MAROOCHY SHIRE COUNCIL PLANNING SCHEME
POLICY NO. DC4
STORMWATER QUALITY

DC 4.1 INTRODUCTION

(1) Conventional urban development generally increases stormwater runoff quantity and decreases stormwater runoff quality.

(2) The increased stormwater quantity (i.e. flow/volume) is a direct result of converting pervious surfaces to impervious surfaces and installing collection and drainage systems to concentrate and remove stormwater as efficiently as possible.

(3) The decrease in stormwater quality results from the pollutants that are generated in urban environments combined with the improved mobility that conventional drainage systems offer these pollutants.

(4) The consequences of urban development on our waterways are felt both locally and regionally through erosion, siltation, pollution, flooding and the loss of sensitive ecosystems and habitats.

(5) It is for these reasons that Council is committed to improving the health of the Shire's waterways.

(6) This Planning Scheme Policy is the mechanism to partially fund, via developer contributions, the construction of the Trunk Stormwater Quality Treatment Network.

(7) The scope of infrastructure for which funding is obtained via this planning scheme policy is limited to Stormwater Quality Treatment infrastructure that relates to the achievement of Shire wide environmental values.

NOTE DC 4.1.7 INTERNAL STORMWATER QUALITY TREATMENT INFRASTRUCTURE FOR LOCAL ENVIRONMENTAL VALUES

a. The 'internal' Stormwater Quality Treatment infrastructure (eg. Vegetation filters, Physical and Biological filters, Aquatic Environments) is the responsibility of the Developer and will be applied as a condition in any development approval.
b. Where 'internal' Stormwater Quality Treatment infrastructure is required it is to be designed and constructed by suitably qualified personnel and provided generally in accordance with Best Management Practices.
c. For the purpose of clarity it is recorded that the Council is not responsible for the construction or the cost of any part of internal Stormwater Quality Treatment facilities.
d. Infrastructure contributions payable by a Developer pursuant to this Planning Scheme Policy are additional to the 'internal' infrastructure that the Developer is required to provide as part of a development.

(8) The provisions in this planning scheme policy relate to the Infrastructure Contributions for the trunk Stormwater Quality Treatment network as follows -

a) The Future Stormwater Quality Treatment infrastructure (see section DC 4.2);
b) The desired standard of service for Stormwater Quality Treatment infrastructure (see section DC 4.3);
c) The estimated establishment cost of future Stormwater Quality Treatment infrastructure (see section DC 4.4);
d) The estimated establishment cost of future Stormwater Quality Treatment infrastructure to be funded by the contribution (see section DC 4.5);
e) Infrastructure contributions and calculations (see sections DC 4.6 and Schedule DC 4).

DC 4.2 FUTURE TRUNK STORMWATER QUALITY TREATMENT INFRASTRUCTURE

(1) The future Stormwater Quality Treatment infrastructure to be provided across the Shire is shown on Figure 4.2.1 (refer Appendix 1).

DC 4.3 DESIRED STANDARD OF SERVICE FOR STORMWATER QUALITY TREATMENT INFRASTRUCTURE

(1) The desired standard of service for stormwater quality is outlined in Appendix 2.

DC 4.4 ESTIMATED COST OF STORMWATER QUALITY TREATMENT INFRASTRUCTURE

(1) The estimated establishment cost of Stormwater Quality Treatment Infrastructure is outlined in Table DC 4.4.1 —

TABLE DC 4.4.1 STORMWATER QUALITY TREATMENT TRUNK INFRASTRUCTURE COSTS ($)

Conceptual Treatment Styles	Structural Measures	Aquatic Environments	Physical and Biological Filters	Total
Conceptual Treatment Costs	$76,529,629	$71,353,135	$102,259,815	$250,142,580

DC 4.5 PROPORTION OF STORMWATER QUALITY TREATMENT TRUNK INFRASTRUCTURE ESTABLISHMENT COSTS TO BE FUNDED BY INFRASTRUCTURE CONTRIBUTIONS

(1) The proportion of trunk Stormwater Quality Treatment infrastructure costs attributable to infrastructure contributions is outlined in Table DC 4.5.1.

TABLE DC 4.5.1 PROPORTION OF STORMWATER QUALITY TREATMENT TRUNK INFRASTRUCTURE COSTS SUBJECT TO INFRASTRUCTURE CONTRIBUTIONS ($)

Level Of Works	Costs Not Subject To Infrastructure Contributions	Costs Subject To Infrastructure Contributions
Conceptual Treatment Costs	$125,795,560	$124,347,020

NOTE DC 4.5 PROPORTION OF STORMWATER QUALITY TREATMENT INFRASTRUCTURE COSTS TO BE FUNDED BY INFRASTRUCTURE CONTRIBUTIONS

a. The costs associated with achieving the community's Shire wide environmental values are to be shared across the full community.
b. This Policy requires new development to contribute a proportion of costs towards the achievement of the Shire wide environmental values that relates to the proportion of future development to ultimate development levels.
c. Consequently, new development is required to comply with local environmental values and contribute towards Shire wide values.
d. The remainder of the costs to achieve Shire wide environmental values will be met by Council's capital works program.

DC 4.6 INFRASTRUCTURE CONTRIBUTIONS AND CALCULATIONS

(1) Those areas of the Shire and the type of development applications subject to Stormwater Quality Treatment infrastructure contributions together with the method of calculating the contribution is outlined in Schedule DC 4.

SCHEDULE DC 4: STORMWATER QUALITY TREATMENT TRUNK INFRASTRUCTURE CONTRIBUTIONS SCHEDULE

AREAS WHERE INFRASTRUCTURE CONTRIBUTIONS APPLY

(1) All urban areas of the Shire are subject to a Shirewide infrastructure contribution.

(2) Those urban areas of the Shire subject to the stormwater quality treatment infrastructure contribution are outlined in Table 1 and the boundaries of the Planning Areas and the various precinct classes within each Planning Area are shown on the Planning Area Maps found in Volume 3 of this Planning Scheme.

TABLE 1 PLANNING AREAS SUBJECT TO STORMWATER QUALITY TREATMENT TRUNK INFRASTRUCTURE CONTRIBUTIONS

PLANNING AREA	SHIREWIDE
ALEX HEADLAND/COTTON TREE (7)	✓
BLACKALL RANGE (19)	✓
BLI BLI (13)	✓
BUDERIM (6)	✓
CENTRAL HINTERLAND (27)	✓
COOLUM BEACH (11)	✓
EUDLO CREEK VALLEY (21)	✓
EUMUNDI (17)	✓
KENILWORTH (18)	✓
KULUIN/KUNDA PARK (8)	✓
MAROOCHY RIVER PLAINS (23)	✓
MAROOCHYDORE (1)	✓
MARY RIVER VALLEY (30)	
MOOLOOLABA (4)	✓
MOUNTAIN CREEK (5)	✓
MOUNTAIN CREEK VALLEY (20)	✓
MT COOLUM (10)	✓
NAMBOUR (2)	✓
NORTH SHORE (9)	✓
NORTHERN COASTAL PLAINS (25)	✓
NORTHERN HINTERLAND (26)	
OBI OBI CREEK VALLEY (29)	
PALMWOODS (14)	✓
PETRIE/PAYNTERS CREEK PLAINS (22)	✓
SIPPY DOWNS (3)	✓
SOUTH PEREGIAN (12)	✓
SOUTHERN HINTERLAND (28)	
WOOMBYE (15)	✓
YANDINA (16)	✓
YANDINA CREEK VALLEY (24)	✓

APPLICATION OF CONTRIBUTION

(3) Subject to clause (3A), Stormwater quality treatment infrastructure contributions apply to every development application that involves –

(a) Reconfiguration a lot; or
(b) A material change of use.

(3A) The following uses are exempt from paying stormwater quality infrastructure contributions –

(a) all uses defined within the 'Rural Use' category as defined in the Planning Scheme;

(b) uses defined as 'Extractive Industry' or 'Home-based business' (provided equivalent demand for a detached house is not exceeded);
(c) a material change of use for a detached house; or
(d) Non-Complying Self-Assessable Development as defined in Planning Scheme Policy DCA-Administration.

DETERMINATION OF STORMWATER QUALITY TREATMENT TRUNK INFRASTRUCTURE UNIT RATES

(4) For the purpose of determining infrastructure contributions towards Stormwater Quality Treatment infrastructure, proportions of the costs to achieve the Shirewide Environmental Values were determined for each catchment based upon percentages of future populations and percentages of developable areas.

(5) Costs to achieve the Shirewide Environmental Values were averaged across all urban catchments within the Shire.

NOTE 1 SCHEDULE DC4

Note on Apportioning Costs

1) It would be possible to apportion the costs of Stormwater Quality Treatment infrastructure to each of the catchments individually however it is likely that this would bias or burden some catchments whose physical topographies limit the potential to treat stormwater runoff whilst still contributing significant pollutant loads to the receiving waters.

(6) The stormwater quality treatment infrastructure unit rate for each planning area is 2,192.

(7) A typical dwelling unit (with an assumed population base of 2.75 persons per dwelling unit) has been adopted as the Demand Unit for determining the infrastructure charges.

NOTE 2 SCHEDULE DC4

Note on Demand Units

a. Residential Development

The dwelling unit in all residential precincts is treated as the baseline indicator of demand, generating one demand unit. For example a ten lot subdivision generates ten demand units, whilst in a multi storey residential precinct, a building containing twenty apartments generates 20 demand units.

b. Multi Storey Residential Development

As per residential development the costs are apportioned on population projections. It is recognised that a multi storey residential development may have a lower impact on stormwater quality per person than a traditional residential development of a similar population. However, achieving the community's Shire-wide Environmental Values provides a benefit to the entire population of the Shire and hence this strategy seeks to spread the costs across the whole population.

c. Commercial or Industrial Development

The cost apportioning to commercial or industrial development is less straightforward than residential development as it is difficult to assume a population for a commercial or industrial site to derive the apportioned cost. Unlike the residential development costs, this Policy suggests that costs apportioned to commercial or industrial development be impact based and relate to the site area. To maintain a link to the principles used to derive costs applied to residential development typical impervious areas of residential and commercial/industrial developments were considered.

The Queensland Urban Drainage Manual (QUDM) suggests percentages of impervious area for residential, commercial/industrial and central business areas of approximately 50%, 90% and 100% respectively. If residential development is considered as one demand unit and assumed to represent a development area of 1000m^2 (including roadway) then a commercial or industrial site will attract apportioned costs at a rate of 1.8 (90/50) demand units per 1000m^2 or more simply 0.18 demand units per 100m^2 site area and a central business site (being land within the Town Centre Precincts) will attract apportioned costs at a rate of 2 (100/50) demand units per 1000m^2 or 0.2 demand units per 100m^2 of site area.

DETERMINATION AND CALCULATION OF STORMWATER QUALITY TREATMENT TRUNK INFRASTRUCTURE CONTRIBUTIONS

(8) The stormwater quality treatment infrastructure contribution for any proposed development is to be calculated as follows –

[(A – B) – C] x D x E

Where

A (being proposed demand) is –

i. For reconfiguring a lot the stormwater quality treatment infrastructure demand factor for the Land or lots (excluding any Dedicated Lots) included in the development application based on the method creating the higher level of demand calculated using the rates outlined in Table 2 (a) and Table 2 (b).
ii. For a material change of use the stormwater quality treatment infrastructure demand factor for the use or Land included in the development application based on the method creating the higher level of demand calculated using the rates outlined in Table 2(a) and Table 2(b).
iii. For a material change of use where an existing building or existing work is proposed to be changed or extended or a new building or work is proposed to be erected on land occupied by an existing use the stormwater quality treatment infrastructure demand factor for the use included in the development application calculated using the rates outlined in Table 2 (b).

B (being existing use demand entitlements) is –

i. For vacant land, the stormwater quality treatment infrastructure demand factor allowed for a single detached house (1cu) or where previous infrastructure contributions have been paid to Council the demand on which the previous contributions were based[1].
ii. Otherwise, the existing use demand entitlement[2].

C is any applicable infrastructure credit for the land (granted as a result of providing advanced funding for the construction of trunk infrastructure or contributing trunk infrastructure) as outlined in the Register of Infrastructure Contributions and Credits.

D is the stormwater quality treatment infrastructure unit rate as outlined in paragraph (6) of this Schedule.

E Is the stormwater quality treatment infrastructure unit charge at the date of payment (refer to Section 3.5 Infrastructure Unit Charges in Planning Scheme Policy DCA - Administration for details of the stormwater quality treatment infrastructure unit charge currently in force).

NOTE 3 SCHEDULE DC 4
Unit Charges

a. For convenience, the infrastructure unit charge for stormwater quality treatment infrastructure is contained in the Local Government's Scale of Fees and Charges.

[1] The onus is upon the applicant to provide evidence of any previous infrastructure contributions paid to Council

[2] Refer to Division 10 – Glossary of Terms in Planning Scheme Policy DCA – Administration for an explanation of the term "existing use demand entitlement".

NOTE 4 SCHEDULE DC 4

EXAMPLES

(1) (a) It is proposed to reconfigure 3 hectares of land at Coolum Beach on the boundaries of Precincts 4 (Local Centre) and 9 (Neighbourhood Residential) into:
(A): 1 lot (8000m^2) for future unspecified shops;
(B): 1 lot (5000m^2) for future house sites (unspecified number of lots)
(C): 19 residential lots on 1.7 hectares comprising 15 traditional house lots and 4 courtyard lots.

(b) No previous stormwater quality treatment infrastructure contributions were paid nor is the land subject to infrastructure credits.

(c) The stormwater quality treatment infrastructure demand for the proposed development using the rates outlined in Table 2 (a) and Table 2 (b) is as follows:-

A	**B**	**C**
8000 m^2 As this proposed lot is a 'Management Lot' the stormwater quality demand factor is equivalent to a single detached house – refer Table 2(a) or Table 2(b)	5000 m^2 As this proposed lot is a 'Management Lot' the stormwater quality demand factor is equivalent to a single detached house – refer Table 2(a) or Table 2(b)	1.7 ha As there is a 'residential lot' proposal for the land use both Table 2 (a) and Table 2 (b) to determine the demand factor and choose whichever Table calculates the highest demand factor (i.e. cu)
The demand for a single detached house = 1 cu ✓	The demand for a single detached house = 1 cu ✓	10 cu/ha x 1.7 ha = 17 cu × OR 15 trad. lots x 1 cu = 15 cu 4 c'yard lots x 1 cu = 4 cu = 19 cu ✓

(d) The stormwater quality treatment infrastructure demand for the development (A) = 21 cu

(e) As the land is not subject to infrastructure credits nor the subject of previous stormwater quality treatment infrastructure contributions the existing demand is that allowed for a single detached house (refer to 'B' in the calculation formula).

(f) The demand for a detached house is 1cu (refer to 'B' in the calculation formula)

(B) = 1 cu

(g) The increase in demand is A – B = 20 cu

(h) The infrastructure contribution is –

20 x 2,192 (from Schedule DC4 (6))
43,840 x $1.0762 (Infrastructure Unit Charge)

= $47,180.61

(2) (a) It is proposed to extend by 500m^2 an existing 1000m^2 shopping centre at Kuluin / Kunda Park

(b) As this is an extension to an existing use only the demand factor rates for defined uses apply.

(c) The shop is on land (3000m^2) within the 'Local Centre' Precinct.

(d) No previous stormwater quality treatment infrastructure contributions were paid nor is the land subject to infrastructure credits.

(e) The stormwater quality treatment infrastructure demand for the proposed development using the rates outlined in Table 2(b) is as follows –

Use Table 2 (b) (Defined Uses) to determine the demand factor for a 'shopping complex'.

$$\frac{0.2 \text{ cu} \times 3000\text{m}^2}{100\text{m}^2} = 6 \text{ cu}$$

(f) The stormwater quality treatment infrastructure demand for the development (A) = 6 cu.

(g) The existing stormwater quality treatment infrastructure demand for the shopping centre is as follows –

$$\frac{2300\text{m}^2 \times 0.2 \text{ cu}}{100\text{m}^2} \qquad B = 4.6 \text{ cu}$$

(To ascertain the demand factor for an existing use only the site area, eg buildings, car-parking, landscaping, etc approved or actually used for the development is used - in this example 2300 m^2).

(h) The increase in infrastructure demand is A – B which equals 1.4 cu.

(i) The infrastructure contribution is –

1.4 x 2,192 (from Schedule DC4 (6)
3,068.80 x $1.0762 (Infrastructure Unit Charge)

= $3,302.64

(3) (a) In this example assume the same parameters as outlined in example (2) except that previous contributions of $ 4000 were paid for the existing centre.
(b) The stormwater quality treatment infrastructure demand for the development (A) = 6 cu (refer example 2).
(c) The existing cu demand is to be equal to the cu on which the previous payment was determined. It was ascertained that the $4,000 previous payment was determined using 4 cu. The 4 cu becomes the existing use demand factor.
(d) The increase in infrastructure demand is A-B which equals 2 cu.
(e) The infrastructure contribution is –

2 x 2,192 (from Schedule DC 4 (6)
4,384 x $1.0762 (Infrastructure Unit Charge)

= $4,718.06

(4) (a) It is proposed to demolish an existing fabrication industry workshop (2000m^2 GFA) to construct a 2500m^2 shopping centre at Kunda Park.
(b) As this is a change to an existing use only the demand factor rates for defined uses apply.
(c) The land is 8000m^2 within the 'Local Centre' Precinct.
(d) No previous stormwater quality treatment infrastructure contributions were paid nor is the land subject to infrastructure credits.
(e) The stormwater quality treatment infrastructure demand for the proposed development using the rates outlined in Table 2 (b) is as follows:-

Use Table 2 (b) (Defined Uses) to determine the demand factor for a 'shopping complex'

$$\frac{0.2\text{cu} \times 8000\text{m}^2}{100\text{m}^2}$$

= 16 cu

(f) The stormwater quality treatment infrastructure demand for the development (A) = 16 cu.
(g) The existing stormwater quality treatment infrastructure demand for the fabrication industry ('General Industry') is as follows —

$$\frac{4000\ \text{m}^2}{100\ \text{m}^2} \times 0.18\ \text{cu} \qquad B = 7.2\ \text{cu}$$

(To ascertain the demand factor for an existing use only the site area eg, buildings, carparking, hard-surfaced storage, etc approved or actually used for the development is used - in this example 4000 m^2).

(h) The increase in infrastructure demand is A – B which equals 8.8 cu.
(i) The infrastructure contribution is —

8.8 x 2,192 (from Schedule DC 4 (6)
19,289.60 x $1.0762 (Infrastructure Unit Charge)

= $20,759.47

(5) (a) It is proposed to demolish existing shops (2000m^2 GFA) and construct 120 two bedroom dwelling units and 1000m^2 shops at Maroochydore.
(b) The land is 8000 m^2 within the 'Multi-Storey Residential' Precinct.
(c) No previous stormwater quality treatment infrastructure contributions were paid nor is the land subject to infrastructure credits.
(d) The stormwater quality treatment infrastructure demand for the proposed development using the rates outlined in Table 2 (a) and Table 2 (b) is as follows –

Use both Table 2 (a) and Table 2 (b) to determine the demand factor and choose whichever Table calculates the highest demand factor (i.e. cu).

Using Table 2 (a) the demand is:

$$\frac{71.42 \text{ cu} \times 8000 \text{m}^2}{10000 \text{ m}^2}$$

= 57.136 cu ✗

OR

Using Table 2 (b) the demand is:

Residential Demand:

120 units x 0.67 cu / du = 80.4 cu ✓

Commercial Demand:

$\frac{8000 \text{ m}^2}{100 \text{ m}^2}$ x 0.2 cu = 16 cu ✓

Total Demand = 96.4 cu ✓

(e) The stormwater quality treatment infrastructure demand for the development (A) = 96.4cu
(f) The existing stormwater treatment infrastructure demand for the shops is as follows:-

$\frac{5000 \text{ m}^2}{100 \text{m}^2}$ x 0.2 cu B = 10 cu

(To ascertain the demand factor for an existing use only the site area, eg. Buildings, carparking, etc approved or actually used for the development is used – in this example 5000m^2).

(g) The increase in infrastructure contribution is A – B which equals 86.4 cu.
(h) The infrastructure contribution is –

86.4 X 2,192 (from Schedule DC 4 (6))
189,388.80 X $1.0762 (Infrastructure Unit Charge)

= $203,820.22

Notes:
cu = chargeable unit
du = dwelling unit
GFA = Gross Floor Area
ha = hectare

Stormwater Quality Treatment Demand Factor Rates

(9) The stormwater quality treatment demand factor rates for the various precinct classes within each Planning Area outlined in Volume 3 of this Planning Scheme are shown in Table 2 (a).

(10) The stormwater quality treatment demand factor rates for the various uses outlined in section 3.3 (Use Definitions) Volume 1 of this Planning Scheme are shown in Table 2 (b).

(11) Where calculating the proposed demand requires the use of both Table 2 (a) and Table 2 (b) for determining the stormwater quality treatment demand factor rate, the table that calculates the highest demand factor rate is to be used as the stormwater quality treatment demand factor.

Table 2 (a): Stormwater Quality Demand Factor Rates for General and Specific Precincts

Precinct	No	Planning Area	Stormwater Quality Demand Factor*
Business and Industry	All Precincts		0.18cu/100m^2 site area
Core Industry	All Precincts		0.18cu/100m^2 site area
General Rural Lands	All Precincts		N/A
Hillslope Residential	All Precincts		5cu/ha
Local Centre	All Precincts		0.2cu/100m^2 site area
Master Planned Community	9	Maroochydore	34cu/ha (Residential Uses) or 0.2cu/100m^2 site area (Commercial or Industrial Uses)
	10	Maroochydore	34cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	11	Maroochydore	34cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	15	Maroochydore	28cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	28	Nambour	11cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	4	Sippy Downs	12.5cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	5	Sippy Downs	12.5cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	8	Sippy Downs	12.5cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	11	Sippy Downs	12.5cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	16	North Shore	59cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	8	Mt. Coolum	31cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	9	Mt. Coolum	11cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	All other precincts		20cu/ha (Detached Housing only) or use the precinct or precincts from this table that most closely align with the proposed development

Precinct	No	Planning Area	Stormwater Quality Demand Factor*
Mixed Housing	13	Maroochydore	42cu/ha
	17	Maroochydore	38cu/ha
	20	Maroochydore	38cu/ha
	23	Maroochydore	34cu/ha
	25	Maroochydore	42cu/ha
	27	Maroochydore	38cu/ha
	3	Nambour	25cu/ha
	4	Nambour	25cu/ha
	7	Mooloolaba	42cu/ha
	8	Mooloolaba	42cu/ha
	13	Mooloolaba	44cu/ha
	2	Buderim	27cu/ha
	5	Alexandra Headland/ Cotton Tree	38cu/ha
	8	Alexandra Headland/ Cotton Tree	44cu/ha
	10	Alexandra Headland/ Cotton Tree	38cu/ha
	11	Alexandra Headland/ Cotton Tree	42cu/ha
	4	Kuluin/Kunda Park	22cu/ha
	13	North Shore	22cu/ha
	2	Mt. Coolum	44cu/ha
	3	Coolum Beach	63cu/ha
	All other precincts		35.07cu/ha
Multi-storey Residential	All Precincts		71.42cu/ha
Neighbourhood Residential	All Precincts		10cu/ha
Special Purpose	All Precincts		Use the precinct or precincts from this table that most closely align with the proposed development
Sustainable Cane Lands	All Precincts		N/A
Sustainable Horticultural Lands	All Precincts		N/A
Sustainable Pastoral Lands	All Precincts		N/A
Sustainable Rural Residential	All Precincts		1.42cu/ha
Town Centre Core	All Maroochydore Precincts		200cu/ha (Residential Uses) or 0.2cu/100m^2 site area (Commercial or Industrial Uses)
	Nambour		71.42cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	Sippy Downs		71.42cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	Mooloolaba		200cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
Town Centre Frame	All Maroochydore and Mooloolaba Precincts		35.07cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
	Nambour		35.07cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)

Precinct	Planning Area	Stormwater Quality Demand Factor*
	Sippy Downs	35.07cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
Village Centre	All Precincts	35.07cu/ha (Residential Uses) or 0.2cu /100m^2 site area (Commercial or Industrial Uses)
Water Resource Catchment Area	All Precincts	N/A

* For a 'Management Lot' the Stormwater Quality Demand Factor is 1.00cu/Lot.

Notes:
ha = hectare
cu = chargeable unit

Table 2(B): Stormwater Quality Treatment Demand Factor Rates for Defined Uses

Defined Uses and Use Classes	Assessment Unit	Stormwater cu/Unit*
RESIDENTIAL USES		
Accommodation Building	Bed	0.52
Bed and Breakfast	Lettable Room	0.52
Caravan Park	Caravan Site	0.55
	Relocatable home site	0.55
Caretakers Residence	1 bedroom	0.58
	2 bedroom	0.75
	3 or more bedrooms	0.92
Detached House	Lot	1.00
Display Home	As per detached house or dual occupancy or multiple dwelling units, depending on nature of development	
Dual Occupancy	1 bedroom	0.58
	2 bedroom	0.75
	3 or more bedrooms	0.92
Home-Based Business	Lot	Exempt provided equivalent demand for a detached house is not exceeded, otherwise to be assessed on use.
Institutional Residence	Bed	0.52
Integrated Tourist Facility	Bed	0.52
	For permanent residential accommodation as per detached house or dual occupancy or multiple dwelling units, depending on nature of development.	
Motel (includes hotel accommodation)	Per unit	0.52
Multiple Dwelling Units	1 bedroom	0.52
	2 bedroom	0.67
	3 or more bedrooms	0.86
Residential Care facility	Per self contained dwg	0.52
	Per hostel unit	0.52
	Per nursing care bed	0.52
Retirement Village	1 bedroom	0.52
	2 bedroom	0.67
	3 or more bedrooms	0.86

Defined Uses and Use Classes		Assessment Unit	Stormwater cu/Unit*
RURAL USES			
Agriculture, Animal Keeping, Animal Husbandry, Aquaculture, Forestry, Intensive Animal Husbandry, Roadside stall, Stables			Exempt
Rural Service Industry			Exempt
Winery			Exempt
COMMERCIAL USES			
Adult Product Shop		per 100m^2 site area	0.20
Art & Craft Centre		per 100m^2 site area	0.20
Convenience Restaurant		per 100m^2 site area	0.20
Fast Food Store		per 100m^2 site area	0.20
Funeral Parlour		per 100m^2 site area	0.20
Garden Centre		per 100m^2 site area	0.20
Hotel		per 100m^2 site area	0.20
Market		As determined by Council	
Medical Centre		per 100m^2 site area	0.20
Office		per 100m^2 site area	0.20
Restaurant		per 100m^2 site area	0.20
Shop (including General Store)		per 100m^2 site area	0.20
Shopping Complex		per 100m^2 site area	0.20
Showroom		per 100m^2 site area	0.20
Veterinary Clinic		per 100m^2 site area	0.20
INDUSTRIAL USES			
Car Washing Station		per 100m^2 site area	0.18
Environmentally Assessable Industry		per 100m^2 site area	0.18
Extractive Industry			Exempt
General Industry		per 100m^2 site area	0.18
Landscape Supplies		As determined by Council	
Light Industry	Laundromat	per 100m^2 site area	0.18
	Hot bread kitchen/retail bakery	per 100m^2 site area	0.18
	All other uses	per 100m^2 site area	0.18
Sales or Hire Yard		As determined by Council	
Service Station		per 100m^2 site area	0.18
Storage Yard		As determined by Council	
Transport Station		As determined by Council	
Vehicle Depot		As determined by Council	
Vehicle Repair workshop		per 100m^2 site area	0.18
Warehouse		per 100m^2 site area	0.18
OTHER USES			
COMMUNITY USE	Child Care Centre	per 100m^2 site area	0.20[(1)]
	Local Utility	per 100m^2 site area	0.20[(1)]
	Major Utility	per 100m^2 site area	0.20[(1)]
	Telecommunications Facility	per 100m^2 site area	0.20[(1)]
SPECIAL USE	Cemetery		As determined by Council
	Church	per 100m^2 site area	0.20[(1)]
	Community Meeting Hall	per 100m^2 site area	0.20[(1)]
	Crematorium	per 100m^2 site area	0.20[(1)]
	Educational Establishment	per 100m^2 site area	0.20[(1)]
	Emergency Services		As determined by Council
	Hospital	per 100m^2 site area	0.20[(1)]

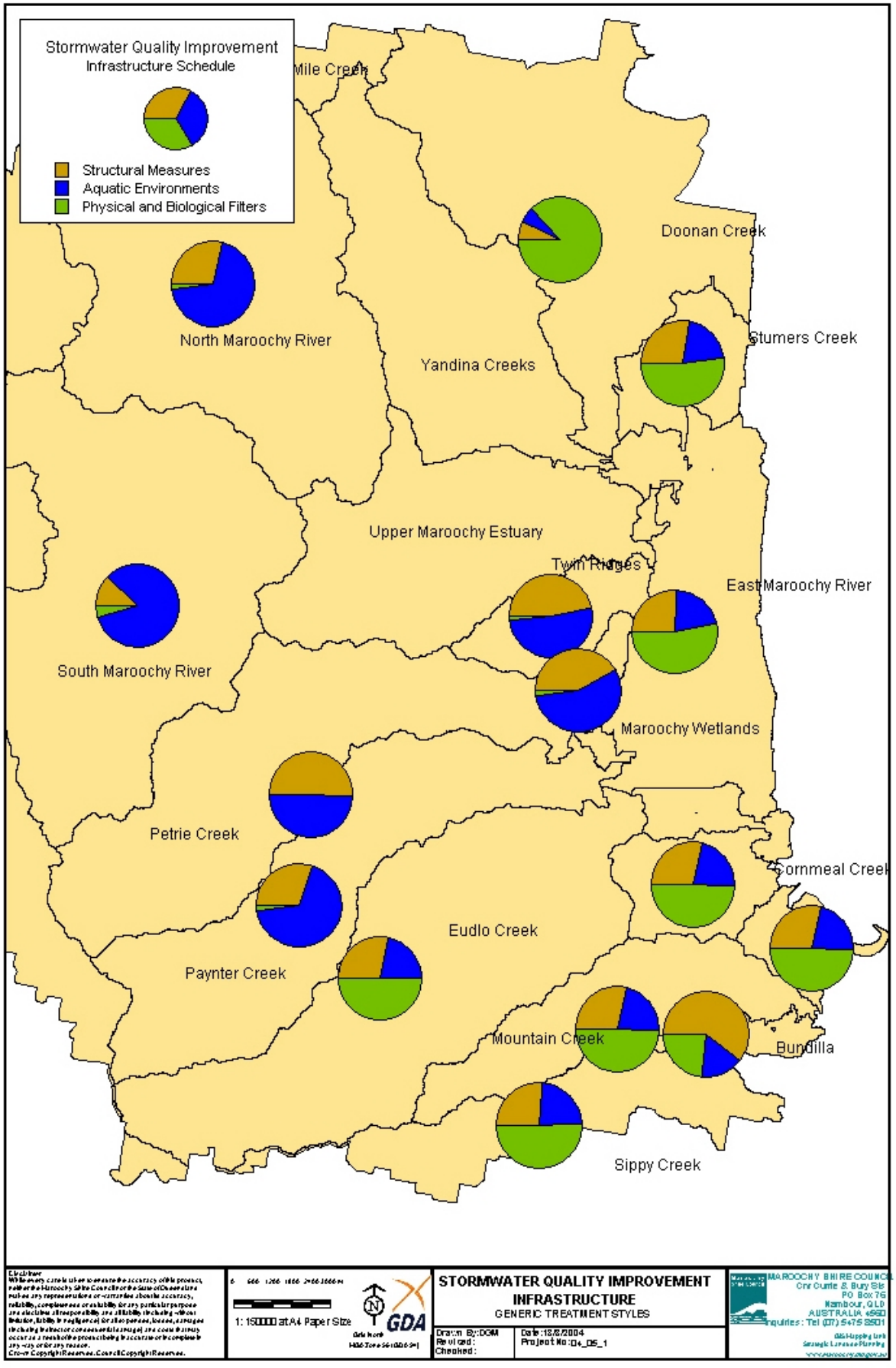
Defined Uses and Use Classes		Assessment Unit		Stormwater cu/Unit*
RECREAT–IONAL USES	INDOOR RECREATION	Amusement Centres	per 100m^2 site area	0.20
		Gyms	per 100m^2 site area	0.20
		Indoor Sports Centre	per 100m^2 site area	0.20
		Licensed Club	per 100m^2 site area	0.20
		Unlicensed Club	per 100m^2 site area	0.20
		Night Club	per 100m^2 site area	0.20
		Theatre / Cinema	per 100m^2 site area	0.20
		All other uses	As determined by Council	
	OUTDOOR RECREATION			As determined by Council
OTHER USES	CAR PARK		per 100m^2 site area	0.20

(1) For uses located in the Business and Industry, Core Industry or Hillslope Residential Precincts the equivalent demand is 0.18cu/100m^2 site area

* For a 'Management Lot' the Stormwater cu/Unit is 1.00cu/Lot.

APPENDIX 1

FIGURE 4.2.1: STORMWATER QUALITY IMPROVEMENT INFRASTRUCTURE – TREATMENT STYLES



APPENDIX 2

DESIRED STANDARDS OF SERVICE FOR STORMWATER QUALITY

A2.1 The desired standard of service (DSS), or performance objectives, for which stormwater quality is planned/designed to, is determined by the community through the identification of environmental values.

A2.2 Environmental values describe the expectations or aspirations a community have for their waterways.

A2.3 These values represent more than just the community's use of the waterway but also include their visions for the waterway and their perceptions of its potential.

NOTE on A2.1 – A2.3

a. It is acknowledged that in some cases, due to local circumstances, the desired standard of service may not be met. In these situations, Stormwater Quality Treatment infrastructure aims to meet the standards to the greatest degree practicable. Knowing how the community value a waterway is a fundamental step in developing a responsible stormwater management plan for the catchment. For instance, strategies for the management of stormwater for a catchment whose receiving waters have been valued as secondary recreation should differ from those whose receiving waters have been valued as drinking water.

A2.4 Environmental values are agreed to through consultation with the community.

A2.5 The values can only be decided by people, there are no algorithms or formulas that can be used to mimic the community's wishes.

A2.6 The environmental values adopted to determine these Infrastructure Contributions were determined during the South East Queensland Regional Water Quality Management Strategy, September 2001.

A2.7 It is possible to determine environmental values on a local, regional or Shire wide level.

NOTE on A2.7 ENVIRONMENTAL VALUES

a. The environmental values adopted in the Draft Urban Stormwater Quality Management Plan (USQMP) for Maroochy Shire November 2002 are regional values and are appropriate for the purposes of developing a Shire wide strategy to achieve Water Quality Objectives (WQOs). Local environmental values are assigned to receiving waters where a local strategy can be applied and monitored. Shire wide environmental values refer to the collective regional environmental values derived for each catchment in the USQMP.

A2.8 Following the determination of the community's nominated environmental values, a measurable objective is required to monitor the compliance or attainment of such values. These objectives are known as the Water Quality Objectives.

NOTE on A2.8 WATER QUALITY OBJECTIVES

a. Water Quality Objectives are set using either state or national guidelines – supplemented with local studies (if available). Water Quality Objectives are defined in EPP Water as being numerical concentration levels or statements for indicators that protect a stated environmental value.

b. Water quality models are used as a tool to evaluate the potential impacts of development on water quality. The Draft Urban Stormwater Quality Management Plan for Maroochy Shire (USQMP), November 2002 developed water quality models for 15 of the Shire's creek catchments using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC) developed by the Cooperative Research Centre for Catchment Hydrology (CRC-CH).

c. Pollutant concentrations of TSS, TN and TP were calculated for an ultimate development scenario of each catchment and compared against the WQO's assigned to each catchment

A2.9 The Maroochy Plan (2000) and associated planning scheme policies require developers to be responsible for the stormwater quality within and discharging from their sites.

A2.10 Planning Scheme Policy 11 Flooding and Stormwater Management Report Requirements states that the environmental values and associated water quality objectives may be determined by a Catchment Management Plan or in the interim adopt values supplied by Council.

A2.11 Assuming these criteria are complied with for all new development, leads to the assumption that the cost of achieving localised environmental values via the adoption of Water Sensitive Urban Design (WSUD) will be borne by future development.

NOTE on A2.9 – A2.11 STORMWATER QUALITY TREATMENT

a. Stormwater quality can be improved by applying the principles of Water Sensitive Urban Design (WSUD). WSUD principles encompass all aspects of water cycle management including water supply, sewerage and stormwater management. Structural measures such as stormwater quality improvement devices SQIDs (i.e. swales, bio-retention, GPTs and wetlands) are one of the elements of WSUD.

b. The Draft Urban Stormwater Quality Management Plan for Maroochy Shire (USQMP) used the water quality model developed for each catchment to determine the number and size of a range of SQIDs that are required to meet the WQO's and hence deliver the desired environmental values to the community.

c. Generic development layouts and treatment efficiencies were adopted for the water quality models and hence numbers and sizes of devices are indicative only of Best Management Practices (BMPs). On this basis it is not the intention of the USQMP to develop a program of SQIDs to be constructed in each catchment.