied by a consultant in 2007. QUU advised SKM that the database is updated annually based upon actual project construction costing and that it puts out a number of relining tenders each year so its understanding of the market is contemporary and comprehensive.

QUU provided SKM costing documentation for trunk reline cost unit rates, flow control unit rates and traffic management unit rates. For the trunk reline cost unit rates, conditions included pipe diameters (from 150 mm to 1650 mm diameter), site access conditions (for easy, moderate and difficult), depth of pipe (0-3 m, 3-6 m, 6-9 m, 9-50 m) and length of pipe (0-100 m, 100-300 m, 300-2000 m). For the combinations of these conditions unit rates are provided in dollars per meter.

SKM found that complex rehabilitation works are assessed, and costed manually through market testing during the feasibility stage. These cost estimates are based on technical submissions and budgeted pricing received from the market as part of early contractor involvement process. Actual costs are determined through tender pricing.

As the actual costs have been arrived at through competitive tender market values, SKM considered that they accurately represent the current market value of the proposed project.

Based on the above, SKM found that the scope of works meets the needs of the program and the costs associated with the program have been determined through the monitoring and comparison of tender pricing from the market with database rates. SKM therefore concluded that QUU costs for this project to be efficient.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project, although only partially in relation to a standardised approach to cost estimation (not applied across all projects), implementation strategy (an overall strategy has not been developed however delivery is addressed for each projects) and gateway review (specific information is not provided for all stages).

Conclusion

SKM considered this project to be prudent as trunk sewer mains are critical components in the sewer network, in most cases without redundancy, therefore measures to ensure that network integrity is guaranteed are essential.

SKM found that the scope of works meets the needs of the program and the costs associated with the program have been determined through monitoring and comparison of tender pricing from the market with database rates. SKM therefore concluded that QUU costs for this project to be efficient.

On the basis of SKM's advice, the Authority accepts that the Brisbane Sewer Trunk System Renewals Program is prudent and efficient.

(iii) Information and Communication Technology (ICT) Strategy Project

QUU's ICT services are presently supplied by the BCC through a service level agreement (SLA). The ICT Strategy program forms the basis of the full separation of QUU ICT systems from the BCC system. QUU has developed this program as there is likely to be limited opportunity to leverage BCC as an ongoing provider.

QUU has developed an ICT Strategic Vision and is at the beginning of a rolling three year ICT investment program. SKM noted that the ICT Strategic Vision is intended to guide the decision making and allocation of funds and resources for QUU. The ICT Strategy Vision is concerned with ICT solutions that support business needs and contribute to QUU achieving its corporate objectives. QUU's ICT Strategy Vision is to:

> *Leverage technology to enable and support business growth change while delivering an assured business platform in a cost effective manner that:*
>
> *(i) Strategically aligns, contributes to and progressively builds the desired organisation vision*
>
> *(ii) Ensures IC&T capability is positioned for growth and responsive to changing priorities and new and emerging technologies*
>
> *(iii) Ensures an integrated, flexible and optimum IC&T capability is formulated, while considering the varying delivery and operational models*
>
> *(iv) Aligns all IC&T investments with key corporate outcomes and specific initiatives*
>
> *(v) Positions QUU to leverage from, influence and participate in, the emergent water agenda while leveraging existing capability and investments made to date.*

The capital expenditure is proposed to be $42 million over 2011-12 to 2013-14 (see table below).

Table 1.36: ICT Strategy Project Expenditure Profile ($m)

Project	*2011-12*	*2012-13*	*2013-14*	*Total*
ICT Strategy	9.00	18.00	15.00	42.00

Source: SKM (2011)

Prudency

SKM noted that the identified cost driver for this project is improvement. QUU advised SKM that BCC has mandated a total separation of QUU's ICT systems from BCC by 1 July 2013.

QUU supported this decision noting in its ICT Vision discussion paper that a QUU driven implementation would provide the most flexibility and control over its own destiny, enabling future growth and expansion into alternative services and markets.

The decision by QUU relating to Enterprise Resource Planning (ERP) system sourcing options made use of a weighted score method. SKM noted that the assessment criteria and respective contributing weights are as follows: commercial agreement, 10%; control, 5%; cost effective, 20%; risk, 15%; business transformation, 15%; operational support, 5%; agility, 10%; enabling solution impact, 5%; and diversification of services, 15%.

SKM found the weighted score and assessment criteria used to be appropriate.

QUU's assessment considered five ERP sourcing options. From the assessment, it was recommended that externally sourced and the collaboration of sourcing options offer the most flexibility to QUU and that the two options cost benefit viability should be investigated further.

SKM considered the options investigated and recommendation to be appropriate.

SKM therefore concluded that QUU has provided sufficient information to establish that the project is prudent based on the requirement for improvement and the consideration of QUU becoming totally separated from BCC.

Efficiency

QUU advised SKM that the ICT strategy project is intended to:

(a) establish a wide area network IT system within QUU;

(b) establish 1500 desktop PCs, associated platform, operating system and user software to replace BCC's infrastructure currently used by QUU;

(c) implement an ERP covering:

  (i) human resources functionality;

  (ii) works management; and

  (iii) finance system;

(d) implement a retail billing system;

(e) develop a customer database, migrating data from BCC's systems;

(f) establish a Geographic Information System (GIS);

(g) establish a call centre; and

(h) integrate seven separate Supervisory Control and Data Acquisition (SCADA) networks.

The current cost of ICT services provided to QUU is set out under the Transition Service Agreement (TSA) with BCC. QUU's internal documentation noted that the service agreement with BCC is cost effective but that it is not sustainable in the longer term as it assumes that QUU is a logical division of BCC and the TSA does not fully account for all applicable corporate overheads.

QUU undertook a cost estimate exercise to scope the cost of remaining with BCC as a customised service. The estimate indicated an increase for TSA services costs and the ICT investment profile cost. However, SKM noted that the detailed costing of the two components was not made available for their review.

SKM noted that for projects of this nature, which tend to be tailored in their scope and implementation to the individual business needs, the development of a detailed cost estimate is required against which the project costs can be compared to enable specific cost efficiency to be determined.

SKM deemed the development of such a detailed comparison cost estimate to be outside the scope of its assignment and, the information that is required to compile a rough order cost estimate is not publically available.

In light of the above, and in absence of other benchmarking data, SKM utilised the costings undertaken by Allconnex Water and QUU for the implementation of a business wide ICT system were benchmarked against one another. A summary of the comparison appears below.

Table 1.37: Cost of SEQ Retail Water Utilities ICT Programs

Component	*Allconnex Water (000's)*	*Queensland Urban Utilities (000's)*
ERP Components	29,522	32,433
Other ICT Components	22,128	22,031
Total ICT Cost	**51,650**	**54,464**

Source: SKM (2011)

The cost comparison showed that the budgeted capital cost submitted by the entities is within the same range. SKM cautioned that due to the highly variable cost and contributing factor of implementation and that each of the three utilities have a different existing configuration and final product expectation the final cost of implementation may vary considerably.

SKM noted that QUU has proposed to go to the market to test the cost estimate. Based on the competitive tender process proposed being a market related estimate, SKM considered the capital expenditure cost put forward to the Authority to be efficient.

SKM noted that QUU has identified that significant savings for its ICT Business could be achieved as a result of longer term operational efficiencies. However, SKM notes that these efficiencies have not been quantified by QUU.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project, except for standardised cost estimating (which was not appropriate for this project) and gateway review.

Conclusion

SKM found that QUU has provided sufficient information to establish that the project is prudent based on the requirement for improvement and the consideration of QUU becoming totally separated from BCC.

SKM considered that the project is efficient based on the cost comparison with the cost submitted by Allconnex Water.

On the basis of SKM's advice, the Authority accepts that the ICT Strategy Project is prudent and efficient.

(iv) Brisbane Water Reticulation System Renewals Program

The Brisbane Water Reticulation System Renewals rolling capital program was established to renew or replace reticulation mains that are deteriorating and poorly performing, classed as having a high consequence of failure or require modifications due to renewal of local areas (under the urban development/major roads/suburban centre improvements) projects.

QUU stated that replacement of reticulation mains is performed in accordance with its service standards (including less than eight water complaints per 1000 properties and network design standards). QUU proposed expenditure of approximately $29 million over a three-year period.

Table 1.38: Brisbane Water Reticulation Systems Program Expenditure Profile ($'000)

Project	*2011-12*	*2012-13*	*2013-14*	*Total*
Brisbane Water Reticulation Systems Renewals Program	7,811	10,989	10,300	29,100

Source: SKM (2011)

SKM noted that the total proposed capital expenditure is around $6.7 million lower than in the supporting business case. QUU advised SKM that the business case includes updated estimates for 2012-13 and beyond that were developed after the 2011-12 budget and reflect internal draft working estimates used as part of the ongoing budget review process. SKM based its review on the most recent cost estimates.

Prudency

QUU indicated that the primary driver of the expenditure is renewals, and the program is part of the ongoing commitment to maintain the water reticulation networks operated and maintained by QUU. It is aimed at achieving an optimised level of service in the longer term within each of the water reticulation networks operated and maintained by QUU.

The program is comprised of a number components including: burst mains replacement; critical mains replacement; urban redevelopment/major roads/suburban centre improvements; and potable water mains with diameters of 300 mm and below.

SKM found that 95% of the total project costs in 2011-12 relates to the burst mains replacement. This sub-programme is aimed at ensuring future burst rates are kept within the targets set by QUU and preventing a situation where the burst rate increases above the target level and requires a large investment in a short time frame to improve the system burst rate.

QUU has adopted an 'operate to failure' approach to the operation and maintenance of its water reticulation mains. This involves corrective maintenance to replace or modify existing infrastructure to reduce the likelihood of additional failures. QUU has not adopted preventative (time or condition based maintenance) or responsive maintenance (burst mains are repaired to restore functionality) as the former is not economical and the latter does not reduce the risk of additional failures.

QUU monitors the performance of all water mains on a weekly basis. For works to be included in the Brisbane Water Reticulation System Renewals Program, burst mains are assessed against the following social, customer and economic criteria:

(a) failure – four or more unplanned interruptions in a 12-month period; perpetual failures; 10 failures over a five to 10-year period;

(b) significant customer impact – two failures with a significant damage to private property; single interruption to a water critical customer; number of customers interrupted on a single failure is greater than 200;

(c) publicity surrounding visible failures – failure in the Central Business District; major traffic disruptions; and

(d) other factors – accessibility to maintain, environmental damage, excessive restoration costs and escalated level of customer complaint.

For mains that meet this criteria, options analysis is conducted on how to best to mitigate the risk, including: replacement; inserting valves to reduce the customers affected; and extending mains to provide alternative supplies.

The water mains nominated for replacement must also satisfy criteria under the QUU Corporate Policy for replacement. Under this policy, it must be demonstrated that it is more cost effective on discounted cash flow basis to replace the mains than to maintain them.

SKM assessed the above process as appropriate and therefore found the program to be prudent.

Efficiency

The works to be carried out as part of the Water Reticulation Mains Renewals Program in 2011-12 include:

(a) replacement of burst water mains in various streets in all regions;

(b) Kingsford Smith Drive stage 2 investigation and design works;

(c) relocation of water mains due to Main Roads projects; and

(d) emergent works to address critical problems with water reticulation assets.

QUU identified the replacement criteria, cost of repair and discounted annual loan charges of like for like replacement of the complete burst mains project list. The annual burst repair cost exceeded the cost of replacement of reticulation mains included in the program.

The Authority notes that QUU should consider the use of a weighted average cost of capital (WACC) in its discounting approach, as this would more accurately reflect the weighted cost of capital rather than debt alone.

SKM noted that in future years it would expect to see comparisons between previous expenditure and to forecast expenditure. In addition, they would expect cost estimates for each of the mains replaced, based on the actual costs from the 2011-12 program, as well as a list of mains actually replaced in 2011-12 compared to those listed in the 2011-12 program.

Given the above information SKM found the scope of works to be acceptable.

In relation to project costing, SKM found that a range of asset management processes are employed in establishing program funding levels and the identification and prioritisation of individual projects within the sub programs including:

(a) statistical modelling/scenario planning (CSIRO Pipeline Asset and Risk Management System (PARMS) Statistical Model) – which sets overall funding for the program;

(b) financial analysis – for option analysis; and

(c) monitoring consequence of failures – to select the individual assets for inclusion in the program.

For the Brisbane Water Reticulation System Program, the CSIRO PARMS statistical model is used in planning the investment stream. This model uses data from 2001 to 2006 and has not since been updated since 2006.

The CSIRO PARMS statistical model was used to determine the long term burst rate from 2007-2036 based on expenditure levels of between $2 million and $18 million per annum. The

modelling results indicated that the required expenditure to control the long term burst rate in Brisbane was likely to be between $16.5 and $18 million per year (2006 dollars).

SKM found that the project costs presented in the Water Reticulation Mains Renewals Program are a combination of pre-market cost estimates and post-market costs of the renewal works. The pre-market cost estimates are developed utilising the costing tool (Brisbane Summary of Rates Costing Document), which was provided in QUU's response to requests for information, along with recent rates from engineering providers including Diona, Brisbane City Works, and Comdain. SKM found this process to be reasonable.

However, SKM noted that CSIRO PARMS statistical model utilises data from the 2001-2006 period, and has not been updated since 2006. QUU indicated that it is a part of a WSAA/CSIRO PARMS project and, at the completion of the project, it plans to engage CSIRO to update the model in 2011-12 with the most recent available information.

In reviewing the deliverability of the program, SKM noted that no assessment as to the likelihood of the project being delivered within the timeframe was provided by QUU. SKM found that the QUU submission included evidence that the program from 2010-11 was not fully delivered, however no information as to the progress achieved in the 2010-11 year was provided.

Thus, given the lack of a project management plan and uncertainty surrounding the selection of mains for replacement for the whole of 2011-12, there was insufficient information available at the time of review to assess the ability of QUU to deliver the program in 2011-12.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project, except for gateway review.

Conclusion

The Brisbane Water Reticulation System Renewals Program has been assessed by SKM as prudent as a functioning water reticulation system is vital to QUU's ability to deliver quality to customers, and the method for selecting mains for replacement utilises reasonable criteria. However, SKM recommended that the Authority review QUU's progress in updating the CSIRO PARMS Planning model and any changes to future capital expenditure requirements resulting from the updates.

The Brisbane Water Reticulation System Renewals Program was assessed by SKM as efficient. An appropriate scope of works, acceptable standards of service and reasonable project cost have been demonstrated. However, the information provided regarding delivery does not enable comprehensive assessment.

The costs provided in the submission to the Authority are based on pre-market estimates calculated from recent market rates, or from tendered or contracted values for program elements. SKM recommended that the costs contained in QUU's submission be revised to incorporate the most up to date cost contained in the business case (see table below).

Table 1.39: Brisbane Water Reticulation System Renewals Program Revised Expenditure Profile ($'000)

Project	*2011-12*	*2012-13*	*2013-14*	*Total*
Brisbane Water Reticulation System Renewals Program	7,811	12,000	16,000	35,811

Source: SKM (2011)

On this point, the Authority notes that the price monitoring review is limited to the information that was available at the time of price setting [as this is the information underpinning prices]. The Authority, however, notes that the updated estimates relate to 2012-13 and do not affect the MAR for 2011-12.

On the basis of SKM's advice, the Authority accepts that the Brisbane Water Reticulation System Renewals Program is prudent and efficient.

(v) Brisbane Wastewater Treatment Flood Recovery

In January 2011, the SEQ floods caused major damage throughout the QUU catchment areas, including impacting water reclamation plants. The water reclamation plants that were affected in the Brisbane area include Oxley Water Reclamation Plant, Fairfield Water Reclamation Plant and Karana Downs Water Reclamation Plant. In response to the damage, QUU had to restore operation to those assets in a timely manner.

QUU has proposed expenditure of approximately $6.7 million in 2011-12 for Brisbane Wastewater Treatment Flood Recovery.

Prudency

QUU noted that the capital replacement costs resulting from floods are assigned to the renewals category in the Authority's data template. SKM concurred with this approach and noted the project was to maintain an existing standard (pre-floods) or service with like-for-like replacement.

As this project was the result of a natural disaster, normal decision making procedures were not applied. Instead, QUU implemented the following strategies to recover the wastewater treatment plants:

(a) manage the work on a site-by-site basis;

(b) separate the larger sites into 'work zones;

(c) engage specialist contract resources under emergency procurement terms to recover the equipment within the work zones; and

(d) utilise internal subject matter experts to coordinate the interaction between the contractors, process requirements and operations.

No NPV calculation was undertaken given the 'emergency' state of the scope of works required.

Given the above circumstances, SKM assessed the project as prudent.

Efficiency

The recovery works were conducted in two phases. Phase 1, 'Pure Emergency Environment' focused on establishing critical services within the shortest time periods possible. These services included: site utilities, safety and security; process power; primary treatment; and base communications.

Phase 2 'Managed Emergency Environment' focused on establishing licence compliance within a period of 10 weeks to restore the plants to pre-flood operational status. The scope assigned a contractor a specific area of the plant with the desired outcome being the restoration of all the equipment within their specified jurisdiction back to a fully operational state.

SKM received capital expenditure summaries of capital costs necessary for replacement of most of the damaged assets at Oxley Water Reclamation Plant. No cost information was received for either Karana Downs Water Reclamation Plant or Fairfield Water Reclamation Plant, although a list of the damaged assets was provided.

QUU provided information on $9.8 million of the replacement works at the Oxley Water Reclamation Plant which included the replacement of, or repairs to:

(a) CAMBI – Thermal Hydrolysis Plant – John Holland ($3.6 million);

(b) Instrumentation and Controls – MPA Engineering ($2.5 million);

(c) Electrical – Nilsen ($1.8 million);

(d) UV System and Service Water Pumps – ITT Flygt ($759,000);

(e) Odour Control Units – Aromatrix ($588,000);

(f) Dewatering and Clarification – Aquatec Maxcon ($495,000); and

(g) Compressors and Blowers – CAPS ($54,000).

Information on the scope of works and cost estimates were not available for chemical dosing plants (Alldos/Grundfos), centrifuges (Westfalia and Alfa Laval) and blowers (HST).

Upon SKM's request, QUU provided a detailed breakdown of the three largest quotes – from John Holland, MPA Engineering and Nilsen. SKM confirmed these quotes validated $7.8 million of the total of $9.8 million (for Oxley) as assets replaced, cost of labour and new equipment were all listed.

SKM noted that the CAMBI budget was increased from that originally noted (by $1.9 million). QUU provided information on the variances and reasons. The largest item of variance related to an increase of $1.0 million for damage that was higher than initially estimated. SKM noted, however, there was no documentation provided as to the change of scope.

Another increase in budget of $893,000 related to a heat exchanger that was excluded from flood related costs.

SKM noted that the supporting information provided by QUU for Oxley for $12.5 million did not reconcile with the QCA template data of $14.3 million for 2010-11 and 2011-12. However, the documented expenditure comprised the majority of the overall Brisbane Wastewater Flood Recovery budget (2010-11 and 2011-12) of $15,810,000.

Table 1.40: Flood Recovery Cost by WRP

Water Reclamation Plant	*Budget 2010-11 ($000s)*	*% of Budget 2010-11*	*Budget 2011-12 ($000s)*	*% of Budget 2011-12*	*Total Capital Expenditure ($000s)*
Oxley	8,530	93	5,812	87	14,342
Karana Downs	511	6	368	6	879
Fairfield	95	1	494	7	589
Total	**9,136**	**100**	**6,674**	**100**	**15,810**

Source: SKM (2011), QUU (2011)

The majority of the costs and contractors involved in the flood recovery works were sourced via an exemption for sole source under the QUU Procurement Manual where urgency and prior documented knowledge of the circumstance deem only one organisation or consultancy or contractor appropriate for the task. SKM found QUU's use of sole sourcing to be reasonable.

In relation to timing and deliverability, SKM noted the delivery of assets in Oxley WRP was separated in three stages: effluent chain replaced and running in manual operation (at a minimum) to meet licence conditions (January 2011 to April 2011), intermittent works by contractors to modify the emergency works into a permanent reliable fix (April to September 2011), sludge storage and drying areas (September 2011 onwards).

SKM considered the timing and delivery of flood affected assets was reasonable. SKM also noted that the capital expenditure will extend asset life and reduce operating costs.

SKM assessed the proposed expenditure to be efficient.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project, except for standardised approach to cost estimating (no cost breakdowns available for Karana Downs and Fairfield) and gateway review (however, the internal review that was done was adequate given the project was done in a state of emergency).

Conclusion

The Brisbane Wastewater Treatment Flood Recovery 2011-12 is a continuation of a project that started in 2010-11 for the replacement of flood damaged assets after the devastating January 2011 SEQ floods.

The project has been assessed by SKM as being prudent as the replacement of flood damaged assets was necessary to continue to provide a compliant wastewater treatment service.

The scope of work costs were based on assessment of flood damaged infrastructure at the three sites. The scope of works needed by Fairfield Water Reclamation Plant and Karana Downs Water Reclamation Plant were provided to SKM, but the detailed capital expenditure was not. However, the capital expenditure for these later two plants is 13% of the 2011-12 wastewater flood recovery budget.

The project has been assessed by SKM as efficient as an appropriate scope of works, acceptable standards of service, reasonable projects costs and achievable delivery have been demonstrated.

On the basis of SKM's advice, the Authority accepts that the Brisbane Wastewater Treatment Flood Recovery is prudent and efficient. However, the Authority notes that the cost estimates are not fully supported at this time and would expect this to be resolved along with any insurance or disaster relief arrangements when this information becomes available.

(vi) Fleet

Fleet Replacement Program is to replace all vehicles that have exceeded the Fleet Replacement Group replacement parameter. This involves the replacement of 85 fleet items in 2011-12 with a total of 294 being replaced over the forecast period at a forecast cost of $6 million in 2011-12.

SKM noted that no budget was allocated in the 2010-11 financial year to the fleet replacement schedule. QUU proposed that the 2011-12 budget cover the purchase of fleet due for replacement in 2011-12 in addition to overdue fleet items from 2010-11.

Table 1.41: Fleet Replacement Program – proposed capital expenditure profile

Source	*2011-12*	*2012-13*	*2013-14*	*Total*
Submission to the Authority	6,000	4,162	4,383	15,545

Source: QUU (2011)

Prudency

QUU has adopted the fleet management guidelines currently used by BCC Fleet Product Group. The Fleet Product Group (FPG) provides fleet services to QUU utilities under a transitional service agreement.

SKM noted that the aim of setting replacement parameters is to maintain an efficient and effective vehicle fleet by ensuring that vehicles are replaced by following optimum replacement cycles. This should ensure that vehicles remain financially viable for the business and operate efficiently with minimum down time caused by mechanical failures.

QUU's replacement parameters are based on the following pre-determined effective lives:

(a) Light passenger vehicles three years or 60,000 km;

(b) Commercial vans four years or 100,000 km;

(c) Trucks seven years or 175,000 km;

(d) Plant seven years or 8,000 hrs; and

(e) Category 3 equipment as required.

The FPG reviews the costs and benefits of its recommended fleet replacement lives, to ensure optimum replacement cycles. Factors considered that impact an asset's serviceable life include: nature of the asset – has an influence on its length of service; maintenance costs – costs increase with age; compliance with legislation; new technology – resale value drops rapidly when items are superseded; compatibility of item with new/changed working environment; asset environment – physical conditions in which the asset operates; and change to excise tax – e.g., fuel rebates for class of vehicle.

Fleet replacement is like-for-like, except where the previous model is no longer available, in which case the replacement would be the closest like-for-like specification or where there has been a change in the nature of the work performed by the asset requiring a vehicle of a different specification.

QUU noted degradation of fleet results in lost productivity in other operational areas, along with higher maintenance and repair costs. There are also higher risks for workplace health and safety as the fleet gets older and less reliable. Failure to meet legislative/service delivery requirements can have a negative impact on QUU reputation.

SKM noted that QUU did not nominate a cost driver for the fleet replacement program. SKM assessed the primary driver of this project to be renewals.

Development of the fleet renewal project has been conducted in accordance with the BCC Fleet Product Group. QUU analysed three alternatives to the current programme including.

(a) Alternative 1: Replace only priority one and two items on 2010-11 replacement schedule and carry over the remainder;

(b) Alternative 2: Replace all fleet items identified in 2010-11 replacement schedule in 2011-12 and carry over 2011-12 to future years; and

(c) Alternative 3: Adopt a new fleet management guideline to extend replacement life. Extend replacement life to:

(i)	Light passenger vehicles	four years or 80,000 km;
(ii)	Commercial vans	five years or 125,000 km;
(iii)	Trucks	eight years or 200,000 km;
(iv)	Plant	eight years or 9,000 hrs; and
(v)	Category 3 equipment	as required.

QUU found that the above alternatives would reduce the capital expenditure in 2011-12 but not in the long term. QUU identified a number of risks associated with deferring capital expenditure on replacement of fleet including:

(a) service delivery/continuity of service issues, if critical vehicles are off-line;

(b) increased operational costs;

  (i) 10% increase on standard servicing costs for each year deferred for passenger vehicles and 20% for trucks;

  (ii) higher cost of repair for per kilometre (especially for brakes, drive belts etc);

  (iii) external hire costs to replace critical vehicles that are off-line;

(c) high ‘out of warranty’ repair costs;

(d) higher changeover costs of fleet;

  (i) higher purchase cost in future year for replacement vehicle;

(ii) significantly lower salvage price for the replaced vehicle;

(e) increased downtime; reduced reliability leads to decreased performance statistics; and

(f) aging fleet impacts customer perceptions/reputation.

SKM agreed that the deferral of capital costs in this instance will lead to increased operating costs that are likely to outweigh any benefit of deferral. SKM supported the adoption of the Fleet Replacement Group replacement schedules.

SKM noted that Unitywater benchmarks for vehicle replacement were similar to those adopted by QUU.

SKM therefore assessed the renewals expenditure is prudent.

Efficiency

The scope of works is to replace all vehicles that have exceeded the Fleet Replacement Group replacement parameter (noted above) in order of priority:

(a) priority one vehicles are those that pose an operational risk to the business if removed from service;

(b) priority two vehicles are those that are overdue for replacement by distance and age that have high maintenance costs but do not pose operational risk if removed from service temporarily; and

(c) priority three vehicles are those that are overdue for replacement by distance and age but are performing well with no major maintenance or safety risks.

Completing the fleet replacements that were due to occur in 2010-11 will result in 181 assets being replaced while 85 fleet items are due for replacement in 2011-12. SKM found that each of the vehicles listed by QUU for replacement has a replacement date within the 2011-12 financial year or earlier.

The Fleet Replacement Justification Replacement of vehicles and plant three-year plan to June 2015 provided to SKM contained a list of fleet assets to be replaced in 2012-13 and 2013-14 and approximate replacement costs.

Considering the above information SKM assessed the scope of work to be appropriate.

Table 1.42: Fleet replacement costs 2011-12 to 2013-14

	2010-11	***2011-12***	***2012-13***	***2013-14***
Number of assets	181	85	101	108
Fleet replacement cost	$10,188,000 (2010-11 and 2011-12)		$4,704,000	$5,218,000
Fleet salvage value	$2,246,000 (2010-11 and 2011-12)		$1,034,00	$1,147,000
Net cost for fleet replacement	**$7,942,000 (2010-11 and 2011-12)**		**$3,670,000**	**$4,071,000**

Source: SKM (2011)

SKM compared QUU vehicle replacement cost against vehicle costs sourced from the manufactures' Australian websites. SKM noted that the costs provided by QUU are generally lower than the costs listed on the vehicle manufacturer's website. Allowing for a discount for the large number of vehicles that QUU is purchasing, SKM found that the vehicle costs for the project for the 2010-11 and 2011-12 years are efficient.

SLM also reviewed QUU's salvage values. SKM found that QUU reduced the estimated salvage value provided by the Fleet Product Group by 20% for each fleet asset to reflect the age and condition of fleet assets. This conservative approach led to the salvage values expected from the Fleet Replacement Justification to be lower that SKM's salvage values for most items.

Table 1.43: Comparison of vehicle salvage value

Make	*Model*	*Year*	*Fleet Replacement Justification Salvage Value ($)*	*SKM Sourced Resale value ($)*	*Difference (%)*
Toyota	Corolla Conquest	2007	6,252	11,300 - 13,200	45 to 52
Holden	Barina TK	2007	6,252	5,600 - 7,100	-12 to 12
Ford	Falcon BF	2006	10,292	6,100 - 7,700	-69 to -34
Toyota	Hilux SR	2008	10,400	11,300 - 13,400	8 to 22
Mercedes Benz	Vito 115	2007	8,000	23,600 - 26,900	66 to 70
Toyota	Hiace	2006	8,000	20,500 - 23,400	61 to 66

Source: SKM (2011)

Considering that 85 of the 266 fleet assets are due for replacement in 2011-12, SKM did not consider such a coarse application of the 20% discount to be reasonable.

SKM noted that the salvage values provided for the Vito 115 and Hiace were 30% to 40% lower than the expected range. However, as only two Hiace and one Vito are due for replacement this will result in a maximum variation of around $50,000 from the salvage value identified by QUU. In the context of the $10.2 million budget the variation is insignificant.

However, SKM suggested that QUU provide more specific information as to the age and condition of assets to allow a more thorough examination of vehicle salvage values in future years.

SKM recommended that the 2011-12 expenditure reflect the overdue 2010-11 fleet replacement as well as replacements due in 2011-12 at a net cost of $7.942 million as per the detailed supporting information provided. SKM assessed the project as efficient based on the revised estimates.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project, except for an implementation strategy (although this is discussed indirectly in supporting information) and gateway review.

Conclusion

SKM assessed the project as prudent. Without the project, QUU's fleet would decline in quality. The decline in quality will affect the ability of QUU to fulfil its role and may result in increase operational maintenance costs.

SKM assessed the project as efficient, and recommended that the costs for 2011-12 be updated to include overdue replacements as set out in the detailed supporting information.

On the basis of SKM's advice, the Authority accepts that the Fleet Replacement Program is prudent and efficient and has amended the 2011-12 expenditure as per SKM's advice.

Table 1.44: Revised Fleet Replacement Costs (000s)

Project	*2011-12*	*2012-13*	*2013-14*	*Total*
Queensland Urban Utilities Fleet Replacement	$7,942	$3,670	$4,071	$15,683

Source: SKM (2011)

(vii) Auchenflower Branch Sewer Upgrade

The Auchenflower Branch Sewer Upgrade Project involves the construction of 306 m of 400 mm diameter vitrified clay and 573 m of 600 mm diameter vitrified clay gravity sewer main from Torwood Street to Coronation Drive along Torwood Street, through Milton Park, along Eagle Terrace, Roy Street, and Lang Parade. This new sewer will augment the existing sewer which is to be retained and relined, as part of this project, to ensure that it continues to operate reliably into the future.

The proposed capital expenditure is $5.5 million in 2011-12.

Prudency

The existing unreinforced concrete Auchenflower branch sewer commences at Haig Road and generally follows low lying terrain southward to the Brisbane River. The sewer was constructed over 70 years ago and CCTV inspections indicate that it is in fair to poor condition. The route of the existing sewer traverses highly developed, high density residential and commercial areas, which have experienced significant population growth in recent years.

Master Planning by QUU identified the existing Auchenflower branch sewer as being under capacity for peak wet weather flow conditions and the sewer has been observed to overflow from the existing overflow structure under these conditions.

QUU nominated growth and compliance as equal drivers of this project (50% each) in the data templates.

SKM noted that growth as a cost driver is supported by population forecasts in the Auchenflower Branch Sewer Upgrade Feasibility Report. The Authority notes that business as usual growth in the catchment is conservative, however the alternative planning (AP) case refers to significant growth.[20] The AP case includes high density, mixed-use developments within the district local plan (Beca 2011).

SKM noted that QUU's feasibility report identified that relining the existing main would not provide sufficient capacity to handle existing and future peak wet weather flow conditions.

SKM noted that modelling of the Auchenflower sewer catchment indicated that the system tends to overflow during storm events at least once every six months. A Beca report conducted for QUU noted that the current sewer is sized for 3.2 x average dry weather flow (ADWF) and does not meet the current requirement of 5 x ADWF.

SKM noted that QUU subsequently noted that population growth is not the dominant driver for this project. Given this and other information, renewal appears to be the main driver for this project, with growth as a secondary driver. SKM recommended that QUU review and confirm the cost drivers assigned to this project and revise the apportioning of expenditure to the cost drivers within their commissioning model.

Noting the above, SKM found there is a demonstrated need for the project therefore it has been assessed as prudent and drivers of growth and renewal are appropriate. However, SKM recommended the proportion allocated to each driver needs to be confirmed.

Efficiency

SKM reviewed the decision making process for the project. SKM found that a number of options were initially assessed using a multi-criteria methodology involving both qualitative assessment and financial assessment. Ten main options were considered:

Option 1 Do nothing;

Option 2 The existing sewer is abandoned and replaced by a new sewer;

Option 3 Reline the existing sewer;

Option 4 Pipe bursting[21] is used to enlarge and reline the existing sewer;

Option 5 Reline the existing sewer and construct a high level relief sewer that will unload the existing sewer during peak wet weather flows;

Option 6 Reline the existing sewer and construct a low level augmentation that will split the flow between the new augmentation and the existing sewer;

Option 7 Reline the existing sewer and construct a new wet weather pump station and rising main that will unload the sewer downstream of the pump station;

[20] QUU advised that its current population projections involve growth from 13,603EP in 2006 to 30,000EP ultimate population. The Authority notes that QUU's assumption of growth in catchment population is higher than more recent short term population forecasts from 2011 OESR data. However, the nature of the project is localised and long term while OESR data relates to Brisbane-wide growth in the short term. The OESR estimate does not appear to be a useful benchmark in this instance.

[21] Pipe bursting is a trenchless method of replacing buried pipelines (such as sewer, water, or natural gas pipes) without the need for a traditional construction trench. An expanding device is introduced into the defective pipeline through a launching pit. As it travels through the pipeline toward the receiving pit it breaks the pipe into many small pieces, pushing the pieces into the surrounding soil. New pipe is attached to the back of the expander head, replacing the line immediately.

Option 8a Construct an attenuating storage at Gregory Park and reline the existing downstream sewer;

Option 8b Construct an attenuating storage at Milton Park, reline the existing downstream sewer and increase capacity of the existing upstream sewer;

Option 8c Construct an attenuating storage at Dunmore Park, reline the existing downstream sewer and increase capacity of the existing upstream sewer;

Option 9 Construct a sewer mining, treatment, effluent storage and disposal system to unload the existing sewer. The existing sewer would also need to be relined; and

Option 10 Undertake Inflow/Infiltration works upstream of the Auchenflower Branch Sewer. Reduction of inflow and infiltration into the sewer would reduce wet weather flows and effectively unload the sewer.

QUU's preferred option at that time was Option 4, as it was the most economic option with the lowest capital cost and minimal ongoing operation and maintenance costs. It also allowed the existing sewer to be rehabilitated in a manner that minimises the social and environmental disruption that would otherwise be required by other options.

Following the selection of the preferred option, investigation works were undertaken to prove project constraints from a construction perspective. During this stage, a number of constraints to pipe bursting were identified and practical difficulties in some sections of the pipeline.

Further options analysis was undertaken subsequent to the selection of the initial preferred option to take into account increased understanding of the project construction risks. A multi-criteria evaluation taking into consideration various combinations of pipe bursting and micro-tunnelling was considered for the choice of the final construction methodology.

The preferred option, micro-tunnelling of a parallel sewer was chosen as it was highest ranked with minimal disruptions and risks. No NPV was provided for this option analysis.

SKM assessed the project as prudent. SKM considered the Auchenflower branch sewer as an essential component in the sewer catchment and measures to ensure that network integrity is guaranteed are essential.

Efficiency

SKM noted that a contract for the works for the new main as part of the Auchenflower Branch Sewer Upgrade project was put to tender via public advertisement in accordance with QUU procurement strategy. Seven offers were received and assessed by a panel using normalised prices and non-price weighted evaluation criteria, including service and delivery requirements. A value for money index calculated by dividing the sum of the non-price weighted scores by the normalised prices. A summary of the cost estimate is included in the table below.

Table 1.45: Auchenflower Branch Sewer Project Costs

	Project Cost Summary	*Expected Total Cost of Project ($)*	*Percentage (%)*
1	Design and documentation of contract specifications and Request for Tender	560,295	6.1
2	This proposed Contract	6,181,346	66.8
3	Other proposed Contracts required to deliver the overall Project and Communication Consultant	66,500	0.7
4	QUU Operational Support costs	96,000	1.0
5	Project Mgt and Commercial Services	425,924	4.6
6	Project contingency (not including contingency for this Contract)	400,000	4.3
7	Contract contingency sum (This proposed Contract)	930,000	10.0
8	Relining of the old sewer (yet to be contracted)	600,000	6.5
TOTAL		9,260,065	
LESS Prior Financial Years' Expenditure		-549,019	
SUB-TOTAL (2010-11 and 2011-12 expenditure)		8,711,46	

Note: Extract from Response to RFI 0004 (QUU 2011), 2011 SKM (2011)

SKM assessed that the percentages used for estimating the operational support, contingency etc are reasonable.

SKM found that costs indicated by QUU for the new sewer main have been arrived at through competitive tender market values, and therefore as such are believed to accurately represent the current market value of the proposed project.

The tender process involved seven tenders costing all of the proposed works. Based on the information provided, to SKM the price for the works ranged from $5 million to $12 million. The preferred tenderer selected by QUU was within the lower region of this range, with a price of $6.18 million. SKM did not review the original tender documents. Detailed information was not available on the costs associated with the relining of the existing sewer.

Based on the information provided, SKM concluded that the costs are efficient. All elements of the project have been competitively tendered and that the costs for the work are consistent with conditions prevailing in the markets.

SKM found that the project is being delivered by contractors under the QUU Major Projects and Commercial Services Branch. A Project Management Plan has been developed for the delivery of the project. This includes the scope, cost management, risk management, communication plan and project schedule. Risk principles have been incorporated in the project design and that the project can be delivered within the project timelines.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project, except for standardised approach to cost estimating (partial compliance) and gateway review (although this is mentioned in some

documentation specific information is not provided for all stages). Consideration of prudency and efficiency from a regional perspective was not applicable due to the localised nature of the project.

Conclusions

SKM found that the project has been assessed as prudent for growth and renewal.

In addition, SKM found the project to be efficient because the scope of works meets the needs of the project and the costs are reasonable, the delivery program is achievable and the standards of service used are appropriate.

On the basis of SKM's advice, the Authority accepts that the Auchenflower Branch Sewer Project is prudent and efficient.

(viii) Canungra Water Reclamation Plant Upgrade

The Canungra Water Reclamation Plant currently services around 900EP within the Scenic Rim area. The upgrade is aimed at increasing the capacity of the Canungra Water Reclamation Plant in response to growth in population (including from a development application for a 224 lot development) to 1500EP by 2018 and to also meet more stringent license conditions for effluent quality – median total nitrogen of 5 mg/L and total phosphorous of 1 mg/L, and a total maximum daily dry weather flow of 900 kL.

The capital expenditure proposed for the Canungra Water Reclamation Plant upgrade for 2011-12 is $3.35 million.

Prudency

QUU submitted that the primary driver for this project is growth. SKM found that this is supported by population growth estimated calculated by Cardno in their planning study. SKM noted that the Cardno population projection conformed to the growth estimated based on the SouthEast Queensland Regional Plan and the following assumptions:

(a) 2.6 equivalent persons per newly developed lot (for the new 224 lot development);

(b) the catchment will have conventional gravity system sewers for all existing sewers, and smart wastewater systems for all new sewers; and

(c) a wastewater flow rate of 180 litres per equivalent persons per day (L/EP/d) for the projections.

SKM, in its review of QUU demand forecasts, recommended the use of a multiple of 2.46 estimated persons per lot. The application of this revised multiple to the Cardno population projections does not materially change the forecast catchment population (decrease of 31 EPs).

The Authority notes that QUU's estimates imply a growth rate of 7.6% per annum from 2011 to 2018, which is higher than more recent short term population forecasts from 2011 OESR data for the Scenic Rim of 2%. However the localised nature of this project and its reliance on local development (confirmed by QUU) mean that OESR estimates for the council area are not a relevant benchmark.

With regards to the effluent discharge conditions, SKM noted that the current requirements for a monthly sample with median total nitrogen of 20 mg/L and median total phosphorous of 8 mg/L are only applicable with the current Canungra Licence. Once the development approval for the

WRP has been approved, a new licence will be issued. SKM noted that the new licence conditions will be more stringent than the existing one.

SKM also found that Canungra Water Reclamation Plant was established in the 1970s and that QUU has assigned a Nominal Asset Lives for Wastewater Treatment Plants of 25 years therefore, the Canungra Water Reclamation Plant would have been due for an upgrade regardless of population growth.

SKM noted a Tyr Study considered the following options to meet the projected flow for 2036 (2992 EP):

(a) retention of the existing secondary treatment process in its current configuration, and operating at a process sludge age of 16 days. Additional plant stage configured as a conventional biological nutrient removal process;

(b) augmentation of the existing secondary treatment process with an additional anaerobic or anoxic tank and secondary clarifier. Additional plant stage configured as conventional biological nutrient removal process;

(c) replacement of the existing plant with a conventional biological nutrient removal process; and

(d) replacement of the existing plant with a membrane bioreactor.

SKM noted that the report recommended the replacement of the existing Canungra STP at a new site with a buffer zone of at least 300 m as being the most effective option for managing the increased sewage loads. However, the Tyr Study also recommended that if no suitable site can be located, it is technically feasible to augment the plant to achieve the necessary capacity within the existing site with the additional recommendation of odour control facilities.

SKM concluded that the Canungra WRP upgrade is prudent.

Efficiency

SKM noted a 2007 Cardno report provided an initial capital cost estimate of $530,000 for the proposed upgrade.

SKM noted the final scope of works was implemented as a design and construct contract. SKM found that the scope of works that contained in the final design and construct contract were appropriate, including:

(a) inlet works including fine screening, screening collection, washing, dewatering and storage;

(b) wet weather bypass including emergency bar screen, washing, dewatering and storage;

(c) grit removal, washing, dewatering and storage;

(d) 5 Stage Bardenpho bioreactor (using existing carousel bioreactor with new scum harvester, standby surface aerators & associated instrumentation);

(e) ultraviolet disinfection system;

(f) sludge thickening, dewatering and out load facility;

(g) alum dosing facility for complimentary phosphorous removal;

(h) service water pumping station;

(i) return activated sludge and waste activated sludge pumping systems;

(j) inclusion of laboratory and other amenities; and

(k) all associated mechanical, civil, and electrical and instrumentation attached to these works.

A tender was issued in May 2010 and evaluation was undertaken on the four 'shortlisted' submissions based on the following criteria:

(a) non-price weighted evaluation criteria:

  (i) competency (40%);

  (ii) personnel, industrial relations, workplace health & safety (25%);

  (iii) goods and services quality (20%);

  (iv) financial/commercial (10%); and

  (v) quality assurance and environment (5%); and

(b) value for money index evaluation methodology – a value for money index is calculated for each shortlist tenderer by dividing the sum of the non-price weighted scores by the tendered prices.

SKM noted that notwithstanding that the original cost estimates were inadequate and incorrect the tender process produced relevant original cost information.

Aquatec Maxcon was the successful tender for the design and construct contract with a final contract cost of $5.971 million. SKM noted that a Probity Advisor (Willis Consulting Group Pty Ltd) was engaged to oversee the negotiation stage on the basis of the high project value and associated risk exposure.

Upon its request, SKM was provided with a detailed cost breakdown for the design and construct contract. SKM found the cost estimates to be reasonable and as QUU went to tender for the Canungra Water Reclamation Plant upgrade, market valuation was sought and confirmed. SKM assessed the project as efficient.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project, except for a specific implementation strategy.

Conclusion

SKM assessed the project as prudent. SKM found the upgrade to be necessary, with the primary driver of growth and subordinate drivers of renewal and compliance. The Scenic Rim Region has been identified as an area of future growth, the Canungra Water Reclamation Plant was originally constructed in the 1970s (therefore, surpassing its 25 year asset life) and finally, the Canungra WRP has regularly been exceeding its maximum dry weather flow due to a lack of capacity.

The project was assessed by SKM as efficient. An appropriate scope of works, acceptable standards of service, reasonable project costs and achievable delivery have been demonstrated.

On the basis of SKM's advice, the Authority accepts that the Canungra WRP Upgrade is prudent and efficient.

(ix) Toowong Sewers Upgrade

The proposed project is to construct an interceptor sewer to provide additional capacity to the sewerage network. The scheme will transfer part of the flows from the existing Toowong catchment to the Sylvan Road catchment. The project allows for the construction of 647 m of 300 mm diameter sewer and the re-lining of existing sewers.

The proposed capital expenditure on this project in 2011-12 is $4.98 million.

Prudency

The proposed project is to construct an interceptor sewer to provide additional capacity to the sewerage network.

QUU's Sewerage Catchment Master Planning Investigation conducted in 2006 reported that a section of the existing Toowong pipework is under-sized as it can only transfer flows in the range 2.5 to 3 ADWF (not 5 ADWF as per the design guidelines). SKM noted in addition there is planned growth in the catchment that will increase the population from 4501 EP to 6429 EP and that this growth will further compound the existing lack of capacity in the network.

In its submission QUU assigned this project 50% to the growth driver and 50% to the renewals driver. SKM considered that a renewal driver should only apply to works to replace a time-expired asset that is currently compliant. As the proposed works are to enhance a section of sewerage network that is currently under the required capacity then SKM considered growth a more appropriate driver.

SKM noted that the Feasibility Report outlines the process used to calculate the predicted growth within the catchment, with two planning scenarios:

(a) the BCC's City Planning and Sustainability Division's Brisbane Urban Growth Model; and

(b) the Business As Usual (BAU) + Transit Oriented Development (TODs) + Transport Corridors (TCs).

SKM found that the larger of the two values calculated using the above methods was used as the future growth value, and concluded this to reasonable as it is uses a precautionary approach.

The population projections included an assessment of five proposed developments, with three out of five developments assumed to be complete in 2011. While the SKM report notes that if these assumptions were correct the project's expected completion date will not meet the predicted demand, the Authority notes that the Beca report states that only one development has reached completion and none of the other planned developments have commenced, although one development has progressed to the pre-lodgement phase.

The Feasibility Report states that the Lissner Street sewer is 80 years old and the Coronation Drive sewer is 95 years old. The Lissner Street sewer has benefited from an increased operating life due to re-lining completed in the 1983-84. The design life for these types of assets is 80 years. The results of the CCTV survey have recorded damage to the pipes. It has been recommended that both of these sewers are re-lined in the near future, which will increase the design life by 50 years.

SKM concluded that the existing assets have either passed or are close to the end of their design life. Condition surveys have been undertaken and show that the Lissner Street sewer will require rehabilitation in the next 10 to 15 years and that the Coronation Drive sewer will require rehabilitation in the next one to two years.

QUU initially considered nine options and eight as having unacceptable risks either in construction or in its ability to meet the project drivers and were discarded. SKM summarised the nine options as set out in the table below.

SKN noted that the feasibility report concluded that as only one option was put forward then no NPV calculation has been undertaken. SKM considered that a comparison against a 'do nothing' option should have been undertaken as a minimum to allow a meaningful NPV analysis to have been undertaken.

In addition, SKM noted that the preferred option has been assessed as carrying a high level of construction risk due to the techniques proposed and the location and depth of excavations. They noted that several of the discarded options have been ruled out due to high construction risks (it has been difficult to assess the preferred option in terms of prudency or efficiency without having other options to compare it against).

QUU provided SKM the project risk assessment extracted from the QUU database for review. SKM found that this extract demonstrates that the procedures are in place to identify risks and to eliminate or reduce their likely impact on the project.

SKM concluded that project is prudent as the existing assets are both undersized. However, SKM had concerns with the lack of detailed options analysis undertaken.

Table 1.46: Options for Toowong Sewers Upgrade

Options	*Reasons for discarding*
1. Do nothing	Does not address existing system deficiencies. Does not allow for future growth in the catchment
2. Overflow storage	Does not ensure that the existing sewerage system can cater for a design PWWF (1,200/EP/day), which is the key project driver. No suitable sites identified in initial study for storage structure due to congested urban location. Operation and maintenance of overflow storage structure likely to be problematic. Initial sizing suggests a storage volume of 1 ML, which would be expensive to construct.
3. Wet weather pumping station	No suitable sites identified in initial study for pump station due to congested urban location. Difficulty in locating a nearby sewer with sufficient capacity to discharge to intermittent operation of pump(s) may lead to operational difficulties. Ongoing maintenance requirements. Electricity costs. Greenhouse gas generation. Noise and odour issues. Would need additional storage or a generator to allow for event of loss power from the grid.
4. Inflow or infiltration minimisation	Typically a large expenditure is required to achieve significant reduction in inflow/infiltration. The assumed theoretical PWWF rate of 1,200/EP/day assumes effective infiltration and inflow management. Flows of PDWF almost surcharge the pipe therefore no wet weather flows can be contained in the existing system i.e. zero stormwater ingress would be required to make this option work, which is not achievable.
5. Water mining/re-use	No heavy industry in the vicinity and so opportunity is limited. No suitable sites identified in initial study a for treatment facility. Would need to store about 1 ML. No demand for irrigation of open space during wet weather events. Likely odour problems if storing untreated wastewater.

Options	***Reasons for discarding***
6. Replacement of existing sewers	Existing route runs underneath Toowong Village Shopping Centre and the Ipswich railway line, construction on this route would be problematic especially with connection of existing services. Existing route runs along Coronation Drive (a major transport route), construction on this section of the route would impact on a large number of commuters and be high profile. Construction using pipe-cracking or pipe-bursting is unlikely to be feasible due to the depth of the existing sewer and the high density of the catchment. Extremely deep entry and exit pits in this congested urban location is unlikely to be feasible.
7. High level relief sewers	Necessary for network to surcharge for these to operate. These do not provide the same degree of flexibility of operations as augmentations at grade. If the existing sewer is offline for any reason, there is an increased risk of surcharge and overflows upstream. Poor velocities in relief sewer due to variable flows. Potential for odour issues due to build up of deposits due to poor velocities. Relief sewers need to have drops where a physical constraint is reached – such as other buried services – these create turbulence which leads to increased odour and sewer corrosion. The initial study identified that the only section where a relief sewer is feasible is the Coronation Drive section. If a relief sewer was constructed in the Lissner Street section it would increase the surcharging upstream. Due to the congested urban location it is likely that trenchless techniques would be required and so there is little financial benefit in constructing sewers at a shallower depth.
8. Augmentation at grade of existing sewers on existing alignment	Existing route runs underneath Toowong Village Shopping Centre and the Ipswich railway line, construction on this route would be problematic especially with connection of existing services. Existing route runs along Coronation Drive (a major transport route), construction on this section of the route would impact on a large number of commuters and be high profile. Construction using pipe-cracking or pipe-bursting is unlikely to be feasible due to the depth of the existing sewer and the high density of the catchment. Extremely deep entry and exit pits in this congested urban location is unlikely to be feasible.
9. (preferred option) Augmentation of sewers with an interceptor sewer to the Sylvan Road catchment	Benefits listed as: (a) High degree of certainty of success with manageable impact on the community; (b) Effectively duplicate the existing under-capacity pipe work; and (c) Route avoids major transportation routes and physical impediments.

Source: SKM (2011)

Efficiency

SKM noted that QUU discarded in the initial high level analysis all options except for one and so by default it has been proposed as the best means of achieving the desired outcomes. SKM found that it would have been beneficial to take forward other options including a 'do nothing' option from the high level analysis with which to compare the proposed option against. However, SKM considered that an appropriate scope of works for the project has been demonstrated.

The costs contained in the documentation reviewed by SKM were prepared by Project Support, an external cost estimator.

Furthermore, QUU received four tenders for the project following advertisement in the Queensland Government Marketplace eTenderbox. The tenders were reviewed as per the QUU

Procurement Manual. QUU's project forecast cost were estimated at $5,328,000 and broken down into the following significant costs and their relative percentage with respect to the overall cost:

(a) contract with contractor = $3,563,470 (66.9%);

(b) contract contingency (allowance of 15% of contract value) = $534,561(10.0%);

(c) internal (project and contract management and operational support costs) = $1,029,969 (19.3%); and

(d) project contingency (excluding contract contingency) = $200,000 (3.8%). SKM noted that this value is about 20% of the internal costs and that no details were provided in regards to these costs.

SKM found that project costs are based on current market rates, which demonstrate that the costs are efficient, with the exception of the project contingency (excluding contract contingency).

SKM found that a project management plan has been completed for the project and the risks to project delivery have been outlined.

With regard to the project deliverability, SKM concluded it is likely that the project can be provided within this timeframe providing that the risks can be managed.

While SKM assessed that the project delivery has been demonstrated as achievable, they suggest that two risks to the project are worth noting as they could impact significantly on the project.

These risks are the technical complexities of micro-tunnelling through medium to high strength rock (such as the risk of the head of the tunnelling machine breaking) and traffic management (such as gaining Traffic Officer buy-in of the proposed works on Sylvan Road).

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project.

Conclusion

SKM found that the project has been demonstrated to be prudent. However, in future it would be beneficial for QUU to investigate the options in terms of NPV calculations and a multi-criteria assessment that takes into account of technical, environmental and social factors. This would allow assessment of the relative merits of the options.

The project was also assessed as efficient. An appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated.

On the basis of SKM's advice, the Authority accepts that the Toowong Sewers Upgrade is prudent and efficient.

(x) Mellor Place Trunk Sewer Upgrade

The proposed works are to replace a 225 mm diameter existing sewer and a 300 mm diameter existing sewer with a 450 mm diameter sewer in two stages. In the 2011-12 financial year, it is proposed to construct 510 metres of the sewer (being Stage 1). The second stage is to construct 650m of sewer in 2014-15.

QUU has submitted that the capital expenditure is $700,000 in 2011-12.

Prudency

QUU noted the cost driver for this project to be growth. SKM noted that is supported by the information provided in response to SKM request for information which outlined the population projects for this sewage catchment.

Table 1.47: Mellor Place population projections

Time horizon	*Population (EP)*	*PWWF (L/s)*
Existing population estimated from lot count	2,500	33.3
Projected 2012 population based on Development Applications (DA) lodged in the Ipswich City Council DA system	4,995	66.5 (100% increase)
Estimated ultimate projection (fully developed by 2015)	6,525	86.8 (160% increase)

Source: SKM (2011)

The Beca report (2011) noted the catchment has been undergoing accelerated development and planned developments will cause the existing capacity of the sewer to be exceeded. The Authority notes that QUU's population projections imply an annual growth rate of 9.3%, higher than SKM's short term estimate of 3.8% for Ipswich based on OESR 2011 low growth estimates. However, given the localised nature of this project, the general estimates do not appear a relevant benchmark.

In addition, SKM noted that the section of pipe to be upgraded is over 70 years old and has had issues (not specified) relating to its age and condition.

The project feasibility report provided by QUU also notes that hydraulic performance within the area was assessed against the design criteria for the 2011, 2016, 2021 and ultimate planning horizons for peak dry weather flow (PDWF) and peak wet weather flow (PWWF) conditions. The feasibility report identified that for peak wet weather flow conditions within the study area there were major capacity issues by 2011-12 due to developments proposed, surcharge will occur over 1 m from the soffit of the pipe from 2012, and the situation will worsen with increased hydraulic loadings associated with future planning horizons.

SKM found that in the development of this project QUU assessed a number of delivery options including the preferred option of online replacement of the existing main with a 450 mm diameter pipe, and a 375 mm diameter pipe laid in parallel to the existing pipe. It noted that this option will require annual expenditure for regular flushing of the existing main. Whole of life costs were also assessed.

In summary, the Mellor Place sewer catchment is expecting significant growth in the catchment over the next couple of years. SKM are satisfied that QUU Utilities has undertaken a thorough options analysis and has considered the risks and financial implications. The project was assessed as prudent.

Efficiency

Documentation provided by QUU indicated that the scope of works for the project as:

(a) geotechnical investigations, survey and design of 450 mm diameter gravity sewer main approximately 1160 meters long (MH 19119 to MH 18262 at Sydney Street) along the

existing alignment of the 300 mm main including two aerial crossing, along the route at Mellor Place to Sydney Street in accordance with QUU standards;

(b) consultation with affected property owners, Ipswich City Council and the other agencies to obtain approval/consent for the proposed pipeline construction;

(c) consultation and necessary approvals for the creek crossing and other requirements associated with replacement of the existing main with a larger diameter pipe;

(d) contingency planning and approvals for service continuity from QUU Operations section;

(e) construction of the new 450 mm diameter sewer trunk main of approximately 1160 meter in single stage or in two stages (depending on the final design) to replace the existing 225 mm and 300 mm sewer mains. Selection of suitable pipe material based on the selected method of construction including manhole replacements in accordance with QUU standards;

(f) re-connect all existing laterals and connections to the new main and manholes; and

(g) testing and commissioning of the new sewer pipeline in accordance with QUU's standards.

SKM found the scope of works to be appropriate.

SKM noted that project cost estimates are estimated at $1.1 million (plus contingency) for stage 1 and $1.2 million (plus contingency) for stage 2. SKM noted a preliminary cost breakdown for stage 1 and underpinning assumptions including that: estimates of quantities are taken from MapInfo Maps and InfoWorks profiles; estimate rates are based on and internal database and supplier quotes; and, estimates are based on all site works under one contract.

QUU has indicated that the project is currently in the feasibility/ design phase an independent construction estimate (based on the final design) will be completed early in 2012 followed by a project management plan, pre-market and tender in accordance with the QUU Procurement Policy and Guidelines.

SKM considered the use of a cost estimation database is a satisfactory method for determining preliminary cost estimates and the determination of actual costs from market tenders once the design has been finalised is appropriate. SKM concluded that the costs are efficient.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project, except for an implementation strategy and gateway review.

Conclusions

The Mellor Place Trunk Sewer Upgrade Project is essential to accommodate the growth proposed in the catchment.

The project was assessed as prudent by SKM and is necessary for growth. The replacement of the existing 225 mm and 300 mm gravity mains with a new 400 mm gravity main is necessary to ensure that the catchment has capacity to handle the predicted growth.

SKM found the project to be efficient because the scope of works meets the needs of the project, the costs are reasonable and the standards of service used are appropriate.

On the basis of SKM's advice, the Authority accepts that the Mellor Place Trunk Sewer Upgrade Project is prudent and efficient.

Summary

The Authority notes that, of the 10 projects sampled for review in 2011-12, all were found to be prudent and efficient in relation to 2011-12.

Of these projects, nine are to be commissioned in 2011-12. The sample reviewed accounts for 35% of capital expenditure to be commissioned in 2011-12.

For the Ipswich Bundamba Water Recycling Plant Upgrade ($155.2 million total cost including future expenditure), Halcrow was unable to make a definitive assessment of efficiency as detailed costing of future expenditure has not yet been prepared. Halcrow, however, found the 2011-12 proposed expenditure (of $2.0 million as incurred) to be efficient as it involves a detailed review and design and commencement of construction.

The Authority notes that SKM also adjusted fleet expenditure to be commissioned in 2011-12 to include replacements which were due in 2010-11, but which QUU did not include. The adjustment has increased capital expenditure as commissioned by $1.94 million. Not all flood related expenditure was documented, but these costs would be expected to be resolved as insurance and disaster relief payments are finalised. SKM adjusted expenditure in 2012-13 and beyond to reflect updated information for the Brisbane Water Reticulation System Renewals Program.

SKM also made adjustments to proposed capital expenditure in 2012-13 onwards, generally to reflect more recent information. The Authority notes these projects will be subject to ongoing review and refinement by QUU as part of its capital prioritisation processes. The Authority notes that these projects do not affect the MAR for 2011-12 and will be subject to review in future price monitoring reports.

Table 1.48: Review of Capital Expenditure for 2011-12*

Project	*Cost 2011-12*	*Prudent*	*Efficient*	*Revised Cost 2011-12*
Ipswich Bundamba WRP Upgrade - Stage 5a	2,051	Prudent	Efficient	2,051
Sewer Trunk System Renewals Program	14,219	Prudent	Efficient	14,219
ICT Strategy	9,000	Prudent	Efficient	9,000
Brisbane Water Reticulation System Renewals Program	7,811	Prudent	Efficient	7,811
Brisbane Wastewater Treatment Flood Recovery	6,674	Prudent	Efficient	6,674
Fleet Replacement Program	6,000	Prudent	Efficient – estimate adjusted to include overdue fleet replacements	7,942
Auchenflower Branch Sewer Upgrade	5,510	Prudent	Efficient	5,510
Canungra Water Reclamation Plant Upgrade	3,345	Prudent	Efficient	3,345
Toowong Sewers Upgrade	4,982	Prudent	Efficient	4,982
Mellor Place Trunk Sewer Upgrade	700	Prudent	Efficient	700

*Note: * as incurred*

In the course of its review, SKM noted that QUU has made progress in addressing the issues identified by the Authority in its 2010-11 Final Report, namely that:

(a) QUU is adopting a region wide (whole of entity) perspective to capital expenditure where appropriate;

(b) there is evidence that QUU is establishing processes to ensure a consistent approach to cost estimation for capital projects, although SKM was unable to comment on the effectiveness of these systems given that the sample of capital projects for review included those commenced by councils which were not subject to QUU processes;

(c) a standard summary document is prepared for major projects. This will assist with management decision making and regulatory review;

(d) documented strategies for major project implementation are being prepared incorporating risk reviews and risk mitigation measures; and

(e) QUU has a well documented gateway review process for major projects.

The Authority expects that these initiatives would be embedded in future projects to a greater extent than in the sampled projects.

In its 2010-11 Final Report, the Authority also noted a range of projects that were to be subject to ongoing review. One of these projects (Brisbane Burst Mains Renewals Program) is to be commissioned in 2011-12 and included in the sample for review in 2011-12. It was found to be prudent and efficient.

The Authority also considered it would review 2010-11 actual information and the reasons for variations. The Authority notes that QUU has identified the variance in capital expenditure forecasts to its previous estimates in its 2010-11 submission. Estimated expenditure in 2010-11 is higher than originally forecast (due to the flood and other factors). Forecasts for 2011-12 have been significantly reduced (by around 44.5%) to that originally forecast by QUU in 2010-11 mainly due to the adoption of a regional approach to planning, deferrals due to the flood and reviews of timing.

SKM noted that the drivers of capital expenditure may require further investigation. In particular, SKM considered that QUU has ascribed compliance as a driver of expenditure whereas non-compliance has arisen from a lack of renewal expenditure (leading to plant failure) or a lack of responding to growth in demand (leading to under-capacity).

The Authority has accepted SKM's advice for this price monitoring report.

Table 1.49: Comparison between QUU and Authority's capital expenditure ($m)

	2011-2012	*2012-2013*	*2013-14*	*Total*
Capex (QUU)	240.1	291.13	703.11	1234.34
QCA adjustments	1.94	0.68	5.80	8.42
Total Capex	242.04	291.81	708.91	1242.76

Note: The Authority's adjustments for 2011-12 onwards reflect the impact of its revised estimates on capital expenditure as commissioned. Source: QUU (2011) and QCA calculations.

The Authority notes that QUU has developed uniform customer standards of service across its service areas and significant progress has been made in the development of its netserv plan.

The Authority considers that QUU should continue to develop processes which take into account a regional perspective when developing its future capital works program and supports initiatives in relation to standardised cost estimation and streamlined documentation.

Of the $240.1 million capital expenditure proposed to be commissioned in 2011-12, all of the sampled projects for 2011-12 were found to be prudent and efficient. Further, SKM slightly increased the estimated of prudent and efficient costs of fleet replacement in 2011-12, to reflect overdue replacements from 2010-11 not included by QUU.

Contributed, Donated and Gifted Assets

As noted above, the Ministerial Direction requires the Authority to accept as prudent and efficient contributed, donated and gifted assets (contributed assets) and capital expenditure funded through cash contributions and subsidies (capital contributions) for water and wastewater for the period 1 July 2008 to 30 June 2010.

The Direction also requires the Authority to accept that, in setting prices from 1 July 2008, the councils applied a revenue offset approach to account for contributed assets and capital contributions received and that this approach is to remain in effect until such time that the entity nominates that it will adopt the asset offset method. Where a change in methodology is adopted, the RAB is not to be adjusted retrospectively.

In April 2011, following a recommendation by an infrastructure taskforce in late 2010, the State Government announced its intention to impose maximum capital contributions for trunk infrastructure (including water, wastewater, transport and public parks). Under the legislation that was introduced in June 2011, the maximum capital contributions for all trunk infrastructure networks (including water, sewerage, transport and public parks) are:

(a) $28,000 for dwellings with three or more bedrooms;

(b) $20,000 for dwellings with one or two bedrooms; and

(c) various rates for non-residential development, including $50-70/m2 gross floor area (GFA) for industry and $140-180/m2 GFA for commercial.

Under the price monitoring framework, the Authority assesses whether the methodology adopted by the entities to forecast contributed assets and capital contributions is reasonable in the circumstances.

QUU Submission

QUU submitted that it expected to receive $229 million in contributed, donated and gifted assets over the forecast period and $342 million in capital (cash) contributions (Table 1.50). QUU has continued to apply a revenue offset approach to the treatment of contributed assets and capital contributions.

Table 1.50: QUU - Contributed, Donated and Gifted Assets & Capital Contributions ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Total 2011-14*
Contributed Assets	64.72	58.55	50.62	52.86	64.31	61.91	229.71
Capital Contributions[a]	80.55	128.58	76.56	85.55	91.32	89.39	342.81
Total	**145.27**	**187.13**	**127.18**	**138.41**	**155.63**	**151.30**	**572.52**

[a] *includes grants and subsidies. Source: QUU (2011)*

(a) Contributed Assets

QUU noted that its participating councils provided information on contributed assets for 2008-09 and 2009-10 and these were adopted after being checked against councils' financial statements.

In forecasting contributed assets, QUU applied cost indexation and expected growth to a base year. Cost indexation was based on the forecasts published by the Construction Forecasting Council in November 2010 of 2.2% for 2011-12, -0.39% for 2012-13 and 0.89% for 2013-14. Expected growth is based on population projections, with downwards adjustments from 5% to 20% across all council areas to, according to QUU, reflect lower current receipts and short term flood effects.

(b) Capital (cash) contributions

For 2009-10, the actual capital contributions for Brisbane in 2009-10 (of $93.5 million) are considerably higher than forecast in the 2010-11 submission ($66.8 million). QUU stated that this arose because council estimates were based on the BCC financial year which usually closes prior to 30 June, whereas the majority of capital contributions are received in the last few days of June. This was further increased by Brisbane offering an incentive for developers to pay within two financial years of development approval.

QUU noted that capital contributions for all councils for 2010-11 (of $76.6 million) were lower than forecast in its 2010-11 submission ($92.7 million) based on actual information to date on 2010-11 receipts.

QUU noted that its latest forecasts for capital (cash) contributions were prepared on the expectation that approvals pre 1 July 2011 will be charged on planning scheme policy (PSP) infrastructure charges. For approvals post 1 July 2011, QUU has assumed that 50% of the 'all networks' maximum charge will be provided for water and wastewater. QUU noted that it is in the process of negotiating an agreed share of the maximum charge with participating councils.

In forecasting capital contributions for 2011-12 and forward years, QUU has adopted the following key assumptions:

(a) Brisbane – forecasts are based on current unpaid approvals, historical payment trends[22] and an average PSP charge for the PSP based revenue. Standard charge revenue is based on a combination of average annual approvals over the past three years and the historical payment trends in the year of approval;

(b) Ipswich – growth in equivalent tenements are based on population projections reduced by 15% to reflect lower current receipt levels; and

(c) Lockyer Valley, Scenic Rim and Somerset – based on the average of 2008-09 and 2009-10 capital contributions, adjusted to 2011-12 dollars. Forecasts adjust for cost indexation and expected growth.

Authority's Analysis

Under the Direction, the Authority must accept as prudent and efficient and include in the RAB, contributed, donated and gifted assets and capital expenditure funded through capital contributions for water and wastewater for 2008-09 and 2009-10.

The value of QUU's contributed assets and cash contributions for 2008-09 and 2009-10 can be traced to supporting QUU documents. The Authority has accepted these estimates when rolling forward the RAB for 2008-09 and 2009-10.

The Authority notes that QUU has revised its 2010-11 estimates based on the latest available information on estimated actuals. These are around $20 million lower than originally anticipated.

The Authority also notes that QUU's 2011-12 estimates were prepared when legislation was being introduced to impose maximum capital contributions and in the light of reduced receipts in 2010-11. Both of these factors have acted to reduce estimates of contributed assets and capital contributions in 2011-12 compared to those previously forecast.

[22] Developers have four years to pay charges after approval is granted and QUU supporting data indicates less than 10% of approvals lead to charges paid in that year.

The Authority notes that forecasting of contributed assets and capital contributions is difficult exercise, but that accuracy is particularly important when the revenue offset method is adopted (as by QUU) and under annual pricing.

There are added complexities in estimating contributed assets and capital contributions deriving from estimating the rate at which development applications proceed and contributions are paid. QUU has adopted an estimate based on the average of historical data. A further complexity is that negotiations with councils over the share of the charge going forward are yet to be finalised.

While the Authority has not been able to undertake a detailed review of the underlying calculations for the Draft Report, further review is intended for the Final Report.

In particular, the reductions to medium term growth estimates to reflect short term flood impacts and lower current growth appear to be in the correct direction but the quantum appears to be based on anecdotal information. The use of a consistent set of population estimates to those adopted for pricing purposes warrants review.

Pending a more detailed consideration of this issue, the Authority has not adjusted QUU's forecasts of contributed assets and capital contributions. The Authority will progress the issue for the Final Report and to assist in price setting for 2012-13.

QUU has applied the revenue offset approach to the treatment of contributed assets and capital contributions. Recognising the need for further analysis, the Authority has accepted QUU's estimate of contributed assets and capital contributions of $138.41 million for this Draft Report.

The Authority invites feedback from stakeholders on how to improve the forecasting of contributed assets and capital contributions.

The Authority will progress this issue for the Final Report and to assist in price setting for 2012-13.

1.8 Rolling Forward the RAB

In accordance with the Ministerial Direction and normal regulatory practice, the initial RAB is rolled forward to account for capital expenditure, inflationary gain, depreciation (return of capital) and disposals.

The Authority generally applies a straight line approach to depreciation. Under the Direction, the Authority must also take into account, for the period 1 July 2008 to 30 June 2010, evidence that depreciation has been calculated using the Minister's advised RABs allocated to council assets and existing useful lives.

Under the roll forward, indexation and depreciation are calculated on the assumption that forecast capital expenditure and disposal occur evenly throughout the year.

For indexation, the Authority is required under the Direction to use the annual June to June ABS CPI (all groups, Brisbane) for 2008-09 and 2009-10. From 1 July 2010, under the Information Requirements for 2011-12, forecasts of CPI as determined by the difference between the Reserve Bank of Australia (RBA) return on the market rate for five year bonds and five year capital indexed bonds must be used. In its 2010-11 Final Report the Authority adopted an estimate of 2.48% for 2010-11 on this basis.

As noted above, actual capital expenditure from 1 July 2008 to 30 June 2010 is included in the RAB, while from 1 July 2010 only prudent and efficient capital expenditure is to be rolled

forward. Further, where the entity chooses to apply the asset base offset approach, contributed assets and capital contributions are deducted from the assets to be paid for by users.

QUU Submission

In its submission, QUU adopted a straight line approach to depreciation based on existing asset lives contained in its fixed asset registers. QUU noted that, given the additional flexibility of the QCA data template for 2011-12, QUU was able to assign different nominal asset lives for several asset classes between water and sewerage. QUU noted this allowed for increased accuracy in the depreciation profile.

In relation to indexation, 2008-09 and 2009-10 were based on ABS CPI (all groups, Brisbane) of 2.0% and 3.2% respectively. For 2010-11 onwards, an inflation forecast of 2.5% was used, representing the midpoint of the RBA's target inflation band. QUU noted there is a reasonable expectation that the RBA will be able to maintain inflation within this band over time.

QUU noted that its indexation rate is consistent with the implied inflation in the benchmark WACC and noted that in recent investigations (ie Gladstone Area Water Board, QR Network and for Grid Service Providers) the Authority applied a 2.5% indexation factor on the basis this represents the midpoint of the RBA target inflation band.

Disposals for 2008-09 and 2009-10 were based on councils' written down asset values, adjusted to reflect their RAB value. While no disposals were previously forecast for 2010-11, $20.74 million is now expected as a result of the damage caused by the January 2011 floods (capital expenditure in the QUU table below is net of this amount). From 1 July 2011 onwards, no disposals have again been forecast in accordance with the Information Requirements for 2011-12 which specifies that, unless disposals are of material value, they may be included in the RAB.[23]

As noted previously, QUU included a $15.6 million purchase of leased fleet from Brisbane and Ipswich City Councils which QUU included in the RAB from 1 July 2011.

Subsequent to their submission, QUU provided their estimates of the RAB for each water and wastewater activity. QUU's estimates are shown in the table below.

[23] In its Information Requirements for 2011-12, the Authority noted that (individual) assets retired prior to being fully depreciated could remain in the RAB and be depreciated over their remaining life, provided that the individual asset does not account for more than 5% of the asset class.

Table 1.51: QUU Asset Base Roll Forward – Water ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*
Opening RAB	1,560.33	1,641.67	1,741.47	1,805.17
plus Capital expenditure	90.92	61.16	70.22	79.74
plus Indexation	32.12	53.51	44.42	46.13
less Depreciation	(41.69)	(42.93)	(50.93)	(54.35)
Establishment Costs	-	20.41	-	-
Balance sheet adjustment	-	7.65	-	-
Closing RAB (QUU)	1,641.67	1,741.47	1,805.17	1,876.69

Note: Capital expenditure is net of disposals. Source: QUU (2011)

Table 1.52: QUU Asset Base Roll Forward – Wastewater ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*
Opening RAB	2,384.72	2,408.83	2,537.46	2,582.50
plus Capital expenditure	71.48	122.69	91.10	160.35
plus Indexation	48.49	79.08	64.58	66.57
less Depreciation	(95.85)	(99.74)	(110.63)	(117.11)
Establishment Costs	-	18.70	-	-
Balance sheet adjustment	-	7.91	-	-
Closing RAB (QUU)	2,408.83	2,537.46	2,582.50	2,692.31

Note: Capital expenditure is net of disposals. Source: QUU (2011)

Authority's Analysis

SKM reviewed QUU's asset lives by comparing them to available benchmarks from the Water Services Association of Australia and found them to be reasonable. The Authority applied a straight line approach to depreciation as per the SEQ price monitoring model.

The Authority's opening RAB for water and wastewater activities as at 1 July 2011 ($4,433.31 million) is slightly higher than QUU's estimate ($4,387.67 million).

The difference primarily arises due to indexation. Consistent with the Direction and QUU's approach, the Authority has rolled forward the RAB for 2008-09 and 2009-10 using ABS CPI (all groups, Brisbane) of 2.0% and 3.2% respectively. The Authority has also rolled forward the RAB for 2010-11 using information available at the time of price setting on actual inflation. The Authority has used the ABS CPI (all groups, Brisbane) estimate of 3.58% for 2010-11 for this purpose. This compares with the estimate of 2.5% used by QUU and has led to the Authority's slightly higher opening RAB at 1 July 2011.

The Authority has used a forecast inflation rate of 2.48% for 2011-12. This represents the Authority's estimate of inflation in its Final Report for 2010-11 and is consistent with the weighted average cost of capital (WACC) of 9.35% adopted for price monitoring.

A further difference is due to the Authority's treatment of $15.6 million of capital expenditure on 1 July 2010 as capital expenditure in 2010-11, instead of QUU's proposed inclusion at the beginning of the financial year, as previously noted.

In relation to disposals, the Authority has accepted QUU's approach for 2011-12 and notes that the latest available data on 2010-11 disposals is not a relevant base for forecasting future disposals as it primarily relates to flood-affected assets.

Table 1.53: QCA Asset Base Roll Forward – Water ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*
Opening RAB	1,560.33	1,641.69	1,733.27	1,823.80
plus Capital expenditure	97.17	85.16	78.80	80.85
plus Indexation	32.12	53.51	63.44	46.23
less Depreciation	(41.67)	(43.50)	(50.77)	(54.76)
less Disposals	(6.25)	(3.59)	(0.94)	(0.00)
less Capital contributions[1]				
Closing RAB	1,641.69	1,733.27	1,823.80	1,896.12

[1] Only relevant for asset base offset approach to the treatment of capital contributions. QUU has adopted a revenue offset approach. Source: QUU (2011), SKM (2011), QCA

Table 1.54: QCA Asset Base Roll Forward – Wastewater ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*
Opening RAB	2,384.72	2,408.67	2,529.11	2,609.51
plus Capital expenditure	85.33	157.23	118.79	161.19
plus Indexation	48.48	79.07	92.31	66.71
less Depreciation	(95.83)	(100.20)	(110.91)	(117.82)
less Disposals	(14.07)	(15.61)	(19.80)	(0.00)
less Capital Contributions[1]				
Closing RAB	2,408.63	2,529.14	2,609.51	2,719.59

[1] Only relevant for asset base offset approach to the treatment of capital contributions. QUU has adopted a revenue offset approach. Source: QUU (2011), SKM (2011), QCA

Table 1.55: Comparison of Opening RABs

	2008-09	*2009-10*	*2010-11*	*2011-12*
QCA Opening RAB	3,945.05	4,050.36	4,262.38	4,433.31
QUU Proposed Opening RAB	3,945.05	4,050.50	4,278,92	4,387.67
Difference	0	-0.14	-16.54	45.64

The Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2011-12 is slightly higher than that of QUU.

The Authority's estimate of the closing asset value as at 30 June 2012 is $1,896.12 million for water and $2,719.59 million for wastewater.

1.9 Return on Capital

Under the Ministerial Direction, the Authority was required to advise the entities by 1 March 2011 and 1 March 2012 of the WACC benchmark for 2011-12 and 2012-13 respectively.

After taking into account all relevant issues, the Authority advised the entities on 15 March 2011 that it intended to adopt a WACC of 9.35% for the three-year period 2010-11 to 2012-13. The reasons for this decision are set out in Appendix B in the Authority's Final Report for 2010-11.

QUU Submission

QUU adopted the Authority's advised WACC benchmark of 9.35% in its 2011-12 submission. QUU noted it remained concerned about a number of the key parameters in the Authority's estimate. QUU noted that its response to the Authority Draft Report for 2010-11 highlighted these concerns, which were supported by the advice of an independent expert.

Authority's Analysis

As per the agreed price monitoring framework and the Authority's advice to the entities of 15 March 2011, the Authority has adopted a WACC of 9.35% for 2011-12. This is the same WACC as adopted by QUU. The Authority responded to QUU's submission in 2010-11 on key parameters relevant to the WACC for price monitoring.

The Authority's estimate of the return on capital resulting from the 9.35% WACC and the (updated) asset base is set out below. The difference in QUU's estimated return on capital therefore arises from its view of the RAB to which the WACC is applied, rather than the WACC applied. The Authority's RAB is slightly higher than that of QUU due to the higher indexation applied in 2010-11 (as noted above).

Table 1.56: Return on Capital ($m)

	Water Costs 2010-11	*Wastewater Costs 2010-11*	*Water Costs 2011-12*	*Wastewater Costs 2011-12*
Return on Capital (QUU)	166.68	234.18	172.51	248.96
Return on Capital (QCA)	165.74	241.16	174.35	251.59
Difference	0.94	-6.98	1.84	2.63

Source: QUU (2011) QCA

The Authority has adopted a WACC of 9.35% in accordance with the Ministerial Direction. This is consistent with the approach adopted by QUU.

1.10 Operating Expenditure

Operating costs include the cost of purchasing bulk water, as well as both retail and distribution costs such as materials and services (including chemical and electricity costs), employee, corporate and customer service costs.

The Ministerial Direction requires the Authority to recognise the Government's policy that the prices charged by the SEQ WGM for bulk water storage, treatment and delivery are to be passed through to customers in full. The Ministerial Direction also requires the Authority to accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010. These constraints include that there are to be no forced redundancies during the interim period.

The Authority notes that these constraints do not apply to new employees engaged temporarily to perform work on the establishment of the entities or independent contractors or employees engaged by labour hire companies that provide services to either the entity or participant councils.

The Authority engaged SKM to review the prudency and efficiency of QUU's forecasts of operational expenditure for its water and wastewater activities from 1 July 2011.

QUU Submission

In its submission, QUU proposed a total of $456.12 million of operational expenditure for 2011-12, comprised of $299.45 million of expenditure for water and $156.67 million for wastewater.

QUU allocated its operational costs to the drinking water, wastewater via sewer and (Brisbane) trade waste services. QUU noted that it had made progress in separating the cost of trade waste from the domestic sewage portion using a sewage costing model (this assigns costs based on flows and loads contributed by each customer group). However, QUU noted that, at the time of pricing, this information was only available for the Brisbane City region.

Operational Budget Development

QUU adopted a structured approach to the development of its operational expenditure budget for 2011-12. The initial budgets were prepared by Business Unit Managers on a 'business as usual expenditures' basis, in compliance with QUU budget guidelines. A review was then conducted by executive management, taking into account historical trends and forecasts, new initiatives, QUU's previously announced efficiency target and the Authority's efficiency target.

QUU applied generic cost indices and geographic-specific growth factors to forecast certain operating costs (see table below) and to cross check bottom-up cost estimates.

Table 1.57: Operating Cost Indexes and Growth Factors

	Cost Index			*Annual Growth Factors*				
Cost Group	***2011-12***	***2012-13***	***2013-14***	***Brisbane***	***Ipswich***	***Lockyer Valley***	***Scenic Rim***	***Somerset***
Direct Labour	4.50%	4.25%	3.70%	1.00%	1.50%	1.50%	1.50%	1.50%
Bulk Water	As per Bulk Price Path							
Electricity	5.80%	6.20%	6.20%	Aligned to percentage change in bulk water volume				
Chemicals	4.00%	2.75%	3.00%	Aligned to percentage change in bulk water volume				
Sludge Handing	4.00%	2.75%	3.00%	Aligned to percentage change in bulk water volume				
Other Costs	2.50%	3.00%	2.50%	0.25%	0.40%	0.40%	0.40%	0.40%

Source: QUU (2011)

Operational Expenditure forecasts

QUU's forecast total operational expenditure over the period 2010-11 to 2013-14 for water and wastewater are set out in Tables 1.58 and 1.59 respectively.

Table 1.58: QUU's Forecast Operating Costs Water 2010-14 ($m)

	2010-11	***2010-11****	***2011-12***	***2012-13***	***2013-14***
Bulk water costs	188.73	182.79	219.05	257.15	296.63
Employee expenses	12.92	33.49	34.68	36.35	37.92
Contractor expenses	0.13	0.08	0.94	0.99	1.04
GSL Payments	0.00	0.00	0.00	0.00	0.00
Electricity charges	na^	1.32	1.06	1.15	1.24
Sludge handling costs	na^	0.00	0.00	0.00	0.00
Chemicals costs	na^	0.18	0.16	0.17	0.18
Other materials and services (not relating to capital expenditure)	61.91	36.23	43.14	50.63	50.20
Licence or regulatory fees	0.00	0.36	0.41	0.43	0.44
Corporate Costs	na	na	na	na	na
Non recurrent costs	0.00	1.37	0.00	0.00	0.00
Indirect taxes	0.00	0.00	0.00	0.00	0.00
Total Operating Costs	**263.69**	**255.83**	**299.45**	**346.87**	**387.64**

*Note: Shaded data reflects QUU's forecasts for 2010-11 in its 2010-11 price monitoring submission. na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template. * Estimated actual. ^Included Other materials and services in 2010-11 information requirements Source: QUU (2011), QUU (2010)*

Table 1.59: QUU's Forecast Operating Costs Wastewater 2010-14 ($m)

	2010-11	*2010-11**	*2011-12*	*2012-13*	*2013-14*
Bulk water costs	0.94[a]	0.00	0.00	2.61[a]	3.03[a]
Employee expenses	23.81	51.60	57.48	60.29	62.92
Contractor expenses	0.13	0.08	0.88	0.92	0.97
GSL Payments	0.00	0.00	0.00	0.00	0.00
Electricity charges	na^	9.44	10.68	11.56	12.52
Sludge handling costs	na^	7.88	8.94	9.36	9.83
Chemicals costs	na^	3.58	4.35	4.55	4.78
Other materials and services (not relating to capital expenditure)	114.95	68.35	73.70	75.15	76.94
Licence or regulatory fees	0.00	0.53	0.64	0.66	0.68
Corporate Costs	na	na	na	na	na
Non recurrent costs	0.00	11.57	0.00	0.00	0.00
Indirect taxes	0.00	0.00	0.00	0.00	0.00
Total Operating Costs	**139.83**	**153.03**	**156.67**	**165.11**	**171.66**

*Note. Shaded data reflects QUU's previous forecasts for 2010-11 in its 2010-11 price monitoring submission. na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template. [a] QUU included costs related to the purchase of purified recycled water from the SEQ Bulk Water Grid Manager in the bulk water costs for wastewater. * Estimated actual ^ not separated in 2010-11 information requirements. Source: QUU (2011), QUU (2010)*

Variation from 2010-11 Submission

QUU submitted that the significant changes to its previously forecast 2010-11 cost estimates contained in QUU's 2010-11 submission include:

(a) an increase of $12.94 million resulting from the January 2011 floods;

(b) a reduction of $6.9 million in bulk water costs due to lower water usage;

(c) a reduction in chemical costs of $1.4 million;

(d) an increase in the expensed portion of the capital programme from $8.4 million in the budget to the forecast of $17.3 million (an additional $8.9 million); and

(e) a reduction of $8.2 million in the remaining cost categories (excluding flood costs).

The combined effect of these changes is an increase in total operational expenditure in 2010-11 of 1.5% or $6.37 million over that contained in the 2010-11 submission.

QUU noted that, when non-recurrent flood related costs are excluded, total regulated operational expenditure in 2010-11 decreased by $8 million. QUU also noted that it had incurred a range of one-off costs in 2010-11 related to the establishment of QUU. These costs were not included in its 2010-11 submission and total $4.35 million.

QUU submitted there was no material difference between the 2011-12 forecast submitted last year ($456.16 million) and this year's 2011-12 budget ($456.13 million).

Flood Costs

QUU noted that the January 2011 floods had a significant impact on QUU's operating expenditure in 2010-11.

QUU identified $12.94 million of operational expenditure in 2010-11 as directly resulting from the floods. QUU noted it had separately estimated these costs in its price monitoring submission and templates and that it continues to collate and finalise the costs of the flood.

QUU noted its expectation that the value of 2010-11 operating expenditure and disposals will be covered by insurance and disaster relief. Thus, QUU noted it did not expect to recover these costs from customers. QUU noted that this approach may change when the final insurance payout is confirmed and the quantum of any difference between costs and the payout is known.

Efficiency Gains

QUU noted that, since its inception, it has sought to deliver services with the greatest level of efficiency. QUU submitted that it was able to identify cost savings of $50 million in 2010-11 (see table below, some of which relate to capital costs). QUU stated that these savings enabled it to constrain price increases to half or less of those applied by other SEQ entities.

Table 1.60: QUU 2010-11 Efficiency Gains

Service	***Efficiencies***
Labour	Vacancy rate applied/increased.
	2010 Enterprise Bargaining Agreement increases absorbed.
	Overtime reduced through improved management.
Contracts	Reduction in the cost-of-service level agreements through consolidation into one financial, payroll and retail billing system, and building in-house capability.
	Negotiated price reductions in the transitional service level agreements.
	Reduction in sub-contractor services.
Other financial costs	Claims for the additional cost of construction of infrastructure absorbed in the capital programme.
Costs for new staff and resources to build corporate capability.	Reductions in requested additional resourcing.
	Managed position vacancy up to 30 June 2010 absorbed indirect transferring from councils in vacant roles, or in newly required roles to minimise the staff increase across the business.
	Reductions in requested services funding budgets.
Capital costs	Capital programme reviewed independently and prioritised from the originally requested capital of $454 million to the current programme of $341 million. This reduced return on assets and depreciation.

Source: QUU (2011)

QUU considered that the achievement of efficiencies in 2010-11 was constrained by the SEQ Distribution and Retail Water Reform Workforce Framework 2009, which mandates current employment and associated conditions continue until 30 June 2013. QUU stated that, within this framework, it would seek opportunities to deliver further efficiencies.

QUU submitted it was targeting further efficiencies in 2011-12 and beyond. QUU identified a saving of $12.9 million (or 5.1% of non-bulk business as usual costs) – with 69% of these

savings in operations, 26% in support functions (corporate, ICT, human resources and finance) and 5% in retail. QUU indicated that significant savings included:

(a) accommodation and rent reductions $1,159,000;

(b) plant, equipment and fleet hire reductions $1,463,000;

(c) reduction in external consultancies (operations) $923,000;

(d) reductions in chemical usage (including polyelectrolyte) $607,000; and

(e) overtime management improvements (operations) $526,000.

Supporting information provided by QUU indicated significant savings across a range of areas in the business resulting from reductions in staffing (the majority of which are in operations) that provide over one third of the savings identified by QUU.

QUU noted that it had a minimum cumulative $14.2 million efficiency target over 2011-12 and 2012-13. QUU stated this meets the Authority's target figure [of $14.2 million] over this period (from the Authority's Final Report for 2010-11) and reflects QUU's determination to reduce costs to the benefit of its shareholders and customers. QUU noted that its minimum cumulative target involves savings of $1.3 million in 2012-13 [in addition to the $12.9 million identified in 2011-12] and QUU is working to identify further efficiencies for 2012-13 and beyond through the commissioning of an independent review by Third Horizon.

New Initiatives

In addition to identifying efficiency gains in its 2011-12 submission, QUU also identified a series of initiatives, which were separated out from its business-as-usual expenditure, to allow for a like-with-like comparison of its 2010-11 and 2011-12 budgets.

The total expenditure relating to initiatives in 2011-12 is $19.41 million. The major initiatives are:

(a) ICT Investment Programme (expensed) $6.0 million;

(b) Sewerage Overflow Management $3.3 million;

(c) QCA Pricing Proposal Submission $3.0 million;

(d) Accommodation Relocation Projects $0.95 million;

(e) Safety Policies and Management System $0.84 million;

(f) Improved Customer Communications $0.75 million; and

(g) Sewer Condition Testing $0.67 million.

In supporting information, QUU identified 36 initiatives in total. Of these, $11.96 million were considered to be mandatory as they were driven by legislative requirements. Of the remaining $7.45 million, the majority related to the ICT Investment Programme (expensed).

QUU further advised that the expenditure allocated to the QCA Pricing Proposal Submission was originally proposed in order to prepare a pricing proposal by 1 July 2012 for deterministic economic regulation by the Authority, comprised of $2.25 million in consultancy fees and $754,000 in internal labour costs.

QUU advised that, while deterministic economic regulation by the Authority no longer applies, this work is still required to prepare a robust forecast on which to base the six-year price path from 1 July 2013 now required under legislation.

The interaction of QUU's efficiency gains, non-recurrent expenditure and initiatives on 2011-12 non-bulk operating costs can be seen in the table below.

Table 1.61: QUU Non-Bulk Operating Cost Changes 2010-11 to 2011-12*

	$'000
2010-11 Forecast Operating Costs	*238,034*
less Flood	(12,944)
less One-off costs	(4,348)
Base forecast	*220,742*
plus Business as Usual# Increase	11,403
less Efficiencies	(12,865)
2011-12 Base budget	*219,280*
plus Initiatives	19,412
2011-12 Budgeted Operating Costs	**238,692**

*Note: * includes non-regulated costs. # reflects indexation and escalation. Source QUU (2011)*

Authority's Analysis

The Authority engaged SKM to review the prudency and efficiency of operating expenditure. The assessment was intended to take into account relevant service standards, revised demand forecasts and the potential for efficiency gains and economies of scale.

The Authority notes that, overall, QUU has forecast its total operating cost (including bulk water costs) will increase from $408.86 million in 2010-11 to $456.13 million in 2011-12 and then to $559.30 million in 2013-14; an average annual increase of 11.01%.

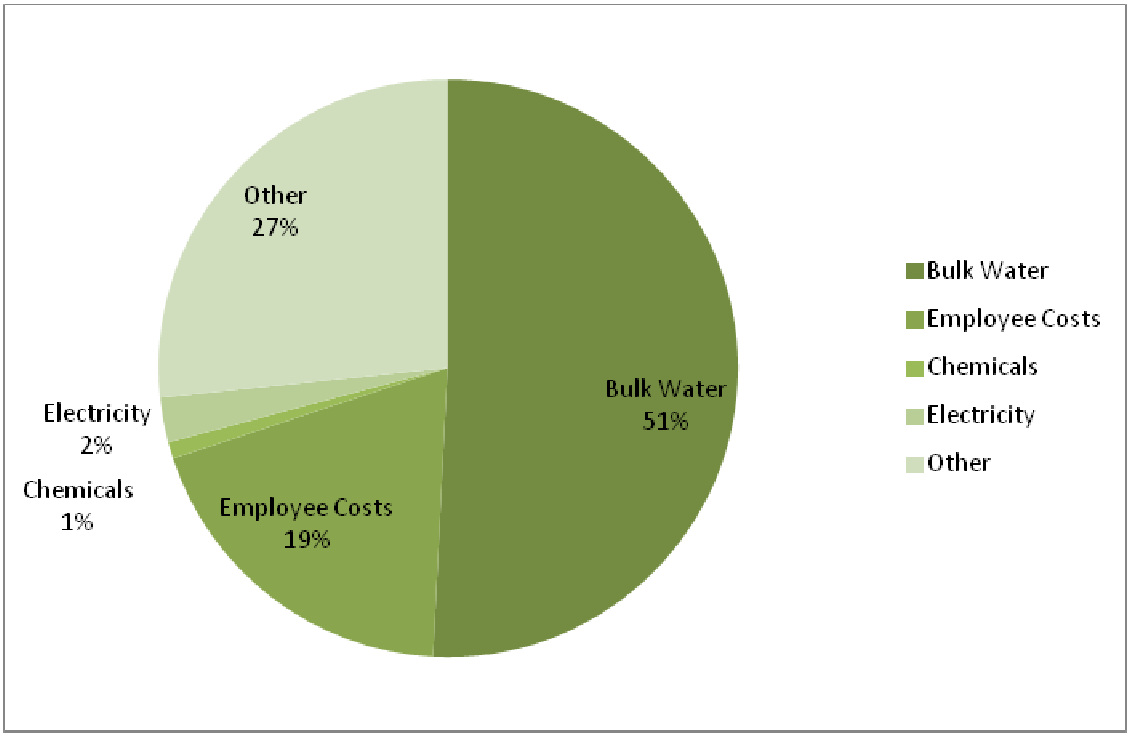
SKM found that variances between the 2010-11 and 2011-12 submissions were minor – largely underpinned by lower forecast of water demand.

Adequacy of Operational Expenditure Data Provision

Prior to assessing the prudency and efficiency of proposed operational expenditure, SKM reviewed whether QUU provided comprehensive and accurate information in its submission.

SKM found the QUU had provided a detailed information return for 2011-12, with the exception of corporate cost where costs had not been disaggregated. Instead, corporate costs are captured under the employee costs and other materials and services categories. QUU advised that disaggregation of corporate costs is not readily achievable due to a limitation of their financial software.

Chart 1.5: QUU's Operating Costs 2011-12 to 2013-14



Note: Corporate costs reflect labour corporate allocations and materials and services corporate allocations as defined by QUU. This does not align with the Authority's definition of corporate costs. Source: SKM (2011)

Operational Budgeting

SKM reviewed the budgetary policies and procedures followed by QUU to ensure that they represented good industry practice.

SKM found that the budget process was largely dependent on the region being considered.

In Brisbane, quantities for commodity based expenditure, such as electricity, chemicals and sludge handling, are all estimated from models that have been developed in-house. These zero-base budgets provide some rigour to the budgeting process and allowed QUU to readily identify the cost drivers for each category.

However, in the western regions (Ipswich, Lockyer Valley, Scenic Rim and Somerset), SKM found that the same budgets were based on historical costs, with relevant cost escalation and growth indices applied. SKM considered this an appropriate budgeting method. However, SKM noted that this should be underpinned by the establishment of the base year as representative of efficient expenditure.

SKM considered that the differences in budgeting processes were the result of:

(a) the business model. The establishment of QUU brought together three separate regions with differing business processes;

(b) the maturity of the business. The organisation has been in existence for a little over one year and insufficient time has elapsed for the practices of Brisbane Water to be rolled out across the whole organisation; and

(c) the availability of information. As noted in the Authority's 2010-11 Interim Price Monitoring Report, the required information transferred from councils was in various states of completeness and reliability.

SKM noted that the information from the western regions of QUU was not as readily available as the information for Brisbane. QUU has noted that Brisbane formed the majority of operating expenditure.

Whilst SKM accepted that there is some merit in focusing on the major cost centres, they considered that there is considerable benefit in applying the (well developed) models used to forecast Brisbane costs to the regions outside of Brisbane. This would provide a consistent budgeting approach across the organisation and would help realise the intended benefits of water reforms right across QUU operating area.

SKM considered this to be a core activity for the integration of the business and that they would expect that in future years QUU would either confirm the efficiency of the base year to which indices are applied, or apply the zero based budget models used in Brisbane to the other regions.

Apart from the above, SKM found that the operational expenditure budget process represented good industry practice.

Prudency and Efficiency

SKM benchmarked QUU's 2011-12 aggregate operating costs for water and wastewater against the other SEQ entities and a range of other Australian utilities (see table below).

Table 1.62: QUU Operating Cost Benchmarks

Metric Type	*Description*	*QUU($)*	*Other SEQ average ($)*	*Sydney Water Corporation ($)*	*Yarra Valley Water ($)*
Customers	Total costs per connection	882	910	577	579
	Water costs per connection	587	565	332	318
	Wastewater costs per connection	295	345	245	261
Network	Total costs per km of pipeline	50,131	48,991	45,566	41,611
	Water costs per km of pipeline	34,420	29,930	27,983	23,084
	Wastewater costs per km of pipeline	15,711	19,061	17,583	18,527
Volume	Total costs per ML of drinking water	3,464	4,223	1,949	2,872
	Water costs per ML of drinking water	2,389	2,630	1,090	1,531
	Wastewater costs per ML of drinking water	1,075	1,593	859	1,341

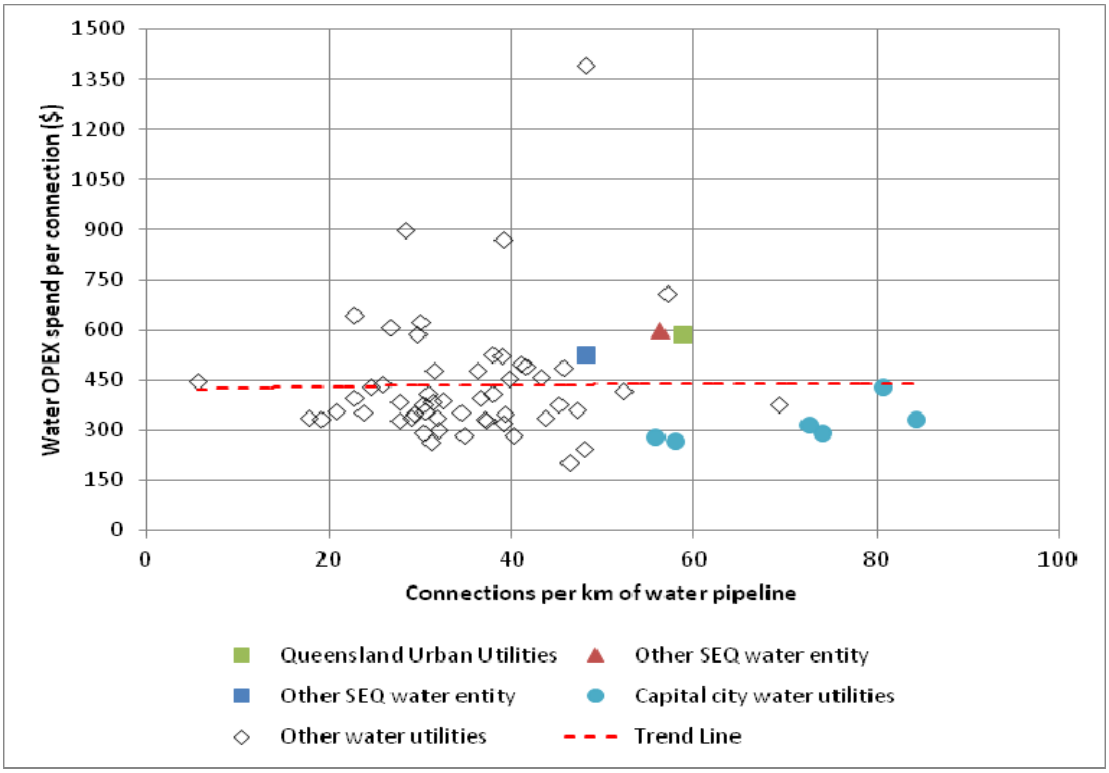
Source: SKM (2011)

Based on these metrics, SKM found that QUU's operating expenditure for water to be higher than comparable water distributors/retailers in Australia but consistent with other entities in

SEQ. For wastewater services, QUU's costs were consistent with comparable water distributors/retailers in Australia and lower than for other SEQ entities.

SKM noted that, in assessing the operating costs of water utilities around Australia, comparing expenditure per connection will tend to favour the larger utilities that have a large customer base or higher density of connections. Therefore, QUU's relative performance was also measured using both expenditure per connection and the number of connections per km (see graphs below).

Figure 1.4: Water Operational Expenditure



Note: CPI has been applied to other utilities data to inflate the costs contained in the 2010-11 NWC Performance Report to 2011-12. Source: SKM (2011)

Using this approach, SKM confirmed that QUU's operational expenditure for water in 2010-11 was generally higher than that of similar sized water utilities in other jurisdictions but comparable with other SEQ entities and that this was due in part to higher SEQ bulk water costs. Bulk water costs account for around half of QUU's operational expenditure for water in 2011-12.

SKM noted bulk water charges are not controllable by QUU and are higher than interstate peers (see table below). SKM considered there was insufficient information publically available for rigorous benchmarking of water operating expenditure excluding bulk water costs to be undertaken, largely as a result of the different supply chains used interstate.

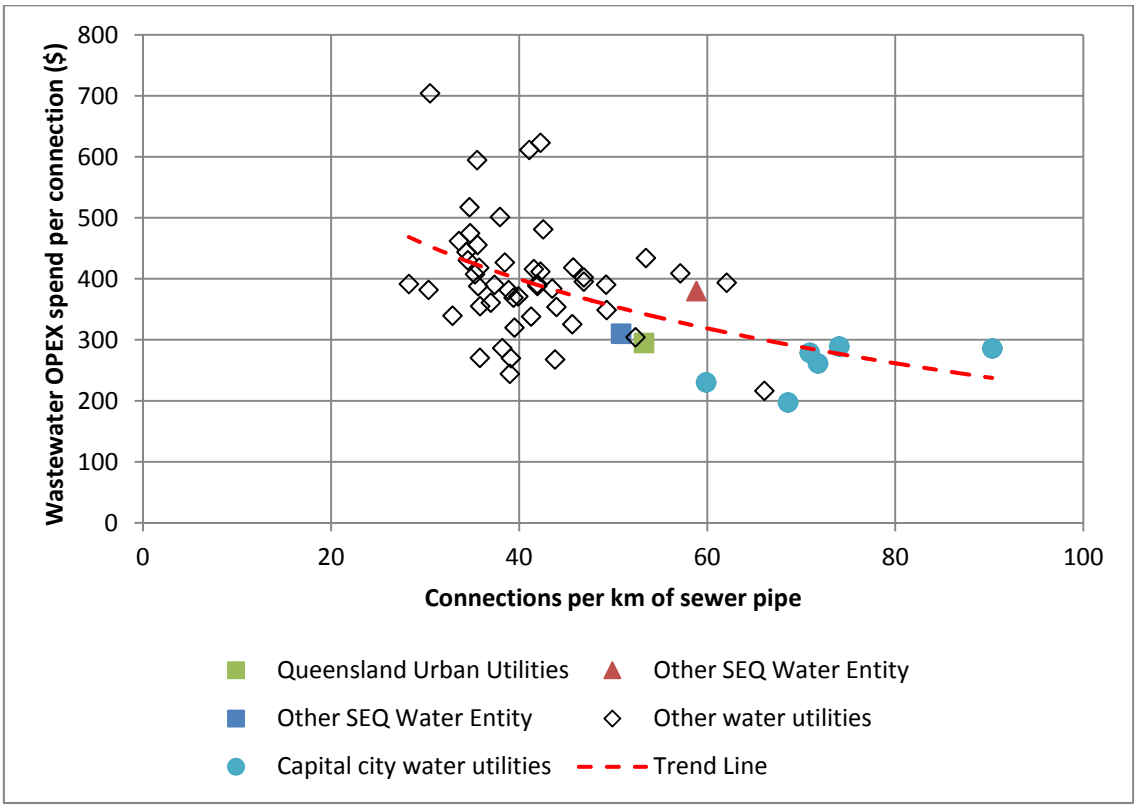
Table 1.63: Comparison of Bulk Water Costs

Water Utility/Area	*Bulk Water Cost ($/kl)*
Queensland Urban Utilities	-
Brisbane City	1.79
Ipswich City	1.72
Lockyer Valley	1.98
Scenic Rim	2.09
Somerset	2.36
Sydney Water Corporation	0.75[a]
City West Water	1.37[b]
South East Water	1.36[b]
Yarra Valley Water	1.39[b]

Note: [a] Charge is for treated water but excludes desalinated water. [b] includes headworks and transfer costs per kl and fixed charges translated into a per kL basis using bulk water demand data for 2011-12 from the ESC. Source: Sydney Water (2012), Melbourne Water (2012) and ESC data on bulk water (2012).

Again, SKM found QUU's wastewater costs to be generally lower than similar sized water service providers (see chart below).

Figure 1.6: Wastewater Operational Expenditure



Note: CPI has been applied to other utilities data to inflate the costs contained in the 2010-11 NWC Performance Report to 2011-12. Source: SKM (2011)

The Authority notes that this high-level analysis for 2011-12 shows QUU's operating costs for 2011-12 fall within a range of values bounded by other water utilities, and indicates the extent

of operating efficiencies that could potentially be achieved. This is a similar general finding as in 2010-11.

Reasonableness of Sampled Costs

SKM selected a sample of operational expenditure for detailed review. The sample included the top 10% of operational expenditure by value in each activity and geographic area, over the forecast period. SKM reviewed employee costs, corporate costs, electricity, chemical and sludge handling costs. This sample captures around half of the total non-bulk operational expenditure (see Table 1.61) over the forecast period.

In addition, the Authority has reviewed QUU's bulk water costs against forecast of demand and the bulk water price path as published by the QWC. The total sampled expenditure therefore represents three quarters of QUU's total operating expenditure.

Table 1.64: QUU Operating Costs ($m)

Cost Centre	*2011-12*	*2012-13*	*2013-14*
Bulk water	219.05	257.15	296.63
Corporate Costs [a]	0	0	0
Employee costs	92.16	96.64	100.83
Electricity	11,75	12.71	13.72
Chemicals	4.51	4.72	4.96
Sludge handling	8.94	9.36	9.83
Total Sample	**336.41**	**383.20**	**429.04**
Total Expenditure	**456.13**	**511.98**	**559.30**

[a] *Does not align with the Authority's definition of corporate costs. Source : QUU (2011), SKM (2011)*

(a) Bulk Water Cost

The Authority examined QUU's tariffs and noted that the bulk water tariffs charged to customers are consistent with those charged by the SEQ WGM. The Authority found that QUU's operating budget demonstrates that prices charged by the SEQ WGM for bulk water storage, treatment and delivery are passed through to customers in full.

The review of QUU's demand forecasts for bulk water by SKM recommended adjustments to the volume of water sales forecast by QUU (see section 1.4) and made corresponding changes to bulk water purchases. The Authority has accepted SKM recommendations and has adjusted QUU's operating costs associated with the purchase of bulk water for 2011-12 (see below).

The Authority's adjustments result in an increase in bulk water costs for water due to higher estimates of demand.

Table 1.65: 2011-12 Bulk Water Costs

Geographic Area	*QUU Submitted Bulk Water Cost ($m)*	*QUU Submitted Demand (ML)*	*Revised SKM Demand (ML)*	*Unit Price (/kL)*	*QCA Revised Bulk Water Cost ($m)*
Brisbane	183.50	102,709.4	103,376	1.787	184.73
Ipswich	26.13	15,167.9	15,114	1.723	26.04
Lockyer Valley	3.33	1,682.5	1,610	1.980	3.19
Scenic Rim	2.85	1,365.6	1,303	2.087	2.72
Somerset	3.23	1,372.7	1,304	2.357	3.07
Total	**219.05**	**122,298.1**	**122,708**		**219.76**

Source: SKM (2011), QUU (2011), Queensland Water Commission

(b) Corporate Costs

In its Information Requirements for 2011-12, the Authority defined corporate costs as general corporate expenditure that cannot be readily allocated to other cost types.

In its information return, QUU did not allocate expenditure to the corporate cost category in the QCA data templates, stating that it separated operating costs into the categories required under the QCA Information Requirements for 2011-12 where they represented a consistent approach. However, QUU stated that as 'Corporate Costs' is not a mutually exclusive cost category, this has not been included in the data template [QUU considered that corporate costs overlap with other operating cost categories].

QUU's corporate costs have been captured within the other cost categories in the data templates. In discussions with SKM, QUU noted that corporate costs cannot be readily separated due to the structure of its chart of accounts inherited from the former Brisbane Water business.

However, QUU noted also that corporate costs can be allocated under a separate method which it uses to report cost internally. These costs are closely aligned to the Authority's definition of corporate costs with the following exceptions: it excludes environmental management costs (these are held within an operations responsibility code); and it includes accounts payable for sundry charges.

In the absence of costs that are fully consistent with the Authority's definition, SKM conducted its review using QUU's corporate cost data (as in last year's review).

SKM noted that QUU's corporate costs totalled $43.76 million in 2010-11 and increased to $52.01 million in 2011-12, an increase of 18.8% (see table below). QUU submitted that this increase was largely as a result of the following initiatives occurring in 2011-12: ICT investment program $6,000,000; QCA pricing proposal $3,000,000; safety policies and management systems - $840,000; accommodation relocation projects - $95,000; and improved customer communications $75,000.

In the time available for review, SKM was unable to conduct a detailed investigation of each initiative and conducted high level benchmarking of corporate costs (see below). However, the Authority notes that the ICT program reflects the expensed portion of the ICT capital program which was assessed as prudent and efficient by SKM (see above).

In relation to the QCA pricing proposal, supporting information provided by QUU indicates that this expenditure does not relate to price monitoring (business as usual) but rather to the preparation of six-year price paths for its five participating councils. The Authority currently has no role in the review of these price paths. QUU has further advised that the $3 million is comprised of consultancies ($2.25 million) and internal staff costs.

SKM's high level benchmarking analysis is set out below.

Table 1.66: QUU's Corporate Cost 2010-11 and 2011-12

Description	*2010-11*	*2011-12*
Office of CEO	7,504	3,890
Workforce capability	4,367	7,102
Corporate services	15,360	17,584
Finance	7,451	10,535
ICT	5,725	8,780
Office of Chief operating officer	952	780
Office of GM Marketing and communication	1,153	2,478
Marketing and communication – East	585	861
Marketing and communication - West	672	1
Total	**43,768**	**52,012**

Source: SKM (2011)

SKM found that QUU's corporate services are delivered by both in-house employees and contracted services providers. QUU's in-house corporate cost totalled $28.83 million in 2011-12 and comprised 55% of the total corporate costs.

A number of corporate services are delivered by (contracted) transitional service agreements (TSAs) with QUU's shareholding councils. For Ipswich, Lockyer Valley, Scenic Rim and Somerset these primarily relate to local customer service counters and telecommunication services. BCC provides the majority of QUU's TSA services. These TSAs are due to expire in 2013.

SKM noted that QUU is in the early stages of its operations and, as such, a number of corporate systems, such as finance, ICT, payroll, customer service and insurance were required to be available from commencement. These systems are currently provided via TSAs from councils and the cost of providing these services has not been fully market tested.

SKM found that it would be unreasonable to expect an organisation of the size of QUU to have gone to market for the provision of these services within the time it has been in operation.

In order to review the efficiency of QUU's corporate costs, SKM benchmarked QUU's total 2011-12 corporate costs with those of the other SEQ retail/distribution entities, and a selection of urban water authorities in Victoria and New South Wales. SKM benchmarks included cost per total number of full time equivalents (FTEs), costs per water connections and cost as a proportion of revenue.

Table 1.67: QUU Corporate Cost Benchmarks

Water Authority	*$/FTE*	*$/customer connection*	*$/revenue*
QUU	**41.9**	**100.4**	**64.8**
Other SEQ retail/distribution entity	37.5	80.9	37.9
Other SEQ retail/distribution entity	34.3	107.3	72.2
Victorian water retail/distributor	106.9	78.5	75.1
Victorian water retail/distributor	87.3	61.0	76.6
Victorian water retail/distributor	63.1	34.1	42.1
NSW water retail/distributor	67.7	114.6	94.9
NSW water retail/distributor	65.6	132.0	135.6
Mean	63.0	88.6	74.9
25th percentile	40.8	74.1	59.1
75th percentile	72.6	109.1	81.2

Source: SKM (2011)

SKM found that QUU's corporate costs per FTE and revenue are below peer organisations nationally. While QUU's corporate costs per customer are above the national mean they are still within a reasonable range.

While SKM concluded that operating expenditure for corporate costs is prudent and efficient, they recommend that QUU prioritise putting in place appropriate systems to capture corporate cost information that is fully compliant with the Authority's definition for future price submissions.

(c) Employee Costs

Under the Ministerial Direction, the Authority must accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010 (SEQ Framework). In the submission to the Authority, QUU has budgeted $92.16 million in 2011-12 and a total of 1,240.3 full time equivalents (FTEs) required for the provision of water and wastewater activities.

Based on QUU employee cost estimate of $92.16 million, this corresponds to an average cost of $74,304 per FTE which includes allowances for overtime, superannuation, leave allowances and payroll tax. This compares to an average cost of $85,061 and $87,920 per FTE for the other SEQ entities.

QUU has adopted a bottom up approach to the development of its employee costs with a base salary calculated for each employee, to which statutory on-costs are then applied and an allowance is made for overtime based on historical trends. SKM found that this approach provides a reasonable and robust method of calculating employee expenditure.

However, SKM found that the granularity of required data to fully analyse the employee costs for individual water and waste water services is presently unavailable under the current QUU systems and that the proposed ICT project will assist in achieving the requirements.

QUU noted a growth in employees of between 1% and 1.5% per annum depending on geographic area, and labour cost escalation of 4.5% for 2011-12 using the wage increases contained in its Enterprise Bargaining Agreement.

SKM benchmarked QUU's labour costs and found that QUU's labour costs as a percentage of total cost (21%) are in line with those of other SEQ entities.

In regards to labour cost escalation, SKM noted that the labour market for the water industry in Australia has experienced an average growth in prices of slightly over 4% per annum over the last four years. This has influenced the negotiation processes surrounding new enterprise bargaining agreements with annual wage increases of between 3.9% and 4.25% through the SEQ water industry.

SKM noted that the operational constraints imposed by the SEQ framework limit the ability of QUU to achieve full labour efficiency. However, despite this constraint, SKM highlighted a number of initiatives identified by QUU to achieve labour cost efficiencies which have been incorporated into QUU's submission for 2011-12 including;

(a) a reduction of 30 FTE positions, saving $2.7 million; and

(b) changes in the management of overtime, saving $0.52 million.

In addition to these initiatives, QUU engaged an independent consulting firm Third Horizon to identify operational efficiency and business improvement initiatives. This review identified potential labour savings of approximately $950,000 from the implementation of an afternoon shift to reduce overtime. These efficiencies were not included in QUU's submission, which implies they are to be potentially included in the 2012-13 submission. However, as the Third Horizon report was available in early 2011, the Authority considered it appropriate for these savings to be pursued by QUU and has applied the identified savings to QUU's labour costs for 2011-12.

Table 1.68: Revised Labour Costs ($m)

	2011-12	***2012-13***	***2013-14***
Water	34.32	36.00	37.56
Wastewater	56.89	59.70	62.33
QCA Total	**91.21**	**95.69**	**99.89**
QUU Submitted	92.16	96.64	100.84
Variance	-0.95	-0.95	-0.95

Source: QCA calculations

The Authority supports QUU's continued efforts to achieve efficiency gains in its labour expenditure, including through the implementation of the opportunities identified by Third Horizons.

(d) Electricity Costs

QUU has adopted different mechanisms for budgeting electricity costs based on geographic areas. In its eastern service area (Brisbane), electricity costs are budgeted using a former Brisbane Water model that uses the following inputs: previous year consumption and cost history; forecast water and wastewater flows; peak/off-peak splits; and the Benchmark Retail Cost Index (BRCI).

For the western service area, a similar framework to the former Brisbane Water model was adopted without the comprehensive spreadsheet. For 2011-12 costs, total energy expenditure from the previous year was increased based on growth forecasts and escalation of tariff rates.

Table 1.69: QUU Electricity Costs ($m)

	2011-12	*2012-13*	*2013-14*
Water	1.06	1.15	1.24
Wastewater	10.68	11.56	12.52
Total	**11.75**	**12.71**	**13.76**
QUU 2010-11 Submission	**11.27**	**11.89**	**12.54**

Source: QUU (2011)

The Authority notes that, for 2011-12, QUU will move to purchasing electricity under contestable market contracts – this is a change from 2010-11 where a component of QUU's electricity (around 25%) was purchased under regulated tariffs. SKM found that QUU now purchases electricity for use at its sites via two entity-wide contracts – for large sites (consumption of more than 100 MWh per annum) and small contestable sites (consumption of less than 100 MWh per annum).

SKM found that QUU's two contracts were sourced via an open competitive tender process and replaced the various previous council supply contracts. SKM found that, during the tender process, QUU received offers from six retailers for the large contestable sites and from four retailers for the small contestable sites. SKM considered this to be evidence of the competitive nature of the electricity retail market and that suppliers are willing to pursue opportunities to sell electricity to industrial and utility companies. As a result, QUU was able to secure 30 month supply contracts for its sites.

For large sites, prices are based on actual transmission, distribution and energy costs and a retailer's component. The small site contract applies a simple discount to notified electricity prices (which increase by the BRCI).

The Authority, in its 2010-11 Final Report noted that, if QUU choose to continue to purchase (more expensive) green energy, it should demonstrate that there is sufficient customer support for the additional expenditure associated with this decision. The Authority notes that QUU has not as yet provided evidence of such customer support. In the absence of customer support, the Authority considers that the higher cost of green power is not efficient.

SKM noted QUU's contract involves savings over the term of the two supply contracts of $2.45 million for the large contestable sites and $0.88 million for the small contestable sites compared to past contracts. As the contracts were not completed until after the QUU budget was finalised, a preliminary (lower) estimate of these savings have been included in QUU's

proposed electricity costs for 2011-12.[24] The Authority also notes that QUU's estimated electricity cost index of 5.8% for 2011-12 is lower than the BRCI benchmark for 2011-12 (of 6.60%), albeit higher than the original and perhaps conservative forecast in 2010-11 (2.5%).

SKM concluded that the purchase of electricity via contracts for the large and small contestable sites is efficient. At the same time, in the absence of evidence of customer support, the Authority proposes to exclude the higher costs of green power from its calculation of an efficient MAR for QUU in the Final Report.

The Third Horizon report commissioned by QUU identified a number of potential electricity use efficiencies at QUU's wastewater treatment plants. The level of detail in the energy savings is a high level concept based and will require further investigation by QUU to achieve the forecast estimated net electricity cost reduction of $250,000 per annum. The Authority has incorporated these savings into QUU electricity forecasts.

The Authority also revised QUU's growth forecasts to align with the percentage change in bulk water volumes arising from SKM revised demand forecasts. Revised electricity costs are presented below.

Table 1.71: Revised QUU Electricity Costs ($m)

	2011-12	***2012-13***	***2013-14***
Water	1.07	1.18	1.30
Wastewater	10.42	11.43	12.54
SKM Total	11.49	12.61	13.84
QUU Proposed Total	11.75	12.71	13.76
Variance	-0.26	-0.10	0.08

Source: SKM (2011), QCA (2011)

(e) Chemical costs

Chemicals are used to treat drinking water before delivery to customers, and for wastewater prior to discharge. The need for chemical use is dictated by drinking water standards and compliance with operational licenses for wastewater discharge.

QUU's expenditure on chemicals is forecast to increase from $4.5 million in 2011-12 to $5.0 million in 2013-14. In determining these forecasts, QUU have used a general price escalation index of 2.5%. The total chemical costs increase by approximately 4.47% in 2012-13 and 4.69% in 2013-14.

SKM noted that estimated actual chemical operational expenditure for the 2010-11 was $1,400,000 lower than forecast in QUU's 2010-11 submission. Of the difference, $607,000 is attributed to a reduction in the use of chemicals.

[24] The Authority will be seeking further clarification on the appropriate saving for 2011-12 for the Final Report.

Table 1.72: QUU Forecast Chemical Costs

	2011-12	*2012-13*	*2013-14*
Water	0.16	0.17	0.18
Wastewater	4.35	4.55	4.78
2011-12 Submission Total	4.51	4.72	4.96
2010-11 Submission Total	5.19	5.48	5.78

Source: QUU (2011)

QUU advised SKM that bottom up process models are used to determine quantities of chemicals and top down historical data is used to verify model outputs.

QUU provided SKM a process model for chemical consumption for Wynnum and Luggage Point WRPs. The process model includes information on the monthly unit costs of chemicals and application rates, including for ammonia, formic acid, sodium hydroxide, sodium hypochlorite, sodium bisulphite, acetic acid, calcium hypochlorite, hydrochloric acid, sodium bicarbonate and antiscalant. QUU also provided a breakdown of chemical costs for the Ipswich, Lockyer Valley, Scenic Rim and Somerset regions, based on historical data.

QUU provided documentation to SKM demonstrating the process for chemical companies to tender for preferred supplier arrangements. The documentation contained the details of the chemical suppliers, the unit cost, and the preferred suppliers' value for money index in comparison to other tenders.

SKM concluded that QUU has realised economies of scale and efficiencies in determining its chemical cost forecasts, as QUU has implemented a competitive tendering process for the supply of chemicals, sought to achieve economies of scale through entering into preferred supplier arrangements and achieved the lowest chemical cost per ML of water and per ML of wastewater treated of the SEQ water distribution and retail entities.

Based on available information, SKM found that QUU's chemical costs to be efficient.

The Authority notes that the growth factor applied by QUU to chemical cost is derived from the growth in bulk water demand, and has been revised as a result of SKM recommendations on demand. The adjusted chemical costs for QUU are contained in Table 1.73.

Table 1.73: Revised Chemical Costs ($m)

	2011-12	*2012-13*	*2013-14*
Water	0.16	0.17	0.19
Wastewater	4.37	4.68	5.02
SKM Chemical Costs	**4.53**	**4.85**	**5.21**
QUU Submitted Costs	**4.51**	**4.72**	**4.96**
Variance	**0.02**	**0.13**	**0.25**

Source: SKM (2011), QCA (2011)

(f) Sludge Handling

Sludge handling involves the disposal of bio-solids, grit and screenings from wastewater treatment plants. QUU's submitted sludge handling costs are outlined below.

Table 1.74: QUU Sludge Handling Costs ($m)

	2011-12	*2012-13*	*2013-14*
QUU Cost	8.94	9.36	9.83
Cost Indexation Factor	4.00%	2.75%	3.00%

Source: SKM (2011), QCA (2011)

QUU outsources all bio-solids, grit and screenings disposal services to three external companies that were originally employed by Brisbane City Council, with contracts novated to QUU in 2010.

QUU noted to SKM that sludge handing costs are derived from bottom up process models which are used to determine quantities and top down historical data is used to verify model outputs. Key components of the process model include: base volume (historic/sludge production models); intra site transport; transport (per tonne basis); and, disposal.

QUU's sludge handling growth factors are based on the assumed growth in bulk water volumes. With regards to price escalation QUU noted an increase of 4% for 2011-12, reflecting an allowance for the rise and fall provisions contained within the contract (fuel and transport indices). Prices for 2012-13 and 2013-14 are escalated by 2.5%. SKM found that these assumptions to be appropriate.

SKM also reviewed the total cost per tonne of sludge in QUU's contracts and found them to be reasonable against available benchmarks.

The Authority notes the growth factor applied by QUU to sludge handling is derived from the growth of bulk water demand, and has been revised as a result of SKM recommendations. The adjusted sludge handling costs for QUU are set out below.

Table 1.75: Revised Sludge Handling Cost ($m)

	2011-12	*2012-13*	*2013-14*
Revised Total	8.97	9.62	10.34
QUU Proposed	8.94	9.36	9.83
Variance	0.03	0.26	0.51

Source: QCA calculations

Efficiency Gains and New Initiatives

In its 2010-11 Final Report the Authority noted that its analysis indicated there was scope for further efficiency gains. It also noted that economic regulators in other jurisdictions have applied annual efficiency gains to water retail businesses of up to 3.5%. Accordingly, the Authority set QUU efficiency targets for 2011-12 and 2012-13, of 4% in 2011-12 and 6% in 2012-13 consistent with those imposed on other entities.

The Authority has reviewed the cost proposed by QUU in its 2011-12 price monitoring submission against these high level general targets.

The Authority notes that QUU's 2011-12 total operational expenditure of $456.13 million is $10.27 million higher that than found to be reasonable in the Authority's 2010-11 Final Report.

A number of factors have driven this outcome. Firstly, estimated actual water demand was significantly below the levels previously forecast by Frontier Economics and accepted by the Authority. Offsetting this, a suite of initiatives is being launched by QUU with an estimated expenditure in 2011-12 of $19.41 million. SKM provided a high level review of these new initiatives under its review of corporate costs which were found to be efficient.

QUU also submitted that it will achieve efficiencies of $12.78 million in 2011-12 and provided supporting information showing the breakdown of these efficiencies. The detailed information relating to efficiencies in non-bulk operating costs indicates that a significant proportion derives from labour costs, despite the constraints of the workforce framework. This is as per the Authority's expectations last year. The quantum of QUU's proposed efficiency gains exceeds that proposed by the Authority of $9.49 million for 2011-12 in the Authority's Final Report for 2010-11, comprised of a 2% gain in controllable costs and QUU's previously announced efficiency target of $5 million for 2011-12.

In order to assess whether the Authority's efficiency target has been included in QUU's more recent estimates of 2011-12 non-bulk operating costs, the Authority has adjusted its previous (reasonable) estimate to remove the impact of estimated actual demand and one off flood-related and other one-off expenditures. This forms the revised 'business as usual' base budget to which QUU's cost escalation, the Authority's previously forecast efficiencies and QUU's new initiatives deemed to be efficient can be added (see table below). The costs of non-regulated activities are then deducted to arrive at an indicative estimate of non-bulk operating costs that includes the Authority's efficiencies.

Using this approach, in order to achieve the Authority's efficiency target, QUU's non-bulk expenditure in 2011-12 should not exceed $245.47 million.

As QUU's forecast non bulk expenditure for 2011-12 of $237.08 million falls below this, the Authority considers that QUU's estimates of non-bulk operating costs are reasonable. The Authority has therefore not sought to apply further generic efficiency targets for 2011-12 on top of the generic gain already included in QUU's estimates and the specific efficiency gains imposed in relation to electricity, labour and material and services.

The Authority notes that additional efficiency gains identified by QUU in 2011-12, and the specific gains identified by the Authority for 2011-12 arising from an internal review by Third Horizons for QUU, act to (partly) offset the cost of proposed initiatives.

Table 1.76: Efficiency Gains QUU (actual) and QCA (previous forecast) for 2011-12 ($m)

	QUU 2011-12 Submission	*QCA Adjusted Estimates*	*$ Variance*
Total non-bulk 2010-11 Operating Costs	**238.03**	**225.76#**	
Flood	-12.94		
One-off costs	-4.35		
2010-11 Recurrent non-bulk	**220.74**	**225.76**	**-5.02**
Cost escalations (business as usual)	11.40	11.40*	-
Efficiencies	-12.87	-9.49^	-3.38
Initiatives	19.41	19.41	-
2011-12 Total (inc non regulated)	**238.69**	**247.08**	**-8.39**
Less non regulated	1.61	1.61	-
2011-12 Total regulated	237.08	245.47	-8.39

*Note: # QCA estimate for 2010-11, adjusted for 2010-11 estimated demand * For the purpose of this broad indicative analysis and to isolate the analysis upon the efficiency gain, the Authority has adopted QUU's estimate, however adjustments are made in the above detailed analysis.^ QCA efficiency target for QUU for 2011-12 as published in SEQ interim Price Monitoring Final Report for 2010-11.*

Summary

The Authority notes that, while QUU incurred unexpected flood-related operating costs in 2010-11, these are expected to be recouped through insurance. These and other one-off costs have been excluded from the budget process for 2011-12 operating costs.

Further, the operating efficiency targets set by the Authority in its 2010-11 report have been used by QUU in its budget process for 2011-12. QUU has identified $12.9 million of efficiency savings for 2011-12 – this is broadly consistent with the target identified by the Authority.

The Authority has adjusted QUU's estimates of operating costs by a small amount for:

(a) changes to demand, that affect estimates of bulk water, electricity and chemicals; and

(b) specific savings of $1.87 million identified in an internal QUU review, comprised of savings of $0.25 million in electricity, $0.95 million in labour and $0.67 million in materials and services. These reflect specific savings identified as possible within QUU's current estimates and act to offset a range of initiatives which have been accepted by the Authority on the basis of its consultant's advice.

The Authority's forecast operating costs include the Authority's previously recommended efficiency gain targets (of 4 and 6% for 2011-12 and 2012-13 respectively, which already included QUU's previously announced efficiency gain of $5 million) as well as additional adjustments to particular cost items as indicated above. Having regard to the progress being made by QUU, no additional further efficiency gains are proposed.

The Authority supports QUU's ongoing pursuit of operating efficiencies and considers that QUU should continue to seek further operational efficiencies in 2011-12 and beyond as it achieves economies of scale and greater integration. The Authority notes, for example, that QUU has announced it is participating in an international benchmarking study for customer service costs.[25] The study will help to identify further cost saving opportunities for QUU.

The Authority's operating expenditure for QUU over the price monitoring period for water and wastewater over are outlined in the tables below. The Authority has higher water operating cost estimates for 2012-13 onwards arising from its higher estimates of the demand for bulk water.

Table 1.77: Revised Operating Costs – Water 2010-11 to 2013-14 ($m)

	2010-11	***2010-11***	***2011-12***	***2012-13***	***2013-14***
Bulk water costs	187.57	182.79	219.76	264.12	312.16
Employee expenses	12.92	33.49	34.32	36.00	37.56
Contractor expenses	0.13	0.08	0.94	0.99	1.04
GSL Payments	0.00	0.00	0.00	0.00	0.00
Electricity charges	na^	1.32	1.07	1.18	1.30
Sludge handling costs	na^	0.00	0.00	0.00	0.00
Chemicals costs	na^	0.18	0.16	0.17	0.19
Other materials and services (not relating to capital expenditure)	61.91	36.23	42.84	50.32	49.89
Licence or regulatory fees	0.40	0.36	0.41	0.43	0.44
Corporate Costs	na	0.00	0.00	0.00	0.00
Non recurrent costs	0.00	0.00	0.00	0.00	0.00
Indirect taxes	0.00	0.00	0.00	0.00	0.00
SKM Total Operating Costs	262.93	254.46	299.50	353.22	402.58
Further Efficiency gains	-	-	-	-	-
Total Operating Costs	**262.93**	**254.46**	**299.50**	**353.22**	**402.58**
QUU Proposed Total	**263.69**	**254.46**	**299.45**	**346.87**	**387.64**
Variance	-0.76	0.00	0.05	6.35	14.94

*Note:*Flood related costs removed as they are not proposed for recovery from consumers. ^Included Other materials and services in 2010-11 information requirements. Source: SKM (2011), QCA (2011)*

[25] QUU 2011. 'Queensland Urban Utilities benchmarks with the world'. Media Release 6 July 2011.

Table 1.78: Revised Operating Costs - Wastewater 2010-11 to 2013-14 ($m)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Bulk water costs	0.94	0.00	0.00	2.66	3.08
Employee expenses	23.81	51.60	56.89	59.70	62.33
Contractor expenses	0.13	0.08	0.88	0.92	0.97
GSL Payments	0.00	0.00	0.00	0.00	0.00
Electricity charges	na^	9.44	10.42	11.43	12.54
Sludge handling costs	na^	7.88	8.97	9.62	10.34
Chemicals costs	na^	3.58	4.37	4.68	5.02
Other materials and services (not relating to capital expenditure)	114.95	68.35	73.06	74.50	76.29
Licence or regulatory fees	0.39	0.53	0.64	0.66	0.68
Corporate Costs	na#	0.00	0.00	0.00	0.00
Non recurrent costs	0.00	0.00	0.00	0.00	0.00
Indirect taxes	0.00	0.00	0.00	0.00	0.00
SKM Total Operating Costs	**140.21**	**141.46**	**155.21**	**164.16**	**171.24**
Further Efficiency gains	-	-	-	-	-
Total Operating Costs	**140.21**	**141.46**	**155.21**	**164.16**	**171.24**
QUU Proposed Total	**139.83**	**141.46**	**156.67**	**165.11**	**171.66**
Variance	0.38	0.00	-1.46	-0.95	-0.42

*Note:*Flood related costs removed as they are not proposed for recovery from consumers. Source: SKM (2011), QCA (2011)*

Table 1.79: Comparison of QUU and Authority's total operating costs for water and wastewater ($m)*

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Total*
QUU forecast	403.52	395.91	456.13	511.98	559.30	1923.32
QCA forecast	403.14	395.91	454.72	517.38	573.83	1941.83
Difference	**0.38**	**0.00**	**-1.41**	**5.40**	**14.53**	**18.51**

*Note:*Flood related costs removed as they are not proposed for recovery from consumers. Source: QUU (2011) and QCA calculations.*

QUU's forecast operational expenses for 2011-12 are generally prudent and efficient, and include savings that are consistent with the Authority's targets. The Authority has adjusted for revised demand forecasts, and small savings in labour costs, electricity and material and services, but notes these will be subject to ongoing review.

The Authority supports QUU's pursuit of operating efficiencies and considers that QUU should continue to seek operational efficiencies in 2011-12 and beyond as it achieves economies of scale and greater integration.

1.11 Total Costs

The Ministerial Direction requires the Authority to monitor the entities' revenues with regard to the Authority's assessed MAR, which is based on the total costs of carrying on the activity.

Total costs identified earlier have not been adjusted for any revenue offsets required to calculate the MAR and include:

(a) operating and maintenance costs, including tax;

(b) return on capital; and

(c) return of capital, allowing for depreciation of assets over time.

QUU Submission

QUU identified its estimate of total prudent and efficient costs for water and wastewater for 2010-11 and 2011-12 on a single year or 'unsmoothed' basis.

In relation to tax, QUU noted that its estimate is based on taxable revenue which excludes the capital revenue from donated assets. Further, that QUU now has access to the tax values of assets which have been used to calculate tax depreciation for regulatory purposes (the RAB was previously used).

Table 1.80: QUU Total Costs ($m)

	QUU Water Costs 2010-11	*%*	*QUU Waste-water Costs 2010-11*	*%*	*QUU Water Costs 2011-12*	*%*	*QUU Waste-water Costs 2011-12*	*%*
Bulk Water Costs	188.73	38.9%	0.94	0.2%	$219.05	41.6%	-	-
Distribution and Retail Costs								
Other operating costs	74.96	15.4%	138.89	28.4%	$80.41	15.3%	$156.67	29.7%
+ Tax	6.01	1.2%	8.89	1.8%	$0.00	0.0%	$4.56	0.9%
+ Return on Capital	166.68	34.3%	234.18	47.9%	$172.51	32.8%	$248.96	47.2%
+ Return of Capital	48.94	10.1%	106.18	21.7%	$54.35	10.3%	$117.12	22.2%
Total Costs	**485.32**		**489.08**		**$526.31**		**$527.31**	

Source: QUU (2010) and QUU (2011)

Authority's Analysis

On the basis of the Authority's analysis of the regulatory asset base, asset lives, cost of capital and operating and maintenance costs, the Authority calculated the total costs of carrying on QUU's water and wastewater activities for 2011-12.

In doing so, and as for 2010-11, the Authority calculated single year or 'unsmoothed' estimates, to allow for comparison with QUU's revenues and costs, which were set on this basis.

In relation to QUU's approach to calculating tax, the Authority notes that QUU has now adopted a similar method to that recommended by the Authority in its Final Report for 2010-11. In particular, QUU has now excluded donated assets from taxable income. The difference in tax outcomes are addressed below.

For both water and wastewater, the Authority's estimate of total costs is above QUU's estimate. However, the difference is not large.

Key differences between QUU's submitted costs for 2011-12 and the Authority's arose from:

(a) bulk water costs – the Authority had slightly higher bulk water cost estimates due to the Authority's revised demand volumes for 2011-12;

(b) other operating costs – the Authority has slightly lower estimates of other distribution and retail costs due to adjustments to electricity, labour and materials and services;

(c) tax – the Authority's estimate is the same as QUU's for water (of zero) as deductions outweigh taxable income (as in 2010-11). However, for wastewater, the Authority's estimate (of $6.04 million) is higher than QUU's (of $4.56 million).

    As QUU has now adopted a similar method to that used by the Authority to calculate tax (see above), the difference in outcome mainly relates to the Authority's estimate of higher taxable revenue which derives from the Authority's slightly higher opening RAB as at 1 July 2011 due to the Authority use of actual inflation of 3.58% for 2010-11 (QUU used 2.5% based on the mid-point of the RBA target band for inflation);

(d) the return on capital – the Authority had slightly higher cost estimates than QUU. Although the same WACC of 9.35% was adopted by the Authority and QUU, the Authority applied it to a higher asset base (as noted above); and

(e) the return of capital – the Authority had only marginally higher estimates, due to differences in the indexation of the underlying assets.

Table 1.81: Comparison of QUU and QCA Costs for 2011-12 ($m)

	Water QUU Costs	*Water QCA Costs*	*QCA % of total*	*Wastewater QUU Costs*	*Wastewater QCA Costs*	*QCA % of total*
Bulk Water Costs	219.05	219.76	41.57%	-	-	-
Distribution and Retail Costs						
Other operating costs	80.41	79.75	15.09%	156.67	155.21	29.25%
+ Tax	0.00	0.00	0.00%	4.56	6.04	1.14%
+ Return on Capital	172.51	174.35	32.98%	248.96	251.59	47.41%
+ Return of Capital	54.35	54.76	10.36%	117.12	117.82	22.20%
Total Costs	**526.31**	**528.62**	**100.00%**	**$527.31**	**530.66**	**100.00%**

Source: QUU (2011) and QCA calculations

1.12 Revenues for 2011-12

For price monitoring purposes, QUU's revenues at the time of price setting form the relevant forecast revenues. These revenue forecasts for 2011-12 are consistent with 2011-12 prices.

QUU's submission

QUU's revenue forecasts for water and wastewater (as at the time of price setting) are shown in Table 1.82.

Table 1.82: QUU's 2011-12 Revenue Forecasts for water and wastewater ($m)

	QUU Revenues
Water	405.57
Wastewater	370.37
Total revenue	**775.94**

Source: QUU subsequent information

1.13 Comparing Revenues with MARs

Under the Ministerial Direction and the accepted SEQ Interim Price Monitoring Framework (QCA 2010), the Authority must compare the entities' revenues with the MAR calculated by the Authority.

The MAR is based on the Authority's estimate of total efficient costs of carrying on a water and wastewater activity. The MAR is calculated using the Authority's estimate of total costs less relevant deductions to ensure no double counting of inflationary gain and capital contributions. Under the Direction, the entities have the choice of adopting a revenue offset or asset offset approach to capital contributions.

QUU's Submission

QUU's estimate of the total costs of carrying on its water and wastewater activities in 2011-12 is shown in the table below. QUU has continued to apply a revenue offset approach to the treatment of capital contributions.

QUU noted that its estimated actual result for 2010-11 indicated under-recovery against costs for both water (5.1%) and wastewater (1.8%). QUU did not seek to carry over any under-recovery from 2010-11 to 2011-12.

A comparison of QUU's total costs and revenues is also provided, indicating that QUU forecasts to under-recover in both water and wastewater activities in 2011-12 with total under-recovery of $30.88 million or 4.0%.

Table 1.83: QUU's 2011-12 Total Costs and Total Revenues ($m)

	Water QUU 2011-12	***Wastewater QUU 2011-12***	***Total***
Total Costs (QUU)	526.31	527.31	1,057.92
less Indexation (QUU)	(46.13)	(66.57)	(112.69)
less Capital contributions (QUU)	(56.56)	(81.85)	(138.41)
Total Costs (QUU)	423.62	378.90	806.81
Total Revenues (QUU)	405.57	370.37	775.94
Total Revenues less Costs (QUU)	(22.34)	(8.53)	(30.88)
% of Total Costs (QUU)	5.5%	2.3%	4.0%

Source: QUU 2011.

Authority's Analysis

A comparison of QUU's forecast revenues with the MAR based on the Authority's estimate of the total costs of carrying on QUU's water and wastewater activities is provided in the table below. The Authority has not carried over any under- or over-recovery from 2010-11, consistent with QUU's approach.

In principle, the Authority supports an NPV neutral glide path to achieve full cost recovery, wherever possible. However, an NPV neutral glide path is not always possible, particularly in the context of significant price rises, without prices in the final year being substantially in excess of their efficient level, requiring transitioning (down) in the next period, as noted in the Authority's SEQ Price Monitoring Framework Final Report. Further, 'unders and overs' schemes in regulatory pricing are typically based on actual data and, at the time of pricing, only estimated actual data for 2010-11 was available.

The Authority notes it is not in a position to provide guidance on any particular glide path without first thoroughly examining the detailed data, modelling and assumptions underpinning it. The appropriateness of a glide path typically hinges on the level of over-recovery sought in the later years of the scheme, and the Authority does not have this longer term information.

Table 1.84: Comparison of Revenues and the QCA MAR ($m)

	Water 2011-12	*Wastewater 2011-12*	*Total*
Total Costs (QCA)	528.62	530.66	1,059.28
less Indexation (QCA)	(46.23)	(66.71)	(112.95)
less Capital contributions (QCA)	(56.56)	(81.85)	(138.41)
Total Costs (QCA MAR)	425.82	382.10	807.92
Total Revenues (QUU)	405.57	370.37	775.94
Total Revenues less Costs (QCA)	(20.26)	(11.73)	(31.98)
% of Total Costs (QCA)	(4.76%)	(3.07%)	(3.96%)

Source: QCA calculations.

The Authority's analysis indicates that QUU's estimate of revenues falls below the Authority's MAR of $807.92 million by $31.98 million (or 3.96%). Water revenues fall below the MAR of $425.82 million by $20.26 million or 4.76% while wastewater revenues fall below the MAR of $382.10 million by $11.73 million or 3.07%.

The Authority has also estimated the amount of revenue that the Authority expects QUU would receive in 2011-12 based on QUU's prices and the Authority's estimated demand. This estimate ensures that revenues and expenditure are based on consistent demand figures.

The Authority's estimate of the water revenues that QUU will receive is slightly higher than QUU's, as the Authority's water demand estimates are higher due to expected rebound in water demand which outweighs the effect of the Authority's lower population estimates. The Authority's estimate of the wastewater revenues that QUU will receive is slightly lower than QUU's, due to the Authority's lower estimates of demand as a result of lower residential connections.

The Authority further notes that its estimate of QUU's revenues for water ($407.23 million) and wastewater ($369.96) also fall below the Authority's MAR.

Table 1.85: Further Comparison of Revenues and the QCA MAR ($m)

	Water 2011-12	*Wastewater 2011-12*	*Total*
Total Costs (QCA MAR)	**425.82**	**382.10**	**807.92**
Total QCA Expected Revenues	**407.23**	**369.96**	**777.19**
Difference	(18.59)	(12.14)	(30.73)
% of Total Costs (QCA)	(4.37%)	(3.18%)	(3.80%)

Source: QCA calculations.

1.14 Costs, Revenues and Prices

The reconciliation of costs, revenues and average prices is outlined below.

Table 1.86: Costs and Revenues

	QCA Water 2010-11	*QCA Wastewater 2010-11*	*QUU Water 2011-12*	*QUU Wastewater 2011-12*	*QCA Water 2011-12*	*QCA Wastewater 2011-12*
Bulk Water Costs ($m)	$187.57	$0.94	$219.05		$219.76	
Distribution and Retail Costs ($m)						
Other operating costs	$75.36	$139.27	$80.41	$156.67	$79.75	$155.21
plus Tax	0	$1.83	$0.00	$4.56	$0.00	$6.04
plus Return on Capital	$169.33	$237.96	$172.51	$248.96	$174.35	$251.59
plus Return of Capital	$48.46	$105.71	$54.35	$117.12	$54.76	$117.82
Total Costs ($m)	$480.72	$485.71	$526.31	$527.31	$528.62	$526.79
less Indexation	($45.96)	($64.11)	($46.13)	($66.57)	($46.23)	($66.71)
less Capital contributions	($61.46)	($85.71)	($56.56)	($81.85)	($56.56)	($81.85)
Total Costs (MAR)	**$373.31**	**$335.89**	**$423.62**	**$378.90**	**$425.82**	**$382.10**
Total Revenues (QUU)	**$366.08**	**$352.85**	**$405.57**	**$370.37**	**$405.57**	**$370.37**
Over / (Under) recovery	**($7.23)**	**$16.96**	**($22.34)**	**($8.53)**	**($20.26)**	**($11.73)**

Source: QCA calculations and QUU (2010, 2011).

Table 1.87: Average Prices

	QUU Water 2010-11	*QUU Wastewater 2010-11*	*QUU Water 2011-12*	*QUU Wastewater 2011-12*	*QCA Water 2011-12*	*QCA Wastewater 2011-12*
Total Revenues/MAR ($m)	$366.08	$352.85	$405.57	$370.37	$425.82	$382.10
Volume (ML or connections)[d]	108,064	484,663*	108,913	493,383	109,623	492,060
Price ($/kL or $/connection)	**$3.39kL**	**$728.03**	**$3.72/kL**	**$750.67**	**$3.88/kL**	**$776.52**

*Note *connections data. Source: QCA calculations and QUU (2010, 2011).*

1.15 Findings

For QUU:

(a) the retail and distribution component of water and wastewater prices for households and small business increased by less than the CPI cap of 3.6% imposed by the Queensland Government;

(b) revenues for non-capped trade waste and recycled water services fell by 8.42%, compared with the increase in the costs of the relevant activity (13.76%);

(c) bulk water costs account for 41.6% of QUU's proposed total water costs in 2011-12. Retail and distribution costs account for 58.4% with operating costs accounting for 15.3%, return on capital for 32.8% and return of capital 10.3%;

(d) for wastewater, retail and distribution operating costs account for 29.7%, return on capital accounts for 47.2%, tax for 0.9% and return of capital 22.2%; and

(e) the most significant increases in QUU's proposed costs in 2011-12 relate to a 15.5% increase in bulk water costs and a 10.9% increase in retail and distribution operating costs.

The Authority's estimate of the costs of supply is slightly higher than QUU's arising from its slightly higher estimate of the opening RAB for 2011-12. In this regard:

(a) QUU's estimate of water revenues is marginally below the Authority's MAR of $425.82 million by $20.26 million or 4.76%;

(b) QUU's estimate of wastewater revenues is marginally below the Authority's MAR of $382.10 million by $11.73 million or 3.07%; and

(c) as a whole, QUU's revenues are marginally below the Authority's MAR of $807.92 million by $31.98 million (or 3.96%).

The Authority has also estimated the amount of revenue that QUU will receive in 2011-12 based QUU's prices and the Authority's estimated demand. The Authority's estimate of total expected QUU revenues ($777.19 million) is below the Authority's estimated MAR of $807.92 million.

2. ALLCONNEX WATER

2.1 Introduction

This is the second year of price monitoring of retail/distribution water and wastewater prices in South East Queensland (SEQ) by the Authority.

The Authority's price monitoring task in 2011-12 has been amended following significant legislative changes made in 2011 affecting retail and distribution water and wastewater pricing.

Amongst other things, these legislative changes imposed a consumer price index (CPI) price cap on the retail and distribution component of water and wastewater prices for 2011-12 and 2012-13, removed references to the Authority's envisaged deterministic role from 1 July 2013 and clarified that participating councils are responsible for pricing. These legislative changes also allowed participating councils to opt out of their distributor/retailer business and revert to council provision of retail and distribution water and wastewater activities from 1 July 2012.

These legislative changes also require councils to publish a price mitigation plan that demonstrates how they intend to mitigate the price impacts on customers in the six years following the end of the CPI cap on 30 June 2013. By 1 July 2013, councils must publish a final price path for this period.

The Authority's price monitoring role was amended to take account of these legislative changes in an amended Ministerial Direction received on 25 June 2011.

2.2 Ministerial Direction

Under the Ministerial Direction (**Appendix A**), the Authority must for Allconnex Water (Allconnex) and other Distributor-Retailer Authorities (the entities):

(a) monitor the annual change in prices of distribution and retail water and wastewater services for households and small business customers, having regard to the CPI price limit (price cap) as described in relevant legislation; and

(b) monitor the annual change in prices for water and wastewater services not included in the CPI price limit (non-capped services), having regard to the change in revenue from these services compared to the change in the total prudent and efficient costs of carrying on the relevant activity.

The Authority must also:

(a) provide timely and transparent information to customers about the costs and other factors underlying the provision of water and wastewater services, including distinguishing the bulk and distribution/retail costs to the extent that it is possible given the availability and reliability of relevant information; and

(b) monitor the entities' revenue from water and wastewater activities against their total prudent and efficient capital and operating costs (the maximum allowable revenue or MAR).

2.3 Background

Allconnex provides water and wastewater services to 953,323 people in the Logan, Redland and Gold Coast local government areas. Key characteristics of Allconnex's service and asset base, as provided by Allconnex in its price monitoring submissions, appear in the table below. Changes from Allconnex's 2010-11 submission reflect updated population and connections.

At the time of price setting for 2011-12, Allconnex's participating councils had not decided whether to revert to council provision of retail and distribution water and wastewater activities from 1 July 2012.

Pending advice from councils, Allconnex's prices (and its price monitoring submission) were prepared on the basis that all of its three participating councils would continue with the provision of activities by Allconnex. Subsequently, all councils decided to revert to council provision of services from 1 July 2012.

The Authority's price monitoring review for 2011-12 focuses on Allconnex's prices and revenues for 2011-12 and uses information available at the time of price setting. Where relevant, the Authority has noted the impact of the councils' decision.

Table 2.1: Allconnex Service and Asset Base

	Gold Coast	*Logan*	*Redland*	*Total*
Population	527,828	282,673	142,822	953,323
Residential Water Connections	225,508	96,379	55,861	377,748
Non-Residential Water Connections	16,974	5,073	2,328	24,374
Wastewater treatment plants*	4	5	7	16

*Note: *Allconnex (2010). Source: Allconnex (2011).ABS Cat.No 3218*

A map of the area serviced by Allconnex is shown in Figure 2.1.

Figure 2.1: Allconnex Service Area

2.4 Prices and Revenues

Prices for Households and Small Businesses

Capped Prices

Under amendments to the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*, a CPI price cap applies to the retail and distribution component of water and wastewater charges in 2011-12 for specified customers. The specified customers include residential and small business customers any other customer who passes on charges to either of these groups.

Under the legislation, the CPI cap for 2011-12 is 3.6%, and is applied to the fixed access charge and the charge rate for water consumption or wastewater disposal based on variable measures (the volumetric component) after deducting the relevant rebates and subsidies.

Consistent with the approaches adopted by the entities, the Authority has reviewed all charges against the CPI cap except those specifically excluded (non-capped prices) which are dealt with further below.

The Authority notes that prices are set for a particular year in the preceding year and reflect an entity's intended (budgeted) revenues and costs for the following year.

In 2011-12, Allconnex increased the retail and distribution component of water and wastewater prices for households and small businesses by 3.6%. Furthermore, Allconnex applied a 3.6% price increase to the retail and distribution component of other residential and non-residential water and wastewater prices (**Appendix C**).

As noted above, changes in council subsidies must also be identified to assess compliance with the CPI cap. Allconnex's participating councils provide subsidies to not-for-profit and community groups. The coverage and rate of these subsidies have been continued in 2011-12.

Therefore, the retail and distribution component of water and wastewater prices for household and small businesses have increased by 3.6%. The Authority considers that Allconnex has complied with the CPI price cap for 2011-12.

Residential Bills

The retail and distribution component of residential prices is capped, as noted above. To facilitate comparisons with prices prevailing in 2010-11, the Authority has continued to compare increases in residential bills.

As in last year's price monitoring report, the residential bills used in the Authority's analysis were estimated on the basis of usage of 200kL of water per year, as this is the basis adopted for national performance reporting (NWC 2010). As there is no national standard for wastewater, the analysis was based on the approach adopted in each council area. All council areas adopt a fixed residential access charge, except in Logan for multi-residential accommodation where one pedestal was assumed. The same approach has been adopted by the Queensland Water Commission (QWC) in its analysis of residential water and sewerage bills.[26]

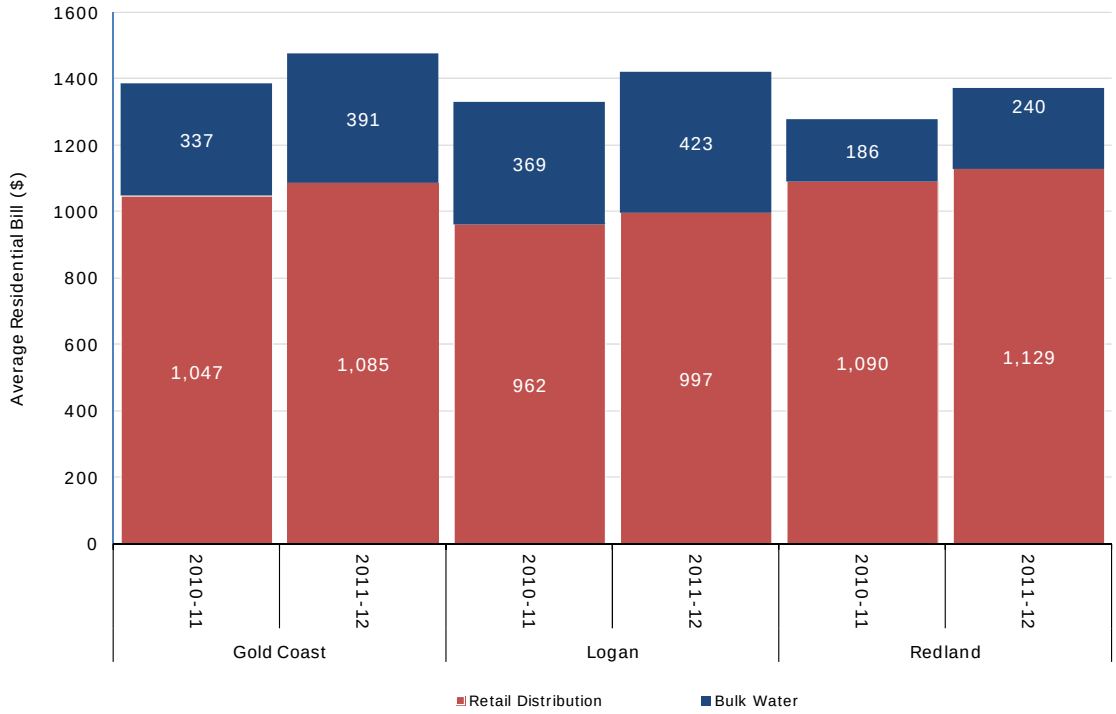
The Authority did not calculate a residential bill consistent with Authority estimates of efficient costs in 2011-12 as costs are not disaggregated to this level by Allconnex.

[26] QWC 2011 'Water and sewerage bills in Logan – the facts' www.qwc.qld.gov.au.

Total residential bills for household water and wastewater services increased (see chart below). Bill increases were $92 (6.6%) in the Gold Coast, $89 (6.7%) in Logan and $93 (7.3%) in Redland. Both the retail/ distribution and bulk components of the residential bill increased. Of the total increase, the bulk component contributed 3.9%, 4.1% and 4.2% for Gold Coast, Logan and Redland respectively, with the retail/distribution component contributing 2.7%, 2.6% and 3.1%, respectively.

The residential bill includes water and wastewater, and wastewater has no bulk water component.

Chart 2.1: Total Residential Bills



Notes: Based on usage of 200kL per annum and one pedestal. The retail/distribution component includes water and wastewater. Logan data refers to non-transferred areas. Source: Allconnex (2011).

Prices for Other Users (Non Capped Prices)

Under the Direction, the Authority must monitor the annual change in prices of non-capped services, having regard to the change in revenue from these services compared to the change in the prudent and efficient costs of the relevant activity.

For the purposes of the comparison:

(a) Allconnex's 2010-11 and 2011-12 revenues are those set at the time prices are determined. Essentially, they reflect an entity's intended (budgeted) level of cost recovery; and

(b) the Authority compares the change in Allconnex's revenues for non-capped services from 2010-11 with those forecast by Allconnex for 2011-12, with the change implied by the change in the Authority's estimates of prudent and efficient costs.

Under the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009,* the CPI price cap does not apply to trade waste, seepage[27], or recycled water services. Allconnex does not provide seepage water services.

However, due to a break in the methodology adopted for forecasting revenues and the lack of robust data on connections and volumes, the Authority considers it is inappropriate to compare Allconnex's 2010-11 and 2011-12 revenues for trade waste and recycled water.[28]

Nevertheless, the Authority notes that trade waste and recycled water prices were increased by 3.6% in 2011-12[29]. Further, wastewater revenues do not exceed costs (for the activity as a whole). Therefore, there is no evidence of an exercise of market power in non-capped services.

Average Prices

There is a wide range of prices set by Allconnex relating to the range of services provided to each of the previous council areas and customer groups in SEQ.

For broad comparative purposes, the Authority has noted the changes in average prices (as well as residential bills above). Average prices provide, at best, a broad overview of price changes.

Allconnex's average water and wastewater prices increased in 2011-12. For reasons identified further below, the average price charged by Allconnex differs from that implied by the Authority's assessment of prudent and efficient costs. Charts 2.2 and 2.3, and Table 2.2 refer.

Prices are not necessarily set by the entities on the basis of costs alone. As noted above, Allconnex has set its prices to reflect the CPI cap of 3.6% on the retail/distribution component.

Also indicated is the share of average prices accounted for by bulk water charges. It is assumed that, based on the Government's policy, the bulk water prices charged by the SEQ Water Grid Manager (WGM) are passed through to customers in full. There is no material bulk water component in wastewater prices.

Average prices were calculated by dividing total revenues by volumes – per kl (for water) and per connection (for wastewater).[30] Revenues and volumes for 2010-11 reflect the information available at the time of setting 2010-11 prices (and correspond with the data published in the Authority's Final Report for 2010-11). Revenues and volumes for 2011-12 reflect the information available at the time of setting 2011-12 prices. Wastewater revenues include those deriving from trade waste and recycled water services, as well as from core wastewater services (the acceptance and disposal of sewage directly from users' premises to the sewer network).

The Authority's analysis suggests that average annual water and wastewater prices are slightly below those implied by full cost recovery for 2011-12. Allconnex has noted that its revenues lie

[27] Seepage water is water that seeps from the ground into that part of a structure below ground level (e.g. tunnels and underground car parks). Allconnex does currently not provide seepage services.

[28] In 2010-11, Allconnex forecast $13.77 million of trade waste revenues, by allocating a portion of total wastewater revenues to trade waste that reflected its portion of costs. In 2011-12, trade waste revenues of $5.31 million were directly forecast. Allconnex has advised the change in revenue estimates reflects the change in methodology applied. In 2010-11 Allconnex forecast $4,300 of recycled water revenues in Redland although recycled water services were provided in Gold Coast at that time. In 2011-12, Allconnex forecast $325,400 of recycled water revenues in the Gold Coast. SKM was unable to review trade waste and recycled water volumes in the time available for this review and Allconnex remains reliant on council forecasts.

[29] Barring an increase of 13.96% in the sale of recycled water access key tags in the Gold Coast from $51.50 to $58.69. This is permitted under the legislation as these services are not capped.

[30] The ABS adopts a similar approach to calculate an average water price in national water accounts – the ABS average price is derived by dividing a state's total residential water revenue ($) by residential water consumption (kL) (ABS, 2010).

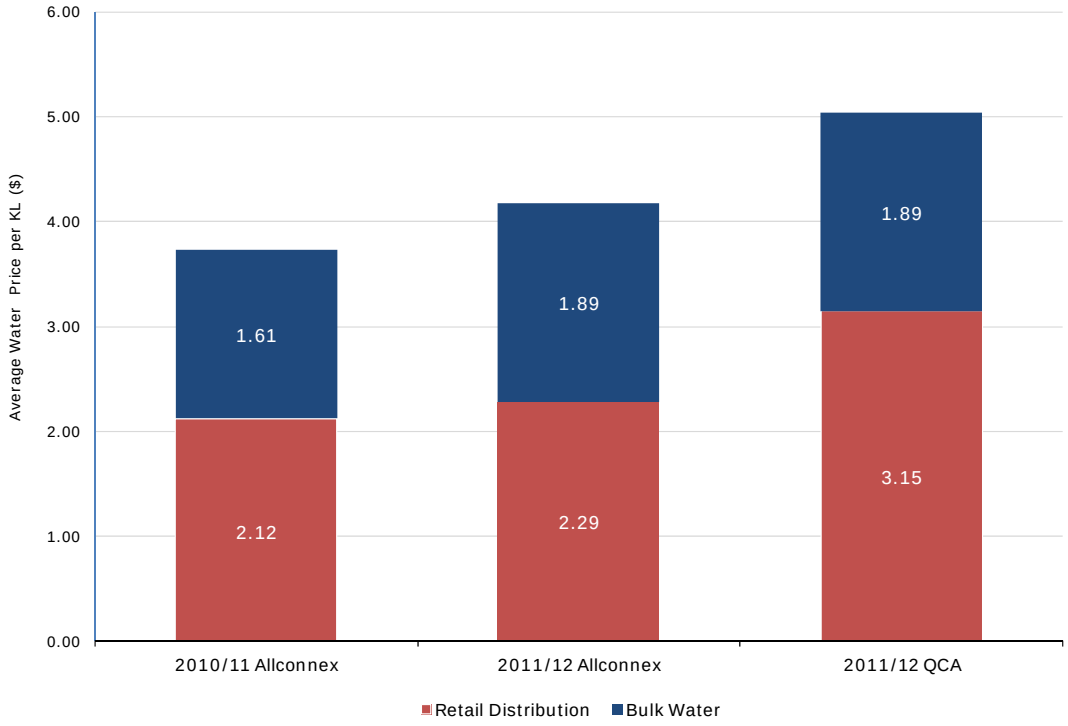
below cost recovery (the MAR) due to historic under-recovery, significant external cost pressures (bulk water charges) and the consumer price index (CPI) price cap.

While Allconnex complied with the CPI cap of 3.6% for the distribution/retail component of water prices, the increase in the average distribution/retail price per kl of 4.36% (see Table 2.2) exceeded 3.6% as a result of the substantial fixed component of water prices (and costs) having to be spread over a forecast fall in the volume of water sold.

As noted in last year's SEQ Interim Price Monitoring Final Report for 2010-11, the Authority notes that prices should ideally be set, and smoothed, over a longer period to avoid large annual variations.

The Authority notes that the price mitigation plans of Redland City Council and Logan City Council refer to a five year glide path from 1 July 2013 to the MAR unless unacceptable price shocks are evident in the glide path.[31] The Gold Coast City Council refers to price increases from 1 July 2013 at CPI - x (where x is a positive number).

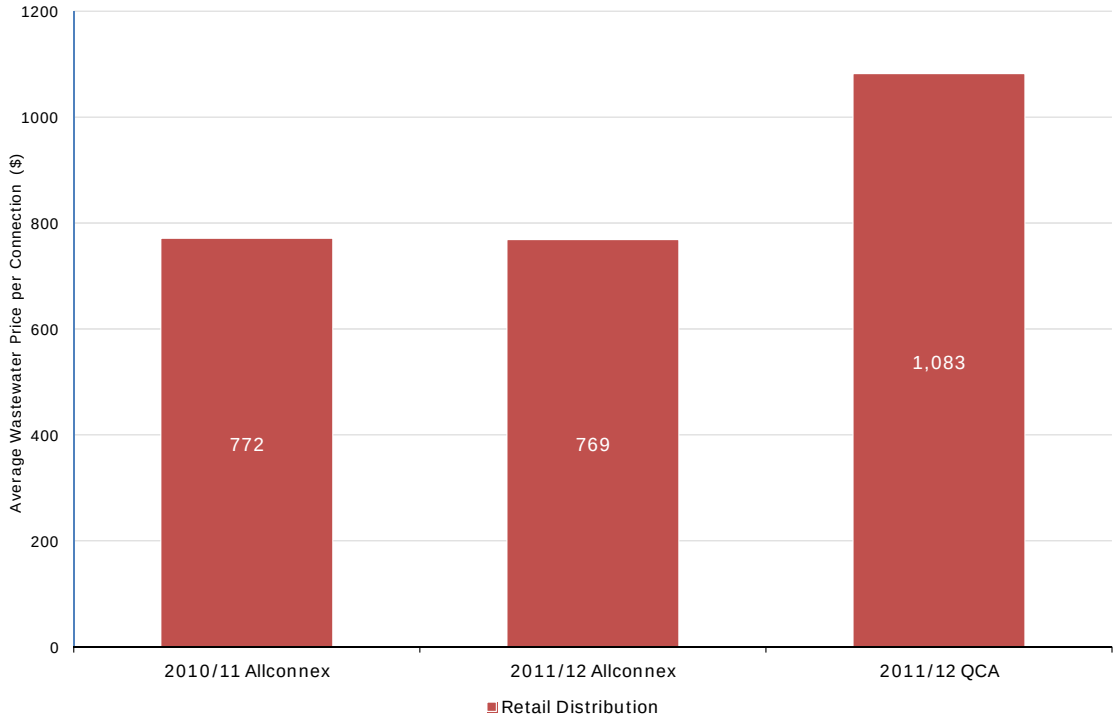
Chart 2.2: Average Water Prices



Note: Average water prices reflects total water sales and does not include connections. Source: Allconnex (2010), QCA (see section 1.1.3)

[31] References to the content of Logan City Council's price mitigation plan can be found in other council documents although a copy of the plan itself is not readily available on its website.

Chart 2.3: Average Wastewater Prices



Note: Differs from previous data on non-capped revenues as average wastewater prices include revenues from core wastewater services. Source: Allconnex (2010), QCA (see section 1.13)

Table 2.2: Average Prices[ab]

	Allconnex 2010-11	*Allconnex 2011-12*	*QCA 2011-12[#]*
Water ($/kl)	$3.73	$4.17	$5.04
% increase from 2010-11, attributable to:		11.73%	34.98%
Bulk water price increases		7.37%	7.37%
Distribution and retail price increases		4.36%*	27.61%
Wastewater ($/connection)	$772.35	$769.45	$1,082.56
% increase from 2010-11		-0.38%	40.16%

*[a] Average water price = Annual water revenue ($) / total kL sold . [b]Average wastewater price = Annual wastewater revenue ($) / total connections. # Average QCA price = QCA MAR / QCA kL (water) or connections (wastewater). Percentages reflect data not rounded for the purposes of this table. * greater than 3.6% as all non-bulk water revenues from sales and connections (including fixed access charges) are included in the numerator, and only water sales volumes are included in the denominator. Allconnex has forecast a decrease in water sales and an increase (4.2%) in total connections.*

2.5 Demand

The cost of providing water and wastewater services is affected by the quality and the quantity of the services provided.

For the purposes of the current review, the Authority has accepted the current standards of service.

Estimates of demand for water and wastewater have a direct impact on the prudency and efficiency of operating and capital expenditure, as well as on the average prices paid.

Allconnex's Submission

Allconnex forecasts water demand, sewage volumes and recycled water usage on an annual basis. Key determinants of demand for water and wastewater services include factors such as population growth, growth in commercial and industrial activity, implementation of demand policies such as water restrictions, and changes in consumer behaviour over time.

Allconnex submitted that it continued to develop its approach to forecasting these factors, however it acknowledged that further work is required to develop comprehensive and robust forecasts for future periods.

The general approach adopted by Allconnex is based on establishing an underlying baseline consumption and then explicitly building up the aggregate volume by taking into account a range of factors such as population growth or change in number of connections. It also takes account of other factors such as the number of tourists visiting and the vacancy rate of properties, as well as the current Permanent Water Use Measures (PWUM).

Allconnex also prepares longer-term demand forecasts for the purposes of growth planning and expenditure. Long-term infrastructure demands are derived approximately every five years to align with legislative requirements for network planning.

The medium-term capital program is built around the long-term capital program, however the demand is reviewed to take into consideration changes in water consumption patterns from the long-term assumptions. When undertaking options analysis to determine the best solution, actual demands are verified along with development types and connection growth. The size and timing of the infrastructure is reassessed and, where demands and/or growth differ to the long-term plan, capital programs are deferred or brought forward. The results of the options analysis form the medium-term capital works program. Infrastructure design also considers the asset life of the infrastructure and seeks to optimise its useful life.

Population and Connections

The core building block of Allconnex's residential water demand projections is the number of population serviced. This is used for the development of an underlying level of consumption based on the number of litres per person per day (l/p/d). For the non-residential sector, the core building block is the number of connections which is used to estimate an underlying level of consumption per connection (l/c/d).

Allconnex premised its estimates of future population on 2010 data from the demography and planning unit of the Queensland Office of Economic and Statistical Research (OESR), which was formerly known as the Planning Information and Forecasting Unit (PIFU). Allconnex adjusted the population forecasts to take account of the percentage of population serviced and for tourists staying the residential accommodation in the Gold Coast.

Allconnex assumed its wastewater connections would grow at the same rate as the growth rate in the number of water connections. Projections on the number of connections are then split into the residential and non-residential sectors using historical ratios.

Per Capita demand – Litres Per Person Per Day (l/p/d) and Litres Per Connection Per Day (l/c/d)

Allconnex noted that in aggregate, average residential consumption in 2010-11 was 172 l/p/d, around 16.5% lower than the 206 l/p/d had previously forecast and 14% lower than the 200 l/p/d target under permanent water conservation measures (PWCM). Allconnex considered the lower demand in 2010-11 to be due to the high incidence of wet weather in the SEQ, the lack of rebound due to structural changes in water demand and changed consumption behaviour, rather than price increases.

Allconnex noted it has two measures of per capita demand:

(a) a medium term (current) measure – focused on those parameters that Allconnex can reasonably expect to estimate over the next three years, recognising that there will be a confidence interval surrounding some of the assumptions used in the modelling. Allconnex did not make adjustments for climatic conditions in its medium-term forecasts. Nonetheless, Allconnex recognised that climatic conditions are an important driver of consumption.

    As a result of lower actual demand in 2010-11, Allconnex has assumed a lower average consumption (l/p/d for residential and l/c/d for non-residential) in its current submission. Allconnex projected a small increase in average consumption in 2011-12 (from 2010-11 levels) with no further increase from that point (i.e. no rebound); and

(b) a long term measure – derived approximately every five years to align with legislative requirements for network planning. As issues such as peak demand and peak flow are important in network planning, the peak demand in water and wastewater is typically a multiple of the long term average l/p/d measure.

    For water, Allconnex has adopted an average day demand of 230 l/p/d and adjusted peak loads (of 1.5 to 1.9 times this level) in its infrastructure design standards.[32]

    For wastewater, Allconnex's infrastructure design standards reflect average dry weather flows of up to 250 l/p/day and peak wet weather flows of five times the average dry weather flows (in accordance with the Department of Environment and Resource Management (DERM) Planning Guidelines).

Authority's Analysis

The Authority engaged SKM to review the appropriateness of Allconnex's demand forecasts for water and wastewater activities from 1 July 2011. SKM was required to determine whether the demand forecasts have been developed using appropriate forecasting methodologies and reflect reasonable data assumptions. SKM was also required to report on whether the issues identified by the Authority in its SEQ Interim Price Monitoring Final Report for 2010-11 have been addressed.

In relation to demand forecasting, the Authority recommended in 2010-11 that Allconnex should:

(a) document its approach to forecasting demand for all purposes and establish processes for the collation of data; and

[32] SKM noted that in the Redland Design Criteria document submitted by Allconnex, it appears that a long term average demand of 300 l/p/d has been proposed for Redland. However, Allconnex informed SKM that for Redland, it used the planning target of 230 l/p/d.

(b) take into account the response of consumers to increasing prices (that is, estimate the price elasticity of demand) when estimating future consumption.

SKM reviewed the methodology adopted by Allconnex to forecast demand for pricing purposes, its assumptions and demand estimates for pricing purposes, and provided some commentary on the relationship between short and long term demand forecasting.

For comparison purposes, the Authority has provided the previous forecasts for 2010-11 based on the information available at the time of pricing in 2010-11 and published in the SEQ Interim Price Monitoring Final Report for 2010-11 in the below analysis. These previous forecasts are shaded to clearly distinguish them from more recent information now available for 2010-11. The unshaded data is based on the information available at the time of setting 2011-12 prices.

Methodology

SKM noted that water and wastewater demand projections are subject to uncertainty, as they are influenced by a multitude of factors. These include population growth, and residential, industrial and commercial water use patterns, which are in turn affected by water conservation programs and weather conditions. Further economic factors include household disposable income and the price elasticity of demand.

SKM considered the relevance of each factor should be determined by a multivariate regression analysis. However, this requires a time series of robust historical data.

SKM considered that insufficient data was currently available to conduct this statistical analysis. SKM noted that there are data incompatibility issues arising from how data was collected and defined by councils leading to uncertainty about the quality of council data. For example, SKM was informed by Allconnex that significantly different non-residential wastewater connection numbers arise due to the different coding of datasets from previous council water businesses. SKM expected that this issue will eventually resolve itself as more time passes and data is collected in the normal course of business.

In particular, SKM noted that Allconnex had not explicitly considered the impact of price on demand (price elasticity). SKM noted there are a wide range of estimates of the price elasticity of water due to differences in urban design, consumer behaviour, institutional and regulatory factors, climate and custom. The most recent study conducted in Sydney (Abrams *et al*, 2011) estimated price elasticity of 0.05, but cautioned against its wider use outside of the Sydney area.

SKM considered that the impact of price increases on demand has contributed to the slow rebound from drought consumption levels (discussed further below). SKM recommended that once consumption has rebounded to normal levels and there is sufficient robust and consistent historical data to estimate the price elasticity of demand, it be made an explicit component of demand forecasting.

Overall, SKM considered the general methodology adopted by Allconnex for pricing purposes was broadly reasonable. Adjustments are discussed below.

The Authority notes that Allconnex has provided further information in its 2011-12 submission to identify and explain (document) its demand forecasting approach for all purposes. Allconnex has also provided briefings to Authority staff and its consultants on these issues. A review of demand forecasting for capital planning purposes is provided further below.

In relation to price elasticity, the Authority notes that the CPI price cap has effectively limited the increase in price that can be applied in 2011-12 and 2012-13. Therefore, consideration of the price elasticity of demand is less relevant than originally envisaged at the time of the preparing the Authority's SEQ Interim Price Monitoring Final Report for 2010-11. Further,

there is a lack of a readily available estimate of price elasticity for SEQ – although this issue appears surmountable.

However, the Authority considers that Allconnex's participating councils should take the impact of price increases on demand into account in preparing its price path for the six-year period from 1 July 2013, as SKM forecast a return to more normal levels of consumption during this period.

The Authority considers that Allconnex's demand forecasting methodology adopted for pricing purposes can be considered to be appropriate to the purpose of the forecast and the availability of current information.

The Authority considers that Allconnex's general demand forecasting methodology is reasonable. Explicit inclusion of price elasticity for water should be incorporated once the estimated level of rebound demand is achieved.

Residential Water Connections

Allconnex's forecasts of connections are based on the 2009-10 total connection numbers in the billing system, to which an average absolute change in the number of households from 2011 to 2016 from OESR 2010 data is added. Allconnex adjusted these forecasts to account for the proportion of households that are not connected to the Allconnex network using an adjustment factor of 96.2% determined by Montgomery Watson Harza in 2007 (MWH, 2007). This is then apportioned to the residential and non-residential sectors based on the historical ratio between the two.

Table 2.3: Allconnex Residential water connections

	2010-11	***2010-11***	***2011-12***	***2012-13***	***2013-14***	***% Growth 2011-14***
Gold Coast	214,189	215,710	225,508	231,584	237,659	3.3%
Logan	90,928	93,023	96,379	99,018	101,658	3.0%
Redland	57,556	56,333	55,861	57,208	58,556	1.3%
Allconnex Total	**362,673**	**365,066**	**377,748**	**387,810**	**397,873**	**2.9%**

Note: 2010-11 shaded data reflects Allconnex's forecasts for 2010-11 as published in the SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: Allconnex (2011) data template, SKM (2011).

In assessing Allconnex's approach, SKM considered that the latest information on 2010-11 properties in the billing system should be used as the basis for forecast residential connections.

Further, SKM noted that Allconnex used household (not dwelling) numbers to derive estimates of increased connections. SKM noted that while household numbers are similar to dwelling numbers, they tend to be lower given the proportion of empty houses, especially in areas with high number of holiday homes like the Gold Coast. Dwelling numbers are a more appropriate measure of connections, as empty houses can be connected to the network and pay fixed access charges although no water is consumed.

SKM considered that adding the average absolute increase in households or dwellings to total connections and then apportioning to residential and non-residential sectors may underestimate likely connections. SKM considered the increase should be applied to the residential sector only. Further, non-residential connections should be increased at the same rate (see further below).

SKM therefore used the OESR's May 2011 forecasts of growth in private dwellings to review residential connections growth. The OESR provides the Queensland Government's official population forecasts.

The OESR has advised that due to the recent slowdown in migration, the low population growth series is more representative of its expectations than the medium series. This view was available in May 2011. Moreover, the previous official projections were based on 2008 data and it was evident that new projections were to be released in May 2011. There was sufficient time for prices developed earlier in the year to be adjusted to reflect more robust forthcoming information. As OESR only publishes a medium series dwelling growth, SKM adjusted this to reflect lower population growth expectations. SKM applied the ratio of the low to medium population series to the dwelling numbers resulting in a lower dwelling series.

SKM compared Allconnex growth forecasts to the expected rate of dwelling growth, based on May 2011 OESR data. SKM noted that Allconnex had forecast generally higher growth rates compared to that expected using OESR data, except for Redland.

The Authority notes that Allconnex's growth rates for residential connections are higher than those applied in its 2010-11 submission (which were increased by the Authority in its 2010-11 report based on OESR data at that time).

Table 2.4: Residential connections growth rates (%)[33]

	Allconnex 2010-13 Residential 2010 Submission	***Allconnex 2011-14 Residential***	***OESR 2011-16 Dwellings***
Gold Coast	2.3%	3.3%	2.2%
Logan	2.2%	3.0%	1.8%
Redland	1.4%	1.3%	1.9%
Allconnex	**2.1%**	**2.9%**	**2.1%**

Note: 2010-11 shaded data reflects Allconnex's forecasts for 2010-11 as published in the SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: Allconnex (2011) data template, PIFU (2011).

SKM recommended the OESR growth rates be applied to the 2010-11 residential (only) connections data provided by Allconnex. The increase in dwellings was then adjusted to reflect connections, using the 96.2% adjustment factor proposed by Allconnex. SKM calculated its recommended residential connections for 2011-12 (see table below).

The Authority's previous forecast of 2010-11 residential connections as published in its SEQ Interim Price Monitoring Final Report for 2010-11 are also provided for comparison purposes. This data is shaded to clearly distinguish it as the Authority's previous forecast. It has not been used by Allconnex or SKM in their current forecasts.

[33] Growth rates are the annual average compound rates.

Table 2.5: Recommended residential water connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	218,244	215,710	221,022	226,333	231,645
Logan	91,173	93,023	94,969	96,916	98,862
Redland	57,711	56,333	57,414	58,495	59,576
Total Recommended	**367,128**	**365,066**	**373,405**	**381,744**	**390,083**
Allconnex Proposed	362,673	365,066	377,748	387,810	397,873
Difference	**4,455**	**0**	**-4,343**	**-6,066**	**-7,790**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: SKM (2011).

The Authority accepts SKM's residential water connection estimates.

Residential Water Volumes

Allconnex estimated water volumes using estimates of population from 2010 OESR data and average consumption per person. The OESR population data was adjusted to reflect connected population using the 96.2% adjustment factor applied by Allconnex. An additional 15,000 residents were added to the Gold Coast population to reflect the number of tourists residing in residential accommodation. Allconnex advised that this number of tourists has been accepted by Council and the QWC as a reasonable approximation of the number of tourist staying in residential accommodation every night. Allconnex subsequently provided SKM with additional information sourced from Queensland Tourism showing how this number was estimated.

As noted above, Allconnex noted that average consumption per person was lower in 2010-11 than previously forecast. Allconnex indicated its forecast of average consumption for 2011-12 was based on actual consumption in 2010-11, with consideration given to weather and length of time out of restrictions to determine a business as usual rate.

Allconnex submitted that average consumption will rebound to a steady state in 2011-12 and remain at that level over the forecast period.

Table 2.6: Allconnex Population and Growth Rates (%)

	Connected Population 2010-11	*2010 OESR Population Growth Rate 2011-16 (medium)*	*Allconnex Population Growth Rate 2011-14*
Gold Coast	536,543	2.5	2.6*
Logan	240,526	2.1	2.1
Redland	139,159	1.8	1.8
Allconnex	916,228	2.3	2.3

** includes an additional 15,000 residents from tourists. Source: Allconnex (2011) and SKM (2011).*

Table 2.7: Allconnex Average Residential Use (litres per person per day)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	228	179	190	190	190
Logan	185	156	170	170	170
Redland	190	170	185	185	185

Note: 2010-11 shaded data reflects Allconnex's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Source: Allconnex (2011), SKM (2011).

Table 2.8: Allconnex Residential Water Demand (ML/year)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	40,955	35,038	38,294	39,169	40,148
Logan	17,203	13,682	15,294	15,579	15,906
Redland	10,379	8,900	9,595	9,741	9,913
Allconnex	**68,537**	**57,621**	**63,183**	**64,489**	**65,967**

Note: 2010-11 shaded data reflects Allconnex's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Note: Residential water demand (ML/year) = litres per person per day x number of connected population x 365 / 1,000,000. Source: Allconnex (2011).

In reviewing Allconnex's approach, SKM stated its general preference for using average consumption per connection (litres per connection) instead of per person (litres per person). Data on consumption per connection is directly collected from the billing system and is therefore preferred to the per person method.

However, SKM acknowledged that, given the lack of historical data and as the l/p/d method has been adopted by the State Government for its water strategy, the l/p/d approach is reasonable.

SKM accepted Allconnex's estimates of the actual population in 2010-11 and the proportion of connected population. The Authority notes that the estimated proportion of connected population dates to 2007 and may be refined using current billing and population data.

However, SKM applied the May 2011 OESR data to derive the expected estimates of population in 2011-12 onwards. SKM adopted the low series population growth data on the basis of OESR advice and adjusted the population estimates for this approach (see table below). SKM's estimates for 2011-12 were lower than Allconnex's.

Table 2.9: Recommended Connected Population (OESR/PIFU low series)

	2010-11	*2011-12*	*2012-13*	*2013-14*	*2011 OESR % growth (low)*
Gold Coast	536,543	546,632	556,338	566,043	1.9
Logan	240,526	245,384	250,242	255,100	1.8
Redland	139,159	140,717	142,276	143,834	1.1

Source: Allconnex (2011) and SKM (2011).

SKM also accepted Allconnex's estimate of average consumption in 2010-11 as an accurate reflection of the average demand Allconnex experienced in this year.

However, SKM did not consider that consumption will rebound to a steady state by 2012 and remain at that level over the forecast period.

While SKM concurred that the average consumption rates in 2010-11 are affected by the high incidence of wet weather in the SEQ, SKM considered that consumption will rebound in 2011-12 and beyond. SKM noted that previous studies have indicated that in the absence of any ongoing measures or media campaign to retain savings achieved during restrictions, consumption rebounds to normal levels over a period of 18 to 24 months.

However, SKM noted that it did not expect consumption to return to pre-drought levels, given the measures taken to reduce consumption during the drought (such as water efficient appliances) have resulted in structural changes to reduce water use.

SKM expected a rebound of average consumption to the 200 L/p/d voluntary target set by the Queensland Government for the SEQ as a whole. However, and drawing on a University of Technology study[34] which noted that measures such as a strong educational program and timely introduction of demand management would limit rapid bounce back, SKM proposed that the rebound period would be 4.5 years.

Based on this expectation, average consumption would grow by about 16% from its current level over the period to 2013-14. This is shown in the table below.

Table 2.10: Recommended Average Residential Water Use (litres per person per day)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Rebound Target*
Gold Coast	228	179	188	198	207	221
Logan	185	156	164	180	193	193
Redland	190	170	179	197	210	210

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: Allconnex (2011), SKM (2011).

Consistent with Allconnex's methodology, SKM applied these adjusted inputs to form its recommended residential water volume. SKM's estimates of residential water demand in

[34] University of Technology Sydney (UTS) Institute for Sustainable Futures and ACIL Tasman (2009), Review of Water Restrictions, Volume 1 – Review and Analysis.

2011-12 are slightly lower than Allconnex's, due to SKM's lower estimate of the connected population. From 2012-13 onwards SKM recommended higher volumes due to its view on rebound over this period.

Table 2.11: Recommended Residential Water Demand (ML/year)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	41,730	35,038	37,681	40,141	42,771
Logan	17,249	13,682	14,741	15,736	16,799
Redland	10,407	8,900	9,212	9,749	10,322
Total Recommended	**69,386**	**57,621**	**61,634**	**65,626**	**69,892**
Allconnex Proposed	68,537	57,621	63,183	64,489	65,967
Difference	**849**	**0**	**-1,549**	**1,137**	**3,925**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: SKM (2011).

The Authority accepts SKM's residential water demand estimates for 2011-12.

Residential Wastewater Connections

As for water, Allconnex used the number of billed connections in 2009-10 as the starting point for its residential wastewater connections forecasts. Allconnex applied its estimate of growth in total wastewater connections which is the same as the growth rate in the number of total water connections. The absolute increase in the total wastewater connections is then apportioned to the residential and non-residential sectors using historical ratios (including the ratio of water to wastewater connections).

Table 2.12: Allconnex Residential Wastewater Connections

Connections	*2010-11*	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	201,000	204,556	204,836	210,354	215,873
Logan	78,548	81,649	86,353	88,717	91,082
Redland	49,068	55,075	47,559	48,707	49,854
Total	**328,616**	**341,280**	**338,748**	**347,778**	**356,809**

Note: 2010-11 shaded data reflects Allconnex's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Source: Allconnex (2011).

SKM found that Allconnex has applied a slightly lower residential wastewater to residential water connection ratio for the Gold Coast than seen in the recent past while the ratio applied to Logan is higher (refer to Table). SKM identified an anomaly in Redland's 2010-11 wastewater connections as it was significantly higher than in 2009-10 and 2011-12.

Table 2.13: Allconnex Residential Wastewater-Water Connections Ratio

	2008-09	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	95.7%	94.0%	94.8%	90.8%	90.8%	90.8%
Logan	88.1%	86.4%	87.8%	89.6%	89.6%	89.6%
Redland	83.5%	85.1%	97.8%	85.1%	85.1%	85.1%

Source: Allconnex (2011).

As for water connections, SKM recommended the use of the most up–to- date OESR data on dwelling growth be applied to the latest 2010-11 connections data. Further, SKM considered that the ratio of wastewater to water connections should reflect the average ratio from 2008-09 to 2010-11. For the Gold Coast, this increases wastewater connections and for Logan it reduces wastewater connections by a small amount. For Redland, SKM considered the ratio applied is appropriate as it overcomes the anomaly of 2010-11 and is consistent with the 2009-10 ratio.

Applying SKM's recommended ratios to the residential connection projections based on the most up-to-date OESR dwelling projection results in SKM's estimate of residential wastewater connections as shown in the table below.

Table 2.14: Recommended Residential Wastewater Connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	205,225	204,556	209,647	214,685	219,723
Logan	78,732	81,649	83,015	84,717	86,418
Redland	49,118	55,075	48,865	49,785	50,705
Total Recommended	**333,075**	**341,280**	**341,527**	**349,187**	**356,846**
Allconnex Proposed	328,616	341,280	338,748	347,778	356,809
Difference	**4,459**	**0**	**2,779**	**1,409**	**37**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: Allconnex (2011), SKM (2011).

The Authority accepts SKM's residential wastewater connections estimates for 2011-12.

Non-Residential Water Connections

Allconnex's non-residential water volumes are calculated based on the number of non-residential connections multiplied by the average daily consumption per connection (l/c/d). The number of non-residential connections is based on 2009-10 data and forecast (absolute) increases in connections as described above.

Table 2.15: Allconnex Non-residential water connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Allconnex 2011-14*
Gold Coast	16,020	16,540	16,974	17,431	17,888	2.6%
Logan	18,309*	4,767	5,073	5,211	5,350	3.9%
Redland	1,662	2,049	2,328	2,384	2,440	6.0%
Allconnex	**35,991**	**23,356**	**24,375**	**25,026**	**25,678**	**3.2%**

*Note: 2010-11 shaded data reflects Allconnex's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. * The break in Logan's series is due to a change in the way connection numbers had been calculated. Prior to 2011, Logan's non-residential connections are derived by dividing the revenue with the average fixed supply charge while the current estimates are based on billed connections. Source: Allconnex (2011), SKM (2011).*

SKM compared Allconnex's growth rate in non-residential water connections with available benchmarks (see table below). Allconnex projected higher growth in the Gold Coast (2.6%) than the growth in population (1.9% for low series) and the growth in dwellings (2.2%). For Logan, the projected connection growth rate of 3.9% compared with a 1.8% growth in population and in dwellings. For Redland, the connection growth rate of 6% was well above the 1.1% growth in population and the 1.9% growth in dwellings.

Table 2.16: Allconnex Non-Residential Water Connections Growth Rate

	Allconnex 2011-14	*OESR/PIFU 2010 Population*	*OESR/PIFU 2011 Population*	*OESR/PIFU 2011-16 Dwellings*	
		Medium	*Low*	*Medium*	*Low**
Gold Coast	2.6%	2.5%	1.9%	2.8%	2.2%
Logan	3.9%	2.1%	1.8%	2.5%	1.8%
Redland	6.0%	1.8%	1.1%	2.4%	1.9%
Allconnex	**3.2%**	**2.3%**	**1.7%**	**2.7%**	**2.1%**

*Note: * Adjusted for consistency with low population series. Source: Allconnex (2011) and SKM (2011).*

In relation to connections growth, SKM noted its preference to forecast non-residential connection numbers as a function of economic activity as well as residential connections or population.

However, as historical information is not available, SKM preferred increasing non-residential water connections at the same rate as residential connections – thus maintaining the historical ratio of residential/non-residential connections. SKM considered this to be more appropriate than Allconnex's approach of adding the average increase in households or dwellings (in absolute terms) to the total connections and then apportioning it to the residential and non-residential sectors. SKM considered the increase in dwelling numbers should be applied to the residential sector only.

SKM therefore considered the projected growth in non-residential connections in Logan and Redland was excessive. SKM's recommended non-residential water connections are shown below.

Table 2.17: Recommended Non-Residential Water Connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	16,020	16,540	16,948	17,355	17,762
Logan	18,309*	4,767	4,867	4,966	5,066
Redland	1,662	2,049	2,089	2,128	2,167
Total Recommended	**35,991**	**23,356**	**23,904**	**24,449**	**24,995**
Allconnex Proposed	35,991	23,356	24,375	25,026	25,678
Difference	**0**	**0**	**-471**	**-577**	**-683**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. The break in Logan's series is due to a change in the way connection numbers had been calculated. Prior to 2011, Logan's non-residential connections are derived by dividing the revenue with the average fixed supply charge while the current estimates are based on billed connections. This data is provided for comparison purposes only. Source: Allconnex (2011), SKM (2011).

The Authority accepts SKM's non-residential water connections estimates for 2011-12.

Non-Residential Water Volumes

Allconnex submitted that non-residential consumption per connection was based on the actual billed consumption and properties for 2009-10. SKM noted that Allconnex has forecast an increase in consumption in Gold Coast and Logan in 2011-12 and a fall in Redland. In 2012-13 and beyond average consumption is expected to fall in all areas.

Table 2.18: Allconnex Average Non-Residential water demand (l/c/d)

	2010-11	*2011-12*	*2012-13*	*2013-14*
Gold Coast	1,734	1,942	1,936	1,936
Logan	1,845	1,967	1,962	1,962
Redland	2,267	1,945	1,940	1,940
Allconnex	**1,803**	**1,947**	**1,942**	**1,942**

Source: Allconnex (2011), SKM (2011).

Table 2.19: Allconnex Non-Residential water demand (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Annual Growth*
Gold Coast	10,861	10,466	12,030	12,320	12,644	6.5%
Logan	3,497	3,209	3,642	3,732	3,831	6.1%
Redland	1,207	1,695	1,652	1,688	1,727	0.6%
Allconnex	**15,565**	**15,370**	**17,324**	**17,740**	**18,202**	**5.8%**

Note: 2010-11 shaded data reflects Allconnex's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Source: Allconnex (2011), SKM (2011).

SKM accepted Allconnex's estimates of average non-residential consumption per connection in 2010-11.

In relation to growth, SKM noted that rebound is unlikely to be a major issue (unlike residential consumption). Reduction in business consumption during the drought is largely structural. Water Efficiency Management Plans (WEMPs) continue to apply and are likely to constrain growth in average water consumption.

SKM accepted that some increase in consumption is likely in 2011-12 from that affected by the wet conditions in 2010-11. SKM thus accepted the increase in average consumption in the Gold Coast and Logan and the small reductions brought about by the continuation of the WEMP program in 2012-13 and 2013-14.

However, SKM disagreed with the reduction in the average consumption in Redland in 2011-12. Given the variability in Redland's average consumption, SKM subsequently recommended using the average consumption over three years of 2,210 litres per connection per day in 2011-12. SKM's recommended average non-residential water demand is shown in Table .

Table 2.20: Recommended Average Non-Residential Water Demand (l/c/d)

	2010-11	*2011-12*	*2012-13*	*2013-14*
Gold Coast	1,734	1,942	1,936	1,936
Logan	1,845	1,967	1,962	1,962
Redland	2,267	2,210	2,204	2,204
Allconnex	**1,803**	**1,973**	**1,986**	**1,967**

Source: SKM (2011).

SKM applied its adjusted inputs to non-residential connections to form its recommended non-residential water volume.

Table 2.21: Recommended non-residential water demand (ML/year)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*CAGR 2011-14*
Gold Coast	10,861	10,466	12,044	12,267	12,554	6.3%
Logan	3,497	3,209	3,504	3,556	3,628	4.2%
Redland	1,207	1,695	1,689	1,711	1,743	0.9%
Total Recommended	**15,565**	**15,370**	**17,237**	**17,534**	**17,925**	**5.3%**
Allconnex Proposed	15,565	**15,370**	**17,324**	**17,740**	**18,202**	**5.8%**
Difference	**0**	**0**	**-87**	**-206**	**-277**	

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: SKM (2011).

The Authority accepts SKM's non-residential water demand estimates.

Non-Residential Wastewater Connections

Allconnex's non-residential wastewater connections and volumes are shown below.

Table 2.22: Allconnex non-residential wastewater

	2010-11	*2011-12*	*2012-13*	*2013-14*
Connections	19,291	31,843	32,698	33,552
Volumes (ML)	6,479	24,341	24,684	25,492

Source: Allconnex (2011).

In relation to non-residential wastewater connections, SKM noted that there is a break in the data series between the current estimated actual numbers for 2010-11 and forecast years. Allconnex indicated that this has resulted from a change in the way in which connections numbers are calculated – previously connection numbers were based on revenue divided by average fixed charges while forecasts are based on actual connections.

For other entities, SKM adjusted wastewater non-residential connections to reflect OESR dwelling growth rates applied to 2010-11 estimated actual connections. As SKM's review therefore requires consistent estimated actual 2010-11 data as a base estimate for future growth, and there is a break in Allconnex's estimated actual and forecast data, SKM was unable to offer a view on the reasonableness of Allconnex's forecast non-residential wastewater connections and volumes.

SKM has not adjusted Allconnex's estimates of non-residential connections and volumes.

Trade Waste

Allconnex submitted that it has not significantly progressed its forecasting of the demand for trade waste and continues to rely on previous council forecasts. It is noted that only Logan and Redland have a fixed charge per (non-residential) property. All three areas have a volumetric charge per kg of trade waste.

Forecasts for trade waste connections for 2011-12 reflect growth in Logan and a significant reduction in Redland (see below) with connections then being held constant to 2013-14.

Table 2.23: Allconnex Trade Waste Connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	np	n/a	n/a	n/a	n/a
Logan	np	1,468	1,663	1,663	1,663
Redland	np	759	240	240	240
Allconnex	**np**	**2,227**	**1,903**	**1,903**	**1,903**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Charging units are properties. n/a denotes not applicable. np denotes not provided. Source: Allconnex (2011).

In relation to trade waste volumes, Allconnex forecast a fall in Gold Coast volumes and an increase in volumes for Logan and Redland.

Table 2.24: Allconnex Trade Waste Volumes

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	np	981	236	236	236
Logan	np	1	12	12	12
Redland	np	1	12	12	12
Allconnex	np	**983**	**260**	**260**	**260**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Charging units are kgs. np denotes not provided. Source: Allconnex (2011).

SKM was unable to review the appropriateness of these estimates due to the lack of robust information and the time available for the review.

The Authority considers that Allconnex should seek to develop trade waste forecasts in order to inform its business decisions and revenue forecasts. At this stage, the Authority has not adjusted Allconnex's estimates of trade waste connections and volumes.

Recycled Water

Allconnex provides Class A+ recycled water to approximately 5,000 residential and business customers in the Gold Coast suburbs of Pimpama and Coomera for outdoor and toilet use only.

As for trade waste, Allconnex noted that it has not significantly progressed its forecasting of recycled water and continues to rely on previous council forecasts.

As recycled water has only been available since late 2009, there is limited history on consumption. Allconnex has indicated that no major uptake in recycled water is anticipated over the next few years and therefore has assumed that there will be no growth in recycled water consumption.

Table 2.25: Allconnex Recycled Water Demand (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	np	165.2	159.5	159.5	159.4
Logan	np	0	0	0	0
Redland	np	0	0	0	0
Allconnex	**np**	**165.2**	**159.5**	**159.5**	**159.4**

Note: Allconnex did not estimate recycled water demand in its 2010-11 submission. This data is provided for comparison purposes only. np denotes not provided. Source: Allconnex (2011), SKM (2011).

SKM noted that the reduction in consumption may be justified, given that a significant proportion of recycled water is used outdoors and with the easing of drought and the return to normal rainfall conditions, the need will likely be reduced. SKM noted that revenue from recycled water contributes 0.1% of Allconnex's forecast total revenue.

SKM did not adjust Allconnex's proposed recycled water volumes estimates.

The Authority considers that Allconnex should seek to develop recycled water forecasts in order to inform its business decisions and revenue forecasts. At this stage, the Authority has not adjusted Allconnex's estimates.

Non-Revenue Water

Non-revenue water is the difference between bulk water supplied by the SEQ Water Grid Manager and billable consumption from residential and non-residential customers. Non-revenue water includes network leakage, water theft and authorised unbilled water consumption (e.g. fire fighting and pipe flushing).

SKM noted that the leakage component of non-revenue water is related to the number of connections, assuming that water pressure remains the same. SKM noted that the baseline forecast for non-revenue water is based on historical estimate (2005-06) of non-revenue water less estimated savings from leakage reduction programs and growth in losses from leaks. SKM noted that connections (both residential and non-residential) are expected to grow at about 2.2% pa and consequently SKM would expect leakage to grow at approximately the same rate.

SKM noted that Allconnex has forecast non-revenue water to grow at 2.0% per annum, which is around the growth rate of connections. With continuing measures to reduce leakage, SKM considered Allconnex's proposed non-revenue growth rate of 2.0% per annum to be reasonable.

Table 2.26: Recommended non-revenue water (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	5,952.0	5,392.6	5,430.4	5,555.0	5,694.4
Logan	2,044.0	1,137.4	1,143.9	1,166.4	1,192.0
Redland	920.3	943.9	1,017.2	1,033.5	1,052.6
Allconnex	**8,916.3**	**7,473.9**	**7,591.5**	**7,755.0**	**7,939.0**

Note: 2010-11 shaded data reflects Allconnex's forecasts for 2010-11. This data is provided for comparison purposes only. Source: Allconnex (2011), SKM (2011).

The Authority accepts Allconnex's non-revenue water estimates.

Bulk Water

Allconnex's forecasts of bulk water are the total of residential, non-residential, standpipe and non-revenue water (see below). Standpipe water is separately forecast to non-residential water by Allconnex (at 564.5 ML in 2010-11 and 612.0 ML thereafter).

Table 2.27: Allconnex Bulk Water Volumes (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	59,547.3	51,327.8	56,181.5	57,471.1	58,913.4
Logan	22,709.0	18,159.0	20,209.6	20,607.0	21,059.2
Redland	11,299.4	11,543.3	12,319.6	12,517.0	12,747.8
Allconnex Total	**93,555.7**	**81,030.1**	**88,710.8**	**90,595.0**	**92,720.5**

Note: 2010-11 shaded data reflects Allconnex's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. Source: Allconnex (2011) data template, SKM (2011).

SKM revised Allconnex's estimates of bulk water (see table below) based on its view of residential, non-residential and non-revenue water (as noted previously). SKM recommended lower bulk water estimates than Allconnex in 2011-12, with higher estimates thereafter.

Table 2.28: Recommended Bulk Water Volumes (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Gold Coast	60,323	51,328	55,582	58,390	61,446
Logan	22,755	18,159	19,519	20,588	21,749
Redland	13,230	11,543	11,973	12,549	13,173
Total Recommended	**96,308**	**81,030**	**87,075**	**91,527**	**96,368**
Allconnex Proposed	93,556	81,030	88,711	90,595	92,721
Difference	**2,752**	**0**	**-1,636**	**932**	**3,648**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. Source: Allconnex (2011) data template, SKM (2011).

The Authority notes that the WGM released its Operating Strategy in March 2011, which contained estimates of Allconnex's bulk water demand for 2011-12.

As a cross-check on SKM's estimates, the Authority has contrasted the available estimates of Allconnex's demand for bulk water in 2011-12 in the table below. Allconnex's recent estimate is 8.5% lower than it previously forecast, and 2.5% higher than the WGM's March 2011 estimate. The SKM estimate is only 0.6% higher than the WGM's.

The Authority accepts SKM's bulk water estimate, which forms the most relevant estimate for the purposes of price monitoring and is internally consistent with the proposed adjustments to residential, non-residential and non-revenue water.

Table 2.29: Allconnex Bulk Water Volumes (ML) 2011-12

	Allconnex 2010-11 Information Return	*Allconnex 2011-12 Information Return*	*WGM*	*SKM*
Gold Coast	59,320	56,182	59,343	55,582
Logan	24,353	20,210	15,257	19,519
Redland	13,278	12,320	11,974	11,973
Allconnex total	**96,952**	**88,711**	**86,574**	**87,075**

Source: Allconnex (2010) data template, Allconnex (2011) data template, WGM (2011).

The Authority accepts SKM's bulk water estimates.

Demand for Capital Planning

As noted above, in its first price monitoring report, the Authority found that Allconnex should document its approach to forecasting demand for all purposes.

In response, Allconnex has provided further information in its submission (summarised above).

In its review, SKM noted that demand for capital planning purposes should be broadly consistent with that adopted for pricing purposes. However, SKM also noted that demand forecasts for capital purposes place a greater emphasis on a range of factors that are less relevant to short term forecasts. These factors include the desired standard of service, peaking factors, long term consumption patterns, and regulatory and fire fighting requirements.

For example, at the local level, fire-fighting requirements are usually the most important considerations in designing network capacity rather than customer demand requirements. This usually requires sufficient water pressure to produce a 12m head at a flow rate of 15 metres per second in residential areas and up to 30 metres per second in commercial and industrial areas. The fire fighting requirement generally dictates pipe sizes at the street level while customer demand requirements dictates pipe sizes at the trunk main level.

As a result, SKM noted that estimates of demand for network planning purposes are generally more conservative in that they are generally higher than those adopted for pricing purposes.

The Authority notes also that, for any particular capital expenditure item, the demand estimate underpinning that item may be based on a different geographic area than the council areas relevant for pricing purposes.

In relation to Allconnex's demand forecasts for capital planning, SKM noted that:

(a) for water, the Allconnex capital planning standard of 230 l/p/d corresponds to that specified in the QWC Water Strategy for infrastructure planning purposes;

(b) the peaking factors adopted by Allconnex appear to be conservative and may provide a higher than necessary allowance for peak flows as they are designed to allow for rebound. SKM believed that rebound is better accounted for under a higher average daily allowance which the 230 l/p/d already takes into consideration. Further, SKM noted that even in areas like the Gold Coast, the long term average consumption is still less than the various average day demand criteria used for long term planning;

    However, SKM did not explicitly recommend an adjustment to the design standard in these areas, noting that there is a review of this standard currently underway; and

(c) for wastewater, Allconnex's average dry weather flow of maximum 250 l/p/d, with peak capacity being able to carry five times this flow, appeared reasonable based on DERM Guidelines.

    However, SKM noted there was a limited amount of data on residential wastewater flows and peak wet weather flows which are key drivers of capital expenditure. SKM considered priority should be given to capturing this data.

SKM considered that caution should be exercised in any change of the infrastructure design criteria to reflect short term changes in demand. In support of its view, SKM noted that:

(a) a reduction in short term average consumption per day does not necessarily lead to a corresponding reduction in peak consumption which drives trunk water infrastructure. Peak consumption is a function of human behavioural responses to extreme weather. Consequently, peaking factors may increase as the average day rate decreases.

    Without data from a longer period, SKM considered it would not be prudent to use current spare capacity as a long term solution, as the consumption habits of a population may change faster than the ability to augment trunk infrastructure;

(b) the critical design criteria for water reticulation works is usually fire fighting flows, and not average consumption per day;

(c) the augmentation of water distribution trunk infrastructure generally results in a step change in capacity and consequently, variances in short term demand can be accommodated in changes in the timing of works;

(d) a change in average consumption per day does not necessarily lead to a corresponding change in wastewater flow, as not all water consumed is released to sewers (e.g. outdoor irrigation). Wastewater flows are more sensitive to inflow by stormwater and infiltration by groundwater. Reduced infiltration gravity sewers aim to reduce this inflow; and

(e) the critical design criteria for wastewater treatment plants are organic or hydraulic load. A reduction in the amount of water transporting an organic load does not change the load, just the concentration, and reactor tank size is not varied. A variation in hydraulic load may lead to only a small reduction in vessel height or pump capacity. Again, variances in short term demand usually change the anticipated timing of new assets only slightly.

On the basis of SKM advice, there are some legitimate differences in demand estimates for pricing and capital planning as longer term demand for capital planning purposes seeks to achieve service standards and regulatory requirements over the life of the assets and account for risk. Short term demand estimates are used for pricing, operating expenditure and in the annual prioritisation of capital expenditure. Short term demand can depart from long term trends.

In summary, the Authority notes that SKM has cautioned against scaling Allconnex's proposed capital expenditure to reflect short term demand, as short term consumption patterns can change more rapidly than the ability to augment. Further, variances in short term demand can be accommodated in the review of the timing of works (rather than changes in scope). The Authority has therefore not adjusted capital expenditure for the 200 l/p/d consumption target but has reviewed the timing of works. This approach appears reasonable in the circumstances of price monitoring and in light of the current 230 l/p/d infrastructure planning standard in the SEQ Water Strategy.

Summary

As noted in the Authority's first price monitoring report, demand estimates are an essential component of price setting. The more reliable the demand estimates, the more informed will be the choices businesses can make about expenditure and prices. It is therefore important that demand forecasts represent the best possible assessment of future consumption given the available information.

The Authority acknowledges that structural change in the SEQ water sector has led to a number of legacy issues, particularly regarding the transfer and robustness of historical data from the councils. Given available information, the Authority's consultants have not considered the methodology adopted to forecast demand is generally reasonable.

However, the Authority has adjusted Allconnex's residential and non-residential demand for water and wastewater to reflect updated billing data and OESR forecasts available before prices were released. Nonetheless, the Authority notes that these (revised) estimates broadly confirm Allconnex's estimates for 2011-12, with differences, where material, only becoming so in later years.

The Authority also considers that Allconnex's participating councils should consider the response of consumers to increasing prices when considering its price path from 2013-14 to 2018-19.

The Authority notes that Allconnex has provided further information on the demand forecasts used for pricing and capital planning purposes. These forecasts are broadly consistent although there are legitimate differences.

2.6 The Initial Regulatory Asset Base

In March 2010, the Minister for Natural Resources, Mines and Energy and the Minister for Trade advised the Authority of the initial regulatory asset base (RAB) as at 1 July 2008 for interim price monitoring. The Minister advised the RABs for each entity as well as the RABs for each participating council and other adjustments.

Allconnex Submission

In its submission, Allconnex noted that it had allocated the advised RAB of $3.56 billion to each service and asset class. Allconnex has not altered the allocation of its RAB from that reviewed by the Authority in 2010-11 (see table below).

Table 2.30: Allconnex RAB as at 1 July 2008 ($m)

	Previously Approved Water	***Previously Approved Wastewater***	***Previously Approved RAB***	***Water***	***Wastewater***	***RAB***
Gold Coast	849.72	1,281.18	2,130.90	849.72	1,281.18	2,130.90
Logan	435.15	570.28	1,005.43	435.15	570.28	1,005.43
Redland	172.08	248.86	420.94	172.08	248.86	420.94
Allconnex	1,456.95	2,100.37	3,557.28	**1,456.95**	**2,100.33**	**3,557.28**

Note: Shaded data reflects the Authority's accepted RAB as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: Allconnex (2011).

Authority's Analysis

In its 2010-11 report, the Authority noted that Allconnex had apportioned the Minister's advised RAB in accordance with the approach endorsed in the Authority *SEQ Framework Report* and *Information Requirements for 2010-11*. The Authority accepted Allconnex's approach.

The Authority continues to accept Allconnex's apportionment of the Minister's advised RAB.

The Authority has accepted Allconnex's apportionment of the Minister's advised RAB.

2.7 Capital Expenditure

Capital Expenditure from 1 July 2008 to 30 June 2010

The Ministerial Direction requires the Authority to accept as prudent and efficient: actual capital expenditure for water and wastewater (excluding establishment costs) as included in councils' financial accounts from 1 July 2008 to 30 June 2010; allowable establishment costs as advised by the Minister for Natural Resources, Mines and Energy and Minister for Trade; and contributed, donated and gifted assets and capital expenditure funded through cash contributions from 1 July 2008 to 30 June 2010.

Allconnex's Submission

In its submission, Allconnex included capital expenditure for 2008-09 of $269.35 million and $270.68 million in 2009-10 (inclusive of contributed, donated and gifted assets). The 2009-10 data reflects updated and audited actual data for 2009-10 submitted to the Authority

Allconnex also included establishment costs of $28.55 million as at 30 June 2010, in accordance with the Minister's approved value as advised in February 2011, comprised of $20.34 million of directly incurred costs and $8.21 million related to Council of Mayors SEQ costs.

Authority's Analysis

The Authority notes that Allconnex's submitted capital expenditure for 2008-09 and 2009-10 is slightly different from that contained in the Authority's Final 2010-11 Price Monitoring Report (QCA 2011). In that review the Authority noted it was unable to fully reconcile this expenditure with councils' financial accounts and the RAB as at 30 June 2010 remained an interim value until this could be done.

Allconnex's revised capital expenditure data has been included in the RAB roll-forward to 30 June 2010, but again the Authority notes that this remains an interim value until the capital expenditure can be fully reconciled with councils' financial accounts for this period.

The Authority has accepted Allconnex submitted establishment costs as they reflect the costs approved by the Minister (Table 2.31 and 2.32 refer). Allconnex nominated asset life of five years for establishment costs is consistent with the smoothing period of between five to eight years endorsed by the Government to avoid unnecessary price shocks to customers.

Table 2.31: Capital Expenditure 2008-09 and 2009-10 ($m)*

	2008-09	***2009-10***	***2008-09***	***2009-10***
Gold Coast	221.57	164.02	221.57	164.02
Logan	40.69	82.08	40.69	82.08
Redland	5.04	24.57	5.04	24.56
Establishment costs	-	28.55		28.55
Allconnex	**267.30**	**299,21**	**267.30**	**299.22**

*Note: Shaded data reflects the Authority's previously accepted capital expenditure in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Note: *Includes contributed, donated and gifted assets.*

The Authority has accepted Allconnex's revised capital expenditure for 2008-09 and 2009-10 but has not been able to fully reconcile these values with councils' audited financial statements.

Capital Expenditure from 1 July 2010

The Ministerial Direction requires the Authority to review the prudency and efficiency of capital expenditure for inclusion in the RAB from 1 July 2010. Only expenditure found to be both prudent and efficient can be included in the RAB.

The Authority requires capital expenditure from 1 July 2010 to be included in the RAB only when it is commissioned, and contributes productive capacity to the system.

Allconnex's Submission

Allconnex proposed capital expenditure of $1,106 million over four years (including contributed assets), of which water accounts for $293 million and wastewater $813 million.

Allconnex provided capital expenditure from 2011-12 onwards on an as commissioned basis (i.e. when the new asset contributes productive capacity to the system). Allconnex's 2010-11 expenditure remained on an as-incurred basis, consistent with Allconnex's approach to pricing in 2010-11 and its 2010-11 submission.

(d) Proposed Capital Expenditure

Allconnex assigned its capital works expenditure to the following cost drivers: growth, renewal, improvement, compliance and contributed assets (see table below).

Table 2.32: Forecast Capital Expenditure Water and Wastewater ($m)

	2010-11	*2011-12*	*2012-13*	*2013-14*	*Total*
Growth	119.30	62.43	114.58	259.39	555.69
Renewal	34.15	39.57	44.92	65.94	184.58
Improvement	0.00	46.79	64.34	77.32	188.45
Compliance	31.44	2.42	1.05	11.84	46.75
Contributed Assets	32.61	31.77	32.56	33.38	130.32
Total	**217.50**	**182.97**	**257.45**	**447.86**	**1105.79**
Comprising					
Water	**67.16**	**78.93**	**62.82**	**83.78**	**292.69**
Wastewater	**150.34**	**104.04**	**194.63**	**364.09**	**813.10**

Note: Capital expenditure in 2010-11 as incurred, capital expenditure from 2011-12 as commissioned, as per Allconnex's submission. Source: Allconnex (2011) data template.

The water and wastewater costs for each of Allconnex's three geographic areas are detailed below (Table 2.33 and Table 2.34).

Table 2.33: Capex for Water by Geographic Area ($m)

	2010-11	*2011-12*	*2012-13*	*2013-14*	*Total*
Gold Coast	31.70	43.08	37.13	58.30	170.21
Logan	30.56	27.47	17.51	17.44	92.99
Redland	4.89	8.38	8.18	8.04	29.49
Total	**67.16**	**78.93**	**62.82**	**83.78**	**292.69**

Note: Capital expenditure in 2010-11 as incurred, capital expenditure from 2011-12 as commissioned, as per Allconnex's submission. Source: Allconnex (2011) data template.

Table 2.34: Capex for Wastewater by Geographic Area ($m)

	2010-11	*2011-12*	*2012-13*	*2013-14*	*Total*
Gold Coast	102.15	63.50	65.25	185.71	416.62
Logan	42.51	29.28	101.77	135.24	308.79
Redland	5.68	11.25	27.62	43.14	87.69
Total	**150.34**	**104.04**	**194.63**	**364.09**	**813.10**

Note: Capital expenditure in 2010-11 as incurred, capital expenditure from 2011-12 as commissioned, as per Allconnex's submission. Source: Allconnex (2010) data template

Changes to Capital Expenditure Estimates

Allconnex changed the capital expenditure estimates in 2011-12.[35]

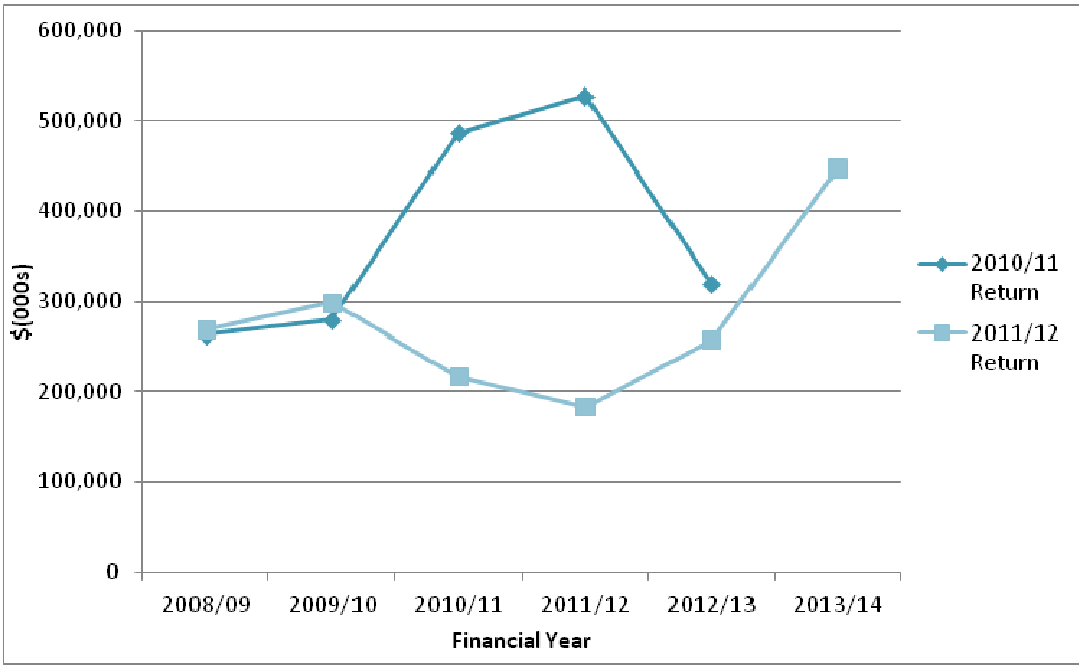
Table 2.35: Allconnex Capital Expenditure 2010-11 and 2011-12 Submission ($m)

Forecasts	*2010-11*	*2011-12*	*2012-13*	*Total*
2010-11 Submission	486.74	528.07	319.16	1,333.98
2011-12 Submission	217.50	182.97*	257.45*	657.92*
Variance	-269.24	-345.10	-61.71	-676.05

*Note: * as commissioned, as per Allconnex's 2011-12 submission. Source: Allconnex (2011), Allconnex (2010)*

[35] The Authority notes that Allconnex's original capital expenditure program in its 2010-11 submission was on the basis of capital expenditure as incurred. Allconnex's 2011-12 submission reflects capital expenditure as commissioned from 2011-12 onwards.

Figure 2.2: Allconnex Capital Expenditure 2010-11 and 2011-12 Submission ($m)



Note: Capital expenditure to 2010-11 as incurred, capital expenditure from 2011-12 as commissioned, as per Allconnex's submission. Source: Allconnex (2011), Allconnex (2010)

Allconnex noted that its actual capital expenditure for 2010-11 of $217.5 million is a significant shortfall from the original forecast and can be attributed to:

(a) an overly ambitious original program;

(b) significant disruption to processes and procedures as part of the transition to a new operating environment, including dispersed responsibility for capital project development and delivery;

(c) a prolonged wet season with monthly rainfall (for each month) around twice the long-term average rainfall;

(d) review and re-scoping of a number of major investment projects in an advanced stage of development and/or design; and

(e) a lack of integrated financial and project reporting systems.

Allconnex submitted that its rescoping of two major projects following an internal prudency and efficiency review also had a significant impact on the original capital expenditure estimates made in its 2010-11 submission:

(a) the Staplyton Wastewater Treatment Plant (WWTP) was deferred in favour of an upgrade to the adjacent Beenleigh WWTP and reconfiguring of the Beenleigh and Loganholme WWTP catchments, which resulted in a reduction in capital expenditure of $60 million over five years; and

(b) the Merrimac West Wastewater Upgrade was found to cost approximately $126 million more than the alternative pump station option over the three year submission period with further upgrades required in later years. On this basis, implementation of the project

based on the tunnel option was suspended, and development of an alternative arrangement is currently underway.

Allconnex submitted that it has reconfigured and reduced the forecast capital expenditure program based on its review of performance in 2010-11, and capital expenditure for 2011-12 is significantly lower than originally planned. Allconnex stated that its revised capital program attempts to start at a lower and more achievable level of capital expenditure and progressively increase to build capacity and capability. Further efficiencies will be achieved in coming years.

(e) Service Standards

Allconnex submitted that its forecasts are informed directly by an integrated suite of planning frameworks, legislative and regulatory requirements, and customer service standards.

Allconnex noted that it has developed consolidated customer service standards, integrating the three different standards administered by each of the participant councils, and has also refined its capital planning processes to accommodate the needs of the new integrated business and its customers.

Allconnex notes that its customer services standards provide guidance to customers on the service they can expect to receive and the obligations of customers in relation to their use of the water and wastewater systems. These service standards include:

(a) general information – information about Allconnex Water, its corporate vision and the services it provides;

(b) service standard – an explanation of the services offered for drinking water, recycled water (Classes A+ and C)[36], wastewater collection and treatment. General information is also provided about the provision of trade waste services; however, as with Non-Class A+ recycled water services, trade waste customers are expected to have individual contracts with Allconnex Water that will contain information specific to their requirements;

(c) customer service processes – information on a wide range of customer service processes including connections, metering, billing, and management of maintenance work, complaints and dispute resolution; and

(d) technical and performance standards – a list of key performance indicators and targets to express the level of service that Allconnex Water aims to deliver to its customers and the environment. This includes standards for drinking water quality, water pressure, water supply interruptions, wastewater overflows and odours, response times and repair completion times.

While Allconnex has amalgamated the service standards of its participant councils into a single set of standards, it notes that there has to date been little opportunity to either validate the current service standards with customers, or to analyse and engage with customers on the costs and benefits of alternative service standards.

(f) Capital Planning

Allconnex submitted that its infrastructure plan and capital expenditure have been developed from first principles and organised into three major components: major projects (>$5 million); minor Projects (<$5 million); and renewal and upgrade Programs.

[36] A+ is the highest class of recycled water for non-drinking purposes in Queensland. Class A+ recycled water is available to dual reticulated properties within the Pimpama Coomera Master Plan region. Class C recycled water is available from certain wastewater treatment plants and can be used for dust suppression and other allowable uses.

The renewal and upgrade programs include 30 individual programs identified by Allconnex. These include: fire flow upgrade program; disinfection improvement program; sewer relining program; and valve and hydrant replacement programs. Allconnex noted these renewal and upgrade programs consist of a number of projects of a similar nature which are part of an overall strategy.

At a high level, Allconnex's infrastructure planning is based on the Queensland Water and Sewerage Infrastructure Guidelines produced by DERM. Within Allconnex, infrastructure planning is determined by customer service standards and infrastructure desired standards of service.

The desired standards of service for infrastructure services are still under development and will provide a key input into the wider development of the South East Queensland Design and Construction Code.

Allconnex has adopted the Water Services Association of Australia (WSAA) standard Codes of Practice as the basis for the planned South East Queensland Design and Construction Code. Allconnex anticipates that this will provide a firm basis for infrastructure planning into the future. However, Allconnex noted that not all infrastructure types are covered by the WSAA Codes of Practice and that the degree to which standardisation is achieved or even desirable for all infrastructure across South East Queensland remains to be determined.

Approximately 70% of the planned capital expenditure over the next three years has been nominated by Allconnex as being growth related. Significant future development is projected particularly in the Logan East and South areas, as well as the Gold Coast. The timing of these developments and supporting infrastructure will play a significant part of infrastructure planning.

Another input into the Allconnex planning process is the development of individual Council Total Water Cycle Management plans which interact with the establishment of a single entity-wide NetServ Plan. Of particular relevance is Redland City Council's aspiration to sewer existing non-sewered areas, such as the Southern Moreton Bay Islands and their mainland community coastal counterparts. Allconnex noted that these plans may come at significant cost, and it is unclear at this stage how these would be funded.

Allconnex submitted that infrastructure planning remains a key uncertainty for Allconnex given that each of the previous councils managed and mitigated infrastructure planning risks using different mechanisms. As a result, Allconnex noted that it is significantly reliant on external contractors, consultants and alliances for a large part of its planning capability.

Allconnex also submitted that the current and ongoing uncertainty within the water industry in South East Queensland, along with the resurgence in the mining sector, make it increasingly difficult to attract and retain skilled and experienced personnel, which places the achievement of good planning outcomes at some risk.

Allconnex noted it has progressed key elements of its infrastructure planning process, including:

(a) progressing to a single project management methodology:

(b) coordinating the planning process for growth and renewals;

(c) developing a single unit cost report;

(d) developing a single desired standards of service (design and construction manual);

(e) establishing a Planning and Infrastructure Development Committee (of executive management) for review of major planning initiatives and capital expenditure;

(f) establishing a Corporate Portfolio Management Office (CPMO) to ensure quality assurance with respect to project management procedures and processes including implementation of a risk-based gateway review process. The CPMO also provides investment visibility through enterprise analysis and reporting; and

(g) establishing a standard set of criteria for project options via a multi-criteria assessment. The selected criteria reflect both corporate and regulatory requirements.

The Allconnex Gateway Framework, derived from an industry standard, includes five investment decision points supported by guidelines and templates. The framework is structured to accommodate projects and programs of all complexities and includes provision for external, internal and self-assessment reviews.

Authority's Analysis

(e) Adequacy of Capital Expenditure Data

SKM considered that overall Allconnex's capital expenditure information is acceptable. However, SKM noted that the absence of some information did not enable the assessment to be completed to a sufficient extent to establish the efficiency for one sampled project.

SKM also noted that many of the projects reviewed by SKM were initiated by participating councils. Consequently, the procedures used and documentation produced were variable and do not necessarily represent current Allconnex procedures or documentation practices.

The Authority notes that Allconnex has provided capital expenditure on a commissioned basis from 1 July 2011, in accordance with the Authority's Information Requirements for 2011-12.

However, a supporting workpaper provided by Allconnex indicates that the value of commissioned capital expenditure does not include capitalised interest (at the weighted average cost of capital (WACC) during construction. If so, the value of commissioned capital expenditure will be below that required to fully compensate for prudent and efficient capital costs. However, this will only affect estimates of capital expenditure from 2012-13 onwards as capital expenditure as commissioned has only been introduced for 2011-12. Allconnex advised that, for projects commissioned in 2011-12, the expenditure as commissioned is the same as expenditure as incurred in that year as there is no expenditure from previous years to be capitalised into the estimate.

Allconnex has indexed capital costs using the annual average increase in the price of road and bridge construction in Queensland over the period December 1999 to December 2010 (an index of 4.75%).

As noted in the Authority's price monitoring report for 2010-11, there is a range of options for the indexing of asset values. Industry input indices should provide a more accurate estimate but may be subject to step changes over short periods, and would be expected to rise and fall with market conditions.

In the Authority's SunWater Draft Report (QCA, 2011), the Authority considered an index of 4% for direct labour, materials and contractor's costs for the regulatory period (2012-17) and 2.5% thereafter; and other direct costs to be indexed by 2.5%. While a range of indices were assessed, the Authority did not consider that historical cost pressures would necessarily be sustained over the long term.

The Authority notes that Allconnex's use of a road and bridge construction price may be affected by market conditions in the types of construction that are not directly relevant to Allconnex's water and sewerage business. Nonetheless, given available benchmarks, the Authority considers Allconnex's indexation to be reasonable and any variations subsequently found between forecast and actual can be taken into account in future reviews.

(f) Service Standards

The Authority did not review service standards as part of this price monitoring review. The Authority accepted the service standards provided by the entities so long as they were been approved by other relevant agencies.

Where service standards are the driver for capital expenditure, SKM reviewed this against the standards provided by Allconnex to assess the prudency and efficiency of the works.

In relation to service standards, SKM noted that:

(a) on 1 January 2011, a Customer Water and Wastewater Code (the Code) was released by the Minister for Natural Resources, Mines and Energy and Minister for Trade. The Code requires distributor-retailers to have a customer service charter (rights and obligations) and minimum and guaranteed service standards;

(b) Allconnex has developed a consolidated set of customer service standards of applicable to all customers within the service area. SKM made a high level comparison of the customer standards currently used by each of the entities; and

(c) Allconnex is developing a consolidated design standard, and is progressing the development of its netserv plan.

The Authority supports the development of specific and measurable service standards and notes that this is a first step in the development of a more integrated performance monitoring framework (QCA, 2010).

(g) Capital Planning

The Authority, in its Final Report on SEQ Price Monitoring for 2010-11, noted that it supported initiatives within the entities to develop their internal processes to the planning and implementation of capital expenditure to allow for:

(a) the consideration of prudency and efficiency of capital expenditure from a regional (whole of entity) perspective;

(b) only commissioned capital expenditure to be included in the RAB and therefore prices;

(c) a standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects;

(d) a summary document to be prepared for identified major projects so as to facilitate standardised reporting;

(e) an implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process; and

(f) a 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects.

SKM reviewed Allconnex's implementation of these initiatives and found that:

(a) there is clear evidence Allconnex is taking a whole of entity perspective to identification, option evaluation and selection of capital projects. This is evidenced in the rationalisation of wastewater catchments in the area of the proposed Staplyton, Beenleigh and Loganholme wastewater treatment plants;

(b) capital expenditure is applied to the RAB on an 'as-commissioned' basis and this approach is consistent with the requirement set out by the Authority;

(c) Allconnex is yet to implement a constant and standardised approach to cost estimation;

(d) Allconnex has developed a standardised summary document for these projects known as a Prudency and Efficiency Test document. While there is a requirement for the use of this standardised documentation, it has not been universally applied;

(e) there is evidence that Allconnex is establishing processes and procedures with a view to ensuring a consistent approach to implementation strategy and its documentation; and

(f) Allconnex has developed a gateway framework, however, the implementation of the gateway framework has been suspended as a result of participating Councils deciding to withdraw from Allconnex. No supporting documentation has been provided on the process or information as to which projects the process will be applied. SKM concluded that this does not meet the requirement set out by the Authority.

The Authority also noted the additional explanatory information provided by Allconnex in relation to its capital planning processes.

(h) Prudency and Efficiency

For capital expenditure to be included in the RAB, it must be prudent (there is a demonstrated need for the expenditure) and efficient (it is cost-effective in its scope and standard, using market benchmarks).

As previously noted, in assessing the prudency of the sampled projects, the Authority's consultants have assessed each project individually against planning documents. The nature of the cost driver and reasonableness of the decision-making process were considered in determining the need for a project. Where growth is a driver, the consultant compared underlying estimates of growth to the short term estimates of growth, to determine whether the timing of the project could be deferred and savings made. As previously noted, the Authority's consultants did not adjust Allconnex's capital expenditure projects for adjustments to Allconnex's short term demand forecasts in council areas.

In assessing the efficiency of the sampled projects, the Authority's consultants have reviewed the scope and standard of each project and its cost and timing. In particular, the consultants have reviewed the cost estimates against available benchmarks and reviewed the cost estimation process adopted. Where a competitive tender approach was adopted and the cost therefore reflects market rates, these have been accepted as efficient.

The consultants also assessed the compliance of each project with the issues identified by the Authority in its 2010-11 Final Report – consideration of prudency and efficiency from a regional perspective, a standardised approach to cost estimation, a summary document for major projects, implementation strategy and gateway review.

The sample chosen for review of prudency and efficiency included the single largest project on an expenditure 'as-incurred' basis over the forecast period, the eight largest projects to be

commissioned in 2011-12 and a small project to be commissioned in 2011-12. The Authority focussed on projects commissioned in 2011-12 given their impact on the 2011-12 MAR, but also included a large project with forward expenditure to signal its view of prudency and efficiency, and a smaller project to test the application of policies and procedures in smaller projects.

For Allconnex, this resulted in a sample of 10 projects for review which accounted for 30% of Allconnex total commissioned capital expenditure program in 2011-12.

The list of capital expenditure programs reviewed in detail for 2011-12 is shown in the table below. SKM reviewed all 10 sampled projects.

Table 2.36: Capital expenditure programs reviewed ($000)

Project	***Activity***	***Commissioned***	
		2011-12	*2012-13 to 2013-14*
Alfred Street to Loganholme WPCC Rising Main Augmentation	Waste-water	9,600	60,807
ERP Base Infrastructure Program	Corporate	9,123	-
Billing System	Corporate	8,267	-
Burleigh WWPS B47 RM & GM upgrade	Waste-water	7,600	-
Meter Renewals program	Water	4,880	10,467
Operational Management Program	Corporate	4,734	5,502
Alliance Program Management	Waste-water	3,933	-
Round Mountain Reservoir and Link Mains	Water	2,750	-
Logan Village Treatment and Effluent Reuse Upgrade	Waste-water	2,728	-
Currumbin Waters - Water Supply District Upgrade	Water	670	-
Total Sampled Expenditure		54,285	76, 776
Total Capital Expenditure		**151,200**	**790,580**

Note: Data excludes contributed assets of $31.77 million in 2011-12. The table may not add due to rounding. Source: Allconnex (2011).

(i) Alfred Street Wastewater Pump Station (WWPS) to Loganholme Water Pollution Control Centre (WPCC) Rising Main Augmentation

The existing assets from the Alfred Street WWPS to the Loganholme WPCC Inlet Works pump station are operating either at or beyond their design capacity. Allconnex submitted that the aim of the Rising Main Augmentation project is to increase the capacity of the sewerage network in order to reduce spills and accommodate future growth in the catchment. This is to be achieved through the following works:

(a) augmentation of the Alfred Street to Loganholme WPCC rising main (about 7km of 1085mm diameter rising main); and

(b) upgrade of the Loganholme WPCC Inlet Works pump station.

The Alfred Street pump station is also scheduled for replacement in 2025-26, however this project is outside the scope of the review and was not assessed by SKM.

The proposed capital expenditure for the project is $70.4 million over 2011-12 to 2013-14 inclusive, with $9.6 million in 2011-12.

SKM noted that there was a large variation between the predicted expenditure profiles provided by Allconnex (Table 2.37). As the 2011-12 Information Template was the most recently prepared document, this was considered to be the most relevant source and was used by SKM as the basis for its review.

Table 2.37: Expenditure Profile – Alfred Street WWPS to Loganholme WPCC Rising Main Augmentation ($000)

Document	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*2014-15*	*Subsequent*	*Total*
2011-12 Information Template	-	9,600	30,084	30,723	-	-	70,407
Project Initiation Form	-	12,000	35,900	35,000	-	-	82,900
Optioneering Report	9,827	70,972	2,094	0	864	13,398	97,155
Detailed Planning Report	734	27,090	36,419	-	-	-	64,243

Note: Data excludes contributed assets. Source: SKM (2011).

Prudency

The *Project Initiation Form* nominated the drivers for the project as 'growth' and 'improvements'. However, in its submission, Allconnex assigned the entire project to 'growth'. SKM noted that it is not stated why 'improvements' is not listed as a driver in the Allconnex submissions, however, its exclusion is considered to be appropriate as it is not a relevant driver for this project.

The pump station and trunk sewer are presently operating either at or beyond their design capacity. SKM noted that the proposed schedule of works would not immediately resolve this issue but expected that future growth in the catchment will be met once the works are complete.

SKM also noted that one of the project's aims is to ensure compliance with the *Environmental Protection Act 1994* by increasing the capacity of the sewerage network. Due to capacity constraints, all of the pumps are in operation during peak wet weather flows. Consequently, there is no redundancy in the configuration. For example, if one pump was to fail then spills of up to 1,000L/s would occur, of which 500L/s would be attributable to capacity deficiencies relative to the desired standards of service. The project proposes to rectify these deficiencies by augmenting the existing rising main that transfers flows from the Alfred Street pump station to Loganholme WPCC.

On this basis, SKM considered that the primary driver of growth has been demonstrated.

During the preliminary assessment phase for the project, several options were considered by Allconnex. The do-nothing approach was discarded as it did not meet the project's objectives. SKM found that those options that were carried forward from the preliminary assessment phase were further assessed on the basis of:

(a) net present value (NPV);

(b) sensitivity analysis of three key costs (pipe-jacking, pump station construction and energy);

(c) design sensitivity – the impact of reduction in peak wet weather flow due to a revision of Desired Standards of Service (DSS);

(d) construction sensitivity – the impact on project cost with respect to increase in pipe-jacking costs;

(e) design risk assessment;

(f) construction risk assessment; and

(g) non-cost criteria analysis (assessment of technical, environmental and social criteria).

SKM assessed the project as prudent on the basis that the primary driver of 'growth' has been demonstrated and is assigned 100% of the project's costs in the *QCA SEQ Interim Revenue Monitoring Information Requirement Template*.

Efficiency

SKM noted that in the *Optioneering Report* the proposed option was shown to be the most efficient, have the lowest NPV, and receive the best scores in the sensitivity and risk analyses. It also scored best in the Non-Cost Criteria Analysis.

A NPV comparison of various options of rising main diameters and corresponding pump station sizes was presented in the Detailed Planning Report. SKM also noted that an additional exercise was undertaken to optimise the proposed rising main alignment through consideration of environmental, physical and stakeholder constraints.

However, SKM noted that no investigation on the impact of the proposed works on the Meakin Road Overflow (upstream of Alfred Street pump station) had been recorded. SKM noted that the *Optioneering Report* states that Meakin Road Overflow currently spills in excess of 20 million litres during wet weather conditions.

Nevertheless, reviewing the cost estimates contained in the Detailed Planning Report, SKM found that:

(a) the costs used for pipeline construction correspond to those used in previous projects;

(b) the contingency of 20% applied to the project corresponds to values used in other projects and is appropriate; and

(c) a value corresponding to 16% of the total capital cost has been assigned in the Detailed Planning Report for 'design, management, tender and tender assessment', which is consistent with previous project costs.

On the basis of the analysis contained in the Optioneering and Detailed Planning reports, SKM assessed the scope of the works as appropriate.

With regards to deliverability, SKM considered that since the project's risks and mitigating actions had been identified, their impact on the project's delivery would be limited. Further, the proposed timescale for the works will enable the demand due to future growth in the catchment to be met.

SKM found that as the project's deliverability has been demonstrated, and the scope and costs shown to be appropriate, the project is deemed to be efficient.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project, except for the preparation of a summary document to facilitate standardised reporting.

Conclusion

SKM assessed the project as prudent on the basis that the primary driver of growth has been demonstrated and has accepted the project's cost in Allconnex's Information Template (QCA SEQ Interim Revenue Monitoring spreadsheet).

SKM considered the project to be efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery were all demonstrated.

On the basis of SKM's advice, the Authority accepts Allconnex's proposed Alfred Street to Loganholme WPCC Rising Main Augmentation costs ($9.6 million) for 2011-12.

(ii) ERP Base Infrastructure Program

The Allconnex Water Strategic ICT Vision and Strategic ICT Roadmap mandates an Enterprise Resource Program (ERP) solution to ensure that a system is in place to deal with finances, procurement, asset management, inventory management, contract management and customer relationship management prior to the expiry of the Service Level Agreements (SLAs) (30 June 2013).

The ERP Base Infrastructure Program Project, the first phase of the overall ERP deployment, will:

(a) define the information strategy and master data architecture;

(b) undertake the ERP evaluation process and procurement for the full suite of ERP modules within scope, including and evaluation of Geographical Information System (GIS) and Works Management solutions;

(c) design the basis ERP solution architecture;

(d) undertake the ERP solution architecture; and

(e) identify, integrate and implement supporting technologies and tools as part of the base ERP infrastructure.

The objective of ERP Base Program project is to select and install the base ERP infrastructure that will enable Allconnex to deliver functional capability for each of the other platforms that will utilise the ERP solution.

The proposed capital expenditure for this project is $9.1 million in 2011-12.

Prudency

The business driver identified by Allconnex for this project is new (not growth) – which does not exist. Instead, SKM assessed the relevant drivers for this project to be growth, renewal and compliance. The assessment was made on the basis that the ERP will facilitate Allconnex's response to growth, will renew an existing system, extend the life of the platform and assist with compliance.

SKM noted that a significant procurement plan study was undertaken for the document, with Allconnex documenting a mitigation strategy for each of the identified procurement risks. The following options were considered:

(a) continue using the existing council SLAs (do-nothing option);

(b) acquire business specific applications; and

(c) implement an integrated ERP suite.

In December 2010, the Allconnex Water Strategic ICT Vision was approved, specifying that the preferred option was to implement an integrated ERP solution.

SKM considered that three options assessed were sufficient to enable Allconnex to make an informed decision as to the most appropriate ICT solution for its business.

In terms of implementing an integrated ERP suite, Allconnex considered the following:

(a) single tier solution – an integrated suite of applications from a single software package that is provided by a single vendor;

(b) multi-tiered applications – a component of the integrated ERP to be supplied by a prime vendor through a prime contract arrangement, the other components to be supplied by other vendors and managed by the prime vendor; and

(c) best of breed (components) – multiple vendors supplying the different components through separate agreements. Allconnex Water to manage and coordinate integration process.

A single-vendor solution was mandated with a single evaluation and acquisition of the solution based on the requirements for all business functions, thus excluding the best of breed alternative. SKM agreed that the decision to exclude the best of breed alternative and to proceed with a single vendor solution represented good industry practice.

Given that the ERP is required to replace the ICT services currently provided by the participating councils, and that the proposed implementation is appropriate for Allconnex's business, SKM considered the project to be prudent.

Efficiency

SKM reviewed a supply market analysis undertaken by Allconnex which considered the following dimensions: market structure; competition; supply chain; substitution products available; and organisation values as a customer. SKM noted that the analysis highlighted the options available for implementing an ERP.

SKM noted that a decision has been made to procure a single vendor to implement the whole of the ERP and to follow a staged approach of implementation.

The base ERP program is the first stage of the overall ERP program deployment. The first stage is set to undertake the following components:

(a) define the information strategy and master data architecture;

(b) undertake the ERP evaluation process and procurement for the full suite of ERP modules within the scope. This activity includes an evaluation of GIS and works management solutions;

(c) design the basic ERP solution architecture;

(d) undertake the installation of the base ERP infrastructure; and

(e) identify, integrate and implement supporting technologies and tools as part of the base ERP infrastructure.

SKM considered the phased approach to be effective in managing the implementation process and that the components of the base ERP program are logical. However, due to limited information it was not in a position to provide comment on the standard of service to be provided.

SKM was able to comment on the systems that Allconnex is proposing to implement to manage the end product. Allconnex divided the implementation of the ERP into smaller, more manageable components. Various components have been grouped together to make up the different stages. Allconnex proposed to make use of a single vendor ensuring a single point of contact and therefore responsibility in delivering a system that meets the requirements.

For the purpose of ERP implementation methodology, Allconnex is proposing to make use of the PRINCE2TM project methodology blended with an agreed fit. This strategy will provide a way to direct, manage and control the entire project.

The Significant Procurement Plan states that indicative costs are a once off expenditure in the order of $29-35 million for implementation, including:

(a) initial software licences in the order of $8 million;

(b) hardware cost in the order of $1.8 million; and

(c) implementation, data conversion, project management, testing and deployment cost in the order of $19.2-25.2 million.

For projects of this nature, which tend to be tailored in their scope and implementation to the individual business needs, a detailed cost estimate is required to be developed against which the project costs can be compared to enable absolute cost efficiency to be determined.

Development of such a detailed comparison cost estimate is deemed to be outside the scope of our assignment. Also, the information that is required to compile a rough order cost estimate is not publically available. In light of the above and in absence of other benchmarking data the costing undertaken by the three water utilities (Allconnex Water, Queensland Urban Utilities and Unitywater) for implementing a business wide ICT system has been compared.

SKM found that some of the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project. The exception was a ‘toll gate’ or ‘gateway’ review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects. With regards to a standardised approach to cost estimating, SKM considered that Allconnex has applied this approach to cost estimating in so far as a standard

approach is possible given that the project is unique in nature and dissimilar to water/wastewater infrastructure capital projects.

Since its review, SKM has advised that it received advice from Allconnex to the effect that the base ERP infrastructure program was put on hold and resources released upon the Premier's announcement to allow councils to opt out of the water reform agenda. Hence, the ERP evaluation project was suspended following the closure of the tender period and no evaluation work progressed. No other related projects commenced.

Conclusion

SKM considered the project to be prudent on the basis that the primary drivers of growth, renewal and compliance have been demonstrated and assessed as relevant. Further, SKM assessed the project as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs and achievable delivery prior to being put on hold were all demonstrated.

On the basis of SKM's advice relating to their prudency and efficiency, the Authority accepts Allconnex's proposed ERP costs ($9.1 million) for 2011-12, as these reflected estimates available at the time prices were being set.

However, the Authority notes that the project will now no longer proceed allowing for some (short term) cost savings in 2011-12.

(iii) Billing System Corporate

Allconnex is required to implement a billing system and associated services prior to the expiry of the SLAs, originally due by 30 June 2011. An agreement has subsequently been reached between the Councils to extend this deadline.

Under current legislation, Allconnex is also required to process quarterly bills in all areas by 1 July (*Fairer Water Price Bill*) and be able to undertake consumer-based billing by 1 July 2013 (*South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*).

The proposed capital expenditure for this project in the 2011-12 budget is $8.267 million.

Prudency

The business case for the project presents various drivers and reasons for the project, however the nominated cost driver by Allconnex is growth. SKM noted that the main driver appears to be the expiry of SLAs with the councils and the need for Allconnex to implement an independent billing system.

Allconnex provided SKM with a list of business benefits and needs that could be achieved by implementing an independent billing solution. These included:

(a) the ability to control the core business function (billing);

(b) the ability to achieve separation of business and ownership from councils;

(c) the ability to obtain full legislative compliance with the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*;

(d) the ability to implement consumer-based billing over time (rather than property-based billing) as required under the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*;

(e) the ability to control and manage billing cycles;

(f) the ability to implement continuous billing over time;

(g) the ability to obtain a single source of customer data;

(h) the ability to consolidate meter reading functions into one uniform solution with a single interface to a supplier therefore achieving core process efficiency;

(i) the ability to apply uniform policies and processes to customer data and ensure data integrity of Allconnex's customer and property database;

(j) enhancing Allconnex's asset and demand management capabilities;

(k) the ability to implement, measure and control a uniform meter connection, meter testing and meter replacement function;

(l) enhancing Allconnex's credit management capability; and

(m) enhancing Allconnex's sundry debtor management capability.

SKM considered that the most appropriate driver for the project is Allconnex's legal obligation to manage a water distribution and wastewater collection and treatment business and to recover payment for these services. On this basis, SKM identified compliance (regulatory) as the primary driver for the project.

SKM noted that several other options were considered by Allconnex during the preliminary assessment phase of this project:

(a) the 'do nothing' approach – this was discarded as the billing system implemented within the Gold Coast City Council will not be available post 30 June 2011 and the system implemented by Logan City Council does not fully comply with the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009;*

(b) to purchase billing services as a managed service option – this was not recommended due to no proven model being available within the Australian water utility market, limited control of core business functions (billing) and loss of total ownership of core billing functions;

(c) implement a billing system similar to the council billing systems – the three systems in use at each participating council were evaluated and none were found to be suitable to address the business needs; and

(d) implement a billing system – recommend option (as recorded above).

SKM considered the options investigated as part of the business case to be reasonable and the determined the project to be prudent.

Efficiency

The scope of the billing system project, as defined within the business case, is as follows:

(a) procurement of a billing solution using a process compliant with the *State Procurement Policy* (i.e. using an invitation to offer (ITO) process);

(b) selection of a preferred billing approach;

(c) procurement of the necessary technical infrastructure and services or appropriate hosting services to support the billing solution using a process compliant with the *State Procurement Policy;*

(d) configuration, testing and implementation of the billing solution;

(e) implementation of required customer management functionality to facilitate the production of customer billing;

(f) procurement of the print services and payment channels to support the billing solution using a process compliant with the *State Procurement Policy;*

(g) interfacing or integration between the billing solution and the following as a minimum:

  (i) external printing house;

  (ii) payment agencies including, but not limited to, participating financial institutions, Australia Post and BPAY®;

  (iii) meter reading software;

  (iv) financial software;

  (v) GIS software;

  (vi) customer management system;

  (vii) an industry-standard reporting solution (e.g. Business Intelligence); and

  (viii) State and Federal Government authorities for data validation including Centrelink and DERM;

(h) negotiation and implementation of any necessary contracts with external third parties;

(i) determination and implementation of the required billing support capability;

(j) procurement of data migration software tool;

(k) migration and cleansing of customer, billing and necessary billing history data from the three participating council solutions;

(l) business processes and procedures required for the billing solution;

(m) organisational change management and training for all impacted staff;

(n) acquisition and implementation of necessary services for the printing of billing base stock, actual accounts and associated mailing services;

(o) any necessary customer communication and marketing; and

(p) reporting and metrics.

SKM assessed the scope of works to be appropriate.

SKM noted that the project has been divided into the following five stages, with each end of a stage marking a decision point: initiation, procurement, design, implementation and closure.

Allconnex is required to develop a scope of work for each stage as the project progresses. This information is contained within the stage plan, which is prepared in accordance with the project plan.

The Project Plan stipulates that project controls and a quality management system are to be followed to ensure that the project meets the standard. The proposed project control measures to be implemented are:

(a) reports and assessment points – making use of reporting in a standardised format and meetings at set frequencies; and

(b) defined tolerances – making allowance for inherent inaccuracies in estimating and unforeseen changes in development and how these are to be recorded.

The quality management system proposed that the following measures be implemented:

(a) applicable standards – divided into corporate quality standards and project specific standards. The project specific standards contain specifics for project management, procurement, business solutions and technology;

(b) quality management approach – all quality review checks or updates will be formally documented within the Quality Register; and

(c) responsibility – defining the responsibilities of each participating member.

SKM considered the measures proposed for project implementation and management to be effective and in line with current industry practice.

The Design Stage Plan contains costing information as presented in Table 2.38. For cost comparison purposes, the ERP billing system package costs ($3,664,635), detailed in the ICT Portfolio Plan, can be compared with Item 2.2 and arguably with a component of Item 2.1. SKM noted that the two costs are within the same range. The other cost components are within the range that is expected based on an understanding of the scope of each component. The contingency allowed for this project was in the order of 30%.

Table 2.38: Revised project cost as at February 2011 ($)

No.	*Cost Type*	*Revised Project Cost*
1	Operating Staff	674,832
2	Capital	
	2.1 Consultants and Contracted Staff	1,842,324
	2.2 Technology – software and implementation costs	3,009,306
	2.3 Technology – data centre establishment	2,000,000
	2.4 Print house	8,000,000
	2.5 Fee for SLA services for data migration	200,000
	2.6 Fee for extension of SLA services with each council	1,000,000
3	**Sub-Total A**	**9,526,462**
4	Contingency (26%)	2,473,538
5	**Total (Approved Budget)**	**12,000,000**

Source: SKM (2011)

SKM considered the contingency allowed for to be in line with the associated risk of a project of this nature. It is worth noting that there is a possibility of some duplication with the ERP project but this is not evident in the information provided.

In regards to the billing solution being replaced by an ERP solution, Allconnex considered two scenarios:

(a) billing system not replaced by an ERP solution – 10 year life; and

(b) billing system replaced by an ERP solution, four years after implementation of billing system.

The internal rate of return and NPV for both scenarios were calculated. The internal rate of return is 31.3% and 11.4% respectively for the two scenarios. SKM considered that the calculated internal rate of return for the four year, interim scenario, justifies the implementation of the temporary billing system to meet Allconnex's requirements, in absence of the SLAs continuing, until the ERP based billing system is implemented and operational.

With regards to timing and deliverability, SKM noted that the Billing Systems Project has a project plan including a risk management strategy. The project plan requires each stage of the project to identify the risks to deliver that stage of the project and to document the risks within the stage plan.

SKM reported that the project will not meet the initial deadline of 30 June 2011 to have the capability to run an independent billing system. The implementation stage plan documents that it assumed that the SLA will be extended with the three participating councils up until 30 September 2011. No information is provided as to whether the negotiations were successful or not. A cost was included in Table 2.38 (Item 2.6) to provide for the associated cost of extending the SLA.

The Implementation Stage Plan states that the current status of the various stages is:

(a) procurement stage – 98% complete (managed network services contract placed on hold);

(b) design stage – 80% complete; and

(c) implementation stage – 9% complete.

A high level benefits statement is included within the Project Plan, of which two relate to efficiency gains:

(a) reduced cost – a reduction in cost is associated with the provision of services through the SLA from each participating council; and

(b) implementation of independent and industry best practice processes – removing the reliance on participating council business processes and enabling Allconnex to function independently.

SKM agreed that the above gains in efficiency could be ascribed to the Billing System Project.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project. Allconnex has applied a standard approach to cost estimating in so far as a standard approach applies to this type of project given that the project is unique in nature and dissimilar to waste/wastewater infrastructure capital projects.

SKM has assessed the project to be efficient.

As a consequence of the decision by Gold Coast City Council to opt out of Allconnex, Logan City Council and Redland City Council withdrew resources and support for the data migration activities. SKM noted that at this time, system integration testing and data migration activities for Gold Coast only are continuing.

SKM further noted that subsequent to the final decision by the participating councils to withdraw from Allconnex, the majority of project activities were halted while discussions were held with Gold Coast City Council as to their preferred billing solution post-transition of the business activities of Allconnex Water back to the Councils. The project is currently halted awaiting written advice from Gold Coast City Council. Allconnex has indicated that testing of the system is occurring for the Gold Coast region.

Conclusion

SKM assessed the project as prudent on the basis that the primary driver of compliance (regulatory) has been demonstrated.

SKM assessed the project as efficient on the basis that an appropriate scope of works, acceptable standards of service and reasonable project costs were demonstrated.

On the basis of the above recommendations of SKM relating to the prudency and efficiency of the project, the Authority accepts Allconnex's proposed billing system costs ($8.3 million) for 2011-12 as these reflected estimates available at the time prices were being set.

However, the Authority notes that given services will revert to council provision this project may not be progressed in its current form and cost savings in 2011-12 may arise.

(iv) Burleigh WWPS B47Rising Main (RM) & Gravity Main (GM) upgrade

The stated aim of the Burleigh WWPS B47 upgrade is to strategically accommodate growth in the Elanora WWTP catchment by diverting the flows from Burleigh Waters WWPS B47 to the Merrimac WWTP catchment. A lack of capacity at the Elanora WTP has also been attributed to DERM licence breaches which are believe to be the result of wet weather flows.

As stated in the *Options Analysis Report*, the project consists of the construction of:

(a) 1,345 metres of 600 mm diameter Ductile Iron (DI) pipe;

(b) 210 metres of 900 mm diameter Polycrete jacking pipe;

(c) 50 metres of 900 mm diameter Glass Reinforced Plastic (GRP) pipe;

(d) an upgrade to B47 Burleigh Waters WWPS at 20 year intervals starting in 2030;

(e) modification to WWPS B7 and construction of 120 m of 150 mm diameter rising main (material not stated);

(f) modification to WWPS SS9 and connection of existing rising main to proposed rising main from B47 pump station to Shaft 22/1;

(g) modification to WWPS SS10 and construction of DN150 rising main (length and material not stated); and

(h) a connection from a previously constructed pipe at Lemana Lane to B47 Burleigh Waters WWPS.

The proposed capital expenditure for the project is $7.6 million in 2011-12.

SKM advised that the review of this project has been complicated by the path the project has followed to date, particularly in regard to the options analysis, and by the fact that some of the works have already been constructed.

Prudency

The cost driver nominated by Allconnex for this project is growth, a position supported by an internal Allconnex document which confirms growth in the catchment and further states that the treatment plant has reached its capacity and breached conditions of the DERM licence, especially in wet weather flows.

The *Options Analysis Report* states that the Allconnex Water Population Model 'GCCC_IDM_2004_v5.6' was used to calculate growth in the catchment using the 2011, 2016, 2021 and 2056 Equivalent Tenement figures. Of these, 2056 is the ultimate development of the respective Gold Coast City Council Land Use plan and, as such, there is no growth beyond 2056. SKM noted that this population model was the most current at the time of its application.

The sewage loads were calculated using the latest Allconnex Water Desired Standards of Service. Analysis of the Average Dry Weather Flow values in Appendix 7 of the Options Analysis Report showed that a value of 770 L/ET/day has been used which is in line with the current version of the Allconnex Water Desired Standards of Service.

On the basis of the above, SKM considered that the primary driver of growth has been demonstrated.

SKM reviewed several of the planning studies that were conducted to investigate the diversion of the Elanora North Wastewater catchment to the Merrimac WWTP catchment. The following is a summary of SKM's review and findings.

(a) Halliburton KBR (September 2002)

This study involved an optimisation and rationalisation study of the Elanora and Merrimac wastewater catchments in order to progress away from the traditional approach of upgrading the sewerage network when it was under-capacity. Five diversion options were developed and the capital costs plus the results of a multi-criteria assessment of the options were compared.

The multi-criteria assessment incorporated the following criteria: environmental sustainability; customer focus; accountability; chosen employer; and quality service provision. The results of the initial assessment are not included in the *Infrastructure Planning Summary*.

Two of the diversion options were then chosen for comparison to the traditional approach (of upgrading the under-capacity network). The second round of assessment included NPV calculation, identification of strengths and weaknesses, and multi-criteria assessment (as above). Option 5 was chosen as the preferred option.

(b) Merrimac East Sewerage Catchment Master Plan – Gold Coast Water (2004)

This plan included a fully-costed augmentation strategy for the Merrimac East Wastewater catchment and the diversion from Elanora North. A modified version of Option 5 from the Halliburton KBR study was analysed in this study. The study was supported by detailed system modelling and a detailed constructability assessment. The report proposed a three-stage strategy for the diversion works including two options of the Stage 1 works. Further analysis of the options was recommended by the study prior to construction of Stage 1.

(c) Merrimac WWTP Stage 5 Augmentation Planning Report – GHD (April 2004)

This report investigated the diversion of the wastewater flows from Mermaid Beach and Miami Beach in the Elanora Wastewater Catchment to Merrimac WWTP. It was proposed that the permanent diversion of the wastewater flows from Mermaid Beach and Miami Beach be adopted as it minimises operating costs and optimises future capital investments. An excerpt from the *Merrimac WWTP Stage 5 Augmentation Planning Report* is included in the *Infrastructure Planning Summary* that compares the costs of three options considered, however, it is not clear if these are capital costs or NPVs.

(d) Options Analysis Report – MWH (December 2010)

Five options of the diversion works were reviewed in this report. The assessment was undertaken in order to determine the preferred diversion option. This included a multi-criteria assessment involving the following criteria: financial (NPV); construction risk; asset life (septicity, turbulence and corrosion); community impact; and environmental impact.

(e) Infrastructure Planning Summary

This summary provides additional insight into the decision process of the project since the handover to Allconnex. The document recommends that the flows from B47 pump station be diverted to Merrimac WWPS. The justification for this is given as the Elanora WWTP upgrade would cost approximately $32 million in comparison to the remaining diversion works that were recently costed at approximately $7.6 million. On the basis that the capital cost of the preferred option is stated to be $7.6 million in the Options Analysis Report, SKM assumed that the costs noted in this summary are capital costs. However, this would indicate that no NPV analysis of

the overall program of works (diversion works plus upgrades to Elanora WWTP and Merrimac WWTP) has been completed.

(f) Strategic Wastewater Category 1 Planning Report (2006)

This report states that in 2004 Merrimac WWTP was 2.8% under capacity and that the combined catchments of Merrimac WWTP and Elanora WWTP have a combined spare capacity of 2.6%. This contradicts other documentation such as the *Infrastructure Planning Summary* which concluded that:

> *Rigorous options analysis, which included a comparison to traditional planning, during previous planning studies indicated that the diversion of parts of Elanora North to the Merrimac WWTP would not only be the least cost option for both capital costs and whole life costs, it would also provide greater customer/ social, environmental, accountability and operation/ technical benefits.*
>
> *Elanora WWTP is already at capacity and therefore would require a capacity upgrade if the diversion does not go ahead. To date no detailed planning for the upgrade of Elanora WWTP has been undertaken, however, the costs to upgrade the plant has been estimated at $32M plus additional costs for tighter DERM DA requirements. This is in comparison to completing the diversion, which would cost approximately $7.6M. Furthermore, there have already been significant works designed, constructed and commissioned, including the construction of the Bermuda Street wastewater tunnel and Merrimac WWTP upgrades, with provision for the B47 catchment.*
>
> *It is recommended that the works initiated by the BMP Alliance to divert the Mermaid Beach area (B47 catchment) in the Elanora North catchment to the Merrimac catchment be completed, to alleviate flows (and load) on the Elanora WWTP.*

With regards to the diversion works only, SKM considered that the decision process shows that sufficient options have been assessed such that the project can be considered prudent with regards to the growth driver criterion.

SKM has accepted the growth driver nominated and the reasonableness of the decision-making process to conclude that the project is prudent.

Efficiency

SKM noted that the multi-criteria assessment contained in the *Options Analysis Report* indicates that of the remaining diversion works, the proposed scope of works is the best means of achieving the desired outcomes.

On this basis, SKM considered that the scope of works as detailed in the project description is appropriate for this project. Further, the analyses for the works being reviewed demonstrate that the selected option can be assessed as efficient.

SKM noted that the project's aims correspond to both the Key Result Areas (KRA) in the Asset Management Strategy. These are:

(a) KRA 1 – Product Quality. Customer and environmental requirements for safe and reliable products are achieved; and

(b) KRA 2 – Asset Lifecycle Planning. Asset management effectiveness and efficiency resulting in maximum utilisation and economic value of assets over their lifetime.

The project also corresponds to the latest Allconnex Water Desired Standards of Service which, as stated previously, SKM assessed as appropriate.

The project takes into account existing infrastructure including wastewater pump stations and the section of diversion rising main constructed by the BMP Alliance and also the proposed works at Elanora WWTP and Merrimac WWTP.

In the documentation provided by Allconnex several estimated costs were identified. SKM noted that the cost submitted to the Authority ($7.6 million) corresponds with other costs. The costs show a consistent estimate of the project's cost through the various documents and are in the range of + 2% to -6% of the cost submitted to the Authority.

Nonetheless, SKM identified a minor inconsistency in the *Options Analysis Report*, which refers to a cost of $7.6 million although Appendix 4 states a cost of $7.8 million. Additionally, the cost detailed in the *Prudency & Efficiency Test* document states a cost of $7,690,000, that is higher than the cost submitted to the Authority.

SKM further noted a review of the unit costs in the *Options Analysis Report* (Appendix 4) for the supply of pipework had been completed with unit rates recently provided by Tyco Water for ductile iron and PVC pipework for this review. SKM considered the unit rates used in the cost estimate provided by Allconnex to be comparable with the values provided by the pipe manufacturer.

SKM noted that Allconnex utilises a unit rate report which is periodically reviewed by a consultant and updated with contemporary industry data. The unit rate methodology has factors to allow for such as acid sulphate soils, levels of urbanisation and rock strength.

Excavation rates for the various pipes laid in trenches are provided in the *Options Analysis Report* Appendix 4, which have been compared to values contained in Rawlinsons' *Australian Construction Handbook 2011*. Table 2.39 includes a comparison of the rates. It should be noted that Rawlinsons' *Australian Construction Handbook* does not include rates for trench excavations greater than three metres. SKM assumed that the trench width corresponds to Water Services Association of Australia's drawing SEW-1201-V.

Table 2.39: Comparison of Pipework Unit Costs ($/m^3)

Pipework	*Options Analysis Report Appendix 4 Rate*	*Rawlinsons' Soft Rock*	*Rawlinsons' Hard Rock*
DN600 DI Depth 1-2m	162.5	100	185
DN600 DI Depth 2-3m	137.5	112	205
DN900 DI Depth 1-2m	160	100	185
DN900 DI Depth 2-3m	135.5	112	205
DN150 PVC Depth 1-2m	111.1	100	185
DN225 PVC Depth 1-2m	219	100	185

Source: SKM (2011)

SKM noted that all bar one of the values are in the range to be expected for excavating in rock. The *Options Analysis Report* states that a geotechnical investigation has yet to be undertaken and so the approach is a conservative one. The value that is not within the range (DN225 PVC Depth 1-2) is higher than the upper end of the range which suggests that it is a conservative value and likely to be less once put out to tender.

SKM considered that the above assessment of pipe supply rates and pipework construction rates demonstrate that the estimate is reasonable and the project cost is assessed to be efficient.

With regard to timing and deliverability, included in the Project Plan is a high level program that details the proposed sequence of tasks for completion of the project and the Project Delivery Risk Assessment. The Project Delivery Risk Assessment details several risks with a 'significant' classification after mitigations measures. As the program shows that the project is due for completion in April 2011, then it is likely that the project will be completed in 2011-12 even if some risks are realised.

The following risks have been ascribed a 'significant' classification after mitigations measures:

(a) awarding contract to correct contractor – this risk is due to the internal restrictions of the tender analysis and procurement procedures. The Project Delivery Risk Assessment states that 'until Allconnex Water procurement policy is known then no mitigation. Likely that procurement will NOT change in short term i.e. next couple of years';

(b) Construction Manager – this risk is due to the Project Manager having responsibility for construction delivery with no authority over the Construction Manager or contract. The mitigation is stated as 'ensure experienced Construction Manager is assigned to the project with sufficient time allocation and/ or adequate support from assigned inspector. Note that if the aforementioned is not actioned then risk remains high';

(c) time frame – the project was due for delivery in the 2010-11 financial year but was delayed due to late receipt of the change request along with lack of documentation for the historical decision process of selecting the design option for a significant valued project. No mitigation is given as it is deemed 'inevitable' that the project delivery will extend into 2011-12. It is detailed that the impact that the project timing has on the affected treatment plants is uncertain. Furthermore it is stated that options analysis has been commissioned that includes NPV calculations; and

(d) new approvals process – the risk is due to the new internal approval process within Allconnex that requires Board approval for delivery strategy and for award of contract. The mitigation is stated as 'None. New process unable to be expedited. TBA if any other mitigation measures for interim period'.

Due to the Elanora WWTP operating beyond its design capacity the project has to be completed as soon as possible, assuming that Merrimac Wastewater Treatment Plant can accommodate the flows. The Project Delivery Risk Assessment demonstrates that analysis has been undertaken to manage the identified risks, which contributes to the meeting of the 'deliverability' criteria. The April 2011 delivery milestone date in the project plan has passed. Given the above risks and mitigation measures, SKM considered the project should be capable of being delivered in the 2011-12 financial year.

In terms of efficiency gains, SKM noted that the *Benefits Realisation Plan* attached in Appendix G of the Project Plan contains details of benefits identified for the project. These are:

(a) internal service performance improvement: available capacity in adjacent gravity system;

(b) internal service performance improvement: reducing retention time for sewerage and therefore reducing overall odour problems to local residents;

(c) efficiency gains: Elanora Treatment Plant will not be overloaded and process efficiency is expected improve at plant;

(d) efficiency gains: reducing existing sewerage rising main (SRM) by injecting surrounding WWPS to proposed SRM and decommissioning existing redundant SRMs. Reduced assets for operations and maintenance; and

(e) avoided costs: costs to upgrade Elanora WWTP to increase capacity.

SKM advised that no costs were provided for the efficiency gains listed above.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project. However, it was noted that a contingency rate of 20% had been applied in the cost estimate detailed in the Options Analysis Report, which corresponds to the figure used on other projects reviewed by SKM on behalf of the Authority. The cost estimate is provided in a Montgomery Watson Harza (MWH) document and does not match templates used in other projects that have been reviewed on behalf of the Authority.

Conclusion

SKM noted that this project has been inherited by Allconnex and several key decisions have been made prior to their founding. Several linked projects (plus a section of rising main) have already been constructed. The decision to implement a program of new works to transfer the flows to Merrimac WWTP is beyond the scope of SKM's review. Only the diversion works associated with pump station B47 were sampled.

SKM assessed the project as prudent on the basis that the primary driver of growth has been demonstrated.

SKM assessed the project as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated.

On the basis of the above recommendations of SKM relating to the prudency and efficiency of the project, the Authority accepts Allconnex's proposed Burleigh WWPS B47 upgrade costs ($7.6 million) for 2011-12.

(v) Meter Renewals program

The Water Meter Replacement Strategy 2011-12 was implemented to consolidate the water meter replacement processes currently undertaken across Allconnex, against a range of replacement parameters and philosophies, as a legacy of the participating Councils. The initial priority is replacement of any stopped or damaged meters, then the oldest meters with high consumption records, and finally meters with high consumption across all three districts as part of an entity wide approach.

The proposed costs associated with the Water Meter Replacement Strategy 2011-12 within the 2011-12 to 2012-13 budget are shown in Table 40. SKM reviewed the Gold Coast portion of the strategy.

Table 2.40: Expenditure Profile – Water Meter Replacement Strategy 2011-12 ($000)

Document	*2011-12*	*2012-13*	*2013-14*	*Total*
Gold Coast Region				
2011-12 Information Template	4880	5112	5355	15347
Water Meter Replacement Strategy 2011-2012	4820			4850

Note: Data excludes contributed assets. Source: SKM (2011)

SKM noted that for the Gold Coast Region, the information in the 2011-12 Information Template does not completely align with the information provided in other supporting documentation. SKM also noted that the water Meter Replacement Strategy 2011-12 does not specify expenditure beyond 2011-12.

Prudency

SKM noted that according to the Water Meter Replacement Strategy 2011-12 the nominated costs drivers for this project are legal obligation (compliance) and renewal.

SKM considered that the conclusion that this project is driven by legal obligation is supported by the following:

(a) under the *Customer Water and Wastewater Code*, *SEQ Water (Distribution and Retail) Restructuring Act 2009*, reasonable steps must be taken to read the meter at each customer's premises at least once every 12 months and must ensure that an estimated meter read does not occur in two or more consecutive billing cycles; and

(b) the *Australian Standard 3565* Part 4: In-service compliance testing sets out the criteria for testing 20mm water meters. The standard came into effect in 2007 and deemed all meters to have an initial compliance testing period of 1920kL or eight years from the date they were installed. Meter populations in excess of the initial compliance period shall be tested within five years of the standard implementation date.

SKM further noted that water meters are predominately mechanical devices with limited life due to wear mechanisms and small meters (between 20mm and 40mm) are generally not repairable. Hence, Allconnex has decided that replacing old meters with new meters is the best solution.

SKM considered that the conclusion that this project is driven by renewals is supported as the project involves the direct replacement of water meters. Further, meter accuracy degrades over time and is characterised by an increase in measurement error. The age of the meter and the usage are the two main factors which determine need for replacement.

SKM noted that the course of action adopted by Allconnex for addressing the issue of impaired water meters was arrived at through a process of continuation of business as usual. Meters selected for inclusion in the program were determined based on a number of criteria. The criteria are used not only for inclusion of meters in the program but also for prioritisation.

The criteria used by Allconnex are:

(a) stopped and damaged meter;

(b) meters older than 12 years with more consumption recorded than set in the consumption based replacement criteria table;

(c) meters older than 12 years with less consumption recorded than set in the consumption based replacement criteria table; and

(d) meters of any age with more consumption recorded than set in the consumption based replacement criteria table.

Allconnex indicated that benchmarking was undertaken against criteria used by Barwon Water, SA Water and Sydney Water. Allconnex adopted the consumption based replacement criteria used previously by Gold Coast Water, except for 20 mm water meters, for which the results from benchmarking have been adopted.

Due to the number of meters included in the program for the 2011-12, SKM was unable to confirm if the process described in supporting documentation was followed.

SKM considered that, in summary, water meters are important components in the water supply network and Allconnex has an obligation to maintain accurate meters. The project replaces existing water meters based on accuracy bound risk assessment to ensure the accurate recording of water consumption, which impacts billing revenue and asset management functions.

On this basis, the project has been assessed as prudent.

Efficiency

SKM noted that the 2011-12 water meter replacement program will not only be the start of the Allconnex replacement program, but a continuation of programs that have operated under the previous councils. It is expected that approximately 40,000 water meters (ranging in diameter from 20 mm to 200 mm) will be replaced under the whole program with approximately 30,000 of these in the Gold Coast district. Allconnex's target date for completion is June 2012.

The budget for the program has been estimated based on unit rates from contracts and supply arrangements. Each of the districts had in place contracts and supply arrangements prior to the formation of Allconnex. According to Allconnex the following arrangements were in place for the Gold Coast district:

(a) all meters greater than 150 mm were replaced under a contract with Skilltech which was due to expire on 30 June 2011;

(b) ABB is the sole supplier of electromagnetic meters, Allconnex Operations and Maintenance staff replace electronic meters and ABB commission them; and

(c) a contract is in place between Gold Coast City Council and Elster Metering Australia for the supply of meters from 20mm up to 300mm.

SKM was not provided with information from Allconnex in relation to how the process will proceed now that the contract with Skilltech has expired.

SKM considered that the information provided by Allconnex for the estimation of costs for the replacement of meters is reasonably comprehensive. For each meter size the cost for replacement for different scenarios is outlined and an approximate number of meters within that scenario to be replaced. From this an average cost of replacement is determined. This average cost is used to estimate the budget for the program. The average cost per meter, for 20 mm water meters, used by Allconnex for estimating program costs is comparable to the unit rates used in other recent projects SKM has been involved with.

Comparing historical information with the proposed expenditure for the 2011-12 financial year, relating to the number of meters replaced and the expenditure, SKM found that the average cost per meter has increased significantly as shown in Table 2.41. SKM understood that this is due to an increase in the number of larger meters being replaced which, due to higher costs per meter, would increase the overall average cost per meter. However, as the numbers of meters replaced per meter size were not provided this could not be confirmed.

Table 2.41: Average cost per meter for Gold Coast region

Year	*Expenditure ($)*	*Number of Meters Replaced*	*Average Cost per meter ($)*
2008-09	345,265	9,606	35.94
2009-10	443,104	7,143	62.03
2010-11	5,547,500*	na	na
2011-12	4,850,000*	30,000	161.67

*Note: Extract from the Meter Replacement Strategy 2011-2012 (Allconnex Water, 2011). * Proposed Expenditure. Source: SKM (2011)*

SKM considered that the use of a cost estimation database which is updated to reflect changes in contract rates and supply arrangements is a satisfactory method of determining costs estimates. On this basis, SKM concluded that the costs are efficient.

With regard to timing and deliverability, SKM noted that the program for the project is intended to take place over the 2011-12 reporting period. This involves the replacement of approximately 40,000 water meters with a budget of $8,000,000 for the whole entity. For the Gold Coast region it has been estimated that 30,000 water meters will be replaced with a budget of $4.85 million.

For the 2008-09 and 2009-10 financial years, 9,606 and 7,143 meters were replaced with budgets of $345,265 and $443,104 respectively. Based on the number of meters replaced in previous years, SKM cautioned that the program for this financial year may be ambitious. The use of a contractor should allow for appropriate increases in the number of resources required to achieve this.

SKM identified that barriers for the project include:

(a) the implementation of the new billing system, during which the meter replacement program will be on hold to ensure data migration is not compromised; and

(b) accessibility of meters for replacement (i.e. gated communities, large businesses) resulting in interruptions to the replacement schedule.

In terms of efficiency gains, SKM noted that Allconnex had intended to apply lessons learned from previous meter replacement programs to improve efficiency of this program. The programs feasibility will be assessed throughout the 2011-12 financial year as information is gained from meters replaced as part of this strategy. It is anticipated that the strategy will be revised where necessary and an optimum meter replacement age defined.

SKM found that some of the initiatives relating to capital planning, as identified by the Authority in its 2010-11 report, had been applied to the project. These were the initiatives relating to consideration of prudency and efficiency from a regional perspective, a standardised approach to cost estimation, and a summary document to facilitate standardised reporting. SKM

further noted that the strategy document does not include delivery methodology, program and a risk review process and no 'gateway' review process has been implemented by Allconnex.

Conclusion

The Water Meter Replacement Strategy 2011-2012 is a consolidation of programs run by respective councils prior to the formation of Allconnex. The project replaces existing water meters to ensure the accurate recording of water consumption, which impact billing revenue and asset management functions. The Gold Coast district portion of the strategy only, has been reviewed.

SKM assessed the project as prudent on the basis that the primary driver of renewal has been demonstrated. SKM did not agree with the allocation of legal obligation as a driver as any non-compliance is a consequence of the condition and performance of time expired meters. The replacement of non-operational and malfunctioning water meter is required to provide accurate billing to customers and for revenue protection.

SKM assessed the project as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery with increased recourses by the contractor has been demonstrated.

On the basis of the above recommendations of SKM relating to the prudency and efficiency of the project, the Authority accepts Allconnex's proposed Meter Renewals Program costs ($4.9 million) for 2011-12.

(vi) Operational Management Program

The Allconnex Water Strategic ICT Vision and Strategic ICT Roadmap mandates an ERP solution to ensure that a system and associated services is in place to deal with finances, procurement, asset management, inventory management, contract management and customer relationship management prior to the of expiry of the SLAs (30 June 2013).

The Operational Management Program Project builds on the base ERP program. As part of the ICT Portfolio Plan, the program will deliver the functionality required by the Operational Business Functions.

The proposed capital expenditure for this project is $10.2 million over 2011-12 to 2013-14.

Prudency

The cost driver identified by Allconnex for this project is 'new' (not growth). As noted previously, Allconnex is required to have a new system and associated services in place before 30 June 2013 in order to continue to meet its licence obligations.

The Allconnex Water Strategic ICT Vision states that after extensive consultation it was determined that an integrated ERP solution should be pursued with a phased implementation. On this basis, SKM considered that the project aligns with the direction, as stated within the Strategic ICT Vision, in that it will build on the Base ERP infrastructure by supplementing the Base ERP Program with additional solutions as required. The operations management program will also deliver the ICT functionality required by the operational business functions.

However, SKM did not agree with the allocated cost driver of 'new' (not growth) and considered a more appropriate driver is that of legal obligation in respect of Allconnex's obligation to manage finance, asset management, inventory management, procurement, contract management, customer relationship management and project management.

As part of the Base ERP Program decision process, it was determined to make use of an integrated ERP suite and that best practice applications will be preferred. This decision affects the execution of the operational management program. SKM noted that Allconnex intends to utilise the technologies delivered as part of the Base ERP Program as the operational management platform.

Given that the ERP is required to replace the ICT services currently provided by the participating councils, and that the proposed implementation is appropriate for Allconnex's business, SKM considered the project to be prudent.

Efficiency

SKM noted that the ICT Portfolio Plan makes provision for the following components as part of the Operations Management section:

(a) SCADA (supervisory control and data acquisition) strategy;

(b) SCADA standardisation;

(c) GIS;

(d) Environmental Monitoring Management; and

(e) Alert Monitoring and Remediation.

The Prudency and Efficiency Test document sets the scope of the project as follow:

(a) SCADA strategy project;

(b) SCADA standardisation project;

(c) Asset management and works management project;

(d) Operational reporting project;

(e) GIS project;

(f) Major development project management; and

(g) Alert monitoring and remediation project.

SKM noted that the environmental monitoring management aspect documented within the ICT Portfolio Plan is not captured within the Prudency and Efficiency Test document. SKM considered that the additional components/aspects within the Prudency and Efficiency Test document can be ascribed to the fact that this project builds on the Base ERP Project. The additional components/aspects are deemed to be required such that the original components/aspects, as detailed in the ICT Portfolio Plan, are able to be implemented.

SKM considered the scope of works defined within the Prudency and Efficiency Test document to acceptably describe the whole of works required.

Due to limited information, SKM advised that it was not in a position to provide comment on the standard of service to be provided.

The Prudency and Efficiency Test document states that costs are broken down as follows:

(a) Resources Costs are $8,994,344;

(b) Hardware Cost are $0 (within the BASE ERP Program); and

(c) Software Costs are $1,050,000.

For projects of this nature, which tend to be tailored in their scope and implementation to individual business needs, a detailed cost estimate is required to be developed against which the project costs can be compared to enable specific cost efficiency to be determined. SKM deemed that development of such a detailed comparison cost estimate is outside the scope of the assignment. Also, the information that is required to compile a rough order cost estimate is not publically available.

The Prudency and Efficiency Test document indicates that Allconnex has engaged IBM to perform an independent benchmarking exercise based on a Tier 1 ERP implementation. The findings and results of this engagement have not been made available.

Consequentially, there was insufficient information to assess the efficiency of the project.

SKM found that of the five initiatives relating to capital planning identified by the Authority in its 2010-11 report, only one had been fully achieved for this project. This was the preparation of a summary document to facilitate standardised reporting. Consideration of prudency and efficiency of capital expenditure from a regional (whole of entity) perspective was deemed to be partially fulfilled in that the project is prudent and will be implemented throughout the entity. The other three initiatives were not considered to have been achieved.

With regard to timing and delivery, Allconnex advised SKM that the Operations Management Program was not commenced since the Premier's announcement to allow councils to opt out of the water reform agenda.

Following the participating councils' decision to withdraw from Allconnex, Allconnex has advised that it has now put this project on hold indefinitely. That is, the project has been cancelled.

Conclusion

SKM assessed the project as prudent on the basis that the relevant drivers of compliance, renewal and growth have been identified.

However, SKM advised that there was insufficient information to assess the efficiency of the project. The Authority therefore considers that, as the efficiency of project cannot be confirmed, no costs related to this project can be incorporated into the RAB for 2011-12.

Additionally, it is noted that the project has been put on hold indefinitely following councils' decision to withdraw from Allconnex.

(vii) Alliance Program Management Wastewater

Prior to the creation of Allconnex, the Logan Water Alliance was established in 2009 to deliver a $200 million capital works program over a three to four year period. The Logan City Council deemed the Logan Water Alliance as an appropriate vehicle to deliver the significant infrastructure, planning and capital works program that was facing the new Logan City Council area following the transfer of significant areas of land from the Beaudesert Shire and Gold Coast City Council as part of local government area boundary redefinition. This included the future regional cities of Flagstone and Yarrabillba.

In the new organisational and regulatory environment, Allconnex is required to ensure that the Logan Water Alliance is an effective and efficient planning and capital works delivery mechanism. For this purpose, Evans & Peck was commissioned to benchmark the Logan Water Alliance against other alliances and to evaluate its efficiency and effectiveness.

The Logan Water Alliance is a joint venture between Allconnex and Tenix. Cardno and Parsons Brinckerhoff were contracted by Tenix to assist with the alliance.

The proposed capital expenditure for the Alliance Program Management Project for 2011-12 is $3.93 million.

Prudency

The cost driver identified for this project is improvement, which is defined by the Authority as an increase in the reliability or the quality of supply that is explicitly endorsed or desired by customers, external agencies or participating councils.

SKM noted, however, that there was a delay by Logan City Council and Logan Water in providing infrastructure in response to growth. Consequently, growth has been assessed as the primary driver.

SKM acknowledges that there could be aspects of compliance and renewal, based on work associated with wastewater treatment plants and the expiry of the life of various elements of infrastructure. These are regarded as subordinate drivers. SKM considered that Allconnex should complete a follow-up assessment of the drivers for all infrastructure projects and develop a cumulative percentage to apply to the drivers of growth, renewals and compliance for the Alliance Program Management.

SKM noted that the Logan City Council opted to make use of an alliance model with a 'planning led' focus to deliver a significant infrastructure, planning and capital works program. The term of the Logan Water Alliance Program Alliance Agreement is three years and is due to expire in August 2012. The agreement provides for the potential to extend it annually for a further two years. In this regard, the following options have been proposed:

(a) extend the Logan Water Alliance model within the northern area and maintain the current planning and program delivery model in the southern area;

(b) extend the Logan Water Alliance model within the northern area and consider alternative planning and program delivery models in the southern area; or

(c) do not extend the Logan Water Alliance model within the northern area and consider alternative planning and program delivery models across the whole of Allconnex.

A do-nothing option was not considered.

From the above options, SKM noted that it appears that there is a drive to incorporate the Redland area within the Logan Water Alliance. This would require a Significant Procurement Plan to be developed, approved and endorsed by the delegated authority of the Chief Executive Officer. SKM noted Evans & Peck's recommendation that high business risk and/or high capital expenditure programs or projects be excluded from the Logan Water Alliance.

SKM advised that no information was provided to them by Allconnex documenting the options that were investigated by Logan City Council in 2009 prior to the Alliance's establishment, nor the process by which the preferred tender was selected.

Notwithstanding the absence of information on the reasonableness of the process, the project has been assessed as being prudent as the primary driver (growth) has been [accepted] and subordinate drivers are also assessed by SKM to be potentially relevant.

Efficiency

SKM noted that one of the key reasons for the formation of the alliance was to deliver more cost-effective solutions.

SKM noted that Evans & Peck draw attention to the procurement method in that it states that the Logan Water Alliance Contractor selection process was conducted without any form of price competition. This approach was not, at the time, inconsistent with the State Procurement Policy (2008). Under contemporary state procurement policies and guidelines, this approach would require a government exemption.

Evans & Peck recommended that Allconnex should be prepared to subject the Logan Water Alliance program and its respective projects to appropriate levels of commercial scrutiny to establish value is being delivered. This may include alliance audits, preparation of regular Value for Money (VfM) reports.

When compared to best-practice alliances, SKM identified that the commercial framework for the Logan Water Alliance varies in the following key areas:

(a) the target outturn cost scope and pricing is overly conservative – the non-owner parties accept a lower risk profile and the owner accepts a higher risk profile than in equivalent design and construct contracts and it is therefore logical that the overall pricing for an alliance contract should be lower than for an equivalent design and construct contract; and

(b) the alliance contractor is reimbursed for actual cost incurred and not necessarily reasonable and properly incurred costs.

SKM noted that the Evans & Peck review did not deliver any evidence of commercial misalignment influencing the programs or projects performance outcomes.

The Logan Water Alliance arrangements for the approval of expenditure include the following three parts:

(a) planning cost governance framework;

(b) program management cost governance framework; and

(c) project target outturn cost governance framework.

Each of these processes includes a series of steps or hold points at which expenditure is assessed and challenged by a review team that includes senior Allconnex managers. The steps resemble those in a typical gateway review process. Evans & Peck reviewed the process and concluded that it shows the appropriate rigor to ensure that all Logan Water Alliance expenditure approved by Allconnex is prudent.

SKM found that the actual value of capital works to be delivered by the Logan Water Alliance is projected to increase from $43 million in 2010-11 to $80 million in 2011-12, an increase of 186%. SKM noted that Evans & Peck compared the performance of the Logan Water Alliance to four other similar alliances. When comparing the cumulative ratio between program management cost and capital expenditure they found that the Logan Water Alliance 'has consistently been lower than the benchmark alliances average'.

The Evans & Peck documents note in regard to project delivery cost, the following:

(a) based on the program of works, the forecasted outturn costs for all the projects, either completed or in progress, is 1.5% below the agreed combined target outturn cost for all projects reviewed in 2010-11;

(b) the solutions emanating from the Logan Water Alliance planning phase are robust and therefore allow relatively cost-efficient delivery of the projects during the delivery phase;

(c) the Logan Water Alliance designs are progressed to between 50% and 80% completion before the projects target outturn cost is set, which allows the Logan Water Alliance to have a high level of understanding and certainty of each project; and

(d) the projects that Logan Water Alliance has undertaken so far have been relatively straight forward, however the upcoming projects have a more complex scope of works and include projects requiring process solutions. Evans & Peck indicated that it is of the opinion that investment in a robust planning and definition phase will greatly assist in the design, costing and ultimately the delivery of these more complex solutions.

Based on the provided information, SKM determined that the scope of works of the Alliance Program Management project is appropriate. The scope of works of any specific project was not assessed as part of this review.

In regard to governance, SKM noted that the Logan Water Alliance has the following attributes:

(a) Alliance Manager, nominated by the alliance and endorsed by the owner;

(b) Alliance Program Management Team – comprises the functional area leaders working within the alliance including representatives from the non-owner participants and the owner;

(c) Alliance Leadership Group comprises senior management representatives from each non-owner participant and the owner. Alliance Leadership Group members do not form part of the alliance team and are separate from the Alliance Program Management Team and have the appropriate delegated authority to bind their respective organisations to any agreement reached by the Alliance Leadership Group. Allconnex is represented by the Chief Operations Officer and the Strategic Group Manager, Planning and Infrastructure Development, on the Alliance Leadership Group;

(d) Owners representatives are considered outside of the alliance;

(e) External auditing is quarterly by BDO Kendalls;

(f) Alliance Transaction Advisory services are provided to Allconnex by AQUA Projects;

(g) Independent estimator services are provided by Project Services PTY Ltd; and

(h) Independent review of the Logan Water Alliance conducted by Evans & Peck.

SKM noted that Evans & Peck concluded that the Logan Water Alliance has effective governance mechanisms in practice, however, the project alliancing agreement as it is presently drafted does not provide for owner's reserve powers nor does it deal with scope changes in a manner that is consistent with an owner's reserve powers in a 'best practice' alliance agreement.

SKM noted that Board Meeting documentation (24 June 2011) states that the procurement of the Alliance contractors was undertaken through a comprehensive and robust open market

process and stated further that the negotiated consultant and contractor fees are very competitive. This has been confirmed through independent benchmarking.

The review undertaken by Evans & Peck concluded that the cost of the program management team has demonstrated value for money through benchmark cost comparisons and through the achievement of above neutral key performance indicator (KPI) performance scores. The Evans & Peck report also highlighted that the Logan Water Alliance Program Management cost-efficiency is in line with benchmark alliances and less than the average when measured as a cumulative ratio of program management cost/capital expenditure.

SKM therefore considered that the Logan Water Alliance Program Management Project is efficient.

In regards to timing and deliverability, SKM noted that one of the fundamental drivers for the Alliance was to establish a "planning led" program that would ensure that the right project is undertaken at the right time. The planning and project development component of the alliance program offers a dedicated team with the focus to deliver the best infrastructure outcomes. The planning phase is also an opportune time to ensure that prudent decisions are made.

The majority of projects are delivered by sub-contractors sourced through a competitive tender process. Materials are also sourced making use of competitive tendering. The Board Meeting of 24 June 2011 document records key risks relevant to the organisation and its strategic objectives. Of note is the risk that the organisation cannot recruit or retain the capacity or capability to operate successfully as a water distributor and retailer. It is cited that the Logan Water Alliance is a key component in ensuring that Allconnex delivers the capital works program within the Logan City Council area and without the Logan Water Alliance it would not be achieved within the short to medium term.

With regard to efficiency gains, SKM noted that the alliance has the opportunity to get involved at the planning stage of a project and this enables them to determine the implementation strategy. This in itself should reduce the operating cost, extend the asset life and save on design and implementation costs, the document prepared by Evans & Peck highlights the efficiencies gained by the Logan Water Alliance. In addition, all projects are managed from its inception to handover by a single entity; this should also reduce the cost due to continuity of knowledge.

SKM found that some of the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to the project. The development of an implementation strategy for each major project and a 'toll gate' or 'gateway' review process were considered to be fully achieved, while consideration of prudency and efficiency from a regional perspective was considered to be partially achieved. The initiative specifying a standardised approach to cost estimating was not considered to be met, however, SKM noted that it is an one-off project and therefore the cost estimating method is non-standard within Allconnex as the project is unique in nature and dissimilar to water/wastewater infrastructure capital projects.

Conclusion

Although it is a continuing project and the available information was limited, SKM assessed it as prudent on the basis that the primary driver of growth has been demonstrated and secondary drivers of renewals and compliance may be relevant.

SKM assessed the project as efficient as the contract was led through a competitive tendering process and hence represents market rates. SKM considered that an appropriate scope of works, acceptable standards of governance and reasonable project have been demonstrated and the deliverability is achievable.

On the basis of the above recommendations of SKM relating to the prudency and efficiency of the project, the Authority accepts Allconnex's proposed Alliance Program Management costs ($3.9 million) for 2011-12.

(viii) Round Mountain Reservoir and Link Mains

The stated objective of the Round Mountain Reservoir and Link Mains project is to provide a reservoir and trunk water mains to service future growth in Flagstone and the surrounding areas. It project comprises the following works:

(a) bulk earthworks to provide a level base for the Round Mountain Reservoir;

(b) detailed design and construction of the 20 ML Round Mountain Reservoir;

(c) construction of the 600m long reservoir access road;

(d) installation of a rising main to the reservoir from the north: 2530m of 600mm diameter ductile iron cement lined pipe along New Beith Road from approximately 1.5 km south of Tall Timber Road to the Round Mountain Reservoir;

(e) installation of a gravity main from the reservoir to the south; 1880m of 600mm diameter pipe from the Round Mountain Reservoir, south along New Beith Road to near the site of the future Flagstone Reservoir; and

(f) supply of pipes, fittings and valves associated with the project.

SKM were commissioned to review the expenditure associated with the installation and construction of the link mains and access road only (items (c), (d) and (e) above).

The proposed capital expenditure for this project is $2.75 million in 2011-12.

Prudency

The nominated cost driver for this project is growth. SKM noted that the project is needed to serve new development areas within the Flagstone, New Beith and Teviot Downs areas and accommodate future population growth. The SEQ Regional Plan 2009-31 identified large areas in Logan South as regional self-sustaining urban community development areas, which are required to be serviced with water and wastewater infrastructure. The total Logan South population is predicted to increase to more than 200,000 by ultimate development (current population approximately 30,000).

GHD and Cardno were engaged by Logan Water to jointly undertake a Master Plan for the Lower Logan Water Supply Area. This project identified that significant water supply infrastructure was required in the area, including the reservoir and link mains.

SKM agreed that the cost driver of growth is supported by population figures. The demand projections for the water supply network serviced by Round Mountain were confirmed as part of the preparation of the Priority Infrastructure Plan and supported by studies conducted by the various consultants.

Allconnex advised SKM that the Priority Infrastructure Plan (which will be incorporated into the NetServ Plan) is not yet available – hence these figures could not be cross-referenced.

Allconnex stated that sensitivity analysis undertaken indicates that growth would need to lag current projections by more than 10 years before staging of the works became cost effective.

SKM considered a delay of this extent to be unrealistic, particularly given the State Government's intention to fast-track urbanisation of Flagstone.

SKM considered that additional drivers for this project are compliance, both legislative and contractual. These are supported by:

(a) existing capacity problems within the network mean that the proposed project provides reservoir storage and trunk capacity to meet customer service standards. Currently minimum pressure and flow, and fire fighting capacity do not meet the customer service standards. The *Logan Water Lower Logan Strategic Water Master Plan Final Report* modelling results identified significant failures in the 2008 planning horizon for the mean day maximum month and maximum day models; and

(b) the construction of this project is required to meet contractual obligations of infrastructure agreements. Agreements are in place with three developers under which Allconnex has an obligation to complete this project.

If this project does not proceed, SKM identified the following potential impacts:

(a) failure to cater for the increased population growth;

(b) potential deferral of development;

(c) reduced reliability of water supply of the area;

(d) sub-standard level of service for existing and future customers;

(e) impact to Allconnex reputation;

(f) reduction of public/shareholder confidence in Allconnex; and

(g) legal risk in terms of not fulfilling an obligation under existing Infrastructure Agreements.

SKM considered that the primary driver of growth has been demonstrated. Further, the subordinate drivers of compliance, both legislative and contractual, have also been demonstrated. On this basis, SKM regarded the project as prudent.

SKM noted that alternative options for serving the area were considered before the proposed strategy was adopted by Logan City Council in November 2009. A number of studies were undertaken by consultants. The development of the Round Mountain reservoir and link mains was selected as the best means of achieving the desired outcome from planning studies, network optimisation modelling and 'Value for Money' multi-criteria selection processes using "Whole of Life" and "Least Cost" option analysis.

SKM concluded that the Round Mountain Reservoir and Link Mains Project is required to support continued growth in the region. SKM was satisfied that an adequate options analysis has been completed, which included the analysis of a number of options and the consideration of risk and financial analysis. On the basis of the above information, SKM assessed the project to be prudent.

Efficiency

The scope of works for the link mains portion of this project comprises:

(a) construction of the 600 m long reservoir access road;

(b) installation of a rising main to the reservoir from the north: 2530 m of 600 mm diameter ductile iron cement lined pipe along New Beith Road from approximately 1.5 km south of Tall Timber Road to the Round Mountain Reservoir; and

(c) installation of a gravity main from the reservoir to the south; 1880 m of 600 mm diameter pipe from the Round Mountain Reservoir, south along New Beith Road to near the site of the future Flagstone Reservoir.

The installation of a new rising main to the reservoir and a new gravity main from the reservoir is required for the operation of the reservoir.

SKM identified that the current infrastructure does not have sufficient capacity to meet existing demands. Demand management measures were implemented during the recent drought and it is believed that further demand reductions will be difficult to achieve. There is no feasible alternative to providing additional capacity. This project provides the base underpinning infrastructure for development of the service area. Hence the scope of the works is assessed as appropriate.

SKM noted that Allconnex states that the standard of works will conform to all regulatory and industry practice, codes and manuals and Allconnex's standard specifications where applicable. In addition, the Urban Land Development Authority is in the process of preparing Structure Plans for the Flagstone area.

SKM noted that the overall project costs were determined on the basis of tendered sub-contractor and supplier prices, allowance for project management costs (contract administration and supervision costs and design revisions) and a risk allowance. A high level cost break down is provided in the table below.

Table 2.42: Costs

Item	*Description*	*Total ($000)*	*%*
1	Target Out-Turn Cost	11570	84
2	Other Costs (including Remnant Vegetation Offset)	2210	16
Total		**13780**	**100%**

Note: Extracted from Appendix C of the Board Meeting of 28 October 2010 Matter for Approval – Logan Water Alliance Work Package 01 Round Mountain Reservoir and Link Mains (Allconnex Water, 2010). Source: SKM (2011)

The components delivered under competitive tendering account for approximately 70% of the total costs of the Target Out-Turn Cost. Indirect costs associated with the project and program management through the Logan Water Alliance are on a cost plus fees basis. Program management costs associated with the Logan Water Alliance are discussed separately.

The costs of the works were reviewed by an independent estimator, Project Support Pty Ltd. The independent estimator confirmed that the target outturn cost is a reasonable estimate to deliver the project using normal engineering design, construction and management practices. The Alliance also prepares a first principles estimate of the direct construction costs to confirm that tenders received from sub-contractors align with prevailing market rates.

The Alliance divided the works into separate contracts for earthworks, reservoir and pipeline construction to reduce costs. The pipes and fittings were being purchased under a bulk supply contract with volume discounts.

The costs have been arrived at through competitive tender, and therefore represent the current market value of the proposed project. This tender process involved three separate tender packages for the earthworks, construction of the reservoir and pipeline construction. The Logan Water Alliance initially tendered the works for the link mains and access road to seven subcontractors in January 2010. Preferred subcontractors were selected following interviews and clarifications.

Based on the information provided, SKM concluded that as the portion of project reviewed has been competitively tendered, the costs for the work are consistent with conditions prevailing in the markets. Therefore, the costs are assessed as efficient.

With regard to timing and deliverability, SKM noted that a work package has been developed for the delivery of the project, which includes the proposed delivery methodology, program, approvals, costings and risks assessment. It has been estimated that the project will take 18 months to complete, with design schedule to have commenced in October 2010. Allconnex advised in September 2011 that construction was almost complete.

Additionally, risk principles have been incorporated in the project design. Where risks have been identified, the cost impact has been estimated and mitigation strategies proposed.

The Alliance has developed a program to undertake the works and used this estimate to check the program submitted by the subcontractor. The proposed timeframe reflects the outcome of this process and includes some allowance for potential delays arising from wet weather.

On the basis of the above information, SKM concluded that the project can be delivered within the project timelines.

SKM found that one initiative relating to capital planning as identified by the Authority in its 2010-11 report, had been applied to the project, being the development of an implementation strategy.

SKM considered that the initiatives relating to a standardised cost approach and the preparation of a summary document to facilitate standardised reporting had been partially achieved. Although the Logan Alliance completed both a cost estimate for the project and summary document, SKM could not determine if a standardised approach was used. No gateway process has been implemented. The consideration of prudency and efficiency of capital expenditure from a regional perspective was deemed to be not relevant.

Conclusion

For the Link Mains Project, SKM assessed the installation and commissioning of the pipes and construction of the access road as prudent on the basis that the primary driver of growth has been demonstrated. SKM also considered that subordinate drivers of compliance, both legislative and contractual, have been demonstrated.

SKM assessed the project as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated.

On the basis of the above recommendations of SKM relating to the prudency and efficiency of the project, the Authority accepts Allconnex's proposed Round Mountain Reservoir and Link Mains project costs ($2.75 million) for 2011-12.

(ix) Logan Village Treatment and Effluent Reuse Upgrade Waste-water

The township of Logan Village is serviced by the Logan Village WWTP, a small, proprietary trickling filter plant with a capacity of 250 equivalent persons. The current load on the plant is estimated to be around 598 equivalent persons, increasing to 2,517 persons by 2016. Therefore, the plant is significantly under capacity for the growth that is expected within the catchment.

In 2010, Allconnex and My Home and the River Pty Ltd entered into a Recycled Water Scheme Agreement whereby the upgrade of treated effluent storage and relocation of irrigation areas and other works would be completed as part of the development strategy for the area.

As part of the Logan Water Alliance, a number of planning studies were completed for both the Logan Village Wastewater Treatment Plant and the Logan South area to assess short term and longer term strategies to deal with the potential population increase. It was concluded after the options assessment, that in the medium and long term the wastewater in Logan Village network will be conveyed north via the Chambers Flat Road PS to the existing Loganholme Water Pollution Control Centre.

The relocation of the irrigation area and the upgrade of the storage, in addition to tankering sewage to Loganholme Water Pollution Control Centre where necessary, were identified as the short term solutions.

As a consequence of the development of the medium to long term solution, which allows for a larger area than Logan Village, various other works included in the Recycled Water Scheme Agreement are not required and the Logan Village Wastewater Treatment Plant will be decommissioned in 2013.

The proposed cost of the Logan Village Treatment and Effluent Reuse Upgrade Project is $2.73 million in 2011-12.

Prudency

The cost drivers nominated for this project are new growth and legal obligation (compliance). Allconnex submitted that this is supported by the documents "Logan Village Wastewater Network: Prudency and Efficiency Test" and "Project Initiation Form – Logan Village Wastewater Network".

SKM considered that the conclusion that the project is driven by new growth is supported by the following:

(a) Logan Village was identified as one of the communities zoned for future residential and industrial development based on the SEQ Regional Plan 2005-2026;

(b) Logan Village population estimate included in Development Application Information and Infrastructure Demand Models, which predicts an equivalent persons of 2517 by 2016, including residential, commercial and industrial growth; and

(c) Logan Village Wastewater Treatment Plant has a design capacity of 250 equivalent persons or 50 kilolitres per day capacity, but is currently treating approximate 598 equivalent persons.

In addition, the Recycled Water Scheme Agreement is a legally binding document, that has its basis in the provision of wastewater and recycled water services in response to growth.

As such, SKM assessed the Logan Village Treatment and Effluent Reuse Upgrade Project as prudent, identifying growth as the primary driver and contract compliance as the secondary driver.

SKM advised that the decision making process used to identify the option included as the basis of the agreed Recycled Water Scheme Agreement is not clear. Notwithstanding this, the solution is a typical solution.

SKM noted that the decision making process utilised for the review of the Recycled Water Scheme Agreement solution and increased wastewater catchment area is well documented in the Logan Village Wastewater Treatment Plant Planning Study. This includes short term and medium term options analysis, including cost estimates and net present value analysis of capital costs and yearly operational and maintenance costs separately. In addition, the opportunities and risks were identified and a multi criteria analysis conducted. SKM considered it unusual however to not to combine the net present value of the capital and operating costs, to allow easier comparison.

The multi-criteria assessment framework is summarised in the table below.

Table 2.43: Multi-Criteria Assessment Framework

Technical/Operation/Risk	***Environmental***	***Social***
Performance against desired standard of service	Greenhouse gas emission and energy consumption	Operation
Security/redundancy/reliability/flexibility	Waste and resources	Construction
Incident Risk	Construction	Community
Operability and maintainability	Operation	Impact
Constructability		Public
Regulatory Compliance		

Source: SKM (2011)

The following options were considered:

(a) short term:

  (i) tankering from the existing pump station Logan Village 2; and

  (ii) tankering from the existing Logan Village WWTP site;

(b) medium term:

  (i) installation of a Packaged Plant;

  (ii) installation of a Sequencing Batch Reactors;

  (iii) transfer of the wastewater flows to new Wastewater Treatment Plant at Yarrabilba; and

(iv) transfer of the wastewater flows to the Loganholme Water Pollution Control Centre.

SKM assessed that the decision making process is not clear but the solution is a typical solution.

Efficiency

SKM noted that the Recycled Water Scheme Agreement documents works which include:

(a) the construction of Treated Effluent irrigation infrastructure in order to relocate the existing irrigation field;

(b) the construction and commission of new Treated Effluent irrigation infrastructure to enable irrigation of Treated Effluent on the Area; and

(c) the design, location and construction of the Treated Effluent Storage Pond.

The infrastructure required for the short term option includes:

(a) wastewater balancing storage;

(b) a new access road within the existing wastewater treatment plant site to ensure adequate space for turning of the tankers (semi-trailer size);

(c) inlet works flow splitter and a wet well with pumps to allow the existing plant to continue operations with excess flows diverted to the new wet weather storage tanks 2 x 198kL storage tanks;

(d) sale of the wastewater balancing storage; and

(e) decommissioning existing Logan Village WWTP after diversion works have been completed.

SKM assessed the scope of works as reasonable for the revised project.

No standards of service were articulated in the Recycled Water Scheme Agreement, however, SKM expected that they would be in line with Logan Water Standards of Service.

SKM noted that the Logan Village Wastewater Treatment Plant Planning Report utilises the Allconnex Water Central District Desired Standards of Service of average dry weather flow (ADWF) of 200L/EP/d. The standards of service for the storage are articulated in Appendix E of the Logan Village Wastewater Treatment Plant Planning report and appear reasonable.

The estimated cost of the storage ($429,630) combined with the cost for irrigation area relocation ($72,700) is $502,330 which is comparable (87%) to the $576,900 included in the request for information response.

SKM assessed this as reasonable for the works required.

However, the Authority notes that these identifiable costs do not agree with the costs in Allconnex's 2011-12 Information Template.

With regard to timing and deliverability, SKM noted that the upgrade of the effluent lagoon and the relocation of the irrigation site had been completed by October 2011.

With the exception of no information being provided on any 'toll gate' or 'gateway' reviews, SKM found that the other initiatives relating to capital planning, as identified by the Authority in its 2010-11 report, had been applied to the project. With regard to a standardised approach to cost estimating, SKM noted a 20% contingency was applied.

Conclusion

Initially, a Recycled Water Scheme Agreement identified the necessary works. A subsequent review considering a larger area identified short and medium to long term strategies. Consequently, part of the Recycled Water Scheme Agreement formed the basis of the short term strategy. The long term strategy is to convey wastewater to Loganholme Water Pollution Control Centre.

SKM reviewed the short term strategy. SKM assessed the project as prudent on the basis that the primary driver of growth and the secondary driver of contractual compliance have been demonstrated.

SKM assessed the project costs ($576,900) identified in response to a request for further information as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated. SKM notes these do not reconcile with Allconnex's proposed costs of $2.73 million.

On the basis of the above recommendations of SKM relating to the prudency and efficiency of the project, the Authority accepts only $576,900 of Allconnex's proposed Logan Village Treatment and Effluent Reuse Upgrade costs for 2011-12.

(x) Currumbin Waters - Water Supply District Upgrade

The stated objective of this project is to adapt to changes in the operational conditions of the water supply system which have changed as a result of:

(a) the introduction of desalinated water from the Tugun Desalination Plant;

(b) new infrastructure associated with the desalination plant;

(c) the takeover of bulk water assets by LinkWater; and

(d) potential changes to the bulk water supply strategies from the Mudgeeraba Water Treatment Plant (water can be pumped from Tugun to the Elanora reservoir, obviating the need to supply the Elanora reservoir from the Mudgeeraba Water Treatment Plant).

The proposed changes to operation in the water supply district of the southern region water supply network have warranted the review of the water supply systems to the Currumbin Waters Water Supply District and, in particular, the decommissioning of Tallebudgera Pump Station.

SKM noted that an options analysis undertaken by Allconnex indicated the feasibility and preference for supplying the Currumbin Waters Water Supply District under gravity from the Mudgeeraba Water Treatment Plant. This project will involve the design and construction of pipes, pressure reduction valves, altitude control valves and will result in the decommissioning of Tallebudgera Pump Station T6. This option (the possibility of converting the existing pumping system for Currumbin Waters Water Supply District into a gravity system), was first identified during investigations conducted by Gold Coast Water Infrastructure Planning Branch in July 2005.

The proposed cost of the Currumbin Waters Water Supply District Improvement project is $670,000 in 2011-12.

Prudency

The business driver nominated by Allconnex for this project is improvement. Allconnex's Asset Management Strategy outlines in Section 5 KRA – 2 Asset Lifecycle Planning, the objective for asset management effectiveness and efficiency resulting in maximum utilisation and economic value of assets over their lifetime.

SKM agreed that the changes to the Currumbin Waters Water Supply District, including decommissioning of Tallebudgera Pump Station and supply via a gravity network, will increase utilisation and economic value over the assets lifetime. Further, the replacement of Tallebudgera Pump Station T6 will result in improvements in operational efficiencies through reduction of operating and maintenance expenditure, will improve Allconnex's environmental performance through reduction in electricity usage, and will improve levels of service to customers in the Currumbin Waters Water Supply District by removing the risk of interruption caused by failure of Tallebudgera Pump Station T6.

SKM noted that the improvement driver is defined by the Authority as an increase in the reliability or the quality of supply that is explicitly endorsed or desired by customers, external agencies or participating councils. Notwithstanding the uncertainty of the driver, SKM assessed the project as prudent and the most representative driver to be improvements.

SKM noted that in determining the appropriate course of action, Allconnex performed an options analysis, as outlined below:

(a) Do Nothing: continued exposure to ongoing cost due to pumping system;

(b) Option 1: Close Tallebudgera Pump Station T6 and supply the Currumbin Waters Water Supply District under gravity from the Reedy Creek reservoirs;

(c) Option 2: Close Tallebudgera Pump Station T6 and construct a new 450 mm diameter connection from the 450 mm diameter main (supplying the Double View Drive reservoirs for the Mudgeeraba Water Treatment Plant) to the existing 225 mm diameter main in Nineteenth Avenue;

(d) Option 3: Close Tallebudgera Pump Station T6 and open the normally closed valve between the 450 mm diameter main from the Mudgeeraba Water Treatment Plant and the 600 mm diameter main to Currumbin Waters Water Supply District, close a line valve on the 375 mm main diameter supplying the Currumbin Waters Water Supply District, install a pressure reducing valve and flow control valve on the 600 mm diameter main to Currumbin Waters Water Supply District, install a pressure reduction valve on the 225 mm diameter main at Larch St, and install an altitude level control valve for the T6 and C01 reservoirs;

(e) Non-infrastructure alternative(s): A non-infrastructure alternative solution is not applicable in this case; and

(f) New infrastructure/asset: The options were considered as described below.

The three options were examined as part of a gravity system. Of the three, SKM's modelling found that Option 1 failed to meet service objectives after 2016 and Option 2 failed to meet service objectives after 2026. Option 3 meets service objectives until at least 2056.

SKM noted that the Project Initiation Form demonstrates that this project is a substitution project, with long term operating costs (over the next 45 years) of $2,384,753 associated with the operation of Tallebudgera Pump Station T6 being substituted with a $573,158 capital cost.

A NPV calculation in the Project Initiation Form shows NPV savings of $1,811,595 across the next 45 years. Hence, life cycle cost (NPV) calculations support the decision making process and option selection.

Efficiency

The scope of work for the project is outlined as follows:

(a) procure and commission a consultant to undertake detailed design of the works;

(b) prepare tender documents for the proposed work;

(c) procure and commission a suitable contractor to undertake the works as specified, including:

  (i) decommission Tallebudgera Pump Station T6;

  (ii) pressure reducing and flow control valves on the existing 600 mm diameter main;

  (iii) pressure reducing valve on the 225 mm diameter main on Larch Street;

  (iv) altitude control valve for the Tallebudgera Reservoir; and

  (v) telemetry for valve control; and

(d) commission the new system, including four-week field logging of flows and pressures to ensure adequate settings for all pressure reduction valves and flow control valves.

Considering the alternative options examined, including the do nothing approach, Options 1, 2 and 3, and the unsuitability of non-infrastructure alternatives, SKM concluded that the scope presented by Allconnex is the best means of achieving the desired outcomes.

With regard to standards of service, SKM noted that the project is to be completed to Allconnex's Standards & Specifications as outlined in the Land Development Guidelines. The Land Development Guidelines are the Gold Coast Planning Scheme 2003 Policy 11 – Land Development Guidelines, which provide council's minimum standards for developments encompassing traditional potable water reticulation including any works required to join with existing and adjoining traditional potable water reticulation systems.

The project is adjacent to and utilises existing infrastructure, and includes telemetry systems. From the above review, SKM consider the standards of service to be appropriate and note that the project contract is to be awarded by open tender as indicated in the Project Initiation Form.

SKM understood that the project has not been tendered as yet and therefore a detailed cost estimate for the construction component of the project is not available. No breakdown of the internal labour costs has been provided.

SKM concluded that the Allconnex project costs for pressure reduction valves, flow control valve and altitude control valve are appropriate. Therefore, the project costs have been assessed as efficient.

With regard to timing and deliverability, the project duration is estimated to be 12 months, being wholly within the 2011-12 financial year, as indicated in the Project Plan project schedule. Risks to the schedule will be managed in accordance with Allconnex's risk management process by the project manager. Project management and delivery strategies will comply with Allconnex's ISO14001 risk management principles and guidelines.

As this is a small project, SKM considered that it is likely to be delivered in the 2011-12 financial year as outlined in the project schedule in the Project Plan.

SKM identified that efficiency will be realised through the elimination of operating and maintenance costs associated with Tallebudgera Pump Station T6, and supplying the Currumbin Waters Water Supply District as part of a gravity system. Over the 45-year planning horizon to 2056, Allconnex expects a NPV cost saving of approximately $1,811,595 compared to the "do-nothing" approach. SKM considered that this efficiency gain is likely to be achieved.

SKM noted that Allconnex has applied program management, tender process, contract administration and services cost estimates to this project. These costs are estimated at $89,200 and are approximately 14% of the total project costs. Assessment of a selection of tenders received for the Gold Coast Water Pumps Program found these costs to be 9.3%, 7.2% and 9.9% of the total project value. SKM assessed the allocation of overhead costs to be reasonable for the size of the project.

SKM found that most of the initiatives relating to capital planning, as identified by the Authority in its 2010-11 report, had been applied to the project. No information was provided on whether a 'toll gate' or 'gateway' reviewed process had been implemented.

Conclusion

SKM assessed the Currumbin Waters Water Supply District upgrade project as prudent on the basis that the primary driver of improvement has been demonstrated. SKM identified that the project will provide an improvement to the Currumbin Waters Water Supply District and, through the substitution of operational expense by capital expense, will return a NPV benefit to Allconnex.

SKM assessed the Currumbin Waters Water Supply District upgrade project as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs and achievable delivery have been demonstrated.

On the basis of the above recommendations of SKM relating to the prudency and efficiency of the project, the Authority accepts Allconnex's Currumbin Water – Water Supply District upgrade costs for 2011-12.

Summary

The Authority notes that, of the 10 projects sampled for review in 2011-12, most were found to be prudent and efficient. However, SKM noted that the costs associated with the Logan Village Treatment and Effluent Reuse Upgrade are $2.15 million lower than those proposed in Allconnex's submission and there was insufficient information to establish the efficiency of the Operational Management Program.

Table 2.44: Review of Capital Expenditure for 2011-12 ($'000)

Project	*Cost 2011-12*	*Prudent*	*Efficient*	*Revised Cost 2011-12*
Alfred Street to Loganholme WPCC Rising Main Augmentation	9,600	Prudent	Efficient	9,600
ERP Base Infrastructure Program	9,123	Prudent	Efficient	9,123
Billing System (tactical)	8,267	Prudent	Efficient	8,267
Burleigh WWPS B47 RM & GM upgrade	7,600	Prudent	Efficient	7,600
Meter Renewals program	4,880	Prudent	Efficient	4,880
Operational Management Program	4,734	Prudent	Insufficient information	0
Alliance Program Management	3,933	Prudent	Efficient	3,933
Round Mountain Reservoir and Link Mains	2,750	Prudent	Efficient	2,750
Logan Village Treatment and Effluent Reuse Upgrade	2,728	Prudent	Revised Costs deemed efficient	577
Currumbin Waters - Water Supply District Upgrade	670	Prudent	Efficient	670
Totals	**54,285**			**47,399**

Source: SKM, 2011

In the course of its review, SKM noted that Allconnex has made progress in addressing the issues identified by the Authority in its 2010-11 Final Report, namely that:

(a) there is clear evidence Allconnex is taking a whole of entity perspective to identification, option evaluation and selection of capital projects. This is evidenced in the rationalisation of wastewater catchments in the area of the proposed Staplyton, Beenleigh and Loganholme wastewater treatment plants;

(b) Allconnex is yet to implement a constant and standardised approach to cost estimation;

(c) Allconnex has developed a standardised summary document for these projects known as a Prudency and Efficiency Test document. While there is a requirement for the use of this standardised documentation, it has not been universally applied;

(d) there is evidence that Allconnex is establishing processes and procedures with a view to ensuring a consistent approach to implementation strategy and its documentation; and

(e) Allconnex has developed a Gateway framework. However, the implementation of the gateway framework has been suspended as a result of participating councils deciding to disestablish Allconnex.

While the withdrawal of councils from Allconnex has resulted in the progress of these initiatives being stalled, the Authority expects that the council water businesses that will replace Allconnex from 1 July 2012 will imbed these initiatives within their business processes.

Not all of Allconnex's proposed costs have been found to be prudent and efficient (Table 2.45).

Table 2.45: Comparison between Allconnex and Authority's capital expenditure ($m)

	2011-12
Capex (Allconnex)	182.97
QCA adjustments	6.9
Total adjusted	**176.07**

Note: The Authority's adjustments for 2011-12 onwards reflect the impact of its revised estimates on capital expenditure as commissioned and without adjustment for contributed assets Source: Allconnex (2011) and QCA calculations.

The Authority also notes that most of Allconnex's proposed costs have been accepted (as they are deemed to be prudent and efficient at the time prices were set) and will be incorporated in the Authority's estimated RAB for 2011-12. Nevertheless, because of the withdrawal of councils from Allconnex some projects may not be progressed over the balance of the year resulting in potential cost savings. Those projects include the ERP Base Infrastructure Program, Billing System and Operational Management Program.

Of the $182.97 million capital expenditure proposed to be commissioned in 2011-12, $176.07 million were found to be prudent and efficient.

Contributed, Donated and Gifted Assets

As noted above, the Ministerial Direction requires the Authority to accept as prudent and efficient contributed, donated and gifted assets (contributed assets) and capital expenditure funded through cash contributions and subsidies (capital contributions) for water and wastewater for the period 1 July 2008 to 30 June 2010.

The Direction also requires the Authority to accept that, in setting prices from 1 July 2008, the councils applied a revenue offset approach to account for contributed assets and capital contributions received and that this approach is to remain in effect until such time that the entity nominates that it will adopt the asset offset method. Where a change in methodology is adopted, the RAB is not to be adjusted retrospectively.

In April 2011, following a recommendation by an infrastructure taskforce in late 2010, the State Government announced its intention to impose maximum capital contributions for trunk infrastructure (including water, wastewater, transport and public parks). Under the legislation that was introduced in June 2011, the maximum capital contributions for all trunk infrastructure networks (including water, sewerage, transport and public parks) are:

(a) $28,000 for dwellings with three or more bedrooms;

(b) $20,000 for dwellings with one or two bedrooms; and

(c) various rates for non-residential development, including $50-70/m2 gross floor area (GFA) for industry and $140-180/m2 GFA for commercial.

Under the price monitoring framework, the Authority assesses whether the methodology adopted by the entities to forecast contributed assets and capital contributions is reasonable in the circumstances.

Allconnex Submission

Allconnex submitted that it expected to receive $130.32 million in contributed, donated and gifted assets over 2010-11 to 2013-14 and $166.35 million in capital (cash) contributions over the same period (see table below). Allconnex has continued the asset offset approach to the treatment of contributed assets and capital contributions.

Table 2.46: Allconnex – Contributed Assets & Capital Contributions ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2012-13*	*Total 2010-14*
Contributed Assets	33.47	73.62	32.61	31.77	32.56	33.38	130.32
Capital Contributions[a]	39.52	44.72	45.01	39.45	40.44	41.45	166.35
Total	**72.99**	**118.34**	**77.62**	**71.22**	**73.00**	**74.83**	**296.67**

[a] *includes grants and subsidies Source: Allconnex (2011)*

Allconnex noted that total contributed assets and capital contributions in 2010-11 (of $77.62 million) are significantly (26%) below those forecast in its 2010-11 price monitoring submission (of $105.86 million), as the previous submission incorporated some bounce back in the development industry and were developed from each of the three council water business units prior to establishment of Allconnex.

Allconnex submitted development activity in its area of operation has slowed significantly over recent years. Factors contributing to the slowdown include the global financial crisis (GFC), infrastructure charges, and the inability of developers to secure loans with the same conditions prior to the GFC. Allconnex stated that while much of the Australian economy was not significantly affected by the GFC, its impact on the development industry particularly on the Gold Coast was substantial.

Forecast developer charges and donated assets were developed by Allconnex on the basis of historic results collected by product and district and also took into consideration 'the continued bleak outlook of the development industry in the Allconnex region'. Allconnex forecast an initial decline in contributions in the first year of the forecast period, followed by modest increases in the final two years.

Allconnex noted that the Infrastructure Charges Taskforce report recommended setting uniform maximum standard infrastructure fees, with different development types attracting a different maximum standard charge.

At the time of price setting, Allconnex had not determined the impact of the standard charge, although it noted that two of the participant councils adopted the maximum charge for all development types while the third adopted the actual calculated charge from the Priority Infrastructure Plan (PIP) for a number of residential development types. An agreement was however reached with the three participating councils on Allconnex's proportion of the charge. The proportion is similar to the historic splits prior to water reform.

The maximum charges calculation methodology differs from the methodology used for Allconnex charges in the Gold Coast district. Historically these charges were calculated using planned demand rather than actual application demand.

Allconnex noted that the impact of applying a standard charge may see a substantial reduction in the amount that is able to be charged and Allconnex revenue. In addition, the standard charge to be applied to non-residential developments is lower under the new regime.

Allconnex noted that any potential shortfall in developer contributions as a consequence of the State Government infrastructure reforms were not incorporated in the Allconnex forecasts.

Authority's Analysis

Under the Direction, the Authority must accept as prudent and efficient and include in the RAB, contributed, donated and gifted assets and capital expenditure funded through capital contributions for water and wastewater for 2008-09 and 2009-10.

The Authority notes that Allconnex has revised its 2010-11 estimates based on the latest available information on estimated actuals. These are around $28.2 million lower than originally anticipated.

The Authority also notes that Allconnex's 2011-12 estimates were prepared when legislation was being introduced to impose maximum capital contributions and do not take these into account.

The Authority notes that the methodology adopted by Allconnex for the estimation of contributed assets and capital contribution continues to rely on estimates of receipts provided by participant councils. In its 2010-11 Final Price Monitoring Report the Authority recommended that Allconnex further investigate an appropriate method of forecasting contributed assets and capital contributions across all districts. The Authority notes that this has not occurred.

The Authority notes that forecasting of contributed assets and capital contributions is a difficult exercise, but that accuracy is important under annual pricing. There are added complexities in estimating contributed assets and capital contributions deriving from estimating the rate at which development applications proceeds and contributions are paid.

While the Authority has not been able to undertake a detailed review of the appropriate method for the Draft Report, further review is intended for the Final Report. In particular, the use of maximum charges and a consistent set of population estimates to those adopted for pricing purposes warrants review.

Pending a more detailed consideration of this issue, the Authority has not adjusted Allconnex's forecasts of contributed assets and capital contributions. The Authority will progress the issue for the Final Report and to assist in price setting for 2012-13.

Allconnex has applied the asset offset approach to the treatment of contributed assets and capital contributions. Recognising the need for further analysis of contributed assets, the Authority has accepted Allconnex's estimate of contributed assets and capital contributions of $71.22 million for this Draft Report.

The Authority seeks feedback from stakeholders on how to improve the forecasting of contributed assets and capital contributions.

The Authority will progress this issue for the Final Report and to assist in price setting for 2012-13.

2.8 Rolling Forward the RAB

In accordance with the Ministerial Direction and normal regulatory practice, the initial RAB is rolled forward to account for capital expenditure, inflationary gain, depreciation (return of capital) and disposals.

The Authority generally applies a straight line approach to depreciation. Under the Direction, the Authority must also take into account, for the period 1 July 2008 to 30 June 2010, evidence that depreciation has been calculated using the Minister's advised RABs allocated to council assets and existing useful lives.

Under the roll forward, indexation and depreciation are calculated on the assumption that forecast capital expenditure and disposal occur evenly throughout the year.

For indexation the Authority is required under the Direction to use the annual June to June ABS CPI (all groups, Brisbane) for 2008-09 and 2009-10. From 1 July 2010, under the Information Requirements for 2011-12, forecasts of CPI as determined by the difference between the Reserve Bank of Australia (RBA) return on the market rate for five year bonds and five year capital indexed bonds must be used. In its 2010-11 Final Report the Authority adopted an estimate of 2.48% for 2010-11 on this basis.

As noted above, actual capital expenditure from 1 July 2008 to 30 June 2010 is included in the RAB, while from 1 July 2010 only prudent and efficient capital expenditure is to be rolled forward. Further, where the entity chooses to apply the asset base offset approach, contributed assets and capital contributions are deducted from the assets to be paid for by users.

Allconnex Submission

In its submission, Allconnex adopted a straight line approach to depreciation based on existing asset lives contained in its fixed asset registers. Depreciation of new assets was determined using standard asset lives. In forecasting regulatory depreciation, Allconnex assumed that that forecast capital expenditure and disposals occur evenly throughout the year.

In relation to indexation, 2008-09 and 2009-10 were based on ABS CPI (all groups, Brisbane) of 2.0% and 3.2% respectively. For 2010-11, an inflation forecast of 3.25% was used, which reflects the 2011-12 Queensland State Budget estimate.

For 2011-12 onwards, Allconnex has adopted the inflation forecasts reported in the Economic Statement issued by the Australian Government in July 2010. This resulted in an estimate of 2.7% for 2011-12 and 2.5% thereafter.

Allconnex submitted that while this approach differs to that proposed by the Authority in its Information Requirements, it noted that the Authority has since indicated that its previously adopted method of using the difference between the nominal bond rate and capital indexed bonds was no longer appropriate. Allconnex cited the Authority's reports on the Gladstone Area Water Board and SEQ Grid Service Charges 2011-12, in which the Authority adopted an inflation estimate of 2.5% based on the midpoint of the RBA's target inflation band.

Allconnex submitted that asset disposals were not separately forecast in its existing financial systems. Therefore, it adopted participating councils' historic asset disposal figures as a basis for its forecast values. Specifically, Allconnex determined historic disposals as a proportion of individual asset classes. These proportions were then used to determine the value of disposals over the forecast period. (Allconnex noted that it intends to address the identification of asset disposals as part of its proposed ERP solution.)

Allconnex noted that it had adopted the Authority's interim opening RAB as at 30 June 2010, as advised by the Authority. Allconnex provided the Authority's interim RAB roll forward information to 30 June 2010 and Allconnex's calculated roll-forward to 30 June 2011.

Table 2.47: Allconnex Asset Base Roll Forward – Water and Wastewater ($m)

	2008-09	***2009-10***	***2010-11***
Opening RAB	3,557.28	3,796.19	4,107.72
plus Capital expenditure*	267.3	299.22	135.88[#]
plus Indexation	74.46	125.22	141.88
less Depreciation	(93.34)	(102.79)	(129.57)
less Disposals	(9.51)	(10.54)	-
Closing RAB (Allconnex)	**3,796.19**	**4,107.72**	**4,255.91**

*Note: *Capital expenditure is net of contributed assets and cash contributions. # Capital expenditure for 2010-11 is also net of disposals. Source: Allconnex (2011)*

Authority's Analysis

SKM reviewed Allconnex's asset lives by comparing them to available benchmarks from the Water Services Association of Australia and found them to be reasonable. The Authority applied a straight line approach to depreciation as per the SEQ price monitoring model.

The Authority's opening RAB for water and wastewater activities as at 1 July 2011 ($4,267.03 million) is slightly higher than Allconnex's estimate ($4,255.91 million).

The difference primarily relates to indexation. Consistent with the Direction and Allconnex's approach, the Authority has rolled forward the RAB for 2008-09 and 2009-10 using ABS CPI (all groups, Brisbane) of 2.0% and 3.2% respectively. The Authority has also rolled forward the RAB for 2010-11 using information available at the time of price setting on actual inflation. The Authority has used the ABS CPI (all groups, Brisbane) estimate of 3.58% for 2010-11 for this purpose. This compares with the estimate of 3.25% used by Allconnex and has led to the Authority's slightly higher opening RAB at 1 July 2011.

The Authority has used a forecast inflation rate of 2.48% for 2011-12. This represents the Authority's estimate of inflation in its Final Report for 2010-11 and is consistent with the WACC of 9.35% adopted for price monitoring. This compares with Allconnex's estimate of 2.7% for 2011-12.

In relation to disposals, the Authority has accepted Allconnex's approach based on historical information.

Table 2.48: Asset Base Roll Forward – Water ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*
Opening RAB	1,456.95	1,527.27	1,643.30	1,694.43
plus Capital expenditure	80.81	108.97	67.16	77.04
plus Indexation	30.21	50.38	59.51	42.61
less Depreciation	(36.74)	(39.92)	(46.09)	(50.01)
less Disposals	(3.95)	(3.39)	(3.80)	(3.85)
less Capital contributions[1]	0.00	0.00	(25.65)	(25.81)
Closing RAB (QCA)	1,527.27	1,643.30	1,694.43	1,734.41

[1] Only relevant for asset base offset approach to the treatment of capital contributions. Allconnex has adopted a asset offset approach. Source: Allconnex (2011), QCA

Table 2.49: Asset Base Roll Forward – Wastewater ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*
Opening RAB	2,100.33	2,268.92	2,464.42	2,572.60
plus Capital expenditure	186.49	190.25	150.34	99.05
plus Indexation	44.25	75.26	89.87	64.38
less Depreciation	(56.60)	(62.87)	(73.48)	(80.12)
less Disposals	(5.56)	(7.15)	(6.58)	(6.67)
less Capital Contributions[1]	0.00	0.00	(51.97)	(45.41)
Closing RAB	2,268.92	2,464.42	2,572.60	2,603.83

[1] Only relevant for asset base offset approach to the treatment of capital contributions. Allconnex has adopted a asset offset approach. Source: Allconnex (2011), QCA

Table 2.50: Comparison of Opening RABs ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*
QCA Opening RAB	**3,557.28**	**3,796.19**	**4,107.72**	**4,267.03**
Allconnex Opening RAB	3,557.28	3,796.19	4,107.72	4,255.91
Difference	0	0	0	(11.12)

Source: Allconnex (2011), QCA

The Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2011-12 is slightly higher than that of Allconnex.

The Authority's estimate of the closing asset value as at 30 June 2012 is $1,734.41 for water and $2,603.83 million for wastewater.

2.9 Return on Capital

Under the Ministerial Direction, the Authority was required to advise the entities by 1 March 2011 and 1 March 2012 of the WACC benchmark for 2011-12 and 2012-13 respectively.

After taking into account all relevant issues, the Authority advised the entities on 15 March 2011 that it intended to adopt a WACC of 9.35% for the three-year period 2010-11 to 2012-13. The reasons for this decision are set out in Appendix B in the Authority's Final Report for 2010-11.

Allconnex Submission

Allconnex adopted the Authority's advised WACC benchmark of 9.35% in its 2011-12 submission.

Authority's Analysis

As per the agreed price monitoring framework and the Authority's advice to the entities of 15 March 2011, the Authority has adopted a WACC of 9.35% for 2011-12. This is the same WACC as adopted by Allconnex.

The Authority's estimate of the return on capital resulting from the 9.35% WACC and the (updated) asset base is set out below. The difference in Allconnex's estimated return on capital therefore arises from its view of the RAB to which the WACC is applied, rather than the WACC applied. The Authority's RAB is slightly higher than that of Allconnex due to the higher indexation applied in 2010-11 (as noted above).

Table 2.51: Return on Capital ($m)

	Water Costs 2010-11	***Wastewater Costs 2010-11***	***Water Costs 2011-12***	***Wastewater Costs 2011-12***
Return on Capital (Allconnex)	162.40	259.88	160.01	242.75
Return on Capital (QCA)	152.29	240.03	160.69	242.80
Difference	7.19	20.48	0.68	0.05

Shaded data reflects that published in QCA Final Report for 2010-11. Source: Allconnex (2011) QCA

The Authority has adopted a WACC of 9.35% in accordance with the Ministerial Direction. This is consistent with the approach adopted by Allconnex.

2.10 Operating Expenditure

Operating costs include the cost of purchasing bulk water, as well as both retail and distribution costs such as materials and services (including chemical and electricity costs), employee, corporate and customer service costs.

The Ministerial Direction requires the Authority to recognise the Government's policy that the prices charged by the SEQ Water Grid Manager for bulk water storage, treatment and delivery are to be passed through to customers in full. The Ministerial Direction also requires the Authority to accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010. These constraints include that there are to be no forced redundancies during the interim period.

The Authority notes that these constraints do not apply to new employees engaged temporarily to perform work on the establishment of the entities or independent contractors or employees engaged by labour hire companies that provide services to either the entity or participant council.

The Authority engaged SKM to review the prudency and efficiency of Allconnex's forecasts of operational expenditure for its water and wastewater activities from 1 July 2011.

Allconnex Submission

In its submission, Allconnex proposed a total of $379.18 million of operational expenditure for 2011-12, comprised of $233.85 million of expenditure for water and $145.33 million for wastewater.

Allconnex allocated its operational costs to the drinking water, wastewater via sewer and trade waste services. Allconnex's 2011-12 operating cost forecasts were informed by its 2010-11 estimated actual operating costs, cost escalation assumptions and the State's published schedule of bulk water charges.

Operational Expenditure forecasts

Allconnex's forecast total operational expenditure over the period 2010-11 to 2013-14 for water and wastewater are set out in the tables below.

Table 2.52: Allconnex Forecast Operating Costs Water 2010-2014 ($m)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Bulk water costs	154.66	130.32	167.33	195.42	225.08
Employee expenses	23.83	24.75	32.19	36.56	36.61
Contractor expenses	1.65	3.54	1.19	0.00	0.00
GSL Payments	0.00	0.00	0.00	0.00	0.00
Electricity charges	na^	4.29	3.97	4.39	4.70
Sludge handling costs	na^	0.00	0.00	0.00	0.00
Chemicals costs	na^	0.89	1.20	1.23	1.19
Other materials and services (not relating to capital expenditure)	35.36	19.67	15.08	15.97	16.16
Licence or regulatory fees		0.29	0.44	0.46	0.44
Corporate Costs	12.57	18.56	11.89	11.32	11.12
Non recurrent costs		0.00	0.00	0.00	0.00
Indirect taxes		0.07	0.55	1.12	1.08
Total Operating Costs	**228.08**	**202.38**	**233.85**	**266.47**	**296.38**

Note: Shaded data reflects Allconnex's forecasts for 2010-11 in its 2010-11 price monitoring submission. Note: na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template. Source: Allconnex (2011), SKM (2011), QCA

Table 2.53: Allconnex's Forecast Operating Costs Wastewater 2010-2014 ($m)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Bulk water costs	0.00	0.00	0.00	0.00	0.00
Employee expenses	36.94	39.58	47.46	53.56	53.63
Contractor expenses	1.68	5.64	1.78	0.00	0.00
GSL Payments	0.00	0.00	0.00	0.00	0.00
Electricity charges	na^	7.89	10.46	11.55	12.36
Sludge handling costs	na^	5.50	5.85	6.00	5.97
Chemicals costs	na^	1.81	3.35	3.43	3.31
Other materials and services (not relating to capital expenditure)	69.63	31.53	56.46	57.13	55.84
Licence or regulatory fees		0.43	0.66	0.68	0.66
Corporate Costs	23.10	28.20	18.48	17.65	17.33
Non recurrent costs		0.00	0.00	0.00	0.00
Indirect taxes		0.11	0.82	1.69	1.63
Total Operating Costs	**131.34**	**120.69**	**145.33**	**151.69**	**150.72**

Note: Shaded data reflects Allconnex's forecasts for 2010-11 in its 2010-11 price monitoring submission. Note: na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template. Source: Allconnex (2011), SKM (2011), QCA.

Variation from 2010-11 Submission and Efficiency Gains

Allconnex noted that, in the Authority's review of its previous forecasts in 2010-11, the Authority made a number of amendments to certain cost forecasts, including applying an

overarching efficiency factor to all non-bulk operating costs. For 2010-11 however, these adjustments were negligible (resulting in a net increase of $200,000). For 2011-12, the Authority reduced Allconnex's total operating cost forecast by 2.35%, and by 3.73% for 2012-13.

Allconnex noted that actual expenditure for 2010-11 is estimated at $323.1 million, $36.3 million lower than originally forecast in its 2010-11 submission (at $359 million). This difference is almost entirely attributable to:

(a) lower-than-forecast outcomes for bulk water ($24 million lower) reflecting lower than expected water demand; and

(b) labour costs ($9.5 million lower) reflecting lower than anticipated recruitment of new employees.

Allconnex submitted that its current three-year operating cost forecast varies marginally from that originally provided to the Authority. The variance is attributable to a forecast reduction in water demand causing a reduction in projected bulk water purchases (see table below).

Table 2.54: Allconnex's Forecast Operating Costs Wastewater 2010-2014 ($m)

	2010-11*	***2011-12***	***2012-13***	***2013-14***
Bulk water costs				
2010-11 submission	154.66	187,761	222,549	n/a
2011-12 submission	130.32	167,332	195,418	225,081
Variance (%)	*-16*	*-11*	*-12*	-
Other operating costs				
2010-11 submission	204.76	209,158	219,636	n/a
2011-12 submission	192.75	211,842	222,738	222,014
Variance (%)	*-5.9*	*1.3*	*1.4*	-
Total operating costs				
2010-11 submission	359.42	396,919	442,185	n/a
2011-12 submission	323.07	379,174	418,156	447,094
Variance (%)	*-10.1*	*-4.5*	*-5.4*	-

**Note: Not included in Allconnex's written submission but consistent with data in Allconnex's 2010-11 and 2011-12 templates. Source: Allconnex (2011, 2010).*

Efficiency Gains

Allconnex submitted that two rounds of review have resulted in reductions in operating costs in services and materials and chemicals and electricity. Efficiencies have also resulted from the consolidation of the former council businesses into Allconnex, including through:

(a) development of a centralised contact centre consolidating previous call centre arrangements provided through six areas in councils' water businesses;

(b) alignment and consolidation of water education programs from three districts to one central team; and

(c) the negotiation of new contracts for electricity and some chemicals.

Allconnex noted that reductions in labour have also occurred, however this was not a result of synergies but rather vacant positions remaining unfilled. Allconnex's financial forecasts continue to include a productivity factor of 3% after the expiry of the workforce framework.

Authority's Analysis

The Authority engaged SKM to review the prudency and efficiency of operating expenditure. The assessment was intended to take into account relevant service standards, revised demand forecasts and the potential for efficiency gains and economies of scale.

The Authority notes that, overall, Allconnex has forecast its total operational expenditure (including bulk water costs) will increase from $323.07 million in 2010-11 to $379.17 million in 2011-12 and then to $447.09 million in 2013-14; an average annual increase of 11.44%.

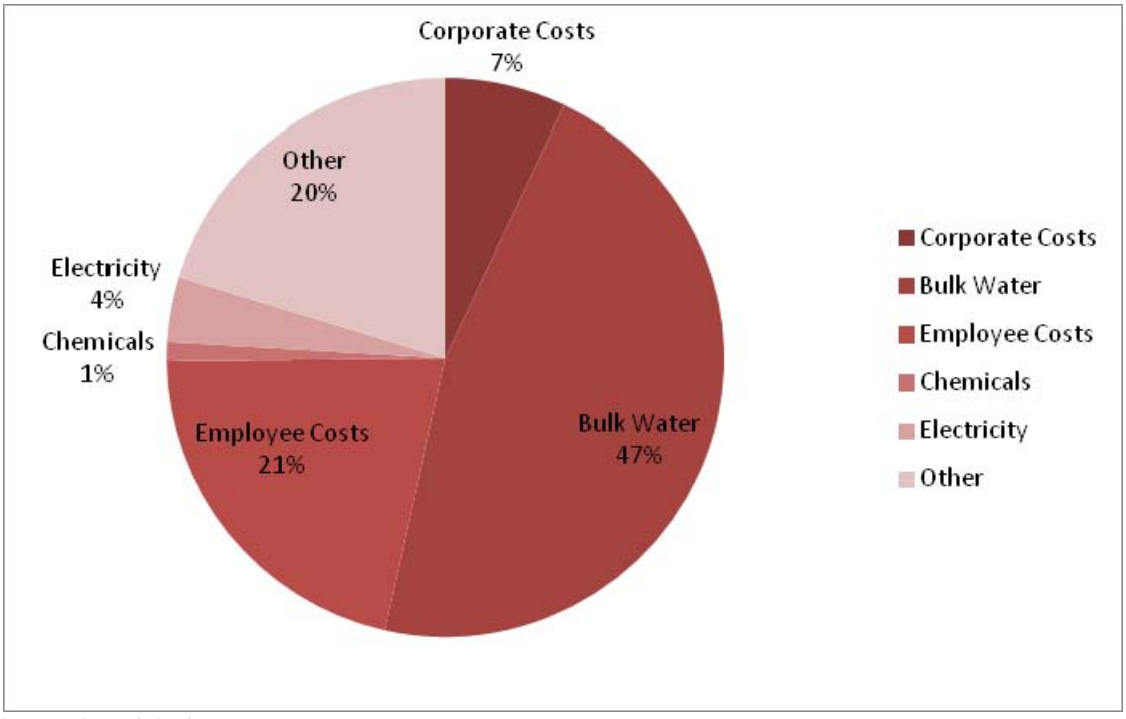
SKM found that variances between the 2010-11 and 2011-12 submissions were minor – largely underpinned by lower forecast of water demand.

Adequacy of Operational Expenditure Data Provision

Prior to assessing the prudency and efficiency of proposed operational expenditure, SKM reviewed Allconnex's submission to ensure that Allconnex provided comprehensive and accurate information.

SKM concluded that Allconnex supplied detailed supporting information to enable them to complete an assessment of the prudency and efficiency of a sample of operating costs.

Chart 2.4: Allconnex's Operating Costs 2010-14



Source: SKM (2011)

Operational Budgeting

SKM reviewed the budgetary policies and procedures followed by Allconnex to ensure that they represented good industry practice. This included a review of the guidelines used for the preparation of the 2011-12 Allconnex budget.

With respect to this review, SKM found that the guideline document provided a comprehensive guide to the development and approval process for the operating budget including:

(a) outline of the budget process;

(b) who has approved the process;

(c) responsibilities;

(d) budget approval and development;

(e) parameters to be applied (e.g. CPI);

(f) review and approval programme/timetable; and

(g) schedules to be produced.

SKM noted that the majority of recurring expenditure is estimated from historical data, with growth and cost escalation indices applied and that budgets are adjusted as necessary to reflect identified efficiencies, constraints and one-off expenditure items.

From its discussions with Allconnex, SKM understood that proposed budgets underwent a number of iterations before sign-off by management and the Allconnex board of directors.

Based on its assessment of the procedures and processes used by Allconnex to formulate the operating budget for 2011-12, SKM concluded that they are representative of good industry practice.

However, SKM noted that a base year that is known to be representative of efficient operating expenditure does not appear to have been established. This may be due to the maturity of the business and as integration of the business is still occurring. It is understood that a number of the programs and strategies necessary to collate sufficient information required to establish and assess an efficient base year for the business are set out in Allconnex's five-year forward plan and as part of the company wide ERP project.

Prudency and Efficiency

SKM benchmarked Allconnex's 2011-12 aggregate operational expenditure for water and wastewater against the other SEQ entities and a range of other Australian utilities (see table below).

Table 2.55: Allconnex's Operating Cost Benchmarks

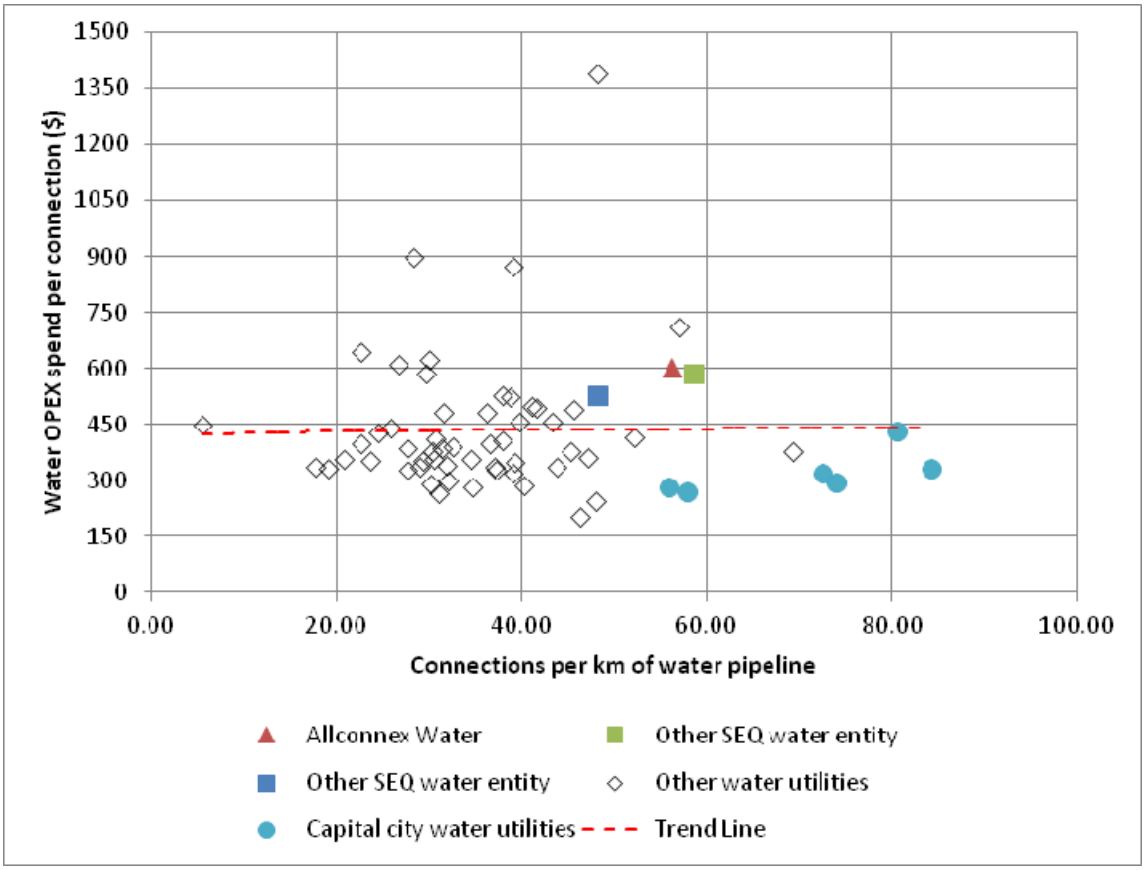
Metric	*Description*	*Allconnex*	*Other SEQ average*	*Sydney Water Corporation*	*Yarra Valley Water*
Customers	Total costs per connection	982	861	577	579
	Water costs per connection	602	558	332	318
	Wastewater costs per connection	380	303	245	261
Network size	Total costs per km of pipeline	56,195	45,670	45,566	41,611
	Water costs per km of pipeline	33,842	29,930	27,983	23,084
	Wastewater costs per km of pipeline	22,353	15,740	17,583	18,527
Volume	Total costs per ML of drinking water	4,040	3,935	1,949	2,872
	Water costs per ML of drinking water	2,572	2,539	1,090	1,531
	Wastewater costs per ML of drinking water	1,468	1,396	859	1,341

Source: SKM (2011)

Based on these metrics, SKM found that Allconnex's operating expenditure for water services are higher than comparable water distributors/retailers in Australia and comparable although slightly higher than other entities in SEQ. The same is true for Allconnex's operating expenditure for wastewater services.

SKM noted that, in assessing aggregate operating costs of water utilities around Australia, comparing expenditure per connection will tend to favour the larger utilities that have a large customer base or higher density of connections. Therefore, Allconnex's relative performance was also measures using both expenditure per connection and the number of connections per km (see graphs below).

Figure 2.3: Water Operational Expenditure



Note: Other utilities data derived from the 2009-10 NWC Performance Report with costs inflated by CPI to 2011-12.
Source: SKM (2011)

Using this approach, SKM found that Allconnex's operational expenditure for water in 2011-12 is higher than similar sized water service providers in other jurisdictions and that this was due in part to higher SEQ bulk water costs, but comparable to the other water distributors/retailers in SEQ.

SKM noted bulk water charges are not controllable by Allconnex and are higher than interstate peers (see table below). SKM considered there was insufficient information publically available for full benchmarking of water operating expenditure excluding bulk water costs to be undertaken, largely as a result of the different supply chains used interstate.

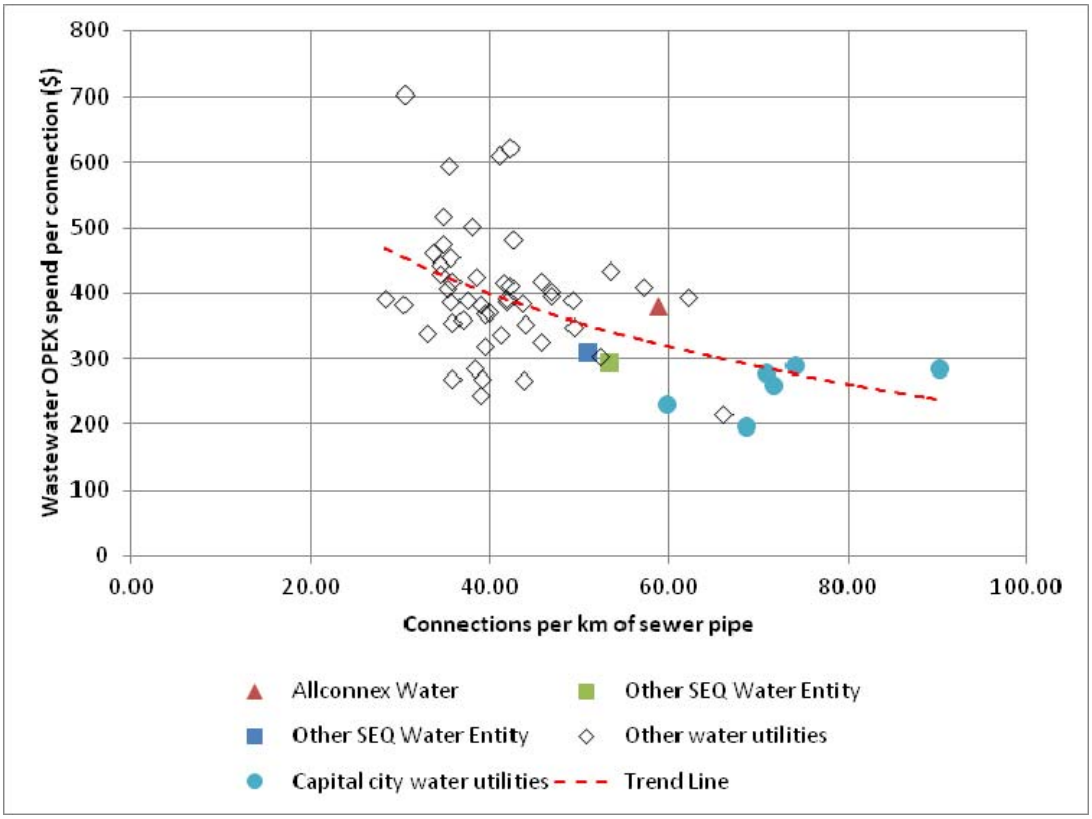
Table 2.56: Comparison of Bulk Water Costs

Water Utility/Area	*Bulk Water Cost ($/kl)*
Allconnex	-
Gold Coast	1.96
Logan	2.11
Redland	1.20
Sydney Water Corporation	0.75[a]
City West Water	1.37[b]
South East Water	1.36[b]
Yarra Valley Water	1.39[b]

Note: [a] Charge is for treated water but excludes desalinated water. [b] includes headworks and transfer costs per kl and fixed charges translated into a per kl basis using bulk water demand data for 2011-12 from the ESC. Source: Sydney Water (2012), Melbourne Water (2012) and ESC data on bulk water (2012).

Allconnex's wastewater costs are not influenced by bulk water charges and are wholly controllable. Again, SKM found Allconnex's costs are higher than similar sized entities and those of other capital city water utilities and other water distributors/retailers in SEQ.

Figure 2.4: Wastewater Operational Expenditure



Note: CPI has been applied to other utilities data to inflate the costs contained in the 2010-11 NWC Performance Report to 2010-11. Source: SKM (2011)

The Authority notes that this high-level analysis showed Allconnex's operating costs for 2011-12 fall within a range of values bounded by other water utilities, and indicates the extent of

operating efficiencies that could potentially be achieved. This is a similar general finding as in 2010-11.

Prudency and Efficiency of Sampled Costs

SKM selected a sample of operational expenditure for detailed review. The sample included the top 10% of operational expenditure by value in each activity and geographic area, over the forecast period. SKM reviewed employee costs, corporate costs, electricity and chemical costs. This sample captures 65% of the total non-bulk operational expenditure over the forecast period.

In addition, the Authority has reviewed Allconnex's bulk water costs against forecasts of demand and the bulk water price path as published by the QWC. The total expenditure sampled represents 81.5% of Allconnex's total operating expenditure.

Table 2.57: Allconnex Operating Costs ($m)

Cost Centre	*2011-12*	*2012-13*	*2013-14*
Bulk water	167.33	195.42	225.08
Corporate Costs	30.38	28.97	28.45
Employee costs	79.66	90.12	90.24
Electricity	14.43	15.93	17.06
Chemicals	4.55	4.66	4.50
Sludge handling	5.85	6.00	5.97
Total Sample	**302.20**	**341.10**	**371.29**
Total Expenditure	**379.17**	**418.16**	**447.09**

Source: Allconnex (2011), SKM (2011)

(a) Bulk Water Cost

The Authority examined Allconnex's tariffs and noted that the bulk water tariffs charged to customers are consistent with those charged by the SEQ WGM. The Authority found that Allconnex's operating budget demonstrates that prices charged by the SEQ WGM for bulk water storage, treatment and delivery are passed through to customers in full.

The review of Allconnex's demand forecasts for bulk water by SKM recommended adjustments to the volume of water sales forecast by Allconnex (see section 2.4) and made corresponding changes to bulk water purchases. The Authority has accepted SKM recommendations and has adjusted Allconnex's operating costs associated with the purchase of bulk water for 2011-12.

Bulk water costs for water decreases slightly in 2011-12 as a result of an estimated decrease in demand in each of the regions.

Table 2.58: 2011-12 Bulk Water Costs

Geographic Area	*Allconnex Submitted Bulk Water Cost ($m)*	*Allconnex Submitted Demand (ML)*	*Revised SKM Demand (ML)*	*Unit Price (/kL)*	*QCA Revised Bulk Water Cost ($m)*
Gold Coast	109.83	56,182	55,582	1955	108.67
Logan	42.70	20,210	19,519	2113	41.24
Redland	14.81	12,320	11,973	1202	14.40
Allconnex	**167.33**	**88,711**	**87,075**		**164.31**

Source: SKM (2011), Allconnex (2011), Queensland Water Commission

(b) Corporate Costs

In its Information Requirements for 2011-12, the Authority defined corporate cost as general corporate expenditure that cannot be readily allocated to other cost types. Allconnex provided a breakdown of corporate costs, as shown in the table below. Allconnex's corporate costs are predominantly made up of SLAs with participant councils and additional corporate office expenditure.

Allconnex's corporate costs totalled $46.75 million in 2010-11 and decreased to $30.38 million in 2011-12, a decrease of 35%.

Table 2.59: Allconnex's Corporate Cost 2011-12

Corporate costs	*Cost*
SLA payments to councils	
Plant, Fleet & Equipment	$7,693,897
Frameworks & Governance	$6,892,380
ICT Billing & Information Management	$1,009,498
Customer Service, Marketing & Branding	$986,253
Properties & Facilities Management	$983,502
Procurement	$855,000
Additional SLA costs	$832,960
Payroll	$516,996
Financial Management and Reporting	$499,419
Information Management	$270,000
Finance and Corporate Services	$249,000
Financial Systems	$43,500
Total SLA payments to councils	**$20,832,450**
Other corporate costs	
Miscellaneous Expenses	$3,252,275
IT Application Licences	$1,479,831
Pmt Channel Fees - BPoint	$1,370,287
Debt Collection	$1,335,744
Additional Corporate Office costs	$1,093,668
Fringe Benefit Tax (FBT) Expense	$780,000
Board Member Fees	$289,000
Sponsorship	$125,000
IT Hardware Purchased	$40,418
Total Other Corporate Costs	**$9,766,223**

Source: SKM (2011)

Allconnex noted to SKM that the operational budget for 2011-12 was prepared on the assumption of a gradual transition away from SLAs. However, due to the decision of participating councils to disestablish Allconnex, the business will now be required to continue to utilise existing council services until transitioning back to participating councils.

Delivery of services which give rise to the majority of Allconnex's corporate costs will therefore continue to be provided by participating councils under the SLAs in place. Delivery of services giving rise to other corporate costs outside of SLAs will be carried out in-house by Allconnex until the business is transitioned back to the participating councils.

SKM noted that while Allconnex submitted that efficiencies have been achieved from the consolidation of the three former council businesses into Allconnex, (including from the centralisation of call centres) no further information was provided to the Authority's consultants as to efficiencies or economies of scale that are applicable to Allconnex's corporate costs. SKM noted that it did not have enough information to assess the quantum of efficiencies and economies of scale realised by Allconnex from the above.

In the time available for review, SKM was unable to conduct a detailed investigation of each corporate cost item and conducted high level benchmarking of corporate costs (see below).

Table 2.60: Allconnex Corporate Cost Benchmarks

Water Authority	*$/FTE*	*$/customer connection*	*$/revenue*
Allconnex Water	**37.5**	**80.9**	**37.9**
Other SEQ retail/distribution entity	41.9	100.4	64.8
Other SEQ retail/distribution entity	34.3	107.3	72.2
Victorian water retail/distributor	106.9	78.5	75.1
Victorian water retail/distributor	87.3	61.0	76.6
Victorian water retail/distributor	63.1	34.1	42.1
NSW water retail/distributor	67.7	114.6	94.9
NSW water retail/distributor	65.6	132.0	135.6
Mean	63.0	88.6	74.9
25th percentile	40.8	74.1	59.1
75th percentile	72.6	109.1	81.2

Source: SKM (2011)

SKM found that Allconnex's corporate costs by all three benchmarks are below peer organisations nationally. Therefore, SKM concluded that Allconnex's operating expenditure for corporate costs is prudent and efficient.

(c) Employee Costs

Under the Ministerial Direction, the Authority must accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010 (SEQ Framework).

In its submission to the Authority, Allconnex has budgeted $75.79 million in 2011-12 and a total of 891 full time equivalents (FTEs) required for the provision of water and wastewater activities. These costs and FTEs provide for the progressive filling of 137 vacancies present in the organisation over the financial year. Allconnex advised that this has resulted in labour savings of approximately $4.99 million, partially offset by increased contractor use of $2.66 m (a net saving of approximately $2.33 million).

Based on Allconnex's total labour cost estimate of $75.79 million, this corresponds to an average cost of $85,061 per employee, including allowance for overtime. The base salary is 70-75% of total labour costs with superannuation, leave allowances and payroll tax in accounting for the remainder. [This compares with an average cost of $74,304 and $87,920 for other SEQ entities.]

Allconnex's employee costs are developed on an employee by employee basis. A base salary is calculated for each employee, statutory on-costs are then applied and an allowance is made for overtime based on historical trends. SKM found that Allconnex's labour costs escalation is

consistent with its Enterprise Bargaining Agreement, which specifies an escalation of 3.9% in Gold Coast and 4% in Redland from 1 July 2011.

Negotiations on future enterprise bargaining agreements have been placed on hold pending decisions relating to structural changes of Allconnex. Allconnex has forecast labour cost increases of 4% per annum for the review period after the expiry of the current enterprise bargaining agreement.

SKM found that budget forecasts by Allconnex expect labour costs to increase by 6.6% per annum, allowing for wage increases of 4% as per the forecast new enterprise bargaining agreement and a further 0.5% for wage increases between award bands and the remainder taking into account the filling of the vacancies present in the Allconnex operations group.

In regards to labour cost escalation, SKM noted that the labour market for the water industry in Australia has experienced an average growth in prices of slightly over 4% per annum over the last four years. This has influenced the negotiation processes surrounding new enterprise bargaining agreements with annual wage increases of between 3.9% and 4.25% through the SEQ water industry.

SKM benchmarked Allconnex's employee costs with the other two SEQ entities, QUU and Unitywater. Allconnex has a similar percentage breakdown of employee costs versus total operating expenses with it averaging approximately 21% of annual expenditure.

SKM concluded that the employee costs proposed by Allconnex are prudent and efficient.

The Authority considers there is the potential for further cost savings arising in employee costs from vacancies not being filled (as occurred in 2010-11). This is a source of potential efficiency gains (see further below).

(d) Electricity Costs

Allconnex uses electricity for water and wastewater pumping, wastewater treatment and corporate offices. Allconnex has budgeted electricity costs of $14.43 million in 2011-12 increasing to $17.06 million in the 2013-14 financial year.

Table 2.61: Allconnex Electricity Costs ($m)

	2011-12	***2012-13***	***2013-14***
Water	3.97	4.39	4.70
Wastewater	10.46	11.55	12.36
Total	**14.43**	**15.93**	**17.06**
Allconnex 2010-11 Submission	**14.93**	**16.73**	**-**

Source: Allconnex (2011)

SKM found that Allconnex now purchases electricity for use at its sites via two entity-wide contracts – for large sites (consumption of more than 100 MWh per annum) and small contestable sites (consumption of less than 100 MWh per annum).

The term of these contracts is 24 months with the term expiring on 31 December 2012 for large sites and 42 months with the term expiring on 30 June 2014 for small sites. These contracts

were sourced via an open competitive tender process and replace the various previous council supply contracts.

SKM found that within the tendering process, Allconnex received offers from four retailers for the large contestable sites and from six retailers for the small contestable sites. They noted that this is evidence of the competitive nature of the electricity retail market and that suppliers are willing to pursue competitive opportunities to sell electricity to industrial and utility companies. As a result, Allconnex's was able to secure a 24 month supply contract for its large contestable sites and a 42 month contract for its small contestable sites.

As a result of combining the previous council contracts into two contracts, SKM found that Allconnex has been able to achieve economies. SKM noted forecast savings for Allconnex over the two financial years 2011-12 and 2012-13 total $1.3 million compared to its costs outlined in its 2010-11 submission.

SKM concluded that the purchase of electricity via long term supply contracts for the large and small contestable sites is efficient.

The Authority notes that Allconnex proposed an electricity cost escalator of 10.4% for 2012-13 and 2013-14 based on the average Benchmark Retail Cost Index (BRCI) over the five years to 2011-12.

In assessing Allconnex's price escalator for 2012-13 onwards, the Authority notes that in its Draft Report SunWater Irrigation Price Review: 2012-17, the Authority proposed an electricity cost escalator of 7.41% per annum based on its experience of the BRCI and the known forward decisions of the Australian Energy Regulator (AER).

Allconnex proposed cost escalator of 10.4% for 2012-13 and 2013-14 is based on the average BRCI over the five years to 2011-12. This is above the Authority's estimate for SunWater of 7.41%. The Authority has therefore adjusted Allconnex's cost estimates to reflect an escalator for 2012-13 and 2013-14 of 7.41%.

The Authority has also revised Allconnex's growth forecasts to align with the percentage change in bulk water volumes arising from SKM revised demand forecasts. Revised electricity costs are presented in the table below.

Table 2.62: Revised Allconnex Electricity Costs ($m)

	2011-12	***2012-13***	***2013-14***
Water	3.93	4.43	5.01
Wastewater	10.26	11.59	13.10
SKM Total	**14.19**	**16.02**	**18.11**
Allconnex Proposed Total	**14.43**	**15.93**	**17.06**
Variance	**-0.24**	**0.09**	**1.05**

Source: SKM (2011), QCA (2011)

(e) Chemical costs

Chemicals are used to treat drinking water before delivery to customers, and for wastewater prior to discharge. The need for chemical use is dictated by drinking water standards and compliance with operational licenses for wastewater discharge.

Allconnex's expenditure on chemicals is forecast at $4.55 million in 2011-12. In determining these forecasts, Allconnex used a CPI of 2.7% for 2011-12 and 2.5% thereafter.

Table 2.63: Allconnex Forecast Chemical Costs

	2011-12	***2012-13***	***2013-14***
Water	1.20	1.23	1.19
Wastewater	3.35	3.43	3.31
2011-12 Submission Total	**4.55**	**4.66**	**4.50**
2010-11 Submission Total	**4.31**	**4.31**	**4.53**

Source: SKM (2011)

Allconnex advised SKM that chemicals were purchased on a geographic basis using a diverse range of contracts. A number of these contracts were novated from the participating councils at the formation of Allconnex, but a number of new contracts have been put in place subsequent to formation of Allconnex.

SKM found that efficiency gains could be achieved by Allconnex reducing the number of contracts and suppliers in place for chemicals and in seeking to aggregate chemical purchases across its operating regions.

In order to assess these costs, SKM benchmarked Allconnex's 2011-12 chemical cost on a per-connection and per ML basis against those of the other SEQ entities. SKM found Allconnex's costs to be comparable to other SEQ retail/distribution entities on this basis.

SKM concluded Allconnex's chemical costs were comparable to other SEQ retail/distribution entities and that method used for the calculation of costs and application of growth and cost escalation indices are reasonable.

The growth factor applied to chemical costs is derived from the growth in bulk water demand, and has been revised as a result of SKM recommendations on demand. The adjusted chemical costs for Allconnex are contained in the table below.

Table 2.64: Revised Chemical Costs ($m)

	2011-12	*2012-13*	*2013-14*
Water	1.19	1.26	1.24
Wastewater	3.28	3.46	3.44
SKM Chemical Costs	4.47	4.72	4.68
Allconnex Submitted Costs	4.55	4.66	4.50
Variance	-0.08	0.05	0.18

Source: SKM (2011), QCA (2011)

(f) Sludge Handling

Sludge handling involves the disposal of bio-solids, grit and screenings from wastewater treatment plants. Allconnex's submitted sludge handling costs are outlined below.

Table 2.65: Allconnex Sludge Handling Costs ($m)

	2011-12	*2012-13*	*2013-14*
Allconnex Cost	5.85	6.00	5.97

Source: SKM (2011), QCA (2011)

Allconnex sources all its sludge handling services via contacts initially signed by its participant councils. SKM reviewed the contract for each geographic region and found that at a high level the rates contained in the contracts correspond with rates for similar services known to SKM and so demonstrate the efficiency of the project in terms of cost.

SKM found that Allconnex is not in a position to capitalise on economies of scale arising from consolidation of contracts across its three regions for sludge disposal due to the recent decision to disestablish Allconnex. In general, SKM considered that a more cost-effective way to deliver the services may have been to contract the services out in one contract to benefit from any economies of scale and this was part of Allconnex's five-year plan.

In the circumstances, SKM concluded that Allconnex's sludge handling costs are prudent and efficient.

The growth factor applied to sludge handling is derived from the growth of bulk water demand, and has been revised as a result of SKM recommendations. The adjusted sludge handling costs for Allconnex are contained in the table below.

Table 2.66: Revised Allconnex Sludge Handling Cost ($m)

	2011-12	*2012-13*	*2013-14*
Revised Total	5.72	6.04	6.19
Allconnex Proposed	5.85	6.00	5.97
Variance	-0.13	0.04	0.22

Source: SKM 2011

Efficiency Gains

In its 2010-11 Final Report, the Authority noted that economic regulators in other jurisdictions have applied annual efficiency gains to water retail businesses of up to 3.5%.

On the basis of its analysis and the experience in other jurisdictions, the Authority was of the view that operating efficiencies of at least 2% per annum in non-bulk operating costs would be achievable in 2010-11 (compounding annually). Therefore, the Authority set Allconnex efficiency targets of 4% in 2011-12 and 6% in 2012-13, consistent with the targets imposed by the Authority on the other two SEQ entities.

The Authority has reviewed the costs proposed by Allconnex in its 2011-12 price monitoring submission against these high level general efficiency targets.

The Authority notes that Allconnex's estimated actual non-bulk operating costs for 2010-11 of $192.75 million are lower than those found reasonable by the Authority in its 2010-11 Final Report of $201.73 million. Allconnex stated this was achieved due to lower than anticipated recruitment of new employees leading to savings in employee costs.

Allconnex's non-bulk operating cost estimate for 2011-12 is $210.30 million. This is $9.70 million above the Authority's view of reasonable non-bulk operating costs for 2011-12 of $200.60 million in its Final Report for 2010-11. As noted above, the Authority's estimate for 2011-12 included a 4% efficiency target.

As in last year's report, SKM's benchmarking analysis this year has again indicated scope for efficiencies in operating costs. Furthermore, for 2011-12, Allconnex has estimated employee costs assuming that all vacancies are to be progressively filled by the end of the year. On last year's experience and as Allconnex is to be disestablished at the end of 2011-12, it would seem unlikely that all vacancies will be filled by this date, giving rise to the potential for cost savings.

Allconnex has also identified some areas of efficiency savings from consolidation of council water businesses in its 2011-12 non-bulk operating costs, but these have not been quantified.

Therefore, the Authority has been unable to confirm the extent of any efficiency savings in 2011-12 and that its efficiency targets have been taken into account in Allconnex's budgeting process. Given this, and as SKM's high level benchmarking analysis indicates there is scope for further efficiencies, the Authority has continued to apply a 4% efficiency gain to non-bulk operating cost estimates for 2011-12 (compounding at 2% thereafter). This is consistent with the Authority's approach in last year's price monitoring report.

Furthermore, the Authority considers that the pursuit of efficiencies should continue despite the disestablishment of Allconnex.

Table 2.67: Recommended Efficiency Gains

	2011-12	***2012-13***	***2013-14***
Non-bulk operating costs*	210.30	221.79	222.37
QCA efficiency target	8.46	13.38	17.88
QCA efficiency target – water	2.64	4.24	5.70
QCA efficiency target – wastewater	5.77	9.07	12.09

** Non-bulk operating costs exclude bulk water costs and licence and regulatory fees, as per the Authority's approach in its 2010-11 Final Report. Source: Allconnex (2011), QCA (2010) and QCA calculations.*

Summary

The Authority considers that, despite the withdrawal of councils from Allconnex on 30 June 2012, Allconnex should continue to pursue opportunities for efficiency gains. The Authority also expects council water businesses which are to replace Allconnex to achieve efficiency gains greater than those achievable by Allconnex. For example, Gold Coast City Council has indicated that their price path from 1 July 2013 will deliver customers water services at more affordable prices than would have been the case with Allconnex.

The Authority has adjusted Allconnex's estimates of operating costs to reflect changes to demand that affect estimates of bulk water, electricity and chemicals, and efficiency gains.

The Authority's operating expenditure for Allconnex over the price monitoring period for water and wastewater are outlined in the tables below.

Table 2.68: Reasonable Operating Costs - Water 2011-14 ($m)

	2010-11	*2010-11**	*2011-12*	*2012-13*	*2013-14*
Bulk water costs	155.91	130.32	164.62	197.82	234.37
Employee expenses	23.83	24.75	32.19	36.56	36.61
Contractor expenses	1.65	3.54	1.19	0.00	0.00
GSL Payments	0.00	0.00	0.00	0.00	0.00
Electricity charges	na^	4.29	3.93	4.43	5.01
Sludge handling costs	na^	0.00	0.00	0.00	0.00
Chemicals costs	na^	0.89	1.19	1.26	1.24
Other materials and services (not relating to capital expenditure)	35.39	19.67	15.08	15.97	16.16
Licence or regulatory fees	0.43	0.29	0.44	0.46	0.44
Corporate Costs	12.57	18.56	11.89	11.32	11.12
Non recurrent costs	0.00	0.00	0.00	0.00	0.00
Indirect taxes	0.00	0.07	0.55	1.12	1.08
SKM Total Operating Costs	**229.78**	**202.38**	**231.08**	**268.94**	**306.04**
Less Efficiency gains	-1.47		(2.64)	(4.24)	(5.70)
Total Operating Costs	**228.31**	**202.38**	**228.13**	**264.34**	**299.94**
Allconnex Proposed Total		**202.38**	**233.85**	**266.47**	**296.38**
Variance		0.00	(5.72)	(2.12)	3.56

*Note: ^Included Other materials and services in 2010-11 information requirements. * Estimated actual. Source: SKM (2011), QCA (2011) Source: SKM (2011), QCA (2011).*

Table 2.69: Reasonable Operating Costs - Wastewater 2010-14 ($m)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Bulk water costs	0.00	0.00	0.00	0.00	0.00
Employee expenses	36.94	39.58	47.46	53.56	53.63
Contractor expenses	1.68	5.64	1.78	0.00	0.00
GSL Payments	0.00	0.00	0.00	0.00	0.00
Electricity charges	na^	7.89	10.26	11.59	13.10
Sludge handling costs	na^	5.50	5.72	6.04	6.19
Chemicals costs	na^	1.81	3.28	3.46	3.44
Other materials and services (not relating to capital expenditure)	69.89	31.53	56.46	57.13	55.84
Licence or regulatory fees	0.36	0.43	0.66	0.68	0.66
Corporate Costs	23.10	28.20	18.48	17.65	17.33
Non recurrent costs	0.00	0.00	0.00	0.00	0.00
Indirect taxes	0.00	0.11	0.82	1.69	1.63
SKM Total Operating Costs	**131.96**	**120.69**	**144.94**	**151.81**	**151.81**
Less Efficiency gains	-2.63		(5.77)	(9.07)	(12.09)
Total Operating Costs	**129.33**	**120.69**	139.17	142.74	139.71
Allconnex Proposed Total		**120.69**	**145.33**	**151.69**	**150.72**
Variance		0.00	(6.16)	(8.95)	(11.00)

Note: ^Included Other materials and services in 2010-11 information requirements. Source: SKM (2011), QCA (2011)Source: SKM (2011), QCA (2011)

Table 2.70: Comparison of Allconnex and Authority's operational expenditure for water and wastewater ($m)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Total 2011-14*
Allconnex forecast	359.42	323.07	379.17	418.16	447.09	1244.42
QCA forecast	**357.64**	**323.07**	**367.30**	**407.08**	**439.65**	**1214.03**
Difference	(0.05%)	0.00	(11.88)	(11.07)	(7.44)	(30.39)

Source: Allconnex (2010) and QCA calculations.

Allconnex's forecast operational expenses for 2011-12 have been adjusted by the Authority for revised demand forecasts and for efficiencies in non-bulk controllable costs.

The Authority considers that Allconnex should continue to seek operational efficiencies in 2011-12 and councils should seek further opportunities beyond this period.

2.11 Total Costs

The Ministerial Direction and the SEQ Interim Price Monitoring Framework (QCA 2010) requires the Authority to monitor the entities' revenues with regard to the Authority's assessed MAR, which is based on the total costs of carrying on the activity.

Total costs identified earlier have not been adjusted for any revenue offsets required to calculate the MAR and include:

(a) operating and maintenance costs, including tax;

(b) return on capital; and

(c) return of capital, allowing for depreciation of assets over time.

Allconnex Submission

Allconnex identified its estimate of total prudent and efficient costs for water and wastewater for 2011-12 to 2013-14 on a single year or unsmoothed basis.

In relation to tax, Allconnex noted that as the tax asset base was not finalised at the time that the data template was completed, tax written-down asset values and remaining useful lives have been provided based on regulatory values (continuing the approach adopted for the 2010-11 Information Template). Allconnex Water submitted this is a conservative interim assumption pending the finalisation of tax arrangements.

Table 2.71: Allconnex Total Costs ($m)

	2010-11				*2011-12*			
	Water		*Waste-water*		*Water*		*Waste-water*	
Bulk Water Costs	154.66	35.1%			167.33	37.1%		
Distribution & Retail Costs								
Other operating costs	73.42	16.6%	131.34	27.7%	67.06*	14.9%	144.79*	30.3%
plus Tax	5.94	1.3%	9.50	2.0%	2.43	0.5%	4.02	0.8%
plus Return on Capital	162.40	36.8%	259.88	54.9%	160.01	35.5%	242.75	50.8%
plus Return of Capital	44.75	10.1%	73.05	15.4%	53.75	11.9%	86.46	18.1%
Total Costs	**441.17**		**473.77**		**450.58**		**478.01**	

*Note: * There are small discrepancies between other operating costs in this table which is based on Allconnex's submission and the figures in Table 2.52 and Table 2.53 which are based on Allconnex's Information Template. Source: Allconnex (2010, 2011)*

Authority's Analysis

On the basis of the Authority's analysis of the RAB, asset lives, cost of capital and operating and maintenance costs, the Authority calculated the total costs of carrying on Allconnex's water and wastewater activities for 2011-12.

In doing so, and as for 2010-11, the Authority calculated single year or 'unsmoothed' estimates, to allow for comparison with Allconnex's revenues and costs, which were set on this basis.

For both water and wastewater, the Authority's estimate of total costs was below Allconnex's estimate. However, the difference was not large.

Key differences between Allconnex's submitted costs for 2011-12 and the Authority's arose from:

(a) bulk water costs – the Authority had slightly lower bulk water cost estimates due to the Authority's revised demand volumes for 2011-12;

(b) other operating costs – the Authority has slightly lower estimates of other distribution and retail costs due to adjustments to reflect demand and efficiency targets;

(c) tax – the Authority's estimate is higher than Allconnex's due to lower tax deductions arising from the Authority's lower estimates of operating costs (see above);

(d) the return on capital – the Authority had slightly higher cost estimates than Allconnex. Although the same WACC of 9.35% was adopted by the Authority and Allconnex, the Authority applied it to a higher asset base (due to the Authority choice of inflation at 3.58% rather than 3.25% by Allconnex as noted above); and

(e) the return of capital – the Authority had slightly lower estimates than Allconnex.

Table 2.72: Comparison of Allconnex and QCA Costs for 2011-12 ($m)

	Water			***Wastewater***		
	Allconnex	*QCA*	*QCA% of total*	*Allconnex*	*QCA*	*QCA% of total*
Bulk Water Costs	167.33	164.31	37.09%	-	-	
Distribution and Retail Costs						
Other operating costs	67.06	63.82	14.40%	144.79	139.17	29.70%
plus Tax	2.43	4.22	0.95%	4.02	6.49	1.39%
plus Return on Capital	160.01	160.69	36.27%	242.75	242.80	51.82%
plus Return of Capital	53.75	50.01	11.29%	86.46	80.12	17.10%
Total Costs	**450.58**	**443.05**	**100%**	**478.01**	**468.58**	**100%**

Source: Allconnex (2011) and QCA calculations.

2.12 Revenues for 2011-12

For price monitoring purposes, Allconnex's revenues as forecast at the time of price setting form the relevant forecast revenues. These revenue forecasts for 2011-12 are consistent with 2011-12 prices.

Allconnex's Submission

Allconnex's revenue forecasts for water and wastewater (as at the time of price setting) are shown in the table below.

Table 2.73: Allconnex's 2011-12 Revenue Forecasts for water and wastewater ($m)

	Allconnex Revenues
Water	$338.82
Wastewater	$290.19
Total revenue	**$629.02**

Source: Allconnex (2011)

2.13 Comparing Revenues with MARs

Under the Ministerial Direction and the accepted SEQ Interim Price Monitoring Framework (QCA 2010), the Authority must compare the entities' revenues with the MAR calculated by the Authority.

The MAR is based on the Authority's estimate of total efficient costs of carrying on a water and wastewater activity. The MAR is calculated using the Authority's estimate of total costs less relevant deductions to ensure no double counting of inflationary gain and capital contributions. Under the Direction, the entities have the choice of adopting a revenue offset or asset offset approach to capital contributions.

Allconnex's Submission

Allconnex's estimate of the total costs of carrying on its water and wastewater activities in 2011-12 is shown in the table below. Allconnex has continued to apply an asset offset approach to the treatment of capital contributions.

Allconnex noted that it forecast to under-recover in both water and wastewater activities in 2011-12, with total under-recovery of $178.0 million or 22.1%.

Allconnex did not identify or carry over any under-recovery from 2010-11 in its calculation of 2011-12 costs. However, Allconnex submitted that it continues to recover regulated revenues well below its revenue requirement and that the Authority should recognise recoverability of a long-term glide path. In particular, Allconnex stated that:

> *The continued under-recovery of MAR reflects historic under-recovery, significant external cost pressures such as increasing bulk water charges, and Allconnex Water's transitional approach in 2010-11 to ameliorate price shocks to customers. Adding to this under-recovery is the recent Queensland Government decision to cap distributor-retail price increases at CPI for both 2011-12 and 2012-13.*
>
> *Due to this two year price cap, Allconnex Water is essentially under a revenue glide path which minimises price increases to customers. Allconnex Water considers that an NPV-neutral cost recovery outcome should be achieved over the longer term, where any shortfall in cost recovery is recouped in later years with single year revenues that exceed MAR. This approach ensures that both price increases are smoothed, with shocks to customers minimised, and over time Allconnex Water recovers revenue shortfalls due to the price cap. Allconnex Water believes strongly that it would be appropriate for the QCA to recognise recoverability of a long-term glide path.*

Table 2.74: Allconnex's 2011-12 Total Costs and Total Revenues ($m)

	Water	***Wastewater***	***Total***
Total Costs (Allconnex)	450.6	478.0	928.6
less Indexation (Allconnex)	(46.3)	(75.3)	(121.6)
less Capital contributions (Allconnex)	n/a	n/a	n/a.
Total Costs (Allconnex)	404.3	402.7	807.0
Total Revenues (Allconnex)	338.8	290.2	629.0
Total Revenues - Costs (Allconnex)	(65.5)	(112.5)	(178.0)
Per cent of Total Costs (Allconnex)	(16.2%)	(27.9%)	(22.1%)

Source: Allconnex (2011)

Authority's Analysis

A comparison of Allconnex's forecast revenues with the MAR based on the Authority's estimate of the total costs of carrying on Allconnex's water and wastewater activities is provided in the table below. The Authority has not carried over any under- or over-recovery from 2010-11, consistent with Allconnex's approach.

In principle, the Authority supports an NPV neutral glide path to achieve full cost recovery, wherever possible. However, an NPV neutral glide path is not always possible, particularly in the context of significant price rises, without prices in the final year being substantially in excess of their efficient level, requiring transitioning (down) in the next period, as noted in the

Authority's *SEQ Price Monitoring Framework Final Report*. Further, 'unders and overs' schemes in regulatory pricing are based on actual data, and at the time of pricing only estimated actual data for 2010-11 was available.

The Authority notes it is not in a position to provide guidance on Allconnex's glide path without first thoroughly examining the detailed data, modelling and assumptions underpinning it. Allconnex's proposal for the recovery of under-recoveries through the use of a yet-to-be-determined glide path after the conclusion of the CPI price cap is conceptual in nature and Allconnex Water has not provided the long term cost or pricing data underpinning its proposal.

The appropriateness of a glide path typically hinges on the level of over-recovery sought in the later years of the scheme, and the Authority does not have this longer term information.

Moreover, under the revised Direction, the Authority's current price monitoring role is focussed on annual reviews and currently expires on 1 July 2013. The Authority's role beyond this point, if any, is yet to be determined.

Table 2.75: Comparison of Allconnex Revenues and the QCA MAR ($m)

	Water 2011-12	***Wastewater 2011-12***	***Total***
Total Costs (QCA)	443.05	468.58	911.63
less Indexation (QCA)	(42.61)	(64.38)	(106.99)
less Capital contributions (QCA)	-	-	-
Total Costs (QCA MAR)	**400.44**	**404.20**	**804.64**
Total Revenues (Allconnex)	338.82	290.19	629.02
Total Revenues less Costs (QCA)	**(61.62)**	**(114.01)**	**(175.62)**
Per cent of Total Costs (QCA)	**(15.39%)**	**(28.21%)**	**(21.83%)**

Source: QCA calculations and Allconnex 2011.

The Authority's analysis indicates that Allconnex's estimate of revenues falls well below the Authority's MAR of $804.64 million, by around $1765.62 million (or 21.8%). Water revenues fall well below the MAR by $61.62 million or 15.4% while wastewater revenues also fall well below the MAR by $114.01 million or 28.2%.

The Authority has also estimated the amount of revenue that the Authority expects Allconnex would receive in 2011-12 based on Allconnex's prices and the Authority's estimated demand. This estimate ensures that revenues and expenditure are based on consistent demand figures.

The Authority's estimate of the water revenues that Allconnex will receive is slightly lower than Allconnex's as the Authority's estimates of water connections and water volumes (that is, demand) are lower due to lower population estimates. The Authority's estimate of the wastewater revenues that Allconnex will receive is slightly higher than that of Allconnex due to the Authority's slightly higher estimates of demand due to higher estimates of wastewater connections.

The Authority further notes that its estimate of Allconnex's revenues for water ($333.33 million) and wastewater ($292.50) also fall below the Authority's MAR.

Table 2.76: Further Comparison of Revenues and the QCA MAR ($m)

	Water 2011-12	*Wastewater 2011-12*	*Total*
Total Costs (QCA MAR)	**400.44**	**404.20**	**804.64**
Total QCA Expected Revenues	**333.33**	**292.50**	**625.83**
Difference	**(67.11)**	**(114.01)**	**(178.81)**
% of Total Costs (QCA)	(16.76%)	(27.63%)	(22.22%)

Source: QCA calculations.

2.14 Costs, Revenues and Prices

The reconciliation of costs, revenues and average prices is outlined below.

Table 2.77: Costs, Revenues and Prices

	QCA 2010-11		*Allconnex 2011-12*		*QCA 2011-12*	
	Water	*Wastewater*	*Water*	*Wastewater*	*Water*	*Wastewater*
Bulk Water Costs ($m)	155.91		167.33		164.31	
Distribution and Retail Costs ($m)						
Other operating costs	72.40	129.33	67.06	144.79	63.82	139.17
plus Tax	3.44	4.93	2.43	4.02	4.22	6.49
plus Return on Capital	155.21	239.40	160.01	242.75	160.69	242.80
plus Return of Capital	45.32	72.44	53.75	86.46	50.01	80.12
Total Costs ($m)	432.28	446.10	450.58	478.01	443.05	468.58
less Indexation	(42.09)	(65.68)	(46.28)	(75.33)	($42.61)	($64.38)
less Capital contributions	n/a	n/a	n/a	n/a	n/a	n/a
Total Costs (MAR)	**390.19**	**380.42**	**404.30**	**402.68**	**400.44**	**404.20**
Total Revenues	320.66	270.98	338.82	290.19	338.82	290.19
Over / (Under) recovery	**(69.53)**	**(109.44)**	**(65.48)**	**(112.49)**	**(61.62)**	**(114.01)**

Source: QCA calculations and Allconnex (2010, 2011).

Table 2.78: Average Prices

	Allconnex 2010-11		Allconnex 2011-12		QCA 2011-12	
	Water	***Wastewater***	***Water***	***Wastewater***	***Water***	***Wastewater***
Total Revenues or MAR ($m)	320.66	270.98	338.82	290.19	400.44	404.19
Volume (ML or connections)[d]	85,855	350,848	81,119	370,591	79,483	373,370
Price ($/kL or $/connection)	**$3.73/kL**	**$772.35**	**$4.17/kL**	**$769.45**	**$5.04/kL**	**$1,082.56**

Source: QCA calculations and Allconnex (2010, 2011).

2.15 Findings

For Allconnex:

(a) the increase in the retail and distribution component of water and wastewater prices for households and small business increased by the CPI cap of 3.6% imposed by the Queensland Government;

(b) the retail and distribution component of non-capped water and wastewater services also increased by 3.6%;

(c) bulk water costs account for 37.1% of Allconnex's proposed total water costs in 2011-12. Retail and distribution costs account for 62.9% with operating costs accounting for 14.9%, return on capital accounting for 35.5%, tax for 0.5% and return of capital 11.9%;

(d) for wastewater, retail and distribution operating costs account for 30.3%, return on capital accounts for 50.8%, tax for 0.8% and return of capital 18.1%; and

(e) the most significant increases in Allconnex's proposed costs in 2011-12 relate to a 8.2% increase in bulk water costs and a 19.0% increase in the return of capital.

The Authority's estimate of the costs of supply is marginally lower than Allconnex's, due to the Authority's lower bulk water estimates and efficiency targets on non-bulk costs. In this regard:

(a) Allconnex's estimate of water revenues falls below the MAR by $61.62 million or 15.4%;

(b) Allconnex's estimate of wastewater revenues falls below the MAR by $114.01 million or 28.2%; and

(c) as a whole, Allconnex's revenues fall below the Authority's MAR of $804.64 million by around $175.62 million (or 21.8%).

The Authority has also estimated the amount of revenue that Allconnex will receive in 2011-12 based on Allconnex's prices and the Authority's estimated demand. The Authority's estimate of total expected Allconnex revenues ($625.83 million) is below the Authority's estimated MAR of $804.64 million.

3. UNITYWATER

3.1 Introduction

This is the second year of price monitoring of retail/distribution water and wastewater prices in South East Queensland (SEQ) by the Authority.

The Authority's price monitoring task in 2011-12 has been amended following significant legislative changes made in 2011 affecting retail and distribution water and wastewater pricing.

Amongst other things, these legislative changes imposed a consumer price index (CPI) price cap on the retail and distribution component of water and wastewater prices for 2011-12 and 2012-13, removed references to the Authority's envisaged deterministic role from 1 July 2013 and clarified that participating councils are responsible for pricing. These legislative changes also allowed participating councils to opt out of their distributor/retailer business and revert to council provision of retail and distribution water and wastewater activities from 1 July 2012.

These legislative changes also require councils to publish a price mitigation plan that demonstrates how they intend to mitigate the price impacts on customers in the six years following the end of the CPI cap on 30 June 2013. By 1 July 2013, councils must publish a final price path for this period.

The Authority's price monitoring role was amended to take account of these legislative changes in an amended Ministerial Direction received 25 June 2011.

3.2 Ministerial Direction

Under the Ministerial Direction (**Appendix A**), the Authority must for Unitywater and other Distributor-Retailer Authorities (the entities):

(a) monitor the annual change in prices of distribution and retail water and wastewater services for households and small business customers having regard to the CPI price limit (price cap) as described in relevant legislation; and

(b) monitor the annual change in prices for water and wastewater services not included in the CPI price limit (non-capped services), having regard to the change in revenue from these services compared to the change in the total prudent and efficient costs of carrying on the relevant activity.

The Authority must also:

(a) provide timely and transparent information to customers about the costs and other factors underlying the provision of water and wastewater services, including distinguishing the bulk and distribution/retail costs to the extent that it is possible given the availability and reliability of relevant information; and

(b) monitor the entities' revenue from water and wastewater activities against their total prudent and efficient capital and operating costs (the maximum allowable revenue or MAR).

3.3 Background

Unitywater provides water and wastewater services to commercial customers and an estimated residential population of around 716,612 in the Moreton Bay and Sunshine Coast region.

Key characteristics of Unitywater's service and asset base, as provided by Unitywater in its 2011-12 submission, appear in Table 3.1 below.

Unitywater's participating councils have chosen to continue with the provision of retail and distribution water and wastewater activities by Unitywater from 1 July 2012.

Table 3.1: Unitywater Service and Asset Base

	Moreton Bay	*Sunshine Coast*	*Total*
Population[a]	376,949	339,663	716,612
Residential Water Connections[a]	118,852	119,161	238,013
Non-Residential Water Connections[a]	25,744	24,567	50,311
Water reservoirs[a]	35	71	106
Pump stations	n/a	n/a	852
Water supply network (km)	n/a	n/a	5,609
Recycled water network (km)	n/a	n/a	104
Wastewater network (km)	n/a	n/a	5,312
Water treatment plants	n/a	n/a	2
Wastewater treatment plants	8	10	18

Note: [a] is sourced from Unitywater (2010) submission. n/a not available. Source: Unitywater (2011), ABS Cat.No 3218

A map of the area serviced by Unitywater is shown in Figure 3.1 below.

Figure 3.1: Unitywater Service Area

Source: Unitywater (2011)

3.4 Prices and Revenues

Prices for Households and Small Businesses

Capped Prices

Under amendments to the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*, a CPI price cap applies to the retail and distribution component of water and wastewater charges in 2011-12 for specified customers. The specified customers include residential and small business customers and any other customer who passes on charges to either of these groups.

Under the legislation, the CPI cap for 2011-12 is 3.6%, and is applied to the fixed access charge and to the charge rate for water consumption or wastewater disposal based on variable measures (the volumetric component) after deducting the relevant rebates and subsidies.

Consistent with the approaches adopted by the entities, the Authority has reviewed all charges against the CPI cap except those specifically excluded (non-capped prices) which are dealt with further below.

The Authority notes that prices are set for a particular year in the preceding year and reflect an entity's intended (budget) revenues and costs for the following year.

In 2011-12, Unitywater increased the retail and distribution component of residential and non-residential water and wastewater prices by 3.6% or less (**Appendix D**).

Changes in council subsidies must also be identified to assess compliance with the CPI cap. In 2010-11, eligible Moreton Bay residents[37] were provided a subsidy of half of the increase in their fixed water and sewerage access prices between 2009-10 and 2010-11, amounting to $119.50 for Caboolture, $147.00 for Pine Rivers and $246.78 for Redcliffe. In 2011-12, this subsidy was increased by 3.6% in all areas.

Therefore, the retail and distribution component of residential and non-residential water and wastewater prices have increased by less than 3.6% and relevant subsidies have been continued. The Authority therefore considers that Unitywater has complied with the CPI price cap for 2011-12.

In relation to the CPI cap, the Sunshine Coast Regional Council (SCRC) commented that:

(a) of the $52.8 million under recovery in 2010-11, $50.07 million is attributable to Moreton Bay while only $2.74 million is attributable to the SCRC;

(b) the imposition of price caps before Unitywater could implement tariff reform for Moreton Bay Regional Council (MBRC) results in Sunshine Coast customers contributing a significantly higher proportion of Unitywater's revenue than the proportion they will receive back in the form of equity returns; and

(c) participating councils should provide a payment to a retailer-distributor for any shortfall to the MAR as a result of council pricing decisions in their local government area.

[37] Moreton Bay residents as at 1 July 2010.

Residential Bills

The retail and distribution component of residential prices is capped, as noted above. To facilitate comparisons with prices prevailing in 2010-11, the Authority has continued to compare increases in residential bills.

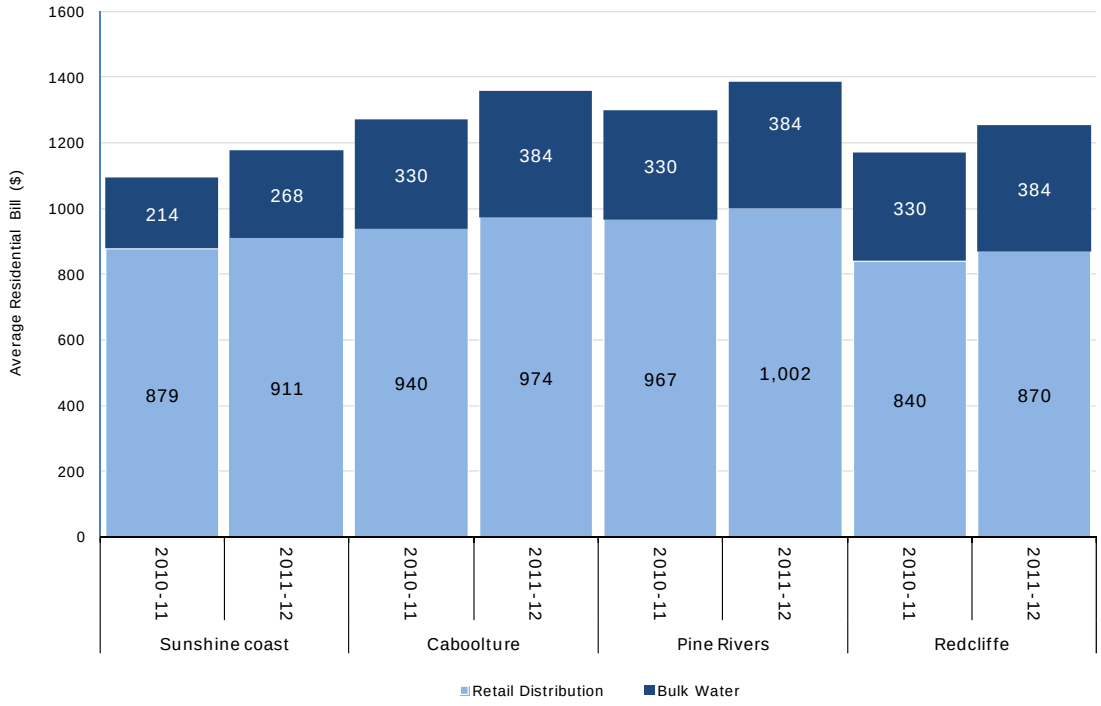
As in last year's price monitoring report, the residential bills used in the Authority's analysis were estimated on the basis of usage of 200kL of water per year, as this is the basis adopted for national performance reporting (NWC, 2010). As there is no national standard for wastewater, the analysis was based on the approach adopted in each council area. For both Moreton Bay and Sunshine Coast the bill is based on a fixed access charge. The same approach has been adopted by the Queensland Water Commission (QWC) in its analysis of residential water and sewerage bills.[38]

The Authority did not calculate a residential bill consistent with Authority estimates of efficient costs in 2011-12, as costs are not disaggregated to this level by Unitywater.

Total residential bills for household water and wastewater services increased (Chart 3.1). Bill increases ranged from $85 in Redcliffe to $89 in Pine Rivers. The increase was lowest in Caboolture and Pine Rivers (6.6%) and highest in the Sunshine Coast region (7.8%). Both bulk and the retail and distribution component of the residential bill increased in all areas.

Bulk water accounts for a smaller proportion of residential bills than for average water prices. The residential bill includes water and wastewater, and wastewater has no bulk water component.

Chart 3.1: Total Residential Bills



Notes: Based on metered usage of 200kL per annum. The retail/distribution component includes water and wastewater. Source: Unitywater (2011) and QCA calculations.

[38] QWC 2011 'Water and sewerage bills in Moreton Bay – the facts' www.qwc.qld.gov.au

Prices for Other Users (Non Capped Prices)

Under the Direction, the Authority must monitor the annual change in prices of non-capped services, having regard to the change in revenue from these services compared to the change in the prudent and efficient costs of the relevant activity.

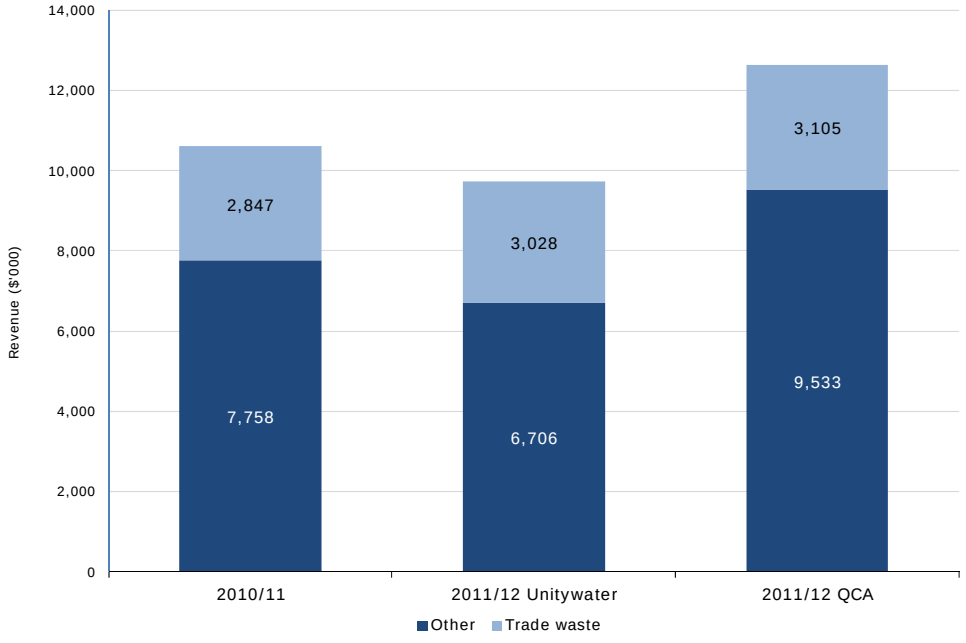
For the purposes of the comparison, the 2010-11 and 2011-12 revenues and costs are those set at the time prices are determined. Essentially, they reflect an entity's intended (budgeted) level of cost recovery.

Under the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*, the CPI price cap does not apply to trade waste, seepage[39], or recycled water services. Unitywater does not provide seepage water services. Trade waste services are included in the wastewater activity [40] provided by Unitywater. Recycled water is included in the water activity.

Revenues from these specific non-capped services decreased by 8.22% in 2011-12 compared to the increase in prudent and efficient costs of 19.16% (Chart 3.2 and Table 3.2).

The change in revenues from non-capped services therefore is less than the increase in the prudent and efficient costs of the relevant activity. The change in Unitywater revenues compared with the revenues implied by the increase in the Authority's estimate of prudent and efficient wastewater costs appears below.

Chart 3.2: Non-Capped Revenues ($'000)



Source Unitywater (2011), QCA (2010), QCA (2011).

[39] Seepage water is water that seeps from the ground into that part of a structure below ground level (e.g. tunnels and underground carparks). Unitywater does not provide services relating to the discharge of seepage water and does not accept seepage water as trade waste.

[40] As the 'activity' is a higher-level cost grouping, the costs of the relevant activity include the costs of capped and non-capped services relevant to that activity (see SEQ Framework Report 2010). The Direction does not require a comparison of non-capped revenues with the costs of providing non-capped services. Costs are not available on this disaggregated basis across all geographic areas.

Table 3.2: Increase in Non-Capped Revenues

	2010-11	*Unitywater 2011-12*	*QCA 2011-12*
Trade Waste Revenues ($m)	2.85	3.02	3.10
% change from 2010-11		6.36%	9.05%*
Recycled Water Revenues ($m)	7.76	6.71	9.53
% change from 2010-11		-13.56%	22.87%#
Total Non-Capped Revenues ($m)	10.61	9.73	12.64
% change from 2010-11		-8.22%	19.16%

*Note: * Increase in Wastewater MAR, as trade waste is included in the wastewater activity # Increase in Water MAR, as recycled water is included in the water activity. Source: Unitywater (2011), QCA (2010), QCA (2011)*

Average Prices

There is a wide range of prices set by Unitywater relating to the range of services provided to each of the previous council areas and customer groups in SEQ.

For broad comparative purposes, the Authority has noted the changes in average prices (as well as residential bills above). Average prices provide, at best, a broad overview of price changes.

Unitywater's average water and wastewater prices increased across all customer groups in 2011-12. For reasons identified further below, the average price charged by Unitywater differs from that implied by the Authority's analysis. Chart 3.3 and Chart 3.4, and Table 3.3 refer.

Prices are not necessarily set by the entities on the basis of costs alone. As noted above, Unitywater has set its prices to reflect the CPI cap of 3.6% on the retail/distribution component.

Also indicated is the share of average prices accounted for by bulk water charges. It is assumed that, based on the Government's policy, the bulk water prices charged by the SEQ Water Grid Manager (WGM) are passed through to customers in full. There is no material bulk water component in wastewater prices.

Average prices were calculated by dividing total revenues by volumes – per kl (for water) and per connection (for wastewater).[41] Revenues and volumes for 2010-11 reflect the information available at the time of setting 2010-11 prices (and correspond with the data published in the Authority's Final Report for 2010-11). Revenues and volumes for 2011-12 reflect the information available at the time of setting 2011-12 prices. Wastewater revenues include those derived from trade waste services.

The Authority's analysis suggests that average annual water and wastewater prices are below those implied by full cost recovery for 2011-12. The Authority's higher (than Unitywater's) estimate of the average price for 2011-12 is primarily due to its higher reasonable costs (discussed further below).

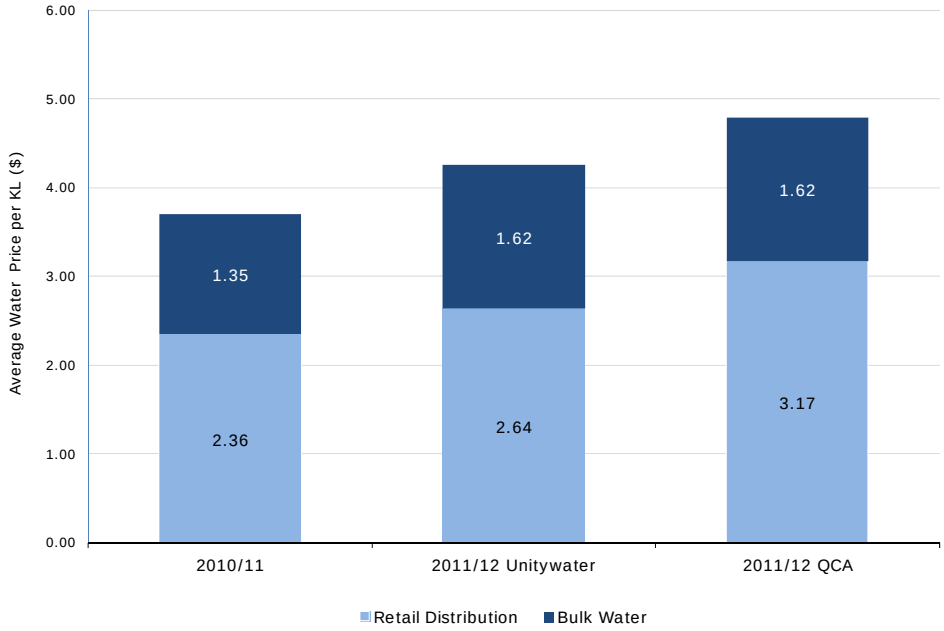
[41] The Australian Bureau of Statistics (ABS) adopts a similar approach to calculate an average water price in national water accounts – the ABS average price is derived by dividing a state's total residential water revenue ($) by residential water consumption (kL).(ABS, 2010).

While Unitywater complied with the CPI cap of 3.6% for the distribution/retail component of water prices, the increase in the average distribution/retail price per kl of 7.57% (see Table 3.3) exceeded 3.6% as a result of the substantial fixed component of water prices (and costs) having to be spread over a forecast fall in the volume of water sold.

As noted in last year's SEQ Interim Price Monitoring Final Report for 2010-11, prices should ideally be set, and smoothed, over a longer period to avoid large annual variations.

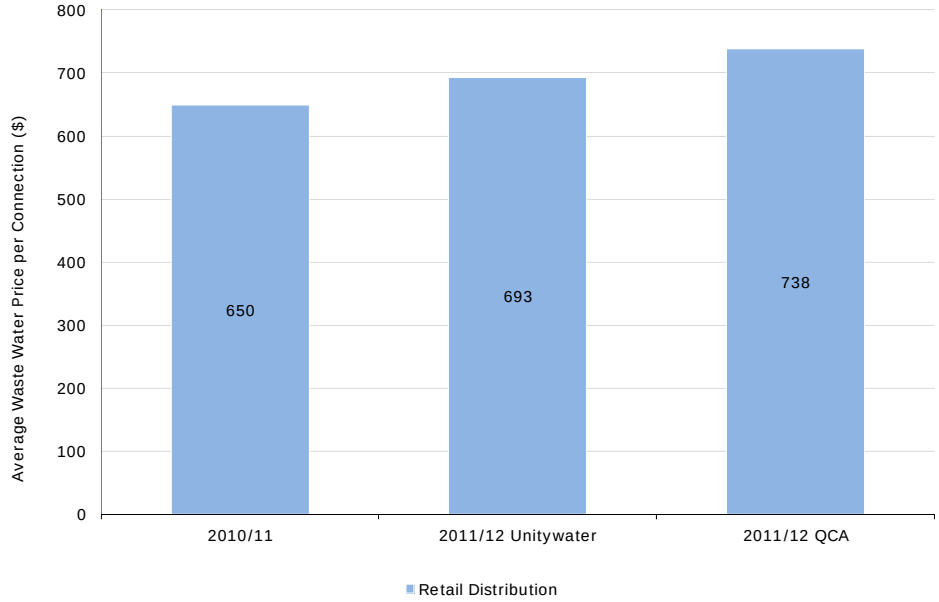
The Authority notes that the price mitigation plan of the SCRC refers to smoothing revenue over the initial price period from 1 July 2013 to 30 June 2019.

Chart 3.3: Average Water Prices



Source: Unitywater (2011), QCA (see section 3.14).

Chart 3.4: Average Wastewater Prices



Source: Unitywater (2011), QCA (see section 3.14).

Table 3.3: Average Prices[ab]

	2010-11	*Unitywater 2011-12*	*QCA 2011-12[#]*
Water ($/kl)	$3.70	$4.25	$4.79
% increase from 2010-11, attributable to:		14.85%	29.36%
Bulk water cost increases		7.27%	7.27%
Distribution and retail increases		7.57%*	22.09%
Wastewater ($/connection)	$649.89	$693.15	$740.96
% increase from 2010-11		6.66%^	14.01%

*[a] Average water price = Annual water revenue ($) / total kl sold . [b]Average wastewater price = Annual wastewater revenue ($) / total connections. [#]Average QCA price = QCA MAR / QCA kL (water) or connections (wastewater). Percentages reflect data not rounded for the purposes of this table. * greater than 3.6% as all non-bulk revenue from sales and connections (including fixed access charges) is included in the numerator, and only water sales volumes are included in the denominator. Unitywater has forecast a decrease in water sales and an increase of 13.4% in total connections. ^ includes non-capped trade waste revenues. Source: Unitywater (2011, 2010), QCA calculations.*

3.5 Demand

The cost of providing water and wastewater services is affected by the quality and the quantity of the services provided. For the purposes of the current review, the Authority has accepted the current standards of service.

Estimates of demand for water and wastewater have a direct impact on the prudency and efficiency of operating and capital expenditure, as well as on the average prices paid.

Unitywater's submission

Unitwater forecasts water demand on an annual basis. Key determinants of demand for water and wastewater services include factors such as population growth, implementation of demand policies such as water restrictions, and changes in consumer behaviour over time.

Unitywater briefly outlined its approach to forecasting demand for pricing purposes in its submission. Unitywater also briefly described its approach to forecasting demand for capital planning purposes.

Unitywater submitted that it would revise and improve its demand forecasts over the price monitoring period, as the business gains more operational experience and information and as demand becomes clearer under revised restriction and permanent conservation arrangements.

Population and Connections[42]

The core building block of Unitywater's residential water demand projections is the number of equivalent base (i.e. connection) and the number of persons per equivalent base. This is used for the development of an underlying level of consumption based on the number of litres per person per day (l/p/d).

Unitywater obtained its estimate of the equivalent base by dividing the total water access charge revenue by the access charge for a standard residential connection. This calculation excludes those properties and population that are not connected to the network. The calculation also converts a non-residential connection to a number of equivalent residential connections and the average consumption in the non-residential sector to a multiple of that in the residential sector.

Unitywater bases its estimates of future population and dwellings – proxy for connections – on 2010 data from the demography and planning facet of the Queensland Office of Economic and Statistical Research (OESR), which was formerly known as the Planning Information and Forecasting Unit (PIFU). As Unitywater did not make further adjustments to its assumed growth rate, it implicitly assumed a constant percentage of non-connected properties and population.

Also implicit in Unitywater's consumption forecasts is the continuation of the current Permanent Water Conservation measures (PWCM) for residential users and Water efficiency management plans for non-residential users.

Unitywater's estimate of non-revenue water (loss factor) encompasses network losses, unbilled water and theft. Unitywater assumed the loss factor from 2010-11 – calculated by comparing customer meter reads with bulk meter reads – to be constant throughout the forecasting period.

Unitywater applied a similar method to calculate its wastewater connections. As for sewage volume, Unitywater only forecast sewage volume for non-residential customers in Maroochy. The forecast sewage volume is based on 2010-11 revenue divided by price per litre. Unitywater assumed sewage volume for Maroochy to grow at the same rate as the growth rate of the Sunshine Coast water demand.

Per Capita demand – Litres Per Person Per Day (l/p/d) and Litres Per Connection Per Day (l/c/d)

Based on historic consumption data, Unitywater applied different expected per capita consumption rates to reflect the different customer profiles as well as the fact that the Sunshine Coast has not been subject to restrictions during the drought.

[42] Information on Unitywater's approach is drawn from Unitywater's submission and SKM (2011).

Unitywater projected average consumption to decline in 2011-12 and constant thereafter.

In its subsequent discussion with SKM, Unitywater noted that demand for capital planning is based on higher average consumption (276 l/p/d for Moreton Bay and 230 l/p/d for Sunshine Coast) to account for the possibility of rebound beyond the PWCM target.

Authority's Analysis

The Authority engaged SKM to review the appropriateness of Unitywater's demand forecasts for water and wastewater activities from 1 July 2011. SKM was required to determine whether the demand forecasts have been developed using appropriate forecasting methodologies and reflect reasonable data assumptions. SKM was also required to report on whether the issues identified by the Authority in its SEQ Interim Price Monitoring Final Report for 2010-11 have been addressed.

In relation to demand forecasting, the Authority recommended that Unitywater should:

(a) document its approach to forecasting demand for all purposes and establish processes for the collation of data; and

(b) take into account the response of consumers to increasing prices (that is, estimate the price elasticity of demand) when estimating future consumption.

SKM reviewed the methodology adopted by Unitywater to forecast demand for pricing purposes, its assumptions and demand estimates for pricing purposes, and provided some commentary on the relationship between short and long term demand forecasting.

For comparison purposes, the Authority has provided the previous forecasts for 2010-11 based on the information available at the time of pricing in 2010-11 and published in the SEQ Interim Price Monitoring Final Report for 2010-11 in the below analysis. These previous forecasts are shaded to clearly distinguish them from more recent information now available for 2010-11. The unshaded data is based on the information available at the time of setting 2011-12 prices.

Methodology

SKM noted that water and wastewater demand projections are subject to uncertainty, as they are influenced by a multitude of factors. These include population growth, residential, industrial and commercial water use patterns, which are in turn affected by water conservation programs and weather conditions. Further economic factors include household disposable income and the price elasticity of demand.

SKM considered the relevance of each factor should be determined by a multivariate regression analysis. However, this requires a time series of robust historical data.

SKM considered that insufficient data was currently available to conduct this statistical analysis. SKM noted that there is data incompatibility issues arising from how data was collected and defined by councils leading to uncertainty about the quality of council data. SKM noted that the significant difference between previous and current forecast of water and wastewater connections is likely to be the result of a change in customer classification. SKM expected that this issue will eventually resolve itself as more time passes and data is collected in the normal course of business.

SKM noted that Unitywater had not explicitly considered the impact of price on demand (price elasticity). SKM noted there is a wide range of estimates of the price elasticity of water due to differences in urban design, consumer behaviour, institutional and regulatory factors, climate

and custom. The most recent study conducted in Sydney (Abrams et al, 2011) estimated price elasticity of 0.05 but cautioned against its wider use outside of the Sydney area.

SKM considered that the impact of price increases on demand has contributed to the slow rebound from drought consumption levels (discussed further below). SKM recommended that once consumption has rebounded to normal levels and there is sufficient robust and consistent historical data to estimate the price elasticity of demand, it be made an explicit component of demand forecasting.

Overall, SKM considered the general methodology adopted by Unitywater for pricing purposes was reasonable while noting a number of information gaps. At the same time, SKM made adjustments to reflect more recent data and other minor changes. These are discussed further below.

The Authority notes that Unitywater has not documented its demand forecasting approach for all purposes. However, Unitywater provided briefings to the Authority's consultants on these issues. A review of demand forecasting for capital planning purposes is provided further below.

In relation to price elasticity, the Authority notes that the CPI price cap has effectively limited the increase in price that can be applied in 2011-12 and 2012-13. Therefore, consideration of the price elasticity of demand is less relevant than originally envisaged at the time of the preparing the Authority's SEQ Interim Price Monitoring Final Report for 2010-11. Further, there is a lack of a readily available estimate of price elasticity for SEQ – although this issue appears surmountable.

However, the Authority considers that Unitywater should take the impact of price increases on demand into account in preparing its price path for the six-year period from 1 July 2013, as this period is likely to see the return to more normal levels of consumption.

The Authority considers that Unitywater's demand forecasting methodology adopted for pricing purposes can be considered to be appropriate to the purpose of the forecast and the availability of current information.

The Authority considers that Unitywater's general demand forecasting methodology is reasonable. Explicit inclusion of price elasticity for water should be incorporated once the estimated level of rebound demand is achieved.

Residential Water Connections

Unitywater's estimates of current residential connections are calculated numbers rather than actual connection numbers from the billing system. As they are calculated by dividing the total access charge revenue by the access charge for a standard residential connection, they exclude dwellings/households that are not connected to the Unitywater network. This is then apportioned to the residential and non-residential sectors based on the historical ratio between the two.

Table 3.4: Unitywater Residential Water Connections*

	2010-11	*2010-11*	*2011--12*	*2012-13*	*2013-14*	*CAGR 2011-14*
Moreton Bay	118,852	133,577	137,397	141,288	145,303	2.8%
Sunshine Coast	119,161	132,788	136,387	139,812	143,328	2.6%
Unitywater total	**238,013**	**266,365**	**273,784**	**281,100**	**288,630**	**2.7%**

*Note: *Unitywater's 'equivalent base' is a derived 'connections' obtained by dividing the total water access charge revenue by the access charge for a standard residential connection. 2010-11 shaded data reflects Unitywater's forecasts for 2010-11 as published in the SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. CAGR: Compound Annual Growth Rate. Source: Unitywater (2011) data template, SKM (2011).*

SKM noted the significant difference between the forecast connections in the 2010-11 submission and those in the 2011-12 submission. SKM noted that this is more likely to be due to a change in customer classification or a change in how the numbers were determined rather than a change in expectation.

The Authority notes that Unitywater's growth rates for residential connections are higher than those applied in its 2010-11 submission (which were adjusted upward by the Authority in its 2010-11 report).

SKM used the OESR May 2011 forecasts of growth in private dwellings to review residential connections growth. The OESR provides the Queensland Government's official population forecasts.

The OESR has advised that due to the recent slowdown in migration, the low population growth series is more representative of its expectations than the medium series. This view was available in May 2011. Moreover, the previous official projections were based on 2008 data and it was evident that new projections were to be released in May 2011. There was sufficient time for prices developed earlier in the year to be adjusted to reflect more robust forthcoming information. As OESR only publishes a medium series dwelling growth, SKM adjusted this to reflect lower population growth expectations. SKM applied the ratio of the low to medium population series to the dwelling numbers resulting in a lower dwelling series.

Table 3.5: Residential connections growth rates (%)[43]

	Unitywater 2010-13 Residential 2010 Submission	*Unitywater 2011-14 Residential*	*OESR 2011-16 Dwelling (Adjusted[a])s*
Moreton Bay	2.4%	2.8%	2.3%
Sunshine Coast	2.0%	2.6%	2.1%
Unitywater	**2.2%**	**2.7%**	**2.1%**

Note: 2010-11 shaded data reflects Unitywater's forecasts for 2010-11 as published in the SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Adjusted OESR 2011-2016 takes account of lower population growth reflected in the low population series. Source: Unitywater (2011) data template, PIFU (2011).

SKM compared Unitywater growth forecasts to the expected rate of dwelling growth, based on May 2011 OESR data. SKM noted that Unitywater had forecast higher growth rates compared to that expected using the adjusted OESR data.

SKM is of the opinion that Unitywater's growth rates are likely to be too high given the latest OESR view that population growth and hence dwelling growth is likely to be lower than that implied by the medium series they previously published. SKM recommended the OESR growth rates be applied to the 2010-11 residential connections data provided by Unitywater.

The Authority's previous forecast of 2010-11 residential connections as published in its SEQ Interim Price Monitoring Final Report for 2010-11 are also provided for comparison purposes. This data is shaded to clearly distinguish it as the Authority's previous forecast. It has not been used by Unitywater or SKM in their current forecasts.

SKM stated that its ability to assess the method used by Unitywater to project equivalent base is limited by the lack of data. SKM noted that historical trends, if available, should provide a better indication of the likely changes in the equivalent base in the future. Therefore, SKM only applied the OESR's more recent growth rates to Unitywater's base year equivalent base estimates.

Table 3.6: Recommended Residential Water Connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	118,852	133,577	136,784	139,992	143,199
Sunshine Coast	119,162	132,788	135,706	138,624	141,541
Total Recommended	**238,013**	**266,365**	**272,940**	**278,615**	**284,740**
Unitywater Proposed	238,013	266,365	273,784	281,100	288,630
Difference	**0**	**0**	**-844**	**-2,485**	**-3,890**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: SKM (2011).

[43] Growth rates are the annual average compound rates.

The Authority accepts SKM's residential water connection estimates.

Residential Water Volumes

Unitywater applied a growth rate that reflect anticipated population increases with no forecast change in per person per day usage, to the base year total water volume to obtain forecast of total water volume. Total projections are further split into residential and non-residential sectors using historical ratios. This is then apportioned to corresponding price tiers based on recent information (third quarter of 2010-11). Implicit in the Unitywater's submission is the portion of non-connected properties and population which is held constant.

Table 3.7: Unitywater Average Residential Use (litres per person per day)

	2010-11	***2010-11***	***2011-12***	***2012-13***	***2013-14***
Moreton Bay	166	162	158	158	158
Sunshine Coast	211	202	191	191	191

Note: 2010-11 shaded data reflects Unitywater's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Source: Unitywater (2011), SKM (2011).

Table 3.8: Population Growth Rates (%)

	Unitywater 2011-14	***2011 PIFU/OESR Population (low)***
Moreton Bay	2.3%	2.0%
Sunshine Coast	2.4%	2.2%
Unitywater	**2.4%**	**2.1%**

Source: Unitywater (2011) and SKM (2011).

Table 3.9: Unitywater Residential Water Demand (ML/year)

	2010-11	***2010-11***	***2011-12***	***2012-13***	***2013-14***
Moreton Bay	18,077	19,590	19,027	19,410	19,854
Sunshine Coast	19,432	20,160	19,555	19,959	20,428
Unitywater	**37,509**	**39,750**	**38,582**	**39,369**	**40,282**

Note: 2010-11 shaded data reflects Unitywater's forecasts for 2010-11 from its 2010 Submission. This data is provided for comparison purposes only. Note: Residential water demand (ML/year) = litres per person per day x number of connected population x 365 / 1,000,000.
Source: Unitywater (2011).

In reviewing Unitywater's approach, SKM stated its general preference for using average consumption per connection (litres per connection) instead of per person (litres per person). Data on consumption per connection should have been directly collected from the billing system and is therefore preferred to the per person method which requires a further assumption on average persons per connection.

However, SKM acknowledged that, given the lack of historical data, in particular robust data on connections number and as the l/p/d method has been adopted by the State Government for its water strategy, the l/p/d approach is reasonable.

The Authority notes that Unitywater has adopted a per person approach, with l/p/d being a reference point calculated using estimated number of serviced population.

SKM noted that Unitywater provided forecast of water volumes in its information return but not population data. However, from the supplementary information provided subsequently, SKM calculated the average consumption in Moreton Bay (187 l/p/d) and Sunshine Coast (252 l/p/d) which was 15% and 25%, respectively, above the 2010-11 average consumption.

SKM considered this to be reasonable as 2010-11 was an extremely wet year. Further, the greater reduction in the consumption seen in the Sunshine Coast may have been the result of the introduction of the PWCM in the area where no restrictions previously applied. However, SKM did not believe that it is likely for consumption to continue to fall from the flood affected 2010-11 as proposed by Unitywater.

SKM noted that while Unitywater's forecasting method does not separately identify residential and non-residential average consumption, from the data supplied for 2010 and 2011 and over the forecast period, SKM calculated the average consumption of residential customers on a l/p/d basis and non-residential customers on a l/c/d basis implied by Unitywater's forecast water volumes.

To obtain average residential consumption SKM divided total residential water volume by population as provided by Unitywater. Similarly, SKM divided total non-residential water volume by estimate of non-residential connections to obtain average non-residential consumption[44]. Unitywater's implied average consumption for residential sector is shown in Table 3.10.

Table 3.10: Unitywater's Implied Average Consumption (litres per person per day)

	2010-11	***2011-12***	***2012-13***	***2013-14***
Moreton Bay	144	137	136	136
Sunshine Coast	165	156	155	155

Source: SKM calculation (2011).

SKM noted that it expects residential consumption in Moreton Bay to rebound from restriction affected consumption levels once normal weather returns.

SKM disagreed with Unitywater's assumption that the average residential consumption in the Sunshine Coast will continue to fall. SKM opined that while PWCM may have been introduced in the Sunshine Coast, the restrictions are fairly low level and are unlikely to make a difference to the behaviour of Sunshine Coast residents who have acted as though restrictions stricter than the PWCM were in place when the rest of the SEQ were subject to strict restrictions.

Further, SKM noted that the continued reduction in average consumption for Moreton Bay and Sunshine Coast from the flood affected consumption level in 2010-11 is inconsistent with

[44] SKM noted that the estimate of non-residential customers was based on supplementary information provided by Unitywater indicating that non-residential customers comprise 7.3% of all customers in the Moreton Bay and 10.3% of all customers in the Sunshine Coast region.

Unitywater's long term forecast of a return to an average consumption of 230 l/p/d for capital planning purposes.

Overall, SKM is of the opinion that average residential consumption in the Sunshine Coast is likely to rise from the flood affected level and settle at around 200 l/p/d consistent with the rest of the SEQ and somewhat below its 2009-10 level due to the introduction of the PWCM. Drawing on a UTS study, SKM proposed a rebound period that occurs over a four to five year period and settle at a level averaging around 200 l/p/d for SEQ as a whole. Non-residential consumption, however, is unlikely to rebound as most of the demand reduction is likely to be structural. SKM's recommended average residential water use is shown in Table .

Table 3.11: SKM Recommended Average Residential Water Use (litres per person per day)

	2010-11	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	144	151	158	164
Sunshine Coast	165	173	180	188

Note: np denotes not provided. Source: SKM (2011).

The Authority notes that SKM's recommended average residential water use is higher than that implied by Unitywater's forecast and data.

Consistent with Unitywater's methodology, SKM applied these adjusted inputs to form its recommended residential water volume.

Table 3.12: Recommended Residential Water Demand (ML/year)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	18,077	19,590	20,813	22,064	23,342
Sunshine Coast	19,432	20,160	21,488	22,851	24,249
Total Recommended	**37,509**	**39,750**	**42,301**	**44,915**	**47,591**
Unitywater Proposed	37,509	39,750	38,582	39,369	40,282
Difference	**0**	**0**	**3,719**	**5,546**	**7,309**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: SKM (2011).

SKM's estimates of residential water demand in 2011-12 are higher than Unitywater's.

The Authority accepts SKM's residential water demand estimates for 2011-12.

Residential Wastewater Connections

Unitywater estimated the base year total wastewater connections by dividing the total access charge revenue by the access charge for a standard residential connection. This approach

directly excludes non-connected properties. The annual growth rate applied to forecast total wastewater connections is assumed to be the same as the growth rate in the number of water connections.

Total wastewater connections are then apportioned to the residential and non-residential sectors based on the historical ratio between the two.

Table 3.13: Unitywater Residential Wastewater Connections*

	2010-11	*2010-11*	*2011--12*	*2012-13*	*2013-14*	*CAGR 2011-14*
Moreton Bay	118,387	114,017	117,278	120,599	124,026	2.8%
Sunshine Coast	124,629	125,797	129,207	132,451	135,782	2.6%
Unitywater total	**243,016**	**239,815**	**246,485**	**253,051**	**259,808**	**2.7%**

Note: Unitywater's 'equivalent base' is a derived 'connections' obtained by dividing the total water access charge revenue by the access charge for a standard residential connection. 2010-11 shaded data reflects Unitywater's forecasts for 2010-11 as published in the SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: Unitywater (2011) data template, SKM (2011).

SKM stated that its ability to assess the method used by Unitywater to project equivalent wastewater base is limited by the lack of data. SKM noted that historical trends, if available, should provide a better indication of the likely changes in the equivalent base in the future. Therefore, SKM only applied the OESR's more recent growth rates to Unitywater's base year connections estimates. These growth rates are assumed to be the same as the growth rates in the number of total water connections.

SKM applied Unitywater's residential to non-residential ratios to the forecast total wastewater connections to obtain estimates of residential wastewater connections as shown in Table below.

Table 3.14: Recommended Residential Wastewater Connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	118,387	114,017	116,755	119,493	122,231
Sunshine Coast	124,629	125,797	128,561	131,325	134,089
Total Recommended	**243,016**	**239,815**	**245,317**	**250,818**	**256,320**
Unitywater Proposed	246,013	239,815	246,485	253,051	259,808
Difference	**0**	**0**	**-1,168**	**-2,233**	**-3,488**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: Unitywater (2011), SKM (2011).

The Authority accepts SKM's residential wastewater connections estimates for 2011-12.

Non-Residential Water

Unitywater's non-residential water connections are apportioned numbers obtained by applying residential to non-residential historical ratios to total water connections. Total water connections are calculated numbers derived by dividing the total access charge revenue by the access charge for a standard residential connection.

Table 3.15: Unitywater Non-Residential Water Connections

	2010-11[a]	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*CAGR 2011-14*
Moreton Bay	25,744	12,239	12,589	12,946	13,314	2.8%
Sunshine Coast	24,567	11,523	11,836	12,133	12,438	2.6%
Unitywater total	**50,311**	**23,762**	**24,425**	**25,079**	**25,752**	**2.7%**

Note: 2010-11 shaded data reflects Unitywater's forecasts for 2010-11 from its 2010 Submission. a) 2010-11 forecasts from the 2010 submission are not directly comparable to the 2010-11 forecasts from the 2011 submission due to different definition. Source: Unitywater (2011), SKM (2011).

SKM noted that the significant difference between connection numbers in the 2010-11 submission and those in the 2011-12 numbers is due to a change in customer classification.

As for the residential sector, SKM is of the opinion that the projected growth in non-residential connections is likely to be too high given the latest OESR view that population and hence dwelling growth is likely to be lower than the medium series growth previously published.

SKM recommended that the most recent OESR growth rates by applied to forecast connection numbers.

Table 3.16: Recommended Non-Residential Water Connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	25,744	12,239	12,533	12,827	13,121
Sunshine Coast	24,567	11,523	11,777	12,030	12,283
Total Recommended	**50,311**	**23,762**	**24,310**	**24,857**	**25,404**
Unitywater Proposed	50,311	23,762	24,425	25,079	25,752
Difference	**0**	**0**	**-115**	**-222**	**-348**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: Unitywater (2011), SKM (2011).

Unitywater's forecast non-residential water volumes which are apportioned volumes are shown in Table 3.17.

Table 3.17: Unitywater Non-Residential Water Demand (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Annual Growth*
Moreton Bay	3,916	2,403	2,973	3,033	3,102	8.90%
Sunshine Coast	7,298	4,583	4,445	4,537	4,644	0.44%
Unitywater	**11,214**	**6,985**	**7,418**	**7,570**	**7,746**	**3.51%**

Note: 2010-11 shaded data reflects Unitywater's forecasts for 2010-11 from its 2010 Submission. a) 2010-11 forecasts from the 2010 submission are not directly comparable to the 2010-11 forecasts from the 2011 submission due to different definition in the connection numbers. Source: Unitywater (2011), SKM (2011).

Unitywater's forecasting method does not separately identify residential and non-residential average consumption. Implicit in Unitywater's forecasting method is non-residential average consumption that is a constant multiple of residential average consumption. Unitywater assumed that consumption levels for both residential and non-residential customers decline in 2011-12 and remain constant thereafter.

While Unitywater's forecasting method does not separately identify residential and non-residential average consumption, from the data supplied for 2009-10 and 2010-11 over the forecast period, SKM calculated the average consumption for residential customers on a l/p/d basis and for non-residential customers on a l/c/d basis. As noted before, the estimate of non-residential customers was based on supplementary information provided by Unitywater indicating that non-residential customers comprise around 7.3% of all customers in Moreton and 10.3% of all customers in the Sunshine Coast.

Table 3.18: Unitywater's Implied Average Non-Residential Water Demand (l/c/d)

	2009-10	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	910	624	749	743	739
Sunshine Coast	851	919	869	865	863

Source: Unitywater (2011), SKM (2011).

SKM noted that Unitywater's implied non-residential average consumption levels are difficult to interpret. As Table shows, the implied average in Moreton Bay fell by 30% in 2010-11 and is forecast to increase by 20% in 2011-12 while for the Sunshine Coast it rose by 8% in 2010-11 and is forecast to fall by 6.5% in 2011-12.

SKM is of the opinion that non-residential water demand would not exhibit such a large year-on-year variability, unless the non-residential sector is dominated by a small number of large customers.

SKM found the average of the 2009-10 and the 2010-11 average consumption to be fairly close to that forecast by Unitywater for 2011-12. In the absence of more historical data, SKM was unable to present an alternative view of Unitywater's non-residential average consumption or evidence to contract its forecast. Compared with 2010-11, the forecast for 2012-13 and 2013-14 showed slight decline consistent with the view that non-residential customers will continue to participate in the Water Efficiency Management Plan (WEMP) and take cost effective water saving measures despite the ending of the drought.

SKM's recommended average non-residential water use is shown in Table 3.19.

Table 3.19: SKM Recommended Average Non-residential Water Use (l/c/d)

	2011-12	*2012-13*	*2013-14*
Moreton Bay	767	767	767
Sunshine Coast	885	885	885

Source: SKM (2011).

SKM applied its recommended average non-residential average consumption to the 2010-11 non-residential connection numbers implied in Unitywater's demand model and increased the base year connection numbers by the most recent OESR dwelling growth rates projections.

SKM's recommended non-residential water volumes are shown in Table 3.20.

Table 3.20: Recommended Non-residential Water Demand (ML/year)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	3,916	2,403	3,025	3,096	3,167
Sunshine Coast	7,298	4,583	4,510	4,607	4,704
Total Recommended	**11,214**	**6,985**	**7,535**	**7,703**	**7,871**
Unitywater Proposed	11,214	6,985	7,418	7,570	7,746
Difference	**0**	**0**	**117**	**133**	**125**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. np denotes not provided. Source: SKM (2011).

The Authority accepts SKM's non-residential water demand estimates.

Non-Residential Wastewater Connections

Unitywater's estimates of base year non-residential wastewater connections are apportioned numbers based on the application of historical residential to non-residential ratios to total wastewater connections. Total wastewater connections are calculated numbers derived by dividing the total access charge revenue by the access charge for a standard residential connection.

Table 3.21: Unitywater Non-residential Wastewater Connections*

	2010-11	*2010-11*	*2011--12*	*2012-13*	*2013-14*	*CAGR 2011-14*
Moreton Bay	28,796	34,408	35,392	36,395	37,429	2.8%
Sunshine Coast	23,286	11,309	11,615	11,907	12,206	2.6%
Unitywater total	**52,082**	**45,717**	**47,007**	**48,302**	**49,635**	**2.7%**

*Note: * Unitywater's 'equivalent base' is a derived 'connections' obtained by dividing the total water access charge revenue by the access charge for a standard residential connection. 2010-11 shaded data reflects Unitywater's forecasts for 2010-11 as published in the SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. SKM noted that the significant difference between connection numbers in the 2010-11 submission and those in the 2011-12 numbers is due to a change in customer classification. Source: Unitywater (2011) data template, SKM (2011).*

SKM applied the growth rates that conform to the OESR 2011 low population series and Unitywater's residential to non-residential ratios to the forecast total wastewater connections to obtain estimates of non-residential wastewater connections as shown in Table 1. below.

Table 3.22: Recommended Non-Residential Wastewater Connections

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	28,796	34,408	35,235	36,061	36,887
Sunshine Coast	23,286	11,309	11,557	11,806	12,054
Total Recommended	**52,082**	**45,717**	**46,792**	**47,867**	**48,941**
Unitywater Proposed	52,082	45,717	47,007	48,302	49,635
Difference	**0**	**0**	**-215**	**-435**	**-694**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. For all LGAs all units are connections. SKM noted that the significant difference between connection numbers in the 2010-11 submission and those in the 2011-12 numbers is due to a change in customer classification. Source: SKM (2011).

The Authority accepts SKM's non-residential wastewater connection estimates.

Non-Residential Wastewater Volumes

Unitywater only forecast non-residential wastewater volumes for Maroochy. For these customers, wastewater volume (Table 3.23) is calculated as a percent of metered water consumption based on a set of discharge factors ranging from 5% to 90%.

SKM noted that this approach is consistent with those adopted in other jurisdictions where rather than actually metering wastewater volumes, assumptions are made on the proportion of customers' metered drinking water consumption flowing into the sewer. SKM noted that this approach avoids the extensive expenditure that would be required to meter consumption of wastewater services which is forecast to grow at the same rate as water consumption.

Table 3.23: Unitywater Non-Residential Wastewater Volumes (ML/year)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Sunshine Coast	np	1,895	1,838	1,876	1,920

Note: 2010-11 shaded data reflects Unitywater's forecasts for 2010-11 from its 2010 Submission. np denotes not provided. Source: Unitywater (2011).

In the absence of more historical information, SKM accepted that the methodology applied to estimate wastewater volumes for Maroochy is appropriate. However, SKM advised that the discharge factors be updated to take into account the changing nature of industries as well as changes to drinking water consumption patterns due to the drought and restrictions. SKM also advised that the growth rate of the deemed wastewater volume be compared with the general water volume growth rate in the Sunshine Coast so that future forecasts may have a better basis for projection.

Applying Unitywater's methodology to the OESR's more recent estimate of growth rate SKM's recommended wastewater volumes are shown in Table 3.24.

Table 3.24: Recommended Non-Residential Wastewater Volumes

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	np	**0**	**0**	**0**	0
Sunshine Coast	np	1,895	1,872	1,920	1,968
Total Recommended	**np**	**1,895**	**1,872**	**1,920**	**1,968**
Unitywater Proposed	Np	1,895	1,838	1,876	1,920
Difference		**0**	**34**	**44**	**48**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. np denotes not provided. For all council areas all units are connections. Source: SKM (2011).

The Authority accepts SKM' non-residential wastewater volumes estimates.

Trade Waste

Unitywater did not provide data on trade waste connections and volumes. Consequently, SKM was unable to review the reasonableness of Unitywater's estimates of trade waste connections and volumes.

The Authority notes that revenue from trade waste contributes 0.6% of Unitywater's forecast total revenue. Therefore, the Authority has accepted Unitywater's proposed trade waste connections and volumes estimates.

The Authority accepts Unitywater's proposed trade waste connections and volumes estimates.

Non-Revenue Water

Non-revenue water is the difference between bulk water supplied by the SEQ WGM and billable consumption from residential and non-residential customers. Non-revenue water includes network leakage, water theft and authorised unbilled water consumption (e.g. fire fighting and pipe flushing).

Table 3.25: Unitywater Non-Revenue Water (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	na	na	2,664	2,665	2,718
Sunshine Coast	na	na	3,202	3,105	3,170
Unitywater	**na**	**na**	**5,866**	**5,770**	**5,888**

Source: Unitywater (2011).

SKM noted that the leakage component of non-revenue water is loosely related to the number of connections, assuming that water pressure remains the same. SKM noted that Unitywater has not provided any non-revenue water forecast in the templates supplied to the Authority. In its submission, Unitywater estimated that the losses incurred in its network amounted to some 13.8% in 2009-10. This estimate is based on actual losses incurred in Moreton Bay.

In further supporting material provided to SKM, Unitywater noted that indications from the 2010-11 actual meter reads show lower losses. In its forecasting model provided subsequently to the Authority, Unitywater has projected that over the forecast period losses will account for around 12.1% total water demand in Moreton Bay and 12.9% in the Sunshine Coast.

SKM considered that based on comparing non-revenue water data submitted by Allconnex and QUU, losses of the order suggested by Unitywater are not unreasonable. As a result, SKM recommend that Unitywater's projected loss factor be accepted.

Table 3.26: Recommended Non-Revenue Water (ML)

	2009-10	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	2,997	2,664	2,887	3,048	3,211
Sunshine Coast	3,875	3,202	3,364	3,553	3,746
Unitywater	6,872	5,866	6,251	6,601	6,957

Source: SKM (2011), QCA calculations.

The Authority accepts SKM's non-revenue water estimates.

Bulk Water

Unitywater's forecasts of bulk water are the total of residential, non-residential and non-revenue water (see below).

Table 3.27: Unitywater Bulk Water Volumes (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	21,993	24,657	24,665	25,161	25,737
Sunshine Coast	26,730	27,945	27,105	27,666	28,316
Unitywater	**48,723**	**52,601**	**51,770**	**52,827**	**54,053**

Note: 2010-11 shaded data reflects Unitywater's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. Source: Unitywater (2011) data template, SKM (2011).

SKM revised Unitywater's estimates of bulk water (see Table below) based on its view of residential, non-residential and non-revenue water (as noted previously). SKM recommended higher bulk water estimates than Unitywater.

Table 3.28: Recommended Bulk Water Volumes (ML)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Moreton Bay	21,993	24,657	26,725	28,208	29,720
Sunshine Coast	26,730	27,945	29,362	31,011	32,699
Total Recommended	**48,723**	**52,601**	**56,087**	**59,219**	**62,419**
Unitywater Proposed	48,723	52,601	51,770	52,827	54,053
Difference	**0**	**0**	**4,317**	**6,392**	**8,366**

Note: 2010-11 shaded data reflects the Authority's forecasts for 2010-11 as published in its SEQ Price Monitoring Report for 2010-11. Source: Unitywater (2011) data template, SKM (2011).

The Authority notes that the WGM released its Operating Strategy in March 2011, which contained estimates of Unitywater's bulk water demand for 2011-12. These demand estimates were required to be used by the Authority in its review of SEQ Grid Service Charges for 2011-12.

As a cross check on SKM's estimates, the Authority has contrasted the available estimates of Unitywater's demand for bulk water in 2011-12 in the table below. Unitywater's recent estimate is 9.37% lower than it previously forecast, and 10.9% lower than the WGM's March 2011 estimate. The SKM estimate is only 3.5% lower than the WGM's.

The Authority accepts SKM's bulk water estimate, as it is based on the information available at the timing of price setting and therefore forms the most relevant estimate for the purposes of price monitoring.

Table 3.29: Unitywater Bulk Water Volumes (ML) 2011-12

	Unitywater 2010-11 Information Return	*Unitywater 2011-12 Information Return*	*WGM*	*SKM*
Moreton Bay	25,750	24,665	26,663	26,725
Sunshine Coast	31,371	27,105	31,429	29,362
Unitywater Total	**57,121**	**51,770**	**58,092**	**56,087**

Source: Unitywater (2010) data template, Unitywater (2011) data template, WGM (2011).

The Authority accepts SKM's bulk water estimates.

Demand for Capital Planning

As noted above, in its first price monitoring report the Authority found that Unitywater should document its approach to forecasting demand for all purposes.

The Authority noted that Unitywater has not documented its approach to forecasting demand for pricing purposes, but has provided a brief description of its approach to forecasting demand for capital planning purposes.

In its submission, Unitywater has recognised the need for a clear, consistent and region-wide methodology to establish new demand models upon receipt of new planning assumptions for the participating councils. Unitywater stated that a major project to address this issue has commenced as part of the Netserv plan.

In its review, SKM noted that demand for capital planning purposes should be broadly consistent with that adopted for pricing purposes. However, SKM noted that demand forecasts for capital planning purposes place a greater emphasis on a range of factors that are less relevant to short term forecasts. These factors include the desired standard of service, peaking factors, long term consumption patterns, and regulatory and fire fighting requirements.

For example, at the local level, fire-fighting requirements are usually the most important considerations in designing network capacity rather than customer demand requirements. These requirements stipulate the flow rate at the street level must be at least 15 litres per second in normal residential area and 30 litres per second in a non-residential area.

Under the Building Code, higher requirements are occasionally needed. SKM noted that in the past, Unitywater had allowed developers to connect to the network in areas where the flow rate was sufficient without the need to augment the system, or for the developer to put in place assets to increase the water pressure. As a result, Unitywater now has to maintain this flow rate so that the Building Code is not breached.

Consequently, SKM noted that estimates of demand for network planning purposes are generally higher than those adopted for pricing purposes.

However, SKM noted that Unitywater's short term forecasts imply declining residential water consumption which is inconsistent with Unitywater's long term forecast of average residential water demand based on 276 l/p/d in Moreton Bay and 230 l/p/d in Sunshine Coast.

In relation to Unitywater's demand forecasts for capital planning, SKM noted that:

(a) for water, the Unitywater capital planning standard of 276 l/p/d/ for Moreton Bay and 230l/p/d for Sunshine Coast is inconsistent with declining short-term average consumption. SKM noted that the higher average consumption in Moreton Bay represents a 20% loading on the SEQ regional average PWCM target of 230 l/p/d to account for the possibility of rebound beyond the target.

However, SKM did not recommend an adjustment to the design standard in these areas, noting that there is a review of this standard currently underway.

Further, SKM noted that peaking factors are also under review as they have been in place since before the drought and the resulting restrictions and as the strong media campaigns that had been run to educate water consumers has not been factored into these factors.

SKM noted that the GHD[45] study (GHD, 2009) showed it is likely that peaking factors have reduced following the strong media campaigns to educate consumers to reduce their water use;

(b) for wastewater, Unitywater's average dry weather flow of maximum 250 l/p/d, with peak capacity being able to carry five times this flow, appeared reasonable based on the Department of Environment and Resource Management (DERM) Guidelines.

However, SKM noted there was a limited amount of data on residential wastewater flows and peak wet weather flows which are key drivers of capital expenditure. SKM considered priority should be given to capturing this data.

SKM considered that caution should be exercised in any change of the infrastructure design criteria to reflect short term changes in demand. In support of its view, SKM noted that:

(a) a reduction in short term average consumption per day does not necessarily lead to a corresponding reduction in peak consumption which drives trunk water infrastructure. Peak consumption is a function of human behavioural responses to extreme weather. Consequently, peaking factors may increase even if the average day rate decreases.

Without data from a longer period, SKM stated it would not be prudent to use current spare capacity as a long term solution, as the consumption habits of a population may change faster than the ability to augment trunk infrastructure;

(b) the critical design criteria for water reticulation works is usually fire fighting flows, and not average consumption per day;

(c) the augmentation of water distribution trunk infrastructure generally results in a step change in capacity and consequently, variances in short term demand can be accommodated in changes in timing of works;

(d) a change in average consumption per day does not necessarily lead to a corresponding change in wastewater flow, as not all water consumed is released to sewers (e.g. outdoor irrigation). Wastewater flows are more sensitive to inflow by stormwater and infiltration by groundwater. Reduced infiltration gravity sewers aim to reduce this inflow; and

(e) the critical design criteria for wastewater treatment plants are organic or hydraulic load. A reduction in the amount of water transporting an organic load does not change the load, just the concentration, and reactor tank size is not varied. A variation in hydraulic load may lead to only a small reduction in vessel height or pump capacity. Again, variances in short term demand usually change the anticipated timing of new assets only slightly.

[45] GHD, *Gold Coast Water, Desired Standards of Service Review 2008*, October 2009

On the basis of SKM advice, there are some legitimate differences in demand estimates for pricing and capital planning as longer term demand for capital planning purposes seeks to achieve service standards and regulatory requirements over the life of the assets and account for risk. Short term demand estimates are used for pricing, operating expenditure and in the annual prioritisation of capital expenditure. Short term demand can be expected to depart from long term trends.

In summary, the Authority notes that SKM has cautioned against scaling Unitywater's proposed capital expenditure to reflect short term demand, as short term consumption patterns can change more rapidly than the ability to augment. Further, variances in short term demand can be accommodated in the review of the timing of works (rather than changes in scope). The Authority has therefore not adjusted capital expenditure but has reviewed the timing of works. This approach appears reasonable in the circumstances of price monitoring and in light of the current 230 l/p/d infrastructure planning standard in the SEQ Water Strategy.

Summary

As noted in the Authority's first price monitoring report, demand estimates are an essential component of economic regulation. The more reliable the demand estimates, the more informed will be the choices businesses can make about expenditure and prices. It is therefore important that demand forecasts represent the best possible assessment of future consumption given the available information.

The Authority acknowledges that structural change in the SEQ water sector has led to a number of legacy issues, particularly regarding the transfer and robustness of historical data from the councils. Given available information, the Authority's consultants have not considered the methodology adopted to forecast demand is generally reasonable.

However, the Authority has adjusted Unitywater's residential and non-residential demand for water and wastewater to reflect updated billing data and OESR forecasts.

The Authority also considers that Unitywater should consider the response of consumers to increasing prices when considering its price path from 2013-14 to 2018-19.

The Authority notes that Unitywater has provided further information on the demand forecasts used for pricing and capital planning purposes. The Authority supports the review of infrastructure design standards for relevance against expected consumption patterns and customer needs.

3.6 The Initial Regulatory Asset Base

In March 2010, the (then) Minister for Natural Resources, Mines and Energy and the Minister for Trade advised the Authority of the initial regulatory asset base (RAB) as at 1 July 2008 for interim price monitoring. The Minister advised the RABs for each entity as well as the RABs for each participating council, and other adjustments. The Minister's advised RAB for Unitywater was 2,029.87 million.

Unitywater's Submission

In its submission, Unitywater noted that it had allocated the advised RAB of $2.03 billion to each asset on the basis of their audited values.

Unitywater advised that the allocation of the Ministerially advised RAB in its 2011-12 submission differs from that provided in its 2010-11 submission. This follows further work by Unitywater based on detailed information which was not available at the time of the 2010-11

submission. For Unitywater this has resulted in the RAB value for water increasing relative to wastewater.

Table 3.30: Unitywater RAB as at 1 July 2008 ($m)*

	Previously Allocated Water	*Previously Allocated Wastewater*	*Previously Allocated RAB*	*Water*	*Wastewater*	*RAB*
Moreton Bay	481.07	628.43	1,109.50	509.75	599.86	1,109.61
Sunshine Coast	368.24	551.46	919.70	369.06	550.64	919.69
Unitywater	**849.31**	**1,179.89**	**2,029.20**	**878.81**	**1,150.50**	**2,029.31**

*Note: * excludes non-regulated business. Shaded data reflects the Authority's previously accepted RAB as published in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. Source: Unitywater (2011).*

Other Submissions

Mr Koerner and Ms West submitted that the initial RAB value should be subject to investigation by the Authority. In this regard, Mr Koerner and Ms West argued that, as the advised RAB value as at 1 July 2008 is based on a discounted cash flow methodology, the RAB value is inflated as they consider that councils' water prices at that time were inflated above appropriate levels due to revaluations conducted by council water businesses.

Mr Koerner provided copies of his correspondence with, and submissions to, a range of government agencies that detail his concerns[46].

Authority's Analysis

The Authority has reviewed the documents provided by Unitywater in support of its revised apportionment of the initial RAB in each council area. The Authority has confirmed that Unitywater's apportionment reconciles with council financial statements and other supporting information. In the process of allocating the RAB, Unitywater has allocated $0.6 million to non-regulated services. The total RAB value as at 1 July 2008 reconciles with the Minister's advised value.

The Authority notes that these adjustments do not materially affect the total RAB allocated to council areas, rather the allocation of the RAB to water and wastewater activities.

In response to Mr Koerner and Ms West, the Ministerial Direction requires the Authority to accept the RAB valuation as at 1 July 2008 as advised by the Minister for Natural Resources, Mines and Energy and Minister for Trade.

The Authority has accepted Unitywater's revised apportionment of the Minister's advised RAB.

[46] Copies of Mr Koerner's submission have been made available on the Authority's website.

3.7 Capital Expenditure

Capital Expenditure from 1 July 2008 to 30 June 2010

The Ministerial Direction requires the Authority to accept as prudent and efficient, actual capital expenditure for water and waste water (excluding establishment costs) as included in councils' financial accounts from 1 July 2008 to 30 June 2010; allowable establishment costs as advised by the Minister for Natural Resources, Mines and Energy and Minister for Trade; and contributed, donated and gifted assets and capital expenditure funded through cash contributions from 1 July 2008 to 30 June 2010.

Unitywater's submission

In its submission, Unitywater included capital expenditure for 2008-09 of $129.6 million and $303.3 million in 2009-10 (inclusive of contributed, donated and gifted assets). The 2009-10 data reflects updated and audited actual data for 2009-10 and a small downwards revision from the $305.5 million estimate in Unitywater's 2010-11 submission.

Unitywater also included establishment costs of $13.13 million as at 30 June 2010, in accordance with the Minister's approved value as advised in February 2011, comprised of $7.23 million of directly incurred costs and $5.90 million related to Council of Mayors SEQ costs.

Authority's Analysis

The Authority noted the significant difference (Table 3.31) between the composition of 2009-10 capital expenditure in the 2010-11 and that in the 2011-12 submission and compared the two submissions. The Authority verified that the significant difference is due to the re-categorisation of cost previously under Moreton Bay water activities' 'distribution infrastructure not included in another category' cost category to Moreton Bay's wastewater activities, the Sunshine Coast water and wastewater activities' cost categories.

Table 3.31: Capital Expenditure 2008-09 and 2009-10 ($m)*

	2008-09	*2009-10*	*2008-09*	*2009-10*
Moreton Bay	79.2	249.4	80.9	187.3
Sunshine Coast	50.8	43.0	48.7	102.9
Establishment costs	0.0	13.1	0.0	13.1
Unitywater	**129.9**	**305.5**	**129.6**	**303.3**

*Note: Shaded data reflects the Authority's previously accepted capital expenditure in its SEQ Price Monitoring Report for 2010-11. This data is provided for comparison purposes only. *Note: includes contributed, donated and gifted assets. Source: Unitywater (2011).*

As this re-categorisation reflects better information, the Authority accepts Unitywater's capital expenditure.

Further, the Authority has accepted Unitywater's submitted establishment costs as they reflect the costs approved by the Minister. Unitywater's nominated asset life of eight years for establishment costs is consistent with the smoothing period of between five to eight years endorsed by the Government to avoid unnecessary price shocks to customers.

The Authority has accepted Unitywater's capital expenditure in 2009-10 and 2010-11 and the establishment costs approved by the Minister.

Capital Expenditure from 1 July 2010

The Ministerial Direction requires the Authority to review the prudency and efficiency of capital expenditure for inclusion in the RAB from 1 July 2010. Only expenditure found to be both prudent and efficient can be included in the RAB.

The criteria and processes for determining the prudency and efficiency of capital expenditure are defined in the Information Requirements for 2011-12.

In summary, to establish prudency, an entity must demonstrate that there is a need for the expenditure, typically by reference to an analysis of its driver/s. To establish efficiency, information is required on the scope and standard of the works and the corresponding cost and timing of works. This should be linked, where relevant, to the underlying cost components such as unit rates, on-costs and contingencies and supporting materials such as consultant reports. Information is also required on expenditure approval policies and procedures.

The Authority requires capital expenditure from 1 July 2010 to be included in the RAB only when it is commissioned, and contributes productivity capacity to the system.

Unitywater's submission

In its submission, Unitywater proposed capital expenditure of $966 million over four years (including contributed assets), of which water accounts for $231 million and wastewater $735 million.

(g) Proposed Capital Expenditure

Unitywater assigned its capital works expenditure to the following cost drivers: growth, renewal, improvement, compliance and contributed assets (Table 3.32). The noticeable increase in the value of commissioned projects in 2013-14 results from a number of large capital value wastewater projects in the Sunshine Coast (Table 3.34).

Unitywater further attributed this to the following factors:

(a) major upgrades of some sewage treatment plants (STPs) that are scheduled to occur over the next few years;

(b) in general, STP upgrades require a reissue of licence conditions that apply to the entire load, not just the incremental new load. As such, reconfiguration of STP design and functionality to meet current licence conditions for all loads is a considerable driver of capital expenditure; and

(c) deferral of investment in water distribution infrastructure due to falling levels of both residential and non-residential business water consumption over the previous five years, with much of this attributable to water restrictions and government initiatives regarding demand.

Table 3.32: Unitywater Forecast Capital Expenditure Water and Wastewater ($m)

	2010-11	*2011-12*	*2012-13*	*2013-14*	*Total*
Growth	150.54	170.86	57.84	174.53	553.77
Renewal	28.76	36.25	21.72	21.05	107.78
Improvement	21.21	8.58	21.42	12.79	64.00
Compliance	24.56	26.49	43.45	30.54	125.04
Contributed Assets	21.57	26.55	30.31	36.99	115.42
Total	**246.63**	**268.73**	**174.74**	**275.90**	**966.00**
Comprising					
Water	**72.38**	**53.08**	**51.08**	**54.42**	**230.96**
Wastewater	**174.25**	**215.65**	**123.66**	**221.48**	**735.04**

Note: Capital expenditure is presented here on an 'as commissioned' basis as per Unitywater's submission. Source: Unitywater (2011) data template

The water and wastewater costs related to each of Unitywater's two geographic areas are detailed in Table 3.33 and Table 3.34.

Table 3.33: Unitywater Capex for Water by Geographic Area ($m)

	2010-11	*2011-12*	*2012-13*	*2013-14*	*Total*
Moreton Bay	50.40	25.25	17.12	23.27	116.04
Sunshine Coast	21.99	27.83	33.96	31.15	114.92
Total	**72.38**	**53.08**	**51.08**	**54.42**	**230.96**

Note: includes contributed assets. Source: Unitywater (2011) data template

Table 3.34: Unitywater Capex for Wastewater by Geographic Area ($m)

	2010-11	*2011-12*	*2012-13*	*2013-14*	*Total*
Moreton Bay	132.96	179.93	63.83	27.15	403.87
Sunshine Coast	41.29	35.72	59.84	194.33	331.17
Total	**174.25**	**215.65**	**123.66**	**221.48**	**735.04**

Note: includes contributed assets. Source: Unitywater (2011) data template

Changes to Capital Expenditure Estimates

Unitywater noted that the 2010-11 budget was prepared by Unitywater on the assumption that the historical figures and budgets prepared by council included robust figures. Unitywater submitted that the current budget was prepared on the basis of Unitywater's view on future capital requirements which is lower than the previous council-based budgets.

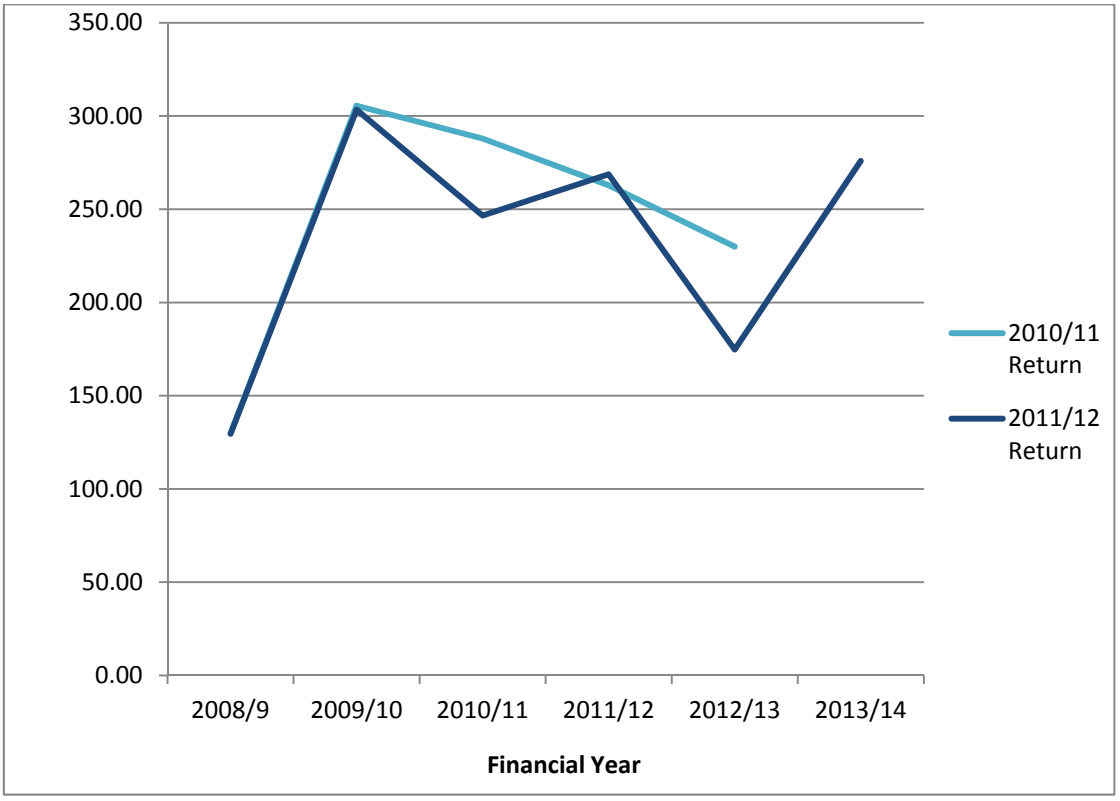
Unitywater sought to identify and explain the variation between its forward program and that previously proposed in its 2010-11 submission (see Table 3.35 and Chart 3.5 below).

Table 3.35: Unitywater Capital Expenditure 2010-11 and 2011-12 Submission*($m)

	2010-11	*2011-12*	*2012-13*	*Total*
2010-11 Submission	287.88	262.80	229.97	780.65
2011-12 Submission	246.63	268.73	174.74	690.10
Variance	**-41.25**	**5.93**	**-55.23**	**-90.55**

*Note: *includes contributed assets.*

Chart 3.5: Unitywater Capital Expenditure 2010-11 and 2011-12 Submission*($m)



Source: Unitywater (2011)

Unitywater noted that the capital expenditure forecasts provided in the 2010-11 submission are greater than the forecast data provided in the current submission. Unitywater attributed this discrepancy to various factors including but not limited to Unitywater:

(a) completing its own capital forecasts as opposed to relying on council estimations of future capital requirements;

(b) forming its own view on assets condition and performance;

(c) having the benefit of a year's operations to obtain a greater understanding of its area of operation and the business's capital needs for the forecast period, resulting in a more

accurate prediction of future expenditure than previously possible based on council forecasts;

(d) achieving various efficiencies and sourcing alternatives to expenditure than had been previously forecast by the individual councils (as evidenced by the Brendale STP capital expenditure deferral by pumping sewage into Queensland Urban Utilities' (QUU's) network for treatment); and

(e) Capital Works Committee applying rigorous justification process to justify the needs and the scope of major projects including a 'needs analysis' and 'business case' which has to be completed for each project.

As Table 3.36 shows, the net variance over the period 2010-11 to 2012-13 is a decrease of $91 million in forecast capital expenditure across the five cost drivers.

Unitywater attributed the decrease in capital expenditure between the 2010-11 and the current submission to a large reduction in forecast new assets and improvement expenditure over the period.

Unitywater submitted that the large reduction in forecast new assets can be partially explained by numerous project cancellations or postponements occurred post the establishment of the 2010-11 budget which was used to complete Unitywater's 2010-11 submission. Unitywater noted that cancelled projects resulting from revised hydraulic modelling, based on a change in growth projections, have resulted in a further $6.2 million decrease in forecast capital expenditure.

Unitywater stated that a total of 41 projects were postponed during 2010-11 due to the factors above, the most notable of which was the Northern Service Centre which resulted in a reduction of $9.5 million in forecast capital expenditure. The construction of several large water and sewer mains were also postponed (for at least one year) due to the revised hydraulic modelling based in a change in growth projections.

Minimal improvement expenditure is now forecast on the basis that existing service levels are expected to continue over the period. In the current submission, Unitywater classified capital expenditure relating to the maintenance of existing service levels as compliance expenditure which also explains the $55.2 million increase in forecast expenditure for the compliance cost driver.

Table 3.36: Capital Expenditure Variance by Drivers ($m)

	2010-11	*2011-12*	*2012-13*	*Total*
		Growth		
2010-11 Submission	148.07	164.70	159.54	**472.31**
2011-12 Submission	150.54	170.86	57.84	**379.24**
Variance	**2.47**	**6.16**	**-101.70**	**-93.70**
		Renewal		
2010-11 Submission	24.20	29.69	23.74	77.64
2011-12 Submission	28.76	36.25	21.72	**86.73**
Variance	**4.56**	**6.56**	**-2.02**	**9.10**
		Improvement		
2010-11 Submission	74.97	23.85	9.92	**108.74**
2011-12 Submission	21.21	8.58	21.42	**51.21**
Variance	**-53.76**	**-15.27**	**11.50**	**-57.53**
		Compliance		
2010-11 Submission	9.83	18.75	10.75	**39.33**
2011-12 Submission	24.56	26.50	43.45	**94.50**
Variance	**14.73**	**7.74**	**32.70**	**55.17**
		Contributed Assets		
2010-11 Submission	30.81	25.81	26.02	**82.63**
2011-12 Submission	21.57	26.55	30.31	**78.42**
Variance	**-9.24**	**0.74**	**4.29**	**-4.21**
Total Variance	**-41.25**	**5.93**	**-55.23**	**-90.55**
	14.33%	**2.26%**	**24.02%**	**11.60%**

Source: Unitywater (2011, 2010).

(h) Service Standards

Unitywater submitted that it forecast capital expenditure to meet expected demand and customer service standards for water reticulation, trade waste, sewage treatment and recycled water with the aim being maintaining the quality, reliability and security of supply of services to customers. Unitywater stated that it has not adjusted these estimates to compensate for the introduction of a price on carbon.

(i) Capital Planning

In its submission, Unitywater noted that capital expenditure was approved by the Unitywater Board as part of its overall budget approval process. This process includes ongoing scrutiny of expenditure by a committee of the Board, established to monitor and review the capital expenditure program and its delivery, and ensure the program is consistent with Unitywater's strategic objectives.

The Capital Works Committee assists the Board to discharge its corporate governance responsibilities to exercise due care, diligence and skill in the approval of strategic capital works, annual capital works expenditure and significant capital works commitments. It also assists with compliance with regulatory principles and applicable licence conditions as applied by the relevant environmental regulator, and implementation of Unitywater's Business Sustainability Policy. The committee also makes decisions as required on variations or budget changes and approves expenditure above the CEO's delegation.

Unitywater also established an Asset Steering Committee to review and endorse investment decisions for Capital and Operations projects. This committee reports to the Executive Management Team and has recently recommended endorsement of Unitywater's Capital Works Justification Process, advising that it would satisfy Unitywater's strategic and corporate objectives, and the requirements of the economic regulator.

The Capital Works Justification Process documents the proposed process as well as the lists of numerous sub-processes and the decision points that form the overall process. The process covers the identification, development, prioritisation and approval phases of a typical capital works project/program. Sub-processes are further supported by various tools, templates and guidelines. Development of the systems is being undertaken in consultation with stakeholders across Unitywater and eternally with independent consultants.

Unitywater is also currently establishing further governance structures to underpin the process of developing, assessing and approving capital expenditure forecasts.

The process undertaken by Unitywater in planning its growth, renewals and compliance related capital expenditure are illustrated in Figure 3.2.

Figure 3.2: Unitywater Capital Planning Process

Source: Unitywater (2011)

Unitywater used a prioritisation model to assess projects across the region. This risk based model allows each project to be assessed, scored and ranked. Projects are evaluated and scored against six weighted criteria which align with Unitywater's corporate risk assessment methodology, including;

(a) safety;

(b) environmental;

(c) financial;

(d) service delivery;

(e) legal and regulatory; and

(f) image and reputation.

Four of these criteria utilise a risk calculation approach (likelihood multiplied by consequences) to add additional rigour to the scoring process. Each criteria is assigned a weighting and the combined aggregate scores are then used to rank the projects within the draft program.

Projects that meet the following specific triggers are automatically included in the capital expenditure program. These triggers include:

(a) specific statutory or legislative requirements;

(b) extreme public, workplace health and safety (WH&S) or environmental risks;

(c) certain risks identified on the company risk register; and

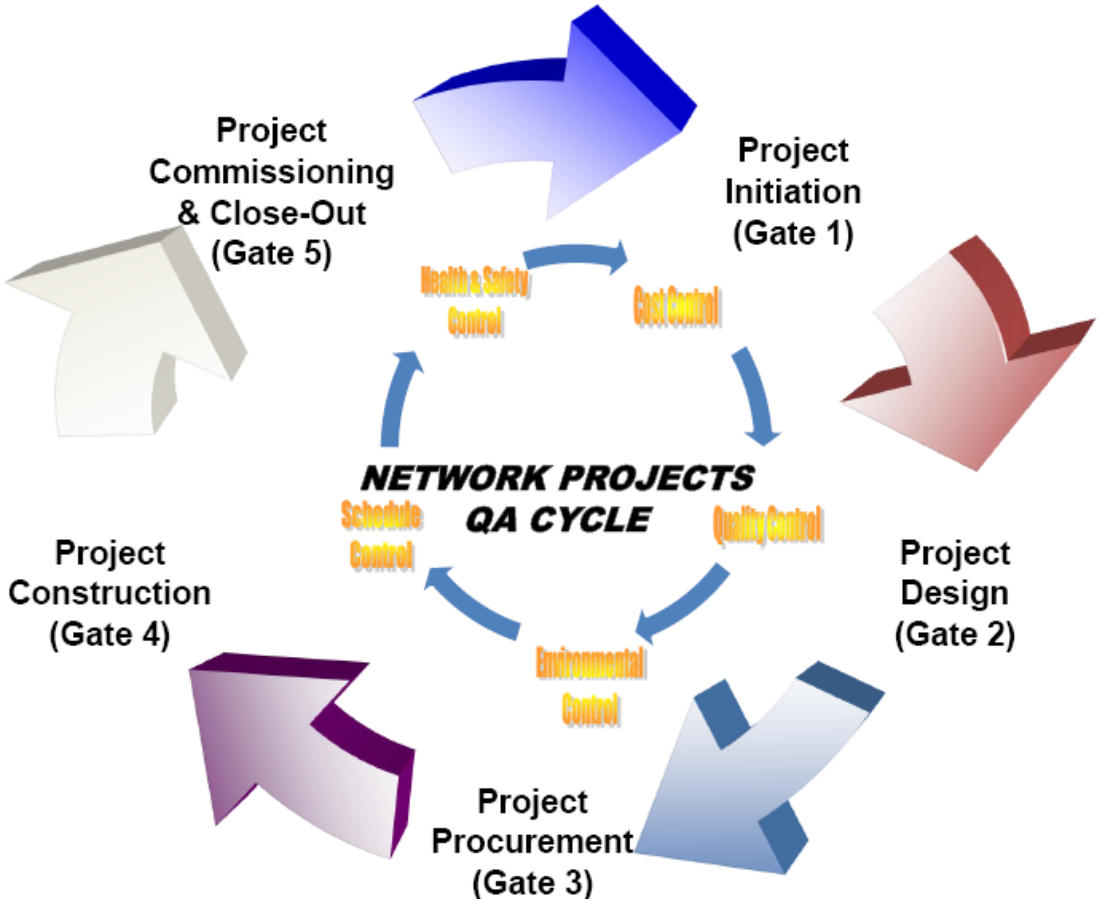
(d) previously commenced projects that must continue.

A review of the prioritisation model is proposed in the 2011-12 financial year.

Unitywater envisaged that a revised model would incorporate both project risk and value to the business assessment.

Further, Unitywater has implemented a gateway review process (see Figure 3.3) for major projects. The aim of this process is to provide independent support to projects by having peers examine them at critical moments in their lifecycle.

Figure 3.3: Unitywater Gateway Review Program



Source: Unitywater (2011)

(d) Alternatives to Traditional Capital Expenditure

Unitywater submitted that investing in alternative nutrient or pollutant reduction initiatives may achieve greater economic efficiency and be environmentally beneficial, compared to traditional wastewater treatment plant augmentations. These initiatives may include alternative pollutant, sediment or nutrient reduction within a catchment. Unitywater noted that no tool currently exists to support non-network investment on private or public lands to achieve better water outcomes.

Unitywater stated that it plans to engage various regulators and affected parties such as local councils, distributor-retailers, DERM, QWC and other water grid participants to seek collaborative and cost effective solutions for maximising water quality improvement and achieving healthy waterways.

Authority's Analysis

(i) Adequacy of Capital Expenditure Data

SKM considered that Unitywater had supplied comprehensive supporting information to enable the assessment of the prudency and efficiency for a sample of operating costs and capital expenditure of selected projects.

However, SKM noted that as the review of sample projects focused on projects that are to be commissioned in 2011-12, many of the projects have been initiated by the participating councils prior to the formation of Unitywater. Unitywater has therefore had to rely on documentation produced by the participating councils at the time of project initiation. Consequently the documentation is variable and does not represent current Unitywater procedures.

SKM opined that retrospective development of documentation has limited value other than informing decision making regarding inclusion into the RAB.

Unitywater has indexed capital costs by applying the Producer Price Index (PPI) Road and Bridge series for Queensland. The 10-year to June 2011 compound growth rate was 5.20%.

As noted in the Authority's price monitoring report for 2010-11, there are a range of options for the indexing of asset values. Industry input indices should provide a more accurate estimate but may be subject to step changes over short periods, and would be expected to rise and fall with market conditions.

In the Authority's SunWater Draft Report (QCA, 2011), the Authority considered an index of 4% for direct labour, materials and contractor's costs for the regulatory period (2012-17) and 2.5% thereafter; and other direct costs to be indexed by 2.5%. While a range of indices were assessed, the Authority did not consider that historical cost pressures would necessarily be sustained over the long term. Further, the Authority notes that Unitywater's index may be affected by market conditions in the types of construction that are not directly relevant to Unitywater's water and sewerage business.

However, in a previous review of infrastructure charges for the Authority, Access Economics (AE) noted that escalation rates for construction costs should be based on long-run trends, rather than short run averages that deviate significantly due to idiosyncratic economic conditions.

Based on the above, the Authority considered that Unitywater's proposed indexation rate of 5.2% per annum is reasonable although the Authority notes that it is on the high side.

The Authority notes that Unitywater has identified the variance in capital expenditure forecasts to its previous estimates in its 2010-11 submission. Estimated expenditure in 2010-11 was lower than originally forecast (due to reduced improvements expenditure discussed in the previous section). Provisional actual 2010-11 data has been provided by Unitywater and will be taken into account in the Authority's Final Report for 2011-12.

Expenditure for 2011-12 has been slightly increased (by around 2.3%) to that originally forecast by Unitywater in 2010-11.

(j) Service Standards

The Authority did not review service standards as part of this price monitoring review. The Authority accepted the service standards provided by the entities so long as they were been approved by other relevant agencies.

Where service standards are the driver for capital expenditure, SKM reviewed this against the standards provided by Unitywater to assess the prudency and efficiency of the works.

In relation to service standards, SKM noted that:

(a) on 1 January 2011, a Customer Water and Wastewater Code (the Code) was released by the Minister for Natural Resources, Mines and Energy and Minister for Trade. The Code requires distributor-retailers to have a customer service charter (rights and obligations) and minimum and guaranteed service standards;

(b) Unitywater has developed a single consolidated set of customer service standards applicable to all customers within the service area. SKM made a high level comparison of the customer standards currently used by each of the entities; and

(c) as the design standards of service from Unitywater's participating councils were generally appropriate, the single aligned set of harmonised design standards are expected to be appropriate.

The Authority supports the development of specific and measurable service standards and notes that this is a first step in the development of a more integrated performance monitoring framework (QCA, 2010).

(k) Capital Planning

The Authority in its Final Report on SEQ Price Monitoring for 2010-11 noted that it supported initiatives within the entities to develop their internal processes to the planning and implementation of capital expenditure to allow for:

(a) the consideration of prudency and efficiency of capital expenditure from a regional (whole of entity) perspective;

(b) only commissioned capital expenditure to be included in the RAB and therefore prices;

(c) a standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects;

(d) a summary document to be prepared for identified major projects so as to facilitate standardised reporting;

(e) an implementation strategy to be developed for each major project that includes recommendation on delivery methodology, program and a risk review process; and

(f) a 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects.

SKM reviewed Unitywater's implementation of these initiatives and found that:

(a) there is clear evidence from its review that Unitywater is taking a whole of entity perspective to its identification, option evaluation and selection of capital projects.

This is particularly evidenced by the consideration of transferring raw sewage into adjacent sewage treatment plant catchments. In addition, Unitywater is exploring and implementing beyond entity opportunities, such as the temporary utilisation of existing treatment capacity in QUU's Luggage Point Water Reclamation Plant to allow the

financially effective delay in the augmentation of the Brendale Wastewater Treatment Plant.

Further, Unitywater is considering, with the awareness of DERM, a whole of catchment benefit assessment from investment in diffuse source nutrient pollution compared to point source;

(b) ongoing capital expenditure is applied to the RAB on an 'as-commissioned' basis while renewal expenditure is capitalised each year regardless of commissioning date and this approach is consistent with the requirement set out by the Authority;

(c) Unitywater is establishing processes to facilitate a consistent approach to cost estimation. However, the implementation of these processes has not been evident in the sample of capital projects reviewed. This may in part be explained by the timing as to when these projects were initiated, that is, in many cases before the establishment of Unitywater;

(d) Unitywater has developed a standardised summary document for major projects, but the procedure for developing a standardised summary document has not been consistently implemented for the major projects sampled. SKM noted however, that these projects were initiated prior to the formation of Unitywater;

(e) there is evidence that Unitywater is establishing processes and procedures with a view to ensuring a consistent approach to the implementation strategy documentation; and

(f) the implementation and use of a gateway process by Unitywater is and consistent with the requirements set out by the Authority.

The Authority also noted the additional explanatory information provided by Unitywater in relation to its capital planning processes.

The Authority supports efforts by Unitywater to seek collaborative and cost effective solutions for maximising water quality improvement and achieving healthy waterways, and notes that DERM is the agency responsible for effluent quality standards.

(l) Prudency and Efficiency

For capital expenditure to be included in the RAB it is required to be prudent (there is a demonstrated need for the expenditure) and efficient (it is cost-effective in its scope and standard, using market benchmarks).

As previously noted, in assessing the prudency of the sampled projects, the Authority's consultants have assessed each project individually against planning documents. The nature of the cost driver and reasonableness of the decision-making process were considered in determining the need for a project. Where growth is a driver, underlying estimates of growth are compared to the shorter term estimates used for pricing purposes, to determine whether the timing of the project could be deferred and savings made. As previously noted, the Authority's consultants did not scale capital expenditure for adjustments to short term demand forecasts.

In assessing the efficiency of the sampled projects, the Authority's consultants have reviewed the scope and standard of each project and its cost and timing. In particular, the consultants have reviewed the cost estimates against available benchmarks and reviewed the cost estimation process adopted. Where a competitive tender approach was adopted and the cost therefore reflects market rates, these have been accepted as efficient.

The samples chosen for review of prudency and efficiency included two largest projects to be commissioned in 2011-12, one project to be commissioned over 2011-12 and 2013-14 and one

small project to be commissioned in 2011-12 but increasing significantly in value in 2013-14. The Authority focussed on projects commissioned in 2011-12 given their impact on the 2011-12 MAR, but also included a large project with forward expenditure to signal its view of prudency and efficiency, and a smaller project to test the application of policies and procedures in smaller projects.

For Unitywater, this resulted in a sample of 10 projects for review which accounted for 60.03% of Unitywater's total commissioned capital expenditure program in 2011-12 (excluding contributed assets[47]). The list of capital expenditure programs reviewed in detail for 2011-12 is shown in Table 3.37.

Table 3.37: Capital expenditure programs reviewed ($'000)

Project	*Activity*	*Commissioned in 2011-12*	*Commissioned in 2013-14*
Burpengary Wastewater Treatment Plant Stage 2 Augmentation	Wastewater	59,029	
South Caboolture STP Upgrade and Augmentation (Stage 2)	Wastewater	51,013	
Customer Services and Billing Solution Project	Corporate	8,571	
Fleet-Light		5,883	5,353
Upgrade Wastewater Pump Station MF01	Wastewater	5,702	
Kedron Brook Sewerage Catchment - New Sewerage Rising Main RMN260	Wastewater	5,083	
Sewer Rising Main, Burpengary Creek to Burpengary East STP (525mm x 2880m)	Wastewater	4,855	
Sewer Rising Main RMN-BI01 (375mm x 2900m)	Wastewater	4,152	
Ngungun St, Landsborough - Water Pump Station	Water	719	
Coolum STP Augmentation	Wastewater	374	48,441
Total Sampled Expenditure		145,381	53,794
Total Capital Expenditure		**242,184**	**238,910**

**Note: Largest expenditure project over the forecast period. Source: Unitywater supporting information.*

(i) Burpengary Wastewater Treatment Plant Stage 2 Augmentation

Burpengary East STP receives sewage pumped from Beachmere, Deception Bay, Narangba and Burpengary. The sewage received is predominantly domestic in nature with some industrial waste contributions from the Narangba Industrial Estate. The plant has a current average flow of 7.7 ML/d.

[47] Contributed assets were excluded from the sample of projects for detailed review as a detailed list of contributed assets was not provided and they typically reflect small value local network infrastructure.

The Burpengary East STP is currently being upgraded to its licence limit of 49,900 equivalent person (EP). SKM noted that the project was initially started within the Caboolture Shire Council and has spanned 11 years and three separate designs. According to Unitywater, the works have recently been completed, commissioning has occurred and the upgraded plant is operation.

The capital expenditure proposed over 2011-12 to 2013-14 is shown in Table 3.38. SKM noted that the costs presented in Unitywater's supporting documentation did not agree with the costs submitted to the Authority. Unitywater advised SKM that the values submitted to the Authority reflected the most current information (from the third-quarter review conducted in April 2011) from the capital program budget, which includes an allowance for working capital which was not previously included. SKM was satisfied with the variation in the figures submitted by Unitywater.

Table 3.38: Burpengary WTP Stage 2 Augmentation – Expenditure Profile ($000)

	2011-12	*2012-12*	*2013-14*	*Total*
2011-12 Information Template	59,029			59,029
2010-11 Treatment Works Cost Report Aug10.xls				58,217

Source: SKM (2011)

Prudency

Unitywater nominated growth as the cost driver for this project. SKM noted that:

(a) Montgomery Watson Harza (MWH) previously reported that the current plant loading of 33,435 EP was in excess of the current plant capacity of 26,085 EP (Burpengary East STP: Upgrade Planning Study, Final Report, MWH (2002));

(b) the information provided in the MWH report was supported by population and flow projections from GHD (Trunk Infrastructure Planning – Sewerage (GHD 2008)) as outlined in Table 3.39;

Table 3.39: Burpengary East STP Projections

	2001	*2005*	*2006*	*2011*	*2016*	*2021*
Project Equivalent Population (EP)[1]	30,453	-	35,403	40,926	47,445	-
Project Equivalent Population (EP)[2]	-	40,348	-	41,713	47,740	53,622
Projected ADWF (ML/day)[2]	-	9.7	-	10.0	11.5	12.9
Projected PWWF (ML/day)[2]	-	48.4	-	50.1	57.3	64.3

Note: 1 Burpengary East Sewage Treatment Plant Upgrade Planning Study (MWH, 2002); 2 Trunk Infrastructure Planning – Sewerage (GHD, 2008). Source: SKM (2011)

GHD reported that, on the basis of the capacity of the Burpengary East STP at that time, the treatment plant would be required to be upgraded to a treatment capacity of 50,000 EP prior to 2008; and

(c) Master Planning for the Caboolture district was undertaken by Unitywater in 2010 which resulted in the development of the Wastewater Network Master Plan - Caboolture District (Unitywater, 2010). This document outlined the projected growth based upon population forecasts and land use planning for the area provided by Moreton Bay Regional Council, outlined below in Table 3.40 for the Burpengary East catchment.

Table 3.40: Burpengary East Catchment Equivalent Population Growth

	2009	***2011***	***2016***	***2021***	***2026***	***2031***
EP Growth	45,726	47,317	49,813	53,838	54,370	57,731

Source: Wastewater Network Master Plan - Caboolture District (Unitywater, 2010) in SKM (2011)

In response to a request by SKM for information, Unitywater also submitted population projections (Figure 3.4) included in the Burpengary East STP Upgrade Planning Study (MWH, 2002), the current population projections from the Wastewater Network Master Plan - Caboolture District (Unitywater, 2010), and the capacity of the Burpengary East Sewage Treatment Plant in terms of equivalent population.

Unitywater noted that:

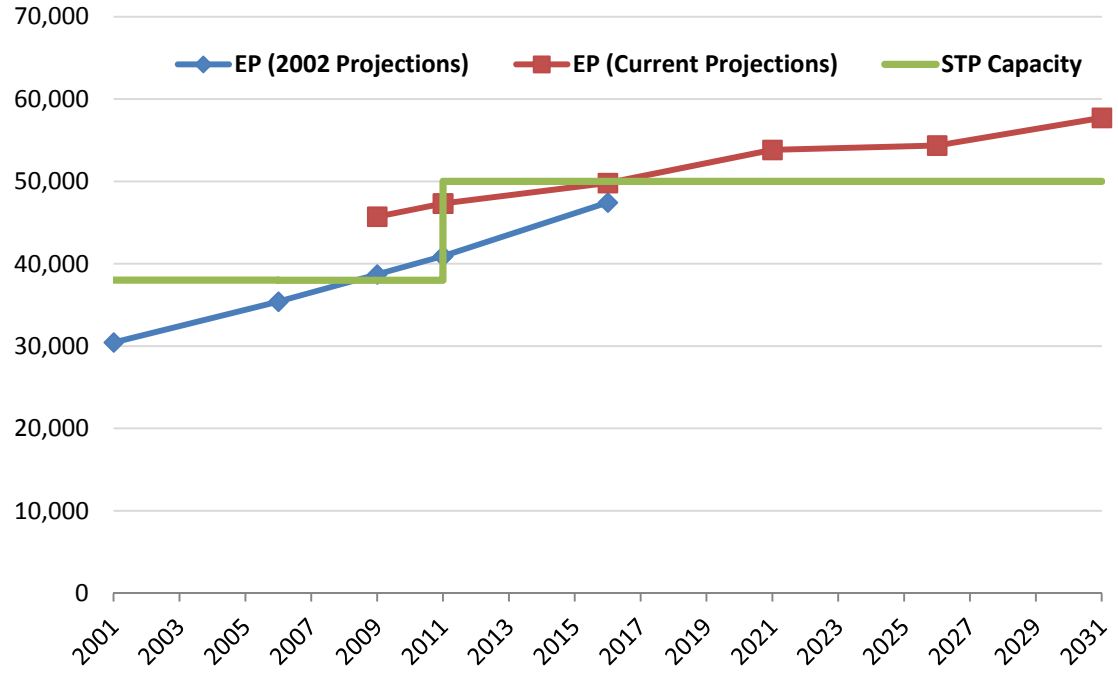
(a) the current load is higher than that anticipated in the 2002 projections;

(b) both the 2002 projection and the current projection anticipate a load of about 50,000 EP in 2016 or shortly thereafter;

(c) this next augmentation date is very dependent on actual growth and the final performance of the augmented plant. Small changes in either could impact markedly on this date; and

(d) regardless of the capacity of the augmented STP, a new Licence will be required once the 'connected' load exceeds 50,000 EP, as the plant will then be operating under a different Environmentally Relevant Activity (ERA).

Figure 3.4: Comparison of Population Projections and Treatment Plant Capacity



Source: SKM (2011)

On the basis of the above information, SKM considered that the primary driver of growth has been demonstrated.

Unitywater has advised SKM that the project was delayed by three years due to resource issues at the former CabWater. There was also a significant impact from works directed under Water Act Amendment Regulation No. 6 to design, construct and commission a water treatment plant at Banksia Beach.

Unitywater further advised that the Environmental Regulator [DERM] and CabWater (and later Moreton Bay Water) were concerned about overflows inside the plant during wet weather events and the capacity of the treatment plant to meet nitrogen concentration limits in accordance with the plant's environmental licence. The issue of discharge of effluent to the Caboolture River estuary, on the ebbing tide, was also yet to be resolved with DERM and it was evident that this would take more than a year. This issue, combined with the time to process a material change of use application of nine to 12 months, would result in a delay in resolving existing environmental issues of approximately two years. A further delay in augmenting the plant would have resulted in breach of the environmental licence and loss of all work completed at the time. As a result, the decision was made to work within the original licence.

SKM noted that the choice of 49,900 EP was based on the current license stating that operating a standard sewage treatment works having a peak design capacity to treat sewage of 10,000 (or more) EP but less than 50,000 EP. Unitywater advised that the former Moreton Bay Water decided in 2008 to continue with the planned staging. Hence, contracts were awarded and procurement commenced prior to 1 July 2010.

SKM further noted that the concept design upgrade aspired for the effluent release quality to be total nitrogen of 2.5 mg/L and a total phosphorous of 0.3 mg/L. These targets were not based on the current environmental license condition (total nitrogen of 5 mg/L and total phosphorous of 1 mg/L) but were developed in consultation with the [former] Environmental Protection Agency (EPA) with the objective of reducing impacts on the northern part of Deception Bay

and enhancing reuse opportunities for the reclaimed water generated. Unitywater advised that a briefing was provided to all government agencies on 1 April 2009 by the former Moreton Bay Water and it was clear that all agencies considered that this was a prudent course of action.

In addition to the sensitive environment that the treatment plant discharges to, the timeframes for approvals to increase the plant capacity beyond current limits, and the advice received from the regulator in relation to the effluent release quality, SKM considered that the augmented plant capacity and discharge targets were reasonable.

SKM assessed the project as prudent.

Efficiency

The scope of works has been designed for a capacity of 49,900 EP and there is also a provision for Class A+[48] recycled water production. From information provided in the Burpengary East STP, Site Master Planning Report, SKM noted the following:

(a) preliminary Treatment including band screen and grit removal – this is a modification of the existing preliminary treatment process;

(b) modification of Bioreactor Number 2 and Number 3 to be conventional biological nutrient removal activated sludge systems. Bioreactor Numbers 2 and 3 have nominal design capacities of 12,500 EP and 25,000 EP, respectively;

(c) modification of Bioreactor Number 1 to be a membrane bioreactor system with a capacity of 3 ML/d to produce Class A+ recycled water;

(d) chlorine disinfection including chlorine contact tank; and

(e) sludge handling; there is an addition of an aerobic digester and thickener.

The works listed below were also identified by SKM as being incorporated in the scope of works following a review of the civil contracts:

(a) conversion of existing primary clarifier into balance tank;

(b) new balance tank and balance tank pump station;

(c) new membrane bioreactor effluent storage and effluent chlorine contact tank;

(d) modification of three existing final clarifiers;

(e) new return activated sludge and waste activated sludge pump station;

(f) new blower building;

(g) new chemical storage facility;

(h) conversion of a sludge fermenter into scum storage;

(i) new motor control centre buildings and conversion of existing blower room into a motor control centre room;

[48] A+ is the highest class of recycled water for non-drinking purposes in Queensland.

(j) installation of pumps, pipework and other associated mechanical and electrical equipment and instrumentation; and

(k) removal of redundant pipe work and equipment.

On the basis of this information, SKM considered the scope of works appropriate for the project.

The standards of service with regard to effluent quality are high and beyond the quantitative licence compliance requirements but respond to the degraded environmental state of the Caboolture River estuary and the northern part of Deception Bay. In addition, the wastewater generation is at the lower end of a reasonable range. Unitywater provided SKM with a detailed capital cost expenditure breakdown (10-11 Treatment Works Cost Report Aug10.xls) which is summarised in Table 3.41.

Table 3.41: Summary of Costs for 2010-11

Works Stage	***Capital Expenditure***
Project Management	$2,000,000
Land/Authority/Approvals	$200,000
Design	$3,000,000
Constructions	$50,017,884
Commissioning	$0
Contingencies	$3,000,000
Total	$58,217,884

Source: SKM (2011)

After reviewing the Ordinary Council Meeting notes submitted by Unitywater and comparing the costs to the above mentioned spreadsheet, SKM noted that it would seem that expenditure was often less than that stated in the tender. A majority of the scope of works was sent to tender and a summary of the costs quoted and the number of tenders are summarised in Table 3.42.

Table 3.42: Tender Evaluation and Costs

Equipment/Item	*Capital Costs ($)*	*Number of Tenderers Received*
Sludge Drying Facility	685,189	4
Membrane Bioreactor System	2,362,400	5
Mechanical & Electrical Tenders		
Centrifugal Pumps	101,420	4
Rotary Lobe Pumps	608,955	5
Pre-Treatment Area Equipment	1,053,030	2
Bioreactor Diffused Aeration System	934,263	3
Bio-Reactor Blowers	237,409	5
A-Recycle Pumps	274,654	3
Scum Harvesters	929,647	2
Sludge Dewatering Facility	1,232,744	5
Alum and Magnesium Hydroxide Storage and Dosing Systems	287,958	5
Methanol Storage and Dosing System	257,538	2
Electrical Power & Control System	5,690,532	5
Main Civil Contract	30,791,130	4
Aerobic Digester and Sludge Thickener	3,365,210	4
Fine bubble diffuse aeration system	498,100	3
Thickener Bridge/Scraper	212,087	2
Chlorine Disinfection System		
Main Civil works	1,183,716	10
Mechanical, Electrical & Ancillary	798,100	7
Total	**51,504,082**	

Source: SKM (2011)

SKM noted that the total costs of the tenders and equipment listed in Table 3.42 ($51.5 million) would align with the 'Constructions' category in Table 3.41 ($50.05 million), which suggested that $1,486,198 was not spent. In addition, the total cost in Table 3.41 of $58,217,884 compares

to the sample submitted to the Authority (Table 3.38) of $59,029,875. The difference of $811,991 is approximately 1.4% of the capital cost expended.

As the figures in the previous table show, four out of the 19 items in the scope of works received two tender submissions, which is less than the three tenders that are required by standard procurement policies. In reviewing the documentation provided for those four tenders (Recommendation_Report.doc (Thickener Bridge/Scraper and Burpengary East Sewerage_Council Minutes2.pdf), SKM noted that no explanation was given regarding the process involved and why only two tenders were received.

As the total sum of these items is relatively low (approximately 5%) and as the items are specialised items of plant that are likely to have a small number of suppliers, SKM accepted that receipt of only two tenders was sufficient for this project.

Overall, the project was assessed by SKM as efficient, based on costs arising from a competitive tender process. An appropriate scope of works, acceptable standards of service and reasonable project costs were also considered by SKM to have been demonstrated.

As mentioned previously, construction commenced in January 2009 and according to Unitywater the works have recently been completed, commissioning has occurred and the upgraded plant is operational.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had generally not been applied to the project. With regard to a standardised approach to cost estimation, SKM noted that the construction tender costs were based on adequate (at least one of three tenders) tender evaluations, however no contingencies were acknowledged in the documentation provided by Unitywater. Further, there is a higher level breakdown of the costs, including a contingency of 10% of the combined construction fee and project management to date. SKM advised that it could not determined if this is uniform across all proposed major projects as this project was started before the Unitywater transition.

Conclusion

SKM assessed the project as prudent on the basis that the primary driver of growth has been demonstrated.

SKM assessed the project as efficient on the basis that an appropriate scope of works, acceptable standards of service and reasonable project costs have been demonstrated.

On the basis of SKM's advice relating to prudency and efficiency, the Authority accepts Unitywater's actual Burpengary Wastewater Treatment Plant Augmentation costs ($58.2 million) for 2011-12 as these reflected estimates available at the time prices were being set.

(ii) South Caboolture STP Upgrade and Augmentation (Stage 2)

The South Caboolture STP originally serviced the southern part of the catchment but following completion of its augmentation in 1998, the former North Caboolture Sewage Treatment Plant was closed and its flows diverted to South Caboolture.

In 2007, the plant had capacity of 40,000 EP with a design average dry weather flow of 9.6 ML/d. The plant uses two sequencing batch reactors and, at that time, was complying with its existing discharge licence. However, by 2021 it is predicted that the South Caboolture Sewage Treatment Plant will have a catchment of approximately 74,000 EP.

The proposed cost of the South Caboolture STP Upgrade and Augmentation (Stage 2) for 2011-12 to 2013-14 is shown in Table 3.43. SKM noted that the costs presented by Unitywater in the

supporting documentation did not match the costs submitted to the Authority in the 2011-12 Information Template. However, SKM noted that the figures presented in the spreadsheet are based on estimates and, as such, variations are to be expected.

Table 3.43: South Caboolture WTP Stage 2 Upgrade and Augmentation – Expenditure Profile ($000)

	2011-12	*2012-12*	*2013-14*	*Total*
2011-12 Information Template	51,013			51,013
Estimate from GHD 7-5-09.xls				45,862

Source: SKM (2011)

Prudency

SKM considered that Unitywater's nominated cost driver for this project (growth) is supported by GHD who stated in the Caboolture Shire Council: Report for South Caboolture STP, Planning Study that they conducted a separate study for Caboolture Water in 2007 to examine the Trunk Infrastructure Planning for Sewerage which led to the population growth analysis identifying that by 2021, the catchment would be servicing approximately 74,000 EP.

Based on a conversation with Unitywater (23 September 2011), the South Caboolture STP would be upgraded to the limit of the current licence so as to avoid the need to apply for a development application with DERM. The current license (Licence Number SR1750) that South Caboolture STP is currently operating under states that the maximum daily dry weather release is 16,300 m3/d (16.3 ML/d).

On this basis of the above information, SKM assessed that the primary driver of growth has been demonstrated.

SKM noted that a process options review was conducted by GHD as part of the Caboolture Shire Council: Report for South Caboolture STP, Planning Study in which the following design options were considered:

(a) Option 1 – sequencing batch reactors (existing and new) with advanced nutrient removal followed by filtration and disinfection;

(b) Option 2 – conversion of existing sequencing batch reactors to continuous-flow compartmentalised Bardenpho-type biological nutrient removal process with new secondary clarifiers followed by filtration and disinfection;

(c) Option 3 – conversion of existing sequencing batch reactors to continuous-flow oxidation ditch-membrane bioreactor process, followed by back-up disinfection and a new dedicated wet weather treatment reactor to provide basic treatment for excess wet weather flows;

(d) Option 4 – retaining the existing sequencing batch reactors (treating 50% of the design dry weather flow as Stream 1) and augmenting with tertiary treatment for advanced nutrient removal plus a new oxidation ditch-type biological nutrient removal process with dedicated new secondary clarifiers (to treat 50% of the design dry weather flow in Stream 2), followed by filtration-disinfection for the combined effluents from Streams 1 & 2; and

(e) Option 5 – a new continuous-flow oxidation ditch-membrane bioreactor process treating 100% of the design dry weather flow, followed by back-up disinfection. The existing

sequencing batch reactors will be used as wet weather treatment reactor to provide basic treatment for excess wet weather flows.

A "do-nothing" option was not considered.

Options 1, 4 and 5 were selected and then analysed based on operating costs, capital costs and net present value (NPV) analysis (with discount rates of 4%, 6% and 8%). A non-financial analysis was also conducted that looked at the following criteria and weightings:

(a) technical (51%): process, operations and construction;

(b) environmental (23%): sustainability and environmental impact; and

(c) social (26%): community and stakeholder impact.

The rankings for these three options are outlined in Table 3.44.

Table 3.44: Overall ranking of options based on cost and non-cost criteria

Category	*Units/ Maximum*	*Option 1*	*Option 4*	*Option 5*
Overall Ranking	100%	80%	67%	30%
Non-Cost Ranking	50%	43%	33%	25%
Cost Ranking	50%	37%	34%	5%
Capital Cost plus Renewals ($m)	$M	$28.70	$31.90	$34.14
NPV ($m)	$M	$57.72	$59.44	$77.26

Source: SKM (2011)

Option 1, which had the lowest capital cost (including renewals) and the lowest NPV in the capital expenditure analysis aspect of the financial assessment, was selected.

SKM concluded that the decision making process for this project was reasonable. On this basis, SKM assessed the project as prudent.

Efficiency

The Tender Evaluation Report, Request for Tender No MBW10613, Construction of the South Caboolture STP Augmentation states that the main elements of the augmentation works are:

(a) an inlet dry weather flow balancing tank to optimise performance of the downstream biological process units;

(b) modification of the existing inlet works to provide flow splitting to the new dry weather flow balancing tank;

(c) two additional sequencing batch reactor basins with ancillaries including additional blower capacity, recycle flows and screening etc;

(d) conversion of one of the disused existing secondary clarifier tanks to serve as a gravity thickener for waste activated sludge;

(e) two new belt filter presses, covered sludge hoppers and a new sludge dewatering building;

(f) tertiary treatment facilities for nitrogen removal comprising moving bed biofilm reactors with methanol dosing and surface filters;

(g) chemical dosing facilities for supplementary chemical phosphorus removal (alum) and alkalinity correction and corrosion control (sodium hydroxide);

(h) new divided chlorine contact tank, upgrading of the existing chlorination facilities and new chlorination building;

(i) provision of odorous gas collection, extraction and treatment facilities for the existing inlet works, the anaerobic selector reactors of the existing and additional sequencing batch reactors, the inlet flow balancing tank and the sludge dewatering facility;

(j) internal plant pipework and pump stations for waste activated sludge, thickened waste activated sludge, dewatering filtrate, washwater, chemical dosing dilution water, service water, and chemical dosing; and

(k) all associated civil, electrical and mechanical equipment and instrumentation.

SKM assessed the scope of works to be delivered as reasonable.

With regard to standards of service, SKM noted that the concept upgrade was designed to meet an effluent release quality corresponding to a total nitrogen level of 2.5 mg/ L and a total phosphorous level of 0.3 mg/ L, which was not based on the DERM license. Rather, the DERM license (Licence Number SR1750) states that South Caboolture STP's release quality standard is a total nitrogen level of 5 mg/ L and a total phosphorous level of 1 mg/ L.

In response to another project being reviewed for Unitywater, (the Burpengary EastSTP Plant Stage 2 Augmentation), the report (Burpengary East STP, Planning Report, Final, JWP and CH2MHILL, September 2004) was provided to SKM, in which the following statement was made:

> *The targets for the effluent nutrients have been revised to 2.5 mg/L Total Nitrogen and 0.3 mg/L Total Phosphorus. The revised targets have been developed in consultation with the EPA (DERM) with the objective of reducing impacts on the northern part of Deception Bay and enhancing reuse opportunities for the reclaimed water generated.*

As both the Burpengary East and South Caboolture STPs discharge into the Caboolture River, the design criteria would be expected to be the same. This supports the concept design effluent quality. Unitywater further advised SKM that a briefing was provided to all government agencies on 1 April 2009 by the former Moreton Bay Water and it was clear that all agencies considered that this was a prudent course of action.

As the development of the revised target was completed in consultation with the regulator [DERM], and as these targets are comparable to those used for other environmentally stressed receiving waters in Queensland, SKM assessed the standards of service as reasonable.

SKM noted that the budget estimate was revisited in June 2009 upon the completion of the detailed design and was stated as being $41,600,000. However, no documentation was provided detailing these costs.

SKM noted that requests for expressions of interest were advertised on 1 August 2009 for tender for the design and construction contract.

The tenders were evaluated against the following criteria:

(a) project team (including subcontractors);

(b) management systems;

(c) project methodology;

(d) quality of equipment; and

(e) cost.

SKM noted that although the John Holland Pty Ltd tender was the highest cost (+11% greater than the lowest tender), it was selected based on the results of the multi criteria analysis. A detailed cost breakdown of the John Holland tender was provided by Unitywater.

In terms of the project's costs, SKM noted the following breakdown of the original capital cost expenditure budget.

Table 3.45: Summary of costs

Work Stage	*Budget ($m)*
Design	$2.0
Land/ Authority/ Approval Costs	$0.4
Early Works (sludge removal)	$1.5
Construction (Main Contract)	$36.7
Construction (Outfall)	$2.0
Commissioning Costs	$0.2
Project/ Contract Management	$1.2
Contingency	$4.0
Total	**$48.0**

Source: Capital Works Committee Meeting – 21 December 2010 (Unitywater, 2010) in SKM (2011)

In response to a request from SKM, Unitywater also submitted a comparison of Unitywater's submissions to the Authority in 2010-11 and 2011-12. The summary of costs is shown in Table 3.46.

Table 3.46: Unitywater Authority submission comparison

Description	*Last Year's Submission to the Authority (Project 10613)*	*This Year's Submission to the Authority (Project C9069)*
WIP Balance B/Fwd 1/07/09	2,075,241	-
Capital Expenditure 09/10	277,473	-
Subtotal 1 (WIP Balance 1/07/10)	**2,352,714**	**5,898,342**
Capital Expenditure 10/11	38,115,105	32,180,839
Capital Expenditure 11/12	3,956,663	11,154,133
Capital Expenditure 12/13	432,866	-
Subtotal 2 (Unitywater Capital : 10/11 to 12/13)	**42,504,634**	**43,334,972**
Capitalised Interest	-	1,780,201
Total to be capitalised (Subtotal 1 + Subtotal 2 + Interest)	**44,857,349**	**51,013,515**

Source: SKM (2011).

The key cost differences, and explanations for the differences, between the submissions are as follows:

(a) a revision in the work-in-progress (WIP) balance at the 1 July 2010, which increased from $2.4 million to $5.9 million – Unitywater's submission to the Authority last year contained understatements of the WIP transferred to Unitywater from MBRC. The errors were corrected as part of the RAB roll forward and were externally audited by PricewaterhouseCoopers in a report to the QWC;

(b) a $0.8 million increase in the project capital expenditure to project completion – an error in the formula that Unitywater used to prepare this year's submission to the Authority; and

(c) capitalised interest of $1.8 million – working capital costs are not reflected in the underlying project documentation as this is a new regulatory practice introduced in this year's submission to the Authority.

SKM further noted that the project costs are greater than the maximum GHD estimate and the accepted tender price as illustrated in Table 3.47.

Table 3.47: Estimate Comparison

Description	*Maximum GHD Estimate (2009)*	*Unitywater Capital Estimate (2009)*	*Submission to QCA (2011-12)*
Estimate	$45,861,950	$41,600,000	$51,013,515
Difference	- 10%	- 18%	0%

Source: SKM (2011)

SKM notes that the project has been competitively tendered, with an acceptable amount of competition and considers that the costs for the work are consistent with conditions prevailing in the markets. On this basis, the costs are assessed as efficient.

In terms of timing and deliverability, SKM noted that Unitywater's website states that construction works commenced in June 2010 and is expected to be completed by November 2011. This indicates that there is an extension to the contract documentation of six months that has occurred. Unitywater advised SKM that the reasons for delay in commissioning are:

(a) tender negotiations delayed contract award until the end of May 2010 with works on site commencing June 2010;

(b) the contract was awarded later than planned at the end of May 2010. In addition, contract extensions of time amounting to 15 weeks have been granted for inclement weather (44 days); and

(c) latent conditions encountered (45.5 days), accounting for the November 2011 finish date. The latent conditions also resulted in variations.

The completion of the works in the revised programme is assessed by SKM as achievable.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had generally not been applied to this project. With regard to a standardised approach to cost estimation, SKM noted that scope of works went out to tender, and the final selected tender was based on a number of criteria; however, no information on contingency, preliminary and general items, design fees or contractor margins were provided.

Conclusion

SKM assessed the project as prudent on the basis that the primary driver of growth has been demonstrated.

SKM assessed the project as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs and achievable delivery have been demonstrated.

On the basis of SKM's advice relating to prudency and efficiency, the Authority accepts Unitywater's proposed South Caboolture STP Upgrade and Augmentation project costs ($51.0 million) for 2011-12.

(iii) Customer Services and Billing Solution Project

Following the merger of the waste and wastewater services provided by the SCRC and the MBRC, Unitywater inherited two separate billing systems, billing cycles, processes, data sets, meter reading, printing and banking arrangements.

Unitywater submitted that these legacy systems preventing the implementation of efficiency gains from process rationalisation and improvement. In particular, the systems are:

(a) property-based, which prevents Unitywater from establishing a customer-centric business with a single, consolidated view of its customers and how they are interacted with; and

(b) hosted on both the SCRC and MBRC network domains, which creates business and technology challenges in the areas of system and data access, updates, licensing and maintenance.

As a result of the above factors, Unitywater considered that a substandard customer experience has led to brand and reputation damage.

In September 2010, the Unitywater Board identified funding for the project initiation stage was approved by the members of the Unitywater Board and Executive Management Team on 3 November 2010.

The proposed capital expenditure for the Customer Service and Billing Solution Project for 2011-12 to 2013-14 is shown in Table 3.48.

Table 3.48: Customer Services and Billing Solutions Project – Expenditure Profile ($000)

	2010-11	***2011-12***	***2012-12***	***2013-14***	***Total***
2011-12 Information Template	-	8,571	-	-	8,571
CSBS business case cost input	**1,158**	**8,509**	**-**	**-**	**9,667**^

Note: ^Total sum within review period (2011-12 to 2013-145) is $8,509 million. Source: SKM (2011)

SKM noted that the total sum submitted to the Authority is consistent with the sum detailed in the Customer Service and Billing System business case cost input spreadsheet. The total sum in the spreadsheet for 2011-12 is $8.5 million, which is about 99% of the $8.57 million submitted to the Authority.

Prudency

The nominated cost driver for this project is compliance. SKM noted that under present legislation (the Fairer Water Price Bill), Unitywater is required to process quarterly bills in all areas by 1 July 2011. Unitywater has received dispensation from the Minister to delay the implementation of quarterly billing until 1 January 2012. In addition, Unitywater is required to be able to undertake consumer-based billing by 1 July 2013 as required under the *South-East Queensland Water (Distribution and Retail Restructuring) Act (2009)*. The two legacy systems do not have the functionality to conform to the above requirements.

Unitywater submitted the following list of consequences should this project not be undertaken:

(a) remain non-compliant with current and imminent legislative and other regulatory requirements;

(b) not have a single, consolidated view of its customers and ability to interaction with them, which will contribute to a high cost to serve and a sub-standard customer service;

(c) be unable to effectively and efficiently accommodate future growth scenarios and business requirements; and

(d) continue to use legacy property based billing systems which:

(i) are not fit-for-purpose as-is;

(ii) constrain the organisation to inefficient business processes;

(iii) have higher day-to-day operating costs; and

(iv) have passed their official end-of-life and require ad hoc vendor support at high cost.

On the basis of the above information, SKM considered that the primary driver of compliance has been demonstrated.

SKM noted that as part of the Business Case prepared, Unitywater provided the following list of options available:

(a) Option 1: Do nothing – continue operating two separate billing systems;

(b) Option 2: Legacy system consolidation – consolidate the billing (software) system to one of the existing legacy systems;

(c) Option 3: Complete in-sourcing of services – move all customer services and billing processes in-house. Purchase a new customer services and billing system services software;

(d) Option 4: Complete out-sourcing of services – outsource all business processes to a service bureau making use of their own customer service and billing software;

(e) Option 5: Combination of in- sourcing and out- sourcing. The following two sub-options were explored:

(i) Option 5a: Leverage an existing contract of another government or government owned entity to procure a customer service and billing software system; and

(ii) Option 5b: Engage in a new procurement process to procure a customer service and billing software system.

For each of these options, Unitywater undertook a strength-weaknesses-opportunity-threats analysis. A financial analysis was also presented within the business case which stated that although Option 1 represents the lowest cost and highest NPV overall it is not a viable option due to legislative, regulatory and strategic non-compliance. Option 5a was stated as the preferred option of implementing a Customer Service and Billing Solution for Unitywater because it incurs the lowest cost and has the (lowest) net present cost of all viable options. Hence, SKM accepted that Option 5a was prudent.

Efficiency

SKM noted that the implementation of Option 5a contains the following components:

(a) procure a new customer service and billing software system. Specifically leveraging the Allconnex Invitation to Offer (ITO) procurement process to procure a Gentrack customer service and billing system;

(b) own and operate a customer contact centre and associated business processes; and

(c) continue with current outsourcing arrangements for revenue operations business processes, meter reading services and print/ mail services.

The Project Management Plan indicates that this project will be delivered making use of the following project streams: operations and design; data migration; hosted IT service; quality assurance; operational readiness; gentrack delivery; and change and communications.

Making use of delivery streams was considered by SKM to be an effective way of executing a project of this nature.

In regards to standards of service, SKM noted that unlike the other projects in the sample that are concerned with construction of assets, the CSBS Project relates to project management and quality management systems. As such, the assessment of the standards of service considers the implementation method and strategies of the proposed systems. Details of the strategies to be implemented, as provided in the business case, are as follows:

(a) organisational change management – engage a dedicated change manager to implement a change management strategy managed through the Alfresco content management system;

(b) procurement strategy – ensure that the procurement is in accordance with the Unitywater Corporate Procurement Plan and the Procurement and Disposal Policy; and

(c) customer service and billing software system – should be operational by January 2012.

For (c), SKM noted this is a tight timeframe and is one of the reasons why Unitywater is leveraging on the existing procurement process that was undertaken by Allconnex Water.

SKM considered that the project management plan provides a detailed implementation plan, including a detailed schedule, milestones and deliverables.

In reviewing the CSBS business case costs, SKM advised that it was possible to benchmark certain aspects of the cost make-up. Cost comparison between the capital expenditure put forward by Unitywater and the Billing Solution Project put forward by Allconnex Water were compared.

The capital expenditure submitted by Unitywater is within the same range as that Allconnex Water has submitted for their billing system program.

Further, SKM noted that Unitywater has leveraged the ITO of Allconnex Water in securing the billing system although this component only accounts for about $3 million (40%) of the total expected cost.

SKM considered that Unitywater's approach of leveraging from the procurement process of Allconnex will provide a best value solution. The Unitywater business case, which states that it has also been established that there is a very high degree of correlation between the requirements specified by both water utilities, confirms that this is a viable and cost effective option.

The project costs were therefore considered by SKM to be efficient.

In terms of timing and deliverability, SKM noted that the Business Case states that a preliminary risk profile and (go-live date scenarios) risk profiles were developed during the initiation stage of the project. It additionally states that these have been reviewed and consolidated into the project management office risk register. The single risk register for the CSBS Project is updated in at least monthly intervals.

SKM also noted that by leveraging from the ITO and procurement process of Allconnex Water for a billing system solution, Unitywater secured a favourable position in relation to be able to meet its deadline for implementation of January 2012. The fact that Allconnex Water has put on hold its billing project will free up supplier delivery staff, which will also assist with Unitywater meeting its deadline. Additionally, Unitywater has engaged a third party, Serviceworks Management, to host the software and to project manage the software implementation.

SKM concluded that Unitywater has made use of current opportunity and best practice to enable the project to be delivered within the timeframe specified.

SKM found that most of the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to this project. The exception was in regard to a standardised approach to cost estimation, where SKM noted that this project is a one-off project and therefore the cost estimating method is non-standard within Unitywater as the project is unique in nature and dissimilar to water/wastewater infrastructure capital projects.

Conclusion

Given that it is required to meet current legislation and the primary driver of compliance has been demonstrated, SKM assessed the project as prudent.

SKM assessed the project as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated.

On the basis of SKM's advice relating to prudency and efficiency, the Authority accepts Unitywater's proposed CSBS Project cost ($8.6 million) for 2011-12.

(iv) Fleet-Light Asset Replacement Program

Unitywater's plant and fleet asset base consists of assets identified by MBRC and SCRC as being used by their respective water businesses. These assets were transferred to Unitywater as part of the establishment of Unitywater.

The Plant and Fleet Asset Replacement Program is to replace plant and fleet assets that have passed the end of their lease agreement or have passed their optimal replacement points. SKM only reviewed the fleet-light project, which includes passenger vehicles and utilities.

The proposed cost of the Unitywater Fleet-light Asset Replacement Program 2011-12 to 2013-14 is shown in Table 3.49.

Table 3.49: Fleet-light Asset Replacement Program – Capital Expenditure Profile ($000)

	2011-12	*2012-13*	*2013-14*	*Total*
2011-12 Information Template	5,883	1,955	3,398	11,236
Plant and Fleet Asset Replacement Program (June 2011)	3,383	1,955	3,398	8,736

Source: SKM (2011)

SKM sought clarification from Unitywater as to the difference between the 2011-12 costs reported in the different documentation. Unitywater advised that the difference was caused by the carry-over of $2.5 million from the 2010-11 budget, which was not incurred until the beginning of the 2011-12 financial year.

Prudency

The identified cost driver for this project is renewal. SKM considered that the need for the expenditure is justified in that if it does not occur:

(a) there is a risk that Unitywater will not be able to attend to faults, transport equipment and tools to work sites if leased assets are returned to lease companies and owned assets became unfit for purpose;

(b) retention of existing assets will cause servicing and maintenance costs to increase, and efficiencies associated with new equipment will not be realised;

(c) asset hire will increase, increasing costs;

(d) fleet will degrade through use, and the age of assets will become apparent to customers creating a perception of lower quality; and

(e) vehicles held past their optimal disposal point may realise a loss in value.

Therefore, SKM concluded that the primary driver of renewal has been demonstrated.

SKM noted that Unitywater examined four options for the replacement of fleet, including:

(a) Do Nothing: This option would result in asset leases expiring and the assets being returned to the lease company. The asset could be retained under an extension agreement with the lease companies, however a price premium would be paid as a penalty as the asset will be passing the optimal replacement point for the asset. Unitywater's lease liability would likely increase to allow the lease company to recover this loss of capital to its business from the depreciation in the vehicles value. Unitywater stated that experience indicates that the longevity of these arrangements is limited and the lease companies are demanding the assets be returned.

   Unitywater owned fleet assets will pass their optimal replacement points as their use continues. This will result in servicing and maintenance costs in addition to fuel consumption increasing as the asset ages. Capital recovery will be reduced as the value of the assets depreciates. The depreciation of the fleet asset will increase as the mileage and age increases;

(b) Programmed replacement: The replacement program detailed above is adopted; that is, the fleet is replaced according the optimum replacement point calculation methodology. This is the point where the servicing and maintenance costs intersect with the depreciation curve is considered the optimal time to replace the asset.

   The programmed three years or 80,000 km for passenger vehicles and four years or 100,000 km for utilities is similar to the Brisbane City Council Fleet Product Group guidelines of three years or 60,000 km for passenger vehicles and four years or 100,000 km for commercial vans. No Brisbane City Council Fleet Replacement Group guidelines for utilities were available.

(c) Operating lease option for assets: Queensland Treasury publishes a specific guideline for leases called Leasing in the Queensland Public Sector; Policy Guidelines. The guidelines specify the criteria for purchase/ lease decisions based on prudent financial management. The key criteria identified by Unitywater are:

   (i) best return on the investment considering the total cost of ownership of the asset; and

(ii) total value of the lease option is not greater that 5% of the NPV of the total value of the purchase option.

Considering the NPV of the passenger and utility vehicle replacement of $4,675,949 over the 2011-12 to 2014-15 period and the stated current cost of lease of approximately $1,500,000 per year, this option does not meet Queensland Treasury guidelines.

SKM noted that Unitywater stated that programmed replacement is the preferred option.

In determining the point at which vehicles are to be replaced, SKM noted that Unitywater has adopted two guidelines. The Institute of Public Works Engineering Australia (IPWEA) "Systems Plus" Plant and Vehicle Management system provides benchmarks that are used as trigger points for vehicle utilisation per year. In defining maximum life replacement triggers, Unitywater stated it has adopted "standard industry asset management life set points". The industry standard used is not defined.

SKM found that Unitywater has slightly adapted the IPWEA benchmarks for annual utilisation into the following:

(a) utility vehicles – 25,000 km per year; and

(b) passenger vehicles – 25,000 km per year.

The standard replacement triggers adopted are:

(a) utility vehicles – four years or 100,000 km; and

(b) passenger vehicles – three years or 80,000 km.

Renewals of vehicles are based on optimum replacement points that are calculated to estimate the optimal point in hours run or kilometres travelled to replace the asset to achieve the lowest average annual cost

Based on the documentation provided, SKM was satisfied that suitable options have been reviewed and the selected option is the most suitable option.

Efficiency

Unitywater's Vehicle Management Policy states that plant and fleet assets are chosen on a needs basis which may not always be a like-for-like replacement. This is to achieve the best appropriate match for the business need specifications for the asset.

Details of vehicles proposed for replacement, including the expected dates for reaching replacement triggers, are provided in the Fleet Lease Expiry and Replacement five year capital replacement.

SKM assessed the scope of works as reasonable.

In regards to standards of service, SKM noted that the Unitywater Plant and Fleet Section will measure the benefits of the Fleet replacement against the Business Support Services Division's key strategies, including:

(a) Strategy 2.3 Business Resilience Improvement – the benefit will be realised for this performance area in attributing to the reduction in operating expenditure through reductions in the lease liability and through savings in servicing and maintenance costs;

(b) Strategy 2.5 Fleet Management Improvement – the benefit will be realised for this performance area through increases in the return from the disposal of assets at the optimal replacement point in the assets life; and

(c) Strategy 2.11 Risk and Compliance Systems Improvement – the benefit will be realised for this performance area as contract risk will be reduced as the asset leases expire.

SKM assessed this approach as appropriate.

Procurement of the fleet will be through a tender process where a standing arrangement for asset groups is established. The Unitywater Plant and Fleet Section will then place orders against the standing arrangements to stage the delivery of the assets to limit the impact on the operation of the business. This strategy affords Unitywater an economy of scale and will potentially afford Unitywater a savings premium as the tender is more likely to offer a lower price due to the volume purchase.

A selection of passenger and utility vehicles drive away recommended retail costs was compared with the Unitywater costs for these vehicles. Unitywater's cost is lower that the drive away costs listed in the vehicle manufacturers websites. Overall, there is a significant discount. Additionally, the average cost of all vehicles provided in Fleet Lease Expiry and Replacement five year capital replacement from 2010-15 is $31,037, which is the same as the average provided in the Plant and Fleet Replacement Program.

On this basis, SKM assessed the project cost as efficient.

In regards to timing and deliverability, SKM noted that the fleet asset replacement program manager will be responsible for the replacement program. The Plant and Fleet Asset Replacement Program identifies the following risks to delivery of the program as outlined in Table 3.50. Given these risk ratings SKM consider that Unitywater can deliver the Fleet Asset Replacement Program as scheduled.

Table 3.50: Risk Assessment Outcomes

Risk	*Risk Description*	*Risk Rating*
Not completing the replacement program	Internal processes and standardisation project may delay the progress of the replacement program and capital will not be spent	Medium
Non Supply of equipment from manufacturers	There may be some issues with supply of replacement assets due to the 2011 earthquakes in Japan	Low

Source: SKM (2011)

SKM noted that passenger vehicle average utilisation is 33,900 km per year, which is above the adopted IPWEA benchmark of 25,000 km. The over-utilisation of passenger vehicles reflects the high number of personal-use entitlements and is likely to result in increased capital costs from increased passenger vehicle inventory turnover as vehicles reach the standard replacement triggers earlier. The Fleet and Fleet Asset Replacement Program identifies 49% of passenger vehicle travel is for private purposes. However, Unitywater's Motor Vehicles Management Policy is Unitywater will manage its vehicle fleet in a cost-effective manner that maximises vehicle utilisation to meet business needs including the remuneration of employees.

SKM found that the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to this project. However, although a 'gate' is shown at the end

of each phase in the project program in the Plant and Fleet Asset Replacement Program, no description of it is provided.

Conclusion

SKM assessed the project assessed as prudent on the basis that the primary driver of renewal has been demonstrated.

SKM assessed the project as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated.

On the basis of SKM's advice relating to prudency and efficiency, the Authority accepts Unitywater's proposed Fleet-Light Replacement Program costs ($5.9 million) for 2011-12.

(v) Upgrade Wastewater Pump Station MF01

The MF01 sewage pump station is located within the Caboolture South STP site at Weier Road Caboolture. The station receives sewage flows from the Morayfield sewerage network, which consists of 16 upstream pumping station catchments. The station receives flows not only from the catchment area, but also from the treatment plant backwash and sludge dewatering processes from the Caboolture South STP.

The Caboolture South STP catchment is identified as a high growth catchment with demand forecasts predicting sewage flows in the catchment will increase by approximately 80% over the 20-year period from 2005 to 2025. Unitywater submitted that the upgrade of MF01 is required to handle the increased flows.

The proposed capital expenditure for the Upgrade Wastewater Pump Station MF01 Project for 2011-12 to 2013-14 is shown in Table 3.51.

Table 3.51: Wastewater Pump Station MF01 Project – Capital Expenditure Profile ($000)

	2008-09	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Total*
Submission to the Authority	-	-	-	5,702	-	-	5,702
Project Description Statement	1,530	4,213	-	-	-	-	5,743

Note: Values interpreted from the data presented within the Moreton Bay Water Project Description Statement dated 19 September 2009. Source: SKM (2011)

SKM noted that the costs detailed in the Project Description Statement including the contingency are 1% greater (+$41,000) than the cost submitted to the Authority. Unitywater advised SKM that the project was delayed due significant amounts of wet weather and delays in commissioning the project due to revised design and delivery of the STP inlet works (as part of a separate project).

Prudency

The nominated cost driver for this project is growth. SKM noted that the project was initiated to meet future demand capacity required by the high growth in the Morayfield catchment. Unitywater provided SKM with peak wet weather sewage flow projections for the Caboolture

South catchment (Table 3.52). MF01 is located within the STP and it includes a recirculation flow from the STP.

Table 3.52: Peak wet weather sewage flow projections

Year	*2005*	*2010*	*2015*	*2020*	*2025*
Catchment Flows (L/s)	290	349	407	466	524
STP Process Flow (L/s)	80	84	88	92	96
Total Flow (L/s)	370	433	495	558	620

*Note: Average dry weather flow (ADWF) – 240L/c/d and peak wet weather flow (PWWF) – 5*ADWF. Source: MF 01 – REF 01 – Hydraulic Design Calculations.xls in SKM (2011).*

Field performance testing on the MF01 sewage pump station was undertaken in 2003 to measure the pumping capacity. The results indicate that with the increasing sewage flows in the catchment, pump station MF01 will be unable handle the forecast peak wet weather flows prior to 2015. Unitywater advised SKM that these results correlate closely with advice from field staff that both pumps at the station run continuously under wet weather conditions.

SKM found that the results also show that the station fails to meet desired standards of service requirements whereby each pump (in a dual pump pumping station) should be capable of passing peak wet weather flows (i.e. five x average dry weather flow (ADWF)) in order to provide 100% redundancy. Unitywater advised that the Caboolture Shire Council design manual requires that the capacity of any augmented or new station should be capable of passing peak wet weather flow with adequate pump redundancy.

SKM noted that the South Caboolture STP is currently being upgraded.

SKM therefore considered that the primary driver of growth has been demonstrated.

SKM noted that Unitywater advised that there a number of inherent risks that have been identified with the existing pumping station and, as such, a 'do nothing' option was not considered. Risks identified included:

(a) the station is struggling to pass wet weather flows and has excessive run times during wet weather events; and

(b) existing mechanical and electrical equipment is approaching the end of its useful life with an increased likelihood of failure.

Two options were identified, investigated and assessed:

(a) Option A – construct a new pumping station and decommission the existing station; and

(b) Option B – refurbish the existing station and augment with a new pumping station.

The options were assessed using the following criteria: cost (capital, operation and maintenance, and NPV analysis); operational flexibility; constructability; effect on current STP operation and program.

The comparison of the two options financial aspects are outlined in Table 3.53.

Table 3.53: Cost Comparison of Options

Criteria	*Option A - New pumping station*	*Option B - Refurbish the existing station*
Indicative Capital Costs	$2,980,000	$3,010,000
Cumulative Operating Cost @ 2026	$2,763,300	$2,807,500
Net Present Value	$4,300,000	$4,350,000

Source: Comparative Concept Design for Pump Station MF01 (JWP, 2006) in SKM (2011)

SKM noted that Option A was selected as it has lower capital cost, operating cost and NPV than Option B as well as the following reasons (as identified in Comparative Concept Design for Pump Station MF01, JWP 2006):

(a) the flexibility of Option A reduces the impact on the operation on the treatment and provides potential re-use of the existing well in future years; and

(b) the construction program is unlikely to be significantly impacted as a result of constructing a larger well structure.

Unitywater further advised SKM that sufficient land is available adjacent to the existing MF01 station to construct the new facility, power and supervisory control and data acquisition (SCADA) are available at the site and once the new pump station is constructed the existing station can be decommissioned and retained for potential reuse in future years (possible emergency storage).

SKM considered that the decision making process shows that sufficient options have been assessed, including their NPVs, and that the decision making process is reasonable. Hence the project has been assessed as prudent.

Efficiency

SKM identified the scope of works for this project is the construction and commissioning of a new raw sewage pumping station to replace the existing sewage pumping station (MF01) located at the South Caboolture Wastewater Treatment Plant, Weier Road Morayfield. The works include civil, building, mechanical and electrical works, specifically including manholes, interconnecting pipework, switchboard control building, electrical conduits, earthworks, miscellaneous works and the supply and installation of all mechanical and electrical equipment, as detailed on the drawings and in job specification and associated specifications.

The extent of works for this project is outlined in 'Part 3 Specification' of the Request for Tender documents for the Construction of MF01 Sewage Pumping Station.

SKM considered this an adequate scope of the works for such a project.

SKM also noted that the works for this project are required to comply with standard specifications developed by JWP, as outlined in Appendix 3 of 'Part 3 Specification' of the Request for Tender documents for the Construction of MF01 Sewage Pumping Station. In addition to these specifications, Australian Standards are required to be complied with for specific tasks; i.e. for backfilling AS 1289, Methods of Testing Soils for Engineering Purposes, as outlined in 'Part 3 Specification' of tender documents.

SKM concluded that the standards of service for this project appear appropriate.

SKM reported that the assessment of the six tender submissions for this project was undertaken by a panel consisting of council officers from Moreton Bay Water Capital Works and Network Operations. The tenders were assessed on price and non-price attributes making use of the weighted attributes method.

The offer submitted by Queensland Concrete & General Construction Co. Pty Ltd had the lowest price and ranked significantly higher than the other five submissions.

The successful tenderer, Queensland Concrete & General Construction Co. Pty Ltd, was appointed for the lump sum amount of $4,949,120 (including GST) for the full scope. The original project budget, prepared in 2006, did not allow for escalation in construction cost and the following changes in scope:

(a) change in location of the pump station to make provision for the future upgrade of the STP;

(b) additional civil works required to provide all weather access above the Q100 flood levels;

(c) additional 600 mm diameter rising main; and

(d) service relocation.

SKM found that variations to Queensland Concrete & General Construction Co. Pty Ltd and John Holland Pty Ltd contracts have occurred, including:

(a) approved variations to 27 October 2011 (Queensland Concrete & General Construction Co. Pty Ltd contract) at a cost of $222,309; and

(b) approved variations for the modification of the discharge pipework and STP inlet works (John Holland Pty Ltd contract) at a cost of $268,388.

The total project cost submitted to MBRC Commercial Enterprises Committee was $5,574,120.

On the basis of the information provided, SKM concluded that the project has been competitively tendered, with an acceptable amount of competition for the construction of the new sewage pump station and associated infrastructure and that the costs for the work are consistent with conditions prevailing in the markets. SKM considered that these costs are efficient.

In regards to the timing of the project, the original expected timeframe to complete the construction contract was set at 52 weeks. The construction contract was awarded in October 2008, the recorded start date was 1 December 2008 and the estimated date of completion was set as 30 November 2009.

Unitywater advised SKM that construction commenced on-site in early 2009 and that construction works for the project were substantially complete prior to the formation of Unitywater in July 2010. A significant amount of wet weather initially delayed the project, including some major flooding of the site area resulting in damage to the contractor's equipment, with additional delays in commissioning due to the revised design and delivery of the treatment plant inlet works.

SKM found that most of the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to this project. The exception was that an implementation strategy has not been provided.

Conclusion

SKM assessed the project as prudent on the basis that the primary driver of growth has been demonstrated.

SKM assessed the project as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs and achievable delivery have been demonstrated.

On the basis of SKM's advice relating to prudency and efficiency, the Authority accepts Unitywater's proposed Upgrade Wastewater Pump Station MF01 cost ($5.7 million) for 2011-12.

(vi) Kedron Brook Sewage Catchment – New Sewerage Rising Main RMN260

Unitywater submitted that the Brendale STP is reaching capacity and, in order to continue to treat sewage and discharge effluent in accordance with the current environmental licence, it will be necessary to either augment the existing treatment plant or reduce the load on the plant within six to nine months (from November 2010). If this does not occur, connections to the treatment plant may have to be capped in order to avoid a breach of the environmental licence. Unitywater submitted that such action would halt development in the catchment and have significant adverse consequences for the local community, the Caboolture Shire Plan and their reputation.

The partial diversion of the Kedron Brook sewage catchment, from PS260 to the Luggage Point sewerage catchment within the QUU service area, would enable the upgrade and expansion of the Brendale treatment plant to be deferred for seven to eight years.

To facilitate this diversion, a new sewage rising main and gravity main are proposed. Approximately 670m of 400mm diameter sewer rising main and approximately 1,030m of 375mm diameter gravity sewer main are to be constructed.

The proposed capital expenditure for 2011-12 to 2013-14 is shown in Table 3.54.

Table 3.54: Kedron Brook Sewage Catchment New Sewage Rising Main RMN260 Project – Capital Expenditure Profile ($000)

	2011-12	***2012-13***	***2013-14***	***Total***
Submission to the Authority	5,083			5,083
Contract Recommendation and Approval Report				4,711

Source: SKM (2011)

SKM noted that the information provided in the Unitywater submission to the Authority was not consistent with the information provided in other supporting documentation. Further, the documentation provided by Unitywater did not contain sufficient information to determine the cause of variation (approximately $372,000 or 7.9%).

Prudency

The identified cost driver for this project is legal obligation (compliance). SKM noted that the load on the Brendale STP is approaching a point at which connecting new customers will cause the plant to exceed its effluent quality environmental licence limits. Hence, there is a need to undertake works at the Brendale STP and in the sewer network to provide compliant quality

treatment services in the catchment of this treatment plant. The diversion of the PS260 catchment will enable the upgrade of the treatment plant to be deferred by seven to eight years.

SKM noted that the existing Brendale STP was commissioned in 2000 with a design capacity of 30,000 EP. Through process optimisation and minor works it currently treats approximately 41,500 EP and is operating at or close to a point at which the plant will commence to breach conditions of the environmental licence with respect to water quality and odour emissions.

On the basis of this information, SKM concluded that 'legal obligation (compliance)' is not the primary driver for this project. Rather, SKM considered that as the project aims to extend the asset life of the Brendale Wastewater Treatment Plant the project driver is improvement, while the driver for the odour control works is renewal.

SKM noted that a number of options were identified for the provision of sewage treatment services in the catchment of Brendale STP. The three primary options identified were developed over a number of months in 2009 by Moreton Bay Water staff and consultant Water Strategies. These options were:

(a) Option A: Temporary (minimum five years) diversion of flow to QUU's Luggage Point STP from the catchment of sewage pumping station PS260 (Francis Road, Arana Hills) and interim minor upgrade of Brendale STP with a further upgrade to ultimate load (77,000 EP) in 2019 subject to council approving new development outside of the current service area;

(b) Option A1: As per option A except that no odour control measures are implemented until such time when DERM formally requests that action be taken to reduce emissions;

(c) Option B: Major augmentation of Brendale STP in two future stages; initially an increase to 57,000 EP to be commissioned in 2013 to a total of 77,000 EP in 2019 and augment the Jinker Track sewer rising main immediately to provide increased capacity for growth in the catchment of sewage PS260 (Francis Road, Arana Hills); and

(d) Option C: Interim Upgrade of Brendale STP in 2011, permanent diversion of the catchment of sewage PS230 to Murrumba Downs STP and immediate upgrade of the Jinker Track sewer rising main, followed by major augmentations of Brendale STP in two Future Stages - initially an increase to 57,000 EP to be commissioned in 2017 and to a total of 77,000 EP in 2019.

Analysis of the advantages and disadvantages, financial implications and risks were conducted. The outcomes of the financial analysis are summarised in Table 3.55. Option A1 was identified as the lowest cost option. However, given that Option A1 exposes Unitywater to a significant regulatory and public relations risk due to the odour issues, Option A was selected as the preferred solution.

Table 3.55: Outcomes of financial analysis ($m)

Upgrade Option	*Escalated Initial capital expenditure*	*NPV 20 yrs @9.88%*	*IRR (%)*	*Rank*
Option A	15.451	10.413	4.43	2
Option A1	10.400	9.576	4.95	1
Option B	72.376	12.036	3.97	3
Option C	46.794	36.118	2.88	4

Note: Extracted from Business Case – Upgrade of Brendale Sewage Treatment Plant (Unitywater, November 2010) in SKM (2011)

A number of options were also considered for the determination of the route for the new rising and gravity mains. Moreton Bay Water proposed the initial route which included a 300 mm diameter rising main from PS260 south along Francis Rd, South Pine Rd and Plucks Rd to a receiving manhole in Max Moreton Park; a 300 mm diameter gravity main through Max Moreton Park to Minto Cr and along Casual St; and a 450 mm diameter gravity main along Glenlee St and Dawson Pde, to link with the existing 450 mm diameter line upstream of the measuring flume.

Two alternative routes were proposed for the gravity section:

(a) Option A: Route directly down South Pine Rd and Dawson Pde, connecting as per Moreton Bay Water route; and

(b) Option B: Route following South Pine Rd, Bates Dr, Hobbs St, Oleria St West connecting at the measuring flume.

Following an analysis of the gravity route options it was determined that Option A would not provide significant benefit over the initially proposed route and was not considered further. It was found that Option B would present benefits over the initially proposed gravity route if there were constraints on capacity in an existing gravity main. Both the initial option and Option B were further analysed. The alignment for the gravity main proposed in Option B was subsequently adopted for the final design.

SKM was not provided with the evaluation criteria used for the assessment of these options. Hence, SKM was not able to determine if the most prudent option was selected.

In summary, SKM found that the diversion of the Kedron Brook sewage catchment is essential in avoiding environmental licence condition breaches at the Brendale treatment plant while allowing new connection to be made to the Kedron Brook sewerage catchment. SKM was satisfied that Unitywater has undertaken an options analysis, with the consideration of risk and financial analysis. Whilst this could have been more extensive SKM assessed as the project as being prudent.

Efficiency

Currently, the Brendale STP does not have sufficient capacity to continue to receive growing load from the Kedron Brook sewage catchment. This project was considered to be the best means of managing flows and postponing the significant upgrade required for Brendale STP.

SKM noted that the project was initiated to ensure compliance with licence conditions set by DERM and Unitywater's Service Standards. Licence conditions that were of concern at the

Brendale STP include treated water quality, wet weather bypass, disinfection, recycled water storage and air quality (odour). The Unitywater Customer Service Standard sets out the measure by which the performance of the sewerage network is assessed. Of relevance to this project are odour complaints, for which the standard is less than three odour complaints per 1000 connections per year.

According to Unitywater, the appointed contractor will be required to carry out work in accordance with the following design standards:

(a) AS3000-2007 and all relevant Standard Association of Australia codes;

(b) the Supply Authority Regulations;

(c) the requirements of all relevant statutes;

(d) particular specifications; and

(e) MWH Project Design drawings.

The costs for the project have been determined through a tendering process utilising companies on the MBRC Panel of Prequalified Contractors for water related infrastructure. A Lump Sum tender proposal was invited which is in accordance with Unitywater's Procurement Policy and Corporate Procurement Plan. SKM noted that an arithmetic check was conducted by MWH and revised tender amounts determined.

The tenders were evaluated by individuals from Unitywater and MWH on the basis of pre-established criteria. The tendering process was review by BDO and a Probity Advisor Report was submitted to Unitywater. The review determined that the tender process used was fair and equitable and was in accordance with documentation and established criteria.

SKM found that the costs submitted by Unitywater have been determined through competitive tender, and therefore are considered to accurately represent the current market value of the proposed project. Based on the information provided, the price for the works ranged from $3.73 million to $5.11 million. The preferred tenderer selected by Unitywater was within the lower region of this range, with a price of $3.76 million. SKM did not review the original tender documents.

SKM noted that the estimated cost has varied through the different phases of the project (Table 3.56). The accepted tender cost is substantially higher than the initial cost estimate by about 63%, a discrepancy that can be attributed to two factors. The 34% increase in cost between the Initial Investigation Report and the Procurement Strategy report is believed to be due to alterations to the scope of works. A 22% increase in cost between the Procurement Strategy report and the accepted tender is believed to be due to market conditions.

Table 3.56: Comparison of cost over phases of project

Phase of project	*Cost ($M)*
Initial Investigation Report*	2.30
Procurement Strategy+	3.08
Accepted Tender	3.76

*Note: *Extracted from the Moreton Bay Water Initial Investigation Report – RM 260 Diversion (MWH & MBRC, April 2010). +Extracted from the Procurement Strategy – RM260 Diversion (Unitywater, November 2010). Source: SKM (2011)*

Based on the information provided, SKM concluded that as the project has been competitively tendered, with four tenders received for the construction of the new sewage rising main and that the costs for the work are consistent with conditions prevailing in the markets and, therefore, are efficient.

SKM also noted the selected contractor proposed a 21-week construction period from contract award. The Project Definition and Deliverables Program states the works should have been completed in August 2011. Unitywater did not provide SKM with documentation in evidence of the status of completion of this project.

SKM found that only some of the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to this project. A standardised approach to cost estimation and an implantation strategy were not provided.

Conclusion

SKM assessed the project as prudent. The project driver for the main works was considered to be 'improvement' and the driver for the odour control works was assessed to be renewal.

SKM assessed the project as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated.

On the basis of the above recommendations of SKM relating to the prudency and efficiency of the project, the Authority accepts Unitywater's proposed Kedron Brook Sewage Catchment – New Sewerage Rising Main RMN260 costs ($4.7 million) for 2011-12.

(vii) Sewer Rising Main, Burpengary Creek to Burpengary East STP (525mm x2880m)

The Burpengary Sewer Rising Main Duplication Project involves the construction of a new 525 mm diameter sewer rising main, approximately 3,000 m long that will duplicate and run parallel to the existing sewer rising main from the intersection of Old Bay Road and Moore Road to Burpengary East STP. Unitywater advised SKM that an incident occurred whereby there was a significant overflow of raw sewage when Caboolture Shire Council was responsible for wastewater services.

The proposed capital expenditure of the Burpengary Sewer Rising Main Duplication Project for 2011-12 to 2013-14 is shown in Table 3.57.

Table 3.57: Burpengary sewer rising main duplication project – Capital Expenditure Profile ($000)

	2011-12	*2012-13*	*2013-14*	*Total*
2011-12 Information Template	4,855			4,855
Project Description Statement – Duplication of RM Old Bay Rd to BESTP (525mm x 3000m)	5,915	-	-	5,915

Source: SKM (2011)

SKM noted that the information provided to the Authority by Unitywater in the 2011-12 Information Template is less than the information provided in other supporting documentation. Unitywater advised that the costs outlined in the Project Description Statement were prepared in 2009 prior to tendering.

Prudency

The nominated cost driver for this project is growth. Population projections for the Burpengary East STP are outlined in Table 3.58.

Table 3.58: Burpengary East STP Projections

	2005	*2009*	*2011*	*2016*	*2021*	*2026*	*2031*
Projected Equivalent Population (EP)1	-	45,726	47,317	49,813	53,838	54,370	57,731
Projected Equivalent Population (EP)2	40,348	-	41,713	47,740	53,622	-	-
Projected ADWF (ML/day)2	9.7	-	10.0	11.5	12.9	-	-
Projected PWWF (ML/day)2	48.4	-	50.1	57.3	64.3	-	-

Note: (1) From Wastewater Network Master Plan - Caboolture District (Unitywater, 2010). (2) From the Report for Trunk Infrastructure Planning – Sewerage (GHD, 2008). Source: SKM (2011)

SKM noted the Report for Trunk Infrastructure Planning – Sewerage (GHD, 2008) identifies the need for a new 525 mm diameter sewer rising main to Burpengary East Sewerage Treatment Plant in 2016. The more recent network plan (2010) indicates that the connected population is larger than projected in the GHD report, with the current 2011 population being comparable to GHD's projected 2016 population.

Furthermore, the Project Description Statement – Duplication of RM Old Bay Road to BESTP (Unitywater & MWH, 2009) states, in relation to the reason for the project:

> *The new augmentation will provide additional security ensuring continued service to these area(s) in the event of a pipe failure downstream of Old Bay Road.*

SKM was advised that a significant failure of the existing rising main occurred under Caboolture Shire Council/Caboolture Water control which resulted in significant quantities of raw sewage discharging to an environmentally sensitive area. Subsequent investigation by DERM resulted in Caboolture Water being required to implement measures to ensure redundancy in environmentally sensitive areas to ensure that a similar incident does not occur again. SKM noted that this project is part of the strategy to address DERM's requirements, however, DERM did not specify the duplication of the rising main as the required solution.

Based on the definition of the improvement driver, which is capital expenditure associated with upgrading service outcomes to improve asset efficiency; reliability or increase the anticipated life of an asset to prevent a service non-compliance or capacity shortfall, SKM considered that the project would satisfy the requirement of improving the reliability of the asset.

SKM noted that alternative options to the duplication of the existing rising main were not considered, as this option was considered the most appropriate solution to improving the redundancy of the system and could not be satisfactorily achieved via an alternative solution. Notwithstanding this, SKM advised that to achieve an improvement in redundancy the following options are generally available:

(a) emergency storage at the sewerage pump station;

(b) storage within the gravity system upstream of the sewerage pump station; and

(c) duplicate the rising main system.

Typically, it is expensive to create large access controlled storages for raw sewage. Similarly, it is expensive to oversize the trunk system to allow for storage. In addition to this cost, the use of storage is generally infrequent, resulting in an inefficient investment. Attempts to improve this efficiency by increased use through more frequent use for typical operating conditions are achievable but they are specific to the situation and usually result in additional expense for odour management. Consequently, the choice of duplication of the main to increase the redundancy of the system is typically an adequate solution.

SKM noted that the following route options were considered:

(a) Option 1: Route via Moore Rd/ Margaret St/ Lot 2 RP51144/ Common;

(b) Option 2: Route via Moore Rd/ Lot 182 SL8912/ Common;

(c) Option 3: Route via Private Access Rd/ Lot 2 RP51144/ Common; and

(d) Option 4: Route via Moore Rd/ Margaret St/ O'Leary Ave/ Lot 182 SL8912/ Common.

SKM found that in the initial investigation, the route options were considered on the basis of environmental impact, cost and hydraulics. No ground information details were provided so it is therefore inferred that no ground investigation was included in the initial investigation of the options. Cost estimates for the details associated with the initial investigations were provided but no information was provided in relation to the evaluation of the options on the basis of the other criteria. The least cost option, Option 4, at $6.32 million was selected.

Following discussions with Unitywater, SKM advised the Authority it was not clear as to the root cause of the failure of the existing rising main. Without understanding the potential contributing factors or conditions associated with the failure, adopting an adjacent route to the existing main has resulted in the acceptance of some latent risks.

In summary, SKM considered that the Burpengary Sewer Rising Main Duplication Project will improve the reliability and redundancy of an essential component within the sewer system and provides capacity for growth. Consequently the project is assessed as prudent.

Efficiency

The scope of works for this project comprises of the construction of a new 525 mm diameter sewer rising, approximately 3,000 m long, from the intersection of Old Bay Road and Moore

Road to Burpengary East STP. SKM noted that this option was selected as the least cost option to deliver the required infrastructure.

SKM further noted that according Unitywater's submission this project comes under the Network Master Plan: Caboolture District Wastewater Network Master Plan, Drawing S 007 (Ref CPIPWW0139). The Network Master Plan was prepared and reviewed by an experienced Registered Professional Engineer of Queensland in accordance with Queensland Government Guidelines and Council's Design Manual. Unitywater advised that the infrastructure will be designed, constructed and commissioned in accordance with council's Design Manual and relevant Australian and New Zealand Standards. The Wastewater Network Master Plan - Caboolture District, Draft (Unitywater, 2010) were provided SKM for review. SKM concluded that the planning and design criteria outlined are in keeping with good industry practice and are acceptable for this project.

The project was divided into two stages to separate out the areas that will have a more complex approvals consenting process. Stage 1 involved work within the road reserve from the connection point at Old Bay Rd to five metres before the end of O'Leary Av. SKM noted that minimal approvals were required for this section and works could proceed relatively quickly. Stage 2 involved all other works. Approvals from both DERM and the Department of Transport and Main Roads were required before work for Stage 2 could commence as the proposed route passed through environmental sensitive areas and state controlled roads.

The overall project costs estimate are summarised in Table 3.59.

Table 3.59: Budget Cost Breakdown

	Amount ($)	*Percentage (%)*
A. Project Management	240,561	5
B. Land/ Authority/ Apps	62,563	1
C. Design	275,400	6
D. Construction	4,177,190	85
E. Commissioning	-	0
F. Contingency	182	0
Sub Project	**4,755,897**	
Estimate cost to complete	169,233	3
Total project cost estimate	**4,925,130**	**100**

Note: Extracted from the BERM-REF 11 – F1 Cost Reports.xls. Source: SKM (2011)

The total construction cost of $4,177,190 minus the Stage 2 contract costs of $2,466,804 results in construction costs of Stage 1 of $1,710,386.

Unitywater advised SKM that Stage 1 was completed by day labour as a result of a tendering process run by MBRC. SKM did not receive tender cost estimates or review the tender documents. The unit cost for Stage 1 of the project is $1,316/m, assuming a cost of $1,710,386 for 1300 m rising main. This is lower than the unit cost calculated using industry standard unit rates from comparable water authorities that include the use of site condition specific multipliers such as depth, soil type, existence of acid sulphate soils and different construction techniques,

which identified a unit cost of $1,964/m. The unit cost from day labour is comparable to Stage 2 unit costs which were competitively tendered.

SKM noted that the costs for Stage 2 of the project were determined through a tendering process with companies selected from a panel of providers. This tender process involved the issue of the works to eight contractors from a panel of providers. Each contractor submitted costs for the proposed works. The tenders were evaluated by individuals from Unitywater and MWH. An arithmetic check was conducted by MWH and revised tender amounts determined. The criteria used to assess the submissions were: environmental consideration (20%), methodology for project delivery (20%), time (10%) and price (50%).

The top three ranking companies attended tender clarification interviews. The tender was awarded to the highest ranked company, after re-evaluation, based on the evaluation criteria.

Based on the information provided, SKM noted that the price for the works ranged from $1.58 million to $3.26 million. The preferred tenderer selected by Unitywater was within the lower region of this range, with a price of $1.62 million. The total cost of the contract, including contingencies, is $2.47 million. SKM did not review the original tender documents.

As the costs for Stage 2 of the project were arrived at through a competitive tender process, SKM considered that they accurately represent the current market value of the proposed project. The unit cost for Stage 2 of the project is $1,451/m, assuming total cost of $2,466,804 for 1700 m of rising main. Unit cost calculated using industry standard unit rates for Stage 2 are approximately $1,900/m. As the unit costs are below the industry standard and the Stage 2 costs competitively tendered, SKM concluded that these costs were efficient.

Unitywater advised SKM that Stage 1 of the project was completed in October 2010. For Stage 2, the selected contractor proposed a 23-week construction period from contract award.

SKM found that only some of the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to this project. A standardised approach to cost estimation and an implantation strategy were not provided. The consideration of prudency and efficiency of capital expenditure from a regional (whole of entity) perspective) was not applicable due to the localised nature of the scheme.

Conclusion

SKM assessed the project as prudent on the basis that the primary driver has been assessed as improvement. An outcome of the project is increased capacity which will accommodate growth.

Both Stages 1 and 2 of the project were assessed as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs, and achievable delivery have been demonstrated.

On the basis of the above recommendations of SKM relating to the prudency and efficiency of the project, the Authority accepts Unitywater's proposed Sewer Rising Main, Burpengary Creek to Burpengary East STP costs ($4.9 million) for 2011-12.

(viii) Sewer Rising Main RMN-BI01 (375mm x 2900m)

The west and north areas of Bribie Island are served by a 500mm diameter rising main which was installed in 1998-99 to augment an existing 375mm diameter line (the 375mm line was subsequently converted to a recycled water main in 2007-08).

This project involves the design and construction of 2900m of 450mm diameter polyethylene sewer rising main to duplicate the existing rising main on Bribie Island that extends from wastewater pump station BI-01 to Bribie Island Wastewater Treatment Plant. The new rising main will include non-return and sluice valves on each main to allow them to be shut off and operated together or individually. The pipeline installation method will be with a combination of trenching and directional drilling.

The proposed capital expenditure for the project for 2011-12 to 2013-14 is shown in Table 3.60. Costs prior to 2011-12 have been included for completeness.

Table 3.60: BI-01 Sewer Rising Main Duplication – Capital Expenditure Profile ($000)

Source	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Total*
Submission to the Authority	-	-	4,152	-	-	4,152
Project Definition and Deliverables	-	3,679	-	-	-	3,679
Moreton Bay Regional Council Project Description Statement	170	65	3,145	-	-	3,380
BI-01 Sewer Rising Main Contract	-	-	3,280		-	3,280
Sewer Rising Main RMN BI-01 (375mm x 2900m) Whole of project forecast	-	-	3,950		-	3,950

Source: SKM (2011)

SKM noted that the costs provided by Unitywater in its regulatory submission to the Authority are from the most recent forecast and relate to the project manager's estimate at project completion and include contract variations for rock excavation, trenchless construction and scope increases. The other costs identified in the documentation submitted to the Authority are forecasts arising from a range of sources from the initial project scoping to output from the final investigation. SKM reviewed the $4,151,858 provided in Unitywater's submission to the Authority.

Prudency

The cost driver nominated for this project is growth. The Project Description Statement states the reason for the project is insufficient capacity in the rising main from wastewater pump station BI-01 to the Bribie Island wastewater treatment plant to provide for growth.

SKM noted that the Trunk Infrastructure Planning Sewerage report provides average dry weather flows and peak wet weather flows for Bribie Island that were projected using PIFU population forecasts (September, 2006). Using this information, SKM completed high level calculations which demonstrated that the current sewer is likely to be nearing or exceeding capacity, and therefore would be unable to accommodate the projected growth. On this basis, SKM concluded that the primary driver of growth has been demonstrated.

SKM noted that a number of route options along Goodwin Drive and First Avenue were considered were detailed in the Review of Initial Investigation on Alightment Options meeting minutes (27 January 2010). The following comments were made in regard to Goodwin Drive:

(a) the existing pipelines are within an easement parallel to the road. The existing easement is too narrow for an additional rising main. Widening the easement may affect an important habitat;

(b) the east side of the road has a very wide berm. Some of this area may be required for future road widening. The berm contains a DN450 AC water main, Telstra cables, power poles with high voltage overhead power lines, and underground power for street lighting. Subject to (Council) Roads (Department) approval, the line could be constructed by open cut, approximately 5-6m from the road boundary (outside the allocated services corridor);

(c) the berm on the west side of the road is very narrow, and drops off to a deep drain/ The pipeline could be constructed by directionally drilling below the footpath. The only (adjacent) services are power for street lighting; and

(d) the selection will be based on practicality of directional drilling and (Council) Roads (Department) requirements.

The following comments were made in regard to First Avenue:

(a) the north side of the road is not practical because of services and existing commercial development;

(b) on the south side, the existing rising main, recycled water main and water main occupy the water/sewer corridor. Outside this area, there are established trees that will affect the alignment. However, an alignment following the footpath appears to be practical. This may also need to be directionally drilled, and would be subject to (Council) Roads (Department) approval;

(c) an alternative would be to locate the rising main around the perimeter of the sports fields. This would avoid clashes with other services, but would require (Council) Parks (Department) approval; and

(d) the alignment on the south side of the road is preferred, subject to (Council) Roads (Department) approval and (the) practicality of construction.

SKM also noted that an alternate option for the reuse of an existing 375 mm diameter rising main was considered. The 375 mm diameter rising main was the original sewer main and had been converted to a recycled water main in 2007-08. The Review of Initial Investigation on alignment options meeting minutes indicated that this option was considered unlikely to be viable as the council had spent a considerable sum on the main.

The selected alignment as detailed in Final Design Report meeting minutes from the 19 May 2010 was

> *Within road reserve from BI-01 pump station along the west side of Goodwin Drive, crossing to the south side of First Avenue. The section along First Avenue will be directionally drilled to avoid damage to trees.*
>
> *From First Ave, the pipeline follows the access to BISTP (i.e. Bribie Island Wastewater Treatment Plant) through reserve areas. One section will be directionally drilled below the carriageway because of the limited width available."*

Given the consideration of alternatives, SKM considered that the decision making process was reasonable and project was assessed as prudent.

Efficiency

Using information contained in the Trunk Infrastructure Planning Sewerage report, SKM completed high level calculations that demonstrated the requirement for the sewer duplication. The calculations indicated that a 375 mm diameter ductile iron cement lined pipe (internal diameter 406 mm) would likely be sufficient to handle current and future loads. SKM noted,

however, that the 450 mm outside diameter polyethylene main (internal diameter 346 mm or 366 mm depending on the Standard Dimension Ratio (SDR)) was selected based on the requirements for directional drilling and the protection the polyethylene pipe provides against potentially aggressive soils when compared to 375 mm diameter ductile iron cement lined pipe.

Given the supporting evidence, SKM assessed the scope of works as appropriate.

In regards to standards of service, SKM noted that the project aligns with the Unitywater Customer Charter; in particular, protecting your health and the environment by operating and maintaining the infrastructure for the effective collection, transport and treatment of sewage. As mentioned above, SKM considered that installation of nominal 375 mm diameter pipe would likely meet the flow requirements of the sewer duplication. However, Unitywater selected 450 mm outside diameter polyethylene pipework, which is more suitable for the directional drilling requirements and the potentially acid sulphate soil.

SKM advised that the SDR rating of the polyethylene pipework was not provided and so it was not possible to check the impact on the velocities.

Project cost: Invitation to tender documents was forwarded to eight members of the panel of providers and six tender returns were received on the 11 August 2010. The tenders were evaluated according to the following criteria: price: 60%; previous relevant experience: 20%; and methodology for project delivery including timing: 20%.

The contract was awarded to Redline Contracting based on their tender being the highest scoring tender in accordance with the procurement probity plan. The contract was for $2,674,934 plus GST. The C 9004: C-EMS-09 – BI-01 Sewer Rising Main, Tender Review demonstrates the tender review process.

Information provided by Unitywater in Contract C9004 – Duplicate RM BI-01 (Cotterill Rd) to BISTP (Bribie Island Wastewater Treatment Plant) includes variations that were approved during the project. The variations were for rock excavation, trenchless construction and increased scope, and totalled to $585,633.

The contract cost and variations total to $3,260,567, which combined with previous expenditure of $670,712 (as detailed in the Response to RFI ID No 0012) is $3,931,279. This total cost is approximately 5% less than the project cost identified in Unitywater's submission to the Authority. No information has been provided as to the intended use of the 5% difference.

The cost per metre of constructing the sewer is $1,432/m. Rates for construction of 450 mm outside diameter polyethylene sewer in the Gold Coast were obtained. These were $1,172/m, plus $800/m for horizontal directional drilling, resulting in a total cost of $1,972/m. The contract document extract provided by Unitywater indicates that the sewer will be installed by trenchless technology from chainage 0.00 m to chainage 1,907.98 m. Assuming the 1,908 m length of trenchless construction is completed by horizontal directional drilling; the construction rate for the 450 mm outside diameter polyethylene sewer increases to $1,698/m. Consequently the unit cost of sewer construction for the project is comparable, but lower than the unit cost obtained for a similar project in the Gold Coast.

No allowance has been made for the allocation of overhead costs to this project.

The project is therefore assessed as efficient. An appropriate scope of works, acceptable standards of service and achievable project delivery have been demonstrated.

The target date for delivery of the project was for the 2010-11 financial year. Advice provided by Unitywater during the interview indicated that the project is in its commissioning phase.

SKM found that of the initiatives relating to capital planning identified by the Authority in its 2010-11 report, consideration of prudency and efficiency of capital expenditure from a regional perspective and a summary had been meet for this project.

With regard to a standardised approach to cost estimating, SKM noted that cost estimates were provided in the Project Description Statement and Chart of Accounts, and that the latter appears to be a template for calculating project costs.

In terms of the development of an implementation strategy, SKM noted that although some details were included in the project's documents, no clear project program or methodology was provided.

SKM further noted that Gate 1, Gate 2 and Gate 4 were referred to in connection with the Project Description Statement, Project Definition and Deliverables and Tender report respectively, however no information on what constitutes a Gate 1, 2 or 4 was provided.

Conclusion

The project has been assessed as prudent. The primary driver of growth has been demonstrated.

The project has been assessed as efficient. An appropriate scope of works, acceptable standards of service and achievable project delivery have been demonstrated.

On the basis of the above recommendations of SKM relating to the prudency and efficiency of the project, the Authority accepts Unitywater's proposed Sewer Rising Main RMN-B101 cost ($4.2 million) for 2011-12.

(ix) Ngungun St, Landsborough – Water Pump Station

Under 2011 demands, over three consecutive days of maximum demand, the Beerwah reservoirs were identified to be empty. A number of pressure failures were also identified in the Beerwah region. To resolve both of the above issues, a booster pump station for operation during high demand times is proposed for construction on the 300 mm western trunk main at the Ngungun Street control valve site. The proposed size of the booster pump station is 115 L/s @ 35 m head, with equivalent standby capacity (Regional Water Infrastructure Strategic Growth Planning Study Volume 1).

The aim of this project is to provide the trunk supply capacity required to comply with Unitywater's Desired Standards of Service (DSS), whereby reservoir depletion does not occur during three days of peak demand.

The proposed capital expenditure for 2011-12 to 2013-14 budgets is shown in Table 3.61.

Table 3.61: BI-01 Sewer Rising Main Duplication – Capital Expenditure Profile ($000)

Source	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Total*
Submission to the Authority	-	719	-	-	719
Project Description Statement	-	-	-	-	780
Regional Water Infrastructure Strategic Growth Planning Study Volume 1	-	-	-	-	780
C0285 Ngungun St water pump station - expenditure question	66	719	-	-	785

Source: SKM (2011)

SKM noted that the costs detailed above from a variety of sources closely correspond with each other, with less than a 1% variance in their total amounts.

Prudency

The nominated cost driver nominated for this project is growth. SKM noted that the Caloundra City Council Water Supply and Sewerage Planning Report states that the desired standard of service for water supply is a reliable water supply. The report also demonstrates that growth is a valid driver through the population growth projections.

Population forecasts were completed by SGS Economics & Planning using population forecasts from the Department of Local Government and Planning (DLGP)'s PIFU. These forecasts were allocated to areas suitable for greenfield growth and redevelopment within Caloundra City Council in conjunction with Council staff. The Planning Report Addendum states that Kellogg, Brown & Root aggregated this data for each of the sewer and water priority infrastructure areas. SKM considered that this was an appropriate methodology.

The resolution of pressure issues will be achieved when the augmentation for growth is completed. Consequently, the primary driver of growth was assessed by SKM as appropriate, with legal obligations (compliance) being regarded as a subordinate driver.

SKM noted that several options that were assessed (as detailed in the Project Description Statement), including:

(a) do nothing – risks associated with this option were identified as follows:

  (i) H20Map modelling has shown the existing network to be insufficient to meet storage requirements, see attached model results;

  (ii) in the event of three days maximum day demand, existing reservoirs in this region will run dry, leaving 11,000 customers without water; and

  (iii) running customers out of potable water represents an unacceptable risk to Unitywater refer to the risk register for inherent risk profiles;

(b) pipe augmentation – requires augmentation of the entire supply line back to the distribution tanks to resolve head loss issues in the long term. Material and installation costs alone would be in excess of $6.5 million;

(c) upgrade existing pump stations and check valve on Steve Irwin Way Upgrade pump station #2 and a check valve does not work in the short term and is not a long term solution; and

(d) booster pump station – the proposed booster pumps would deliver approximately 115L/s at 35m head with equivalent standby pumps and would require a non return valve installation on the parallel main.

With the exception of the booster pump station (option (d) above), all other options were eliminated at this stage.

No NPV calculations have been completed for this project, as there is only one feasible option.

SKM considered that the primary driver of growth has been demonstrated and assessed the project as prudent.

Efficiency

As noted above, of options assessed only one satisfies the project driver while not leading to further issues in the long term. Hence, the preferred scope of work is the best means of achieving the desired outcomes.

SKM noted that the project proposes to construct the following:

(a) a booster pump station on the existing 300mm diameter rising main upstream of the existing Gympie Street control valve; and

(b) a non return valve is to be installed on the 200mm trunk supply main on Steve Irwin Way to separate the pump suction and discharge.

SKM assessed as these works appropriate to meet the desired outcomes of the project.

With regards to service standards, SKM noted that the Project Description Statement details the project's strategic fit with the Unitywater Corporate Plan 2010-2015 as follows:

(a) Strategic Objective 1 – Customer Satisfaction: Meet our customers' expectations;

(b) Strategic Objective 2 – Integrated Whole of Region Business: Deliver water supply and sewerage services; and

(c) Strategic Objective 4 – Sustainable Value x Growth: 'Drive efficiencies.

In addition, the project aims to meet Unitywater's Desired Standard of Service such that reservoir depletion does not occur during three days of peak demand.

SKM noted that for this project an allowance of 20% has been made for indirect and administrative costs and a contingency of 30% has been applied to the project. In response to a request for information from SKM, Unitywater advised that the estimate for this project was based on a GHD unit rates report (provided previously) with a 30% contingency added. These were to apply a unit cost of $5,303 per kW to the required pump power estimate of 113 kW and then add a 30% contingency resulting in a total cost of $779,001.60. This calculation used December 2004 rates to produce the project cost. The rates were checked against similar previous project experience and were found to correspond to these rates.

SKM concluded that as the project is only at the feasibility stage this methodology is appropriate and so the project cost can be assessed as efficient.

With regards to timing and deliverability, SKM noted that the project program shows a construction completion date of 12 February 2013 and a commissioning completion date of 12 March 2013. Further, Unitywater advised (in its RFI) that the program will be refined once an Asset Delivery Project Manager has been appointed.

SKM advised that a review of the barriers to the project deliverability was not possible as only generic risks were identified (Copy of Ngungun St Landsborough - WPS - Risk Assessment).

SKM noted that for the allocation of overhead costs, 20% has been allowed for indirect and administration costs.

SKM found that the applicable initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to this project. Consideration of prudency and efficiency of capital expenditure from a regional perspective was not relevant as the project is of a small scale. The development of an implementation strategy was also not relevant as the project cost demonstrates that it is not a 'major' project.

Conclusion

SKM assessed the project as prudent on the basis that the primary driver of growth has been demonstrated.

The project was assessed as efficient on the basis that an appropriate scope of works, acceptable standards of service, and reasonable project costs have been demonstrated.

On the basis of the above recommendations of SKM, the Authority accepts the prudency and efficiency of Unitywater's proposed Ngungun Street Landsborough water pump station cost ($719,000). However, as the project will not be commissioned until March 2013, the Authority has removed the proposed cost of the project from the 2011-12 capital expenditure.

(x) Coolum STP Augmentation

The Coolum STP, commissioned in 1978, was originally constructed as a 3,000 EP lagoon system. Since then, two separate augmentations have occurred:

(a) Stage 1 – upgrade to an extended aeration plant, in 1984, with a capacity of 10,000 EP; and

(b) Stage 2 – capacity increase of 15,000 EP with a biological nutrient removal process in 1997.

The total design capacity following these augmentations was 25,000 EP. The current catchment load is approximately 26,000 EP.

Coolum Sewage Treatment Plant regularly achieves the release quality limits, however, it has occasionally breached its maximum dry weather flow, with 11 exceedances recorded in 2009. In addition, population predictions for the catchment estimate that by 2026 the catchment load will increase to 45,000 EP. With the current design capacity limited to 25,000 EP, Unitywater has opted to upgrade (or 'augment') the existing STP.

The proposed capital expenditure program for 2011-12 to 2013-14 is shown in Table 3.62.

Table 3.62: Coolum STP Augmentation – Capital Expenditure Profile ($000)

Source	*2011-12*	*2012-13*	*2013-14*	*Total*
2011/12 Information Template	373	15,408	33,033	48,814

Source: SKM (2011)

Prudency

The nominated cost drivers for this project by Unitywater are 'growth' and 'legal obligation (compliance)'. SKM noted that this is consistent with the drivers mentioned in the Coolum & Suncoast STP Augmentation Project Needs Analysis.

In assessing whether growth is an appropriate cost driver for the project, SKM noted the following:

(a) the Coolum STP is currently over capacity by approximately 1000 EP which, using a basis of 225L/EP/d, this is a daily exceedance of the design capacity of 225kL;

(b) population figures generated by PIFU and Unitywater's Integrated Demand Model which indicate catchment loads of 35,000 EP and 49,000 EP respectively in 2026 (Coolum & Suncoast STP Augmentation – Project Needs Analysis);

(c) a catchment population of 45,000 EP is used as a 'base case' for both Unitywater's Northern Region Demand Model and PIFU from the previous Maroochy Shire Council Local Government Area (Final Report: Coolum and Suncoast Augmentation Assessment); and

(d) projected growth in load on the plant will increase the regularity of non-conformance with the environmental licence and without augmentation the increasing load will cause deterioration in effluent and eventually result in water quality breaches in addition to the current flow breaches (Coolum & Suncoast STP Augmentation - Project Needs Analysis).

On the basis of this information, SKM concluded that growth is an appropriate driver for the project.

In assessing whether legal obligation (compliance) is an appropriate cost driver for the project, SKM noted that in 2009 there were 11 exceedances reported for the maximum dry weather discharge limit for the Coolum STP. The current licence for the Coolum STP states that the maximum discharge limit is 8.25ML/day. If using an assumed sewage generation loading of 210L/EP/day (based on experience with Brisbane wastewater treatment plants), to achieve a daily volume of 8.25ML/day the calculated population is approximately 39,300 EP. Hence, it is clear that the Coolum STP is under capacity.

Overall, SKM noted that although there are occasional increases of non-compliance, this is due to an overload resulting from growth before necessary augmentation. On the basis, SKM assessed that the primary driver is 'growth' with a subordinate driver of compliance. The resolution of the growth driver will resolve the compliance driver.

A multi-criteria options analysis was conducted by MWH to assess the need for augmentation for the STPs at Coolum, Suncoast, Nambour and Maroochydore. SKM noted that the Nambour (Wastewater Treatment Plant) scope was the same as the 'base case' for all shortlisted options and so Nambour (Wastewater Treatment Plant) has not been considered for the short listed options (Final Report: Coolum and Suncoast Augmentation Assessment). A 'do nothing' option was not considered.

The preferred option, identified as the 'base case', incorporated amendments to Coolum Wastewater Treatment Plant plus amendments to Suncoast Wastewater Treatment Plant and Maroochydore Wastewater Treatment Plant. The parameters that differentiated the options are:

(a) the value of flow diverted to another catchment – none for Coolum Wastewater Treatment Plant 'base case';

(b) the value of flow received from another catchment – none for Coolum Wastewater Treatment Plant 'base case';

(c) the 2026 design horizon value for the 2012 upgrade to the Wastewater Treatment Plants – 45,000 EP for Coolum Wastewater Treatment Plant 'base case';

(d) the effluent quality standards - 3mg/L of total nitrogen to 1mg/L of total phosphorous and Class A for Coolum Wastewater Treatment Plant 'base case';

(e) the effluent disposal location for flows up to 3 x Average Dry Weather Flow – 45,000 EP at Cod Hole (relocation required) for Coolum Wastewater Treatment Plant 'base case';

(f) the effluent disposal location for flows greater than 3 x Average Dry Weather Flow - 45,000 EP at River Discharge (existing location) for Coolum Wastewater Treatment Plant 'base case'; and

(g) requirement for river health offset works - None for Coolum Wastewater Treatment Plant 'base case'

A financial assessment included capital cost analysis, operating cost analysis, and NPV analysis. A non-financial assessment included river health and water quality, regulatory approvals, project implementation and performance, and environmental/social and cultural/health and safety.

SKM considered that the decision making process for this project was appropriate and assessed the project as prudent.

Efficiency

SKM noted that the scope of work, as documented Project Support Pty Ltd, defined the 'base case' to comprise of the following:

(a) new inlet works;

(b) new bioreactor (Stage 3) which includes:

  (i) anaerobic tanks; and

  (ii) oxidation ditch;

(c) refurbishment of three existing clarifiers and construction of one new clarifier;

(d) cloth media filters;

(e) new chlorine building with additional chlorinator, two additional contact tanks (one for wet weather);

(f) solids dewatering upgrade;

(g) additional alum storage and dosing;

(h) upgrade of hypochlorite dosing system;

(i) odour control unit; and

(j) all other associated civil, mechanical and electrical equipment, instrumentation and works.

SKM considered that augmentation process is satisfactory for the capacity upgrade and the effluent licence conditions of total nitrogen of 3mg/L and total phosphorous of 1mg/L.

In terms of service standards, SKM noted that under the SCRC Customer Service Standards, this project directly relates to the following service:

> *Customers will be provided with a service for the collection, transportation and treatment of sewage and disposal/ reuse of recycled water.*

SKM considered that appropriate sewage generation factors have been used and that the process has been designed to achieve the licence conditions.

The estimated capital costs of the project, as per the estimate provided by Project Support Pty Ltd, are as shown in Table 3.63. These costs include the decommissioning of some existing infrastructure. Project Support Pty Ltd used market rates and compared previous project experience to estimate the costs. SKM assessed these costs as reasonable.

Table 3.63: Capital Cost Estimate from Project Support Pty Ltd

Item	*Capital Cost*
Site Civils & Establishments	2,593,593
Influent Mains	2,471,533
Bioreactor	3,867,296
Clarifiers	5,384,050
Cloth Media Filters	836,531
Chlorine Building & Chlorine Dosing	1,780,027
Biosolids	254,751
Other Chemical Treatment	162,826
Odour Control	1,038,326
Pump stations	685,515
Pipelines	1,231,980
Misc work	5,473,313
Subtotal	**25,779,741**
Contingency	7,733,922
Design and Commissioning	2,381,363
Owners Costs	1,507,124
Total	**37,402,150**

Source: SKM (2011)

SKM noted, however, that the anticipated costs for other associated works were not itemised as clearly in a revised capital works estimate (Table 3.64).

Table 3.64: Revised Capital Works Cost Estimate

Item	*Revised Capital Cost*
STP Upgrade	25,780,000
Pipelines and Effluent Reuse	7,762,000
Contingency (for potential unidentified scope)	10,086,000
Subtotal	**43,628,000**
Design and Commissioning	3,322,000
Owners Costs	2,213,000
Total	**49,163,000**

Source: Coolum & Suncoast STP Augmentation – Project Needs Analysis in SKM (2011)

The increase in the revised Unitywater capital costs is at the upper end of the cost estimate range of plus 30%.

Notwithstanding this, SKM considered that the cost can be assessed as reasonable. However, SKM stated that further explanation of the 'pipelines effluent reuse' or the 'contingency for potential undefined scope' should be provided.

In regards to timing and deliverability, SKM noted the Project Schedule outlined in Table 3.65. In addition, the Unitywater website states that construction is expected to commence in September 2012, with the upgrade commencing operation in January 2014.

Table 3.65: Project Schedule

Description	*Completion (Committed)*	*Completion (Forecast)*
Needs analysis completed	February 2011	
Procurement model selected	End May 2011	
Business case completed	End July 2011	
Business case approved		September 2011
Approvals / licence applications submitted		December 2011
Contract documentation approval		February 2012
Tendering (submissions received)		May 2012
Approvals / licences received		August 2012
Construction contract awarded		August 2012
Construction completed		October 2013

Source: Coolum & Suncoast STP Augmentation – Project Needs Analysis in SKM (2011)

SKM also noted that several risks were identified by Unitywater, including:

(a) project risks;

(b) operational risks such as breach of environmental licence, major process unit failure, and increased sewerage network overflows and surcharges; and

(c) corporate risks such as asset failures and conditions, stakeholder management (regulator), breach of legislation and statutory provisions, and environmental harm.

Although no mitigation was included in the documentation provided, based on SKM's experience the project schedule was assessed as achievable.

SKM noted that no analysis was done by MWH or Unitywater with regards to any efficiency gains to be obtained by transferring sewage to Nambour STP. However, SKM concluded that the refurbishment of Coolum STP is necessary and the new works associated with the upgrade will achieve an extension of asset life.

SKM found that only one of the initiatives relating to capital planning identified by the Authority in its 2010-11 report had been applied to this project. This was the consideration of prudency and efficiency of capital expenditure from a regional (whole of entity) perspective, for which SKM noted that the MWH report did consider capital expenditure with regards to four different plants within the region.

In regards to a standardised approach to cost estimating, SKM noted that the cost estimate by Project Support Pty Ltd (within the MWH report) did include contingencies and design fees. Likewise, the final submission by Unitywater also included a $10 million contingency for 'potential unidentified scope' and design fees. However, as this project was during the transition period, it was not possible for SKM to asset the cost estimating across all proposed projects. In regards to the development on an implementation strategy, SKM noted that the project needs analysis contained very few details with regard to delivery methodology, program and risk assessment.

Conclusion

SKM assessed the project as prudent on the basis that the primary driver of growth has been demonstrated along with the subordinate driver of compliance. SKM noted that the resolution of the growth driver will resolve the compliance driver.

The project was assessed as efficient on the basis that an appropriate scope of works, acceptable standards of service, reasonable project costs and achievable delivery have been demonstrated.

On the basis of the above recommendations of SKM, the Authority accepts the prudency and efficiency of Unitywater's proposed Coolum STP Augmentation on the basis of current information – noting that this project will be commissioned after 2011-12. Therefore, the Authority has removed the proposed cost of the project from the 2011-12 capital expenditure.

Summary

The Authority notes that all of the 10 projects sampled for review in 2011-12 by SKM were found to be prudent and efficient. However, the Authority has adjusted Unitywater's estimates to remove the Ngungun St Landsborough and Coolum STP Augmentation projects which were erroneously included in 2011-12 commissioned expenditure as they are to be commissioned at a later date. Further, the Burpengary Wastewater Treatment Plant Stage 2 Augmentation and Kedron Brook rising main costs have been adjusted to reflect verifiable costs.

Table 3.66: Review of Capital Expenditure for 2011-12

Project	*Cost 2011-12*	*Prudent*	*Efficient*	*Revised Cost 2011-12*
Burpengary Wastewater Treatment Plant Stage 2 Augmentation	59,029	Prudent	Efficient – estimate adjusted for actual costs	58,217
South Caboolture STP Upgrade and Augmentation (Stage 2)	51,013	Prudent	Efficient	51,013
Customer Services and Billing Solution Project	8,571	Prudent	Efficient	8,571
Fleet-Light	5,883	Prudent	Efficient	5,883
Upgrade Wastewater Pump Station MF01	5,702	Prudent	Efficient	5,702
Kedron Brook Sewerage Catchment - New Sewerage Rising Main RMN260	5,083	Prudent	Efficient – estimate adjusted for approved costs	4,711
Sewer Rising Main, Burpengary Creek to Burpengary East STP (525mm x 2880m)	4,855	Prudent	Efficient	4,855
Sewer Rising Main RMN-BI01 (375mm x 2900m)	4,152	Prudent	Efficient	4,152
Ngungun St, Landsborough - Water Pump Station	719	Prudent	Efficient – commissioned in 2013	0
Coolum STP Augmentation	374	Prudent	Efficient – commissioned in 2014	0

Source: SKM (2011).

In the course of its review, SKM noted that Unitywater has made progress in addressing the issues identified by the Authority in its 2010-11 Final Report, namely that:

(a) Unitywater is adopting a region wide (whole of entity) perspective to capital expenditure where appropriate;

(b) there is evidence that Unitywater is establishing processes to ensure a consistent approach to cost estimation for capital projects, although SKM was unable to comment on the effectiveness of these systems given the capital project sample selection and the commencement date of these projects;

(c) a standard summary document is prepared for major projects. This will assist with management decision making and regulatory review;

(d) there is evidence that Unitywater is establishing processes and procedures with a view to ensuring a consistent approach to implementation strategy and its documentation; and

(e) Unitywater's implementation and use of a gateway process is consistent with the requirements set out by the Authority.

The Authority notes that these initiatives would be expected to be embedded in future projects to a greater extent than in the sampled projects.

The Authority has accepted SKM's advice for this price monitoring report.

Table 3.67: Comparison between Unitywater and Authority's capital expenditure ($m)

	2011-12	*2012-13*	*2013-14*
Capex (Unitywater)	268.73	174.74	275.9
QCA adjustments	(2.28)	(15,41)	0
Total Capex	266.45	174.74	275.9

Source: Unitywater (2011) and QCA calculations.

The Authority notes that Unitywater has developed uniform customer standards of service across its service areas.

The Authority considers that Unitywater should continue to develop processes which take into account a regional perspective when developing its future capital works program and supports initiatives in relation to standardised cost estimation and streamlined documentation.

Of the $268.73 million capital expenditure proposed to be commissioned in 2011-12, all of the sampled projects for 2011-12 were found to be prudent and efficient. However, two of the sampled projects are to be commissioned after 2011-12. Therefore, the Authority has removed the estimated costs of these projects to reflect later commissioning dates. The costs of another two projects been adjusted to reflect verifiable costs.

Contributed, Donated and Gifted Assets

As noted above, the Ministerial Direction requires the Authority to accept as prudent and efficient contributed, donated and gifted assets (contributed assets) and capital expenditure funded through cash contributions and subsidies (capital contributions) for water and wastewater for the period 1 July 2008 to 30 June 2010.

The Direction also requires the Authority to accept that, in setting prices from 1 July 2008, the councils applied a revenue offset approach to account for contributed assets and capital contributions received and that this approach is to remain in effect until such time that the entity nominates that it will adopt the asset offset method. Where a change in methodology is adopted, the RAB is not to be adjusted retrospectively.

In April 2011, following a recommendation by an infrastructure taskforce in late 2010, the State Government announced its intention to impose maximum capital contributions for trunk infrastructure (including water, wastewater, transport and public parks). Under the legislation that was introduced in June 2011, the maximum capital contributions for all trunk infrastructure networks (including water, sewerage, transport and public parks) are:

(a) $28,000 for dwellings with three or more bedrooms;

(b) $20,000 for dwellings with one or two bedrooms; and

(c) various rates for non-residential development, including $50-70/m2 gross floor area (GFA) for industry and $140-180/m2 GFA for commercial.

Under the price monitoring framework, the Authority assesses whether the methodology adopted by the entities to forecast contributed assets and capital contributions is reasonable in the circumstances.

Unitywater Submission

Unitywater submitted that it expected to receive $115 million in contributed, donated and gifted assets over the forecast period and $189 million in capital (cash) contributions (Table 3.68).

Table 3.68: Unitywater - Contributed, Donated and Gifted Assets & Capital Contributions ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2012-13*	*Total 2011-14*
Contributed Assets	41.85	42.94	21.57	26.55	30.31	36.99	115.42
Capital Contributions	78.30[a]	63.44[a]	35.13	43.50	49.67	60.61	188.91
Total	**120.16**	**106.38**	**56.70**	**70.04**	**79.98**	**97.60**	**304.32**

Note: [a] includes grants and subsidies. Source: Unitywater (2011).

(a) Contributed Assets

Unitywater submitted that its participating councils provided information on actual contributed assets for 2008-09 and 2009-10 and these were adopted after being checked against councils' audited financial statements. The Authority notes that actual contributed assets for 2008-09 were lower while for 2009-10 they were higher than those forecast in the 2010-11 submission.

Unitywater submitted that as the value of contributed assets is not separated by councils into the level of disaggregation required by the Authority (by asset classes), assumptions needed to be made as contributions were classified as unallocated at the time of receipt.

For cash contributions however, Unitywater was unable to allocate the values into the asset classes.

Unitywater noted that the forecast level of cash contributions and donated trunk assets for each region and service has been based on the results of negotiations with the participating councils to set the level of developer charges in accordance with the draft State Planning Regulatory Provision (SPRP) which provides for Unitywater's agreed apportionment of the maximum adopted charge.

Unitywater based the forecast level of donated non-trunk assets for each region and service on the actual results to mid-June 2010-11. Unitywater also assumed that the mix between donated trunk and non-trunk infrastructure assets in the forecast years will remain consistent with that in 2010-11.

Notwithstanding the information provided, the Authority is unable to verify the methodology Unitywater used to forecast contributed assets.

(b) Capital (cash) contributions

The Authority is unable to verify the methodology Unitywater used to forecast its capital (cash contributions). However, the Authority notes that capital contributions for 2008-09 and 2009-10 in the current submission are unchanged from those in the 2010-11 submission.

The Authority notes that Unitywater has not forecast grants and other cash contributions beyond 2009-10.

As in contributed assets, the forecast level of cash contributions for 2011-12 is lower than previously forecast.

Authority's Analysis

Under the Direction, the Authority must accept as prudent and efficient and include in the RAB, contributed, donated and gifted assets and capital expenditure funded through capital contributions for water and wastewater for 2008-09 and 2009-10.

The value of Unitywater's contributed assets for 2008-09 and 2009-10 can be traced to supporting Unitywater documents based on council financial records. Capital contributions for 2008-09 and 2009-10 can now also be traced to supporting information. The Authority has accepted these estimates when rolling forward the RAB for 2008-09 and 2009-10.

The Authority notes that Unitywater has revised its 2010-11 estimates based on the latest available information on estimated actuals to June 2011. These are around $19 million lower than originally anticipated.

The Authority also notes that Unitywater's 2011-12 estimates were prepared when legislation was being introduced to impose maximum capital contributions and in the light of reduced receipts in 2010-11.

The Authority concurs with Unitywater that forecasting of contributed assets and capital contributions is difficult exercise, but that accuracy is particularly important when the revenue offset method is adopted (as by Unitywater) and under annual pricing.

There are added complexities in estimating contributed assets and capital contributions deriving from estimating the rate at which development applications are approved and contributions are made over time.

While the Authority has not been able to undertake a detailed review of the underlying calculations for the Draft Report, further review is intended for the Final Report.

Pending a more detailed consideration of this issue, the Authority has not adjusted Unitywater's forecasts of contributed assets and capital contributions. The Authority will progress the issue for the Final Report and to assist in price setting for 2012-13.

Unitywater has applied the revenue offset approach to the treatment of contributed assets and capital contributions. Recognising the need for further analysis of contributed assets, the Authority has accepted Unitywater's estimate of contributed assets and capital contributions of $70.04 million.

The Authority invites feedback from stakeholders on how to improve the forecasting of contributed assets and capital contributions.

The Authority will progress this issue for the Final Report and to assist in price setting for 2012-13.

3.8 Rolling Forward the RAB

In accordance with the Ministerial Direction and normal regulatory practice, the initial RAB is rolled forward to account for capital expenditure, inflationary gain, depreciation (return of capital) and disposals.

The Authority generally applies a straight line approach to depreciation. Under the Direction, the Authority must also take into account, for the period 1 July 2008 to 30 June 2010, evidence that depreciation has been calculated using the Minister's advised RABs allocated to council assets and existing useful lives.

Under the roll forward, indexation and depreciation are calculated on the assumption that forecast capital expenditure and disposal occur evenly throughout the year.

For indexation, the Authority is required under the Direction to use the annual June to June ABS CPI (all groups, Brisbane) for 2008-9 and 2009-10. From 1 July 2010, under the Information Requirements for 2011-12, forecasts of CPI as determined by the difference between the Reserve Bank of Australia (RBA) return on the market rate for five year bonds and five year capital indexed bonds must be used. In its 2010-11 Final Report the Authority adopted an estimate of 2.48% for 2010-11 on this basis.

As noted above, actual capital expenditure from 1 July 2008 to 30 June 2010 is included in the RAB, while from 1 July 2010 only prudent and efficient capital expenditure is to be rolled forward. Further, where the entity chooses to apply the asset base offset approach, contributed assets and capital contributions are deducted from the assets to be paid for by users.

Unitywater Submission

In its submission, Unitywater adopted a straight line approach to depreciation based on existing and new asset lives contained in its fixed asset registers. Unitywater stated that it has adopted useful lives for capitalised assets on an individual basis, instead of useful lives on the broader asset class defined by the Authority which can results in assets with useful lives ranging from 20 to 100 years being grouped together and assigned a single average life.

Unitywater provided more information on asset lives than in its previous submission.

In relation to indexation, 2008-09 and 2009-10 were based on ABS CPI (all groups, Brisbane) of 2.0% and 3.2% respectively. From 2010-11 onwards, an inflation forecast of 3.07% was used, representing the difference between the RAB return on the market rate for five year bonds and five year indexed bonds, averaged over the 20 days ending on 15 June 2011.

Unitywater stated that disposals have been calculated based on the assumption that the majority of assets will have a nil disposal value. If an asset has a residual value, it is disposed of once it is depreciated to or below that residual value.

Table 3.69: Unitywater Asset Base Roll Forward – Water ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*
Opening RAB	879.33	926.40	999.81	1,069.69
plus Capital expenditure	74.32	79.00	72.38	53.08
plus Indexation	17.80	29.76	31.84	33.69
less Depreciation	(32.69)	(35.10)	(33.94)	(36.58)
less Disposals	(12.35)	(0.25)	(0.39)	(0.08)
Closing RAB (QCA)	926.40	999.81	1,069.69	1,119.80

Source: Unitywater (2011), SKM (2011), QCA (2011).

Table 3.70 : Unitywater Asset Base Roll Forward – Wastewater ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*
Opening RAB	1,150.37	1,188.82	1,416.73	1,582.54
plus Capital expenditure	58.52	224.20	174.25	215.65
plus Indexation	22.86	38.59	46.22	51.95
less Depreciation	(31.75)	(34.44)	(54.07)	(58.85)
less Disposals	(11.19)	(0.43)	(0.59)	(0.12)
Closing RAB	1,188.82	1,416.73	1,582.54	1,791.17

Source: Unitywater (2011), SKM (2011), QCA (2011).

Authority's Analysis

SKM reviewed Unitywater's asset lives by comparing them to available benchmarks from the Water Services Association of Australia and found them to be reasonable. The Authority applied a straight line approach to depreciation as per the SEQ price monitoring model.

The Authority's opening RAB for water and wastewater activities as at 1 July 2011 ($2,643.2 million) is slightly lower than Unitywater's estimate ($2,652.2 million).

The difference primarily arises due to depreciation and indexation. Consistent with the Direction and Unitywater's approach, the Authority has rolled forward the RAB for 2008-09 and 2009-10 using ABS CPI (all groups, Brisbane) of 2.0% and 3.2% respectively. The Authority has also rolled forward the RAB for 2010-11 using information available at the time of price setting on actual inflation. The Authority has used the ABS CPI (all groups, Brisbane) estimate of 3.58% for 2010-11 for this purpose. This compares with the estimate of 3.07% used by Unitywater. Despite this, the Authority's higher depreciation has led to the Authority's slightly lower opening RAB at 1 July 2011.

The Authority has used a forecast inflation rate of 2.48% for 2011-12. This represents the Authority's estimate of inflation in its Final Report for 2010-11 and is consistent with the weighted average cost of capital (WACC) of 9.35% adopted for price monitoring.

In relation to disposals, the Authority has accepted Unitywater's estimate for 2011-12.

Table 3.71: QCA Asset Base Roll Forward – Water ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*
Opening RAB	878.81	938.93	1,006.27	1,081.69
plus Capital expenditure	71.73	78.09	72.38	52.36
plus Indexation	18.44	31.13	37.31	27.47
less Depreciation	(26.09)	(29.58)	(33.88)	(37.22)
less Disposals	(3.96)	(12.30)	(0.39)	(0.08)
Closing RAB (QCA)	938.93	1,006.27	1,081.69	1,124.23

Source: Unitywater (2011), SKM (2011), QCA (2011).

Table 3.72 : QCA Asset Base Roll Forward – Wastewater ($m)

	2008-09	*2009-10*	*2010-11*	*2011-12*
Opening RAB	1,150.50	1,193.85	1,400.63	1,561.55
plus Capital expenditure	57.70	225.13	174.25	214.09
plus Indexation	23.75	41.66	53.25	41.38
less Depreciation	(31.37)	(58.78)	(65.99)	(48.96)
less Disposals	(6.73)	(1.23)	(0.59)	(0.12)
Closing RAB	1,193.85	1,400.63	1,561.55	1,767.94

Source: Unitywater (2011), SKM (2011), QCA (2011).

The Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2011-12 does not differ materially from that of Unitywater.

The Authority's estimate of the closing asset value as at 30 June 2012 is $1,124.23 million for water and $1,767.94 million for wastewater.

3.9 Return on Capital

Under the Ministerial Direction, the Authority was required to advise the entities by 1 March 2011 and 1 March 2012 of the WACC benchmark for 2011-12 and 2012-13 respectively.

After taking into account all relevant issues, the Authority advised the entities on 15 March 2011 that it intended to adopt a WACC of 9.35% for the three-year period 2010-11 to 2012-13. The reasons for this decision are set out in Appendix B in the Authority's Final Report for 2010-11.

Unitywater Submission

Unitywater adopted the Authority's advised WACC benchmark of 9.35% in its 2011-12 submission. Unitywater noted remained concerned about a number of the key parameters in the Authority's estimate. Unitywater notes that its response to the Authority 2010-11 highlighted these concerns and which were supported by the advice of an independent expert.

Authority's Analysis

As per the agreed price monitoring framework and the Authority's advice to the entities of 15 March 2011, the Authority has adopted a WACC of 9.35% for 2011-12. This is the same WACC as adopted by Unitywater. The Authority responded to Unitywater's submission in 2010-11 on key parameters relevant to the WACC for price monitoring.

The Authority's estimate of the return on capital resulting from the 9.35% WACC and the (updated) asset base is set out below. The difference in Unitywater's estimated return on capital therefore arises from its view of the RAB to which the WACC is applied, rather than the WACC applied. The Authority's RAB is slightly lower than that of Unitywater due to the lower indexation applied in 2009-10 and higher depreciation over the forecast period.

Table 3.73: Return on Capital ($m)

	Water Costs 2010-11	*Wastewater Costs 2010-11*	*Water Costs 2011-12*	*Wastewater Costs 2011-12*
Return on Capital (Unitywater)	96.87	140.61	102.50	158.05
Return on Capital (QCA)	97.48	139.11	103.61	156.05
Difference	**0.61**	**(1.50)**	**1.11**	**(2.00)**

Source: Unitywater (2011), QCA (2011).

The Authority has adopted a WACC of 9.35% in accordance with the Ministerial Direction. This is consistent with the approach adopted by Unitywater.

3.10 Operating Expenditure

Operating costs include the cost of purchasing bulk water, as well as both retail and distribution costs such as materials and services (including chemical and electricity costs), employee, corporate and customer service costs.

The Ministerial Direction requires the Authority to recognise the Government's policy that the prices charged by the SEQ WGM for bulk water storage, treatment and delivery are to be passed through to customers in full. The Ministerial Direction also requires the Authority to accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010. These constraints include that there are to be no forced redundancies during the interim period.

The Authority notes that these constraints do not apply to new employees engaged temporarily to perform work on the establishment of the entities or independent contractors or employees engaged by labour hire companies that provide services to either the entity or participant councils.

The Authority engaged SKM to review the prudency and efficiency of Unitywater's forecasts of operational expenditure for its water and wastewater activities from 1 July 2011.

Unitywater Submission

In its submission, Unitywater proposed a total of $235.87 million of operational expenditure for 2011-12, comprised of $142.69 million of expenditure for water and $93.18 million for wastewater.

Unitywater allocated its operational costs to the drinking water, other core water, wastewater via sewer and trade waste services. Bulk water costs accounted for 36% of Unitywater's total operating costs over the interim period while employee cost accounted for a further 25% of total operating costs.

Unitywater stated that it had applied a $10 million reduction to operating expenditures, which will be achieved through efficiency, deferral, cancellation, scope correction and reprioritisation. Further, this has been achieved within the constraints of the current workforce framework, in place until June 2013. Unitywater submitted that this figure exceeds the Authority's 2% deemed efficiency target.

Unitywater noted that actual operating expenditure for the year ended 30 June 2011 was below the forecast generated in Unitywater's first price monitoring submission. Unitywater submitted that the differences reflect in part its emerging level of sophistication in forecasting; the challenging 2010-11 seasonal conditions and in particular the floods that delayed normal operational expenditures; slightly lower than anticipated demand due to permanent water conservation measures and above average rainfall; and the Board's involvement in actively seeking efficiencies.

Operational Budget Development

Unitywater noted that it constructed its initial budget based on a combined methodology of zero based costs and historic values escalated for growth and price factors. It has not used a historical base year due to the absence of trading history given that Unitywater commenced operations on 1 July 2010 and it does not consider the 2010-11 year as indicative of a normal operating year.

Unitywater outlined the budget rules that it applied in generating its operating budget, which were the same rules it applied in its previous operating budget, except that all expenses and revenues were budgeted in 2011-12 dollars for the reason above.

In forecasting operating cost beyond 2011-12, Unitywater has applied both generic cost indices and geographic specific growth factors to the 2011-12 budget. The high level indices and growth factors used by Unitywater to develop the 2012-13 and 2013-14 budgets are detailed in the following table.

Table 3.74: Operating Cost Indexes and Growth Factors

	Cost Index			Annual Growth Factors	
Cost Group	*2011-12*	*2012-13*	*2013-14*	*Moreton Bay*	*Sunshine Coast*
Employees	4.50%	4.00%	4.00%	-	-
Contractor	4.50%	4.00%	4.00%	-	-
Bulk Water		As per Bulk Price Path		2.82%	2.50%
Electricity	6.54%	6.54%	6.54%	2.65%	2.65
Chemicals	2.50%	3.00%	3.07%	2.65%	2.65%
Sludge Handing	2.50%	3.00%	3.07%	2.65%	2.65%
Other Costs	2.50%	3.00%	3.07%	2.65%	2.65%

Source: Unitywater (2011).

Operational Expenditure forecasts

Unitywater's forecast total operational expenditure over the period 2010-11 to 2013-14 for water and wastewater are set out in Table 3.75 and Table 3.76 respectively.

Table 3.75: Unitywater's Forecast Operating Costs Water 2010-14 ($m)

	2010-11	*2010-11**	*2011-12*	*2012-13*	*2013-14*
Bulk water costs	75.33	69.39	83.73	100.74	119.12
Employee expenses	16.57	19.60	23.19	23.66	23.82
Contractor expenses	6.29	5.90	7.05	8.40	8.74
GSL Payments	na	0.00	0.00	0.00	0.00
Electricity charges	na	1.13	1.15	1.26	1.37
Sludge handling costs	na	0.00	0.00	0.00	0.00
Chemicals costs	na	1.06	0.80	0.84	0.89
Other materials and services (not related to capital expenditure)	12.20^	7.74	6.93	6.93	6.69
Licence or regulatory fees	0.04	0.04	0.13	0.13	0.14
Corporate Costs	22.98	15.04	15.58	15.56	15.21
Non recurrent costs	na	2.69	4.13	3.36	2.43
Indirect taxes	0.39	0.00	0.00	0.00	0.00
Total Operating Costs	**133.81**	**122.58**	**142.69**	**160.89**	**178.42**

*Note: Shaded data reflects Unitywater's forecasts for 2010-11 in its 2010-11 price monitoring submission. na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template. * Estimated actual. ^Included customer service and billing, other costs as well as electricity and chemicals which were not separated in 2010/11 information requirements. Source: Unitywater (2011), Unitywater (2010).*

Table 3.76: Unitywater's Forecast Operating Costs Wastewater 2010-14 ($m)

	2010-11	*2010-11**	*2011-12*	*2012-13*	*2013-14*
Bulk water costs	0.00	0.00	0.00	0.00	0.00
Employee expenses	26.09	29.58	34.61	35.41	35.79
Contractor expenses	18.20	15.09	11.61	18.13	18.93
GSL Payments	na	0.00	0.00	0.00	0.00
Electricity charges	na	5.02	5.70	6.23	6.80
Sludge handling costs	na	3.74	4.28	4.53	4.79
Chemicals costs	na	3.05	4.06	4.29	4.54
Other materials and services (not related to capital expenditure)	22.87	10.14	11.38	11.48	11.25
Licence or regulatory fees	0.49	0.47	0.28	0.29	0.30
Corporate Costs	25.14	15.55	16.11	16.09	15.73
Non recurrent costs	na	3.28	5.14	4.06	3.11
Indirect taxes	0.40	0.00	0.00	0.00	0.00
Total Operating Costs	**93.18**	**85.92**	**93.18**	**100.50**	**101.24**

*Note: Shaded data reflects Unitywater's forecasts for 2010-11 in its 2010-11 price monitoring submission. na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template. * Estimated actual. ^Included customer service and billing, other costs as well as electricity and chemicals which were not separated in 2010/11 information requirements. Source: Unitywater (2011), Unitywater (2010).*

Variation from 2010-11 Submission

Unitywater submitted that the significant changes to its previously forecast 2010-11 cost estimates contained in Unitywater's 2010-11 submission include:

(a) lower spending pattern during the initial stages of operation;

(b) refinement of accounting policies and budget processes resulting in $10 million operating cost reduction;

(c) the Board's involvement in actively seeking efficiencies;

(d) lower projected volumetric demand which was impacted by the above average rainfall and permanent water conservation measures on the Sunshine Coast; and

(e) the January 2011 floods which delayed the return to normal operations by six to eight weeks.

The combined effect of these changes is an increase in total operational expenditure in 2010-11 of 8.1% or $18.49 million over those contained in the 2010-11 submission.

Flood costs

While the January 2011 floods did not have a significant impact on Unitywater's infrastructure, the conditions did delay the return to normal operations and capital work programs by six to eight weeks, as a conservative estimate.

Unitywater submitted a $1.3 million insurance claim in relation to the floods which is currently being assessed.

Efficiency gains

In its submission, Unitywater noted that its 2011-12 budget forecasts include operational efficiencies and the Board remains committed to achieving further efficiencies across the organisation. The Board's expectations are being incorporated into performance agreements with executives and are reinforced through the process for assessment of business cases seeking expenditure approval.

In developing the 2011-12 budget, the Board applied a $10 million reduction to operating expenditures in 2011-12, which will be achieved through efficiency, deferral, cancellation, scope correction and reprioritisation. This has been achieved within the constraints of the current workforce framework, in place until June 2013. Unitywater stated that this figure exceeds the Authority's 2% deemed efficiency.

This operating expenditure reduction initiative also reduces operating expenditures in 2012-13 and 2013-14 by $2.4 million and $6.7 million, respectively.

Unitywater also noted that as a result of review into its capitalisation policy it expects that in future years $10 million of corporate costs previously included in its operational expenditure will be capitalised as it is attributable to the delivery of the capital works program.

New Initiatives

In addition to identifying efficiency gains in its 2011-12 submission, Unitywater also identified scope changes impacting Unitywater's expenditure estimates:

(a) council service level agreement costing $2.7 million over 2011-12 to 2013-14;

(b) price mitigation plan costing $1.0 million over 2011-12 to 2012-13;

(c) water efficiency and demand side management costing $5.3 million over 2012-13 to 2013-14; and

(d) Project Paramount focusing on system and business integration activities costing $6.2 million over 2011-12 to 2012-13.

Authority's Analysis

The Authority engaged SKM to review the prudency and efficiency of operating expenditure. The assessment was intended to take into account relevant service standards, revised demand forecasts and the potential for efficiency gains and economies of scale.

The Authority notes that, overall, Unitywater has forecast its total operating cost will increase from $208.50 million in 2010-11 to $235.87 million in 2011-12 and then to $279.66 million in 2013-14 – representing an average annual increase of 10.28%.

SKM found that variances between the 2010-11 and 2011-12 submissions were moderate – largely underpinned by lower forecast of water demand and greater overall understanding of assets and hence, their operations and maintenance requirements.

Adequacy of Operational Expenditure Data Provision

Prior to assessing the prudency and efficiency of proposed operational expenditure, SKM reviewed whether Unitywater provided comprehensive and accurate information in its submission.

SKM noted that as the review of sample projects focused on projects that are to be commissioned in 2011-12, many of the projects have been initiated by the participating councils prior to the formation of Unitywater. Unitywater has therefore had to rely on documentation produced by the participating councils at the time of project initiation. Consequently, the documentation is variable and does not represent current Unitywater procedures.

Further, SKM noted that Unitywater has supplied comprehensive supporting information and that Costs have been disaggregated as required by the information requirements.

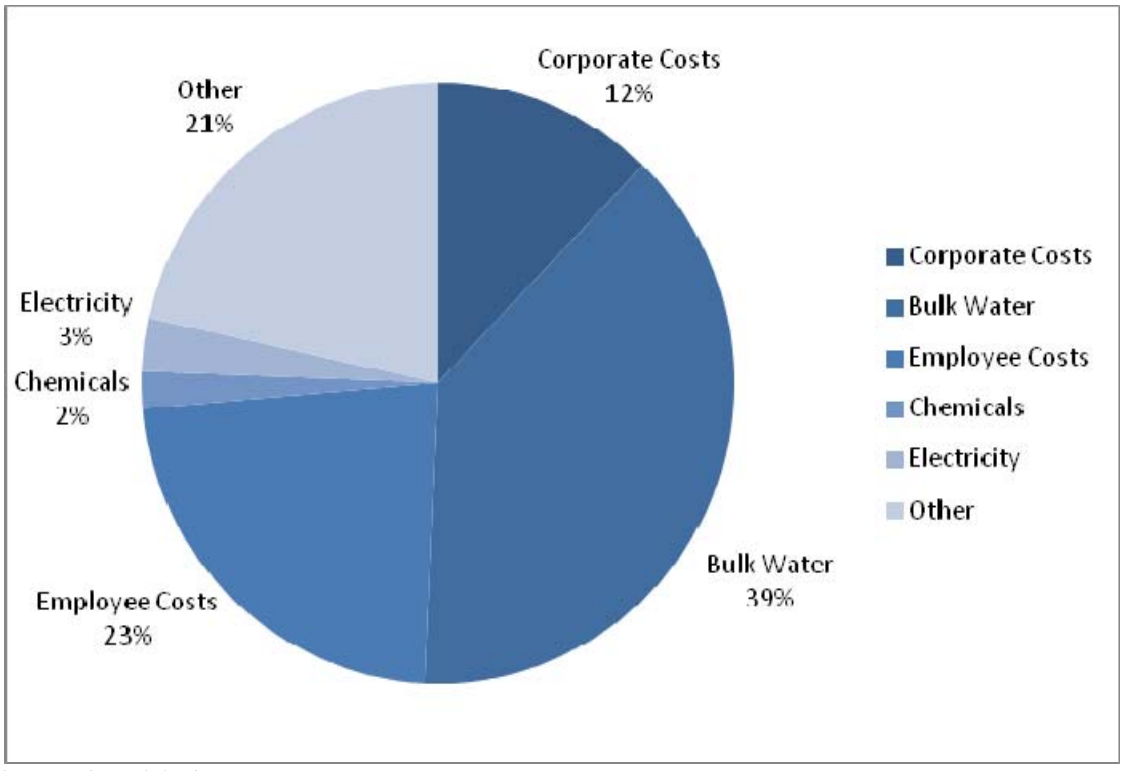
In particular, SKM noted that:

(a) costs have been disaggregated as required by the information requirements;

(b) details of third party transactions are included in the information return; and

(c) details of related party transactions are included in the information return.

Chart 3.6: Unitywater's Operating Costs 2011-12 to 2013-14



Source: SKM (2011)

Operational Budgeting

SKM reviewed the budgetary policies and procedures followed by Unitywater to ensure that they represented good industry practice.

Unitywater informed SKM that there had been significant refinement to the 2011-12 budget from previous years, largely due to an improvement in information availability and verification. Previously, Unitywater was wholly reliant on information provided by participating councils. For the 2011-12 budget, however, Unitywater was able to validate council information, and collect further information where gaps previously existed, leading to a more informed budget process.

SKM accepted Unitywater's reason as to the unsuitability of the 2010-11 expenditure as the base for future cost estimates due to the short operation of the business and weather conditions experienced in 2011.

From its review of the budget guidelines used by Unitywater, SKM noted that Unitywater promotes the use of zero based budgets where possible.

However, SKM noted that historical/extrapolated data has been used for the 2011-12 budgets for the following expenditure items:

(a) electricity costs;

(b) chemical costs;

(c) contractor costs;

(d) maintenance and services; and

(e) indirect taxes.

Further, SKM noted that Unitywater has identified a series of inconsistencies with the data supplied by participating councils. Along with the fact that councils were not subject to regulatory examination of operating expenditure, SKM was unable to conclude that the 2011-12 budget represents an efficient base year from which to forecast expenditure.

In light of the above, SKM supported Unitywater's proposal for the development of zero base budgets for operating expenditure and linkages between maintenance expenditure and asset management procedures prior to the end of the interim price monitoring period. Noting that Unitywater utilise a zero based budgeting process for capital projects which is consistent with good industry practice.

Prudency and Efficiency

SKM benchmarked Unitywater's 2011-12 aggregate operating costs for water and wastewater against the other SEQ entities and a range of other Australian utilities (see Table 3.77).

Table 3.77: Unitywater Operating Cost Benchmarks

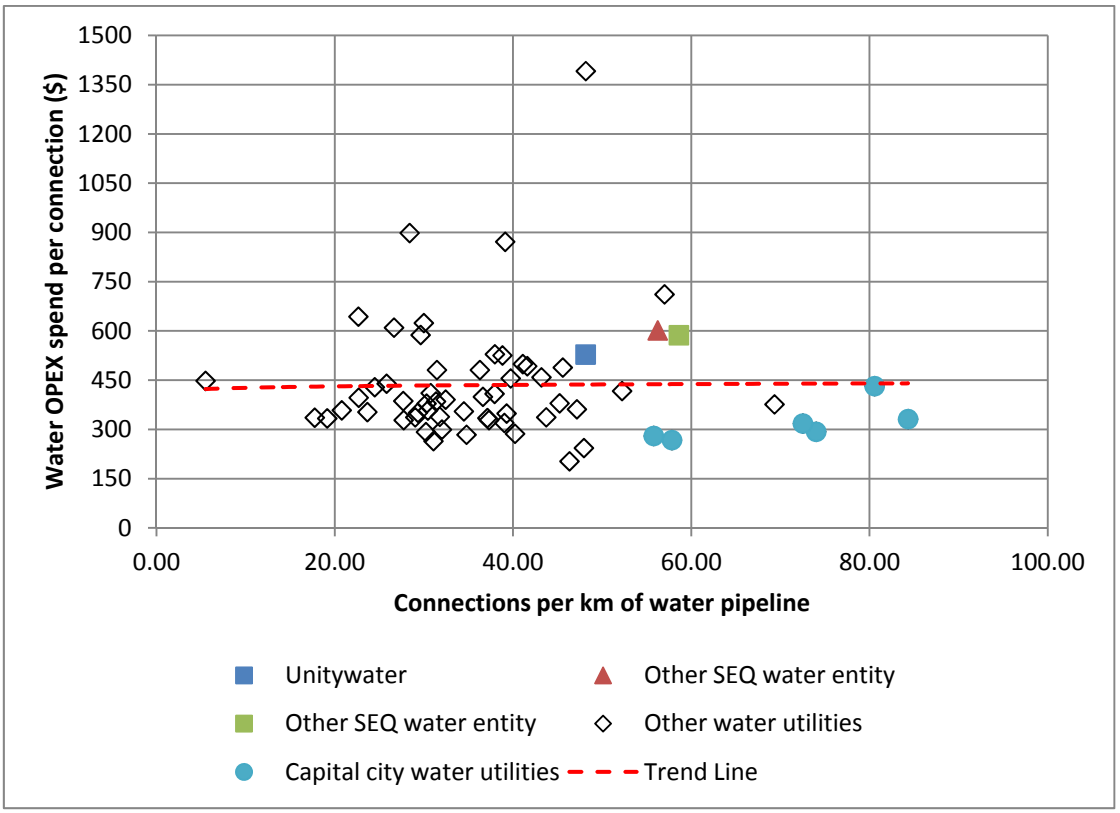
Metric Type	*Description*	*Unitywater ($)*	*Other SEQ average ($)*	*Sydney Water Corporation ($)*	*Yarra Valley Water ($)*
Customers	Total costs per connection	838	932	577	579
	Water costs per connection	528	595	332	318
	Wastewater costs per connection	310	337	245	261
Network	Total costs per km of pipeline	41,207	53,163	45,566	41,611
	Water costs per km of pipeline	25,439	34,131	27,983	23,084
	Wastewater costs per km of pipeline	15,768	19,032	17,583	18,527
Volume	Total costs per ML of drinking water	4,406	3,751	1,949	2,872
	Water costs per ML of drinking water	2,689	2,480	1,090	1,531
	Wastewater costs per ML of drinking water	1,717	1,271	859	1,341

Source: SKM (2011).

Based on these metrics, SKM found that Unitywater's operating expenditure for water to be higher than comparable water distributors/retailers in Australia but comparable with other entities in SEQ. For wastewater services, Unitywater's costs were lower than similar sized water distributors/retailers.

SKM noted that, in assessing the operating costs of water utilities around Australia, comparing expenditure per connection will tend to favour the larger utilities that have a large customer base or higher density of connections. Therefore, Unitywater's relative performance was also measured using both expenditure per connection and the number of connections per kilometre.

Figure 3.5: Water Operational Expenditure



Note: CPI has been applied to other utilities data to inflate the costs contained in the 2010-11. NWC Performance Report to 2011-12. Source: SKM (2011).

Using this approach, SKM found that Unitywater's operational expenditure for water in 2011-12 is higher than similar sized water utilities in other jurisdictions and that this is due in part to higher SEQ bulk water costs, but lower than other SEQ entities.

SKM noted bulk water charges are not controllable by Unitywater and are higher than interstate peers (see table below).

SKM considered there was insufficient information publically available for full benchmarking of water operating expenditure excluding bulk water costs to be undertaken, largely as a result of the different supply chains used interstate.

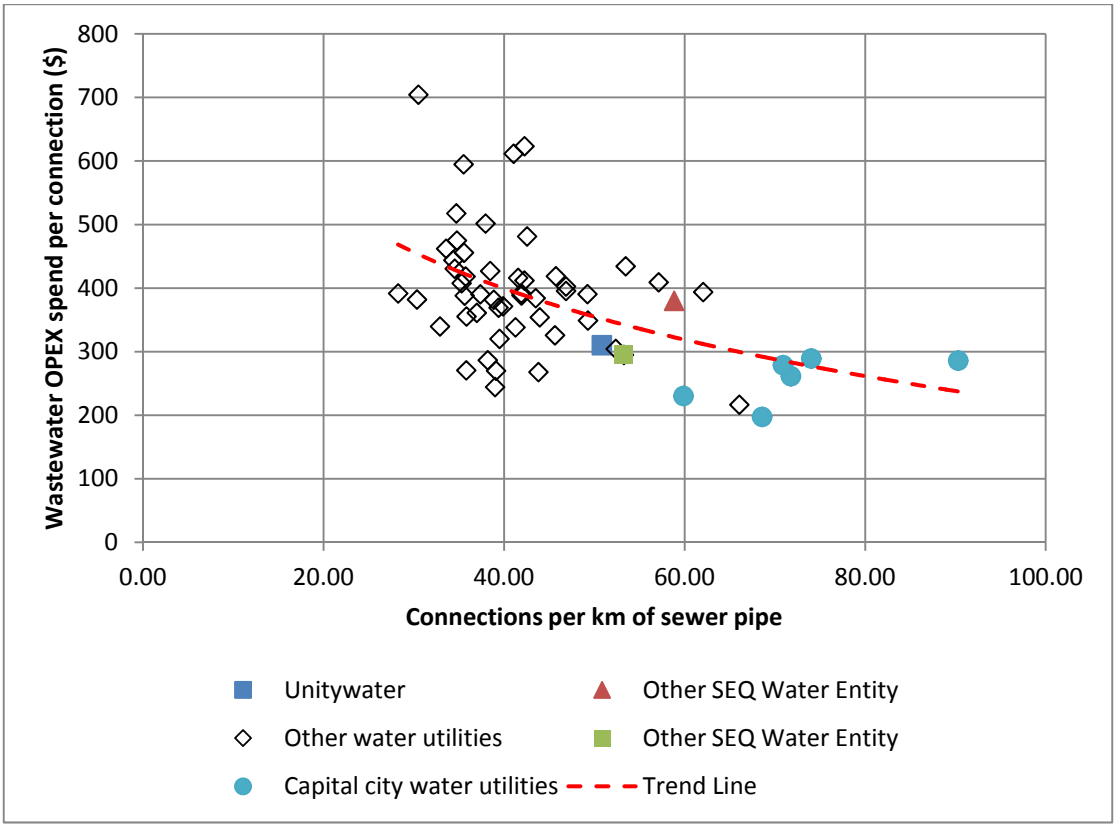
Table 3.79: Comparison of Bulk Water Costs

Water Utility/Area	*Bulk Water Cost ($/kl)*
Unitywater	-
Moreton Bay	1.92
Sunshine Coast	1.34
Sydney Water Corporation	0.75[a]
City West Water	1.37[b]
South East Water	1.36[b]
Yarra Valley Water	1.39[b]

Note: [a] Charge is for treated water but excludes desalinated water. [b] includes headworks and transfer costs per kl and fixed charges translated into a per kL basis using bulk water demand data for 2011-12 from the ESC. Source: Sydney Water (2012), Melbourne Water (2012) and ESC data on bulk water (2012).

Unitywater's wastewater costs are not influenced by bulk water charges and are wholly controllable. Again, SKM found Unitywater's wastewater costs to be generally lower than similar sized water service providers (see figure below).

Figure 3.6: Wastewater Operational Expenditure



Note: CPI has been applied to other utilities data to inflate the costs contained in the 2010-11. NWC Performance Report to 2011-12. Source: SKM (2011).

The Authority notes that this high-level analysis for 2011-12 shows Unitywater's operating costs for 2011-12 fall within a range of values bounded by other water utilities, and indicates the extent of operating efficiencies that could potentially be achieved. This is a similar general finding as in 2010-11.

Reasonableness of Sampled Costs

SKM selected a sample of operational expenditure for detailed review. The sample included the top 10% of operational expenditure by value in each activity and geographic area, over the forecast period. SKM reviewed employee costs, corporate costs, electricity, chemical and sludge handling costs. This sample captures 49.5% of the total non-bulk operational expenditure (see Table) over the forecast period.

In addition, the Authority has reviewed Unitywater's bulk water costs against forecast of demand and the bulk water price path as published by the QWC. The total sampled expenditure represents 80% of Unitywater's total operating expenditure.

Table 3.80: Unitywater Operating Costs ($m)

Cost Centre	*2011-12*	*2012-13*	*2013-14*
Bulk water	83.73	100.74	119.12
Corporate Costs	31.68	31.64	30.94
Employee costs	57.80	59.07	59.62
Electricity	6.86	7.49	8.17
Chemicals	4.86	5.13	5.43
Sludge handling	4.29	4.53	4.79
Total Sample	**189.22**	**208.6**	**228.07**
Total Expenditure	**235.87**	**261.39**	**279.66**

Source : Unitywater (2011), SKM (2011)

(a) Bulk Water Cost

The Authority examined Unitywater's tariffs and noted that the bulk water tariffs charged to customers are consistent with those charged by the SEQ WGM. The Authority found that Unitywater's operating budget demonstrates that prices charged by the SEQ WGM for bulk water storage, treatment and delivery are passed through to customers in full.

The review of Unitywater's demand forecasts for bulk water by SKM recommended adjustments to the volume of water sales forecast by Unitywater and made corresponding changes to bulk water purchases. The Authority has accepted SKM recommendations and has adjusted Unitywater's operating costs associated with the purchase of bulk water for 2011-12 (see Table 3.81).

Bulk water costs for water increased slightly in 2011-12 as a result of an estimated increase in demand in Moreton Bay and Sunshine Coast.

Table 3.81: 2011-12 Bulk Water Costs

Geographic Area	*Unitywater Submitted Bulk Water Cost ($m)*	*Unitywater Submitted Demand (ML)*	*Revised SKM Demand (ML)*	*Unit Price (/ML)*	*QCA Revised Bulk Water Cost ($m)*
Moreton Bay	47.41	24,665	26,725	$1,922	51.37
Sunshine Coast	36,32	27,106	29,362	$1,340	39.34
Unitywater	**83.73**	**51,771**	**56,087**		**90.71**

Source: SKM (2011), Unitywater (2011), Queensland Water Commission.

(b) Corporate Costs

In its information requirements for 2011-12, the Authority defined corporate cost as general corporate expenditure that cannot be readily allocated to other cost types.

Unitywater corporate costs allocated to the water and wastewater activities totalled $30.60 million in 2010-11 and increasing to $31.68 million in 2011-12, an increase of 3.56%. Unitywater provided a cost allocation model which identifies the reason for the difference as the removal of non-recurrent costs from corporate costs in the 2011-12 submission. SKM noted it is not clear where the non-recurrent costs have been included or whether these non-recurrent costs have been avoided.

Table 3.82: Unitywater's Corporate Costs 2010-11 and 2011-12

	Corporate Costs ($000's)		
Source	***2011-12***	***2012-13***	***2013-14***
2010-11 Information Template	46,350	47,000	-
2011-12 Information Template	30,870	31,974	31,933
Variance $	-15,480	-15,026	
Variance %	**-33.40%**	**-31.97%**	

Source: Unitywater (2011), Unitywater (2010).

Further, as discussed previously, Unitywater stated that a top down efficiency factor has been applied that identified $10,000,000 in cost reductions in 2011-12 and that the final approved Board budget incorporates those expenditure reductions. However, Unitywater did not expand on how much of the $10,000,000 cost reduction is applicable to corporate costs.

In reviewing the supporting information on corporate cost provided by Unitywater, SKM found that Unitywater's Cost Allocation Model spreadsheet provides corporate cost details, however, these were not provided in a format similar to the Authority's definition. In the absence of costs that are fully consistent with the Authority's definition, SKM conducted its review using Unitywater's corporate cost data (as in last year's review).

In its 2011-12 submission, Unitywater states that corporate costs are escalated at the RBA CPI target for 2012-13 of 3% and for 2013-14 the target is 3.07%. Escalating the 2011-12 budget by these percentages results in budgets of approximately $32.9 million in 2012-13 and $34.2

million in 2013-14. These budgets are higher than those detailed in the 2011-12 Information Template submitted to the Authority.

SKM noted that in its 2010-11 Submission, Unitywater states that:

> *Advice on corporate overheads was sourced from the Council on the Cost and Quality of Government (CCQG), now known as the Performance Improvement Branch, Department of the Premier and Cabinet, New South Wales government. For agencies of greater than 350 full time equivalent employees CCQC have benchmarked corporate overheads at between 10 and 12% of overall operating costs.*

SKM applied the CCQC benchmarks for a comparison of corporate costs as shown in the table below. The comparison shows that the submitted budget costs are slightly higher than the benchmark range for 2011-12 and 2012-13 and within the benchmark range for 2013-14.

Table 3.83: Comparison of Corporate Costs Using Different Calculation Methods

	2011-12 ($m)	***2012-13 ($m)***	***2013-14($m)***
2011-12 Information Template	31.97	31.93	31.22
CPI Adjusted	31.97	32.93	34.15
CCQC Benchmark	23.87 – 28.65 for total operating expenses of 238.73m	26.44 – 31.72 for total operating expenses of 264.37m	28.27 – 33.93 for total operating expenses of 282.73m

Source: SKM (2011).

In order to review the efficiency of Unitywater's corporate costs SKM benchmarked Unitywater's total 2011-12 corporate costs with those of the other SEQ retail/distribution entities, and a selection of urban water authorities in Victoria and New South Wales. SKM benchmarks included cost per total number of full time equivalents (FTEs), costs per water connections and cost against revenue (Table 3.84)

Table 3.84: Unitywater Corporate Cost Benchmarks

Water Authority	*$/FTE*	*$/customer connection*	*$/revenue*
Unitywater	**34.3**	**107.3**	**72.2**
Other SEQ retail/distribution entity	41.9	100.4	64.8
Other SEQ retail/distribution entity	37.5	80.9	37.9
Victorian water retail/distributor	106.9	78.5	75.1
Victorian water retail/distributor	87.3	61.0	76.6
Victorian water retail/distributor	63.1	34.1	42.1
NSW water retail/distributor	67.7	114.6	94.9
NSW water retail/distributor	65.6	132.0	135.6
Mean	63.0	88.6	74.9
25th percentile	40.8	74.1	59.1
75th percentile	72.6	109.1	81.2

Source: SKM (2011).

SKM found that results of the benchmarking show Unitywater's corporate cost per FTE are significantly lower than peer organisations nationally. While Unitywater's corporate costs per customer are above the national mean they are still within a reasonable range.

SKM concluded that operating expenditure for corporate costs is prudent and efficient.

(c) Employee Costs

Under the Ministerial Direction, the Authority must accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010 (SEQ Framework).

In the submission to the Authority, Unitywater has budgeted $57.80 million in 2011-12 and a total of 634 FTEs attributable to the provision of water and wastewater services.

Based on Unitywater's employee cost estimate of $57.80 million, this corresponds to an average cost of $91,167 per employee which includes an allowance for overtime. The base salary is 65-70% of total labour costs with superannuation, leave allowances and payroll tax in accounting for the remainder.

Unitywater has adopted a bottom up approach to the development of its employee costs with a base salary calculated for each employee, to which statutory on-costs are then applied and an allowance is made for overtime based on historical trends. SKM found that this approach provides a reasonable and robust method of calculating employee expenditure.

SKM noted that the labour market for the water industry in Australia has experienced an average growth in prices of slightly over 4% per annum over the last four years. This has influenced the negotiation processes surrounding new enterprise bargaining agreements with annual wage increases of between 3.9% and 4.25% through the SEQ water industry.

SKM found that Unitywater's labour expenses are escalated consistent with Unitywater's inherited Enterprise Bargaining Agreement from councils, which specifies an escalation of 4% per annum. However, SKM found that the budget forecast by Unitywater has set labour prices to increase at 1.5% per annum. This does not allow for wage increases of 4% as per the new enterprise bargaining agreement or for further wage increases for movement between award bands.

SKM benchmarked Unitywater's employee costs with the other two SEQ entities, QUU and Allconnex. SKM noted that Unitywater has a similar percentage breakdown of employee costs versus total operating expenses with it averaging approximately 23% of annual total operating expenditure.

SKM concluded that the employee costs proposed by Unitywater are prudent and efficient.

Unitywater has identified to SKM a number of initiatives aimed at achieving efficiencies in its employee expenditure including:

(a) extending current working hours so that the workforce starts and finish times are staggered, thereby more closely matching workforce availability with work volumes and minimising overtime costs;

(b) introducing afternoon shift work for field-based roles;

(c) on-site start/ finish work arrangements for field service crews; and

(d) employees' pay parity across Unitywater's workforce (i.e. same work/ same pay).

The Authority supports Unitywater's continued efforts to achieve efficiency gains in its labour expenditure.

(d) Electricity Costs

Unitywater uses electricity for water and wastewater pumping, wastewater treatment and corporate offices.

Unitywater has budgeted electricity costs of $6.86 million in 2011-12 increasing to $8.17 million in the 2013-14 financial year.

Table 3.85: Unitywater Electricity Costs ($m)

	2010-11	***2011-12***	***2012-13***	***2013-14***
Water	1.13	1.15	1.26	1.37
Wastewater	5.02	5.70	6.23	6.80
Total	**6.15**	**6.86**	**7.49**	**8.17**
Unitywater 2010-11 Submission	7.55	8.34	9.21	na

Source: Unitywater (2011), Unitywater (2010).

SKM found that Unitywater now purchases electricity for use at its sites via two entity-wide contracts – for large sites (consumption of more than 100 MWh per annum) and small contestable sites (consumption of less than 100 MWh per annum).

SKM found that Unitywater's two contracts were sourced via an open competitive tender process and replaced the various previous council supply contracts. SKM found that, during the tender process, Unitywater received offers from four retailers for the large and small contestable sites. SKM considered this to be evidence of the competitive nature of the electricity retail market and that suppliers are willing to pursue opportunities to sell electricity to industrial and utility companies. As a result, Unitywater was able to secure up to 36-month supply contracts for its small sites.

Comparing the tenders for the supply of electricity received by Unitywater, SKM found the spread of peak and off peak prices for the large contestable sites was within ± 2.5% of the average price for the 18-month period. This close grouping of prices demonstrates the limited opportunities of achieving significant future savings in the electricity supply market.

By amalgamating its site suppliers into two retailers, SKM found evidence that Unitywater has sought to benefit from economies of scale.

The Authority notes that compared with electricity costs Unitywater forecast in its 2010-11 Information Template, a savings of $1.5 million is identified for 2011-12.

The Authority also notes that Unitywater's estimated cost index of 6.54% is slightly lower than the Benchmark Retail Cost Index (BRCI) benchmark for 2011-12 (of 6.60%).

Unitywater also provided to SKM provided information relating to potential cost savings from energy efficiency improvements with respect to electricity consumption in addition to the savings achieved by the amalgamation of electricity suppliers.

SKM noted that Unitywater has also commenced a feasibility study into rationalising the number of pump stations located on Bribie Island. The deliverable for this study is due in early 2012, and will assess the benefits of reduced energy consumption against the resultant capital expenditure required.

SKM concluded that Unitywater's electricity expenditure is prudent and that purchasing electricity via long term supply contracts for the large and small contestable sites is efficient as the process has sought to secure electricity supply for the lowest cost to the end consumer. SKM therefore concluded that Unitywater's electricity costs are efficient.

The Authority has revised Unitywater's growth forecasts to align with the percentage change in bulk water volumes arising from SKM revised demand forecasts. Revised electricity costs are presented in the table below.

Table 3.86: Revised Unitywater Electricity Costs ($m)

	2011-12	***2012-13***	***2013-14***
Water	1.25	1.41	1.59
Wastewater	6.18	6.98	7.85
SKM Total	**7.43**	**8.39**	**9.44**
Unitywater Proposed Total	**6.86**	**7.49**	**8.17**
Variance	**0.57**	**0.90**	**1.27**

Source: SKM (2011), QCA (2011).

(e) Chemical costs

Chemicals are used to treat drinking water before delivery to customers, and for wastewater prior to discharge. The need for chemical use is dictated by drinking water standards and compliance with operational licenses for wastewater discharge.

Unitywater's expenditure on chemicals is forecast to increase from $4.86 million in 2011-12 to $5.43 million in 2013-14. These forecasts are lower than those submitted by Unitywater in its 2010-11 submission.

Table 3.87: Unitywater Forecast Chemical Costs ($m)

	2011-12	***2012-13***	***2013-14***
Water	0.80	0.84	0.89
Wastewater	4.06	4.29	4.54
2011/12 Submission Total	4.86	5.13	5.43
2010/11 Submission Total	5.44	5.70	

Source: Unitywater (2011), Unitywater (2010).

In developing its chemical costs estimated Unitywater noted that it took into account the following factors:

(a) expected demand for water reticulation and sewerage services;

(b) expenditure required to maintain the quality, reliability and security of supply of water and sewerage services to Moreton Bay and Sunshine Coast customers;

(c) expenditure to comply with sewage treatment plant wastewater discharge licence conditions issued by DERM; and

(d) contribution towards improving the health of Unitywater's waterways, estuaries, fisheries, and the Moreton Bay Marine Park in order to support positive environmental outcomes, regional industry and tourism.

In the 2011-12 submission Unitywater stated that the growth index for chemical costs is consistent with the dwelling growth rate calculated using PIFU data. The cost index is based on RBA CPI and represents the escalation of the cost of chemicals each year.

SKM examined the escalation factor as listed in the 2011-12 Submission and found them appropriate and reasonable. The cost and growth indices applied by Unitywater in developing its budgets for the 2012-13 and 2013-14 years were also considered by SKM cost indices to be appropriate.

Table 3.88: Unitywater Chemical Cost Escalation factors

	2012-13	*2013-14*
Chemical cost escalation	3.00%	3.07%
Population Growth	2.65%	2.66%
Total	5.65%	5.73%

Source: Unitywater (2011)

Unitywater advised SKM that two approaches to procurement of chemical supply have been adopted in Unitywater. The northern region (comprising former SCRC assets) approach is to seek long term supply contracts which are aimed at achieving lower rates. The southern region (comprising former MBRC assets) approach is to procure chemicals through a purchase order arrangement as chemicals are required.

SKM noted that efficiencies and economies of scale have been sought by Unitywater through the contracting of supply for chemicals via the tender process. However, evidence of this tender process was provided to SKM for only one chemical.

SKM expected that further competition in chemical prices may be achieved through Unitywater applying the same tendering process across the board for all other chemicals. Noting that, for example, QUU obtained more than one tender for chemicals used by Unitywater including sodium hypochlorite, calcium hypochlorite, sodium hydroxide, aqueous ammonia, sulphuric acid and aluminium sulphate.

SKM recommended that Unitywater maintain higher competitiveness in the chemical market through publically requesting tenders for the supply of chemicals.

In order to assess the proposed chemical costs SKM benchmarked Unitywater's 2011-12 chemical cost on a per connection and per ML basis against those of the other SEQ entities (Table 3.89).

Table 3.89: Benchmarking of chemical costs

Service	*Entity*	*Chemical Cost ($'000)*	*Volume or connections*	*Chemical Cost per Volume or Connection*
Total chemical cost per ML of drinking water	Unitywater Water	$4,859	46,000 ML	$105.63
	Other SEQ retail/distribution entity	$4,514	122,298 ML	$36.91
	Other SEQ retail/distribution entity	$4,550	88,870 ML	$51.20
Drinking water treatment chemical cost per ML of drinking water	Unitywater Water	$798	46,000 ML	$17.35
	Other SEQ retail/distribution entity	$162	122,298 ML	$1.32
	Other SEQ retail/distribution entity	$1,203	88,870 ML	$13.53
Wastewater and trade waste chemical cost per connection	Unitywater Water	$4,061	293,493	$13.84
	Other SEQ retail/distribution entity	$4,352	498,087[a]	$8.73
	Other SEQ retail/distribution entity	$3,346	372,494[b]	$8.98

Note: a and b include trade waste connections. Source: 2011/12 Unitywater Information Template, 2011/12 Allconnex Information Template, 2011-12 QUU Information Template.

SKM found that for both water and wastewater across all years that Unitywater's chemical costs are higher than its SEQ peer. However, SKM concluded that taking into consideration the lesser purchasing power of Unitywater, its chemical costs are comparable to other SEQ retail/distribution entities and that method used for the calculation of costs and application of growth and cost escalation indices are reasonable. Therefore, SKM considers the Unitywater chemical costs to be efficient.

The Authority notes that the growth factor applied by Unitywater to chemical cost is derived from the growth in connection, and has been revised as a result of SKM recommendations on demand. The adjusted chemical costs for Unitywater are contained in Table 3.90.

Table 3.90: Revised Chemical Costs ($m)

	2011-12	*2012-13*	*2013-14*
Water	0.86	0.95	1.03
Wastewater	4.40	4.81	5.24
SKM Chemical Costs	**5.26**	**5.76**	**6.27**
Unitywater Submitted Costs	**4.86**	**5.13**	**5.43**
Variance	**0.41**	**0.62**	**0.84**

Source: SKM (2011), QCA (2011).

(f) Sludge Handling

Sludge handling involves the disposal of bio-solids, grit and screenings from wastewater treatment plants. Unitywater has submitted sludge handling costs are outlined in Table 3.91.

Table 3.91: Unitywater Sludge Handling Costs ($m)

	2011-12	*2012-13*	*2013-13*
Unitywater Proposed Total	4.28	4.53	4.79
Cost Indexation Factor	na	3.00%	3.07%

Source: Unitywater (2011), SKM (2011).

Unitywater sources all its sludge handling services externally via contracts awarded following an open tender process.

Unitywater stated in discussions with SKM that four of the five regions combined their sludge handling services in order to benefit from economies of scale. Unitywater has now incorporated the fifth region into this grouping. The services are to be put out to tender in 2012 for all five regions as a group which will lead to increased benefits of scale.

SKM reviewed the contract for each geographic region and found that the high level rates contained in the contracts correspond with rates for similar services known to SKM and therefore demonstrate the efficiency of the project in terms of cost.

SKM found that the sludge handling costs are prudent as the cost drivers have been shown to be appropriate and as the sludge disposal rates have been obtained through an open tender for the services and can be considered to be reflective of current market conditions. SKM concluded that the expenditure for sludge handling is both prudent and efficient.

The growth factor applied by Unitywater to sludge handling is derived from the growth of bulk water demand, and has been revised as a result of SKM recommendations. The adjusted sludge handling costs for Unitywater are contained in Table 3.92.

Table 3.92: Revised Unitywater Sludge Handling Cost ($m)

	2010-11	*2011-12*	*2012-13*
Revised Total	4.64	5.07	5.53
Unitywater Proposed	4.28	4.53	4.79
Variance	0.36	0.55	0.74

Source: QCA calculations.

Efficiency Gains and New Initiatives

In its 2010-11 Final Report, the Authority noted economic regulators in other jurisdictions have applied annual efficiency gains to water retail businesses of up to 3.5%.

On the basis of its analysis and the experience in other jurisdictions, the Authority was of the view that operating efficiencies of at least 2% per annum in non-bulk operating costs would be achievable in 2010-11 (compounding annually). Therefore, the Authority set Unitywater efficiency targets of 4% in 2011-12 and 6% in 2012-13, consistent with those imposed by the Authority on other two SEQ entities.

The Authority has reviewed the costs proposed by Unitywater in its 2011-12 price monitoring submission against these high level general targets.

The Authority found that Unitywater's 2011-12 total non-bulk expenditure of $152.14 million was $1.14 million lower than that found to be reasonable by the Authority.

For 2012-13 and 2013-14, Unitywater's proposed total non-bulk expenditures are also lower than the Authority's revised figures (for demand) for those financial years (Table 3.93).

Table 3.93: Comparison of Unitywater Non-bulk Costs ($m)

	2010-11	*2011-12*	*2012-13*	*2013-14*
Unitywater 2010-11 Information Template	151.64	158.72	163.85	na
Revised 2010-11 Price Monitoring	149.40	153.28	154.71	na
Unitywater 2011-12 Information Template	139.12	152.14	160.65	160.53
Revised 2011-12 Price Monitoring	139.12	153.48	162.72	163.38

Source: Unitywater (2011), Unitywater (2010), QCA (2011).

Summary

The Authority has adjusted Unitywater's estimates of operating costs by a small amount for changes to demand that affect estimates of bulk water, electricity, chemicals and sludge handling.

As Unitywater's forecast non-bulk expenditures for 2011-12 to 2013-14 are below the target set by the Authority, the Authority has therefore not sought to apply further generic efficiency targets.

The Authority's operating expenditure for Unitywater over the price monitoring period for water and wastewater over are outlined in Table 3.94, Table 3.95 and Table 3.96.

Table 3.94: Revised Operating Costs - Water 2010-14 ($m)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Bulk water costs	75.32	69.39	90.71	111.76	134.64
Employee expenses	16.57	19.60	23.19	23.66	23.82
Contractor expenses	6.29	5.90	7.05	8.40	8.74
GSL Payments	na	0.00	0.00	0.00	0.00
Electricity charges	na	1.13	1.25	1.41	1.59
Sludge handling costs	na	0.00	0.00	0.00	0.00
Chemicals costs	na	1.06	0.86	0.95	1.03
Other materials and services (not relating to capital expenditure)	12.20^	7.74	6.93	6.93	6.69
Licence or regulatory fees	0.42	0.04	0.13	0.13	0.14
Corporate Costs	22.98	15.04	15.58	15.56	15.21
Non recurrent costs	na	2.69	4.13	3.36	2.43
Indirect taxes	0.39	0.00	0.00	0.00	0.00
SKM Total Operating Costs	134.17	122.58	149.83	172.16	194.29
Further Efficiency gains	-1.17	-	-	-	-
Total Operating Costs	**133.00**	**122.58**	**149.83**	**172.16**	**194.29**
Unitywater Proposed Total	**133.81**	**122.58**	**142.69**	**160.89**	**178.42**
Variance	-0.81	0	7.14	11.27	15.87

Note: Shaded data reflects the reasonable costs for 2010-11 in its 2010-11 price monitoring submission. na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template. ^Included customer service and billing, other costs as well as electricity and chemicals which were not separated in 2010-11 information requirements. Source: Unitywater (2011), Unitywater (2010).

Table 3.95: Revised Operating Costs - Wastewater 2010-14 ($m)

	2010-11	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Bulk water costs	0.00	0.00	0.00	0.00	0.00
Employee expenses	26.09	29.58	34.61	35.41	35.79
Contractor expenses	18.20	15.09	11.61	18.13	18.93
GSL Payments	na	0.00	0.00	0.00	0.00
Electricity charges	na	5.02	6.18	6.98	7.85
Sludge handling costs	na	3.74	4.64	5.07	5.53
Chemicals costs	na	3.05	4.40	4.81	5.24
Other materials and services (not relating to capital expenditure)	22.87^	10.14	11.38	11.48	11.25
Licence or regulatory fees	0.88	0.47	0.28	0.29	0.30
Corporate Costs	25.14	15.55	16.11	16.09	15.73
Non recurrent costs	Na	3.28	5.14	4.06	3.11
Indirect taxes	0.40	0.00	0.00	0.00	0.00
SKM Total Operating Costs	**93.58**	**85.92**	**94.35**	**102.32**	**103.73**
Further Efficiency gains	-1.85	-	-	-	-
Total Operating Costs	**91.73**	**85.92**	**94.35**	**102.32**	**103.73**
Unitywater Proposed Total	**93.17**	**85.92**	**93.18**	**100.50**	**101.24**
Variance	-1.44	0.00	1.17	1.82	2.50

Note: Shaded data reflects the reasonable costs for 2010-11 in its 2010-11 price monitoring submission. na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template. ^Included customer service and billing, other costs as well as electricity and chemicals which were not separated in 2010-11 information requirements. Source: Unitywater (2011), Unitywater (2010).

Table 3.96: Comparison of Unitywater and Authority's Operating Costs ($m)

	2010-11	*2010-11*	*2011-12*	*2012-2013*	*2013-14*	*Total*
Unitywater forecast	226.98	208.51	235.87	261.39	279.66	985.42
QCA forecast	224.73	208.51	244.19	274.48	298.02	1,025.19
Difference	**(2.25)**	**0**	**8.32**	**13.09**	**18.36**	**39.77**

Source: Unitywater (2011) and QCA calculations.

Unitywater's forecast operational expenses for 2011-12 are generally prudent and efficient and are lower than the Authority's targets in the 2010-11 Interim Price Monitoring. The Authority has adjusted for revised demand forecasts that are slightly higher than Unitywater's proposed demand forecasts, but notes these will be subject to ongoing review.

3.11 Total Costs

The Ministerial Direction requires the Authority to monitor the entities' revenues with regard to the Authority's assessed MAR, which is based on the total costs of carrying on the activity.

Total costs identified earlier have not been adjusted for any revenue offsets required to calculate the MAR and include:

(a) operating and maintenance costs, including tax;

(b) return on capital; and

(c) return of capital, allowing for depreciation of assets over time.

Unitywater Submission

Unitywater identified its estimate of total prudent and efficient costs for water and wastewater for 2011-12 and 2012-13 on a single year or 'unsmoothed' basis.

Unitywater noted that the existing regulatory framework does not recognise income tax payable by Unitywater on receipted cash contributions from infrastructure. To address this omission, Unitywater proposed to calculate tax costs associated with cash contributions received (for local government Tax Equivalent Regime (TER) purposes gifted assets are excluded from taxable income) and reduce the MAR by the value of gifted assets and cash contributions receipted into Unitywater net of the unfunded tax on receipt of those contributions.

Table 3.97: Unitywater Total Costs ($m)

	Unitywater Water Costs 2010-11	*%*	*Unitywater Wastewater Costs 2010-11*	*%*	*Unitywater Water Costs 2011-12*	*%*	*Unitywater Wastewater Costs 2011-12*	*%*
Bulk Water Costs[a]	75.33	29.05%		0%	83.73	29.71%		
Distribution and Retail Costs								
Other operating costs[b]	58.48	22.55%	93.17	31.67%	58.96	20.92%	93.18	30.05%
plus Tax[b]	3.50	1.35%	5.96	2.03%	0.05	0.02%	0.04	0.01%
plus Return on Capital[b]	99.66	38.44%	155.23	52.77%	102.50	36.37%	158.05	50.96%
plus Return of Capital[b]	22.32	8.61%	39.82	13.54%	36.58	12.98%	58.85	18.98%
Total Costs	**259.29**	**100%**	**294.18**	**100%**	**281.82**	**100%**	**310.12**	**100%**

Notes: [a] Data sourced from Unitywater's information template. [b] Data sourced from Unitywater's supporting information. Source: Unitywater (2011), Unitywater (2010).

Authority's Analysis

On the basis of the Authority's analysis of the RAB, asset lives, cost of capital and operating and maintenance costs, the Authority calculated the total costs of carrying on Unitywater's water and wastewater activities for 2011-12.

In doing so, and as for 2010-11, the Authority calculated single year or 'unsmoothed' estimates, to allow for comparison with Unitywater's revenues and costs, which were set on this basis.

For wastewater, the Authority's estimate of total costs was below Unitywater's estimate while for water the reverse is true. However, the total difference is very small ($1.12 million).

Key differences between Unitywater's submitted costs for 2011-12 and the Authority's arose from:

(a) bulk water costs – the Authority had lower bulk water cost estimates due to the Authority's application of the SEQ WGM prices which were lower than unit price in Unitywater's submission;

(b) other operating costs – the Authority has slightly higher estimates of other distribution and retail costs due to adjustments to electricity, labour and materials and services;

(c) tax – the Authority's estimates are higher than Unitywater's estimates. In relation to Unitywater's proposal in relation to tax payable on cash contributions, the Authority notes that its approach to date is based on the Local Government TER that cash contributions allocated to assets are not assessable income. The Authority notes that its regulatory model allows for unallocated cash contributions to be assessable as this is consistent with the LGTER;

(d) the return on capital – the Authority's estimate is marginally lower than Unitywater's. Although the same WACC of 9.35% was adopted by the Authority and Unitywater, the Authority applied it to a lower asset base (as noted in section 3.8); and

(e) the return of capital – the Authority has only marginally lower estimates, due to differences in the calculation of depreciation (as noted in section 3.8) and indexation of the underlying assets.

Table 3.98: Comparison of Unitywater and QCA Costs for 2011-12 ($m)

	Water Unitywater Costs	*Water QCA Costs*	*QCA % of total*	*Wastewater Unitywater Costs*	*Wastewater QCA Costs*	*QCA % of total*
Bulk Water Costs	83.73	90.71	31.00%			
Distribution and Retail Costs						
Other operating costs	58.96	59.12	20.10%	93.18	94.35	31.29%
+ Tax	0.05	1.93	0.66%	0.04	2.22	0.74%
+ Return on Capital	102.50	103.61	35.41%	158.05	156.05	51.75%
+ Return of Capital	36.58	37.22	12.72%	58.85	48.96	16.24
Total Costs	**281.82**	**292.60**	**100%**	**310.12**	**301.57**	**100%**

Source: Unitywater (2011) and QCA calculations.

3.12 Revenues for 2011-12

For price monitoring purposes, Unitywater's revenues as forecast at the time of price setting form the relevant forecast revenues. These revenue forecasts for 2011-12 are consistent with 2011-12 prices.

Unitywater's submission

Unitywater's revenue forecasts for water and wastewater (as at the time of price setting) are shown in the table below.

Table 3.99: Unitywater's 2011-12 Revenue Forecasts for water and wastewater ($m)

	Unitywater Revenues
Water	195.72
Wastewater	203.44
Total revenue	**399.16**

Source: Unitywater (2011) Template 5.2.2.

3.13 Comparing Revenues with MARs

Under the Ministerial Direction, the Authority must compare the entities' revenues with the MAR calculated by the Authority.

The MAR is based on the Authority's estimate of total costs of carrying on a water and wastewater activity. The MAR is calculated using the Authority's estimate of total costs less relevant deductions to ensure no double counting of inflationary gain and capital contributions. Under the Direction, the entities have the choice of adopting a revenue offset or asset offset approach to capital contributions.

Unitywater's Submission

Unitywater estimate of the total costs of carrying on its water and wastewater activities in 2011-12 is shown in the table below. Unitywater has continued to apply a revenue offset approach to the treatment of capital contributions.

In its submission, Unitywater noted that its estimated actual result for 2010-11 indicated under-recovery against costs for both water and wastewater although actual results for the year ended 30 June 2011 are not yet available.

Unitywater stated that it is committed to carrying forward under (over) recoveries between price and MAR on a NPV neutral basis over a timeframe yet to be determined. To this end, Unitywater has proposed a price mitigation scheme to provide some certainties, particularly since under- (over-) recoveries are expected. This price mitigation scheme will capture and annually index the under- (over-) recoveries until such time as Unitywater's prices achieve MAR.

The clearing of the under- (over-) recovery balance would occur through establishing a medium term price path that meets this objective. After the balance is cleared, prices will be set to achieve the MAR. Unitywater commissioned Synergies Economic Consulting to report on the appropriateness, form and operation of such a scheme.

Unitywater confirmed that 2011-12 prices were only CPI-adjusted and submitted the price mitigation scheme for the Authority's formal consideration.

A comparison of Unitywater's total costs and revenues is also provided, indicating that Unitywater forecasts to under-recover in both water and wastewater activities in 2011-12, with total under-recovery of $43.62 million or 9.85% (Table 3.100).

Table 3.100: Unitywater's 2011-12 Total Costs and Total Revenues ($m)

	Water Unitywater 2011-12	*Wastewater Unitywater 2011-12*	*Total*
Total Costs (Unitywater)	281.82	310.12	591.94
less Indexation (Unitywater)	(33.69)	(51.95)	(85.64)
less Capital contributions (Unitywater)	(23.84)	(39.68)	(63.52)
Total Costs (Unitywater)	**224.29**	**218.49**	**442.78**
Total Revenues (Unitywater)	195.72	203.44	398.40
Total Revenues less Costs (Unitywater)	**(28.57)**	**(15.05)**	**(43.62)**
Per cent of Total Costs (Unitywater)	**(12.74%)**	**(6.89%)**	**(9.85%)**

Source: Unitywater (2011).

Authority's Analysis

A comparison of Unitywater's forecast revenues with the MAR based on the Authority's estimate of the total costs of carrying on Unitywater's water and wastewater activities is provided below. In this Draft Report, the Authority has not carried over any under- or over-recovery from 2010-11, consistent with Unitywater's current approach.

In relation to Unitywater's proposed under- (over-) recovery, in principle, the Authority supports a NPV neutral glide path, wherever possible. However, a NPV neutral glide path is not always possible, particularly in the context of significant price rises, without prices in the final year being substantially in excess of their efficient level, requiring transitioning (down) in the next period, as noted in the Authority's SEQ Price Monitoring Framework Final Report. Further, 'unders and overs' schemes in regulatory pricing are based on actual data, and at the time of pricing only estimated actual data for 2010-11 was available.

The Authority notes it is not in a position to provide upfront guidance on any particular glide path without first thoroughly examining the detailed data, modelling and assumptions underpinning it. The appropriateness of a glide path typically hinges on the level of over-recovery sought in the later years of the scheme, and the Authority does not have this longer term information.

Table 3.101: Comparison of Revenues and the QCA MAR ($m)

	Water Unitywater 2011-12	*Wastewater Unitywater 2011-12*	*Total*
Total Costs (QCA)	292.60	301.57	594.17
less Indexation (QCA)	(27.47)	(41.38)	(68.85)
less Capital contributions (QCA)	(26.29)	(43.75)	(70.04)
Total Costs (QCA MAR)	**238.84**	**216.44**	**455.28**
Total Revenues (Unitywater)	195.72	203.44	398.40
Total Revenues less Costs (QCA)	**(43.12)**	**(13.00)**	**(56.12)**
Per cent of Total Costs (QCA)	**(18.05%)**	**(6.01%)**	**(12.33%)**

Source: Unitywater (2011), QCA calculations.

The Authority's analysis indicates that Unitywater's estimate of revenues falls below the Authority's MAR of $455.28 million by $56.12 million (or 12.33%). Water revenues fall below the MAR of $238.84 million by $43.12 million or 18.1% while wastewater revenues fall below the MAR of $216.44 million by $13.00 million or 6%.

The Authority has also estimated the amount of revenue that the Authority expects Unitywater would receive in 2011-12 based on Unitywater's prices and the Authority's estimated demand. This estimate ensures that revenues and expenditures are based on consistent demand figures.

The Authority's estimate of the water revenues that Unitywater will receive is slightly higher than Unitywater's, as the Authority's water demand estimates are higher due to expected rebound in water demand which outweighs the effect of the Authority's lower population estimates. The Authority's estimate of the wastewater revenues that Unitywater will receive is slightly lower than Unitywater's, due to the Authority's lower residential connections.

The Authority further notes that its estimate of Unitywater's revenues for water ($202.72 million) and wastewater ($202.77) also fall below the Authority's MAR.

Table 3.102: Further Comparison of Revenues and the QCA MAR ($m)

	Water 2011-12	***Wastewater 2011-12***	***Total***
Total Costs (QCA MAR)	**238.84**	**216.44**	**455.28**
Total QCA Expected Revenues	**202.72**	**202.77**	**405.50**
Difference	**(36.12)**	**(13.67)**	**(49.78)**
% of Total Costs (QCA)	(15.12)	6.32%	(10.93)

Source: QCA calculations.

3.14 Costs, Revenues and Prices

The reconciliation of costs, revenues and average prices is outlined in the table below.

Table 3.103: Costs, Revenues and Prices

	QCA Water 2010-11	*QCA Wastewater 2010-11*	*Unitywater Water 2011-12*	*Unitywater Wastewater 2011-12*	*QCA Water 2011-12*	*QCA Wastewater 2011-12*
Bulk Water Costs ($m)	75.32		83.73		90.71	
Distribution and Retail Costs ($m)						
Other operating costs	57.68	91.73	58.96	93.18	59.12	94.35
plus Tax	3.63	6.05	0.05	0.04	1.93	2.22
plus Return on Capital	94.47	144.52	102.50	158.05	103.61	156.05
plus Return of Capital	22.05	38.15	36.58	58.85	37.22	48.96
Total Costs ($m)	253.15	280.44	281.82	310.12	292.60	301.57
less Indexation	(25.76)	(39.18)	(33.69)	(51.95)	(27.47)	(41.38)
less Capital contributions	(33.01)	(42.76)	(23.84)	(39.68)	(26.29)	(43.75)
Total Costs (MAR)	**194.37**	**198.50**	**224.29**	**218.49**	**238.84**	**216.44**
Total Revenues (Unitywater)	**180.50**	**191.78**	**195.72**	**203.44**	**195.72**	**203.44**
Over- (Under-) recovery	**(13.87)**	**(6.72)**	**(28.57)**	**(15.05)**	**(43.12)**	**(13.00)**

Note: Shaded data reflects revenue and reasonable costs for 2010-11 in the 2010-11 interim price monitoring. Source: QCA calculations and Unitywater subsequent information.

Table 3.104: Average Prices

	Unitywater Water 2010-11	***Unitywater Wastewater 2010-11***	***Unitywater Water 2011-12***	***Unitywater Wastewater 2011-12***	***QCA Water 2011-12***	***QCA Wastewater 2011-12***
Total Revenues-MAR ($m)	$180,50	$191.78	$195.72	$203.44	$238.84	$216.44
Volume (ML or connections)[d]	48,722	295,098	46,000	293,492	49,836	292,109
Price ($-kL or $-connection)	$3.70-kL	$649.89	$4.25-kL	$693.15	$4.79-kL	$740.96

Note: Shaded data reflects revenue and reasonable costs for 2010-11 in the 2010-11 interim price monitoring. Source: QCA calculations and Unitywater (2011), Unitywater (2010).

3.15 Findings

For Unitywater:

(a) the retail and distribution component of water and wastewater prices for households and small business increased by less than the CPI cap of 3.6% imposed by the Queensland Government;

(b) revenues for non-capped trade waste and other core water services fell by 8.22%, compared with the decrease in the costs of the relevant activity (4.4%);

(c) bulk water costs account for 29.7% of Unitywater's proposed total water costs in 2011-12. Retail and distribution costs account for 20.9%, return on capital for 36.4% and return of capital 13.0%;

(d) for wastewater, retail and distribution operating costs account for 31.4%, return on capital accounts for 51.7%, tax for 0.7% and return of capital 16.2%; and

(e) the most significant increases in Unitywater's proposed costs in 2011-12 relate to a 53.6% increase in return of capital and 11.2% increase in bulk water costs.

The Authority's estimate of the costs of supply is higher than Unitywater's arising from its marginally higher estimate of non-bulk operating costs. In this regard:

(a) Unitywater's estimate of revenues is below the Authority's MAR of $238.84 million by $43.12 million or 18.05%;

(b) Unitywater's estimate of wastewater revenues is below the Authority's MAR of $216.44 million by $13 million or 6%; and

(c) as a whole, Unitywater's revenues are below the Authority's MAR of $455.28 million by $56.12 million (or 12.33%).

The Authority has also estimated the amount of revenue that Unitywater will receive in 2011-12 based on Unitywater's prices and the Authority's estimated demand. The Authority's estimate of total expected Unitywater revenues ($405.50 million) is below the Authority's estimated MAR of $455.28 million.

APPENDIX A: MINISTERIAL DIRECTION

QUEENSLAND COMPETITION AUTHORITY ACT 1997
Section 23A
AMENDED MINISTERS' DIRECTION NOTICE

Direction

As responsible Ministers, pursuant to section 23A of the *Queensland Competition Authority Act 1997* (the QCA Act), we refer the monopoly distribution and retail water and wastewater activities (the activities) of the following Distributor-Retailer Authorities (the entities):

- Southern SEQ Distributor-Retailer Authority (Allconnex Water);
- Central SEQ Distributor-Retailer Authority (Queensland Urban Utilities); and
- Northern SEQ Distributor-Retailer (Unitywater);

to the Queensland Competition Authority (the QCA) for a price monitoring investigation covering the period from 1 July 2011 to 30 June 2013.

Conduct of the QCA pursuant to this Direction

In referring this investigation, we direct the QCA under section 24 of the Act as follows. For each entity, the QCA shall:

(a) provide timely and transparent information to customers about the costs and other factors underlying the provision of water and wastewater services, including distinguishing the bulk and distribution/retail costs to the extent that it is possible given the availability and reliability of relevant information;

(b) monitor the change in prices of distribution and retail water and wastewater services for households and small business customers having regard to the CPI price limit as described in the *South East Queensland Water (Distribution and Reform) Act 2009*;

(c) monitor the change in prices for water and wastewater services not included in the CPI price limit as described in the *South East Queensland Water (Distribution and Reform) Act 2009* having regard to the change in revenue from these services compared to the change in the total prudent and efficient cost of carrying on the relevant activity;

(d) provide guidance to entities on the application of the information requirements referred to in (j) below;

(e) recognise the Government's policy that the prices charged by the SEQ Water Grid Manager for bulk water storage, treatment and delivery are to be passed through to customers in full;

(f) consider the availability of information from the entity, their emerging capability to provide information and the transitional work required to integrate and establish the entities;

(g) accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010;

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(h) monitor the maximum allowable revenue based on the total prudent and efficient costs of carrying on the activity including each of the following:

(i) the operational costs incurred in carrying on the activity;

(ii) depreciation; and

(iii) return on capital employed.

(i) adopt a weighted average cost of capital (WACC) of 9.35% for 2011/12 and for 2012/13 unless otherwise advised by the Authority by 1 March 2012;

(j) roll forward the regulated asset base (RAB) using the following principles:

(i) council distribution/retail asset valuations, establishing the initial regulated asset base as at 1 July 2008, are as advised by the Minister for Natural Resources, Mines and Energy and Minister for Trade;

(ii) the opening RAB for each subsequent year to be rolled forward annually in accordance with the following formula:

$RAB_t = (RAB_{t-1} + \text{Capital Expenditure}_t - \text{Regulatory Depreciation}_t - \text{Disposal}_t + \text{Indexation}_t)$
where t = the year under consideration;

(iii) to assess Capital Expenditure in (ii) above, the QCA is to assess capital expenditure (including information technology systems) for prudency and efficiency. The QCA must accept as prudent and efficient, and include in the RAB:

- actual capital expenditure, excluding establishment costs, for water and waste water as included in Council financial accounts for the period 1 July 2008 to 30 June 2010;
- allowable establishment costs as advised by the Minister for Natural Resources, Mines and Energy and Minister for Trade; and
- contributed, donated and gifted assets and capital expenditure funded through cash contributions and subsidies (capital contributions), for water and waste water for the period 1 July 2008 to 30 June 2010.

(iv) the QCA is to accept that, in setting prices from 1 July 2008, the councils applied a revenue offset approach to account for capital contributions received. This approach is to remain in effect until such time that the entity nominates, through their price monitoring information returns, to adopt the asset offset method. Where a change in methodology is adopted, the RAB is not to be adjusted retrospectively;

(v) to assess Regulatory Depreciation in (ii) above, the QCA must take into account for the period 1 July 2008 to 30 June 2010 the apportionment of Council distribution/retail valuations in (i) above to individual assets and evidence that

regulatory depreciation on the physical assets has been calculated using existing useful lives attaching to the individual assets;

(vi) to assess the Indexation in (ii) above, the QCA must for the annual periods between 1 July 2008 and 30 June 2010 use the annual June to June Australian Bureau of Statistics Consumer Price Index (all groups, Brisbane);

(k) monitor according to the QCA Final Report on the SEQ Interim Price Monitoring Framework (April 2010) and Information Requirements for 2011-12, except as amended by this referral, and excluding the process for triggering consideration of price setting regulation.

Consultation

The QCA must undertake an open consultation process with all relevant parties and consider submissions within the timetable for the review and reports. Consistent with section 34 of the QCA Act, all reports and submissions must be published on the QCA website.

Timing

The entities must provide their price monitoring information returns to the QCA by 31 August of each year.

The QCA must provide to responsible Ministers and the Minister for Energy and Water Utilities a draft report by 31 January for each year; and a final report by 31 March for each year.

[redacted]

ANDREW FRASER
Treasurer
Minister for State Development

[redacted]

RACHEL NOLAN
Minister for Finance
Minister for The Arts

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APPENDIX B: QUU CAPPED PRICES

Table B.1: Brisbane

Residential Properties - Brisbane

Water and Sewerage Charges
Effective 1st July 2011

Description	Volume Charge Tier	2010/11	2011/12	Unit	% increase
Water Services					
Annual water access charge		$162.96	$167.16	pa.	2.58%
Annual water access charge - Vacant land		$162.96	$167.16	pa.	2.58%
Tier 1 Consumption	<=255kL	$0.650000	$0.666900	/kL	2.60%
Tier 2 Consumption	256-310kL	$0.690000	$0.707940	/kL	2.60%
Tier 3 Consumption	>310kL	$1.230000	$1.261980	/kL	2.60%
State Government Bulk Water Charge	per kL	$1.520000	$1.787000	/kL	17.57%
Sewerage					
Annual sewerage access charge		$461.16	$475.92	pa.	3.20%
Annual sewerage access charge - Reduced Access		$171.60	$177.12	pa.	3.22%

Non-residential Properties - Brisbane

Water and Sewerage Charges
Effective 1st July 2011

Description	Volume Charge Tier	2010/11	2010/11	Unit	% increase
Water Services					
Annual water access charge		$162.96	$167.16	pa.	2.58%
Annual water access charge - Vacant land		$162.96	$167.16	pa.	2.58%
Tier 1 Consumption	<=200kL	$0.770000	$0.790020	/kL	2.60%
Tier 2 Consumption	201-300kL	$0.880000	$0.902880	/kL	2.60%
Tier 3 Consumption	>300kL	$1.290000	$1.323540	/kL	2.60%
State Government Bulk Water Charge	per klL	$1.520000	$1.787000	/kL	17.57%
Sewerage					
Sewerage Access Charge		$461.16	$475.92	pa.	3.20%
Sewerage Access Charge - Reduced access		$171.60	$177.12	pa.	3.22%
Pedestal Charges					
General (Other)	2 - 8 pedestals (each)	$490.08	$505.80	pa.	3.21%
	9 -12 pedestals (each)	$613.68	$633.36	pa.	3.21%
	over 12 pedestals (each)	$754.80	$778.92	pa.	3.20%
Multi-residential properties (non-community title scheme)	2 - 8 pedestals (each)	$405.96	$418.92	pa.	3.19%
	9 -12 pedestals (each)	$509.16	$525.48	pa.	3.21%
	over 12 pedestals (each)	$627.24	$647.28	pa.	3.19%
Retirement village, Child care centre, Convalescent Homes, Hospitals, Schools, Kindergartens, Community Protection Centres, Churches, Welfare Homes (excluding land used	2 - 8 pedestals (each)	$191.40	$197.52	pa.	3.20%
	9 -12 pedestals (each)	$238.92	$246.60	pa.	3.21%
	over 12 pedestals (each)	$294.60	$304.08	pa.	3.22%
Major Sporting Stadiums owned by the Major Sports Facilities Authority	Pedestal/s (each)	$490.08	$505.80	pa.	3.21%
Metered Standpipes					
Annual permit to use a standpipe (per customer)		$384.36	$384.00	pa.	-0.09%
Tier 1 Consumption	<=200kL	$0.770000	$0.790020	/kL	2.60%
Tier 2 Consumption	201-300kL	$0.880000	$0.902880	/kL	2.60%
Tier 3 Consumption	>300kL	$1.290000	$1.323540	/kL	2.60%
State Government Bulk Water Charge	per kL	$1.520000	$1.787000	/kL	17.57%

Table B.2: Ipswich – Residential Premises

Residential Premises - Ipswich

Water and Sewerage Charges
Effective 1st July 2011

Description	General Rating Category	Volume Charge Tier	2010/11	2011/12	Unit	% increase
Water Services						
Annual water access charge	[1] 1, 2, 4, 8, 9, 10, 11, 15 (Excluding [2]: 01, 02, 03, 09), and 16		$324.48	$280.00	pa.	-13.71%
Annual water access charge - connected but not metered	[1] 2, 5 and 60-89		$1,168.68	$1,008.48	pa.	-13.71%
Annual water access charge vacant land - not connected	[2] 1, 4, or 72		$324.48	$280.00	pa.	-13.71%
Annual water access charge vacant land - connected but not metered	[2] 1, 4, or 72		$1,168.68	$1,008.48	pa.	-13.71%
Tier 1 Consumption	Not identified in [3] 3, 5, 6, 13 or 14	Tier 1 <=320kl	$0.790000	$0.810540	/kL	2.60%
Tier 2 Consumption		Tier 2 321-480kl	$1.260000	$1.292760	/kL	2.60%
Tier 3 Consumption		Tier 3 >480kl	$1.600000	$1.641600	/kL	2.60%
State Government Bulk Water Charge			$1.450000	$1.723000	/kL	18.83%
Fire service connection all sizes			$435.72	$447.00	pa.	2.59%
Sewerage Services						
Annual sewerage access charge	[2] 02, 03, 05, 09, 0901, 0902 and 4901		$550.32	$550.00	pa.	-0.06%

[1] Rating Categories
[2] Land Use Codes
[3] Differential Rating Categories

Table B.3: Ipswich – Non-residential premises

Non-residential Properties - Ipswich

Water and Sewerage Charges
Effective 1st July 2011

Description	General Rating Category	Volume Charge Tier	2010/11	2011/12	Unit	% increase
Water Services						
Annual water access charge based on connection size:	[3] 3, 5, 6, 13 or 14					
25mm or less			$330.72	$339.36	pa.	2.61%
26-32mm			$703.44	$721.68	pa.	2.59%
33-40mm			$1,118.16	$1,147.20	pa.	2.60%
41-50mm			$1,648.32	$1,691.16	pa.	2.60%
51-80mm			$4,173.36	$4,281.84	pa.	2.60%
81-100mm			$7,029.12	$7,211.88	pa.	2.60%
101-150mm			$16,803.72	$17,240.64	pa.	2.60%
151-250mm			$28,006.20	$28,734.36	pa.	2.60%
Greater than 250mm			$33,607.44	$34,481.28	pa.	2.60%
Annual water access charge vacant land (unconnected)	[3] 3, 5, 6, 13 or 14		$324.48	$332.88	pa.	2.59%
Fire service connection all sizes			$435.72	$447.00	pa.	2.59%
Tier 1 Consumption	[3] 3, 5, 6, 13 or 14	Tier 1 <=320kl	$0.790000	$0.810540	/kL	2.60%
Tier 2 Consumption		Tier 2 >320kl	$1.600000	$1.641600	/kL	2.60%
State Government Bulk Water Charge			$1.450000	$1.723000	/kL	18.83%
Sewerage Services						
Sewerage pedestal charge	[2] other than 02, 03, 05, 09, 0901 0902 or 4901	Per pedestal	$550.32	$567.96	pa.	3.21%
Annual sewerage access charge vacant land			$550.32	$567.96	pa.	3.21%
Metered Standpipes						
Consumption Charge			$3.050000	$3.129300	/kL	2.60%

[1] Rating Categories
[2] Land Use Codes
[3] Differential Rating Categories

Table B.4: Lockyer Valley – Residential Premises

Residential Premises - Lockyer Valley

Water and Sewerage Charges

Effective 1st July 2011

Description	Volume Charge Tier	2010/11	2011/12	Unit	% increase
Water Volume Charges					
Tier 1 Consumption	Tier 1 <=300kL	$0.220000	$0.225720	/kL	2.60%
Tier 2 Consumption	Tier 2 >300kL	$1.060000	$1.087560	/kL	2.60%
State Government Bulk Water Charge		$1.710000	$1.980000	/kL	15.79%
Water Access Charges					
Former Gatton Shire					
Annual water access charge - Full Pressure (per tenement)		$382.68	$280.00	pa.	-26.83%
Annual water access charge - Constant Flow (per tenement)		$283.56	$207.48	pa.	-26.83%
Vacant Land Annual Water Access Charge					
Full Pressure Contiguous					
For the 1st 6 lots combined as one assessment		$255.12	$186.72	pa.	-26.81%
For the 7th and each additional lot		$127.56	$93.36	pa.	-26.81%
Full Pressure Non-Contiguous					
Lots with an area less than 2023 m^2 (per lot)		$255.12	$186.72	pa.	-26.81%
Lots with an area of 2023 m^2 or more (per lot)		$382.68	$279.96	pa.	-26.84%
Constant Flow Contiguous					
For the 1st 6 lots combined as one assessment		$179.52	$131.40	pa.	-26.80%
For the 7th and each additional lot		$89.76	$65.64	pa.	-26.87%
Constant Flow Non-Contiguous					
Lots with an area less than 2023 m^2 (per lot)		$179.52	$131.40	pa.	-26.80%
Lots with an area of 2023 m^2 or more (per lot)		$283.56	$207.48	pa.	-26.83%
Former Laidley Shire (excluding Forest Hill)					
Annual water access charge - Full Pressure (per tenement)		$382.68	$280.00	pa.	-26.83%
Annual water access charge - Limited Flow (constant flow) (per tenement)		$283.56	$207.48	pa.	-26.83%
Vacant Land - Full Pressure (per tenement)		$382.68	$280.00	pa.	-26.83%
Vacant Land - Limited Flow (constant flow) (per tenement)		$283.56	$207.48	pa.	-26.83%
Forest Hill					
Annual water access charge - Full Pressure (per tenement)		$340.20	$280.00	pa.	-17.70%
Annual water access charge vacant land (per tenement)		$340.20	$280.00	pa.	-17.70%
Annual sewerage access charge -					
Sewerage access charge (per assessment)		$407.76	$420.84	pa.	3.21%
Sewerage access charge - Vacant land (per lot)		$223.80	$231.00	pa.	3.22%
Pressure Sewer Main (per assessment)		$308.28	$318.12	pa.	3.19%
Sewerage additional pedestal (per pedestal)		$308.28	$318.12	pa.	3.19%
Septic sewer - special arrangement		$318.24	$328.44	pa.	3.21%
Preston					
For the twelve months ending 30 June 2012, the charges for water to be made and levied on properties in the Preston area which are connected or intending to connect to the water main provided by Toowoomba Regional Council, be the charges as determined and advised by Toowoomba Regional Council.					

Table B.5: Lockyer Valley – Non-residential Premises

Non-residential Premises - Lockyer Valley					
Description	**Volume Charge Tier**	**2010/11**	**2011/12**	**Unit**	**% increase**
Water Volume Charges					
Tier 1 Consumption		$0.430000	$0.441180	/kL	2.60%
Tier 2 Consumption		$0.850000	$0.872100	/kL	2.60%
State Government Bulk Water Charge		$1.710000	$1.980000	/kL	15.79%
Water Services					
Former Gatton Shire					
Annual water access charge - Full Pressure					
1st tenement (per tenement)		$430.92	$442.08	/pa.	2.59%
2nd to 6th tenements (per tenement)		$258.96	$265.68	/pa.	2.59%
7th and each additional tenement (per tenement)		$215.52	$221.16	/pa.	2.62%
Annual water access charge - Constant Flow					
1st tenement (per tenement)		$316.56	$324.84	/pa.	2.62%
2nd to 6th tenements (per tenement)		$189.00	$193.92	/pa.	2.60%
7th and each additional tenement (per tenement)		$158.76	$162.84	/pa.	2.57%
Combined Residences/Businesses serviced by one meter					
Annual water access charge - Full Pressure (per tenement)		$430.92	$442.08	/pa.	2.59%
Other Premises (Religious/Charitable/Non-Profit)					
Annual water access charge - Full Pressure (per tenement)		$231.48	$237.48	/pa.	2.59%
Annual water access charge - Constant Flow (per tenement)		$165.36	$169.68	/pa.	2.61%
Vacant land					
Annual water access charge - Full Pressure Contiguous					
For the 1st 6 lots combined as one assessment		$255.12	$261.72	/pa.	2.59%
lot		$127.56	$130.92	/pa.	2.63%
Annual water access charge - Full Pressure Non-Contiguous					
Lots with an area less than 2023 m^2 (per lot)		$255.12	$261.72	/pa.	2.59%
Lots with an area of 2023 m^2 or more (per lot)		$382.68	$392.64	/pa.	2.60%
Annual water access charge - Constant Flow Contiguous					
For the 1st 6 lots combined as one assessment		$179.52	$184.20	/pa.	2.61%
For the 7th and each additional lot		$89.76	$92.04	/pa.	2.54%
Annual water access charge - Constant Flow Non-Contiguous					
Lots with an area less than 2023 m^2 (per lot)		$179.52	$184.20	/pa.	2.61%
Lots with an area of 2023 m^2 or more (per lot)		$283.56	$290.88	/pa.	2.58%

Table B.5: Lockyer Valley – Non-residential Premises – continued

Non-residential Premises - Lockyer Valley

Description	Volume Charge Tier	2010/11	2011/12	Unit	% increase
Former Laidley Shire (excluding Forest Hill)					
Annual water access charge - Full Pressure (standard) (per tenement)		$382.68	$392.64	/pa.	2.60%
Annual water access charge - Full Pressure Other (Religious/Charitable/Non-profit) (per tenement)		$231.48	$237.48	/pa.	2.59%
Annual water access full pressure charge vacant land (per tenement)		$382.68	$392.64	/pa.	2.60%
Annual water access charge - Constant Flow (limited flow) (per tenement)		$283.56	$290.88	/pa.	2.58%
Annual water access charge - Constant Flow Other (Religious/Charitable/Non-profit) (per tenement)		$165.36	$169.68	/pa.	2.61%
Annual water access constant flow charge vacant land (per tenement)		$283.56	$290.88	/pa.	2.58%
Annual water access charge - Water Pipeline (per tenement)		$382.68	$392.64	/pa.	2.60%
Forest Hill					
Annual water access charge - Full Pressure (per tenement)		$340.20	$349.08	/pa.	2.61%
Annual water access charge - Other (Religious/Charitable/Non-profit) (per tenement)		$245.76	$252.12	/pa.	2.59%
Annual water access charge vacant land (per tenement)		$340.20	$349.08	/pa.	2.61%
Annual sewerage access charge -					
Sewerage charge 1st pedestal		$407.76	$420.84	/pa.	3.21%
Sewage additional pedestals (per pedestal)		$308.28	$318.12	/pa.	3.19%
Sewerage access charge - Vacant land		$223.80	$231.00	/pa.	3.22%
Pressure Sewer Main		$308.28	$318.12	/pa.	3.19%
Sewerage charge 1st pedestal - Laidley Caravan Park		$407.76	$420.84	/pa.	3.21%
Sewerage additional pedestal - Laidley Caravan Park (per pedestal)		$264.60	$273.12	/pa.	3.22%
Sundry Charges					
Metered Standpipes					
Bond (Standpipe Key)		$210.00	$216.50	Each	3.10%
Per kilolitre or part thereof		$3.120000	$3.201120	/kL	2.60%
Water taken by registered water carters		$3.120000	$3.201120	/kL	2.60%
Bore water		$2.160000	$2.216160	/kL	2.60%

Preston

For the twelve months ending 30 June 2012, the charges for water to be made and levied on properties in the Preston area which are connected or intending to connect to the water main provided by Toowoomba Regional Council, be the charges as determined and advised by Toowoomba Regional Council.

Table B.6: Scenic Rim

Residential Premises - Scenic Rim

Water and Sewerage Charges
Effective 1st July 2011

Description	2010/11	2011/12	Unit	% increase
Water Services				
Annual water access charge based on connection size (determined by a flow capacity factor, FCF)				
Diameter				
20 mm	$342.12	$280.00	pa.	-18.16%
25 mm	$534.56	$280.00	pa.	-47.62%
32 mm	$875.84	$898.56	pa.	2.59%
40 mm	$1,368.48	$1,404.12	pa.	2.60%
50 mm	$2,138.24	$2,193.84	pa.	2.60%
65 mm	$4,112.04	$4,218.96	pa.	2.60%
80 mm	$5,473.92	$5,616.24	pa.	2.60%
100 mm	$8,553.00	$8,775.36	pa.	2.60%
150 mm	$19,244.24	$19,744.56	pa.	2.60%
200 mm	$34,212.00	$35,101.56	pa.	2.60%
Annual water access charge Vacant land	$342.12	$280.00	pa.	-18.16%
Annual water access charge - Restricted demand	$342.12	$280.00	pa.	-18.16%
Water Consumption	$0.810000	$0.831060	/kL	2.60%
State Government Bulk Water Charge	$1.820000	$2.087000	/kL	14.67%
Sewerage Services				
Residential				
Annual sewerage access charge	$502.80	$500.00	pa.	-0.56%
Annual sewerage access charge - Vacant land (per lo	$275.04	$283.80	pa.	3.18%

Non-residential Properties - Scenic Rim

Water and Sewerage Charges
Effective 1st July 2011

Description	2010/11	2011/12	Unit	% increase
Water Services				
Annual water access charge based on connection size (determined by a flow capacity factor, FCF)				
Diameter				
20 mm	$342.12	$351.00	pa.	2.60%
25 mm	$534.56	$548.52	pa.	2.61%
32 mm	$875.84	$898.56	pa.	2.59%
40 mm	$1,368.48	$1,404.12	pa.	2.60%
50 mm	$2,138.24	$2,193.84	pa.	2.60%
65 mm	$4,112.04	$4,218.96	pa.	2.60%
80 mm	$5,473.92	$5,616.24	pa.	2.60%
100 mm	$8,553.00	$8,775.36	pa.	2.60%
150 mm	$19,244.24	$19,744.56	pa.	2.60%
200 mm	$34,212.00	$35,101.56	pa.	2.60%
Annual water access charge vacant land	$342.12	$351.00	pa.	2.60%
Annual water access charge restricted demand	$342.12	$351.00	pa.	2.60%
Water Consumption	$0.810000	$0.831060	/kL	2.60%
State Government Bulk Water Charge	$1.820000	$2.087000	/kL	14.67%
Sewerage Services				
Annual sewerage access charge (1st pedestal)	$502.80	$518.88	pa.	3.20%
Sewerage additional pedestals (per pedestal)	$304.44	$314.16	pa.	3.19%
Sewerage access charge - Vacant land (per lot)	$275.04	$283.80	pa.	3.18%
Metered Standpipes				
Water Tag Deposit	$21.00	$21.50	pa.	2.38%
Water Consumption	$3.600000	$3.693600	/kL	2.60%

Table B.7: Somerset – Residential Premises

Residential Premises - Somerset

Water and Sewerage Charges
Effective 1st July 2011

Description		2010/11	2011/12	Unit	% increase
Water Services					
Annual water access charge (per		$287.40	$280.00	pa.	-2.57%
Bore water annual access charge (Moore and Coominya townships)		$274.92	$280.00	pa.	1.85%
Tier 1 Consumption - per connectioı	Tier 1 (<=300kL)	$0.230000	$0.235980	/kL	2.60%
Tier 2 Consumption - per connectioı	Tier 2 (>300kL)	$0.530000	$0.543780	/kL	2.60%
State Government Bulk Water Charge		$2.090000	$2.356000	/kL	12.73%
Sewerage Services					
Annual sewerage access charge					
Lowood, Fernvale, Esk Toogoolawah					
Per single residence, flat, one pedestal premise		$533.52	$500.00	pa.	-6.28%
Sewerage access charge -		$266.76	$275.28	pa.	3.19%
Kilcoy					
Per single residence, flat, one pedestal premise		$386.04	$398.40	pa.	3.20%
Sewerage access charge -		$340.92	$351.84	pa.	3.20%

Table B.8: Somerset - Non-residential Premises

Non-residential Properties - Somerset

Water and Sewerage Charges
Effective 1st July 2011

Description		2010/11	2011/12	Unit	% increase
Water Services					
Annual water access charge (per		$287.40	$294.84	pa.	2.59%
Bore water access charge (Moore and Coominya townships)		$274.92	$282.12	pa.	2.62%
Tier 1 Consumption - per connectio	Tier 1 (<=300kl)	$0.230000	$0.235980	/kL	2.60%
Tier 2 Consumption - per connectio	Tier 2 (>300kl)	$0.530000	$0.543780	/kL	2.60%
State Government Bulk Water Charge		$2.090000	$2.356000	/kL	12.73%
Sewerage Services					
Former Kilcoy Shire					
Sewerage access charge (per pedestal) - Government Premises		$524.16	$540.96	pa.	3.21%
Sewerage access charge (per pedestal) - Other non-residential pren		$386.04	$398.40	pa.	3.20%
Sewerage access charge - Vacant land (per lot)		$340.92	$351.84	pa.	3.20%
Former Esk Shire					
Sewerage access charge (1st pedestal)		$533.52	$550.56	pa.	3.19%
Building used exclusively for public worship		68% of base charge	68% of base charge	pa.	
Hall on land attracting a General rate		50%	50%	pa.	
Hall (excluding land attracting a General rate)		68%	68%	pa.	
Kindergarten School		68%	68%	pa.	
Government Premises		105%	105%	pa.	
Toogoolawah High School		158%	158%	pa.	
General non-residential		100%	100%	pa.	
For each additional pedestal, urinal and slop sink:		Per pedestal	Per pedestal		
Building used exclusively for public worship		5% of base charge	5% of base charge		
Hall		5%	5%		
Kindergarten School		5%	5%		
Premises where toilet facilities		12%	12%		
Premises where toilet facilities are made available for customer		Per pedestal	Per pedestal		
Hotel or Motel		38% of base charge	38% of base charge	pa.	
Nursing Home		38%	38%	pa.	
Caravan Park facility provided		12%	12%	pa.	
Government Premises		105%	105%	pa.	
Toogoolawah High School		158%	158%	pa.	
Other premises		19%	19%	pa.	
Racecourse and showgrounds		5%	5%	pa.	
Public Convenience		50%	50%	pa.	
Allotment to which Council is prepared to provide a sewerage service, but which is not supplied with a sewerage service and on which a dwelling or other building is constructed - per allotment.		50%	50%	pa.	
Sewerage charges in respect of Vacant Land - per allotment		50%	50%	pa.	
Metered Standpipes					
Lease of Water Standpipe		$210.00	$216.50	each	3.10%
Water Consumption		$2.620000	$2.688120	/kL	2.60%

Table B.9: Register of sundry fees and charges – Brisbane

REGISTER OF SUNDRY FEES & CHARGES EFFECTIVE: 1st JULY 2011 - 30th JUNE 2012	BRISBANE			
Description	**Unit /measure**	**2011-12** **$**	**2010-11** **$**	**% change**
Water Supply Services				
Water Connection				
Full connection installation by developer (supply of meter/administration/inspection - by council)	Each	By Quote		
Water Efficiency Management Plans				
WEMP Assessment Charges				
Initial Assessment	Each Assessment	617.00	599.50	2.92%
Annual Reassessment	Each Assessment	186.00	180.60	2.99%
Testing of water meters (by request)				
On site testing of 20mm and 25mm meters	Each	62.00	60.35	2.73%
Fee for testing 15mm, 20mm, 25mm, 30mm, 40mm, 50mm, 80mm, 100mm and 150mm meters	Each	335.00	325.50	2.92%
Special reading of water meter	Per Assessment	62.00	60.35	2.73%
Sewerage Works				
Garbage Grinders for Commercial Premises i.e. other than dwelling houses				
Up to and including 1/2 horsepower motor	Each year	528.00	513.00	2.92%
Above 1/2 horsepower and up to and including 3/4 horsepower motor	Each year	2,455.50	2,384.00	3.00%
Above 3/4 horsepower motor	Each year	4,607.00	4,473.00	3.00%
Public hospitals and charitable institutions		50% of prescribed charge		
Miscellaneous Fees and Charges				
A4 Photocopying - B&W	Each Page	0.75	0.74	1.76%
A3 Photocopying - B&W	Each Page	0.91	0.89	2.13%
Credit card payment surcharge	For each dollar paid by credit card	0.72%	0.72%	0.00%
Dishonoured payments administration charges	Each transaction plus Bank Charges	23.06	22.40	2.96%

Table B.10: Register of sundry fees and charges – Ipswich

REGISTER OF SUNDRY FEES & CHARGES EFFECTIVE: 1st JULY 2011 - 30th JUNE 2012	IPSWICH			
Description	**Unit /measure**	**2011-12** **$**	**2010-11** **$**	
Water Supply Services				
Water Connection				
(a) Full connection installation by developer	Each	227.50	221.00	2.94%
(b) Full 20 mm residential service	Each	898.00	872.00	2.98%
(c) All other service connections	Each	By quote	By quote	
(d) Termination of any service other than 20mm	Each	By quote	By quote	
(e) Termination of 20mm water service	Each	394.00	383.00	2.87%
Water Meters				
(a) Supply and fit meter to any other services	Each	By quote	By quote	
(b) Re-locate 20mm above ground meter to below ground (residential services)	Each	324.00	315.00	2.86%
(c) Re-locate above ground meter to below ground (other services)	Each	By quote	By quote	
(d) Re-location of meters to alternative location under 1 meter	Each	324.00	315.00	2.86%
(e) Re-location of meters to alternative location over 1 meter	Each	By quote	By quote	
Water Mains				
(a) Pressure/flow test from a hydrant at site	Per Test	372.50	362.00	2.90%
(b) Location of mains at site (without excavation)	Per Visit	173.00	168.00	2.98%
Supply of Water from Potable Water Filling Stations				
(a) Supply of water to commercial potable water carriers	Per Kilolitre	2.57	2.50	2.80%
Supply of water to residential customers	Per Kilolitre	2.11	2.05	2.93%
(b) Security Deposit				
I-Tag	Each	12.36	12.00	3.00%
Replacement fee for lost or damage I-Tag				
Card	Per card	54.50	53.00	2.83%
Replacement	Each	26.50	26.00	1.92%
Special reading of water meter	Per Assessment	59.00	57.75	2.16%
Testing of water meters (by request)				
20mm and 25 mm	Each	270.00	262.50	2.86%
32 mm and 40 mm	Each	351.00	341.25	2.86%
50 mm and 80 mm	Each	481.00	467.25	2.94%
100 mm and larger	Each	By quote	By quote	
Note: This testing charge is to be refunded to the owner if the meter is registering more than +5% of the correct amount it should register				
Assessment for WEMP Approval and Compliance Review		By assessment	By assessment	
Sewerage Works				
* To disconnect house drain from sewer	Each	648.50	630.00	2.94%
Provision of additional connection to existing sewer:				
Depth of sewer:				
- Up to 1.5m*		By Quote	By Quote	
-1.5m to 3.0m*		By Quote	By Quote	
- Over 3.0m		By Quote	By Quote	
* Approval and inspection of the provision of additional connection to existing sewer (owner installed house connection branches)		292.50	284.00	2.99%
* These prices as quoted are when job does not include access restriction, rock excavation or any other obstruction causing delays.				
Clearing blocked private drains:				
During normal working hours - first -1/2 hours at site		196.50	191.00	2.88%
During normal working hours - each additional -1/2 hour or part thereof at site		100.50	98.00	2.55%
Special "Call-Out" Rate - first -1/2 hour at site		267.50	260.00	2.88%
Special "Call-Out" Rate - first -1/2 hour or part thereof at site		119.00	116.00	2.59%
Location of sewer main at Site per visit (without excavation)*		97.50	95.00	2.63%
Location of Property connection (with excavation)*		By Quote	By Quote	
* GST-free status will not apply if for a contestable service				
Discharge of septic tank and sullage effluent to wastewater treatment plant				
Per discharge	per transaction	64.50	63.00	2.38%
Sullage Effluent	Per Kilolitre	3.24	3.15	2.86%
Septic Tank Pump out	Per Kilolitre	59.74	58.00	3.00%
Miscellaneous Fees and Charges				
Photocopying				
A4 B&W	Each Page	1.13	1.10	2.73%
Colour	Each Page	4.53	4.40	2.95%
A3 B&W	Each Page	1.13	1.10	2.73%
Colour	Each Page	5.45	5.30	2.83%
Credit card payment surcharge	For each dollar paid by credit card	0.72%	0.00%	
Dishonoured payments administration charges	Each transaction plus Bank Charges	23.06	22.40	2.96%

Table B.11: Register of sundry fees and charges – Lockyer Valley

REGISTER OF SUNDRY FEES & CHARGES EFFECTIVE: 1st JULY 2011 - 30th JUNE 2012	LOCKYER VALLEY			
Description	**Unit /measure**	**2011-12** **$**	**2010-11** **$**	
Water Supply Services				
Water Connection				
20mm (3/4") Water service connection	Each	670.50	651.00	3.00%
Testing of water meters (by request)	Each	81.00	78.75	2.86%
Disconnection of Service at meter (by request)	Each	146.00	142.00	2.82%
Disconnection of Service at main (by request)	Each	584.00	567.00	3.00%
Connection of disconnected service (by request)	Each	670.50	651.00	3.00%
25mm (1") up to 20.00m in length	Each	1,000.00	971.00	2.99%
32mm (1-1/4") up to 20.00m in length	Each	1,460.50	1,418.00	3.00%
40mm (1-1/2") up to 20.00m in length	Each	1,784.50	1,733.00	2.97%
50mm (2") up to 20.00m in length	Each	2,163.00	2,100.00	3.00%
100mm	Each	By quote	By quote	
Meter to Multi-Unit Developments				
(1 meter per unit, plus 1 body corporate meter)				
1-3 Meters				
1st meter	Each	670.50	651.00	3.00%
Successive meters	Each	454.00	441.00	2.95%
4-8 Meters				
1st meter	Each	1,006.00	977.00	2.97%
Successive meters	Each	346.00	336.00	2.98%
8+ Meters				
1st meter	Each	1,784.50	1,733.00	2.97%
Successive meters	Each	346.00	336.00	2.98%
Water Meter Reading				
Water meter reading	Each	64.50	63.00	2.38%
Urgent water meter reading	Each	108.00	105.00	2.86%
Special reading of water meter	Each	81.00	78.75	2.86%
Water Sampling				
(a) Commercial premises including water carriers	Per Sample*	108.15	105.00	3.00%
(b) Domestic rainwater or mixed supplies	Per Sample*	108.15	105.00	3.00%
(c) Council supplies in private property	Per Sample*	108.15	105.00	3.00%
* Plus the cost of analysis				
Water Efficiency Assessor				
Water efficiency assessor rate (per hour) - min charge of 1 hour applies	Per Hour	95.17	92.40	3.00%
Fire Service Approval				
Installation of fire hydrants and/or fire reels including scrutiny, inspections and final compliance certificate up to three applications	Each	379.00	368.00	2.99%
- more than 3 applications	Each	86.50	84.00	2.98%
Sewerage Works				
Sewerage connections				
Connection		By quote	By quote	
Disconnection		By quote	By quote	
Connection to Council's sewer Main		By quote	By quote	
Disconnection from Council Sewer		By quote	By quote	
Discharge of septic tank and sullage effluent to wastewater treatment plant				
Sullage Effluent	Per Kilolitre	26.78	26.00	3.00%
Septic Tank Pump out	Per Kilolitre	32.96	32.00	3.00%
Miscellaneous Fees and Charges				
Photocopying				
A4 B&W	Each Page	0.61	0.60	1.67%
Colour	Each Page	0.72	0.70	2.86%
A3 B&W	Each Page	0.82	0.80	2.50%
Colour	Each Page	1.13	1.10	2.73%
Credit card payment surcharge	For each dollar paid by credit card	0.72%	0.00%	
Dishonoured payments administration charges	Each transaction plus Bank Charges	23.06	22.40	2.96%

Table B.12: Register sundry fees and charges – Scenic Rim

REGISTER OF SUNDRY FEES & CHARGES EFFECTIVE: 1st JULY 2011 - 30th JUNE 2012	SCENIC RIM			
Description	**Unit /measure**	**2011-12** **$**	**2010-11** **$**	
Water Supply Services				
Water Connection				
20mm domestic Service - install water meter only	Each	730.00	709.00	2.96%
20mm domestic Service - install infrastructure and water meter	Each	1,189.50	1,155.00	2.99%
25mm	Each	By quote	By quote	
32mm	Each	By quote	By quote	
40mm	Each	By quote	By quote	
50mm	Each	By quote	By quote	
Larger Diameters and Bypass Meters	Each	By quote	By quote	
Disconnection Fee	Each	206.00	200.00	3.00%
Water Meters				
Testing of water meter for accuracy	Each	153.50	149.10	2.95%
Flow and Pressure Test for Water Meter	Each	86.50	84.00	2.98%
Change of Water Service and/or Meter Location to Property	Each	By quote	By quote	
Special reading of water meter	Per Reading	125.00	121.80	2.63%
Other Charges (both Water and Sewerage)				
Location of underground services*		83.43	81.00	3.00%
Callout to damaged underground services*		178.19	173.00	3.00%
# Minimum charge plus person, plant, equipment and materials				
* GST-free status will not apply if for a contestable service				
Sewerage Works				
Sewerage connections and disconnections	Each	189.50	184.00	2.99%
Discharge of septic tank and sullage effluent to wastewater treatment plant				
Effluent sales - per mega litre (subject to contractual agreement on capital and recurrent costs)	Per Mega Litre	10.81	10.50	2.95%
Discharges to Sewerage Treatment Plant (Beaudesert only)				
Septic Tank pump outs	Per Kilolitre or part thereof	149.35	145.00	3.00%
Holding Tank Effluent	Per Kilolitre or part thereof	16.22	15.75	2.98%
Miscellaneous Fees and Charges				
Photocopying				
A4 B&W	Each Page	0.30	0.30	0.00%
Colour	Each Page	7.49	7.28	2.88%
A3 B&W	Each Page	1.33	1.30	2.31%
Colour	Each Page	11.94	11.60	2.93%
Credit card payment surcharge	For each dollar paid by credit card	0.72%	0.72%	0.00%
Dishonoured payments administration charges	Each transaction plus Bank Charges	23.06	22.40	2.96%

Table B.13: Register of sundry fees and charges – Somerset

REGISTER OF SUNDRY FEES & CHARGES EFFECTIVE: 1st JULY 2011 - 30th JUNE 2012	SOMERSET			
Description	**Unit /measure**	**2011-12** **$**	**2010-11** **$**	
Water Supply Services				
Water Connection				
20mm domestic Service - install water meter only	Each	861.00	836.00	2.99%
20mm domestic Service - install infrastructure and water meter	Each	By quote	By quote	
25mm	Each	By quote	By quote	
32mm	Each	By quote	By quote	
40mm	Each	By quote	By quote	
50mm	Each	By quote	By quote	
Larger Diameters and Bypass Meters	Each	By quote	By quote	
Disconnect fee	Each	170.50	165.90	2.77%
Water Sampling				
Chemical and/or Bacteriological samples	Each	54.00	52.50	2.86%
Testing of water meter for accuracy	Each	157.50	153.30	2.74%
Special reading of water meter	Per Assessment	108.00	105.00	2.86%
Sewerage Works				
Sewerage connections and disconnections				
Installation of jump up (sewerage connection) at depth of less than 1.5 metres (within declared sewerage area)	Each	822.50	799.00	2.94%
Deeper connections or connections outside of declared sewer area		by quote	by quote	
Sewer disconnection	Each	298.50	290.00	2.93%
Discharge of septic and sullage waste to Water Reclamation Plant				
Septic tank waste discharge	Per kilolitre + after hours fee	38.11	37.00	3.00%
Plus if after hours		163.77	159.00	3.00%
Sewerage holding tank / sullage waste discharge	Per kilolitre + after hours fee	22.66	22.00	3.00%
Plus if after hours		163.77	159.00	3.00%
Miscellaneous Fees and Charges				
Photocopying				
A4 B&W	Each Page	1.33	1.30	2.31%
Credit card payment surcharge	For each dollar paid by credit card	0.72%	0.00%	
Dishonoured payments administration charges	Each transaction plus Bank Charges	23.06	22.40	2.96%

APPENDIX C: ALLCONNEX WATER CAPPED PRICES

Table C.1: Allconnex Capped Prices

Utility charges			
Pricing	**2010-11 Tariffs (GST Exclusive) $**	**2011-12 Tariffs (GST Exclusive) $**	**% Increase**
Residential			
Water service charge			
Base Water Service Charge ($)			
Gold Coast			
Residential	192.00	198.91	3.60%
Vacant Land	192.00	198.91	3.60%
Logan City (Logan North)			
Residential	240.00	248.64	3.60%
Vacant Land	240.00	248.64	3.60%
Residential			
20mm or less	240.00	248.64	3.60%
25mm	375.00	388.50	3.60%
32mm	614.40	636.51	3.60%
40mm	960.00	994.56	3.60%
50mm	1,500.00	1,554.00	3.60%
65mm	2,884.63	2,988.47	3.60%
80mm	3,840.00	3,978.24	3.60%
100mm	6,000.00	6,216.00	3.60%
150mm	13,500.00	13,986.00	3.60%
200mm	24,000.00	24,864.00	3.60%
225mm	30,375.00	31,468.50	3.60%
250mm	37,500.00	38,850.00	3.60%
300mm	54,000.00	55,944.00	3.60%
Trasferred Area A (former Beaudesert Shire) - (Logan South)			
Residential (On Demand)	408.00	422.68	3.60%
Vacant Land (On Demand)	408.00	422.68	3.60%
Residential (Restricted Demand)	408.00	422.68	3.60%
Vacant Land (Restricted Demand)	408.00	422.68	3.60%
Residential			
20mm or less	408.00	422.68	3.60%
25mm	637.50	660.43	3.60%
32mm	1,044.48	1,082.06	3.60%
40mm	1,632.00	1,690.72	3.60%
50mm	2,550.00	2,641.75	3.60%
65mm	4,903.87	5,080.32	3.60%
80mm	6,528.00	6,762.88	3.60%
100mm	10,200.00	10,567.00	3.60%
150mm	22,950.00	23,775.75	3.60%
200mm	40,800.00	42,268.00	3.60%
225mm	51,637.50	53,495.44	3.60%
250mm	63,750.00	66,043.75	3.60%
300mm	91,800.00	95,103.00	3.60%
Trasferred Area D (former Gold Coast City) - (Logan East)			
Residential	216.00	223.77	3.60%
Vacant Land	216.00	223.77	3.60%
Residential			
20mm or less	216.00	223.77	3.60%
25mm	337.50	349.64	3.60%
32mm	552.96	572.85	3.60%
40mm	864.00	895.08	3.60%
50mm	1,350.00	1,398.56	3.60%
65mm	2,596.17	2,689.55	3.60%
80mm	3,456.00	3,580.32	3.60%
100mm	5,400.00	5,594.25	3.60%
150mm	12,150.00	12,587.06	3.60%
200mm	21,600.00	22,377.00	3.60%
225mm	27,337.50	28,320.80	3.60%
250mm	33,750.00	34,964.06	3.60%
300mm	48,600.00	50,348.25	3.60%
>20mm but less than 800kL usage pa	216.00	223.77	3.60%
Redland			
Residential			
Domestic - Base Rate per meter/lot	240.36	249.01	3.60%
Caravan Parks - Base Rate per Unit	60.09	62.25	3.59%
Units, Flats, Guest Houses, Multiple Dwellings 20-150mm and Residential 25-150mm			
20mm	240.36	249.01	3.60%
25mm	375.76	388.46	3.38%
32mm	615.64	637.47	3.55%
40mm	961.56	996.04	3.59%
50mm	1,502.25	1,556.31	3.60%
80mm	3,846.28	3,984.20	3.59%
100mm	6,010.36	6,225.25	3.58%
150mm	13,521.76	14,006.81	3.59%
Vacant Land	240.36	249.01	3.60%

Water Consumption Charge			
Water Consumption Charge ($/kL)			
Gold Coast			
Residential			
Allconnex Water Charge	0.9950	1.0308	3.60%
State Bulk Water Charge	1.6850	1.9550	16.02%
Total Charge	2.6800	2.9858	11.41%
Raw Water	0.9200	0.9531	3.60%
Logan City (All)			
Residential			
Allconnex Water Charge	0.8570	0.8878	3.59%
State Bulk Water charge	1.8430	2.1130	14.65%
Total Charge	2.7000	3.0008	11.14%
Redland			
Residential / Concessional (All volumes)			
First 400L/day Allconnex Water Charge	0.6580	0.6816	3.59%
First 400L/day State Bulk Water Charge	0.9320	1.2020	28.97%
First 400L/day Total Charge	1.5900	1.8836	18.47%
Between 401-800L/day Allconnex Water Charge	1.0680	1.1064	3.60%
Between 401-800L/day State Bulk Water Charge	0.9320	1.2020	28.97%
Between 401-800L/day Total Charge	2.0000	2.3084	15.42%
Above 800L/day Allconnex Water Charge	1.4780	1.5312	3.60%
Above 800L/day State Bulk Water Charge	0.9320	1.2020	28.97%
Above 800L/day Total Charge	2.4100	2.7332	13.41%
Non-residential / Council			
Allconnex Water Charge	1.4780	1.5312	3.60%
State Bulk Water Charge	0.9320	1.2020	28.97%
Total Charge	2.4100	2.7332	13.41%
Wastewater service charge			
Base Wastewater Service Charge ($)			
Gold Coast			
Residential	656.40	680.03	3.60%
Vacant Land	656.40	680.03	3.60%
Logan City (All)			
Base Charge per Unit	6.8850	7.1329	3.60%
Residential			
Single self contained dwelling (20 units)	550.80	570.62	3.60%
C.E.D Connection in Transferred Area A (former Beaudesert) (16 Units)	440.64	456.50	3.60%
Residential Other			
Multi residential accomodation			
- First pedestal/urinal (20 units)	550.80	570.62	3.60%
- Second and subsequent pedestal/urinal (15 units)	413.10	427.96	3.60%
C.E.D Connection in Transferred Area A (former Beaudesert)			
- First pedestal/urinal (16 units)	440.64	456.50	3.60%
- Second and subsequent pedestal/urinal (14 units)	385.56	399.43	3.60%
Aged Care / Nursing Home / Retirement Complex			
Residential			
- First single living unit (20units)	550.80	570.62	3.60%
- Second and subsequent living unit (10 units)	275.40	285.31	3.60%
Caravan and Mobile Home Parks			
- Standard per site charge (10 units)	275.40	285.31	3.60%
- Per pedestal/urinal charge (20 units)	550.80	570.62	3.60%
- Tent sites (5 units)	137.70	142.66	3.60%
Vacant Land (15 units)	413.10	427.96	3.60%
Redland			
Base Charge per Unit	6.9600	7.2106	3.60%
Residential - (25 sewer units)	696.00	721.05	3.60%
Vacant Land - (25 sewer units)	696.00	721.05	3.60%

Non-Residential

Water service charge

Base Water Service Charge ($)

Gold Coast

* Consumption- this figure is calculated from previous years annual consumption

Non-residential			
20mm	342.00	354.31	3.60%
25mm; 0 - 290kL consumption pa	342.00	354.31	3.60%
25mm; > 290kL consumption pa	534.36	552.72	3.44%
32mm; 0 - 290kL consumption pa	342.00	354.31	3.60%
32mm; 291kL - 454kL consumption pa	534.36	552.72	3.44%
32mm; > 455kL consumption pa	875.52	907.03	3.60%
40mm	1,368.00	1,417.24	3.60%
50mm; 0 - 1160kL consumption pa	1,368.00	1,417.24	3.60%
50mm; > 1160kL consumption pa	2,137.49	2,214.44	3.60%
80mm; 0 - 1160kL consumption pa	1,368.00	1,417.24	3.60%
80mm; 1161kL - 1814kL consumption pa	2,137.49	2,214.44	3.60%
80mm; > 1814kL consumption pa	5,472.00	5,668.96	3.60%
100mm; 0 - 1160kL consumption pa	1,368.00	1,417.24	3.60%
100mm; 1161kL - 1814kL consumption pa	2,137.49	2,214.44	3.60%
100mm; 1815kL - 4640kL consumption pa	5,472.00	5,668.96	3.60%
100mm; > 4641kL consumption pa	8,550.00	8,857.75	3.60%
150mm; 0 - 1160kL consumption pa	1,368.00	1,417.24	3.60%
150mm; 1161kL - 1814kL consumption pa	2,137.49	2,214.44	3.60%
150mm; 1815kL - 4640kL consumption pa	5,472.00	5,668.96	3.60%
150mm; 4641kL - 7250kL consumption pa	8,550.00	8,857.75	3.60%
150mm; > 7250kL consumption pa	19,237.48	19,929.94	3.60%
200mm; 0 - 1160kL consumption pa	1,368.00	1,417.24	3.60%
200mm; 1161kL - 1814kL consumption pa	2,137.49	2,214.44	3.60%
200mm; 1815kL - 4640kL consumption pa	5,472.00	5,668.96	3.60%
200mm; 4641kL - 7250kL consumption pa	8,550.00	8,857.75	3.60%
200mm; 7251kL - 16314kL consumption pa	19,237.48	19,929.94	3.60%
200mm; > 16315kL consumption pa	34,200.00	35,431.00	3.60%
250mm; 0 - 1160kL consumption pa	342.00	354.31	3.60%
250mm; 1161kL - 1814kL consumption pa	2,137.49	2,214.44	3.60%
250mm; 1815kL - 4640kL consumption pa	5,472.00	5,668.96	3.60%
250mm; 4641kL - 7250kL consumption pa	8,550.00	8,857.75	3.60%
250mm; 7251kL - 16314kL consumption pa	19,237.48	19,929.94	3.60%
250mm; 16315kL - 29000kL consumption pa	34,200.00	35,431.00	3.60%
250mm; > 29000kL consumption pa	53,437.50	55,360.94	3.60%
300mm; 0 - 1160kL consumption pa	1,368.00	1,417.24	3.60%
300mm; 1161kL - 1814kL consumption pa	2,137.49	2,214.44	3.60%
300mm; 1815kL - 4640kL consumption pa	5,472.00	5,668.96	3.60%
300mm; 4641kL - 7250kL consumption pa	8,550.00	8,857.75	3.60%
300mm; 7251kL - 16314kL consumption pa	19,237.48	19,929.94	3.60%
300mm; 16315kL - 29000kL consumption pa	34,200.00	35,431.00	3.60%
300mm; 29001kL - 45314kL consumption pa	53,437.50	55,360.94	3.60%
300mm; > 45315kL consumption pa	76,950.00	79,719.75	3.60%
Vacant Land			
Non-Residential	342.00	354.31	3.60%

Logan City (Logan North)

Non-Residential			
20mm or less	240.00	248.64	3.60%
25mm	375.00	388.50	3.60%
32mm	614.40	636.51	3.60%
40mm	960.00	994.56	3.60%
50mm	1,500.00	1,554.00	3.60%
65mm	2,884.63	2,988.47	3.60%
80mm	3,840.00	3,978.24	3.60%
100mm	6,000.00	6,216.00	3.60%
150mm	13,500.00	13,986.00	3.60%
200mm	24,000.00	24,864.00	3.60%
225mm	30,375.00	31,468.50	3.60%
250mm	37,500.00	38,850.00	3.60%
300mm	54,000.00	55,944.00	3.60%
Vacant Land	240.00	248.64	3.60%

Trasferred Area A (former Beaudesert Shire) - (Logan South)

Non-Residential (On Demand)	408.00	422.68	3.60%
Vacant Land (On Demand)	408.00	422.68	3.60%
Non-Residential			
20mm or less	408.00	422.68	3.60%
25mm	637.50	660.43	3.60%
32mm	1,044.48	1,082.06	3.60%
40mm	1,632.00	1,690.72	3.60%
50mm	2,550.00	2,641.75	3.60%
65mm	4,903.87	5,080.32	3.60%
80mm	6,528.00	6,762.88	3.60%
100mm	10,200.00	10,567.00	3.60%
150mm	22,950.00	23,775.75	3.60%
200mm	40,800.00	42,268.00	3.60%
225mm	51,637.50	53,495.44	3.60%
250mm	63,750.00	66,043.75	3.60%
300mm	91,800.00	95,103.00	3.60%

Trasferred Area D (former Gold Coast City) - (Logan East)			
Non-Residential	352.80	365.50	3.60%
Vacant Land	216.00	223.78	3.60%
* Consumption- this figure is calculated from previous years annual consumption			
Non-Residential			
20mm or less	352.80	365.50	3.60%
25mm ; < 291kL consumption pa	352.80	365.50	3.60%
25mm; > 290kL consumption pa	551.25	571.09	3.60%
32mm; < 291kL consumption pa	352.80	365.50	3.60%
32mm ; 291 kL - 454kL consumption pa	551.25	571.09	3.60%
32mm; > 454kL consumption pa	903.17	935.68	3.60%
40mm	1,411.20	1,462.00	3.60%
50mm ; < 1161kL consumption pa	1,411.20	1,462.00	3.60%
50mm; > 1160kL consumption pa	2,205.00	2,284.38	3.60%
65mm	4,240.41	4,393.05	3.60%
80mm; < 1161kL consumption pa	1,411.20	1,462.00	3.60%
80mm ; 1161 kL - 1814kL consumption pa	2,205.00	2,284.38	3.60%
80mm; > 1814kL consumption pa	5,644.80	5,848.00	3.60%
100mm; <1161kL consumption pa	1,411.20	1,462.00	3.60%
100mm ; 1161 kL - 1814kL consumption pa	2,205.00	2,284.38	3.60%
100mm; 1815kL - 4640kL consumption pa	5,644.80	5,848.00	3.60%
100mm; > 4640kL consumption pa	8,820.00	9,137.50	3.60%
150mm; <1161kL consumption pa	1,411.20	1,462.00	3.60%
150mm ; 1161 kL - 1814kL consumption pa	2,205.00	2,284.38	3.60%
150mm ; 1815 kL - 4640kL consumption pa	5,644.80	5,848.00	3.60%
150mm; 4641kL - 7250kL consumption pa	8,820.00	9,137.50	3.60%
150mm; > 7250kL consumption pa	19,845.00	20,559.38	3.60%
200mm; <1161kL consumption pa	1,411.20	1,462.00	3.60%
200mm ; 1161 kL - 1814kL consumption pa	2,205.00	2,284.38	3.60%
200mm ; 1815 kL - 4640kL consumption pa	5,644.80	5,848.00	3.60%
200mm; 4641kL - 7250kL consumption pa	8,820.00	9,137.50	3.60%
200mm; 7251kL - 16314kL consumption pa	19,845.00	20,559.38	3.60%
200mm; > 16314kL consumption pa	35,280.00	36,550.00	3.60%
225mm	44,651.25	46,258.59	3.60%
250mm; <1161kL consumption pa	1,411.20	1,462.00	3.60%
250mm ; 1161 kL - 1814kL consumption pa	2,205.00	2,284.38	3.60%
250mm ; 1815 kL - 4640kL consumption pa	5,644.80	5,848.00	3.60%
250mm; 4641kL - 7250kL consumption pa	8,820.00	9,137.50	3.60%
250mm; 7251kL - 16314kL consumption pa	19,845.00	20,559.38	3.60%
250mm; 16315kL - 29000kL consumption pa	35,280.00	36,550.00	3.60%
250mm; > 29000kL consumption pa	55,125.00	57,109.38	3.60%
300mm; <1161kL consumption pa	1,411.20	1,462.00	3.60%
300mm ; 1161 kL - 1814kL consumption pa	2,205.00	2,284.38	3.60%
300mm ; 1815 kL - 4640kL consumption pa	5,644.80	5,848.00	3.60%
300mm; 4641kL - 7250kL consumption pa	8,820.00	9,137.50	3.60%
300mm; 7251kL - 16314kL consumption pa	19,845.00	20,559.38	3.60%
300mm; 16315kL - 29000kL consumption pa	35,280.00	36,550.00	3.60%
300mm; 29001kL - 45314kL consumption pa	55,125.00	57,109.38	3.60%
300mm; > 45314kL consumption pa	79,380.00	82,237.50	3.60%
Vacant Land	216.00	223.78	3.60%
Redland			
Non-residential			
20mm	312.96	323.71	3.44%
25mm	489.00	504.99	3.27%
32mm	799.92	828.71	3.60%
40mm	1,251.84	1,294.85	3.44%
50mm	1,953.00	2,023.24	3.60%
80mm	5,000.36	5,179.41	3.58%
100mm	7,813.04	8,092.83	3.58%
150mm	17,578.08	18,208.86	3.59%
Vacant Land	240.36	249.01	3.60%
Water Consumption Charge			
Water Consumption Charge ($/kL)			
Gold Coast			
Non-residential			
Allconnex Water Charge	0.9950	1.0308	3.60%
State Bulk Water Charge	1.6850	1.9550	16.02%
Total Charge	2.6800	2.9858	11.41%
Logan City (All)			
Non-residential			
Allconex Water Charge	0.8570	0.8878	3.59%
State Bulk Water charge	1.8430	2.1130	14.65%
Total Charge	2.7000	3.0008	11.14%
Redland			
Non-residential / Council			
Allconnex Water Charge	1.4780	1.5312	3.60%
State Bulk Water Charge	0.9320	1.2020	28.97%
Total Charge	2.4100	2.7332	13.41%

Wastewater service charge			
Base Wastewater Service Charge ($)			
Gold Coast			
Non-residential	656.40	680.03	3.60%
Vacant Land	656.40	680.03	3.60%
Logan City (All)			
Base Charge per Unit	6.8850	7.1329	3.60%
Non-Residential			
Non-residential Logan - North, New Logan East customers			
- First pedestal/urinal (20 units)	550.80	570.62	3.60%
- Second and subsequent pedestal/urinal (15 units)	413.10	427.96	3.60%
Non-Residential Transferred Area D (former Gold Coast, existing customers) (deemed pedestal units)	$6.8850/unit	$7.1329/unit	
C.E.D Connection in Transferred Area A (former Beaudesert)			
- First pedestal/urinal (16 units)	440.64	456.50	3.60%
- Second and subsequent pedestal/urinal (14 units)	385.56	399.43	3.60%
Aged Care / Nursing Home / Retirement Complex			
- Each pedestal/urinal (15 units)	413.10	427.96	3.60%
Vacant Land (15 units)	413.10	427.96	3.60%
Redland			
Base Charge per Unit	6.9600	7.2106	3.60%
Non-residential (except Motels, clubs without Poker machines, Junior Sporting Clubs, Caravan Parks, Retirement Villages and Nursing homes)			
First Pedestal - (25 sewer units)	696.00	721.05	3.60%
Second Pedestal - (20 sewer units)	556.80	576.84	3.60%
Vacant Land - (25 sewer units)	696.00	721.05	3.60%
Wastewater volume charge			
Gold Coast			
Property Discharge Factor (%)	varies between indust	varies between industries	
Less: Domestic Usage Allowance (kL)	185.00	185.00	
Chargable Wastewater Volume per Property (Water Consumption x Property Discharge Factor - Domestic Usage Allowance)			
Wastewater Volume Charge ($/kL)			
Non-residential	4.0400	4.1854	3.60%
Other			
Logan Fire service charges			
Metered			
Quarterly Base Fire Service Charge	240.00	248.64	3.60%
Fire Service Consumption Charge ($/kL) - volume above 3kl per quarter	27.0000	27.9720	3.60%
Unmetered			
Quarterly Base Fire Service Charge	960.00	994.56	3.60%

Table C.2: Allconnex Sundry Charges

District	Sundry Charges	Further details	Conditions	2010-11	2011-12	%
GC	Information Statements (Water Account Search)	Fee for the provision of information relating to water accounts. Fee includes the provision of an existing account balance, a special water meter read (where applicable) and the production of a information statement. This information may assist financial calculations associated with property ownership transfer. This fee does not include trade waste searches and is non refundable.			33.00	NEW
GC	Portable Metered Standpipe - Long Term Hire Security Deposit	Charge for Long Term Hire of an Allconnex Water portable metered standpipe: Security Deposit for metered standpipe	Deposit	1,427.58	1,478.97	3.60%
GC	Portable Metered Standpipe - Long Term Hire Daily Charge	Monthly charge for Long Term Hire of an Allconnex Water portable metered standpipe: Charge allocated on a daily basis	Per Month	42.23	43.75	3.60%
GC	Portable Metered Standpipe - Short Term Hire Daily Charge	Hire Charge for Short Term Hire (maximum 2 days) of an Allconnex Water portable metered standpipe. No deposit will be required. Basic 2 day maximum hire charge	Hire Charge	113.30	117.38	3.60%
GC	Portable Metered Standpipe - Short Term Hire Daily Charge after 2 days	Daily Charge for Short Term Hire (maximum 2 days) of an Allconnex Water portable metered standpipe. No deposit will be required. Basic 2 day maximum hire charge. Charge per day thereafter to a maximum of 28 days	per day	9.27	9.60	3.60%
GC	Standpipe Water Sales	*Allconnex Water Charge*	Per Kilolitre	*1.6450*	*1.7042*	*3.60%*
		State Bulk Water Charge	Per Kilolitre	*1.6850*	*1.9550*	*16.02%*
		Total Charge - Water sales through standpipe and to non-service charge customers (per kilolitre)	Per Kilolitre	3.3300	3.6592	9.89%
GC	Standpipe Damage	Repair Charge for Damaged Standpipe	Repair Charge	POA	POA	
GC	Water Meter Inline Field Test for 20mm and 25mm Meters	On site test using a portable device to test water meter accuracy	Refundable if meter is faulty	122.57	126.98	3.60%
GC	Water Meter Laboratory Test for 20mm and 25mm Meters	Meter removal and transport to independent laboratory for testing of accuracy for 20mm and 25mm meters	Refundable if meter is faulty	231.75	240.09	3.60%
GC	Water Meter Laboratory Test and Disassemble for 20mm and 25mm Meters.	Meter removal and transport to independent laboratory for testing of accuracy for 20mm and 25mm meters and disassembly for testing of internal components	Refundable if meter is faulty	313.12	324.39	3.60%
GC	Water Meter Laboratory Test for 32mm and 40mm Meters	Meter removal and transport to independent laboratory for testing of accuracy for 32mm and 40mm meters	Refundable if meter is faulty	POA	POA	
GC	Water Meter Laboratory Test for 50mm and 80mm Meters	Meter removal and transport to independent laboratory for testing of accuracy for 50mm and 80mm meters	Refundable if meter is faulty	POA	POA	
GC	Water Meter Laboratory Test for 100mm and 150mm Meters	Meter removal and transport to independent laboratory for testing of accuracy for 100mm and 150mm meters.	Refundable if meter is faulty	POA	POA	
GC	Water Meter Laboratory Test for 200mm Meters	Meter removal and transport to independent laboratory for testing of accuracy for 200mm meters	Refundable if meter is faulty	POA	POA	
GC	Water Service Disconnection The disconnection of a water service will be carried out by Allconnex Water Officers for the disconnection fee as stated, for each connection point.		Prepaid Private Works	326.51	338.26	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard meter Installations. 20mm diameter service	Prepaid Private Works	1,291.62	1,338.12	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard meter Installations. 25mm diameter service	Prepaid Private Works	1,496.59	1,550.47	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard meter Installations. 40mm diameter service with DCV (Dual Check Valve) Backflow Prevention.	Prepaid Private Works	3,118.84	3,231.12	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard meter Installations. 50mm diameter service with DCV Backflow Prevention	Prepaid Private Works	4,106.61	4,254.45	3.60%

District	Sundry Charges	Further details	Conditions	2010-11	2011-12	%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Installation of 20mm Meter with DCV backflow prevention device only where developer has pre-installed service line and Meter Box to boundary.	Prepaid Private Works	141.11	146.19	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard meter Installations. New Duplex Dwellings (2 x 20mm dia services)	Prepaid Private Works	2,180.51	2,259.01	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard meter Installations. Redevelopment of single Residence to Duplex Dwelling Units (Extra 20mm dia Service)	Prepaid Private Works	POA	POA	
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard meter Installations. Additional 20mm dia Service to single service Duplex Dwelling Units (Applicable only to existing duplexes constructed prior to mandatory requirements for individual metering to duplexes implemented post amalgamation 22 March	Prepaid Private Works	404.79	419.36	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard meter Installations. 20mm Meter & Meter Box, only where service line to property boundary pre-installed by Developer	Prepaid Private Works	285.31	295.58	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Installation of 20mm Meter and Box (x2) on a Duplex site with pre-installed service lines.	Prepaid Private Works	523.24	542.08	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Installation of 20mm Meter and Box (x4) on a Duplex site in a dual reticulation area with pre-installed service lines.	Prepaid Private Works	1,045.45	1,083.09	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Upgrade Existing meter Installation; Upgrade from 12.7mm dia to 20mm dia service	Prepaid Private Works	1,291.62	1,338.12	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Upgrade Existing meter Installation; Upgrade from 20mm dia to 25mm dia service	Prepaid Private Works	1,496.59	1,550.47	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Fast Track Charge for 20mm Meter installation. Alternative fee for priority installation of Meter within three working days of payment date. (Applicable only to 20mm Readytap installations or a 20mm standard Meter installation where the water main is on	Prepaid Private Works	231.75	240.09	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Meter Installation by Quotation. Relocate exising metered service or locate in non standard location	Prepaid Private Works	POA	POA	
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Meter Installation by Quotation. 100mm dia service	Prepaid Private Works	POA	POA	
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Meter Installation by Quotation. 150mm dia or greater than 150mm dia service	Prepaid Private Works	POA	POA	
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard dual reticulation meter installations. 20mm Pre-installed requiring domestic (potable) meter and meter box (incl. Backflow prevention device), only where service line to property boundary pre-installed by Developer.	Prepaid Private Works	285.31	295.58	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard dual reticulation meter installations . 20mm Pre-installed requiring recycle meter and meter box (incl. backflow prevention device), only where service line to property boundary pre-installed by Developer.	Prepaid Private Works	285.31	295.58	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Rainwater meter installation. Standard dual reticulation meter installations . 20mm Pre-installed requiring domestic (potable) meter and meter box for rainwater tank system installations (incl. backflow prevention device), only where service line to prop	Prepaid Private Works	285.31	295.58	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Rainwater meter installation. 20mm diameter service and domestic (potable) meter for rainwater tank installations (including backflow prevention device).	Prepaid Private Works	1,291.62	1,338.12	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard dual reticulation meter installations . 25mm diameter service and domestic (potable) meter (incl. backflow prevention device)	Prepaid Private Works	1,496.59	1,550.47	3.60%

District	Sundry Charges	Further details	Conditions	2010-11	2011-12	%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Standard dual reticulation meter installations . 25mm diameter service and recycle meter (incl. backflow prevention device)	Prepaid Private Works	1,496.59	1,550.47	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Rainwater meter installation. Standard dual reticulation meter installations. 25mm diameter service and domestic (potable) meter for rainwater tank installations (incl. backflow prevention device)	Prepaid Private Works	1,496.59	1,550.47	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Rainwater meter installation. Standard dual reticulation meter installations . Rainwater tank system - existing 20mm domestic (potable) meter (meter conversion only)	Prepaid Private Works	101.97	105.64	3.60%
GC	Water Service Installation and Connections The installation and connection fee to be paid to Allconnex Water for constructing, fixing pipes and associated fittings shall be that for each particular water supply service and type.	Rainwater meter installation. Standard dual reticulation meter installations . Rainwater tank system - existing 25mm domestic (potable) meter (meter conversion only)	Prepaid Private Works	149.35	154.73	3.60%
GC	Water Works Raise or Lower	Prepaid Private Works	Prepaid Private Works	POA	POA	
GC	Water Systems Extensions	Prepaid Private Works	Prepaid Private Works	POA	POA	
GC	Water Connection to Existing System	Prepaid Private Works	Prepaid Private Works	POA	POA	
GC	Network Analysis Water System Capacity Review	Water Network Analysis	Project specific cost or estimate or $1,000 minimum	POA	POA	
GC	Water Flow / Pressure Testing of Allconnex Water Mains It is a requirement of the Building Act that buildings with certain floor areas have to install fire fighting services.	Charge for flow / pressure test undertaken by Allconnex Water - Single hydrant	Prepaid Private Works	319.30	330.79	3.60%
GC	Water Flow / Pressure Testing of Allconnex Water Mains It is a requirement of the Building Act that buildings with certain floor areas have to install fire fighting services.	Charge for flow / pressure test undertaken by Allconnex Water - Double hydrant	Prepaid Private Works	376.98	390.55	3.60%
GC	Sub-Division Pump Stations - Mech/Elec Inspections	Water Pump Stations	Per water pump station	1,361.66	1,410.68	3.60%
GC	Sub-Division Pump Stations - Mech/Elec Inspections	Wastewater Pump Stations	Per wastewater pump station	1,361.66	1,410.68	3.60%
GC	Search Inspections	Consultancy fees for the provision of services are charged on an hourly basis for a minimum of two hours	Per hour charge, minimum charge of 2 hours	156.56	162.20	3.60%
GC	Chemical or Biological Testing Services	Chemical or Biological Testing, and Sampling Collection Services		POA	POA	
GC	Wastewater - Service Disconnection The disconnection of a wastewater service will be carried out by Allconnex Water Officers for the disconnection fee as stated, for each connection point			587.10	608.24	3.60%
GC	Water and Wastewater Locations On site locations of Allconnex Water's Water and Wastewater Infrastructure	Call out rate per visit	Per Visit	59.74	61.89	3.60%
GC	Water and Wastewater Locations On site locations of Allconnex Water's Water and Wastewater Infrastructure	Attendance rate per 15 minutes on site	Per 15 minutes	18.54	19.21	3.60%
GC	Wastewater - Raising and lowering of Access Inspection Chambers	Raising Neck Only. 0-300mm	Prepaid Private Works	POA	POA	
GC	Wastewater - Raising and lowering of Access Inspection Chambers	Complete Chamber. 0-350mm	Prepaid Private Works	POA	POA	
GC	Wastewater - Raising and lowering of Access Inspection Chambers	Complete Chamber. 350-500mm	Prepaid Private Works	POA	POA	
GC	Wastewater - Raising and lowering of Access Inspection Chambers	Complete Chamber. 500-700mm	Prepaid Private Works	POA	POA	
GC	Wastewater - Raising and lowering of Access Inspection Chambers	Complete Chamber. 700-1050mm	Prepaid Private Works	POA	POA	
GC	Wastewater - Raising and lowering of Access Inspection Chambers	Complete Chamber. 1050-1400mm	Prepaid Private Works	POA	POA	
GC	Wastewater - Sewer Extensions	Prepaid Private Works	Prepaid Private Works	POA	POA	
GC	Wastewater - Connections to Existing Sewers	Prepaid Private Works	Prepaid Private Works	POA	POA	
GC	Building Application Relaxation Fees - Allconnex Water service main	Fee for relaxation to allow building of a structure with 2 meters of the Allconnex Water service main	Per application	303.85	314.79	3.60%
GC	Sullage and Septic Waste	Disposal of Sullage waste collected from within GCCC oat the Coombabah Trade Waste Pit. Sullage Waste	Per m3 or kilolitre	4.0800	4.2269	3.60%
GC	Sullage and Septic Waste	Disposal of Septic waste collected from within GCCC or septic and sullage waste from outside GCCC as otherwise approved by Allconnex Water at the Coombabah Trade Waste Pit. Septic Waste	Per m3 or kilolitre	130.8000	135.5088	3.60%
GC	Network Analysis Waste Water System Capacity Review	Waste Water Network Analysis	Project specific cost or estimate or $1,000 minimum	POA	POA	

District	Sundry Charges	Further details	Conditions	2010-11	2011-12	%
GC	Standard Specification SS9 Specification for Construction of Major Sewerage Works		each copy	26.78	30.52	13.96% *
GC	Standard Specification SS10 Specification for Construction of Major Water Supply Mains		each copy	26.78	30.52	13.96% *
GC	Standard Specification SS11 Specification for construction of Reservoirs		each copy	26.78	30.52	13.96% *
GC	Standard Specification SS12 General Requirements for Electrical Installations		each copy	26.78	30.52	13.96% *
GC	Standard Specification SS14 General Requirements for Mechanical Installations		each copy	26.78	30.52	13.96% *
GC	Water Reticulation Standard Specifications & Drawings 1999 Edition		each copy	26.78	30.52	13.96% *
GC	Sewer Reticulation Standard Specifications & Drawings 1999 Edition		each copy	26.78	30.52	13.96% *
GC	Tender Documents		$23.68 min or actual cost Non Refundable	POA	POA	*
GC	Delivery of tender Documents by express post		Non Refundable	10.30	11.74	13.96% *
GC	Miscellaneous documents / reports		$23.68 min or actual cost Non Refundable	POA	POA	
Logan	Standpipe Volume Charge ($/kL)	*Allconnex Water Charge*	Per Kilolitre	*$ 2.5570*	*$ 2.6490*	*3.60%*
		State Bulk Water Charge	Per Kilolitre	*$ 1.8430*	*$ 2.1130*	*14.65%*
		Metered and Elevated Standpipes- Total Charge	Per Kilolitre	$ 4.4000	$ 4.7620	8.23%
Logan	Water Service Installation	Standard residential 20mm		$ 1,264.84	$ 1,310.37	3.60%
Logan	Water Service Installation	25mm residential		$ 1,433.76	$ 1,485.38	3.60%
Logan	Water Service Installation	25mm short		$ 2,051.76	$ 2,125.62	3.60%
Logan	Water Service Installation	25mm long		$ 3,117.81	$ 3,230.05	3.60%
Logan	Water Service Installation	32mm short		$ 3,116.78	$ 3,228.98	3.60%
Logan	Water Service Installation	32mm long		$ 4,367.20	$ 4,524.42	3.60%
Logan	Water Service Installation	40mm short		$ 3,733.75	$ 3,868.17	3.60%
Logan	Water Service Installation	40mm long		$ 4,707.10	$ 4,876.56	3.60%
Logan	Water Service Installation	50mm short		$ 4,810.10	$ 4,983.26	3.60%
Logan	Water Service Installation	50mm long		$ 5,822.59	$ 6,032.20	3.60%
Logan	Other Water Service Installation	Other - Based on prepared esimate		POA	POA	
Logan	Outside Area Water Service Installation	Based on prepared estimate		POA	POA	
Logan	Outside Area Water Service Installation	20mm domestic service		$ 7,622.00	$ 7,896.39	3.60%
Logan	Extensions of Mains, Other Works	Based on prepared estimate		POA	POA	
Logan	Extensions of Mains, Other Works	Repairs to private plumbing installations		POA	POA	
Logan	Water Main Tapping (Group Title)			$ 395.52	$ 409.76	3.60%
Logan	Disconnection of water			$ 562.38	$ 582.63	3.60%
Logan	Water Meters- Accuracy tests (Deposit refunded if meter found to be faulty)	Water Consumption Test - Meter Tested on Site (20mm & 25mm only)		$ 113.30	$ 117.38	3.60%
Logan	Water Meters- Accuracy tests (Deposit refunded if meter found to be faulty)	Meter Accuracy Test 20mm - Tested by an Independent Body		$ 458.35	$ 474.85	3.60%
Logan	Water Meters- Accuracy tests (Deposit refunded if meter found to be faulty)	Meter Accuracy Test 25mm - Tested by an Independent Body		$ 458.35	$ 474.85	3.60%
Logan	Water Meters- Accuracy tests (Deposit refunded if meter found to be faulty)	Meter Accuracy Test 32mm - Tested by an Independent Body		$ 502.64	$ 520.74	3.60%
Logan	Water Meters- Accuracy tests (Deposit refunded if meter found to be faulty)	Meter Accuracy Test 40mm - Tested by an Independent Body		$ 502.64	$ 520.74	3.60%
Logan	Water Meters- Accuracy tests (Deposit refunded if meter found to be faulty)	Meter Accuracy Test 50mm - Tested by an Independent Body		$ 534.57	$ 553.81	3.60%
Logan	Water Meters- Accuracy tests (Deposit refunded if meter found to be faulty)	Meter Accuracy Test 80mm - Tested by an Independent Body		$ 534.57	$ 553.81	3.60%
Logan	Water Meters- Accuracy tests (Deposit refunded if meter found to be faulty)	Meter Accuracy Test 100mm - Tested by an Independent Body		$ 594.31	$ 615.71	3.60%
Logan	Water Meters- Related Services	Supply only of a replacement meter box and lid		$ 39.44	$ 40.86	3.60%
Logan	Water Meters- Related Services	Supply and installation of a replacement meter box and lid		$ 132.45	$ 137.22	3.60%
Logan	Water Meters- Related Services	Replace stolen water meter		$ 165.83	$ 171.80	3.60%
Logan	Water Meters- Related Services	Sale of water meters and associated equipment		POA	POA	
Logan	Water Meters- Related Services	Commercial		POA	POA	
Logan	Repairs to Standard 20mm Water Service	During Work Hours		$ 277.84	$ 287.84	3.60%
Logan	Repairs to Standard 20mm Water Service	After Hours		$ 358.44	$ 371.34	3.60%
Logan	Sale of Water and Related Services	Replacement Proximity Reader - Council Overhead Standpipe (Refundable Deposit)		$ 51.50	$ 53.35	3.60%
Logan	Sale of Water and Related Services	New Proximity Reader - Council Overhead Standpipe (Refundable Deposit)		$ 103.00	$ 106.71	3.60%
Logan	Sale of Water and Related Services	Water Tag - elevated standpipes (Beaudesert only)		$ 20.00	$ 20.72	3.60%
Logan	Sale of Water and Related Services	WEMP Annual Monitoring Fee		$ 73.54	$ 76.19	3.60%
Logan	Sale of Water and Related Services	Water Efficiency Audit		POA	POA	
Logan	Water Meter Reading	Special Reading		$ 50.83	$ 52.66	3.60%
Logan	Water Meter Reading	Body Corporate - Sub Metering Charge		$ 2.57	$ 2.66	3.60%
Logan	INFORMATIONS STATEMENTS (Water Account Search)	Fee for the provision of information relating to water accounts. Fee includes the provision of an existing account balance, a special water meter read (where applicable) and the production of a information statement. This information may assist financial calculations associated with property ownership transfer. This fee does not include trade waste searches and is non refundable.			$ 33.00	

District	Sundry Charges	Further details	Conditions	2010-11	2011-12	%
Logan	Sewerage reticulation, extensions and other work	Extension of Mains, Other Works	On Application	POA	POA	
Logan	Sewerage reticulation, extensions and other work	Raising / Lowering of Manholes	On Application	POA	POA	
Logan	Sewerage reticulation, extensions and other work	Capping off disconnected sewer junction		$ 956.87	$ 991.32	3.60%
Logan	Installation of Sewer Junction- Standard 100mm diameter sewer junction to existing 150mm diameter sewer	1 - 1.5m deep		POA	POA	
Logan	Installation of Sewer Junction- Standard 100mm diameter sewer junction to existing 150mm diameter sewer	1.5m - 3.0m deep		POA	POA	
Logan	Installation of Sewer Junction- Standard 100mm diameter sewer junction to existing 150mm diameter sewer	Over 3.0m deep		POA	POA	
Logan	Installation of Sewer Junction- Standard 100mm diameter sewer junction to existing 150mm diameter sewer	Non standard junctions		POA	POA	
Logan	Repairs to Private Drainage- Clearing Blocked House Drain	Normal Working Hours - first hour on site		$ 191.01	$ 197.89	3.60%
Logan	Repairs to Private Drainage- Clearing Blocked House Drain	Normal Working Hours - every subsequent quarter hour or part thereof		$ 35.39	$ 36.66	3.60%
Logan	Repairs to Private Drainage- Clearing Blocked House Drain	After Hours & Public Holidays - first hour on site		$ 264.98	$ 274.52	3.60%
Logan	Repairs to Private Drainage- Clearing Blocked House Drain	After Hours & Public Holidays - every subsequent quarter hour or part thereof		$ 53.09	$ 55.00	3.60%
Logan	Camera Inspection of sewerage lines	private properties - swimming pools only	(Includes 2 inspections - before and after works)	$ 932.35	$ 965.91	3.60%
Logan	On Site supervision- Water and Wastewater	Supervision - per hour or part thereof		$ 101.40	$ 105.05	3.60%
Logan	Liquid Waste	Septic & Holding Tank - per kL or part thereof		$ 51.60	$ 53.46	3.60%
Logan	Liquid Waste	Other		POA	POA	
Logan	Laboratory Services	Tests		POA	POA	
Logan	Minor Building Works	Build near sewer application (GC transferring area only)	Per application	$ 344.02	$ 356.40	3.60%
Redland	Disposal of Grease Waste at a suitable location (per Kl)		per KL	$ 404.4000	$ 418.9584	3.60%
Redland	Disposal of Chemical Toilet Waste at a suitable location (per Kl)		per KL	$ 108.0000	$ 111.8880	3.60%
Redland	Disposal of Domestic Strength Sewage at a suitable location (per Kl)		per KL	$ 7.3200	$ 7.5835	3.60%
Redland	MAINLAND - Raising/Lowering Sewer Manhole Fixed Charge - Materials and Plant hire as required		fixed charge	POA	POA	
Redland	MAINLAND - Raising/Lowering Sewer Manhole Additional charge per hour - Materials and Plant hire as required		per hour	POA	POA	
Redland	ISLAND - Raising/Lowering Sewer Manhole Fixed Charge - Materials and Plant hire as required		fixed charge	POA	POA	
Redland	ISLAND - Raising/Lowering Sewer Manhole Additional charge per hour - Materials and Plant hire as required		per hour	POA	POA	
Redland	Removal of Obstruction from house drain (additional per hour, does not include weekends)		fixed charge	$ 151.68	$ 157.14	3.60%
Redland	Removal of Obstruction from house drain (additional per hour, does not include weekends)		per hour	$ 389.34	$ 403.36	3.60%
Redland	Information Statements (Water Account Search)	Fee for the provision of information relating to water accounts. Fee includes the provision of an existing account balance, a special water meter read (where applicable) and the production of a information statement. This information may assist financial calculations associated with property ownership transfer. This fee does not include trade waste searches and is non refundable.	per application		$ 33.00	
Redland	WEMP Fee	Processing of application	per application	$ 246.17	$ 255.03	3.60%
Redland	Water Meters - MAINLAND	Water Meter Search - MAINLAND (includes Coochiemudlo Island)	per search	$ 59.74	$ 61.89	3.60%
Redland	Water Meters - MAINLAND	Water Meter Search Admin Fee (applied to search requests cancelled after processing has commenced)	per search	$ 18.70	$ 19.37	3.60%
Redland	Water Meters - MAINLAND	On Site Meter Accuracy test - MAINLAND (includes Coochiemudlo Island) (site based meter check with calibrated meter, Refundable if meter found to be inaccurate)	per read	$ 58.71	$ 60.82	3.60%
Redland	Water Meters - MAINLAND	Verification Meter Accuracy MAINLAND (includes Coochiemudlo Island) (removal of meter and NATA lab test, 20mm standard meter only, larger meters POA)	per inspection	$ 505.73	$ 523.94	3.60%
Redland	Water Meters - MAINLAND	Water Meter Search - ISLANDS	per search	$ 64.89	$ 67.23	3.60%
Redland	Water Meters - MAINLAND	On Site Meter Accuracy test - ISLANDS (site based meter check with calibrated meter, Refundable if meter found to be inaccurate)	per read	$ 89.61	$ 92.84	3.60%
Redland	Water Meters - MAINLAND	Verification Meter Accuracy ISLAND (removal of meter and NATA lab test, 20mm standard meter only, larger meters POA)	per inspection	$ 518.09	$ 536.74	3.60%
Redland	Water Meters - MAINLAND	20mm Water Service Connection to Water Main - MAINLAND (includes (No Suggestions) Island) (short side connections, cost for road crossing additional)	per connection	$ 865.20	$ 896.35	3.60%
Redland	Water Meters - MAINLAND	20mm Water Service Connection to Water Main - ISLAND (short side connections, cost for road crossing additional)	per connection	$ 900.22	$ 932.63	3.60%
Redland	Water Meters - MAINLAND	25mm Standard Short Water Service Connection to Water Main (cost for road crossing additional) - MAINLAND	per connection	POA	POA	
Redland	Water Meters - MAINLAND	25mm Standard Short Water Service Connection to Water Main (cost for road crossing additional) - ISLAND	per connection	POA	POA	

District	Sundry Charges	Further details	Conditions	2010-11	2011-12	%
Redland	Water Tanker Filling Permit per month		per application	$ 57.68	$ 59.76	3.60%
Redland	(Additional or replacement cards)		per application	$ 5.15	$ 5.34	3.60%
Redland	Metered Standpipes per month *** water at commercial rates		per application	$ 142.14	$ 147.26	3.60%
Redland	Bond for metered standpipe (refundable upon satisfactory return of standpipe)		bond	$ 1,854.00	$ 1,920.74	3.60%
Redland	Alterations to Meter Position MAINLAND (includes Coochiemudlo Island)	Alter height only of meter	per application	POA	POA	
Redland	Alterations to Meter Position MAINLAND (includes Coochiemudlo Island)	Relocate meter or stopcock	per application	POA	POA	
Redland	Alterations to Meter Position MAINLAND (includes Coochiemudlo Island)	Provision of Water Meter 20mm (new properties only - no installation)	per meter	$ 294.95	$ 305.57	3.60%
Redland	Alterations to Meter Position MAINLAND (includes Coochiemudlo Island)	Provision of Water Meter plus stop valve (no installation)	per meter	$ 557.13	$ 577.19	3.60%
Redland	Alterations to Meter Position MAINLAND (includes Coochiemudlo Island)	Water main pre-test filling (water consumption at commercial rate)	per application	$ 361.53	$ 374.55	3.60%
Redland	Alterations to Meter Position MAINLAND (includes Coochiemudlo Island)	Water Services and/or Water Meter Disconnection Fee	per application	$ 467.62	$ 484.45	3.60%
Redland	Alterations to Meter Position ISLAND	Alter height only of meter	per application	POA	POA	
Redland	Alterations to Meter Position ISLAND	Relocate meter or stopcock	per application	POA	POA	
Redland	Alterations to Meter Position ISLAND	Water main pre-test filling (water consumption at commercial rate)	per application	$ 373.89	$ 387.35	3.60%
Redland	Alterations to Meter Position ISLAND	Water Services and/or Water Meter Disconnection Fee	per application	$ 388.31	$ 402.29	3.60%

*Note: * Subsequent to its submission, Allconnex advised that a small number of sundry charges for the provision of hard copies of specifications and tender documents have increased by 13.96%. Allconnex has advised its view that these charges are not relevant to households and small businesses and therefore not covered by the cap. Further, as electronic versions of the specifications and tender documents are freely available there is no revenue allocated to these charges in 2010-11 and 2011-12.*

APPENDIX D: UNITYWATER CAPPED PRICES

Table D.1: Unitywater Capped Prices

Schedule - Utility Pricing Comparison 2010/11 to 2011/12		2010/11	2011/12	
Tariff Category	**Unit**	**Tariff Rate**	**Tariff Rate**	**Change %**
Schedule 2a - Drinking Water				
Sunshine Coast Residential				
Base Charge - Residential	per residence	$224.00	$232.06	3.60%
Base Charge - Unconnected	per lot	$224.00	$232.06	3.60%
Volumetric Tier : 0 - 219 kl	per kl	$0.52	$0.538	3.46%
Volumetric Tier : above 219 kl	per kl	$1.00	$1.036	3.60%
Bulk Water Charge	per kl	$1.07	$1.340	25.23%
Moreton Bay Residential				
Base Charge - Residential : Caboolture	per residence	$334.00	$346.02	3.60%
Base Charge - Unconnected : Caboolture	per lot	$334.00	$346.02	3.60%
Base Charge - Residential : Pine	per residence	$334.00	$346.02	3.60%
Base Charge - Unconnected : Pine	per lot	$334.00	$346.02	3.60%
Base Charge - Residential : Redcliffe	per residence	$334.00	$346.02	3.60%
Base Charge - Unconnected : Redcliffe	per lot	$334.00	$346.02	3.60%
Volumetric Tier : 0 - 280 kl	per kl	$0.17	$0.176	3.53%
Volumetric Tier : 281 - 360 kl	per kl	$0.82	$0.849	3.54%
Volumetric Tier : above 360 kl	per kl	$1.26	$1.305	3.57%
Bulk Water Charge	per kl	$1.65	$1.922	16.48%
Base Charge - Pine Rivers Block of Flats < 25mm pipe (subject to deemed factor)	per connection	$334.00	$346.02	3.60%
Base Charge - Pine Rivers Block of Flats 32mm pipe (subject to deemed factor)	per connection	$854.00	$884.74	3.60%
Base Charge - Pine Rivers Block of Flats 40mm pipe (subject to deemed factor)	per connection	$1,335.00	$1,383.06	3.60%
Base Charge - Pine Rivers Block of Flats 50mm pipe (subject to deemed factor)	per connection	$2,086.00	$2,161.09	3.60%
Base Charge - Pine Rivers Block of Flats 65mm pipe (subject to deemed factor)	per connection	$3,524.00	$3,650.86	3.60%
Base Charge - Pine Rivers Block of Flats 80mm pipe (subject to deemed factor)	per connection	$5,339.00	$5,531.20	3.60%
Base Charge - Pine Rivers Block of Flats 100mm pipe (subject to deemed factor)	per connection	$8,342.00	$8,642.31	3.60%
Base Charge - Pine Rivers Block of Flats 150mm pipe (subject to deemed factor)	per connection	$18,770.00	$19,445.72	3.60%
Base Charge - Pine Rivers Block of Flats 200mm pipe (subject to deemed factor)	per connection	$33,368.00	$34,569.24	3.60%
Base Charge - Pine Rivers Block of Flats 225mm pipe (subject to deemed factor)	per connection	$42,231.00	$43,751.31	3.60%
Base Charge - Pine Rivers Block of Flats 250mm pipe (subject to deemed factor)	per connection	$52,138.00	$54,014.96	3.60%
Base Charge - Pine Rivers Block of Flats 300mm pipe (subject to deemed factor)	per connection	$75,078.00	$77,780.80	3.60%
Sunshine Coast Non-Residential				
Volumetric Tier : 0 - 219 kl	per kl	$0.52	$0.538	3.46%
Volumetric Tier : above 219 kl	per kl	$1.00	$1.036	3.60%
Bulk Water Charge	per kl	$1.07	$1.340	25.23%
Base Charge - Unconnected	per lot	$224.00	$232.06	3.60%
Base Charge - Connected < 25mm pipe	per connection	$224.00	$232.06	3.60%
Base Charge - Connected 32mm pipe	per connection	$576.00	$596.73	3.60%
Base Charge - Connected 40mm pipe	per connection	$900.00	$932.40	3.60%
Base Charge - Connected 50mm pipe	per connection	$1,406.00	$1,456.61	3.60%
Base Charge - Connected 80mm pipe	per connection	$3,600.00	$3,729.60	3.60%
Base Charge - Connected 100mm pipe	per connection	$5,625.00	$5,827.50	3.60%
Base Charge - Connected 150mm pipe	per connection	$12,656.00	$13,111.61	3.60%
Base Charge - Connected 200mm pipe	per connection	$22,500.00	$23,310.00	3.60%
Moreton Bay Non-Residential				
Volumetric Tier : 0 - 280 kl	per kl	$0.17	$0.176	3.53%
Volumetric Tier : 281 - 360 kl	per kl	$0.82	$0.849	3.54%
Volumetric Tier : above 360 kl	per kl	$1.26	$1.305	3.57%
Bulk Water Charge	per kl	$1.65	$1.922	16.48%
Base Charge - Unconnected Caboolture	per lot	$334.00	$346.02	3.60%
Base Charge - Connected Caboolture	per connection	$334.00	$346.02	3.60%
Base Charge - Community Caboolture	per connection	$334.00	$346.02	3.60%
Base Charge - Unconnected Pine	per lot	$334.00	$346.02	3.60%
Base Charge - Connected Pine	per connection	$334.00	$346.02	3.60%
Base Charge - Community Pine	per connection	$334.00	$346.02	3.60%
Base Charge - Unconnected Recliffe	per lot	$334.00	$346.02	3.60%
Base Charge - Connected Redcliffe	per connection	$334.00	$346.02	3.60%
Base Charge - Community Redcliffe	per connection	$334.00	$346.02	3.60%
Base Charge - Pine Rivers Commercial/Industrial < 25mm pipe (subject to deemed factor)	per connection	$334.00	$346.02	3.60%
Base Charge - Pine Rivers Commercial/Industrial 32mm pipe (subject to deemed factor)	per connection	$854.00	$884.74	3.60%
Base Charge - Pine Rivers Commercial/Industrial 40mm pipe (subject to deemed factor)	per connection	$1,335.00	$1,383.06	3.60%
Base Charge - Pine Rivers Commercial/Industrial 50mm pipe (subject to deemed factor)	per connection	$2,086.00	$2,161.09	3.60%
Base Charge - Pine Rivers Commercial/Industrial 65mm pipe (subject to deemed factor)	per connection	$3,524.00	$3,650.86	3.60%
Base Charge - Pine Rivers Commercial/Industrial 80mm pipe (subject to deemed factor)	per connection	$5,339.00	$5,531.20	3.60%
Base Charge - Pine Rivers Commercial/Industrial 100mm pipe (subject to deemed factor)	per connection	$8,342.00	$8,642.31	3.60%
Base Charge - Pine Rivers Commercial/Industrial 150mm pipe (subject to deemed factor)	per connection	$18,770.00	$19,445.72	3.60%
Base Charge - Pine Rivers Commercial/Industrial 200mm pipe (subject to deemed factor)	per connection	$33,368.00	$34,569.24	3.60%
Base Charge - Pine Rivers Commercial/Industrial 225mm pipe (subject to deemed factor)	per connection	$42,231.00	$43,751.31	3.60%
Base Charge - Pine Rivers Commercial/Industrial 250mm pipe (subject to deemed factor)	per connection	$52,138.00	$54,014.96	3.60%
Base Charge - Pine Rivers Commercial/Industrial 300mm pipe (subject to deemed factor)	per connection	$75,078.00	$77,780.80	3.60%

Schedule - Utility Pricing Comparison 2010/11 to 2011/12		2010/11	2011/12	
Tariff Category	**Unit**	**Tariff Rate**	**Tariff Rate**	**Change %**
Schedule 2b - Sewerage Services				
Sunshine Coast Residential				
Base Charge - Residential Dwelling/Unit	per residence	$551.00	$570.83	3.60%
Base Charge - Unconnected Dwelling/Unit	per residence	$551.00	$570.83	3.60%
Base Charge - Unconnected Lots	per lot	$528.00	$547.00	3.60%
Body Corporate & Community Management Act 1997 Lots with Common Sewerage	per pedestal	$551.00	$570.83	3.60%
Non-residential Base Charge - Dwelling/Unit in Common Effluent Scheme in Caloundra	per residence	$439.00	$454.80	3.60%
Non-residential Base Charge - Vacant Lot in Common Effluent Scheme in Caloundra	per lot	$409.00	$423.72	3.60%
Non-residential Base Charge - Cooroy, Lake MacDonald and Lake Cootharba Septic Effluent	per pedestal	$464.00	$480.70	3.60%
Moreton Bay Residential				
Base Charge - Residential Dwelling/Unit Caboolture	per residence	$719.00	$744.88	3.60%
Base Charge - Residential Dwelling/Unit Pine	per residence	$719.00	$744.88	3.60%
Base Charge - Residential Dwelling/Unit Redcliffe	per residence	$719.00	$744.88	3.60%
Base Charge - Unconnected Lots in Pine Rivers	per lot	$719.00	$744.88	3.60%
Base Charge - Unconnected Lots in Caboolture	per lot	$665.00	$688.94	3.60%
Base Charge - Unconnected Lots in Redcliffe : 1st Lot	per lot	$550.00	$569.80	3.60%
Base Charge - Unconnected Lots in Redcliffe : Lots in excess of 3 in each parcel of land	per lot	$275.00	$284.90	3.60%
Sunshine Coast Non-Residential				
Caloundra				
Base Charge - General Commercial Industrial : 1st Pedestal	per pedestal	$586.00	$607.09	3.60%
Base Charge - General Commercial Industrial : Each Additional Pedestal	per pedestal	$439.00	$454.80	3.60%
Base Charge - General Commercial Industrial : Urinals	per urinal (0.5m)	$147.00	$152.29	3.60%
Base Charge - General Commercial Industrial : Each Strata Unit With Common Sewerage	per unit	$294.00	$304.58	3.60%
Base Charge - Schools/Hospitals : 1st Pedestal	per pedestal	$586.00	$607.09	3.60%
Base Charge - Schools/Hospitals : Each Additional Pedestal	per pedestal	$439.00	$454.80	3.60%
Base Charge - Schools/Hospitals : Urinals	per urinal (0.5m)	$294.00	$304.58	3.60%
Base Charge - Hooper Lodge : Double Unit	per unit	$439.00	$454.80	3.60%
Base Charge - Hooper Lodge : Single Unit	per unit	$294.00	$304.58	3.60%
Backwash Permit		$643.00	$666.14	3.60%
Common Effluent Disposal - vacant		$409.00	$423.72	3.60%
Noosa				
Base Charge - General Commercial Industrial : 1st Pedestal	per pedestal	$623.00	$645.42	3.60%
Base Charge - General Commercial Industrial : 2nd Pedestal	per pedestal	$623.00	$645.42	3.60%
Base Charge - General Commercial Industrial : Each Additional Pedestal	per pedestal	$549.00	$568.76	3.60%
Base Charge - General Commercial Industrial : Per 2m Urinals	per urinal (2m)	$549.00	$568.76	3.60%
Base Charge - 2+ Bedroom Retirement Village Dwelling	per dwelling	$549.00	$568.76	3.60%
Base Charge - 1 Bedroom Retirement Village Dwelling	per dwelling	$511.00	$529.39	3.60%
Base Charge - Child Care Center/Kindergarten Infant Pedestal	per pedestal	$412.00	$426.83	3.60%
Base Charge - Tewantin Sports Complex Serviced by Common Effluent Line	per pedestal	$623.00	$645.42	3.60%
Base Charge - Cooroy, Lake MacDonald and Lake Cootharba Septic Effluent Schemes		$464.00	$480.70	3.60%
Maroochy				
Base Charge - Maroochy Each Unit under Body Corp & Comm Mgmt Act 1997 (subject to deemed factor)	per connection	$406.00	$420.61	3.60%
Base Charge - Maroochy Commercial/Industrial 20 - 25mm pipe (subject to deemed factor)	per connection	$406.00	$420.61	3.60%
Base Charge - Maroochy Commercial/Industrial 32mm pipe (subject to deemed factor)	per connection	$1,037.00	$1,074.33	3.60%
Base Charge - Maroochy Commercial/Industrial 40mm pipe (subject to deemed factor)	per connection	$1,620.00	$1,678.32	3.60%
Base Charge - Maroochy Commercial/Industrial 50mm pipe (subject to deemed factor)	per connection	$2,531.00	$2,622.11	3.60%
Base Charge - Maroochy Commercial/Industrial 80mm pipe (subject to deemed factor)	per connection	$6,478.00	$6,711.20	3.60%
Base Charge - Maroochy Commercial/Industrial 100mm pipe (subject to deemed factor)	per connection	$10,121.00	$10,485.35	3.60%
Base Charge - Maroochy Commercial/Industrial 150mm pipe (subject to deemed factor)	per connection	$22,772.00	$23,591.79	3.60%
Volumetric Sewerage Charge	per kl	$2.57	$2.662	3.58%
Moreton Bay Non-Residential				
Caboolture				
Base Charge - General Commercial Industrial : Pedestal	per pedestal	$719.00	$744.88	3.60%
Base Charge - General Commercial Industrial : Sanitry Napkin Disposal Unit	per unit	$719.00	$744.88	3.60%
Base Charge - General Commercial Industrial : Urinals	per urinal	$719.00	$744.88	3.60%
Base Charge - Unconnected Lots	per lot	$665.00	$688.94	3.60%
Caravan Parks : Unconnected Sites	per site	$430.00	$445.48	3.60%
Caravan Parks : Connected Sites	per site	$576.00	$596.73	3.60%
Pine Rivers				
Base Charge - General Commercial Industrial : Pedestal	per pedestal	$719.00	$744.88	3.60%
Base Charge - General Commercial Industrial : Urinals	per urinal	$719.00	$744.88	3.60%
Base Charge - Unconnected Lots	per lot	$719.00	$744.88	3.60%
Base Charge - Retirement Villages : Each Detached House/Residential Unit	per unit	$719.00	$744.88	3.60%

Schedule - Utility Pricing Comparison 2010/11 to 2011/12		2010/11	2011/12	
Tariff Category	**Unit**	**Tariff Rate**	**Tariff Rate**	**Change %**
Redcliffe				
Base Charge - General Commercial Industrial : Pedestal	per pedestal	$719.00	$744.88	3.60%
Base Charge - General Commercial Industrial : Urinals	per urinal	$719.00	$744.88	3.60%
Base Charge - Body Corporate & Community Management Act 1997 Lot	per lot	$719.00	$744.88	3.60%
Base Charge - Each Lot in Excess of 3 in Each Parcel of Land	per lot	$275.00	$284.90	3.60%
Base Charge - Unconnected Lots	per lot	$550.00	$569.80	3.60%
Caravan Parks	Each 227 kl consumed in the previous year	$719.00	$744.88	3.60%
Hotels/Motels/Churches/Den. Schools/Discounted/Other (Redcliffe)	Each pedestal/unit or 227 kl consumed in the previous year (whichever is the lesser)	$719.00	$744.88	3.60%
Horse Washing Facilities - Each Facility on a separate property	per facility	$719.00	$744.88	3.60%
Trade Waste Generators (Redcliffe)	Each pedestal/unit or 227 kl consumed in the previous year (whichever is the greater)	$719.00	$744.88	3.60%
Notwithstanding that land may be subject to a sewerage charge in another category Unitywater may approve that such land in Redcliffe be charged:	Each pedestal/unit or 227 kl consumed in the previous year (whichever is the greater)	$359.00	$371.92	3.60%

Table D.2: Unitywater Miscellaneous Fees and Charges

Unitywater

ABN: 89 791 717 472

Miscellaneous Fees and Charges
2011/12

Fee Description	Fee Category	Unit	2010/11 Total Fee	2011/12 Total Fee	Change %
Fixed fill station access tag	Bulk Water	per tag	158.00	150.00	-5.1%
Fixed fill station consumption	Bulk Water	per kilolitre	2.06	2.32	12.6% *
Cost of water lost through damaged infrastructure	Bulk Water	per kilolitre	2.90	2.92	0.7%
Standard Map Printout - A4 Produced by any staff member from WebMapping application. May include any of the following layers; Sewerage, Water, Recycled Water, DCDB and Road Names.	GIS Mapping	each	13.20	13.55	2.7%
Standard Map Printout - A3 Produced by any staff member with access to an A3 printer from WebMapping application. May include any of the following layers; Sewerage, Water, Recycled Water, DCDB and Road Names.	GIS Mapping	each	22.00	22.55	2.5%
Custom Mapping Minimum charge A4 $50.00 Minimum charge A3 $55.00 Minimum charge A2 $60.00 Minimum charge A1 $75.00 Minimum charge A0 $100.00 This fee applies to maps with a choice of any or all of the following - Sewerage, Water, Recycled Water and basic data (DCDB and Road Names). Each layer other than those mentioned is charged at an additional $5.00 per layer. Non-Standard paper and / or consumables may also attract an additional fee.	GIS Mapping	each	Price on Application	Price on Application	
Sewer & Water Infrastructure Maps - A4 Portrays details of water, sewer, recycled water infrastructure, property boundaries and road names for a given property (Lot on Plan). It contains an additional schedule of tabulated data that provides a detailed report on each item of infrastructure on the map. May compliment a property search. Provides more information than a DBYD search.	GIS Mapping	per sheet	26.00	26.65	2.5%
Sewer & Water Infrastructure Maps - A3 Portrays details of water, sewer, recycled water infrastructure, property boundaries and road names for a given property (Lot on Plan). It contains an additional schedule of tabulated data that provides a detailed report on each item of infrastructure on the map. May compliment a property search. Provides more information than a DBYD search.	GIS Mapping	per sheet	30.00	30.75	2.5%
Sewer & Water Infrastructure Maps - A2 Portrays details of water, sewer, recycled water infrastructure, property boundaries and road names for a given property (Lot on Plan). It contains an additional schedule of tabulated data that provides a detailed report on each item of infrastructure on the map. May compliment a property search. Provides more information than a DBYD search. Large area requests for this product will attract fees normally used for custom mapping due to the additional time to construct and prepare the map and tabulated data - minimum charge $60.	GIS Mapping	per sheet	Price on Application	Price on Application	
Sewer & Water Infrastructure Maps - A1 Portrays details of water, sewer, recycled water infrastructure, property boundaries and road names for a given property (Lot on Plan). It contains an additional schedule of tabulated data that provides a detailed report on each item of infrastructure on the map. May compliment a property search. Provides more information than a DBYD search. Large area requests for this product will attract fees normally used for custom mapping due to the additional time to construct and prepare the map and tabulated data - minimum charge $75	GIS Mapping	per sheet	Price on Application	Price on Application	
Data Supply - Minimum charge $225.50 for the first square kilometre Unitywater layers in provided in requested electronic data format for consultants and developers. This includes the preparation of a mandatory Spatial Data Licence Agreement. Please note Aerial Photography is not distributed by Unitywater at this time - if this information is required contact the relevant Regional Council. An additional cost for electronic media (DVD, External Hard Drive etc) may be incurred depending on the size of the overall data to be delivered.	GIS Mapping	per square kilometre	220.00	225.50	2.5%
Data Supply - Additional square kilometre after minimum Unitywater layers in provided in requested electronic data format for consultants and developers.	GIS Mapping	per square kilometre	55.00	56.40	2.5%

Fee Description	Fee Category	Unit	2010/11 Total Fee	2011/12 Total Fee	Change %
Postage Delivery of GIS products via mail will incur an additional charge. A minimum charge of $4.40 applies. May include a large postal Tube, cardboard disk box or the most appropriate form to best protect the delivery in transit. Courier postage is not available - if required the Customer needs to arrange for courier pickup and delivery at their own expense.	GIS Mapping	each	Price on Application	Price on Application	
Right to Information - Application fee	Information Management	per application	38.00	38.00	0.0%
Right to Information 2009 - Access Charge	Information Management	per application	Price On Application	Price On Application	
Right to Information 2009 - Processing Charge < 5 hours - no charge >5 hours - charged in 15 minute blocks or part thereof, inclusive of the first 5 hours	Information Management	per 15 mins or part thereof	Price On Application	Price On Application	
Laboratory Fees	Laboratory Testing	per test	Price On Application	Price On Application	
Testing of rainwater tank, bore water, dam water or other water usd for domestic purposes	Laboratory Testing	per test	103.70	106.30	2.5%
Long Term Hire of 25mm Metered Hydrant Standpipes - Deposit	Metered Hydrant Standpipes	per standpipe hire	550.00	550.00	0.0%
Long Term Hire of 32mm Metered Hydrant Standpipes - Deposit	Metered Hydrant Standpipes	per standpipe hire	900.00	900.00	0.0%
Long Term Hire of 65mm & low flow metered Hydrant Standpipes - Deposit	Metered Hydrant Standpipes	per standpipe hire	1650.00	1,750.00	6.1% *
Long term hire charge for metered hydrant standpipes (more than 2 weeks)	Metered Hydrant Standpipes	per month (or part thereof)	57.00	60.00	5.3% *
Consumption charge for metered hydrant standpipes (Long & Short term)	Metered Hydrant Standpipes	per kilolitre	2.90	2.92	0.7%
Late meter read fee for metered hydrant standpipes (Long term hire)	Metered Hydrant Standpipes	per month (or part thereof)	60.50	62.00	2.5%
Non-Return fee for metered hydrant standpipes (Long & Short term hire)	Metered Hydrant Standpipes	per month (or part thereof)	60.50	62.00	2.5%
Short term hire charge for metered hydrant standpipes (maximum of 2 weeks)	Metered Hydrant Standpipes	per standpipe/fortnight	110.00	80.00	-27.3%
Installation of new sewerage network connection	Sewerage	per connection	Price on Application	Price on Application	
Standard connection charge (locate and mark position of existing junction)	Sewerage	each	74.00	75.85	2.5%
Raising/Lowering of Sewer Manholes on Private Property	Sewerage	per manhole	Price On Application	Price On Application	
Special Sewerage Connection Fee - Godwin Beach, Beachmere Road Industrial Area and Donnybrook	Sewerage	per connection	441.00	452.00	2.5%
Closed Circuit Television (CCTV) Survey of Sewer Length Related to Construction Adjacent to Sewer	Sewerage	per application	Price On Application	475.00	
Clearing Blocked Drains (After Hours) - 4 hours minimum	Sewerage	per hour	185.90	190.55	2.5%
Clearing Blocked Drains (Normal Hours) - 2 hours minimum	Sewerage	per hour	146.30	149.95	2.5%
Sewerage Disconnection	Sewerage	per application	Price On Application	Price on Application	
Application fee to assess applications from telecommunication carriers who wish to install facilities on Unitywater assets	Telecommunication Access	per application	2200.00	2,200.00	0.0%
Pressure and flow inspection test	Water	per inspection	103.85	106.50	2.6%
Domestic Water Meter Replacement, Calibration and Strip Meters (refundable if meter faulty)	Water	per meter	Price On Application	Price on Application	
Installation of Lockable Ball Valve for Water Meter	Water	per meter	93.50	95.70	2.4%
Raise or Lower Water Meter Box (Below Ground Meter Installations Only)	Water	per meter	85.00	87.00	2.4%
Water Meter Relocation Fee	Water	per meter	Price On Application	Price On Application	
Fee to Convert an Above Ground 20mm Meter to a Below Ground 20mm Meter	Water	per meter	237.00	244.00	3.0%
Location of Water Meter	Water	per meter	112.20	115.50	2.9%
Excavating and locating existing connection by Unitywater Services on site	Water	each	442.00	453.00	2.5%
Administration Charge for Fees Refund - water connections	Water	per refund	63.80	65.40	2.5%
Connection Fee for 20mm diameter Water Service (where service pipe exists)	Water	per connection	401.00	411.00	2.5%
Connection Fee for 20mm diameter Water Service and Meter	Water	per connection	769.00	788.00	2.5%
Connection Fee for Fire Services	Water	per connection	Price On Application	Price On Application	
Connection Fee for greater than 25mm diameter Water Service and Meter	Water	per connection	Price On Application	Price On Application	
Connection Fee for 20mm diameter Water Service Pipe Only	Water	per connection	479.00	491.00	2.5%
Connection Fee for 25mm diameter Water Service and Meter	Water	per connection	878.00	900.00	2.5%
Water Supply - New metered service connection - 20 mm Duplex includes 2 metres (no service pipe)	Water	per connection	Price On Application	Price on Application	
Upgrade existing 12mm to 20mm service	Water	each	Price On Application	Price on Application	
Water meter charge applying to community titled properties (excluding installation) per unit - Price per hour for electronic water meter inspection required by 3rd party	Water	per hour	105.00	108.00	2.9%
Water meter charge applying to community titled properties (excluding installation) per unit - Internal metering system including meter (supply & commissioning only)	Water	each	Price on Application	Price on Application	
Water meter charge applying to community titled properties (excluding installation) per unit - Price per hour for on-site inspection	Water	per hour	105.00	108.00	2.9%
Water Supply - New metered service connection - 20mm - where pre tapped service pipe exists	Water	per connection	276.00	283.00	2.5%
Water Supply - New metered service connection - 20mm - where no pre tapped service pipe exists	Water	per connection	1026.00	1,052.00	2.5%

Fee Description	Fee Category	Unit	2010/11 Total Fee	2011/12 Total Fee	Change %
Water Supply - New metered service connection - 25 mm	Water	per connection	1224.00	1,255.00	2.5%
Water Supply - New metered service connection - 40 mm	Water	per connection	Price on Application	Price on Application	
Water Supply - New metered service connection - 50 mm	Water	per connection	Price on Application	Price on Application	
Water Supply - New metered service connection - 80 mm or larger	Water	per connection	Price on Application	Price on Application	
Water Service Disconnection - Up to 25mm	Water	per meter	313.00	325.00	3.8% *
Water Service Disconnection - Larger than 25mm	Water	per meter	Price on Application	Price on Application	
Sewer and Water Services Search (Unimproved Land)	Water & Sewerage	per application	59.00	59.00	0.0%
Sewer and Water Services Search (Developed Land)	Water & Sewerage	per application	112.00	112.00	0.0%

These prices include GST

* Unitywater subsequently advised that in its view that these sundry charges are not covered by the CPI cap.