Pine Rivers Shire Council

Planning Scheme Policy

PSP24 Development Contributions for Trunk Infrastructure – Stormwater

Planning Scheme Policy for Pine Rivers Shire

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ADOPTION
Pine Rivers Shire Council adopted this planning scheme policy on 19 June 2006.

COMMENCEMENT
This planning scheme policy took effect from 15 December 2006.

Amendment 2/2008

ADOPTION OF AMENDMENT
Moreton Bay Regional Council adopted this amendment to the planning scheme policy on 19 August 2008.

COMMENCEMENT OF AMENDMENT
This amendment to the planning scheme policy took effect from 1 September 2008.

I, John Rauber, Chief Executive Officer, of the Moreton Bay Regional Council, hereby certify that this document is a true copy of the original.

John Rauber
Chief Executive Officer

PSP 24 - PLANNING SCHEME POLICY ON DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

PSP 24 – DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE – STORMWATER

Head Of Power

This document is a Planning Scheme Policy for the purposes of the *Integrated Planning Act 1997* (the Act) and is made in compliance with the process prescribed in Schedule 3 of the Act.

Objective

The objective of this policy is to establish a mechanism for funding of Stormwater Trunk Infrastructure, (existing and proposed), commensurate with the adverse impacts of development on that infrastructure and which ensures a reasonable and equitable distribution of the costs of Stormwater Trunk Infrastructure works between Council and developers of land in Council's Local Government Area.

Definitions / Application

Application

This policy applies to all applications for development which have been made assessable by Council's Planning Scheme and which will utilise any part of the Stormwater Trunk Infrastructure Network. For the purposes of this policy, the extent of the Stormwater Trunk Infrastructure Network within the Shire is shown in Schedule D.

The policy outlines the basis of Council's Infrastructure Contributions Regime for Stormwater Trunk Infrastructure (Water Quality and Stormwater Discharge Quantity) in Pine Rivers Shire. It is to be read in conjunction with Planning Scheme Policy PSP21 Development Contributions for Trunk Infrastructure – Administration Policy (PSP21).

Payment of the monetary contribution under this policy will in no way relieve the development proponent from any requirement under a condition of development approval to undertake non-trunk works or to connect the development to trunk infrastructure.

Nothing contained in this policy precludes Council and the development proponent from entering into an infrastructure agreement in regard to the matters dealt with by this policy.

Definitions

The definitions of applicable terms are contained in PSP21 Development Contributions for Trunk Infrastructure – Administration Policy and the 'study report' identified in Section 2 "Background Information". Where a term used in this policy is not defined in PSP21 or the 'study report', that term shall, unless the context indicates or requires otherwise, have the meaning assigned to it in Council's Planning Scheme or in the *Integrated Planning Act 1997*.

Policy Statement

1 Scope

This policy sets out the basis for determining the amount of Development Contributions for Stormwater Trunk Infrastructure which Council will impose as conditions of development approval. The provisions of this policy shall apply to applications for development within the Shire which, in the opinion of Council, may impact on its Stormwater Trunk Infrastructure either immediately or at some time in the future. This policy:

(a) is to be read in conjunction with Planning Scheme Policy PSP21 Development Contributions for Trunk Infrastructure – Administration;
(b) specifies the assumptions made in determining the rate of the contribution payable towards the cost of Stormwater trunk infrastructure within Council's Local Government Area;
(c) specifies the works, structures or equipment, which the Council determines to be Stormwater Trunk Infrastructure;
(d) establishes the estimated cost of construction and any required augmentation of the Stormwater Network in respect of which contributions are to be made, split into Water Quality and Stormwater Drainage (Quantity) costs; and
(e) lists the applicable Demand Factors and Schedules of Infrastructure Contribution Rates.

2 Background Information

The methodology used in establishing the amount of required Trunk Infrastructure Contributions under this policy is based on the report by John Wilson and Partners (JWP), "Priority Infrastructure Plan Stormwater" (the Study Report). This Study Report comprises:-

(1) Part 1 – Executive Summary (June 2008);

(2) Part 2 – Main Report (June 2008);

(3) Part 3 – Detailed Maps (June 2008); and

(4) Part 4 – Calculations and Supporting Data (June 2008);

The Study Report in turn was based on and gave regard to the following:

(1) Freshwater Creek Catchment Management Plan, Gutteridge Haskins & Davey Pty. Ltd., June, 1996;

(2) Cabbage Tree Creek Catchment Management Plan, Brisbane City Council, March, 1999;

(3) Saltwater Creek Catchment Management Plan, Geo-Eng Australia Pty. Ltd., June 2000;

(4) One Mile Creek Catchment Management Plan Gutteridge Haskins & Davey Pty. Ltd. May, 2001;

(5) Four Mile Creek Catchment Management Plan, John Wilson & Partners Pty. Ltd., November, 2001;

(6) South Pine River Catchment Management Plan, John Wilson & Partners Pty. Ltd. August, 2004;

(7) Strathpine (Bells Pocket Road Area) Local Area Drainage Plan, John Wilson & Partners Pty. Ltd. – Revised 2002;

(8) Strathpine Industrial Area Local Area Drainage Plan, John Wilson & Partners Pty. Ltd., December, 2001;

(9) Kallangur Business Area Local Area Drainage Plan, John Wilson & Partners Pty. Ltd. – Revised 2002;

(10) Kallangur (East of Duffield Road) Local Area Drainage Plan, John Wilson & Partners Pty. Ltd. – Revised 2002;

(11) Duffield Road, Kallangur (Kahala Road to Freshwater Creek) Local Area Drainage Plan, John Wilson & Partners Pty. Ltd., 1999; and

(12) Petrie (Young Street Area) Local Area Drainage Plan, John Wilson & Partners Pty. Ltd. – Revised 2002.

3 Stormwater Methodology

3.1 Methodology

Determination of infrastructure for stormwater quantity and quality management has been undertaken for catchments throughout the Pine Rivers Shire area. This infrastructure has been assessed based generally on land use information derived from the *PineRiversPlan* and engineering investigations, modelling, prediction and design contained within Catchment Management Plans (CMP) and certain Local Area Drainage Plans (LADP). Details of these investigations are contained in reports which are available as supporting and reference documents to this Policy.

The abovementioned studies have focussed on catchment issues for rivers, streams and major drainage areas and the evaluated infrastructure items are therefore of a trunk nature being required to service or mitigate impacts from a large number of allotments or significant land areas having potential for subdivision. Accordingly the infrastructure identified in these studies has been adopted as trunk infrastructure for the purpose of this policy.

Infrastructure assessment within the various studies has been performed on the basis of determination of infrastructure needs for development of the particular catchment in accordance with the IPA Planning Scheme. As the Planning Scheme predicts land uses or zones beyond the Planning Horizon, population growth has been used to assess the rate at which the identified trunk infrastructure will be required.

Investigation of stormwater management requirements has been performed for a large area of the waterway network within Pine Rivers Shire. Table 3.1B details the extent of studies undertaken and applicable service catchments. The studies account for the infrastructure needs to service both existing and future residents and non-residential activities and accordingly appropriate apportionment of cost has been undertaken based on the relative utilisation of the network and existing deficiencies. The requirements for land acquisition and revegetation and stream corridor rehabilitation have also been considered. A series of strategies have been recommended in order to reduce the overall cost of land acquisition.

Trunk Infrastructure exists in a hierarchy of three levels – Local, Creek and River. Local infrastructure services customers in a single sub-catchment, Creek infrastructure services customers in creek catchments and River infrastructure services customers in river catchments or more than one creek or service catchment area. The apportionment of cost, to be equitable, must give consideration to the different hierarchy levels and asset utilisation.

The procedures that have been applied to determine infrastructures charges for each service catchment are detailed in Table 3.1A:

Table 3.1A – Infrastructure Charging Methodology

Step	Tasks
(1) Establish Service Catchments	(a) Determine DISA; and (b) Determine Service Catchments both inside and outside the DISA.
(2) Identify Future Assets	(a) From Catchment Management, Local Area Drainage and Detail Hydrological studies determine which future assets form part of the ultimate infrastructure network for waterway management of river, creek and local catchments. Refer Table 3.1B for a listing of those studies; (b) Extract the Trunk Infrastructure cost from the various studies and allocate to the service catchment hierarchy. Revalue cost where possible at base date 30 June 2006; and (c) Determine the Trunk Infrastructure required within each service catchment.
(3) Assess the land use components within the river, creek and local	(a) Determine the existing land use within each catchment in hectares; and

Step	Tasks
catchments throughout the Shire as applicable to each service catchment	(b) Determine the future land use within each catchment based on strategic planning of future urbanisation and other land uses in hectares.
(4) Evaluate the Trunk Infrastructure costs attributable to each land use within the river, creek and local catchments throughout the Shire as applicable to each service catchment	(a) Evaluate the cost and unit rate applicable for quantity infrastructure to existing and future land use based on impact of change in land use; and (b) Evaluate the cost and unit rate applicable for quality infrastructure to existing and future land use based on impact of change in land use.
(5) Determine Trunk Infrastructure capital expenditure requirements	(a) Predict the planning horizon and ultimate populations for each catchment area; (b) Evaluate the change to future land use based on the population growth; and (c) Evaluate the expenditure on infrastructure based on the future land use change.
(6) Assess timing of works	(a) Evaluate infrastructure timing based on projected future development needs; (b) Determine risk assessment based on risk profile; and (c) Based on future development timing, risk assessment score and funding pipeline determine the timing of works.
(7) Assess the cost of infrastructure to be funded by future development	(a) Calculate the infrastructure charges by dividing the costs of future infrastructure in 30 June 2006 dollars by the equivalent contributing area (demand units) in the catchment. Where appropriate, the cost of some future infrastructure was attributed only to future developable equivalent contributing areas, and conversely, future infrastructure to address existing deficiencies was not apportioned to future development; and (b) Apportion the charges across the catchment according to the land use type.

Table 3.1B – Waterway Management Planning Documentation

Catchment Management Document	Service Catchment
South Pine River Catchment Management Plan (CMP)	South Pine River
South Pine River CMP	Coulthards Creek Brendale / Strathpine Area Conflagration Creek Eatons Hill / Warner Area Eatons Hill / Draper Area Albany Creek Sandy Creek Kingfisher Creek Wongam Creek Samford Village Area Samford Downs Area Branch Creek
Four Mile Creek CMP	Four Mile Creek
Todds Gully Hydrological Investigation	Todds Gully
One Mile Creek CMP	One Mile Creek
Cabbage Tree Creek CMP	Cabbage Tree Creek
Freshwater Creek CMP	Freshwater Creek
Saltwater Creek CMP	Saltwater Creek

Catchment Management Document	Service Catchment
Strathpine (Bells Pocket Road Area) LADP	Coulthards Creek 01 (COU01)
Strathpine Industrial Area LADP	Brendale / Strathpine Area 01 (BS01)
Petrie (Young Street Area) LADP	Petrie Area 01 (PE01)
Kallangur Business Area LADP	Freshwater Creek 01 (FW01)
Duffield Road, Kallangur (Kahala Road to Freshwater Creek) LADP	Freshwater Creek 02 (FW02)
Kallangur (East of Duffield Road) LADP	Freshwater Creek 03 (FW03)

Outline Planning

Where catchment management or other drainage planning does not exist for a particular service catchment, the applicable stormwater infrastructure costs were determined through an assessment of infrastructure requirements from a service catchment with similar characteristics which were transposed to the subject area. This approach in determining charges for 'like catchments' has been performed in accordance with Infrastructure Guideline requirements, with the required infrastructure documented in the "Outline Plans" for Trunk Infrastructure. The Outline Planning process included the determination of a similar rate of infrastructure provision proportional to the total equivalent developable area and an assessment of the similarity of the resultant calculated charge to that of the "like catchment".

Table 3.1C details catchments without waterway planning and the infrastructure allocation which has been determined from similar catchments. As part of the review process in future years, appropriate studies will be undertaken by Council to progressively encompass those service catchments where detailed information is lacking. This more detailed information will be incorporated into the planning process at these subsequent reviews.

Table 3.1C – Infrastructure Cost Allocation to Areas without Waterway Planning

Service Catchment Hierarchy	Service Catchment Area without Planning	Similar Service Catchment Area	Transposition Components
River	Pine & North Pine River	South Pine River	Quantity and Quality Infrastructure
Creek	Kedron Brook	Cabbage Tree Creek	Quantity and Quality Infrastructure
	Todds Gully	Four Mile Creek	Quality Infrastructure
	Petrie	Sandy Creek	Quantity and Quality Infrastructure
	Sideling Creek	Sandy Creek	Quantity and Quality Infrastructure
	Griffin	Saltwater Creek	Quantity and Quality Infrastructure
	Dayboro Village	Samford Village	Quality Infrastructure

3.2 Stormwater Service Catchments

The concept of Service Catchments allows for the cost of works within each service catchment and the infrastructure charges to reflect the impacts of development and the mitigation required. The service catchment concept is a convenient and logical vehicle for relating the infrastructure items being charged for and the land use change that they address on a cadastral basis.

The Shire has been divided into the following stormwater River service catchments:

(1) South Pine River

(2) North Pine River and Pine River

(3) Coastal Creeks - includes all waterways external to the Pine River system which discharge to Moreton Bay (these do not attract a River Level Contribution)

The Stormwater River service catchments are further divided into a number of Creek and Local service catchments as indicated in Table 3.2A:

Table 3.2A – Stormwater Network Creek Catchments

River Catchment	Creek Catchment	Short Name
South Pine River	Four Mile Creek	FMC
	Coulthards Creek	CH
	Brendale / Strathpine	BS
	Conflagration Creek	CF
	Eatons Hill / Warner	EHW
	Eatons Hill / Draper	EHD
	Albany Creek	AC
	Sandy Creek	SY
	Kingfisher Creek	KC
	Wongan Creek	WC
	Samford Village	SV
	Samford Downs	SD
	Branch Creek	BR
North Pine and Pine River	Todds Gully	TD
	One Mile Creek	OM
	Petrie	P
	Sideling Creek	SC
	Griffin	G
	Dayboro Village	DV
Coastal Creeks	Cabbage Tree Creek	CT
	Kedron Brook	KD
	Freshwater Creek	FW
	Saltwater Creek	SW

Local service catchments have been identified within the Creek service catchments of Coulthards Creek, Brendale/Strathpine, Petrie and Freshwater Creek as indicated in Table 3.2B:

Table 3.2B – Stormwater Network Local Drainage Catchments

Creek Catchment	Local Catchment Short Name
Coulthards Creek	CH01
Brendale / Strathpine	BS01
Petrie	P01
Freshwater Creek	FW01
	FW02
	FW03

The extent of each of these "Stormwater Service Catchments" is shown on the maps contained in Schedule C of this Policy.

3.3 Basis for Demand Assessment

Accepted techniques for the determination of stormwater flows (quantity assessment) and pollutant discharges (quality assessment) from catchments are based upon land uses reflected in the Planning Scheme Zones. Accordingly the areal extent of existing and future land use zones within each service catchment has been adopted as the basis for quantity and quality assessment. As the Planning Scheme predicts land uses beyond the Planning Horizon of this Policy, population growth has been used only to assess the rate at which the identified trunk infrastructure will be required.

3.3.1 Stormwater Quantity Assessment

Assessment of rainfall runoff and stream flow flood level has been performed by mathematical modelling of the various processes utilising accepted engineering design practice and where possible, calibration to measured or known conditions. The assessments have been undertaken using procedures that have regard to the extent of existing and future land use zones and the hydrologic impact of these land uses. Table 3.3A details the various runoff coefficients and contribution factors for the applicable land use zones.

Table 3.3A – Runoff Coefficient Assumptions and Contributions Factors

ZONE	Runoff Coefficient (C100)	Contribution Factor (CF_{QTY})
Central Business	1	0.19
Commercial	1	0.19
Extractive Industry	0.89	0.06
General Industry	1	0.19
Local Business	1	0.19
Neighbourhood Facilities	1	0.19
Park and Open Space	0.84	0.00
Park Residential	0.89	0.06
Residential A and Future Urban	0.95	0.13
Residential A (<600m^2)	0.97	0.15
Residential B	1	0.19
Rural (lots no less than 16 Ha)	0.84	0.00
Rural Residential and Rural other than above	0.89	0.06
Service Industry	1	0.19
Special Residential (Urban)	0.95	0.13
Special Residential (Non-Urban)	0.89	0.06
Sports and Recreation	0.84	0.00
Home Industry	1	0.19
Urban Village	1	0.19
Village Centre	1	0.19

The runoff coefficients have regard to the increase in impervious area. The contribution factors for the calculation of the infrastructure charge rate for Stormwater Quantity management infrastructure have been based upon the relationship between the C100 Runoff Coefficient assigned to each zone or land use and that assigned to undeveloped land.

Stormwater Quantity infrastructure elements have been assessed on the basis of requirements to mitigate the impact of development or to manage waterway flow conditions to achieve desired standard of service outcomes.

3.3.2 Stormwater Quality Assessment

Assessment of pollutant impact has been undertaken by mathematical modelling of the various catchments and the waterway processes utilising accepted engineering design practice and where feasible calibration to measured or known conditions. The assessments have been undertaken using procedures which have regard to existing and future land use zones within the catchment and the calculated quantity of pollutant export from these land use types.

The pollutant export loading rates have been determined from Council's adopted design standards and have regard to the relative increase in the specific pollutant elements of Total Nitrogen (TN), Total Phosphorous (TP) and Suspended Solids (SS). The contribution factors for the calculation of the infrastructure charge rate for Stormwater Quality management infrastructure have been based on the relationship between the average of the pollutant export loading rates assigned to each zone or land use and that assigned to undeveloped (rural) land.

Stormwater Quality infrastructure elements have been evaluated on the basis of necessary works required to mitigate the impact of development to manage waterway quality to achieve desired standard of service outcomes.

Table 3.3B details the annual pollutant export loads and contribution factors for the applicable land use zones.

Table 3.3B – Pollutant Impact Assumptions and Contribution Factors

	Annual Pollutant Export (Load – kg/ha)			
	TP	TN	SS	
Central Business	2.3	10.7	1150	1.90
Commercial	2.1	10.6	1100	1.74
Extractive Industry (1)	0.7	7.4	1050	0.87
General Industry	2.3	10.7	1150	1.90
Local Business	2.1	10.6	1100	1.74
Neighbourhood Facilities	2.0	10.5	1050	1.63
Park and Open Space (1)	0.8	7.8	380	0.17
Park Residential	1.1	9.0	570	0.58
Residential A and Future Urban	1.6	10.3	950	1.32
Residential A (<600m^2)	1.9	10.4	1000	1.52
Residential B	2.0	10.5	1050	1.63
Rural (lots no less than 16 Ha)	0.7	7.4	290	0.00
Rural Residential and Rural other than above	0.9	8.0	400	0.25
Service Industry	2.1	10.6	1100	1.74
Special Residential (Urban)	1.6	10.3	950	1.32
Special Residential (Non-Urban)	1.1	9.0	570	0.58
Sports and Recreation (1)	0.9	8.5	750	0.67
Home Industry	1.6	10.3	950	1.32
Urban Village	2.3	10.7	1150	1.90
Village Centre	2.3	10.7	1150	1.90

3.4 Stormwater Demand in Catchments (Demand Units)

Stormwater infrastructure requirements have been determined for 'ultimate' development of the Shire under the current Planning Scheme. Table 3.4A shows the Equivalent Contributing Areas, or Demand Units - ECAqty and ECAqal - for Existing and Future activity within the Stormwater Service Catchments. The Equivalent Contributing Areas are calculated by multiplying the area in a given Planning Scheme Zone in a catchment by the contribution factor for the zone, and then summing the results for the catchment.

Table 3.4A – Equivalent Contributing Existing and Future Land Use Areas

CATCHMENT	ECA Qal Existing	ECA Qal Future	ECA Qal Total	ECA Qty Existing	ECA Qty Future	ECA Qty Total
ALBANY CREEK	194.21	10.11	204.32	19.27	1.00	20.27
BRANCH CREEK	100.13	119.41	219.54	14.36	18.15	32.50
BRENDALE / STRATHPINE	199.22	88.25	287.48	20.57	8.36	28.93
CABBAGE TREE CREEK	506.76	94.95	601.71	50.63	9.67	60.30
CONFLAGRATION CREEK	438.64	200.51	639.15	43.20	20.38	63.59
COULTHARDS CREEK	300.61	85.79	386.39	28.31	8.87	37.18
DAYBORO VILLAGE	164.18	89.50	253.68	21.42	10.39	31.82
EATONS HILL / DRAPER	399.91	90.54	490.45	43.40	9.13	52.53
EATONS HILL / WARNER	299.61	17.19	316.80	29.80	1.73	31.53
FOUR MILE CREEK	771.54	235.00	1006.54	78.75	23.22	101.97
FRESHWATER CREEK	1302.12	597.21	1899.33	131.08	61.14	192.22
GRIFFIN	245.62	258.29	503.91	24.77	26.08	50.85
KEDRON	581.04	0.00	581.04	57.73	0.00	57.73
KINGFISHER CREEK	228.55	11.38	239.93	22.51	1.12	23.63
ONE MILE CREEK	512.02	111.88	623.89	55.51	14.07	69.59
PETRIE	715.18	29.10	744.28	71.90	2.57	74.48
SALTWATER CREEK	720.84	1454.20	2175.04	72.37	147.95	220.31
SAMFORD DOWNS	328.62	72.26	400.88	39.49	10.69	50.18
SAMFORD VILLAGE	73.97	9.53	83.50	8.14	1.65	9.80
SANDY CREEK	330.34	17.03	347.36	33.00	1.74	34.73
SIDELING CREEK	63.18	0.28	63.45	8.67	0.03	8.70
TODDS GULLY	501.71	139.63	641.34	50.92	13.89	64.80
WONGAM CREEK	210.54	100.85	311.39	23.54	11.21	34.75
BRENDALE STRATHPINE						
BS01	3249.41	633.17	3882.57	368.92	67.88	436.80
COULTHARDS CH01	5024.60	1617.05	6641.65	617.52	244.58	862.10
FRESHWATER FW01	74.21	45.96	120.17	7.69	4.17	11.86
FRESHWATER FW02	23.58	0.00	23.58	2.40	0.00	2.40
FRESHWATER FW03	76.11	8.70	84.81	7.94	0.86	8.79
PETRIE P01	18.45	11.26	29.72	1.82	1.11	2.93
NORTH PINE	41.13	2.01	43.15	4.26	0.22	4.48
SOUTH PINE	40.19	0.00	40.19	4.34	0.00	4.34

The existing land use areas shown are derived from an assessment of land use as exists within the Shire at the time of preparation of this policy. This included the use of GIS and current aerial photography. The future land use areas are derived by subtracting existing land use areas from total landuse areas as indicated in the *PineRiversPlan*.

4 Stormwater Plan for Trunk Infrastructure

4.1 Stormwater Trunk Infrastructure Network

Stormwater infrastructure items have been divided into River, Creek and Local Area Trunk Infrastructure Network Components with corresponding service catchments. There is further division of the infrastructure within each service catchment by function (i.e. managing stormwater "quantity" or "quality"). Only those infrastructure items indicated on the Priority Infrastructure Plan maps are deemed to be Trunk Infrastructure for the purpose of planning and funding of the Trunk Stormwater Network.

River service catchment infrastructure components include the following mapped items:

(1) Provision of waterway corridor revegetation and rehabilitation to the river system including ancillary infrastructure;

(2) Provision of land necessary for conveyance;

(3) Provision of roadway crossing upgrades over waterways for major transport corridors including bridges and culverts;

(4) Planning and PIP related studies forming part of the establishment cost of the Trunk infrastructure items;

Creek service catchment infrastructure components include the following mapped items:

(5) Provision of works for conveyance and detention including necessary land;

(6) Provision of works for stormwater treatment including gross pollutant traps, trash racks, sedimentation basins, wetlands and gully trap filters;

(7) Provision of waterway corridor revegetation and rehabilitation to creeks including necessary ancillary works;

(8) Provision of roadway/bikeway crossing upgrades over waterways for minor local streets including bridges and culverts; and

Local Area service catchment infrastructure components including the following mapped items:

(9) Provision of works for underground piped drainage and overland flow paths including necessary land acquisition.

4.2 Stormwater Trunk Infrastructure Items

The following descriptions have been prepared within the context of the Pine Rivers Shire Council Priority Infrastructure Planning process. Accordingly they are intended to describe Trunk Stormwater Infrastructure Items which are to be provided during the land development process. These Trunk Infrastructure Items would be constructed by Council using Infrastructure Charges or by a developer where an agreed cost would be credited as 'works in lieu' of charges payment. In order to qualify for an infrastructure credit the developer would be required to install or construct an agreed infrastructure item that conforms in respect of components detailed in the following descriptions and with the performance criteria detailed in the respective Catchment Management Plan (CMP), this policy and/or Council's "*Planning Scheme Policy 28 - Appendix A - Design Manual*". Within the various infrastructure listings shortened titles are used for some of the infrastructure items as indicated in the Table 4.2A:

Table 4.2A – Stormwater Drainage Infrastructure Descriptions

Infrastructure Title	Short Title
Swale	
Detention Basin	
Gross Pollutant Traps	GPT
Weir Type Sediment and Trash Trap	Sediment Trap
Trash Rack	
Sedimentation Basin	

Infrastructure Title	Short Title
Constructed Wetland	Wetland
Revegetation	
Rehabilitation	
Stream Bank Protection or Stabilisation	Bank Stabilisation
Drainage Corridor - Easement	Corridor - Easement
Drainage Corridor – Reserve	Corridor – Reserve
Riparian Corridor Management Area – Minor	RCMA - Minor
Riparian Corridor Management Area – Major	RCMA - Major
Road Crossing Upgrade	Crossing Upgrade
Open Channel Work	
Pipe Drainage System	Pipe Drainage

Swale:

A shallow open drainage flow path constructed to collect, convey and treat stormwater flows. Characteristics include batters designed for ease of maintenance, vegetation to retard flow velocities and retain sediment and nutrient prior to discharge to a watercourse, wetland or detention basin.

Detention Basin:

A pond or basin designed to temporarily detain storm or flood waters, in order to attenuate peak flows to acceptable levels downstream within a constructed major drainage system or stream.

A detention basin should comprise an inlet structure, a grassed or concrete basin, an outlet structure, an embankment or other means to enclose the basin and an overflow spillway. A GPT may be required at the inlet to the basin to limit the amount of coarse sediment, litter and debris entering the basin. The volume of the basin and the outlet structure should be sized to attenuate the outflow peak discharge during the design flood to a predetermined limit. The outlet structure should be fitted with a grate to prevent persons or large objects being drawn into the downstream system. Where the outlet pipework discharges to an open channel or stream appropriate erosion protection should be provided. The overflow spillway should be designed to pass flows in excess of the design discharge of the outlet system. A suitable “all weather” access road is required to permit access for maintenance.

Gross Pollutant Trap (GPT):

A structure designed to collect gross pollutants such as litter, debris and coarse sediments. The collection area is usually concrete-lined to allow for rubbish removal and a trash rack is normally located at the downstream end of the trap.

Major GPT’s are open structures typically located in a stream, constructed drainage channel or substantial piped drainage system. Minor GPT’s are typically smaller enclosed structures serving catchments of between five (5) and twenty (20) hectares and located at the outlet of piped drainage systems where they discharge to a watercourse, wetland or detention basin.

A GPT should comprise a sediment collection basin or sump to collect coarse sediment and a trash rack or other means to collect litter and debris. The GPT should be sized to allow passage of the design flood without overtopping or to cause detriment to the hydraulic grade line in the upstream system or to cause afflux affecting upstream properties. A bypass arrangement is required to allow passage of flows in excess of the design flood. Provision should be made to allow the removal of collected material using a bobcat, backhoe, excavator or eductor truck. These would require provision of an access ramp for the cleaning machinery and hardstand for the removal vehicle or eductor truck. A suitable access road is required to permit access for maintenance and removal of collected material. Safety fencing is required to prevent public access and climbing rungs or ladders provided to permit a person to safely enter and exit from the GPT. A suitable “all weather” access road is required to permit access for maintenance.

Weir Type Sediment and Trash Trap (Sediment Trap):

A small open structure designed to collect sediment and trash specifically designed in accordance the provisions of Council's "*Planning Scheme Policy 28 - Appendix A - Design Manual*" generally located at the end of pipe systems serving catchments of between 2 hectares and 5 hectares. The device consists of a concrete apron of sediment collection area with weir boards mounted transverse to the stormwater flow to retain and slowly release runoff from minor storm events thus enabling the collection of trash, or litter and coarse sediment.

Trash Rack:

A series of metal bars located across a stormwater channel or pipe to trap litter and debris. The bars may be vertical or horizontal depending upon hydraulic, cleaning and/or environmental considerations (eg fish passage). Vertical bars are normally preferred to facilitate cleaning.

A trash rack should comprise a series of metal bars spaced to permit collection of litter and debris. They should be made from stainless steel or galvanised to protect them from corrosion. Fixings should be stainless steel. The supporting structure should be designed to accept the full force on the trash rack structure due to hydraulic and debris loads when fully blocked and overtopped. The trash bar openings should be sized to retain the expected types of litter from the catchment and sufficient in number to accept the full flow of the design flood when 50% blocked, without overtopping. The trash bar arrangement should be designed to limit afflux and to ensure, in the event that the trash rack is fully blocked, that flooding is not caused to upstream properties. A concrete hard stand and access ramp should be provided to permit removal of collected material. A suitable “all weather” access road is required to permit access for maintenance.

Sedimentation Basin:

A basin or structure designed for the temporary detention of stormwater flows to provide time for the settling of suspended sediments and other heavy pollutants prior to discharge into a watercourse, lake or other water storage. It is designed to promote low-velocity and low-turbulence flows to facilitate the settling process. It may be used as a pre-treatment upstream of other stormwater quality treatment measures such as wetlands.

A sedimentation basin should comprise an excavated pond or dam formed by excavation or an embankment. The size and geometry of the basin should be designed to encourage the settlement of suspended sediment particles. This will entail the provision of adequate detention time in the basin during the design flood with low-velocity and low-turbulence flow through the basin, including at the approaches to the outlet or spillway. Baffles may be provided to limit short circuiting of flow within the basin. Provision should be made for bypass during flows in excess of the design flood and/or to ensure that collected sediments are not washed out of the basin. Suitable access should be provided to all sides of the basin to permit periodic removal of collected sediment using an excavator or other approved means. The basin design should include an outlet drain and water level control device. A suitable “all weather” access road is required to permit access for maintenance.

Constructed Wetland (Wetland):

A shallow lake or pond, characterised by extensive areas of emergent aquatic plants/macrophytes, designed to support a diverse range of micro-organisms and biota associated with the breakdown of organic material and the uptake of nutrients. Wetlands may be designed as permanent wet basins (perennial), or alternating between dry and wet basins (ephemeral) or combining these two systems (extended detention).

Constructed wetlands are typically shallow water bodies or contain substantial areas of shallow water less than 500mm deep. These areas support a variety of vegetation types including emergent reeds and rushes, water lilies, aquatic creepers and submerged pond weeds. They rely upon the ability of the system to remove pollutants by physical, biological or chemical processes. These pollutants include suspended solids (sediment and organic particles) and nutrients (ammonium, nitrite, nitrate, organic nitrogen, orthophosphate, organic phosphorus and organic carbon). Constructed wetlands may also include deeper areas often greater than 1 metre. These are referred to as pond or lagoon areas where macrophytes are usually absent

Wetlands may be formed in a natural depression or with a constructed embankment. A spillway or other outlet device is incorporated to control water depth. A bypass channel should be provided to divert extreme flood flows, or the wetland constructed “off line”, to prevent plants being damaged or washed out of the wetland and re-suspension of settled material. A suitable access should be provided to all sides of the wetland for maintenance purposes.

Revegetation:

The re-establishment of plants on an area of channel or waterway corridor that has been depleted or devoid of vegetation in order to provide protection against erosive agents and to improve the nutrient and sediment interception and filtration capacity as well as to provide improved fauna habitat. It is an integral part of erosion control and prevention. Preferred species for revegetation are those endemic to the area and those specific to creek and riverine corridors.

Works include weed removal, mulching, planting and plant staking and general care until the plants are established. Planting selection should include a mix of suitable canopy and understorey vegetation of species native to the location or waterway corridor and may include sufficient "over planting" to account for loss and varying plant establishment rates. The revegetated area will establish a tree canopy along the length of the waterway corridor.

Rehabilitation:

Improving the geomorphologic and ecological conditions of a waterway to those more closely resembling natural conditions. This includes channel enhancement to minimise erosion and siltation, stream bank protection and improving the vegetation cover of the waterway channel and corridor.

Rehabilitation is the preferred vegetation strategy where thick revegetation would cause flooding problems. Works would consist of weed removal and replanting of plants, native to the location or waterway corridor. The plant density of the rehabilitated area should be no more than necessary to re-establish the canopy and / or understorey consistent with "natural state" of the waterway corridor. The rehabilitation should match existing plant densities and structure, and the diversity of endemic species, initial priorities should be to establish a shade canopy which extends across the stream channel.

Stream Bank Protection or Stabilisation (Bank Stabilisation):

Works implemented to protect or reinforce existing stream banks from erosion. Measures may include the installation of loose or anchored materials such as large boulders, geotextiles, gabions, mattresses, concrete or precast concrete units. It may also include the re-shaping of batters and the installation of soil stabilising plant species.

Drainage Corridor Easement (Corridor - Easement):

The area of land identified by a registered easement, specifically required for the lawful discharge of drainage from upstream urban catchments but where ownership of the land is not required to be vested in Council. The easement may contain such infrastructure works or revegetated buffers necessary to meet the desired outcomes.

Drainage Corridor Reserve (Corridor - Reserve):

The area of land acquired or transferred to Council, identified within the applicable planning as being specifically required for the lawful discharge of drainage from upstream urban catchments where ownership of the land and responsibility for maintenance of revegetated buffers and maintenance and operation of any drainage system lies with Council.

Minor Riparian Corridor Management Area (RMCA - Minor):

The area of land identified for establishment and / or protection of riparian vegetation generally located minor tributaries or flow paths ephemeral in nature and lacking permanent or semi-permanent flow and some parts of the major waterway system where development constraints exist.

Measures used to ensure the protection of vegetation include statutory covenants in the case of future development areas and voluntary agreements or applicable planning scheme controls in the case of existing developed allotments. Provision is to be made for costs associated with establishment and registration of the statutory covenant or agreement, stock fencing if required and provision for access for weed management and fire control. The area is principally associated with riparian corridor land to be revegetated or rehabilitated but can also occur in areas where existing natural vegetation is required to be maintained.

Major Riparian Corridor Management Area (RMCA - Major):

The area of land identified for establishment and / or protection of riparian vegetation generally located major tributaries, creek and river systems conveying permanent or semi-permanent flow.

Measures used to ensure the protection of vegetation include statutory covenants in the case of future development areas and voluntary agreements or applicable planning scheme controls in the case of existing developed allotments. Provision is made for costs associated with establishment and registration of the statutory covenant or agreement, stock fencing, stock watering facilities if required and provision for access for weed management, fire control and channel maintenance. The area is principally associated with riparian corridor land to be revegetated or rehabilitated but can also occur in areas where existing natural vegetation is required to be maintained.

Road Crossing Upgrade (Crossing Upgrade):

Measures to improve the hydraulic conveyance or efficiency of a waterway or constructed channel at a road crossing. These may include the installation of additional pipes or box culverts and new or increased bridge waterway openings or spans. It also includes associated headwall, wingwalls, concrete aprons and erosion protection and may also include limited channel re-alignment upstream and downstream of the crossing. Credit will only be provided where it addresses an existing deficiency (responsibility of existing residents) or addresses an agreed “regional” deficiency (i.e. serving the future runoff intensity from the wider region and other subdivisions or future developments).

Open Channel Work:

Excavated or formed channel to collect and convey the design flood flow from an upstream catchment to discharge to a watercourse, wetland or detention basin. Characteristics include regular profile, full or partial lining of the channel invert and batters with concrete, rock or vegetation and downstream erosion protection works.

Pipe Drainage System (Pipe drainage):

A system of pipes, pits or chambers and inlets to collect and convey design flows from urban allotments, roadways to discharge to a watercourse, wetland or detention basin. Where the system traverses private property the installed works are protected by a registered easement in favour of Council.

4.3 Stormwater Trunk Infrastructure Determination

Trunk Infrastructure provision has been informed by the various waterway planning studies carried out by Council. These studies have identified the location and nature of the stormwater Trunk Infrastructure networks for their respective service catchments.

In service catchments where detailed studies were not available, outline planning has been carried out to determine the applicable level of infrastructure provision in accordance with IPA Infrastructure Guideline requirements. The transposition of Stormwater infrastructure requirements has been assessed against similar service catchments having regard to the desired standards of service, demand factors and infrastructure network costs

In regards to the timing of the provision of the infrastructure, it should be noted that the infrastructure listed provides for the full development of the Shire in accordance with the IPA planning scheme and therefore infrastructure is identified outside the DISA and with timings for provision extending beyond the 2026 Planning Horizon of this policy. Also, particularly in the case of “water quality” infrastructure, some has been located external to the DISA for the benefit of development within the DISA where the supporting catchment management planning has identified an overall cost effectiveness and enhanced environmental outcomes compared to concentrating the provision of the infrastructure within the DISA.

While a particular development may have an immediate impact on some Local Area Drainage infrastructure, the impact on Creek and River infrastructure is expected to be more gradual. As a consequence, Council has greater flexibility in staging the delivery of the trunk stormwater network. It is therefore not considered imperative that Council deliver any identified infrastructure in the nominated financial year. Nor is it necessary for Council to complete all of one project in the same financial year. However, the delivery of the infrastructure can be related to maintaining Council’s desired standard of service. This is a function of the anticipated impact of development on stormwater quantity and quality in the various service catchments.

Trunk Infrastructure provision identified in this policy therefore has been determined based on an assessment of the change in land use consistent with the rate of population growth within each service catchment. Stormwater infrastructure requirements are aligned with land use and land use change, and the resultant change in runoff and pollutant export.

Stormwater infrastructure listed in the capital works listing has been prioritized on the basis of a multi-criteria ranking system defined in Council's adopted stormwater capital works prioritisation methodology. The methodology considers a range of factors which results in the determination of the indicative timing for the infrastructure provision. Elements affecting the overall timing for infrastructure include:

(1) Risk of flooding or adverse impact;

(2) Possible significant or unacceptable consequence;

(3) The timing or sequence of development expected within the catchment;

(4) Population growth; and

(5) Availability of funding both through the infrastructure charging mechanism, infrastructure agreements and Council's other funding sources

4.4 Stormwater Trunk Infrastructure Valuations

Future Stormwater Management Infrastructure requirements and associated costs have been based on the recommendations of existing stormwater management studies or have been identified through an Outline Planning Process.

Infrastructure Cost Indexation

(1) Infrastructure Item Costs

An infrastructure costing review was undertaken by PRSC. All items were reassessed and costs recalculated to 30 June 2006 using various indexation values depending on the type of infrastructure. However, the costs of some items of infrastructure (Wetlands) were recalculated from first principles.

(2) Land Acquisition

Some areas previously earmarked for land acquisition in the 2003 Stormwater PIP, were either removed or reduced in area and moved to the Local Community Purposes Network as this was deemed a more appropriate place for these areas.

The remaining areas for land acquisition were assessed by an independent land valuer to bring the costs for acquisition to the 30 June 2006 benchmark.

4.5 Existing Stormwater Trunk Infrastructure

Infrastructure Charges have been determined for future infrastructure only. No valuation or accounting of existing infrastructure has been included in this policy. The Trunk Infrastructure requirements determined for this policy are to address the impacts of future development and deficiencies in the existing networks. Note that trunk infrastructure items required for both purposes have been apportioned to both existing and future development in order to ensure equitable cost allocation. Existing network capacity has been assessed to provide only for existing development and no existing spare capacity is available to cater for future development. However, for the purpose of completeness, current asset valuations of existing Stormwater Trunk Infrastructure Network owned by Pine Rivers Shire is provided in Table 4.5A:

Table 4.5A – Existing Stormwater Drainage Infrastructure Replacement Cost at 30 June 2006

Asset Prefix	Description	Replacement Cost
BC	Box Culverts	$13,377,578.30
CH	Channels	$631,724.37
CP	Catch Pits	$35,225,093.09
FP	Field Pits	$931,852.60
HW	Headwalls	$4,836,241.67
MH	Manholes	$20,021,806.69
PI	Pipes	$159,397,410.58
PT	Pollutant Traps	$2,515,910.74
RW	Roofwater Pits	$7,839,179.78
SO	Other	$2,598,620.21
ST	Sediment Traps	$57,075.97
LAND	Wetlands	$2,070,947.41
Total		**$249,503,441.41**

4.6 Future Stormwater Plan for Trunk Infrastructure

Table 4.6A– River Quality Stormwater Works

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST June 30 2006	TIMING OF WORKS (YEAR)
PIPSQ70424	NPR_REV_4	North Pine River	Revegetation	$1,120,468	2008
PIPSQ70419	NPR_REV_1	North Pine River	Revegetation	$810,575	2009
PIPSQ70422	NPR_REV_2	North Pine River	Revegetation	$703,648	2009
PIPSQ70425	NPR_REV_5	North Pine River	Revegetation	$619,321	2009
PIPSQ70423	NPR_REV_3	North Pine River	Revegetation	$1,178,572	2012
PIPSQ70426	NPR_REV_6	North Pine River	Revegetation	$1,099,858	2012
PIPSQ70415	NPR_REH_10	North Pine River	Rehabilitation	$250,643	2013
PIPSQ70437	NPR_RMIN_7	North Pine River	RCMA Minor	$132,814	2013
PIPSQ70416	NPR_REH_7	North Pine River	Rehabilitation	$264,611	2014
PIPSQ70417	NPR_REH_8	North Pine River	Rehabilitation	$319,936	2014
PIPSQ70418	NPR_REH_9	North Pine River	Rehabilitation	$33,627	2014
PIPSQ70430	NPR_RMAJ_2	North Pine River	RCMA Major	$84,309	2014
PIPSQ70431	NPR_RMAJ_3	North Pine River	RCMA Major	$149,811	2018
PIPSQ70432	NPR_RMAJ_4	North Pine River	RCMA Major	$320,716	2018
PIPSQ70433	NPR_RMAJ_5	North Pine River	RCMA Major	$1,968,078	2019
PIPSQ70434	NPR_RMAJ_6	North Pine River	RCMA Major	$209,706	2020
PIPSQ70435	NPR_RMAJ_7	North Pine River	RCMA Major	$390,452	2020
PIPSQ70436	NPR_RMAJ_9	North Pine River	RCMA Major	$1,060,607	2020
PIPSQ70420	NPR_REV_10	North Pine River	Revegetation	$489,507	2023
PIPSQ70421	NPR_REV_11	North Pine River	Revegetation	$838,836	2025
PIPSQ70427	NPR_REV_7	North Pine River	Revegetation	$201,715	2025
PIPSQ70428	NPR_REV_8	North Pine River	Revegetation	$389,329	2026
PIPSQ70429	NPR_REV_9	North Pine River	Revegetation	$865,895	2026
PIPSQ70698	SPR_RMAJ_30	South Pine River	RCMA Major	$41,695	2007
PIPSQ70669	SPR_REV_24	South Pine River	Revegetation	$736,564	2008
PIPSQ70670	SPR_REV_25	South Pine River	Revegetation	$759,787	2008
PIPSQ70706	SPR_RMIN_10	South Pine River	RCMA Minor	$169,771	2008
PIPSQ70707	SPR_RMIN_11	South Pine River	RCMA Minor	$280,013	2008
PIPSQ70718	SPR_RMIN_26	South Pine River	RCMA Minor	$36,859	2008
PIPSQ70714	SPR_RMIN_22	South Pine River	RCMA Minor	$279,082	2009
PIPSQ70715	SPR_RMIN_23	South Pine River	RCMA Minor	$169,164	2009
PIPSQ70716	SPR_RMIN_24	South Pine River	RCMA Minor	$363,892	2009
PIPSQ70719	SPR_RMIN_27	South Pine River	RCMA Minor	$218,119	2009
PIPSQ70720	SPR_RMIN_28	South Pine River	RCMA Minor	$34,156	2009
PIPSQ70637	SPR_REH_10	South Pine River	Rehabilitation	$250,405	2011
PIPSQ70638	SPR_REH_11	South Pine River	Rehabilitation	$1,063,001	2011
PIPSQ70646	SPR_REH_22	South Pine River	Rehabilitation	$845,764	2011
PIPSQ70647	SPR_REH_23	South Pine River	Rehabilitation	$694,148	2011
PIPSQ70650	SPR_REH_26	South Pine River	Rehabilitation	$583,569	2011
PIPSQ70651	SPR_REH_27	South Pine River	Rehabilitation	$1,314,428	2011

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST June 30 2006	TIMING OF WORKS (YEAR)
PIPSQ70717	SPR_RMIN_25	South Pine River	RCMA Minor	$276,256	2011
PIPSQ70725	SPR_RMIN_9	South Pine River	RCMA Minor	$200,022	2011
PIPSQ70648	SPR_REH_24	South Pine River	Rehabilitation	$600,017	2012
PIPSQ70649	SPR_REH_25	South Pine River	Rehabilitation	$662,113	2012
PIPSQ70652	SPR_REH_28	South Pine River	Rehabilitation	$484,557	2012
PIPSQ70654	SPR_REH_30	South Pine River	Rehabilitation	$339,753	2012
PIPSQ70659	SPR_REH_9	South Pine River	Rehabilitation	$397,239	2012
PIPSQ70680	SPR_RMAJ_10	South Pine River	RCMA Major	$156,474	2012
PIPSQ70691	SPR_RMAJ_24	South Pine River	RCMA Major	$117,105	2012
PIPSQ70692	SPR_RMAJ_25	South Pine River	RCMA Major	$20,916	2012
PIPSQ70681	SPR_RMAJ_11	South Pine River	RCMA Major	$466,097	2013
PIPSQ70694	SPR_RMAJ_27	South Pine River	RCMA Major	$164,432	2013
PIPSQ70695	SPR_RMAJ_28	South Pine River	RCMA Major	$115,850	2013
PIPSQ70661	SPR_REV_10	South Pine River	Revegetation	$1,719,900	2014
PIPSQ70662	SPR_REV_11	South Pine River	Revegetation	$80,516	2014
PIPSQ70671	SPR_REV_27	South Pine River	Revegetation	$217,080	2014
PIPSQ70672	SPR_REV_28	South Pine River	Revegetation	$147,559	2014
PIPSQ70704	SPR_RMAJ_9	South Pine River	RCMA Major	$176,101	2014
PIPSQ70678	SPR_REV_9	South Pine River	Revegetation	$2,846,317	2016
PIPSQ70710	SPR_RMIN_17	South Pine River	RCMA Minor	$89,252	2016
PIPSQ70711	SPR_RMIN_19	South Pine River	RCMA Minor	$33,082	2016
PIPSQ70712	SPR_RMIN_20	South Pine River	RCMA Minor	$414,075	2018
PIPSQ70713	SPR_RMIN_21	South Pine River	RCMA Minor	$242,549	2018
PIPSQ70641	SPR_REH_17	South Pine River	Rehabilitation	$151,613	2019
PIPSQ70642	SPR_REH_18	South Pine River	Rehabilitation	$43,332	2019
PIPSQ70643	SPR_REH_19	South Pine River	Rehabilitation	$603,660	2019
PIPSQ70644	SPR_REH_20	South Pine River	Rehabilitation	$319,313	2019
PIPSQ70645	SPR_REH_21	South Pine River	Rehabilitation	$724,486	2019
PIPSQ70723	SPR_RMIN_7	South Pine River	RCMA Minor	$221,887	2019
PIPSQ70724	SPR_RMIN_8	South Pine River	RCMA Minor	$146,829	2019
PIPSQ70657	SPR_REH_7	South Pine River	Rehabilitation	$570,299	2020
PIPSQ70658	SPR_REH_8	South Pine River	Rehabilitation	$108,926	2020
PIPSQ70683	SPR_RMAJ_17	South Pine River	RCMA Major	$49,744	2020
PIPSQ70684	SPR_RMAJ_18	South Pine River	RCMA Major	$12,241	2020
PIPSQ70685	SPR_RMAJ_19	South Pine River	RCMA Major	$203,832	2020
PIPSQ70687	SPR_RMAJ_20	South Pine River	RCMA Major	$5,538	2020
PIPSQ70688	SPR_RMAJ_21	South Pine River	RCMA Major	$44,641	2020
PIPSQ70667	SPR_REV_20	South Pine River	Revegetation	$820,807	2021
PIPSQ70702	SPR_RMAJ_7	South Pine River	RCMA Major	$240,856	2021
PIPSQ70703	SPR_RMAJ_8	South Pine River	RCMA Major	$75,480	2021
PIPSQ70665	SPR_REV_17	South Pine River	Revegetation	$645,071	2022
PIPSQ70668	SPR_REV_21	South Pine River	Revegetation	$379,320	2022
PIPSQ70676	SPR_REV_7	South Pine River	Revegetation	$1,260,482	2023
PIPSQ70639	SPR_REH_12	South Pine River	Rehabilitation	$1,739,609	2024
PIPSQ70677	SPR_REV_8	South Pine River	Revegetation	$1,624,851	2024
PIPSQ70708	SPR_RMIN_12	South Pine River	RCMA Minor	$767,544	2024
PIPSQ70709	SPR_RMIN_13	South Pine River	RCMA Minor	$381,273	2024
PIPSQ70640	SPR_REH_13	South Pine River	Rehabilitation	$951,204	2025
PIPSQ70655	SPR_REH_5	South Pine River	Rehabilitation	$291,311	2025
PIPSQ70663	SPR_REV_12	South Pine River	Revegetation	$112,802	2025
PIPSQ70664	SPR_REV_13	South Pine River	Revegetation	$463,427	2025
PIPSQ70679	SPR_RMAJ_1	South Pine River	RCMA Major	$109,576	2025
PIPSQ70682	SPR_RMAJ_13	South Pine River	RCMA Major	$350,860	2025
PIPSQ70705	SPR_RMIN_1	South Pine River	RCMA Minor	$91,059	2025
PIPSQ70721	SPR_RMIN_5	South Pine River	RCMA Minor	$20,877	2025
PIPSQ70722	SPR_RMIN_6	South Pine River	RCMA Minor	$104,638	2025
PIPSQ70656	SPR_REH_6	South Pine River	Rehabilitation	$836,214	2026
PIPSQ70686	SPR_RMAJ_2	South Pine River	RCMA Major	$40,064	2026
PIPSQ70697	SPR_RMAJ_3	South Pine River	RCMA Major	$140,979	2026
PIPSQ70699	SPR_RMAJ_4	South Pine River	RCMA Major	$63,134	2026
PIPSQ70701	SPR_RMAJ_6	South Pine River	RCMA Major	$3,013	2026
PIPSQ70653	SPR_REH_29	South Pine River	Rehabilitation	$227,878	2029
PIPSQ70660	SPR_REV_1	South Pine River	Revegetation	$620,877	2029
PIPSQ70666	SPR_REV_2	South Pine River	Revegetation	$492,957	2029

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST June 30 2006	TIMING OF WORKS (YEAR)
PIPSQ70673	SPR_REV_3	South Pine River	Revegetation	$511,520	2029
PIPSQ70674	SPR_REV_4	South Pine River	Revegetation	$489,269	2029
PIPSQ70675	SPR_REV_5	South Pine River	Revegetation	$70,834	2029
PIPSQ70696	SPR_RMAJ_29	South Pine River	RCMA Major	$57,478	2029

Table 4.6B– River Quantity Stormwater Works

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 20 2006)	TIMING OF WORKS (YEAR)
PIPSD70049	NPR_CU_1	North Pine River	Crossing Upgrade	$716,181	2009
PIPSD70050	NPR_CU_2	North Pine River	Crossing Upgrade	$716,181	2009
PIPSD70052	NPR_CU_4	North Pine River	Crossing Upgrade	$716,181	2010
PIPSD70051	NPR_CU_3	North Pine River	Crossing Upgrade	$716,181	2011
PIPSD70053	NPR_RES_10	North Pine River	Corridor - Reserve	$372,546	2018
PIPSD70054	NPR_RES_11	North Pine River	Corridor - Reserve	$363,223	2027
PIPSD70100	SPR_RES_9	South Pine River	Corridor - Reserve	$17,134	2009
PIPSD70098	SPR_RES_6	South Pine River	Corridor - Reserve	$26,222	2011
PIPSD70091	SPR_CU_6	South Pine River	Crossing Upgrade	$1,247,205	2014
PIPSD70093	SPR_CU_8	South Pine River	Crossing Upgrade	$692,843	2016
PIPSD70094	SPR_CU_9	South Pine River	Crossing Upgrade	$2,057,453	2020
PIPSD70087	SPR_CU_2	South Pine River	Crossing Upgrade	$555,419	2021
PIPSD70088	SPR_CU_3	South Pine River	Crossing Upgrade	$284,595	2021
PIPSD70090	SPR_CU_5	South Pine River	Crossing Upgrade	$191,260	2021
PIPSD70089	SPR_CU_4	South Pine River	Crossing Upgrade	$595,201	2023
PIPSD70086	SPR_CU_1	South Pine River	Crossing Upgrade	$79,564	2024
PIPSD70092	SPR_CU_7	South Pine River	Crossing Upgrade	$835,120	2024
PIPSD70096	SPR_RES_4	South Pine River	Corridor - Reserve	$40,242	2027

Table 4.6C– Creek Quality Stormwater Works

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 30 2006)	TIMING OF WORKS (YEAR)
PIPSQ70026	AC_WET_1	Albany Creek	Wetland	$2,687,597	2009
PIPSQ70008	AC_RMIN_2	Albany Creek	RCMA Minor	$39,897	2010
PIPSQ70005	AC_REH_1	Albany Creek	Rehabilitation	$170,805	2012
PIPSQ70027	AC_WET_2	Albany Creek	Wetland	$1,129,039	2016
PIPSQ70006	AC_REH_2	Albany Creek	Rehabilitation	$265,727	2021
PIPSQ70001	AC_GPT_1	Albany Creek	GPT	$65,700	2023
PIPSQ70028	AC_WET_3	Albany Creek	Wetland	$1,528,031	2023
PIPSQ70002	AC_GPT_2	Albany Creek	GPT	$65,700	2024
PIPSQ70003	AC_GPT_3	Albany Creek	GPT	$65,700	2025
PIPSQ70004	AC_GPT_4	Albany Creek	GPT	$65,700	2026
PIPSQ70018	AC_TR_1	Albany Creek	Trash Rack	$8,760	2026
PIPSQ70019	AC_TR_2	Albany Creek	Trash Rack	$8,760	2026
PIPSQ70020	AC_TR_3	Albany Creek	Trash Rack	$8,760	2026
PIPSQ70021	AC_TR_4	Albany Creek	Trash Rack	$8,760	2026
PIPSQ70022	AC_TR_5	Albany Creek	Trash Rack	$8,760	2026
PIPSQ70009	AC_ST_1	Albany Creek	Sediment Trap	$26,280	2027
PIPSQ70010	AC_ST_2	Albany Creek	Sediment Trap	$26,280	2027
PIPSQ70011	AC_ST_3	Albany Creek	Sediment Trap	$26,280	2027
PIPSQ70012	AC_ST_4	Albany Creek	Sediment Trap	$26,280	2028
PIPSQ70013	AC_ST_5	Albany Creek	Sediment Trap	$26,280	2028
PIPSQ70023	AC_TR_6	Albany Creek	Trash Rack	$8,760	2028
PIPSQ70024	AC_TR_7	Albany Creek	Trash Rack	$8,760	2028
PIPSQ70025	AC_TR_8	Albany Creek	Trash Rack	$8,760	2028
PIPSQ70007	AC_REH_3	Albany Creek	Rehabilitation	$175,281	2029
PIPSQ70014	AC_ST_6	Albany Creek	Sediment Trap	$26,280	2029
PIPSQ70015	AC_ST_7	Albany Creek	Sediment Trap	$26,280	2029
PIPSQ70016	AC_ST_8	Albany Creek	Sediment Trap	$26,280	2029
PIPSQ70017	AC_ST_9	Albany Creek	Sediment Trap	$26,280	2029
PIPSQ70029	BC_REH_1	Branch Creek	Rehabilitation	$391,863	2008
PIPSQ70033	BC_RMIN_1	Branch Creek	RCMA Minor	$36,214	2009
PIPSQ70030	BC_REH_2	Branch Creek	Rehabilitation	$178,033	2010
PIPSQ70034	BC_RMIN_2	Branch Creek	RCMA Minor	$59,876	2011

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 30 2006)	TIMING OF WORKS (YEAR)
PIPSQ70031	BC_REV_1	Branch Creek	Revegetation	$827,948	2017
PIPSQ70032	BC_REV_2	Branch Creek	Revegetation	$1,384,106	2027
PIPSQ70035	BS_GPT_1	Brendale / Strathpine	GPT	$65,700	2008
PIPSQ70036	BS_GPT_2	Brendale / Strathpine	GPT	$65,700	2016
PIPSQ70043	BS_TR_1	Brendale / Strathpine	Trash Rack	$8,760	2016
PIPSQ70044	BS_TR_2	Brendale / Strathpine	Trash Rack	$8,760	2017
PIPSQ70045	BS_TR_3	Brendale / Strathpine	Trash Rack	$8,760	2017
PIPSQ70038	BS_ST_1	Brendale / Strathpine	Sediment Trap	$26,280	2019
PIPSQ70039	BS_ST_2	Brendale / Strathpine	Sediment Trap	$26,280	2021
PIPSQ70040	BS_ST_3	Brendale / Strathpine	Sediment Trap	$26,280	2025
PIPSQ70037	BS_REV_1	Brendale / Strathpine	Revegetation	$159,461	2027
PIPSQ70041	BS_ST_4	Brendale / Strathpine	Sediment Trap	$26,280	2027
PIPSQ70042	BS_ST_5	Brendale / Strathpine	Sediment Trap	$26,280	2028
PIPSQ70090	CT_GPT_1	Cabbage Tree Creek	GPT	$110,959	2010
PIPSQ70093	CT_GPT_3	Cabbage Tree Creek	GPT	$110,959	2010
PIPSQ70092	CT_GPT_2	Cabbage Tree Creek	GPT	$110,959	2013
PIPSQ70094	CT_GPT_4	Cabbage Tree Creek	GPT	$110,959	2013
PIPSQ70095	CT_GPT_5	Cabbage Tree Creek	GPT	$110,959	2014
PIPSQ70096	CT_GPT_6	Cabbage Tree Creek	GPT	$110,959	2016
PIPSQ70097	CT_GPT_7	Cabbage Tree Creek	GPT	$110,959	2019
PIPSQ70098	CT_GPT_8	Cabbage Tree Creek	GPT	$110,959	2020
PIPSQ70100	CT_REH_1	Cabbage Tree Creek	Rehabilitation	$505,937	2022
PIPSQ70099	CT_GPT_9	Cabbage Tree Creek	GPT	$110,959	2023
PIPSQ70091	CT_GPT_10	Cabbage Tree Creek	GPT	$110,959	2025
PIPSQ70101	CT_REV_1	Cabbage Tree Creek	Revegetation	$155,093	2029
PIPSQ70102	CT_SB_1	Cabbage Tree Creek	Sedimentation Basin	$236,082	2029
PIPSQ70052	CC_RMIN_1	Conflagration Creek	RCMA Minor	$686,236	2010
PIPSQ70063	CC_WET_1	Conflagration Creek	Wetland	$4,031,995	2024
PIPSQ70046	CC_GPT_1	Conflagration Creek	GPT	$65,700	2025
PIPSQ70047	CC_GPT_2	Conflagration Creek	GPT	$65,700	2025
PIPSQ70048	CC_GPT_3	Conflagration Creek	GPT	$65,700	2027
PIPSQ70049	CC_GPT_4	Conflagration Creek	GPT	$65,700	2027
PIPSQ70050	CC_GPT_5	Conflagration Creek	GPT	$65,700	2027
PIPSQ70051	CC_REH_1	Conflagration Creek	Rehabilitation	$426,999	2027
PIPSQ70053	CC_ST_1	Conflagration Creek	Sediment Trap	$26,280	2028
PIPSQ70054	CC_TR_1	Conflagration Creek	Trash Rack	$8,760	2028
PIPSQ70055	CC_TR_2	Conflagration Creek	Trash Rack	$8,760	2028
PIPSQ70056	CC_TR_3	Conflagration Creek	Trash Rack	$8,760	2028
PIPSQ70057	CC_TR_4	Conflagration Creek	Trash Rack	$8,760	2028
PIPSQ70058	CC_TR_5	Conflagration Creek	Trash Rack	$8,760	2028
PIPSQ70059	CC_TR_6	Conflagration Creek	Trash Rack	$8,760	2028
PIPSQ70060	CC_TR_7	Conflagration Creek	Trash Rack	$8,760	2028
PIPSQ70061	CC_TR_8	Conflagration Creek	Trash Rack	$8,760	2028
PIPSQ70062	CC_TR_9	Conflagration Creek	Trash Rack	$8,760	2028
PIPSQ70069	COU_GPT_6	Coulthards Creek	GPT	$65,700	2008
PIPSQ70064	COU_GPT_1	Coulthards Creek	GPT	$65,700	2009
PIPSQ70065	COU_GPT_2	Coulthards Creek	GPT	$65,700	2009
PIPSQ70070	COU_GPT_7	Coulthards Creek	GPT	$65,700	2009
PIPSQ70078	COU_TR_1	Coulthards Creek	Trash Rack	$8,760	2009
PIPSQ70067	COU_GPT_4	Coulthards Creek	GPT	$65,700	2011
PIPSQ70081	COU_TR_2	Coulthards Creek	Trash Rack	$8,760	2011
PIPSQ70082	COU_TR_3	Coulthards Creek	Trash Rack	$8,760	2011
PIPSQ70083	COU_TR_4	Coulthards Creek	Trash Rack	$8,760	2011
PIPSQ70084	COU_TR_5	Coulthards Creek	Trash Rack	$8,760	2011
PIPSQ70085	COU_TR_6	Coulthards Creek	Trash Rack	$8,760	2011
PIPSQ70086	COU_TR_7	Coulthards Creek	Trash Rack	$8,760	2011
PIPSQ70087	COU_TR_8	Coulthards Creek	Trash Rack	$8,760	2011
PIPSQ70088	COU_TR_9	Coulthards Creek	Trash Rack	$8,760	2011
PIPSQ70066	COU_GPT_3	Coulthards Creek	GPT	$65,700	2013
PIPSQ70068	COU_GPT_5	Coulthards Creek	GPT	$65,700	2013
PIPSQ70072	COU_ST_1	Coulthards Creek	Sediment Trap	$26,280	2013
PIPSQ70073	COU_ST_2	Coulthards Creek	Sediment Trap	$26,280	2013
PIPSQ70074	COU_ST_3	Coulthards Creek	Sediment Trap	$26,280	2013
PIPSQ70075	COU_ST_4	Coulthards Creek	Sediment Trap	$26,280	2013

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 30 2006)	TIMING OF WORKS (YEAR)
PIPSQ70076	COU_ST_5	Coulthards Creek	Sediment Trap	$26,280	2013
PIPSQ70077	COU_ST_6	Coulthards Creek	Sediment Trap	$26,280	2013
PIPSQ70079	COU_TR_10	Coulthards Creek	Trash Rack	$8,760	2013
PIPSQ70080	COU_TR_11	Coulthards Creek	Trash Rack	$8,760	2013
PIPSQ70071	COU_REH_1	Coulthards Creek	Rehabilitation	$95,900	2027
PIPSQ70089	COU_WET_1	Coulthards Creek	Wetland	$2,273,381	2027
PIPSQ70105	DV_GPT_2	Dayboro Village	GPT	$65,700	2008
PIPSQ70103	DV_GPT_1	Dayboro Village	GPT	$65,700	2009
PIPSQ70115	DV_RMIN_1	Dayboro Village	RCMA Minor	$9,026	2009
PIPSQ70106	DV_GPT_3	Dayboro Village	GPT	$65,700	2010
PIPSQ70104	DV_GPT_10	Dayboro Village	GPT	$65,700	2011
PIPSQ70107	DV_GPT_4	Dayboro Village	GPT	$65,700	2013
PIPSQ70108	DV_GPT_5	Dayboro Village	GPT	$65,700	2014
PIPSQ70109	DV_GPT_6	Dayboro Village	GPT	$65,700	2016
PIPSQ70110	DV_GPT_7	Dayboro Village	GPT	$65,700	2018
PIPSQ70114	DV_RMAJ_1	Dayboro Village	RCMA Major	$66,463	2019
PIPSQ70111	DV_GPT_8	Dayboro Village	GPT	$65,700	2020
PIPSQ70112	DV_GPT_9	Dayboro Village	GPT	$65,700	2022
PIPSQ70116	DV_ST_1	Dayboro Village	Sediment Trap	$26,280	2022
PIPSQ70117	DV_ST_2	Dayboro Village	Sediment Trap	$26,280	2023
PIPSQ70118	DV_ST_3	Dayboro Village	Sediment Trap	$26,280	2024
PIPSQ70119	DV_ST_4	Dayboro Village	Sediment Trap	$26,280	2025
PIPSQ70120	DV_ST_5	Dayboro Village	Sediment Trap	$26,280	2025
PIPSQ70113	DV_REV_1	Dayboro Village	Revegetation	$523,958	2026
PIPSQ70121	DV_ST_6	Dayboro Village	Sediment Trap	$26,280	2026
PIPSQ70122	DV_ST_7	Dayboro Village	Sediment Trap	$26,280	2027
PIPSQ70123	DV_ST_8	Dayboro Village	Sediment Trap	$26,280	2028
PIPSQ70124	DV_ST_9	Dayboro Village	Sediment Trap	$26,280	2028
PIPSQ70125	ED_GPT_1	Eatons Hill / Draper	GPT	$65,700	2011
PIPSQ70137	ED_TR_1	Eatons Hill / Draper	Trash Rack	$8,760	2013
PIPSQ70138	ED_TR_2	Eatons Hill / Draper	Trash Rack	$8,760	2013
PIPSQ70129	ED_RMIN_1	Eatons Hill / Draper	RCMA Minor	$2,107,093	2016
PIPSQ70131	ED_ST_1	Eatons Hill / Draper	Sediment Trap	$26,280	2016
PIPSQ70130	ED_RMIN_2	Eatons Hill / Draper	RCMA Minor	$159,487	2017
PIPSQ70132	ED_ST_2	Eatons Hill / Draper	Sediment Trap	$26,280	2017
PIPSQ70133	ED_ST_3	Eatons Hill / Draper	Sediment Trap	$26,280	2020
PIPSQ70134	ED_ST_4	Eatons Hill / Draper	Sediment Trap	$26,280	2023
PIPSQ70126	ED_REH_1	Eatons Hill / Draper	Rehabilitation	$438,440	2024
PIPSQ70127	ED_REH_2	Eatons Hill / Draper	Rehabilitation	$217,830	2027
PIPSQ70128	ED_REV_2	Eatons Hill / Draper	Revegetation	$1,256	2027
PIPSQ70135	ED_ST_5	Eatons Hill / Draper	Sediment Trap	$26,280	2027
PIPSQ70136	ED_ST_6	Eatons Hill / Draper	Sediment Trap	$26,280	2029
PIPSQ70141	EW_WET_1	Eatons Hill / Warner	Wetland	$3,820,151	2026
PIPSQ70140	EW_REH_1	Eatons Hill / Warner	Rehabilitation	$345,071	2027
PIPSQ70139	EW_GPT_1	Eatons Hill / Warner	GPT	$65,700	2028
PIPSQ70263	FM_REV_3	Four Mile Creek	Revegetation	$945,428	2008
PIPSQ70259	FM_REH_3	Four Mile Creek	Rehabilitation	$45,230	2009
PIPSQ70257	FM_REH_1	Four Mile Creek	Rehabilitation	$29,861	2010
PIPSQ70306	FM_WET_1	Four Mile Creek	Wetland	$2,650,185	2010
PIPSQ70258	FM_REH_2	Four Mile Creek	Rehabilitation	$895,765	2014
PIPSQ70307	FM_WET_2	Four Mile Creek	Wetland	$2,363,912	2017
PIPSQ70245	FM_GPT_1	Four Mile Creek	GPT	$65,700	2018
PIPSQ70249	FM_GPT_2	Four Mile Creek	GPT	$65,700	2018
PIPSQ70250	FM_GPT_3	Four Mile Creek	GPT	$65,700	2020
PIPSQ70251	FM_GPT_4	Four Mile Creek	GPT	$65,700	2020
PIPSQ70252	FM_GPT_5	Four Mile Creek	GPT	$65,700	2020
PIPSQ70260	FM_REH_5	Four Mile Creek	Rehabilitation	$766,551	2020
PIPSQ70253	FM_GPT_6	Four Mile Creek	GPT	$65,700	2021
PIPSQ70254	FM_GPT_7	Four Mile Creek	GPT	$65,700	2021
PIPSQ70246	FM_GPT_10	Four Mile Creek	GPT	$65,700	2023
PIPSQ70247	FM_GPT_11	Four Mile Creek	GPT	$65,700	2023
PIPSQ70255	FM_GPT_8	Four Mile Creek	GPT	$65,700	2023
PIPSQ70256	FM_GPT_9	Four Mile Creek	GPT	$65,700	2023
PIPSQ70248	FM_GPT_12	Four Mile Creek	GPT	$65,700	2025

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 30 2006)	TIMING OF WORKS (YEAR)
PIPSQ70261	FM_REV_1	Four Mile Creek	Revegetation	$884,855	2025
PIPSQ70262	FM_REV_2	Four Mile Creek	Revegetation	$58,508	2025
PIPSQ70274	FM_TR_1	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70275	FM_TR_10	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70276	FM_TR_11	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70277	FM_TR_12	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70278	FM_TR_13	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70279	FM_TR_14	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70280	FM_TR_15	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70281	FM_TR_16	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70282	FM_TR_17	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70283	FM_TR_18	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70284	FM_TR_19	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70285	FM_TR_2	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70296	FM_TR_3	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70300	FM_TR_4	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70301	FM_TR_5	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70302	FM_TR_6	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70303	FM_TR_7	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70304	FM_TR_8	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70305	FM_TR_9	Four Mile Creek	Trash rack	$8,760	2025
PIPSQ70265	FM_ST_1	Four Mile Creek	Sediment Trap	$26,280	2027
PIPSQ70266	FM_ST_2	Four Mile Creek	Sediment Trap	$26,280	2027
PIPSQ70267	FM_ST_3	Four Mile Creek	Sediment Trap	$26,280	2027
PIPSQ70286	FM_TR_20	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70287	FM_TR_21	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70288	FM_TR_22	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70289	FM_TR_23	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70290	FM_TR_24	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70291	FM_TR_25	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70292	FM_TR_26	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70293	FM_TR_27	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70294	FM_TR_28	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70295	FM_TR_29	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70297	FM_TR_30	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70298	FM_TR_31	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70299	FM_TR_32	Four Mile Creek	Trash rack	$8,760	2027
PIPSQ70268	FM_ST_4	Four Mile Creek	Sediment Trap	$26,280	2028
PIPSQ70264	FM_REV_4	Four Mile Creek	Revegetation	$394,087	2029
PIPSQ70269	FM_ST_5	Four Mile Creek	Sediment Trap	$26,280	2029
PIPSQ70270	FM_ST_6	Four Mile Creek	Sediment Trap	$26,280	2029
PIPSQ70271	FM_ST_7	Four Mile Creek	Sediment Trap	$26,280	2029
PIPSQ70272	FM_ST_8	Four Mile Creek	Sediment Trap	$26,280	2029
PIPSQ70273	FM_ST_9	Four Mile Creek	Sediment Trap	$26,280	2029
PIPSQ70170	FC_GPT_34	Freshwater Creek	GPT	$28,324	2008
PIPSQ70171	FC_GPT_35	Freshwater Creek	GPT	$28,324	2008
PIPSQ70172	FC_GPT_36	Freshwater Creek	GPT	$28,324	2008
PIPSQ70173	FC_GPT_37	Freshwater Creek	GPT	$28,324	2008
PIPSQ70174	FC_GPT_38	Freshwater Creek	GPT	$28,324	2008
PIPSQ70142	FC_GPT_1	Freshwater Creek	GPT	$21,243	2009
PIPSQ70143	FC_GPT_10	Freshwater Creek	GPT	$21,243	2009
PIPSQ70154	FC_GPT_2	Freshwater Creek	GPT	$21,243	2009
PIPSQ70165	FC_GPT_3	Freshwater Creek	GPT	$21,243	2009
PIPSQ70176	FC_GPT_4	Freshwater Creek	GPT	$21,243	2009
PIPSQ70180	FC_GPT_43	Freshwater Creek	GPT	$28,324	2009
PIPSQ70181	FC_GPT_44	Freshwater Creek	GPT	$24,277	2009
PIPSQ70182	FC_GPT_45	Freshwater Creek	GPT	$24,277	2009
PIPSQ70183	FC_GPT_46	Freshwater Creek	GPT	$24,277	2009
PIPSQ70184	FC_GPT_47	Freshwater Creek	GPT	$24,277	2009
PIPSQ70185	FC_GPT_48	Freshwater Creek	GPT	$24,277	2009
PIPSQ70186	FC_GPT_49	Freshwater Creek	GPT	$24,277	2009
PIPSQ70187	FC_GPT_5	Freshwater Creek	GPT	$21,243	2009
PIPSQ70188	FC_GPT_50	Freshwater Creek	GPT	$24,277	2009
PIPSQ70189	FC_GPT_51	Freshwater Creek	GPT	$24,277	2009

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 30 2006)	TIMING OF WORKS (YEAR)
PIPSQ70190	FC_GPT_52	Freshwater Creek	GPT	$24,277	2009
PIPSQ70191	FC_GPT_53	Freshwater Creek	GPT	$24,277	2009
PIPSQ70198	FC_GPT_6	Freshwater Creek	GPT	$21,243	2009
PIPSQ70209	FC_GPT_7	Freshwater Creek	GPT	$21,243	2009
PIPSQ70220	FC_GPT_8	Freshwater Creek	GPT	$21,243	2009
PIPSQ70231	FC_GPT_9	Freshwater Creek	GPT	$21,243	2009
PIPSQ70244	FC_SB_1	Freshwater Creek	Sedimentation Basin	$288,940	2009
PIPSQ70145	FC_GPT_11	Freshwater Creek	GPT	$21,243	2010
PIPSQ70146	FC_GPT_12	Freshwater Creek	GPT	$21,243	2010
PIPSQ70147	FC_GPT_13	Freshwater Creek	GPT	$63,730	2010
PIPSQ70148	FC_GPT_14	Freshwater Creek	GPT	$63,730	2010
PIPSQ70149	FC_GPT_15	Freshwater Creek	GPT	$63,730	2010
PIPSQ70150	FC_GPT_16	Freshwater Creek	GPT	$63,730	2010
PIPSQ70151	FC_GPT_17	Freshwater Creek	GPT	$28,324	2010
PIPSQ70152	FC_GPT_18	Freshwater Creek	GPT	$28,324	2010
PIPSQ70155	FC_GPT_20	Freshwater Creek	GPT	$28,324	2010
PIPSQ70156	FC_GPT_21	Freshwater Creek	GPT	$28,324	2010
PIPSQ70157	FC_GPT_22	Freshwater Creek	GPT	$28,324	2010
PIPSQ70158	FC_GPT_23	Freshwater Creek	GPT	$28,324	2010
PIPSQ70159	FC_GPT_24	Freshwater Creek	GPT	$28,324	2010
PIPSQ70192	FC_GPT_54	Freshwater Creek	GPT	$24,277	2010
PIPSQ70193	FC_GPT_55	Freshwater Creek	GPT	$24,277	2010
PIPSQ70194	FC_GPT_56	Freshwater Creek	GPT	$24,277	2010
PIPSQ70195	FC_GPT_57	Freshwater Creek	GPT	$24,277	2010
PIPSQ70196	FC_GPT_58	Freshwater Creek	GPT	$24,277	2010
PIPSQ70197	FC_GPT_59	Freshwater Creek	GPT	$24,277	2010
PIPSQ70199	FC_GPT_60	Freshwater Creek	GPT	$24,277	2010
PIPSQ70200	FC_GPT_61	Freshwater Creek	GPT	$24,277	2010
PIPSQ70201	FC_GPT_62	Freshwater Creek	GPT	$24,277	2010
PIPSQ70202	FC_GPT_63	Freshwater Creek	GPT	$24,277	2010
PIPSQ70203	FC_GPT_64	Freshwater Creek	GPT	$24,277	2010
PIPSQ70160	FC_GPT_25	Freshwater Creek	GPT	$28,324	2013
PIPSQ70161	FC_GPT_26	Freshwater Creek	GPT	$28,324	2013
PIPSQ70162	FC_GPT_27	Freshwater Creek	GPT	$28,324	2013
PIPSQ70163	FC_GPT_28	Freshwater Creek	GPT	$28,324	2013
PIPSQ70164	FC_GPT_29	Freshwater Creek	GPT	$28,324	2013
PIPSQ70166	FC_GPT_30	Freshwater Creek	GPT	$28,324	2013
PIPSQ70167	FC_GPT_31	Freshwater Creek	GPT	$28,324	2013
PIPSQ70168	FC_GPT_32	Freshwater Creek	GPT	$28,324	2013
PIPSQ70169	FC_GPT_33	Freshwater Creek	GPT	$28,324	2013
PIPSQ70204	FC_GPT_65	Freshwater Creek	GPT	$63,730	2013
PIPSQ70205	FC_GPT_66	Freshwater Creek	GPT	$63,730	2013
PIPSQ70206	FC_GPT_67	Freshwater Creek	GPT	$63,730	2013
PIPSQ70207	FC_GPT_68	Freshwater Creek	GPT	$63,730	2013
PIPSQ70208	FC_GPT_69	Freshwater Creek	GPT	$63,730	2013
PIPSQ70210	FC_GPT_70	Freshwater Creek	GPT	$63,730	2013
PIPSQ70211	FC_GPT_71	Freshwater Creek	GPT	$63,730	2013
PIPSQ70212	FC_GPT_72	Freshwater Creek	GPT	$63,730	2013
PIPSQ70175	FC_GPT_39	Freshwater Creek	GPT	$28,324	2014
PIPSQ70177	FC_GPT_40	Freshwater Creek	GPT	$28,324	2014
PIPSQ70178	FC_GPT_41	Freshwater Creek	GPT	$28,324	2014
PIPSQ70179	FC_GPT_42	Freshwater Creek	GPT	$28,324	2014
PIPSQ70213	FC_GPT_73	Freshwater Creek	GPT	$208,371	2014
PIPSQ70214	FC_GPT_74	Freshwater Creek	GPT	$208,371	2016
PIPSQ70215	FC_GPT_75	Freshwater Creek	GPT	$208,371	2016
PIPSQ70216	FC_GPT_76	Freshwater Creek	GPT	$208,371	2018
PIPSQ70217	FC_GPT_77	Freshwater Creek	GPT	$208,371	2018
PIPSQ70218	FC_GPT_78	Freshwater Creek	GPT	$130,232	2018
PIPSQ70219	FC_GPT_79	Freshwater Creek	GPT	$130,232	2018
PIPSQ70221	FC_GPT_80	Freshwater Creek	GPT	$130,232	2020
PIPSQ70222	FC_GPT_81	Freshwater Creek	GPT	$130,232	2020
PIPSQ70223	FC_GPT_82	Freshwater Creek	GPT	$130,232	2020
PIPSQ70224	FC_GPT_83	Freshwater Creek	GPT	$130,232	2020
PIPSQ70225	FC_GPT_84	Freshwater Creek	GPT	$130,232	2020

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 30 2006)	TIMING OF WORKS (YEAR)
PIPSQ70226	FC_GPT_85	Freshwater Creek	GPT	$130,232	2020
PIPSQ70242	FC_REH_2	Freshwater Creek	Rehabilitation	$998,770	2023
PIPSQ70227	FC_GPT_86	Freshwater Creek	GPT	$1,041,856	2025
PIPSQ70228	FC_GPT_87	Freshwater Creek	GPT	$73,965	2027
PIPSQ70229	FC_GPT_88	Freshwater Creek	GPT	$73,965	2027
PIPSQ70230	FC_GPT_89	Freshwater Creek	GPT	$73,965	2027
PIPSQ70232	FC_GPT_90	Freshwater Creek	GPT	$73,965	2027
PIPSQ70233	FC_GPT_91	Freshwater Creek	GPT	$73,965	2027
PIPSQ70234	FC_GPT_92	Freshwater Creek	GPT	$73,965	2027
PIPSQ70243	FC_REV_1	Freshwater Creek	Revegetation	$202,498	2027
PIPSQ70236	FC_GPT_94	Freshwater Creek	GPT	$73,965	2028
PIPSQ70237	FC_GPT_95	Freshwater Creek	GPT	$73,965	2028
PIPSQ70238	FC_GPT_96	Freshwater Creek	GPT	$73,965	2028
PIPSQ70144	FC_GPT_100	Freshwater Creek	GPT	$73,965	2029
PIPSQ70239	FC_GPT_97	Freshwater Creek	GPT	$73,965	2029
PIPSQ70240	FC_GPT_98	Freshwater Creek	GPT	$73,965	2029
PIPSQ70241	FC_GPT_99	Freshwater Creek	GPT	$73,965	2029
PIPSQ70316	GR_WET_2	Griffin	Wetland	$2,223,464	2008
PIPSQ70315	GR_WET_1	Griffin	Wetland	$791,227	2010
PIPSQ70317	GR_WET_3	Griffin	Wetland	$1,612,739	2011
PIPSQ70318	GR_WET_4	Griffin	Wetland	$994,512	2014
PIPSQ70319	GR_WET_5	Griffin	Wetland	$791,227	2017
PIPSQ70320	GR_WET_6	Griffin	Wetland	$512,543	2020
PIPSQ70308	GR_GPT_1	Griffin	GPT	$475,617	2022
PIPSQ70309	GR_GPT_2	Griffin	GPT	$475,617	2023
PIPSQ70310	GR_GPT_3	Griffin	GPT	$475,617	2024
PIPSQ70311	GR_GPT_4	Griffin	GPT	$475,617	2026
PIPSQ70314	GR_REV_1	Griffin	Revegetation	$903,949	2026
PIPSQ70312	GR_GPT_5	Griffin	GPT	$475,617	2027
PIPSQ70313	GR_GPT_6	Griffin	GPT	$475,617	2028
PIPSQ70324	KB_GPT_12	Kedron Brook	GPT	$110,959	2008
PIPSQ70340	KB_REH_1	Kedron Brook	Rehabilitation	$119,537	2008
PIPSQ70321	KB_GPT_1	Kedron Brook	GPT	$110,959	2009
PIPSQ70325	KB_GPT_13	Kedron Brook	GPT	$110,959	2009
PIPSQ70322	KB_GPT_10	Kedron Brook	GPT	$110,959	2010
PIPSQ70341	KB_REH_2	Kedron Brook	Rehabilitation	$16,502	2010
PIPSQ70342	KB_REH_3	Kedron Brook	Rehabilitation	$32,255	2012
PIPSQ70323	KB_GPT_11	Kedron Brook	GPT	$110,959	2013
PIPSQ70326	KB_GPT_14	Kedron Brook	GPT	$110,959	2013
PIPSQ70327	KB_GPT_15	Kedron Brook	GPT	$110,959	2013
PIPSQ70343	KB_REV_1	Kedron Brook	Revegetation	$37,363	2013
PIPSQ70328	KB_GPT_16	Kedron Brook	GPT	$110,959	2014
PIPSQ70329	KB_GPT_17	Kedron Brook	GPT	$110,959	2016
PIPSQ70344	KB_REV_3	Kedron Brook	Revegetation	$62,644	2016
PIPSQ70330	KB_GPT_18	Kedron Brook	GPT	$110,959	2018
PIPSQ70331	KB_GPT_19	Kedron Brook	GPT	$110,959	2019
PIPSQ70332	KB_GPT_2	Kedron Brook	GPT	$110,959	2019
PIPSQ70333	KB_GPT_3	Kedron Brook	GPT	$110,959	2020
PIPSQ70334	KB_GPT_4	Kedron Brook	GPT	$110,959	2023
PIPSQ70335	KB_GPT_5	Kedron Brook	GPT	$110,959	2023
PIPSQ70336	KB_GPT_6	Kedron Brook	GPT	$110,959	2025
PIPSQ70337	KB_GPT_7	Kedron Brook	GPT	$110,959	2027
PIPSQ70345	KB_RMAJ_1	Kedron Brook	RCMA Major	$128,157	2027
PIPSQ70338	KB_GPT_8	Kedron Brook	GPT	$110,959	2028
PIPSQ70339	KB_GPT_9	Kedron Brook	GPT	$110,959	2029
PIPSQ70413	KC_WET_1	Kingfisher Creek	Wetland	$2,941,142	2013
PIPSQ70414	KC_WET_2	Kingfisher Creek	Wetland	$909,428	2019
PIPSQ70346	KC_GPT_1	Kingfisher Creek	GPT	$65,700	2020
PIPSQ70347	KC_GPT_2	Kingfisher Creek	GPT	$65,700	2020
PIPSQ70348	KC_GPT_3	Kingfisher Creek	GPT	$65,700	2021
PIPSQ70349	KC_GPT_4	Kingfisher Creek	GPT	$65,700	2021
PIPSQ70350	KC_GPT_5	Kingfisher Creek	GPT	$65,700	2023
PIPSQ70351	KC_GPT_6	Kingfisher Creek	GPT	$65,700	2023
PIPSQ70352	KC_GPT_7	Kingfisher Creek	GPT	$65,700	2023

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 30 2006)	TIMING OF WORKS (YEAR)
PIPSQ70364	KC_TR_1	Kingfisher Creek	Trash Rack	$8,760	2023
PIPSQ70375	KC_TR_2	Kingfisher Creek	Trash Rack	$8,760	2023
PIPSQ70386	KC_TR_3	Kingfisher Creek	Trash Rack	$8,760	2023
PIPSQ70397	KC_TR_4	Kingfisher Creek	Trash Rack	$8,760	2023
PIPSQ70408	KC_TR_5	Kingfisher Creek	Trash Rack	$8,760	2023
PIPSQ70409	KC_TR_6	Kingfisher Creek	Trash Rack	$8,760	2023
PIPSQ70410	KC_TR_7	Kingfisher Creek	Trash Rack	$8,760	2023
PIPSQ70411	KC_TR_8	Kingfisher Creek	Trash Rack	$8,760	2023
PIPSQ70365	KC_TR_10	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70366	KC_TR_11	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70367	KC_TR_12	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70368	KC_TR_13	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70369	KC_TR_14	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70370	KC_TR_15	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70371	KC_TR_16	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70372	KC_TR_17	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70373	KC_TR_18	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70374	KC_TR_19	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70376	KC_TR_20	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70377	KC_TR_21	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70378	KC_TR_22	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70379	KC_TR_23	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70380	KC_TR_24	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70381	KC_TR_25	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70382	KC_TR_26	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70383	KC_TR_27	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70384	KC_TR_28	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70385	KC_TR_29	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70389	KC_TR_32	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70390	KC_TR_33	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70391	KC_TR_34	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70392	KC_TR_35	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70393	KC_TR_36	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70412	KC_TR_9	Kingfisher Creek	Trash Rack	$8,760	2025
PIPSQ70353	KC_REH_1	Kingfisher Creek	Rehabilitation	$594,454	2027
PIPSQ70394	KC_TR_37	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70395	KC_TR_38	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70396	KC_TR_39	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70398	KC_TR_40	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70399	KC_TR_41	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70400	KC_TR_42	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70401	KC_TR_43	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70402	KC_TR_44	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70403	KC_TR_45	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70404	KC_TR_46	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70405	KC_TR_47	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70406	KC_TR_48	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70407	KC_TR_49	Kingfisher Creek	Trash Rack	$8,760	2027
PIPSQ70356	KC_ST_2	Kingfisher Creek	Sediment Trap	$26,280	2028
PIPSQ70357	KC_ST_3	Kingfisher Creek	Sediment Trap	$26,280	2028
PIPSQ70358	KC_ST_4	Kingfisher Creek	Sediment Trap	$26,280	2028
PIPSQ70359	KC_ST_5	Kingfisher Creek	Sediment Trap	$26,280	2028
PIPSQ70355	KC_ST_10	Kingfisher Creek	Sediment Trap	$26,280	2029
PIPSQ70360	KC_ST_6	Kingfisher Creek	Sediment Trap	$26,280	2029
PIPSQ70361	KC_ST_7	Kingfisher Creek	Sediment Trap	$26,280	2029
PIPSQ70362	KC_ST_8	Kingfisher Creek	Sediment Trap	$26,280	2029
PIPSQ70363	KC_ST_9	Kingfisher Creek	Sediment Trap	$26,280	2029
PIPSQ70461	OM_WET_2	One Mile Creek	Wetland	$1,125,530	2008
PIPSQ70453	OM_REH_2	One Mile Creek	Rehabilitation	$444,742	2010
PIPSQ70462	OM_WET_3	One Mile Creek	Wetland	$937,638	2010
PIPSQ70463	OM_WET_4	One Mile Creek	Wetland	$528,200	2011
PIPSQ70454	OM_REH_3	One Mile Creek	Rehabilitation	$302,878	2013
PIPSQ70464	OM_WET_5	One Mile Creek	Wetland	$1,163,984	2013
PIPSQ70452	OM_REH_1	One Mile Creek	Rehabilitation	$493,793	2014

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 30 2006)	TIMING OF WORKS (YEAR)
PIPSQ70459	OM_WET_1	One Mile Creek	Wetland	$3,545,026	2014
PIPSQ70465	OM_WET_6	One Mile Creek	Wetland	$1,144,151	2014
PIPSQ70455	OM_REH_4	One Mile Creek	Rehabilitation	$358,829	2016
PIPSQ70466	OM_WET_7	One Mile Creek	Wetland	$2,126,694	2016
PIPSQ70467	OM_WET_8	One Mile Creek	Wetland	$920,638	2018
PIPSQ70456	OM_REH_5	One Mile Creek	Rehabilitation	$754,464	2021
PIPSQ70468	OM_WET_9	One Mile Creek	Wetland	$1,467,283	2022
PIPSQ70460	OM_WET_10	One Mile Creek	Wetland	$1,337,042	2023
PIPSQ70438	OM_GPT_1	One Mile Creek	GPT	$220,085	2025
PIPSQ70444	OM_GPT_2	One Mile Creek	GPT	$138,338	2025
PIPSQ70445	OM_GPT_3	One Mile Creek	GPT	$138,338	2025
PIPSQ70447	OM_GPT_5	One Mile Creek	GPT	$88,034	2025
PIPSQ70448	OM_GPT_6	One Mile Creek	GPT	$509,339	2026
PIPSQ70439	OM_GPT_10	One Mile Creek	GPT	$364,712	2027
PIPSQ70440	OM_GPT_11	One Mile Creek	GPT	$69,169	2027
PIPSQ70441	OM_GPT_12	One Mile Creek	GPT	$69,169	2027
PIPSQ70442	OM_GPT_13	One Mile Creek	GPT	$62,881	2027
PIPSQ70443	OM_GPT_14	One Mile Creek	GPT	$188,644	2027
PIPSQ70449	OM_GPT_7	One Mile Creek	GPT	$257,813	2027
PIPSQ70457	OM_REH_6	One Mile Creek	Rehabilitation	$707,042	2027
PIPSQ70458	OM_SW_1	One Mile Creek	Swales	$685,304	2028
PIPSQ70487	PE_GPT_26	Petrie	GPT	$65,700	2008
PIPSQ70488	PE_GPT_27	Petrie	GPT	$65,700	2008
PIPSQ70489	PE_GPT_28	Petrie	GPT	$65,700	2008
PIPSQ70490	PE_GPT_29	Petrie	GPT	$65,700	2008
PIPSQ70469	PE_GPT_1	Petrie	GPT	$65,700	2009
PIPSQ70470	PE_GPT_10	Petrie	GPT	$65,700	2009
PIPSQ70471	PE_GPT_11	Petrie	GPT	$65,700	2009
PIPSQ70472	PE_GPT_12	Petrie	GPT	$65,700	2009
PIPSQ70473	PE_GPT_13	Petrie	GPT	$65,700	2009
PIPSQ70474	PE_GPT_14	Petrie	GPT	$65,700	2009
PIPSQ70475	PE_GPT_15	Petrie	GPT	$65,700	2009
PIPSQ70491	PE_GPT_3	Petrie	GPT	$65,700	2009
PIPSQ70492	PE_GPT_30	Petrie	GPT	$65,700	2009
PIPSQ70493	PE_GPT_31	Petrie	GPT	$65,700	2009
PIPSQ70494	PE_GPT_32	Petrie	GPT	$65,700	2009
PIPSQ70476	PE_GPT_16	Petrie	GPT	$65,700	2010
PIPSQ70477	PE_GPT_17	Petrie	GPT	$65,700	2010
PIPSQ70478	PE_GPT_18	Petrie	GPT	$65,700	2010
PIPSQ70479	PE_GPT_19	Petrie	GPT	$65,700	2010
PIPSQ70480	PE_GPT_2	Petrie	GPT	$65,700	2011
PIPSQ70481	PE_GPT_20	Petrie	GPT	$65,700	2011
PIPSQ70482	PE_GPT_21	Petrie	GPT	$65,700	2011
PIPSQ70483	PE_GPT_22	Petrie	GPT	$65,700	2011
PIPSQ70495	PE_GPT_33	Petrie	GPT	$65,700	2011
PIPSQ70496	PE_GPT_34	Petrie	GPT	$65,700	2011
PIPSQ70497	PE_GPT_35	Petrie	GPT	$65,700	2011
PIPSQ70498	PE_GPT_36	Petrie	GPT	$65,700	2011
PIPSQ70484	PE_GPT_23	Petrie	GPT	$65,700	2013
PIPSQ70485	PE_GPT_24	Petrie	GPT	$65,700	2013
PIPSQ70486	PE_GPT_25	Petrie	GPT	$65,700	2013
PIPSQ70499	PE_GPT_37	Petrie	GPT	$65,700	2013
PIPSQ70500	PE_GPT_38	Petrie	GPT	$65,700	2013
PIPSQ70501	PE_GPT_39	Petrie	GPT	$65,700	2013
PIPSQ70502	PE_GPT_4	Petrie	GPT	$65,700	2013
PIPSQ70503	PE_GPT_5	Petrie	GPT	$65,700	2013
PIPSQ70504	PE_GPT_6	Petrie	GPT	$65,700	2013
PIPSQ70505	PE_GPT_7	Petrie	GPT	$65,700	2013
PIPSQ70508	PE_REH_1	Petrie	Rehabilitation	$111,354	2013
PIPSQ70506	PE_GPT_8	Petrie	GPT	$65,700	2014
PIPSQ70507	PE_GPT_9	Petrie	GPT	$65,700	2014
PIPSQ70509	PE_REV_1	Petrie	Revegetation	$30,485	2016
PIPSQ70510	PE_WET_1	Petrie	Wetland	$4,684,057	2018
PIPSQ70511	PE_WET_2	Petrie	Wetland	$556,835	2021

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PIPSQ70512	PE_WET_3	Petrie	Wetland	$401,493	2026
PIPSQ70513	PE_WET_4	Petrie	Wetland	$381,672	2029
PIPSQ70544	SAL_REV_4	Saltwater Creek	Revegetation	$918,984	2008
PIPSQ70545	SAL_REV_5	Saltwater Creek	Revegetation	$68,119	2008
PIPSQ70574	SAL_WET_1	Saltwater Creek	Wetland	$2,993,195	2009
PIPSQ70575	SAL_WET_10	Saltwater Creek	Wetland	$2,131,784	2009
PIPSQ70576	SAL_WET_11	Saltwater Creek	Wetland	$589,236	2009
PIPSQ70537	SAL_REH_1	Saltwater Creek	Rehabilitation	$126,554	2010
PIPSQ70538	SAL_REH_2	Saltwater Creek	Rehabilitation	$316,229	2010
PIPSQ70542	SAL_REV_1	Saltwater Creek	Revegetation	$848,467	2011
PIPSQ70577	SAL_WET_12	Saltwater Creek	Wetland	$1,109,589	2011
PIPSQ70539	SAL_REH_3	Saltwater Creek	Rehabilitation	$172,597	2012
PIPSQ70543	SAL_REV_2	Saltwater Creek	Revegetation	$270,455	2012
PIPSQ70583	SAL_WET_18	Saltwater Creek	Wetland	$6,140,034	2012
PIPSQ70540	SAL_REH_4	Saltwater Creek	Rehabilitation	$376,245	2013
PIPSQ70584	SAL_WET_2	Saltwater Creek	Wetland	$841,458	2013
PIPSQ70585	SAL_WET_3	Saltwater Creek	Wetland	$1,939,583	2013
PIPSQ70579	SAL_WET_14	Saltwater Creek	Wetland	$958,467	2016
PIPSQ70587	SAL_WET_5	Saltwater Creek	Wetland	$1,575,570	2016
PIPSQ70588	SAL_WET_6	Saltwater Creek	Wetland	$1,054,354	2016
PIPSQ70589	SAL_WET_7	Saltwater Creek	Wetland	$1,338,527	2016
PIPSQ70590	SAL_WET_8	Saltwater Creek	Wetland	$1,578,660	2017
PIPSQ70541	SAL_REH_5	Saltwater Creek	Rehabilitation	$2,138,167	2018
PIPSQ70591	SAL_WET_9	Saltwater Creek	Wetland	$1,967,567	2018
PIPSQ70514	SAL_GPT_1	Saltwater Creek	GPT	$572,805	2019
PIPSQ70525	SAL_GPT_2	Saltwater Creek	GPT	$923,517	2019
PIPSQ70530	SAL_GPT_3	Saltwater Creek	GPT	$1,385,276	2020
PIPSQ70531	SAL_GPT_4	Saltwater Creek	GPT	$337,132	2020
PIPSQ70533	SAL_GPT_6	Saltwater Creek	GPT	$184,544	2021
PIPSQ70551	SAL_TR_1	Saltwater Creek	Trash Rack	$100,915	2021
PIPSQ70562	SAL_TR_2	Saltwater Creek	Trash Rack	$100,915	2021
PIPSQ70535	SAL_GPT_8	Saltwater Creek	GPT	$373,881	2023
PIPSQ70571	SAL_TR_7	Saltwater Creek	Trash Rack	$100,915	2023
PIPSQ70519	SAL_GPT_14	Saltwater Creek	GPT	$215,700	2024
PIPSQ70536	SAL_GPT_9	Saltwater Creek	GPT	$707,018	2024
PIPSQ70520	SAL_GPT_15	Saltwater Creek	GPT	$355,506	2025
PIPSQ70521	SAL_GPT_16	Saltwater Creek	GPT	$1,116,849	2026
PIPSQ70523	SAL_GPT_18	Saltwater Creek	GPT	$423,412	2026
PIPSQ70526	SAL_GPT_20	Saltwater Creek	GPT	$559,224	2027
PIPSQ70527	SAL_GPT_21	Saltwater Creek	GPT	$805,282	2027
PIPSQ70528	SAL_GPT_22	Saltwater Creek	GPT	$258,840	2028
PIPSQ70529	SAL_GPT_23	Saltwater Creek	GPT	$558,424	2028
PIPSQ70546	SAL_RMAJ_1	Saltwater Creek	RCMA Major	$159,898	2028
PIPSQ70547	SAL_RMAJ_2	Saltwater Creek	RCMA Major	$336,356	2028
PIPSQ70548	SAL_RMAJ_3	Saltwater Creek	RCMA Major	$706,628	2028
PIPSQ70549	SAL_RMAJ_4	Saltwater Creek	RCMA Major	$275,291	2028
PIPSQ70550	SAL_RMAJ_5	Saltwater Creek	RCMA Major	$4,667,002	2028
PIPSQ70553	SAL_TR_11	Saltwater Creek	Trash Rack	$100,915	2028
PIPSQ70572	SAL_TR_8	Saltwater Creek	Trash Rack	$100,915	2028
PIPSQ70554	SAL_TR_12	Saltwater Creek	Trash Rack	$100,915	2029
PIPSQ70555	SAL_TR_13	Saltwater Creek	Trash Rack	$100,915	2029
PIPSQ70556	SAL_TR_14	Saltwater Creek	Trash Rack	$100,915	2029
PIPSQ70557	SAL_TR_15	Saltwater Creek	Trash Rack	$100,915	2029
PIPSQ70558	SAL_TR_16	Saltwater Creek	Trash Rack	$100,915	2029
PIPSQ70559	SAL_TR_17	Saltwater Creek	Trash Rack	$100,915	2029
PIPSQ70560	SAL_TR_18	Saltwater Creek	Trash Rack	$100,915	2029
PIPSQ70561	SAL_TR_19	Saltwater Creek	Trash Rack	$100,915	2029
PIPSQ70563	SAL_TR_20	Saltwater Creek	Trash Rack	$100,915	2029
PIPSQ70564	SAL_TR_21	Saltwater Creek	Trash Rack	$100,915	2029
PIPSQ70565	SAL_TR_22	Saltwater Creek	Trash Rack	$100,915	2029
PIPSQ70630	SD_RMIN_1	Samford Downs	RCMA Minor	$108,465	2011
PIPSQ70625	SD_REH_1	Samford Downs	Rehabilitation	$105,149	2018
PIPSQ70631	SD_RMIN_2	Samford Downs	RCMA Minor	$323,604	2018
PIPSQ70626	SD_REH_2	Samford Downs	Rehabilitation	$1,018,116	2023

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PIPSQ70627	SD_REH_3	Samford Downs	Rehabilitation	$363,081	2025
PIPSQ70628	SD_REV_1	Samford Downs	Revegetation	$139,305	2026
PIPSQ70629	SD_REV_2	Samford Downs	Revegetation	$279,124	2028
PIPSQ70728	SV_RMIN_1	Samford Village	RCMA Minor	$44,464	2014
PIPSQ70726	SV_GPT_1	Samford Village	GPT	$65,700	2020
PIPSQ70730	SV_TR_1	Samford Village	Trash Rack	$8,760	2023
PIPSQ70729	SV_ST_1	Samford Village	Sediment Trap	$26,280	2029
PIPSQ70623	SC_WET_1	Sandy Creek	Wetland	$784,758	2013
PIPSQ70601	SC_REH_1	Sandy Creek	Rehabilitation	$281,561	2016
PIPSQ70624	SC_WET_2	Sandy Creek	Wetland	$1,693,604	2021
PIPSQ70592	SC_GPT_1	Sandy Creek	GPT	$65,700	2023
PIPSQ70593	SC_GPT_2	Sandy Creek	GPT	$65,700	2023
PIPSQ70594	SC_GPT_3	Sandy Creek	GPT	$65,700	2024
PIPSQ70595	SC_GPT_4	Sandy Creek	GPT	$65,700	2024
PIPSQ70596	SC_GPT_5	Sandy Creek	GPT	$65,700	2025
PIPSQ70597	SC_GPT_6	Sandy Creek	GPT	$65,700	2026
PIPSQ70598	SC_GPT_7	Sandy Creek	GPT	$65,700	2026
PIPSQ70599	SC_GPT_8	Sandy Creek	GPT	$65,700	2027
PIPSQ70600	SC_GPT_9	Sandy Creek	GPT	$65,700	2028
PIPSQ70602	SC_REV_1	Sandy Creek	Revegetation	$315,221	2028
PIPSQ70605	SC_TR_1	Sandy Creek	Trash Rack	$8,760	2028
PIPSQ70606	SC_TR_10	Sandy Creek	Trash Rack	$8,760	2028
PIPSQ70607	SC_TR_11	Sandy Creek	Trash Rack	$8,760	2028
PIPSQ70615	SC_TR_2	Sandy Creek	Trash Rack	$8,760	2028
PIPSQ70616	SC_TR_3	Sandy Creek	Trash Rack	$8,760	2028
PIPSQ70617	SC_TR_4	Sandy Creek	Trash Rack	$8,760	2028
PIPSQ70618	SC_TR_5	Sandy Creek	Trash Rack	$8,760	2028
PIPSQ70619	SC_TR_6	Sandy Creek	Trash Rack	$8,760	2028
PIPSQ70620	SC_TR_7	Sandy Creek	Trash Rack	$8,760	2028
PIPSQ70621	SC_TR_8	Sandy Creek	Trash Rack	$8,760	2028
PIPSQ70622	SC_TR_9	Sandy Creek	Trash Rack	$8,760	2028
PIPSQ70603	SC_ST_1	Sandy Creek	Sediment Trap	$26,280	2029
PIPSQ70604	SC_ST_2	Sandy Creek	Sediment Trap	$26,280	2029
PIPSQ70608	SC_TR_12	Sandy Creek	Trash Rack	$8,760	2029
PIPSQ70609	SC_TR_13	Sandy Creek	Trash Rack	$8,760	2029
PIPSQ70610	SC_TR_14	Sandy Creek	Trash Rack	$8,760	2029
PIPSQ70611	SC_TR_15	Sandy Creek	Trash Rack	$8,760	2029
PIPSQ70612	SC_TR_16	Sandy Creek	Trash Rack	$8,760	2029
PIPSQ70613	SC_TR_17	Sandy Creek	Trash Rack	$8,760	2029
PIPSQ70614	SC_TR_18	Sandy Creek	Trash Rack	$8,760	2029
PIPSQ70632	SID_GPT_1	Sideling Creek	GPT	$65,700	2011
PIPSQ70636	SID_RMIN_1	Sideling Creek	RCMA Minor	$58,517	2012
PIPSQ70633	SID_GPT_2	Sideling Creek	GPT	$65,700	2020
PIPSQ70635	SID_REV_1	Sideling Creek	Revegetation	$328,135	2026
PIPSQ70634	SID_GPT_3	Sideling Creek	GPT	$65,700	2028
PIPSQ70778	TG_RMAJ_1	Todds Gully	RCMA Major	$96,294	2008
PIPSQ70779	TG_WET_1	Todds Gully	Wetland	$1,796,740	2008
PIPSQ70731	TG_GPT_1	Todds Gully	GPT	$65,700	2009
PIPSQ70732	TG_GPT_10	Todds Gully	GPT	$65,700	2009
PIPSQ70733	TG_GPT_11	Todds Gully	GPT	$65,700	2009
PIPSQ70734	TG_GPT_12	Todds Gully	GPT	$65,700	2011
PIPSQ70735	TG_GPT_13	Todds Gully	GPT	$65,700	2011
PIPSQ70736	TG_GPT_14	Todds Gully	GPT	$65,700	2013
PIPSQ70737	TG_GPT_15	Todds Gully	GPT	$65,700	2013
PIPSQ70738	TG_GPT_16	Todds Gully	GPT	$65,700	2013
PIPSQ70739	TG_GPT_17	Todds Gully	GPT	$65,700	2013
PIPSQ70740	TG_GPT_18	Todds Gully	GPT	$65,700	2014
PIPSQ70741	TG_GPT_19	Todds Gully	GPT	$65,700	2014
PIPSQ70742	TG_GPT_2	Todds Gully	GPT	$65,700	2014
PIPSQ70743	TG_GPT_20	Todds Gully	GPT	$65,700	2016
PIPSQ70744	TG_GPT_21	Todds Gully	GPT	$65,700	2016
PIPSQ70745	TG_GPT_22	Todds Gully	GPT	$65,700	2016
PIPSQ70746	TG_GPT_23	Todds Gully	GPT	$65,700	2016
PIPSQ70747	TG_GPT_24	Todds Gully	GPT	$65,700	2018

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 30 2006)	TIMING OF WORKS (YEAR)
PIPSQ70748	TG_GPT_25	Todds Gully	GPT	$65,700	2018
PIPSQ70749	TG_GPT_26	Todds Gully	GPT	$65,700	2018
PIPSQ70750	TG_GPT_27	Todds Gully	GPT	$65,700	2018
PIPSQ70751	TG_GPT_28	Todds Gully	GPT	$65,700	2018
PIPSQ70752	TG_GPT_29	Todds Gully	GPT	$65,700	2019
PIPSQ70753	TG_GPT_3	Todds Gully	GPT	$65,700	2019
PIPSQ70754	TG_GPT_30	Todds Gully	GPT	$65,700	2019
PIPSQ70755	TG_GPT_31	Todds Gully	GPT	$65,700	2020
PIPSQ70756	TG_GPT_32	Todds Gully	GPT	$65,700	2020
PIPSQ70757	TG_GPT_33	Todds Gully	GPT	$65,700	2020
PIPSQ70758	TG_GPT_34	Todds Gully	GPT	$65,700	2021
PIPSQ70759	TG_GPT_35	Todds Gully	GPT	$65,700	2022
PIPSQ70761	TG_GPT_37	Todds Gully	GPT	$65,700	2023
PIPSQ70762	TG_GPT_38	Todds Gully	GPT	$65,700	2023
PIPSQ70763	TG_GPT_39	Todds Gully	GPT	$65,700	2024
PIPSQ70764	TG_GPT_4	Todds Gully	GPT	$65,700	2024
PIPSQ70765	TG_GPT_40	Todds Gully	GPT	$65,700	2025
PIPSQ70766	TG_GPT_41	Todds Gully	GPT	$65,700	2025
PIPSQ70767	TG_GPT_42	Todds Gully	GPT	$65,700	2026
PIPSQ70768	TG_GPT_43	Todds Gully	GPT	$65,700	2026
PIPSQ70769	TG_GPT_44	Todds Gully	GPT	$65,700	2026
PIPSQ70770	TG_GPT_45	Todds Gully	GPT	$65,700	2027
PIPSQ70771	TG_GPT_46	Todds Gully	GPT	$65,700	2027
PIPSQ70772	TG_GPT_5	Todds Gully	GPT	$65,700	2028
PIPSQ70773	TG_GPT_6	Todds Gully	GPT	$65,700	2028
PIPSQ70774	TG_GPT_7	Todds Gully	GPT	$65,700	2029
PIPSQ70775	TG_GPT_8	Todds Gully	GPT	$65,700	2029
PIPSQ70776	TG_GPT_9	Todds Gully	GPT	$65,700	2029
PIPSQ70777	TG_REV_1	Todds Gully	Revegetation	$275,657	2029
PIPSQ70786	WC_TR_1	Wongam Creek	Trash Rack	$8,760	2009
PIPSQ70780	WC_REH_2	Wongam Creek	Rehabilitation	$487,545	2010
PIPSQ70783	WC_RMIN_1	Wongam Creek	RCMA Minor	$28,100	2010
PIPSQ70781	WC_REV_1	Wongam Creek	Revegetation	$1,452,769	2021
PIPSQ70784	WC_RMIN_2	Wongam Creek	RCMA Minor	$112,357	2025
PIPSQ70785	WC_ST_1	Wongam Creek	Sediment Trap	$26,280	2028
PIPSQ70782	WC_REV_2	Wongam Creek	Revegetation	$425,923	2029

Table 4.6D – Creek Quantity Stormwater Works

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 30 2006)	TIMING OF WORKS (YEAR)
PIPSD70003	AC_RES_1	Albany Creek	Corridor - Reserve	$534,917	2025
PIPSD70004	BC_CU_1	Branch Creek	Crossing Upgrade	$576,992	2016
PIPSD70005	BC_RES_1	Branch Creek	Corridor - Reserve	$2,719,376	2027
PIPSD70006	BC_RES_2	Branch Creek	Corridor - Reserve	$2,719,376	2013
PIPSD70007	BS_RES_1	Brendale / Strathpine	Corridor - Reserve	$529,549	2025
PIPSD70010	CC_RES_1	Conflagration Creek	Corridor - Reserve	$1,092,817	2025
PIPSD70010	CC_RES_1	Conflagration Creek	Corridor - Reserve	$1,092,817	2025
PIPSD70011	COU_DB_1	Coulthards Creek	Detention Basin	$2,336,000	2026
PIPSD70012	COU_RES_1	Coulthards Creek	Corridor - Reserve	$323,014	2008
PIPSD70017	CT_CU_3	Cabbage Tree Creek	Crossing Upgrade	$236,082	2014
PIPSD70018	CT_OCW_1	Cabbage Tree Creek	Open Channel Work	$873,503	2011
PIPSD70019	FC_CU_1	Freshwater Creek	Crossing Upgrade	$3,999,409	2023
PIPSD70021	FC_DB_2	Freshwater Creek	Detention basin	$1,733,122	2010
PIPSD70022	FC_DB_3	Freshwater Creek	Detention basin	$1,733,122	2014
PIPSD70024	FM_CU_1	Four Mile Creek	Crossing Upgrade	$408,531	2023
PIPSD70025	FM_DB_1	Four Mile Creek	Detention basin	$765,040	2029
PIPSD70026	FM_DB_2	Four Mile Creek	Detention basin	$306,016	2020
PIPSD70027	FM_DB_3	Four Mile Creek	Detention basin	$1,444,396	2019
PIPSD70028	FM_RES_2	Four Mile Creek	Corridor - Reserve	$226,618	2009
PIPSD70029	FM_RES_3	Four Mile Creek	Corridor - Reserve	$2,588,900	2011
PIPSD70037	GR_CU_1	Griffin	Crossing Upgrade	$365,000	2023
PIPSD70038	GR_CU_2	Griffin	Crossing Upgrade	$365,000	2024
PIPSD70039	GR_CU_3	Griffin	Crossing Upgrade	$365,000	2027
PIPSD70040	GR_DB_1	Griffin	Detention Basin	$1,108,666	2017
PIPSD70041	GR_DB_2	Griffin	Detention Basin	$1,108,666	2020
PIPSD70042	GR_DB_3	Griffin	Detention Basin	$1,108,666	2023
PIPSD70043	GR_RES_1	Griffin	Corridor - Reserve	$1,049,550	2008
PIPSD70044	GR_RES_2	Griffin	Corridor - Reserve	$1,847,309	2013
PIPSD70045	KB_BS_1	Kedron Brook	Bank Stabilisation	$438,000	2012
PIPSD70046	KB_BS_2	Kedron Brook	Bank Stabilisation	$438,000	2014
PIPSD70047	KB_OCW_1	Kedron Brook	Open Channel Work	$996,216	2025
PIPSD70047	KB_OCW_1	Kedron Brook	Open Channel Work	$996,216	2025
PIPSD70048	KC_BS_1	Kingfisher Creek	Bank Stabilisation	$152,557	2025
PIPSD70055	OM_BS_1	One Mile Creek	Bank Stabilisation	$1,181,889	2026
PIPSD70056	OM_BS_3	One Mile Creek	Bank Stabilisation	$184,360	2009
PIPSD70057	OM_BS_4	One Mile Creek	Bank Stabilisation	$184,360	2011
PIPSD70058	OM_DB_2	One Mile Creek	Detention Basin	$468,435	2011
PIPSD70062	PE_DB_1	Petrie	Detention Basin	$730,000	2025
PIPSD70067	SAL_CU_3	Saltwater Creek	Crossing Upgrade	$70,010	2010
PIPSD70068	SAL_CU_4	Saltwater Creek	Crossing Upgrade	$23,337	2010
PIPSD70069	SAL_DB_1	Saltwater Creek	Dentention Basin	$1,288,444	2011
PIPSD70070	SAL_DB_10	Saltwater Creek	Dentention Basin	$2,290,093	2010
PIPSD70071	SAL_DB_11	Saltwater Creek	Dentention Basin	$3,393,865	2008
PIPSD70073	SAL_DB_2	Saltwater Creek	Dentention Basin	$359,131	2029
PIPSD70077	SAL_DB_6	Saltwater Creek	Dentention Basin	$378,704	2017
PIPSD70080	SAL_DB_9	Saltwater Creek	Dentention Basin	$594,862	2016
PIPSD70081	SAL_RES_1	Saltwater Creek	Corridor - Reserve	$9,562,110	2022
PIPSD70082	SAL_RES_4	Saltwater Creek	Corridor - Reserve	$2,115,640	2029
PIPSD70082	SAL_RES_4	Saltwater Creek	Corridor - Reserve	$6,152,917	2029
PIPSD70084	SC_RES_1	Sandy Creek	Corridor - Reserve	$578,111	2025
PIPSD70085	SID_RES_1	Sideling Creek	Corridor - Reserve	$165,174	2025
PIPSD70101	TG_CU_1	Todds Gully	Crossing Upgrade	$562,402	2016
PIPSD70102	TG_CU_2	Todds Gully	Crossing Upgrade	$257,383	2019
PIPSD70103	TG_CU_3	Todds Gully	Crossing Upgrade	$605,091	2024
PIPSD70104	TG_CU_4	Todds Gully	Crossing Upgrade	$100,889	2027
PIPSD70105	TG_OCW_1	Todds Gully	Open Channel Work	$91,454	2009
PIPSD70106	TG_OCW_2	Todds Gully	Open Channel Work	$448,129	2011
PIPSD70107	WC_RES_1	Wongam Creek	Corridor - Reserve	$1,615,599	2028
PIPSD70108	WC_RES_2	Wongam Creek	Corridor - Reserve	$1,615,599	2014

Table 4.6E – Local Quantity Stormwater Works

Project ID	GIS IDENTIFIER	SERVICE CATCHMENT	TYPE OF WORK	ESTIMATED COST (as at June 30 2006)	TIMING OF WORKS (YEAR)
PIPSD70110	BS01_GPT_1	Brendale/Strathpine	Pipe Drainage	$344,904	2024
PIPSD70001	BS01_PD_1	Brendale/Strathpine	Pipe Drainage	$3,693,380	2017
PIPSD70002	BS01_PD_2	Brendale/Strathpine	Pipe Drainage	$429,567	2017
PIPSD70008	BS01_PD_3	Brendale/Strathpine	Pipe Drainage	$1,048,341	2019
PIPSD70009	BS01_PD_4	Brendale/Strathpine	Pipe Drainage	$1,027,876	2024
PIPSD70013	COU01_PD_1	Coulthards Creek	Pipe Drainage	$530,891	2012
PIPSD70014	COU01_PD_2	Coulthards Creek	Pipe Drainage	$1,053,857	2008
PIPSD70030	FW01_PD_1	Freshwater Creek	Pipe Drainage	$1,559,768	2012
PIPSD70031	FW01_PD_2	Freshwater Creek	Pipe Drainage	$1,766,673	2012
PIPSD70032	FW01_PD_3	Freshwater Creek	Pipe Drainage	$4,217,741	2028
PIPSD70033	FW02_PD_1	Freshwater Creek	Pipe Drainage	$1,263,396	2020
PIPSD70034	FW02_PD_2	Freshwater Creek	Pipe Drainage	$336,901	2027
PIPSD70035	FW03_PD_1	Freshwater Creek	Pipe Drainage	$1,965,632	2022
PIPSD70036	FW03_PD_2	Freshwater Creek	Pipe Drainage	$374,027	2027
PIPSD70059	P01_PD_1	Petrie	Pipe Drainage	$1,727,379	2010
PIPSD70060	P01_PD_2	Petrie	Pipe Drainage	$1,069,707	2018
PIPSD70061	P01_PD_3	Petrie	Pipe Drainage	$1,402,505	2029
PIPSD70109	BS01_OCW1	Brendale/Strathpine	Open Channel Work	$1,700,177	2010

4.7 Stormwater Infrastructure Costs by Catchment

Table 4.7A – Stormwater Infrastructure Costs by Catchment

CATCHMENT	$ Qty Existing	$ Qty Future	$ Qty Total	$ Qal Existing	$ Qal Future	$ Qal Total
ALBANY CREEK	$0	$588,408	$588,408	$6,245,907	$325,696	$6,571,603
BRANCH CREEK	$254,838	$322,154	$576,992	$1,319,067	$1,573,004	$2,892,071
BRENDALE / STRATHPINE	$0	$168,324	$168,324	$403,116	$178,606	$581,722
CABBAGE TREE CREEK	$971,241	$185,560	$1,156,802	$1,729,758	$324,155	$2,053,913
CONFLAGRATION CREEK	$0	$2,404,197	$2,404,197	$1,781,657	$3,897,384	$5,679,041
COULTHARDS CREEK	$0	$2,691,316	$2,691,316	$2,398,613	$684,608	$3,083,221
DAYBORO VILLAGE	$0	$0	$0	$971,088	$529,427	$1,500,515
EATONS HILL / DRAPER	$0	$0	$0	$2,850,487	$645,439	$3,495,926
EATONS HILL / WARNER	$0	$0	$0	$4,001,121	$229,801	$4,230,922
FOUR MILE CREEK	$315,503	$3,086,783	$3,402,286	$7,925,519	$2,414,101	$10,339,620
FRESHWATER CREEK	$2,745,357	$4,746,783	$7,492,140	$4,373,562	$3,496,166	$7,869,728
GRIFFIN	$533,356	$4,937,191	$5,470,547	$5,207,428	$5,475,935	$10,683,363
KEDRON	$3,353,513	$136	$3,353,649	$2,551,791	$95	$2,551,886
KINGFISHER CREEK	$145,310	$7,247	$152,557	$5,289,391	$263,773	$5,553,163
ONE MILE CREEK	$1,283,668	$793,930	$2,077,599	$16,584,143	$3,624,170	$20,208,312
PETRIE	$0	$730,000	$730,000	$8,386,711	$341,485	$8,728,196
SALTWATER CREEK	$42,401	$28,005,520	$28,047,921	$15,457,579	$31,183,748	$46,641,327
SAMFORD DOWNS	$0	$0	$0	$1,967,252	$432,673	$2,399,925
SAMFORD VILLAGE	$0	$0	$0	$134,384	$17,311	$151,695
SANDY CREEK	$0	$588,408	$588,408	$3,686,484	$190,200	$3,876,685
SIDELING CREEK	$0	$0	$0	$581,013	$2,740	$583,752
TODDS GULLY	$1,622,724	$442,626	$2,065,350	$4,009,305	$1,115,886	$5,125,191
WONGAM CREEK	$0	$3,554,317	$3,554,317	$1,732,388	$829,852	$2,562,240
BRENDALE STRATHPINE BS01	$2,419,524	$1,254,546	$3,674,070	$11,616,310	$2,263,526	$13,879,836
COULTHARDS CH01	$4,814,337	$7,152,260	$11,966,597	$27,160,437	$8,740,998	$35,901,435
FRESHWATER FW01	$5,282,121	$2,962,124	$8,244,245	$0	$0	$0
FRESHWATER FW02	$1,583,207	$1,541	$1,584,748	$0	$0	$0
FRESHWATER FW03	$1,407,497	$152,270	$1,559,768	$0	$0	$0
PETRIE P01	$993,987	$606,310	$1,600,297	$0	$0	$0
NORTH PINE	$2,222,877	$116,781	$2,339,659	$0	$0	$0
SOUTH PINE	$4,197,329	$2,262	$4,199,591	$0	$0	$0
TOTAL	**$34,188,792**	**$65,500,995**	**$99,689,788**	**$138,364,509**	**$68,780,780**	**$207,145,289**

Schedule A: Demand Factors

Table A – Demand Factors for Stormwater Infrastructure Contributions

ZONE	Demand Factor (DF_{QAL}/Ha)	Demand Factor (DF_{QTY}/Ha)
Central Business	1.90	0.19
Commercial	1.74	0.19
Extractive Industry	0.87	0.06
General Industry	1.90	0.19
Local Business	1.74	0.19
Neighbourhood Facilities	1.63	0.19
Park Residential	0.58	0.06
Residential A and Future Urban	1.32	0.13
Residential A (<600m^2)	1.52	0.15
Residential B	1.63	0.19
Rural (lots no less than 16 Ha)	0.00	0.00
Rural Residential and Rural other than above	0.25	0.06
Service Industry	1.74	0.19
Special Facilities	*	*
Special Purposes	*	*
Special Residential (Urban)	1.32	0.13
Special Residential (Non-Urban)	0.58	0.06
Sports and Recreation	*	*
Home Industry	1.32	0.19
Urban Village	1.90	0.19
Village Centre	1.74	0.19
Special Development	*	*

The applicable Charge Area (Ha) is to be calculated exclusive of the area under the Q100 for River Level contributions, and the area under the Q50 for Creek Level Contributions.

NOTE:

The Demand Factors listed in Table A are applicable for those land uses which are listed as "consistent" for the zone of the land in Chapter 3 of Council's IPA compliant Planning Scheme (*PineRiversPlan*).

If the development proposal incorporates a land use which is not specifically listed as "consistent" for the zone of the land, the demand factor for that component of the development will be based on the demand factor for any zone in which that land use and the majority of the other uses comprising the development are listed as "consistent".

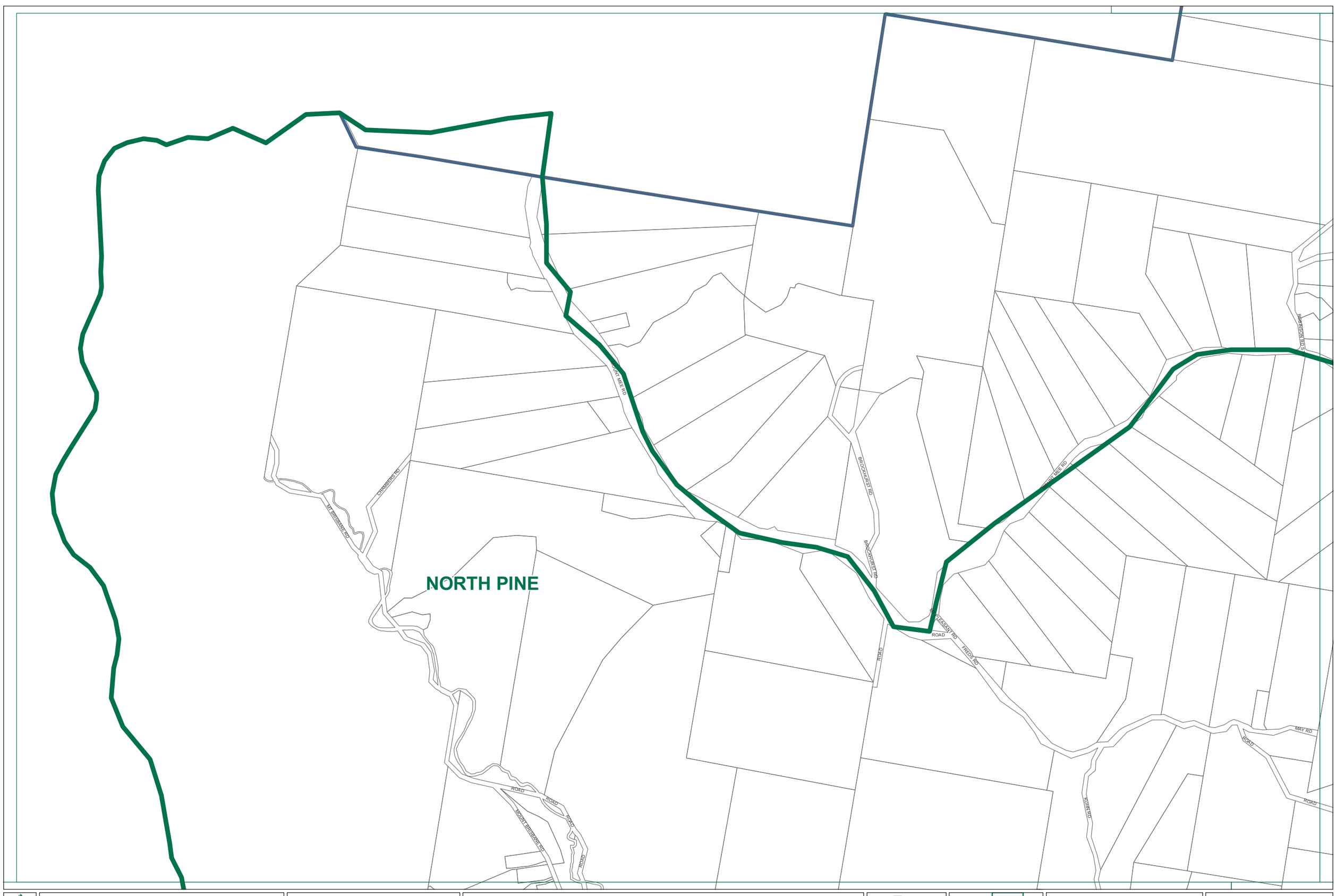
* The Demand Factor for the zone which allows the consistent land use most closely aligning to the proposal will be applied

Schedule B: Infrastructure Contribution Rates

Table B – Stormwater Infrastructure Contribution Rates

CATCHMENT	(ICR/ECA$_{QAL}$)	(ICR/ECA$_{QTY}$)
RIVER CATCHMENT		
South Pine	$5,405	$29,243
North Pine	$3,575	$18,481
CREEK CATCHMENT		
South Pine River Catchment		
Four Mile Creek	$10,272	$132,932
Coulthards Creek	$7,979	$303,409
Brendale/Strathpine	$2,023	$20,137
Conflagration Creek	$8,885	$117,940
Eatons Hill/Warner	$13,354	-
Eatons Hill/Draper	$7,128	-
Albany Creek	$32,158	$589,786
Sandy Creek	$11,160	$338,651
Kingfisher Creek	$23,141	$6,454
Wongam Creek	$8,227	$317,003
Samford Village	$1,817	-
Samford Downs	$5,986	-
Branch Creek	$13,171	$17,749
North Pine River Catchment		
Todds Gully	$7,991	$31,869
One Mile Creek	$32,389	$56,400
Petrie	$11,727	$283,384
Sideling Creek	$9,194	-
Griffin	$21,200	$189,277
Dayboro Village	$5,914	-
Coastal Creeks		
Cabbage Tree Creek	$3,413	$19,185
Kedron Brook	$4,392	$58,091
Freshwater Creek	$6,950	$77,635
Saltwater Creek	$21,444	$189,291
LOCAL CATCHMENT		
Coulthards CH01	-	$658,753
Brendale Strathpine BS01	-	$710,555
Petrie P01	-	$966,636
Freshwater FW01	-	$177,279
Freshwater FW02	-	$545,436
Freshwater FW03	-	$521,383

Schedule C: Service Catchments



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

	1.5	
3.3	3.5	
5.3	5.5	5.7

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 3.3

MEIERS RD
CLARK RD
ROBINSON RD STH
LINK RD
SUNRISE DR
CRYSTAL CT
HIGHCREST ST
SEAVIEW CT
DEAN DVE
MOUNT VIEW RD
NORTH PINE
ROAD
EVANS RD
HARRISON CR
JAMES RD
ALLMAN RD
TOWNSEND RD
JINIBARA CT

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

1.5
3.3 3.5
5.3 5.5 5.7

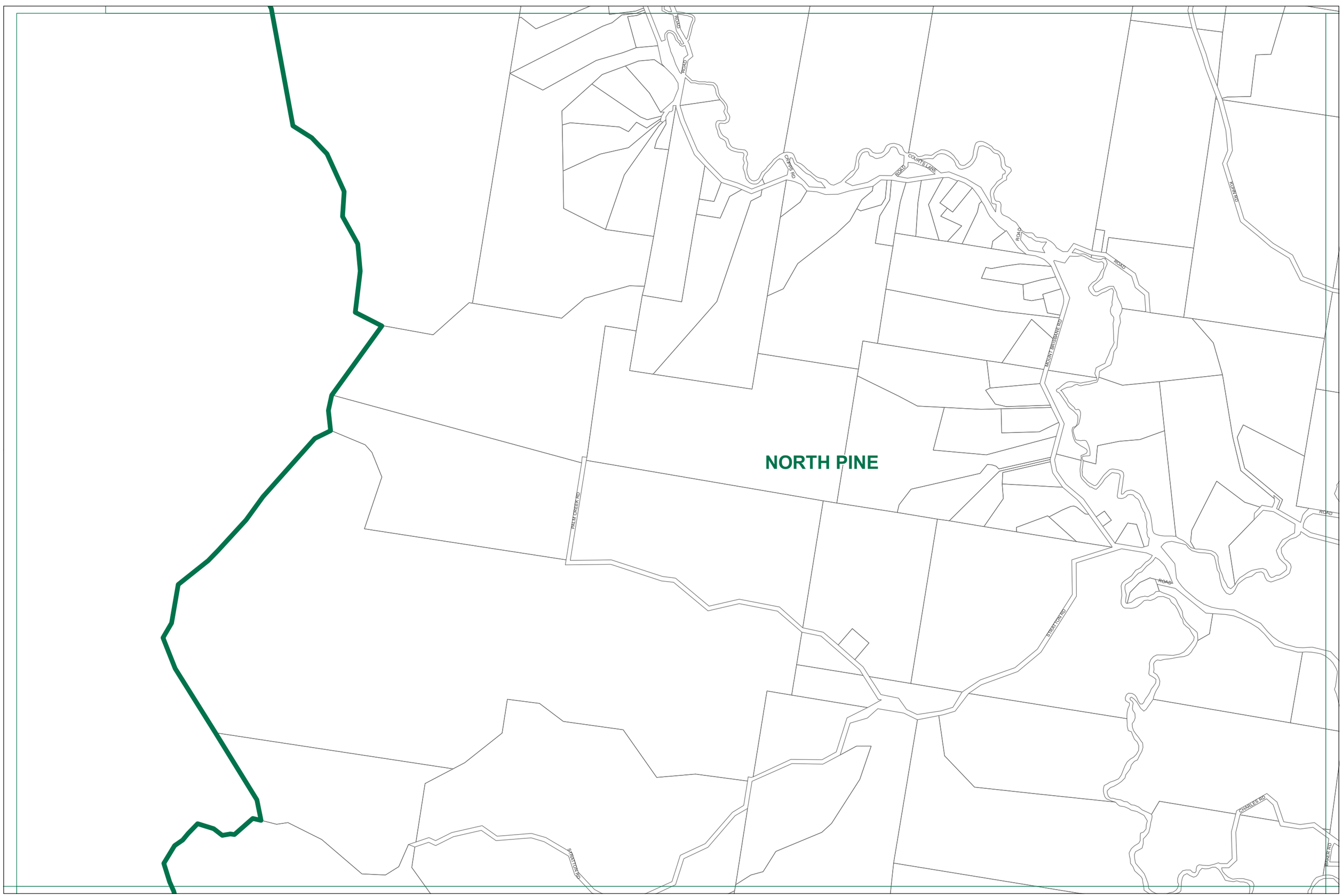
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 3.5



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

	3.3	3.5
	5.3	5.5
7.1	7.3	7.5

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 5.3

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

3.3	3.5	
5.3	5.5	5.7
7.3	7.5	7.7

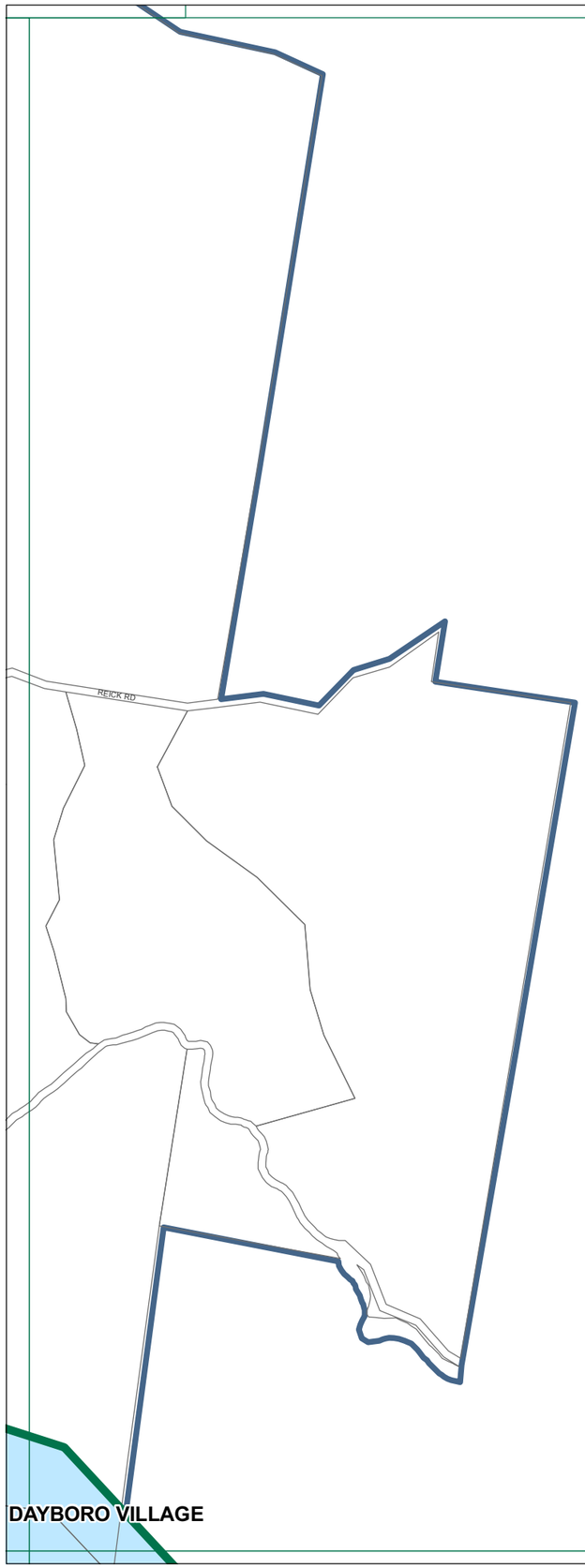
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 5.5



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

5.7	
7.7	7.9

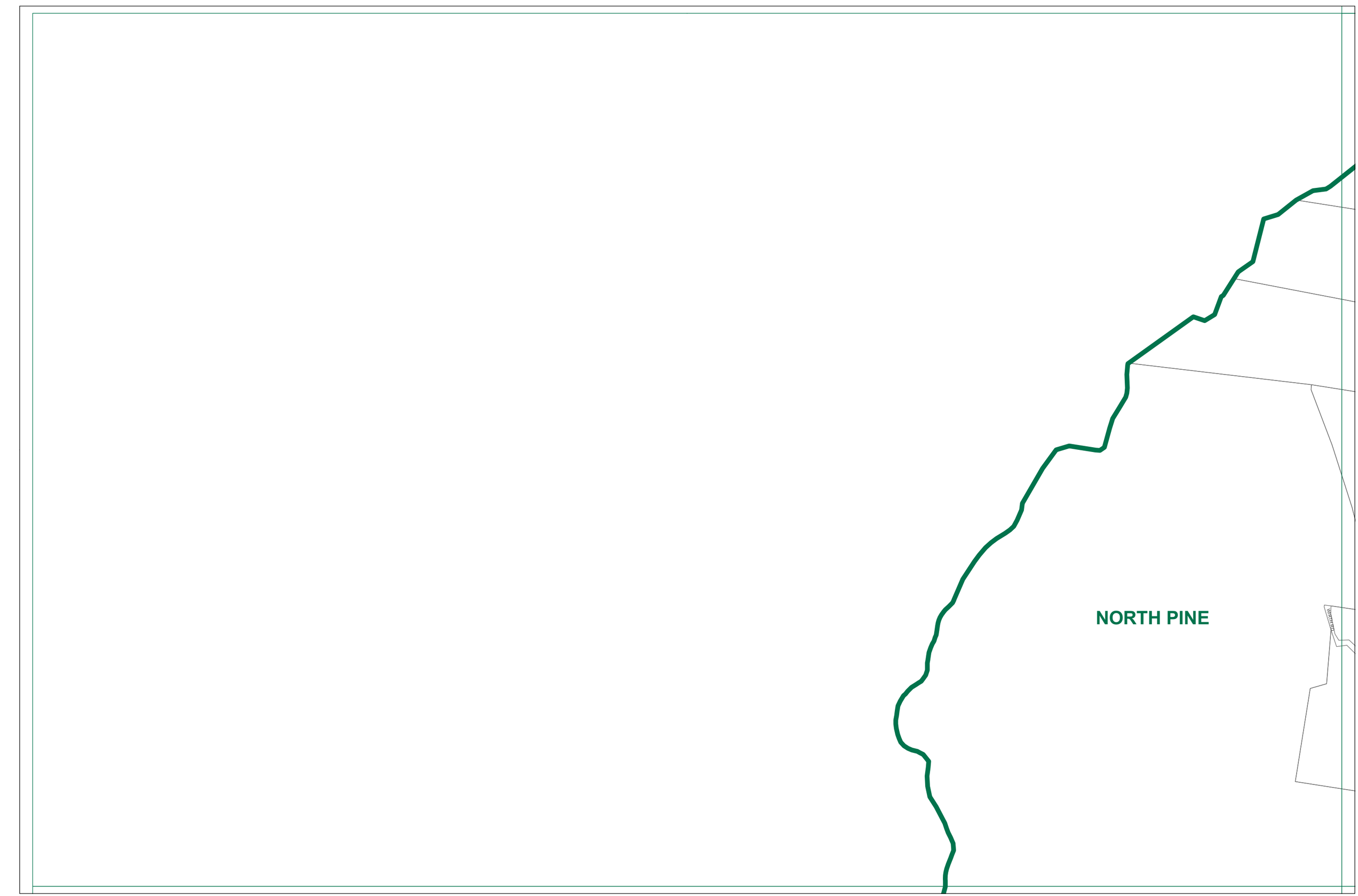
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 5.7



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

	5.3	5.5
7.1	7.3	7.5
9.1	9.3	9.5

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 7.1

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

	5.3	5.5
7.1	7.3	7.5
9.1	9.3	9.5

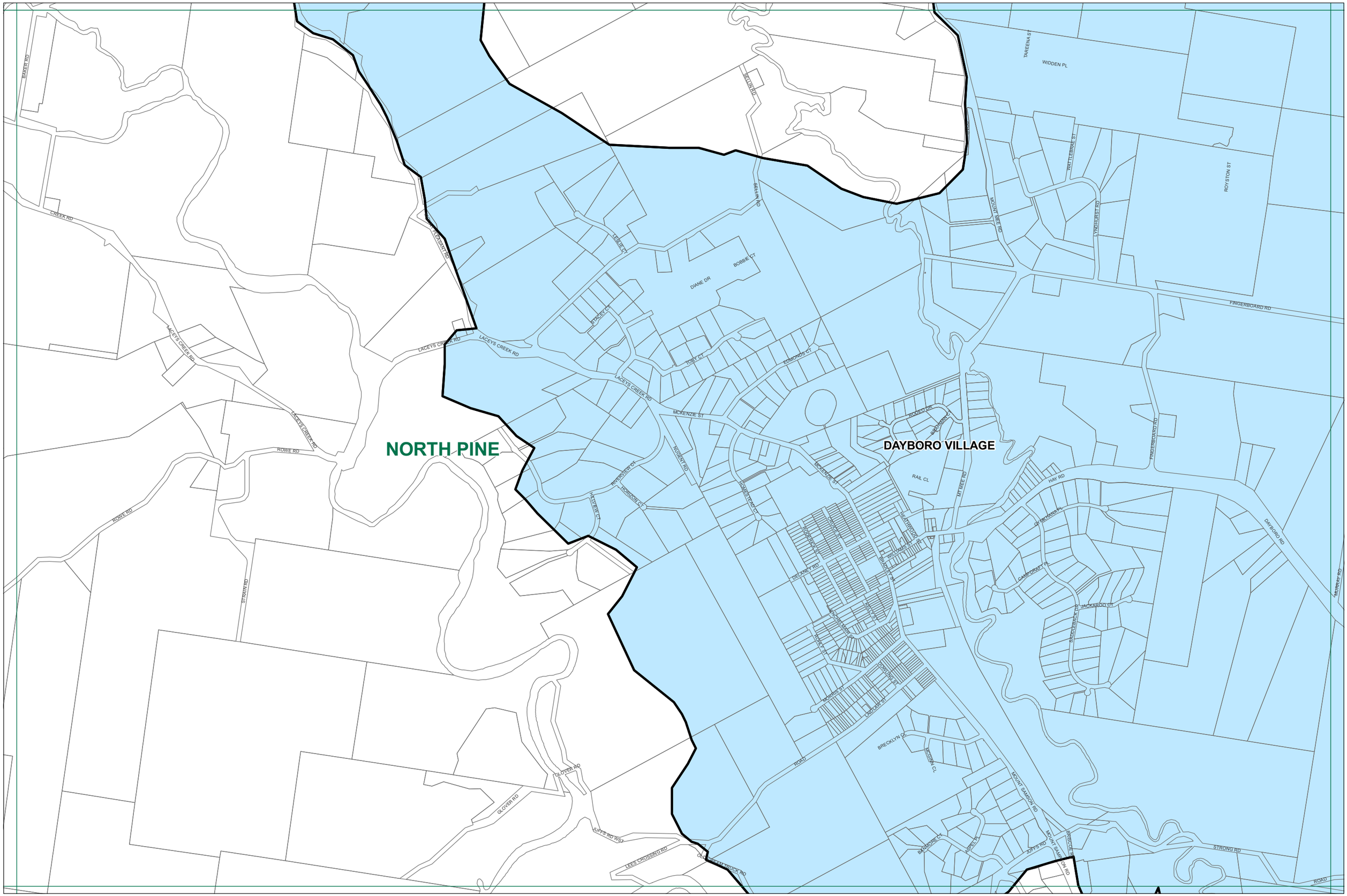
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 7.3



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

5.3	5.5	5.7
7.3	7.5	7.7
9.3	9.5	9.7

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 7.5

DAYBORO VILLAGE

NORTH PINE

FINGERBOARD RD

MURRAY RD

ROAD

NEILSON RD

RAVEN RD

DAYBORO RD

STRONEY RD

RUSH CREEK RD

ROAD

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

5.5	5.7	
7.5	7.7	7.9
9.5	9.7	9.9

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 7.7

SALTWATER CREEK

NORTH PINE

BROWNS CREEK RD

ROAD

THEODORE RD

SMITHS RD

NELSON RD

BROWNS RD

MCCORMACK RD

PATHWAY

BONNIE VIEW CT

ERIC MCSWEENEY CT

NARANGBA RD

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

5.7		
7.7	7.9	7.11
9.7	9.9	9.11

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 7.9

SALTWATER CREEK

NORTH PINE

MULGARA CT
KOWARI CR
HARE ST
POSSUM PDE
KANGAROO ST
GLIDER ST
DINGO ST
WALLABY ST
QUOLL CCT
WOMBAT PDE
ECHIDNA PDE
QUOKKA ST
BOUNTY BLVD
WALLUM CCT
LACEBARK ST

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

7.9	7.11	7.13
9.9	9.11	9.13
11.9	11.11	11.13

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 7.11

SALTWATER CREEK

LACEBARK ST

CORDYLINE ST

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

7.11	7.13
9.11	9.13

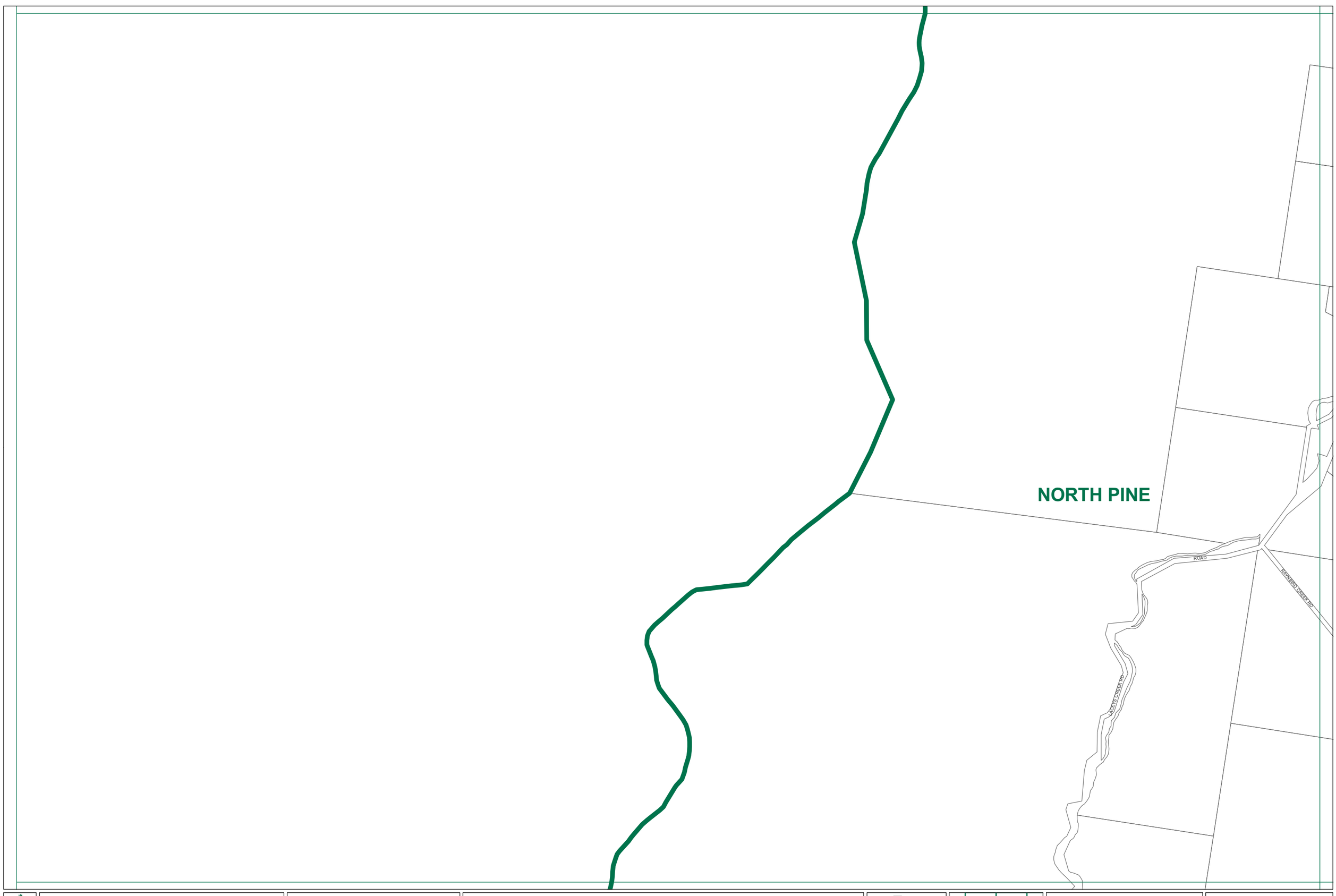
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 7.13



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

7.1	7.3	7.5
9.1	9.3	9.5
11.1	11.3	11.5

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 9.1

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

7.1	7.3	7.5
9.1	9.3	9.5
11.1	11.3	11.5

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 9.3

DAYBORO VILLAGE

DAYBORO VILLAGE

STRONG RD

ARMSTRONG CREEK RD

BAXTERS CREEK RD

LEES CROSSING RD

WOODWARD RD

OAK LEE CL

CREEK LN

ARMSTRONG CREEK RD

TEMPORARILY CLD RD

NORTH PINE

MIMBURI PL

ARMSTRONG CREEK RD

WHITESIDE RD

POSTMANS TRK

WATSON RD

RAY BOOKER CT

KOBBLE CREEK RD

MOUNT SAMSON RD

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

7.3	7.5	7.7
9.3	9.5	9.7
11.3	11.5	11.7

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 9.5

DAYBORO VILLAGE

NORTH PINE

STRONG RD
EASTER RD
ROAD
ROBY CREEK RD
BERNIER RD
BERNIER RD
DAYBORO RD
RANDALL RD
DAYBORO RD
DAYBORO RD
THEODORE RD
THEODORE RD
ROAD
EASTER RD
JACKS RD
BUTTERFLY CR
VALLEY VIEW CT
ADSETTS RD
BENNETT RD
WHITESIDE RD
BRANCH RD
POSTMANS TRK
JOYNERS RD

0 100 200 400 600 800
Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

7.5	7.7	7.9
9.5	9.7	9.9
11.5	11.7	11.9

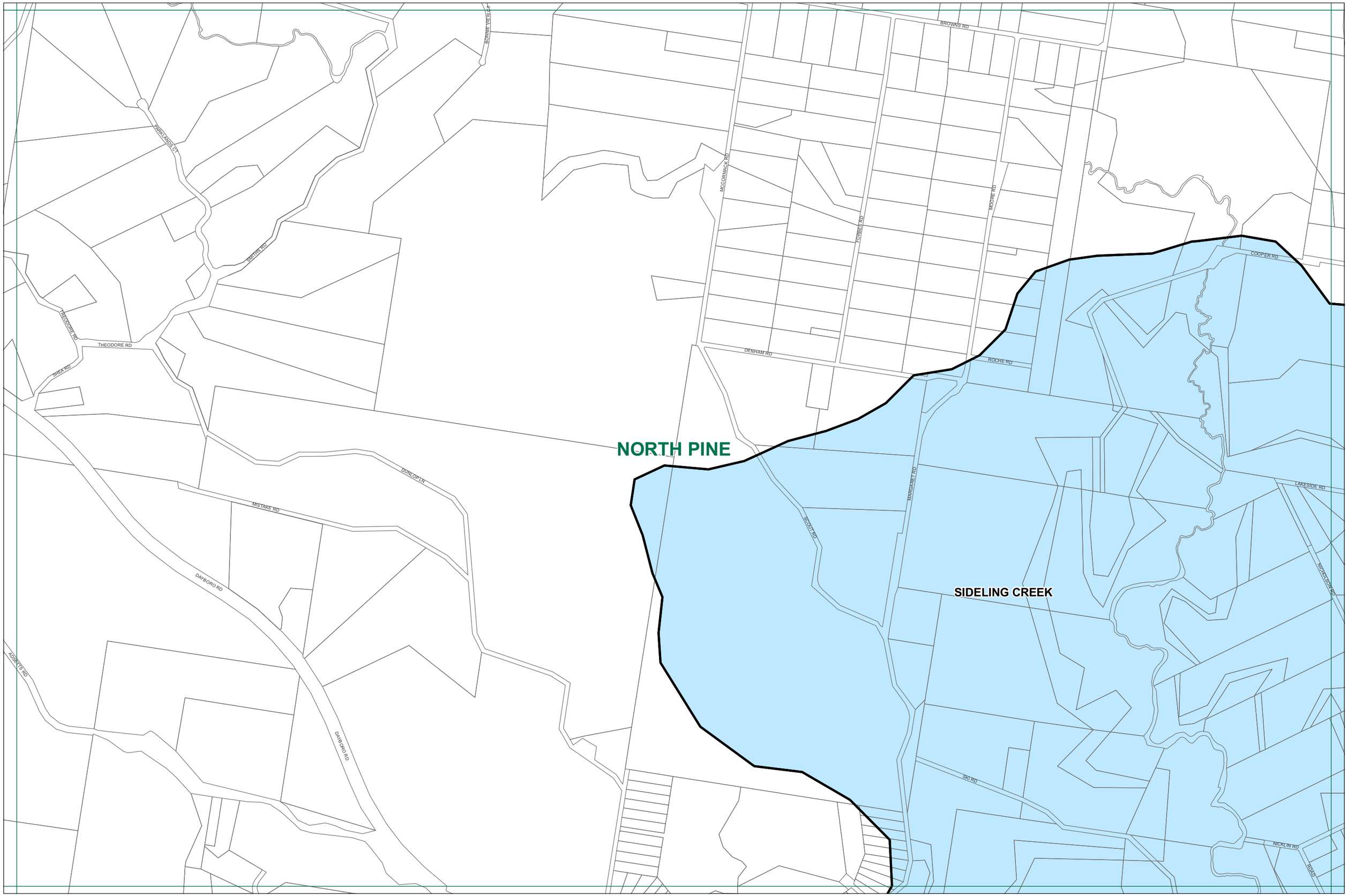
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 9.7



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

7.7	7.9	7.11
9.7	9.9	9.11
11.7	11.9	11.11

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 9.9

SALTWATER CREEK

NORTH PINE

SIDELING CREEK

FRESHWATER CREEK

FW 01

FW 02

FW 03

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

7.9	7.11	7.13
9.9	9.11	9.13
11.9	11.11	11.13

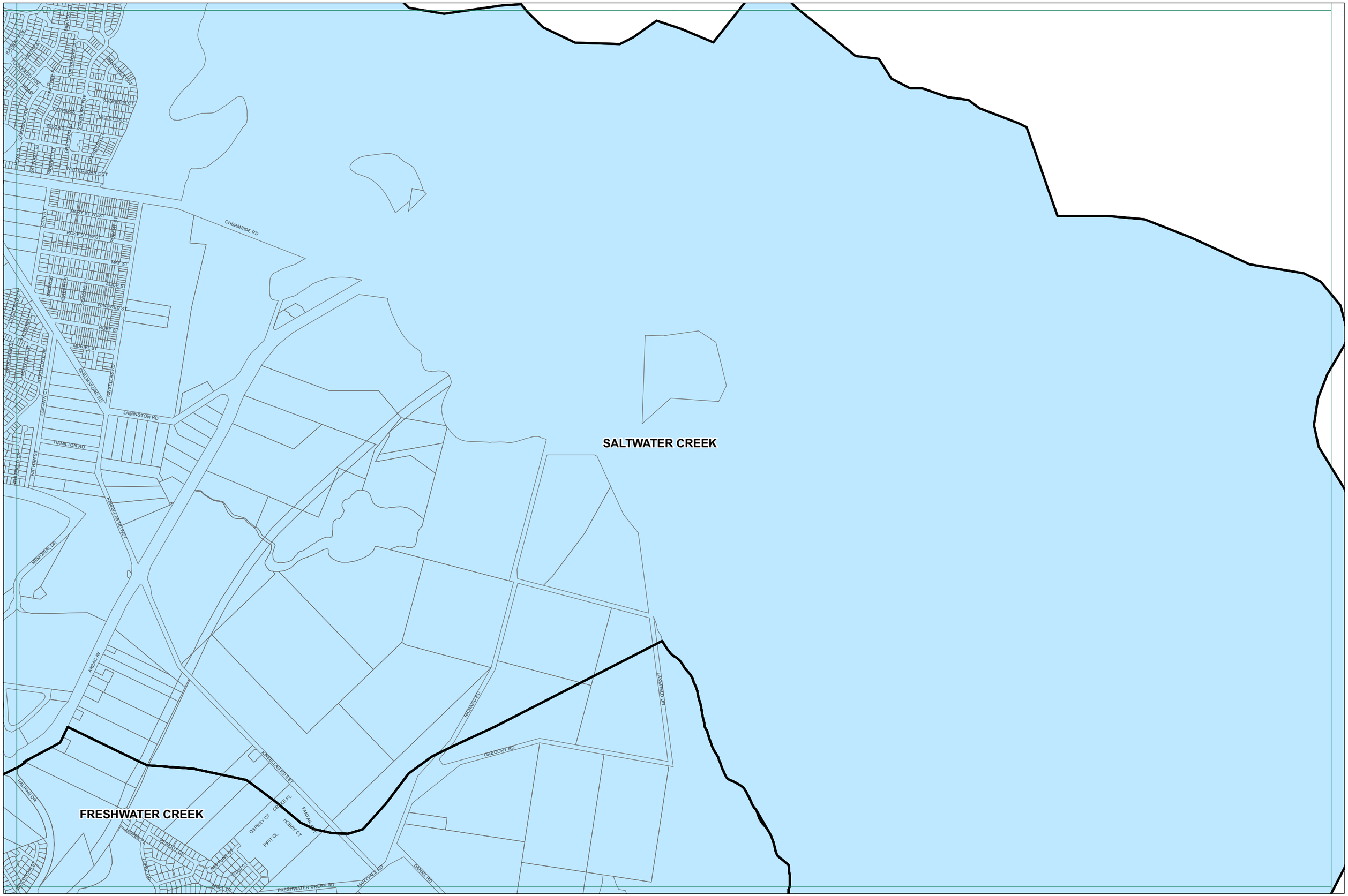
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 9.11



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

7.9	7.11	7.13
9.9	9.11	9.13
11.9	11.11	11.13

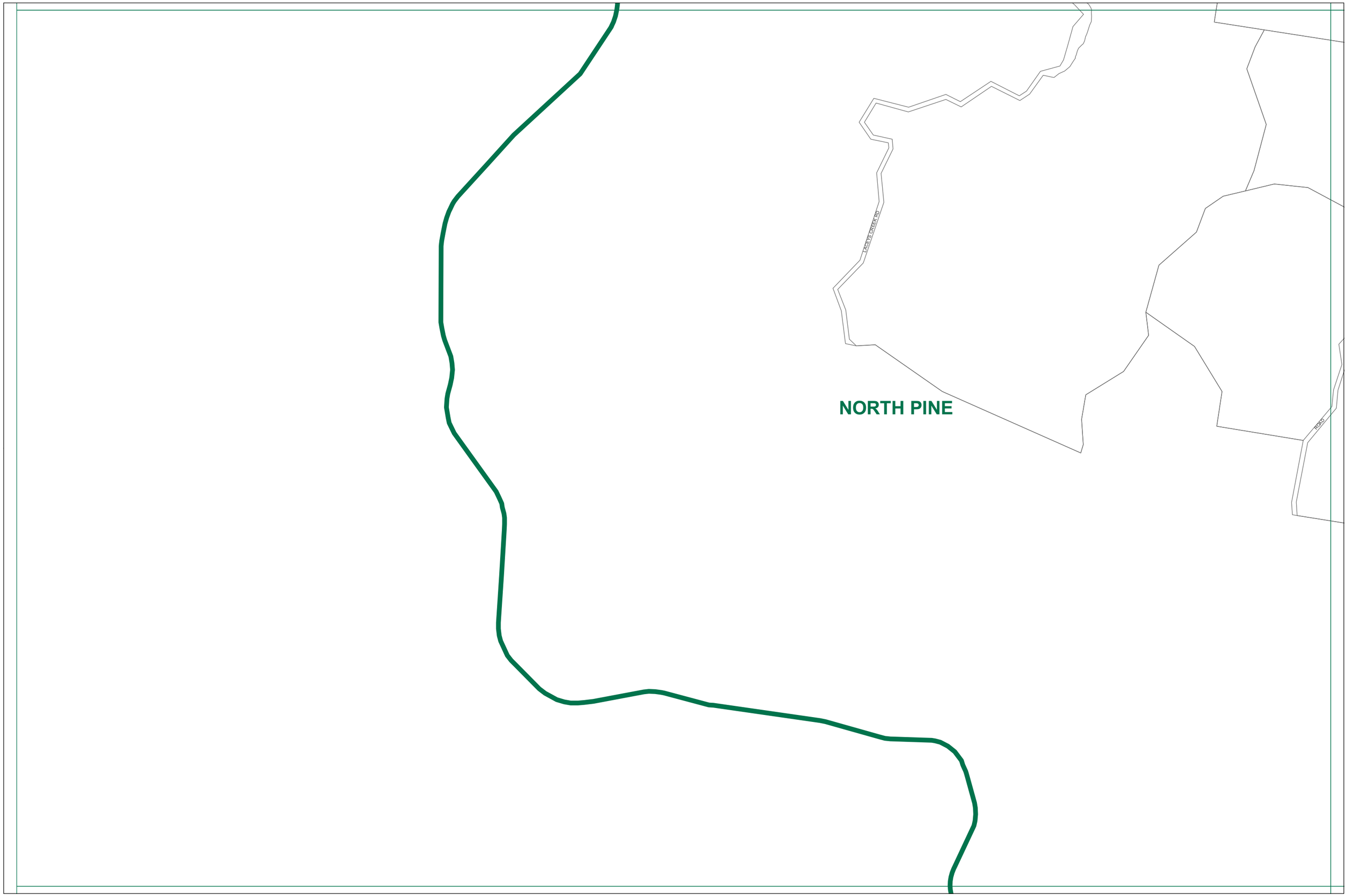
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 9.13



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

9.1	9.3	9.5
11.1	11.3	11.5
13.1	13.3	13.5

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 11.1

ROAD

RAYNBIRD CREEK RD

NORTH PINE

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

9.1	9.3	9.5
11.1	11.3	11.5
13.1	13.3	13.5

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective form 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 11.3

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

9.3	9.5	9.7
11.3	11.5	11.7
13.3	13.5	13.7

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 11.5

NORTH PINE

WHITESIDE RD

WHITESIDE RD

POSTMANS TRK

KOBBLE CREEK RD

ATTCHESON RD

JAYNERS RD

HEATHITES RD

MOUNT SAMSON RD

DEITZ CT

SAMSONVALE RD

BASIN RD

ROAD

KRIESCH RD

BASIN RD

ROAD

WARN RD

ROAD

ROAD

AUSTIN RD

ROAD

SAMSONVALE RD

GUNN RD

FISCHLE RD

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

9.5	9.7	9.9
11.5	**11.7**	11.9
13.5	13.7	13.9

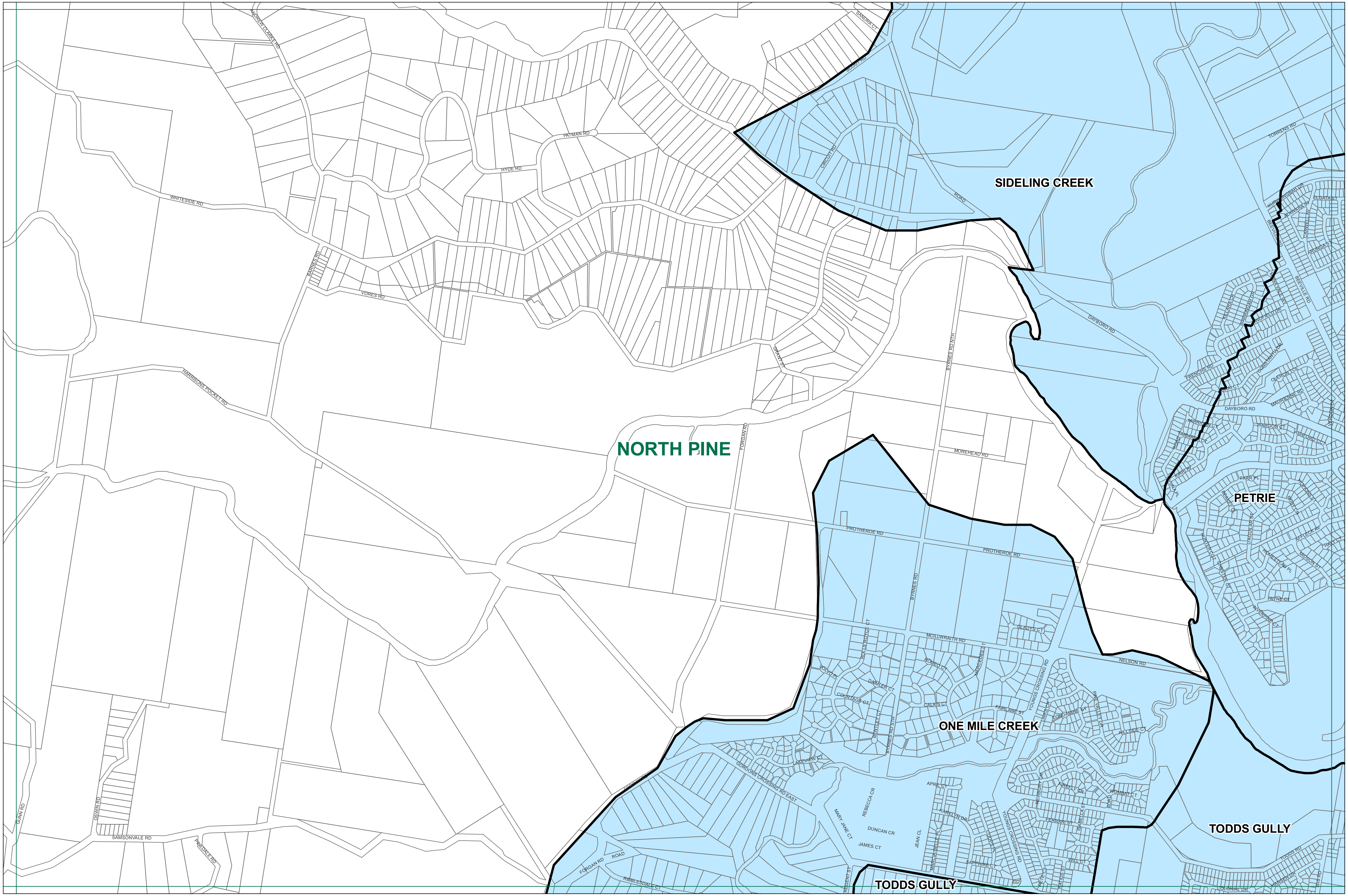
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 11.7



0	100	200	400	600	800

Metres

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Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

9.7	9.9	9.11
11.7	11.9	11.11
13.7	13.9	13.11

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 11.9

FW 01

FW 02

FW 03

P 01

SIDELING CREEK

FRESHWATER CREEK

NORTH PINE

PETRIE

TODDS GULLY

SOUTH PINE

FOUR MILE CREEK

GRIFFIN

0 100 200 400 600 800

Metres

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Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

9.9	9.11	9.13
11.9	11.11	11.13
13.9	13.11	13.13

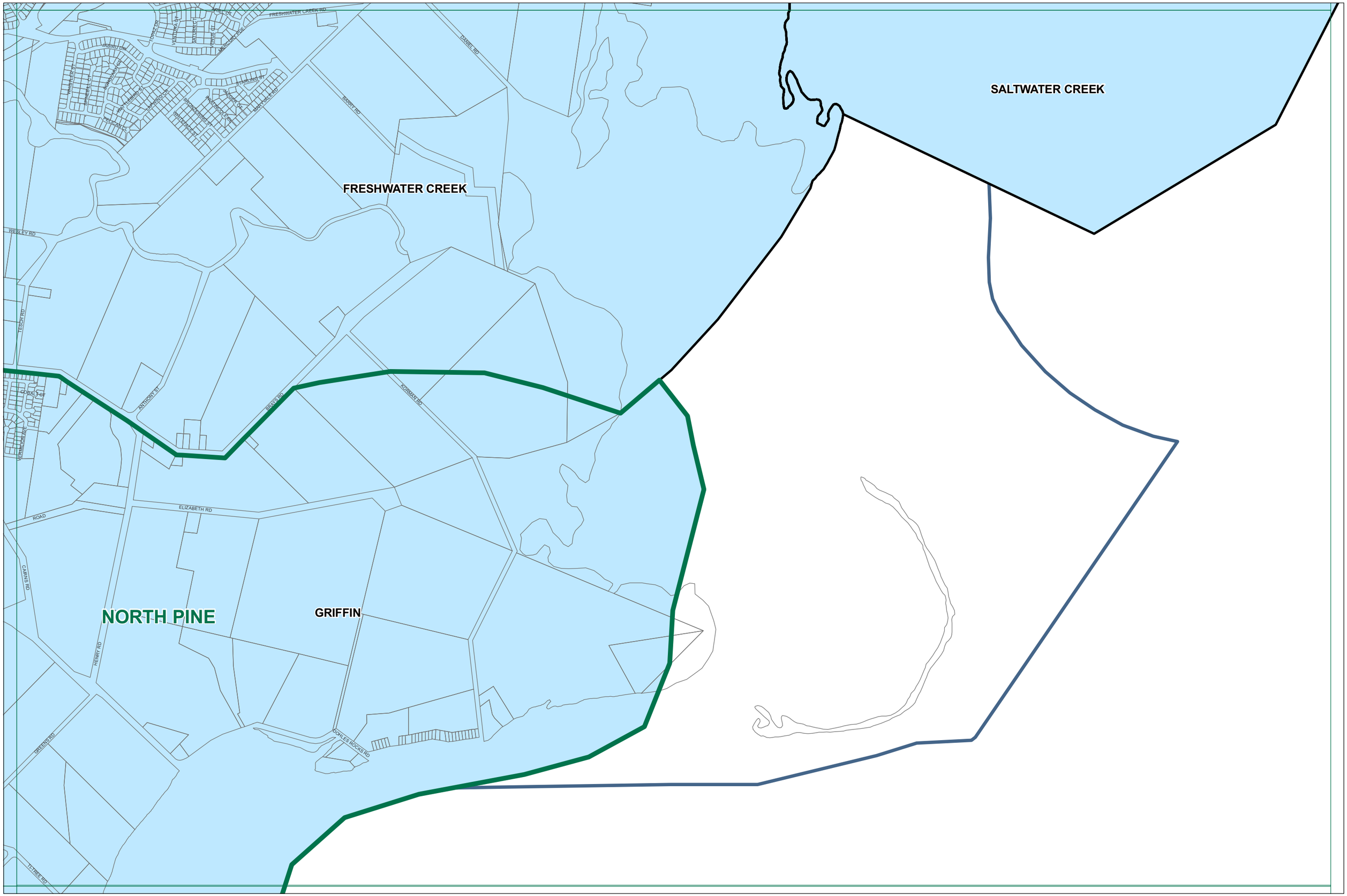
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 11.11



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

11.11	11.13
13.11	13.13

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 11.13

NORTH PINE

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

11.1	11.3	11.5
13.1	13.3	13.5
	15.3	15.5

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 13.1

NORTH PINE

SOUTH PINE

ROAD

ALEX RD

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

11.1	11.3	11.5
13.1	13.3	13.5
	15.3	15.5

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 13.3

NORTH PINE

SOUTH PINE

KENNETH RD
LADIES RD
GLEESON RD
BASIN RD
LAKE SEVICH
MOUNT SAMSON RD
BRANCH RD
BASIN RD STH
HORSESHOE CT
CARR CT
SAMSONVALE RD
GREENMOUNT CT
FOGGS RD
ROAD

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

11.3	11.5	11.7
13.3	13.5	13.7
15.3	15.5	15.7

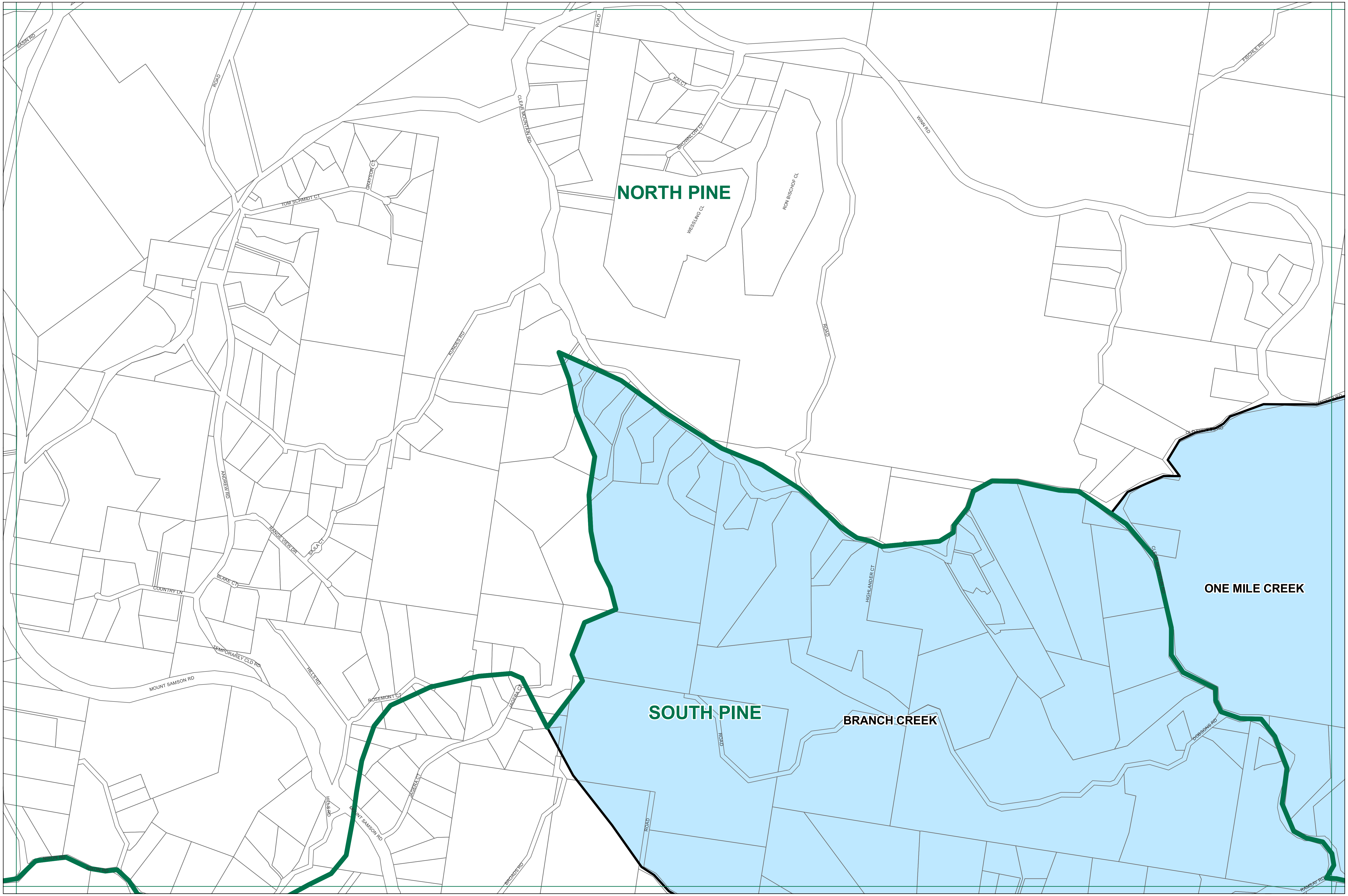
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 13.5



11.5	11.7	11.9
13.5	13.7	13.9
15.5	15.7	15.9

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

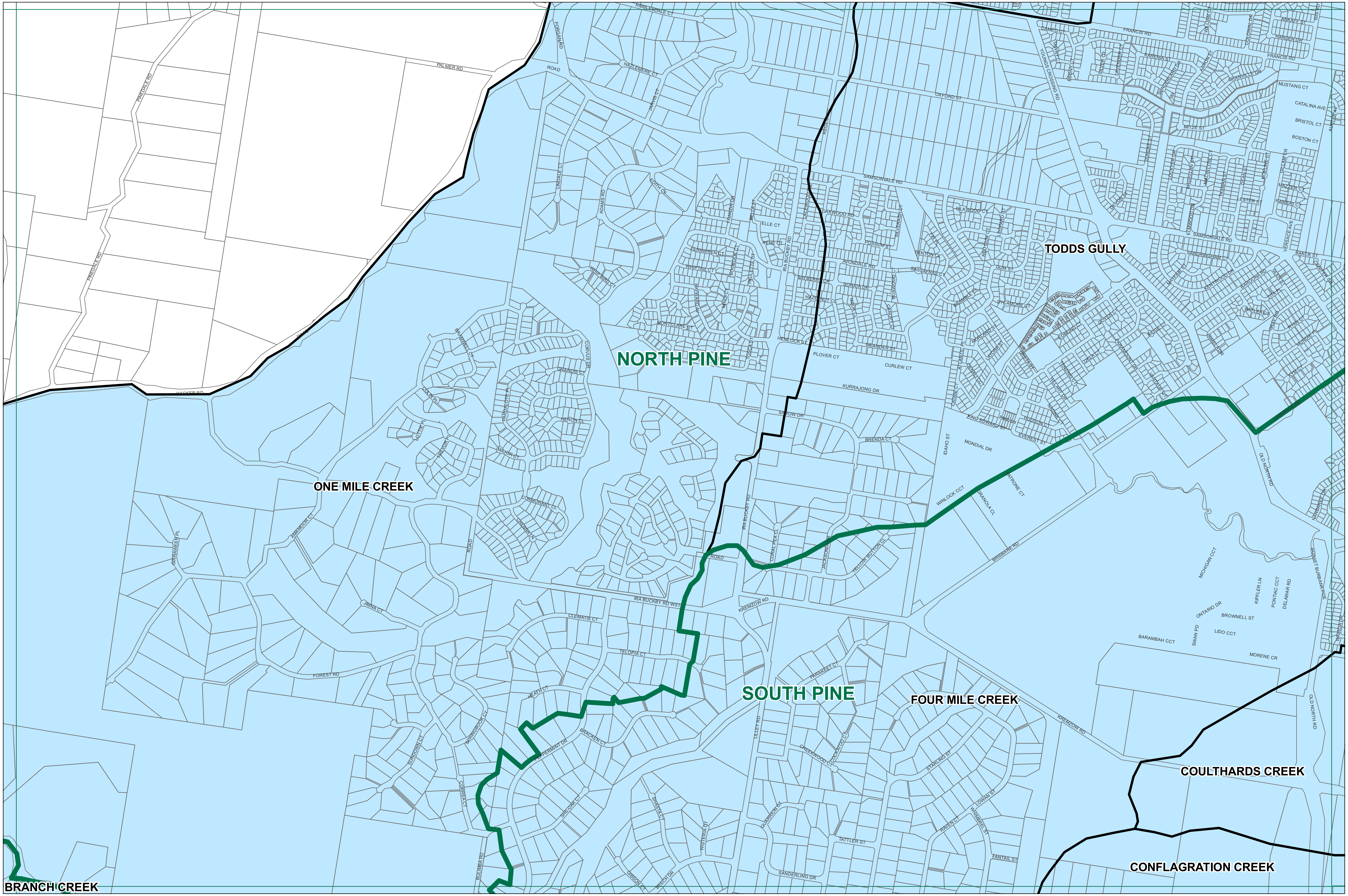
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 13.7



Scale: 0 100 200 400 600 800 Metres

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Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

11.7	11.9	11.11
13.7	13.9	13.11
15.7	15.9	15.11

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 13.9

PETRIE

NORTH PINE

TODDS GULLY

NORTH PINE PETRIE

GRIFFIN

FOUR MILE CREEK

CH 01

SOUTH PINE

COULTHARDS CREEK

BRENDALE / STRATHPINE

BS 01

CONFLAGRATION CREEK

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

11.9	11.11	11.13
13.9	13.11	13.13
15.9	15.11	

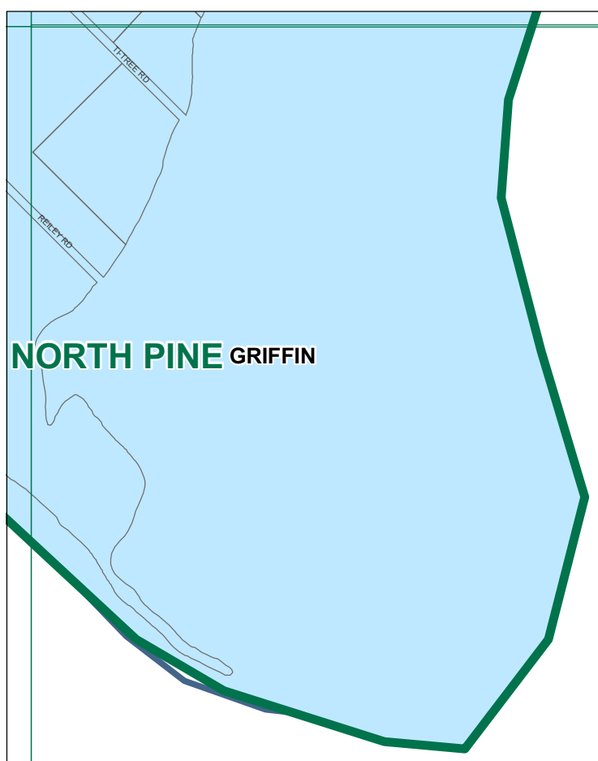
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 13.11



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

11.11	11.13
13.11	13.13

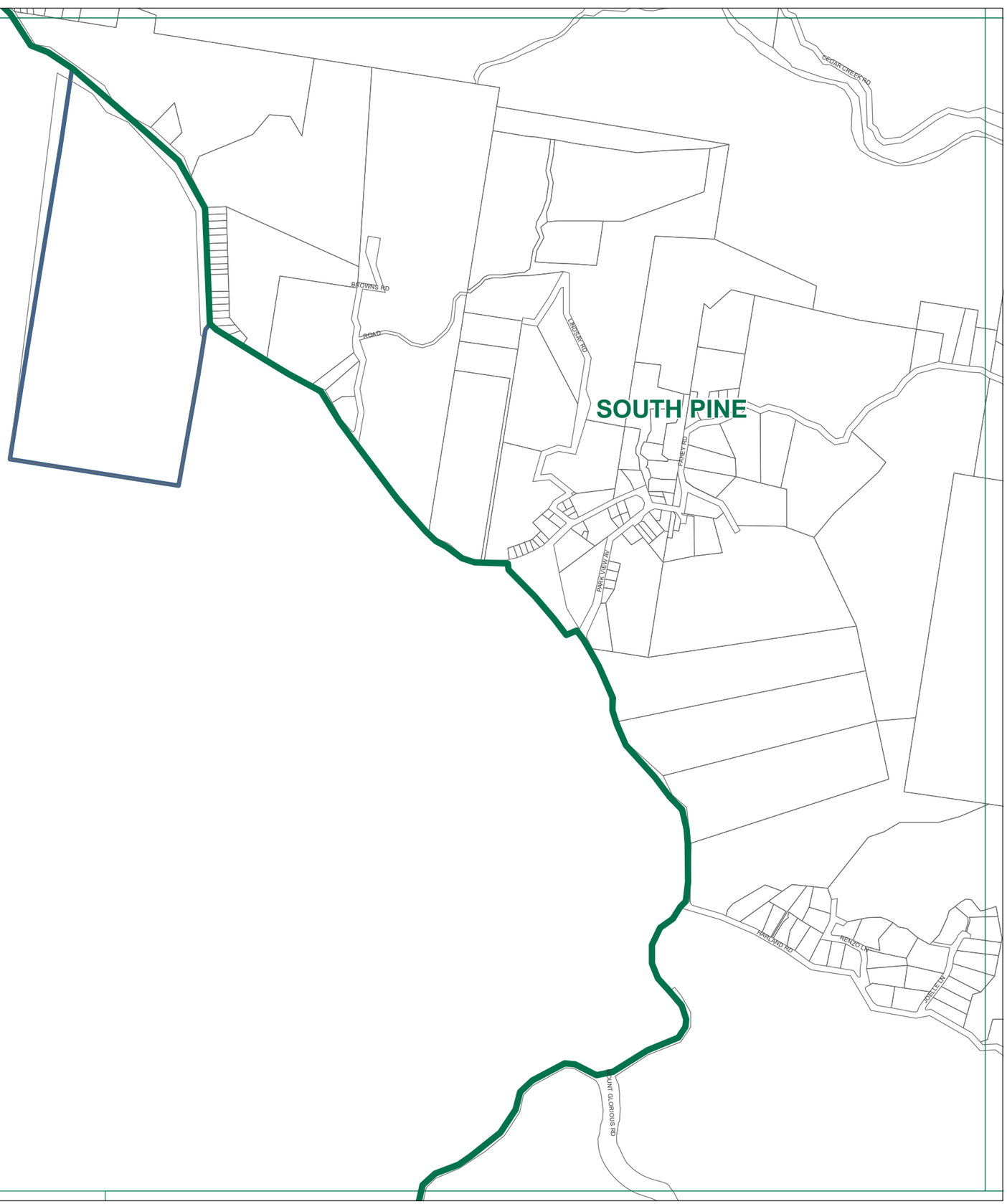
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 13.13



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

13.1	13.3	13.5
	15.3	15.5
	17.4	17.6

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 15.3

NORTH PINE

SOUTH PINE

SAMFORD DOWNS

BASSETTS CREEK CT
DAIRYFARM CT
BURLEY RD
PARIET RD
HAWK CT
CEDAR CREEK RD
MORRISON RD
LE PAPAY CT
LACEBARK CT
HERRON RD
ROAD
PANORAMA DR
HALES RD
MCDOWALLS RD
MAYFIELD RD
BELMONT RD
HARLAND RD

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

13.3	13.5	13.7
15.3	15.5	15.7
	17.4	17.6	17.8

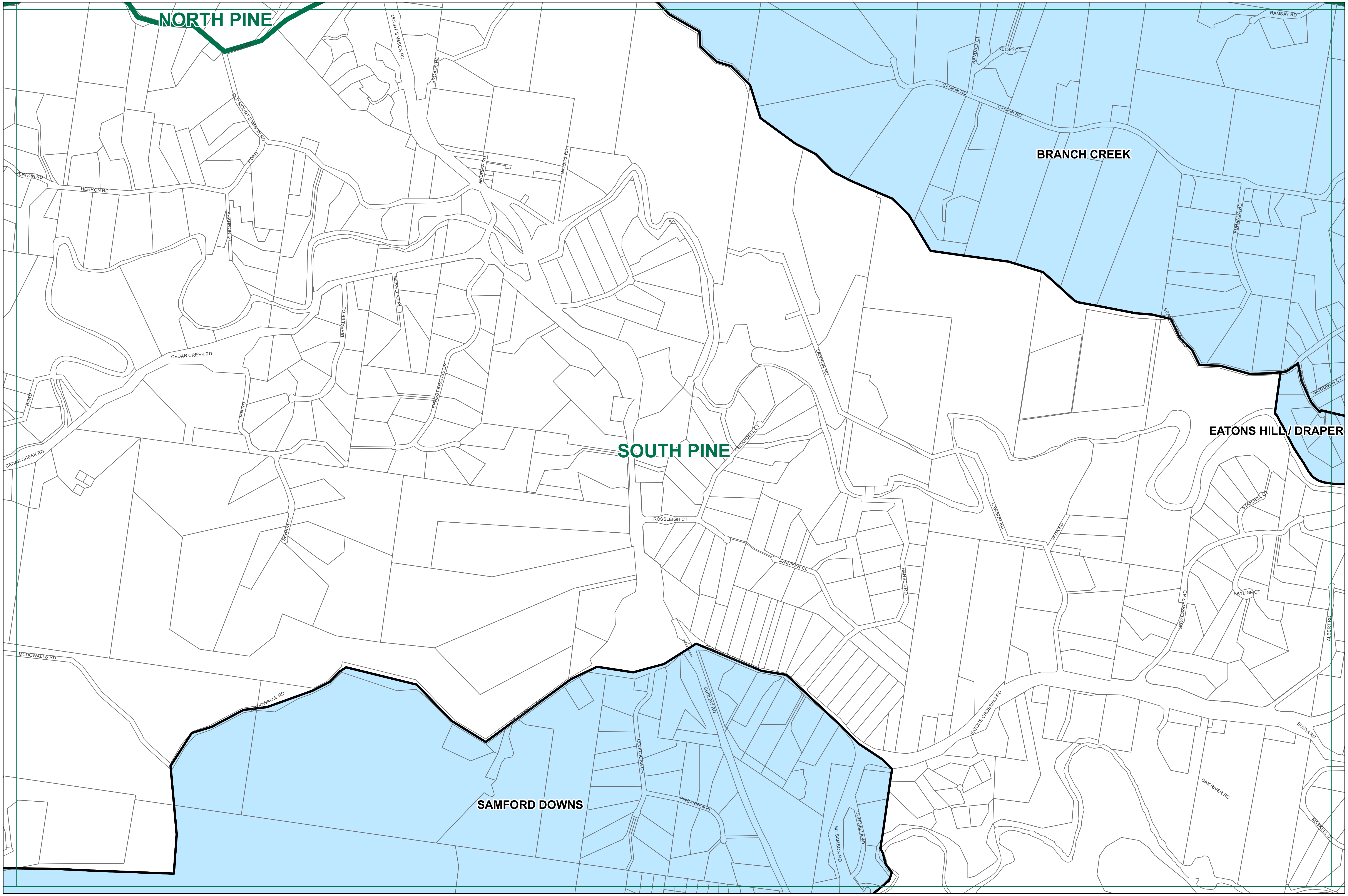
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 15.5



0 100 200 400 600 800

Metres

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Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

13.5	13.7	13.9
15.5	15.7	15.9
17.4 17.6	17.8	17.10

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 15.7

NORTH PINE

ONE MILE CREEK

FOUR MILE CREEK

CONFLAGRATION CREEK

BRANCH CREEK

SOUTH PINE

EATONS HILL / WARNER

EATONS HILL / DRAPER

SANDY CREEK

KINGFISHER CREEK

WONGAM CREEK

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

13.7	13.9	13.11
15.7	15.9	15.11
17.6	17.8	17.10

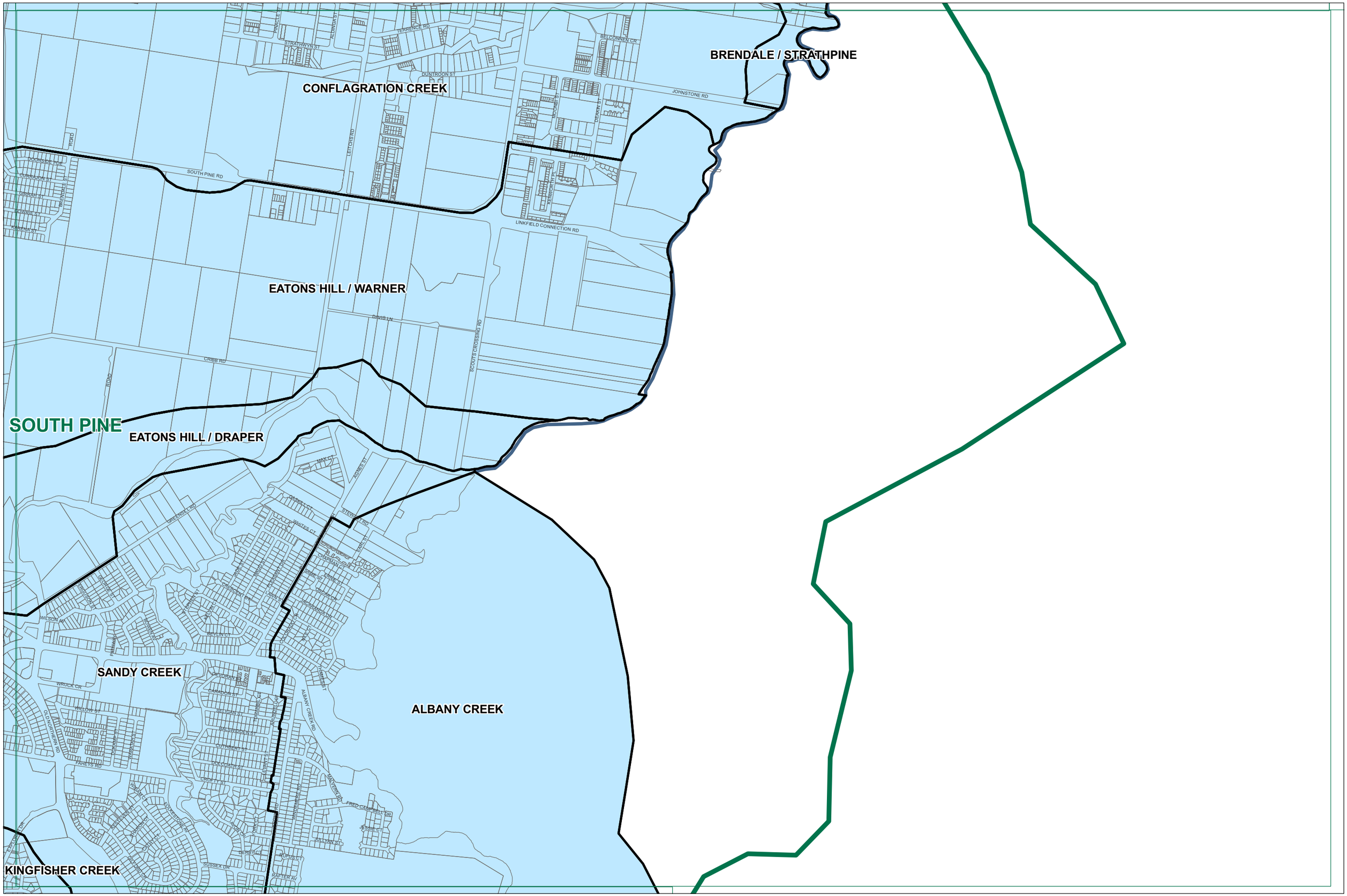
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 15.9



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

13.9	13.11	13.13
15.9	15.11	

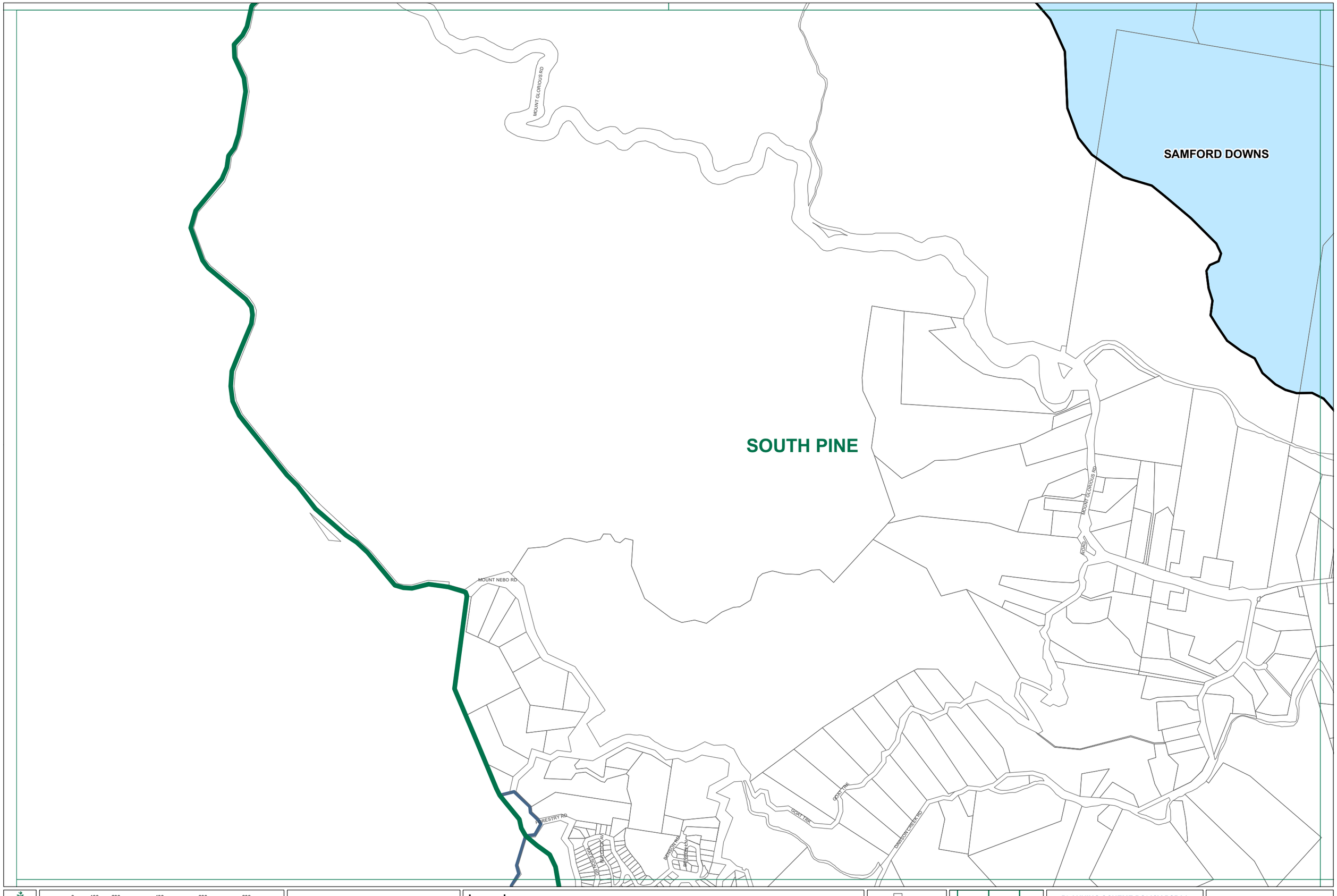
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective form 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 15.11



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

15.3	15.5	15.7
17.4	17.6	17.8
19.4	19.6	19.8

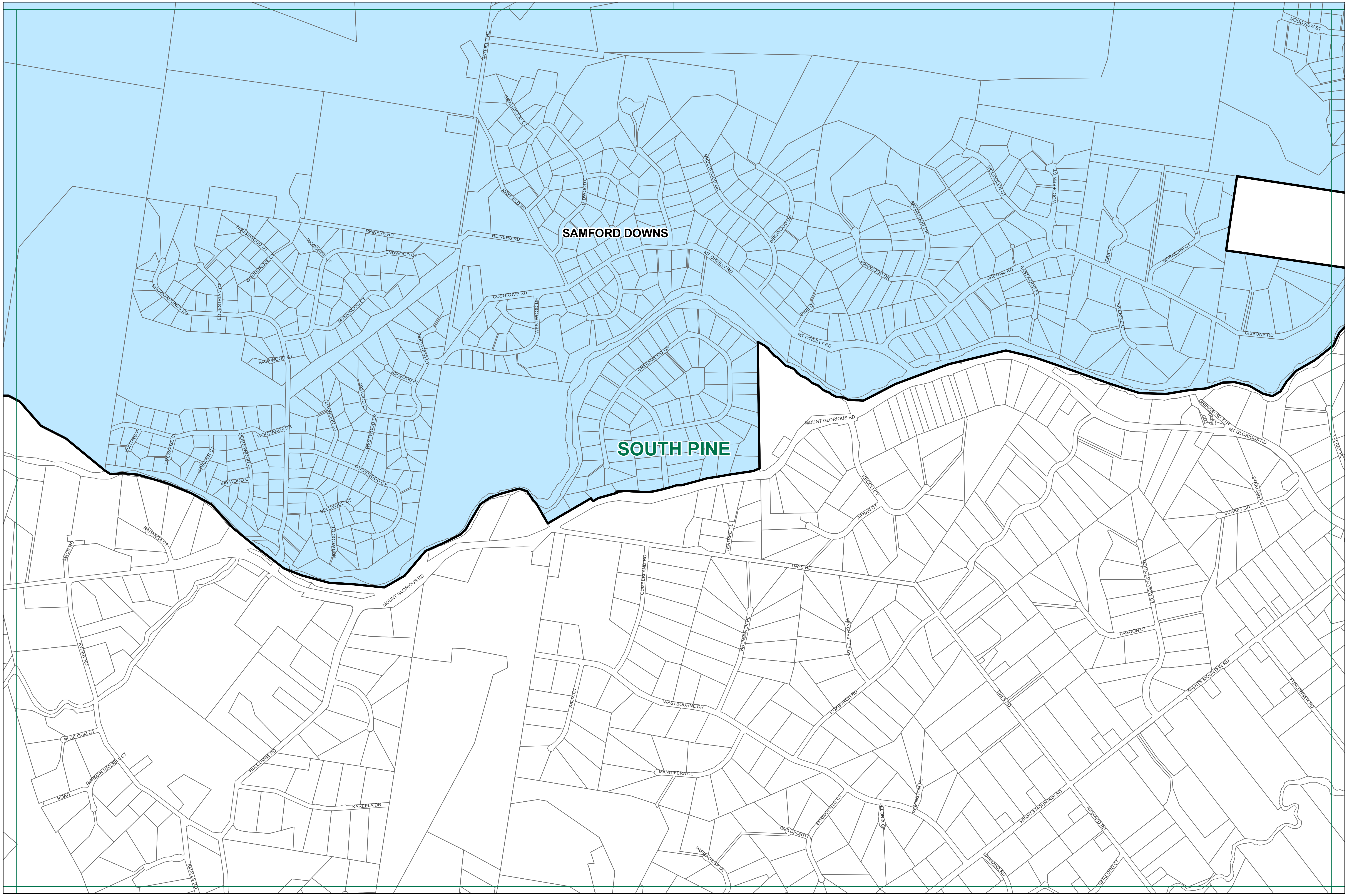
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 17.4



0 100 200 400 600 800
Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

15.3	15.5	15.7	15.9
17.4	17.6	17.8	
19.4	19.6	19.8	

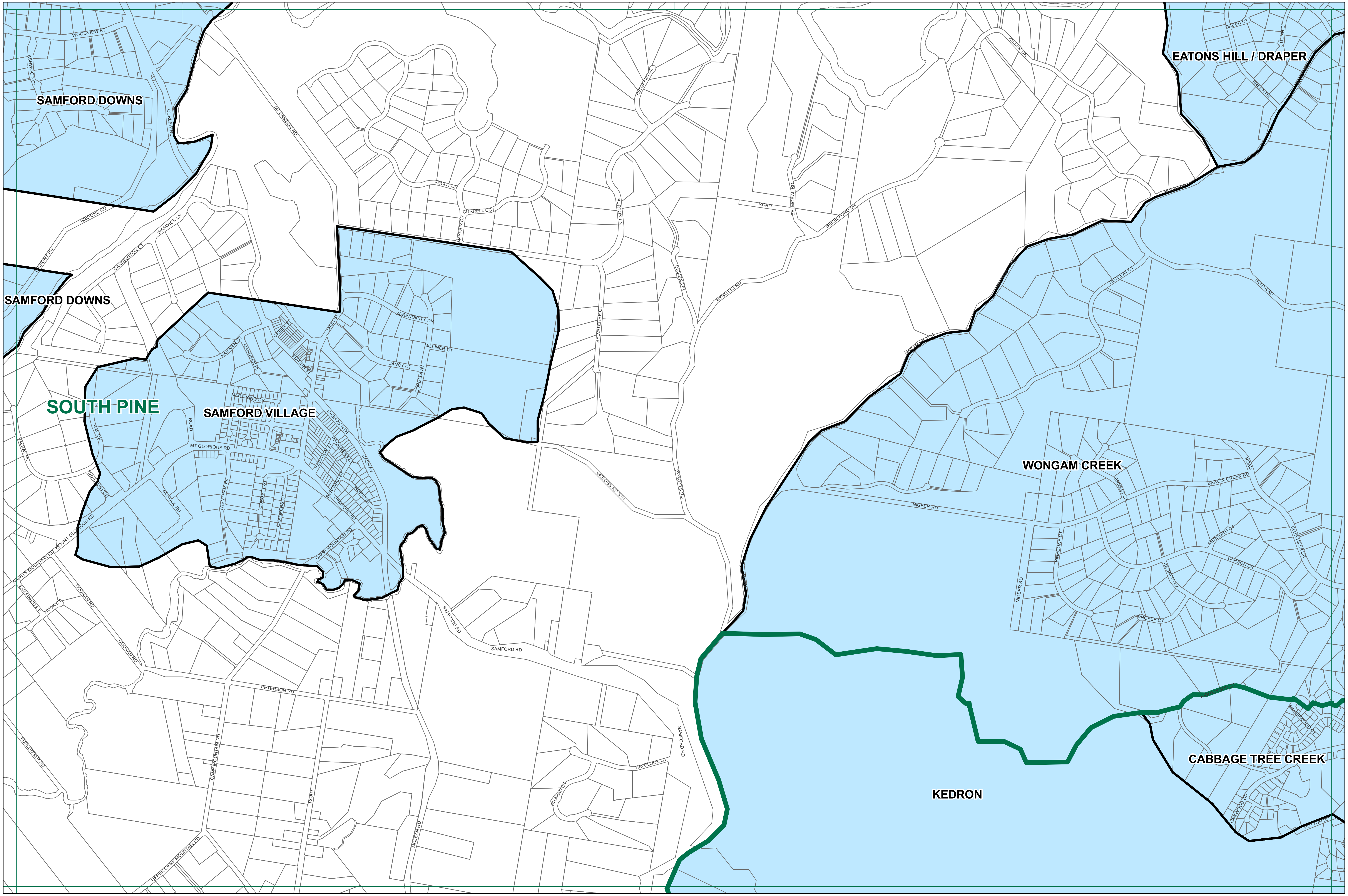
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 17.6



0	100	200	400	600	800

Metres

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Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

15.5	15.7	15.9	15.11
17.6	17.8	17.10	
19.6	19.8	19.10	

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 17.8

EATONS HILL / DRAPER

EATONS HILL / DRAPER

WONGAM CREEK

SOUTH PINE

KINGFISHER CREEK

SANDY CREEK

ALBANY CREEK

CABBAGE TREE CREEK

KEDRON

KEDRON

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

15.7	15.9	15.11
17.8	17.10	

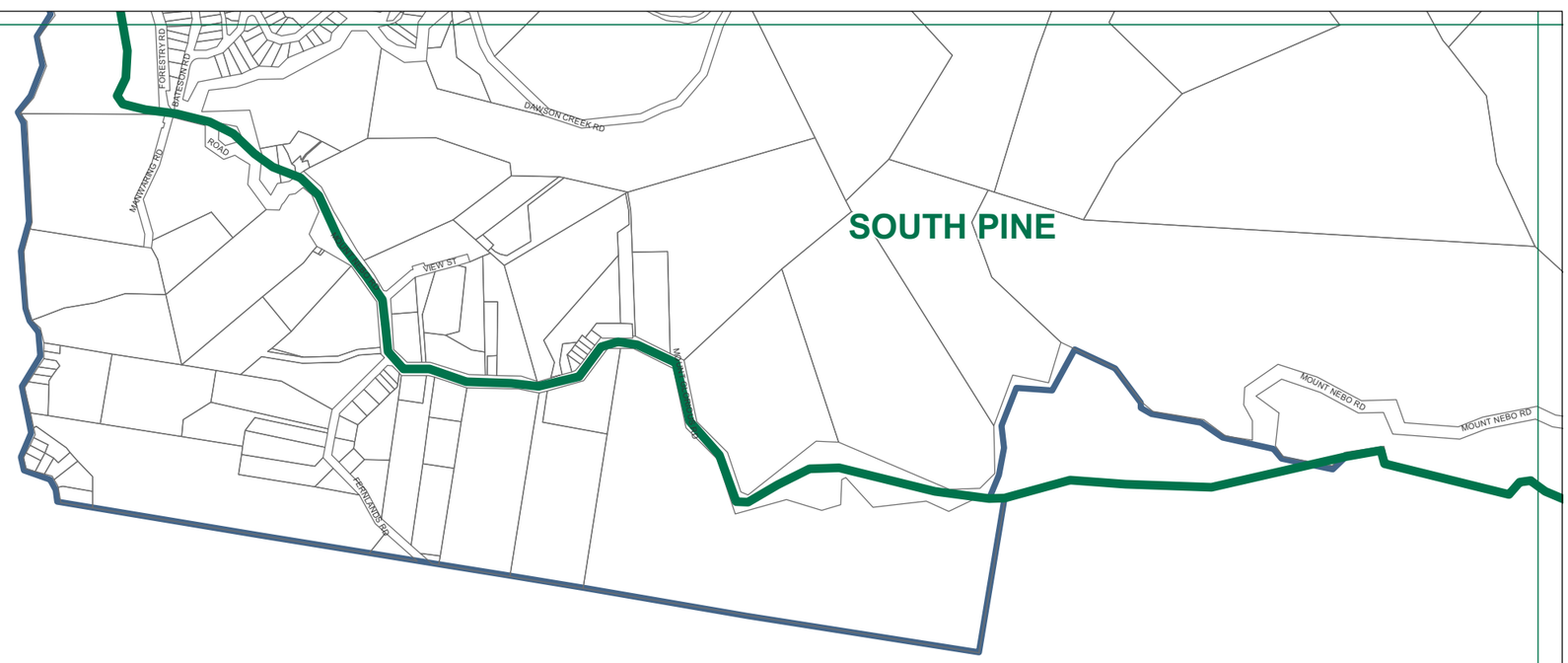
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 17.10



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

17.4	17.6
19.4	19.6

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 19.4

0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

15.3	15.5	15.7	15.9
17.4	17.6	17.8	
19.4	19.6	19.8	

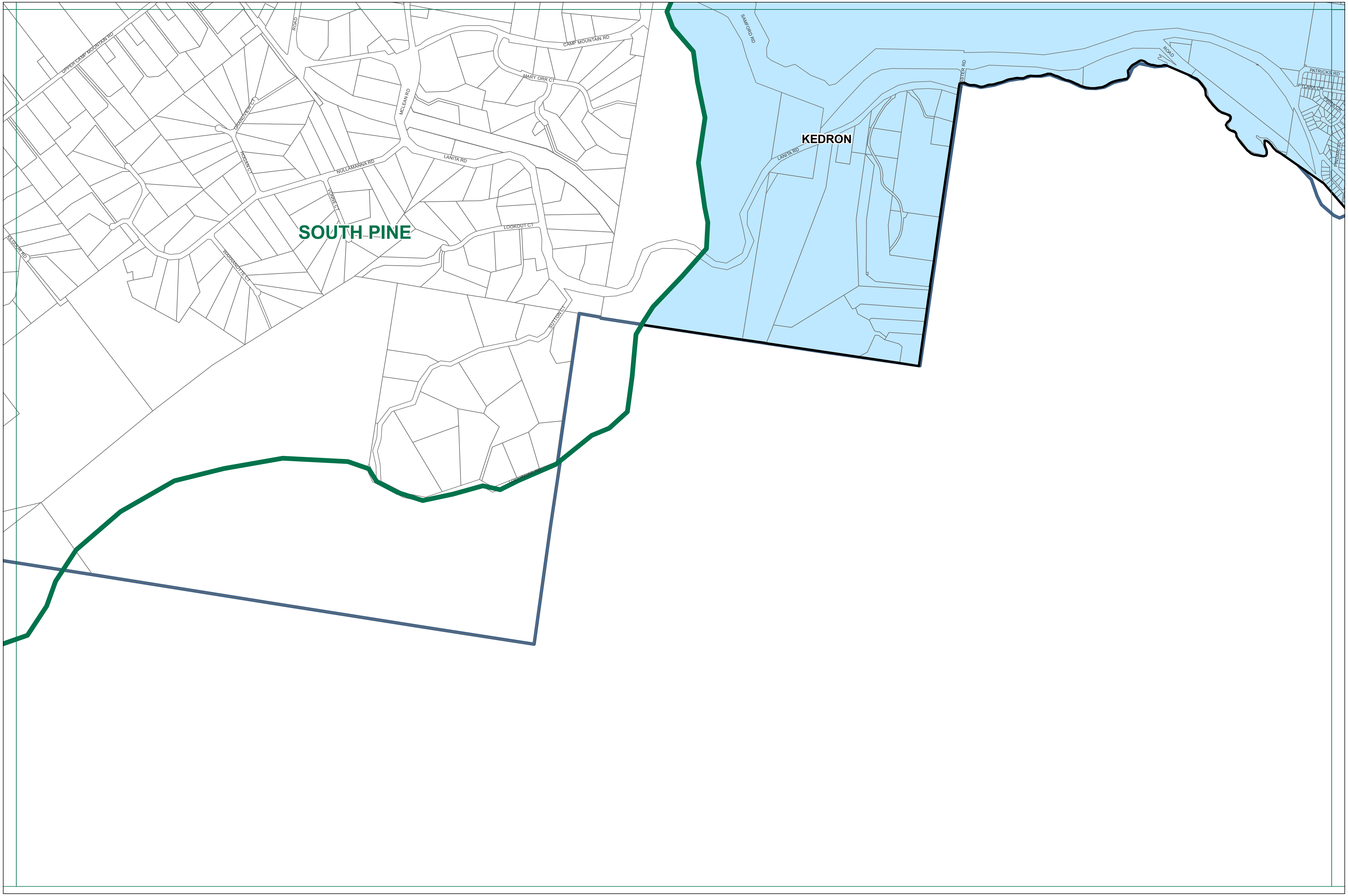
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 19.6



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

17.6	17.8
19.6	19.8

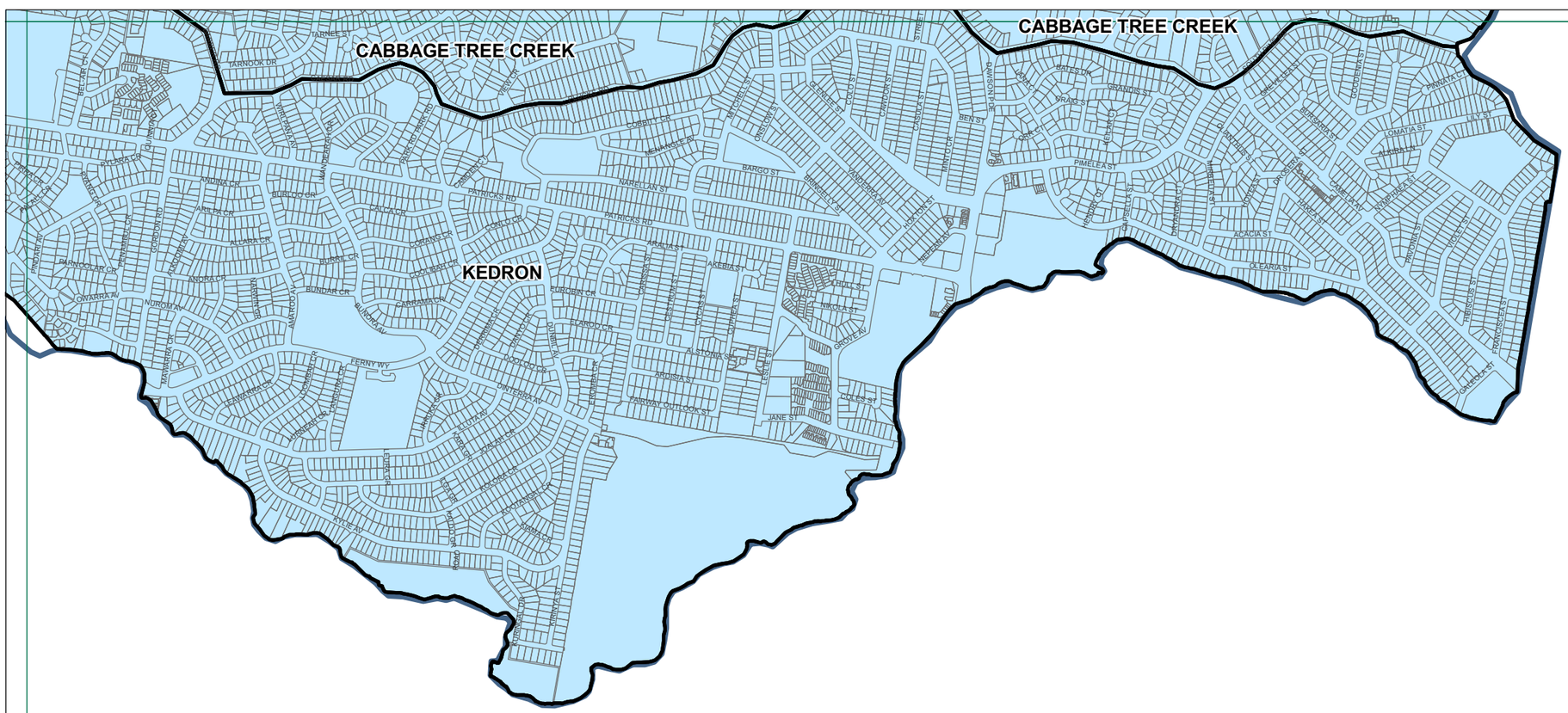
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 19.8



0 100 200 400 600 800

Metres

Legend

- Stormwater Local Catchments
- Stormwater River Catchments
- Stormwater Creek Catchments
- Shire Boundary
- Parcel Boundaries

19.10

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 Sept 2008

STORMWATER NETWORK SERVICE CATCHMENTS

Map Number 19.10

Schedule D: Network Assets

0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

7.9	7.11	7.13
9.9	9.11	9.13
11.9	11.11	11.13

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

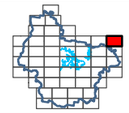
Map Number 7.11

0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition



7.11	7.13
9.11	9.13

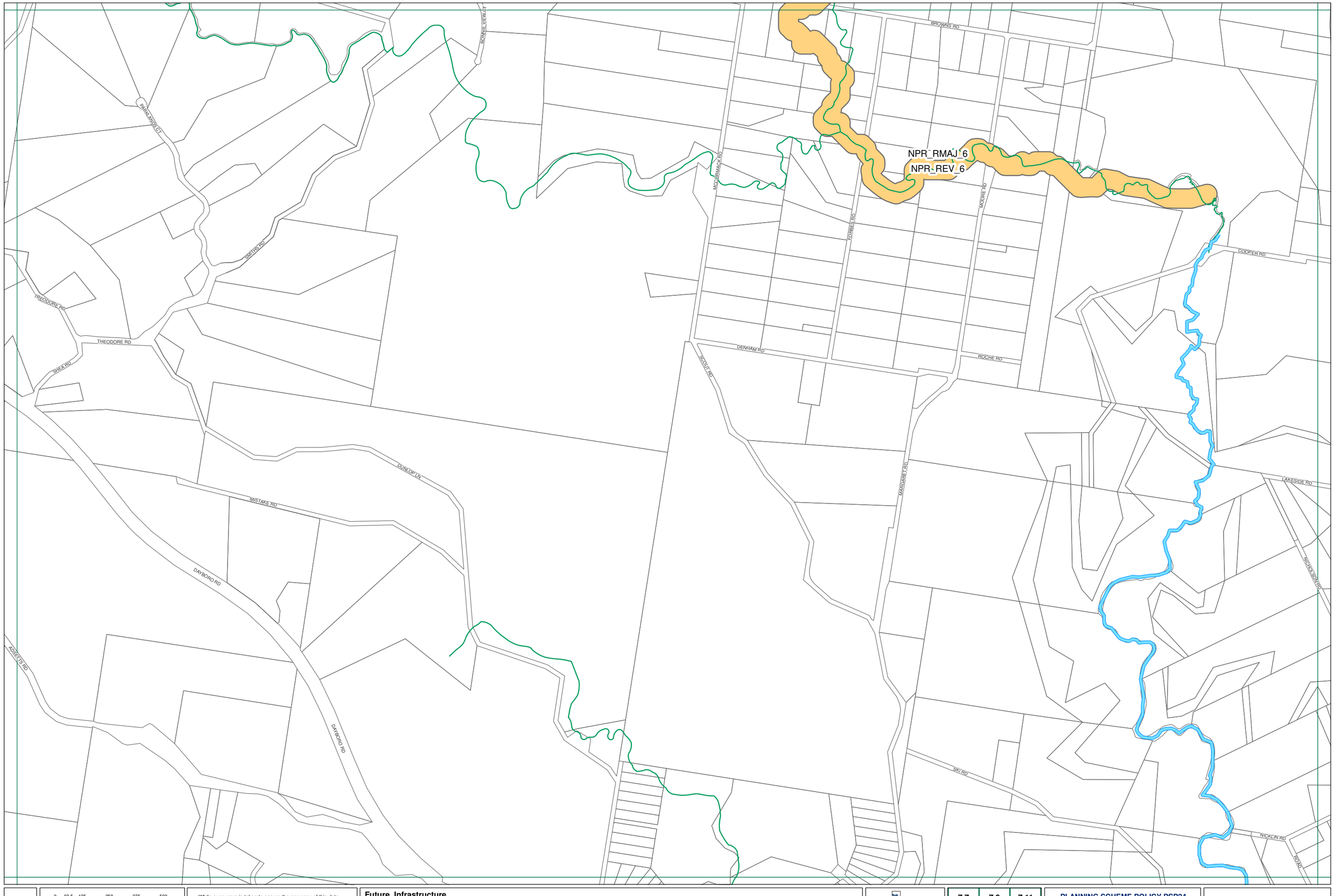
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 7.13



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

7.7	7.9	7.11
9.7	9.9	9.11
11.7	11.9	11.11

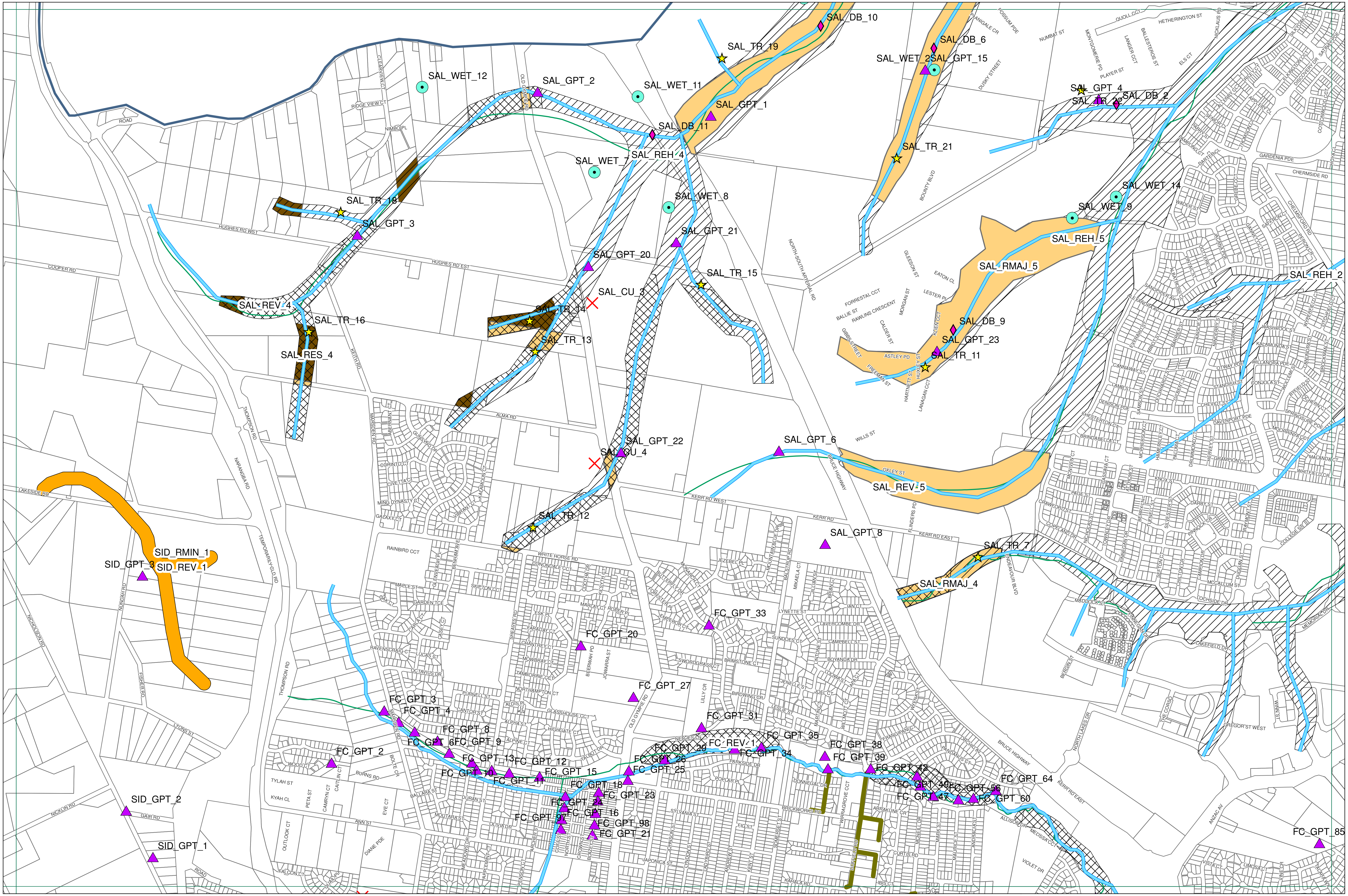
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 9.9



0 62.5 125 250 375 500

Metres

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Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

7.9	7.11	7.13
9.9	9.11	9.13
11.9	11.11	11.13

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 9.11

0 62.5 125 250 375 500

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Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

7.9	7.11	7.13
9.9	9.11	9.13
11.9	11.11	11.13

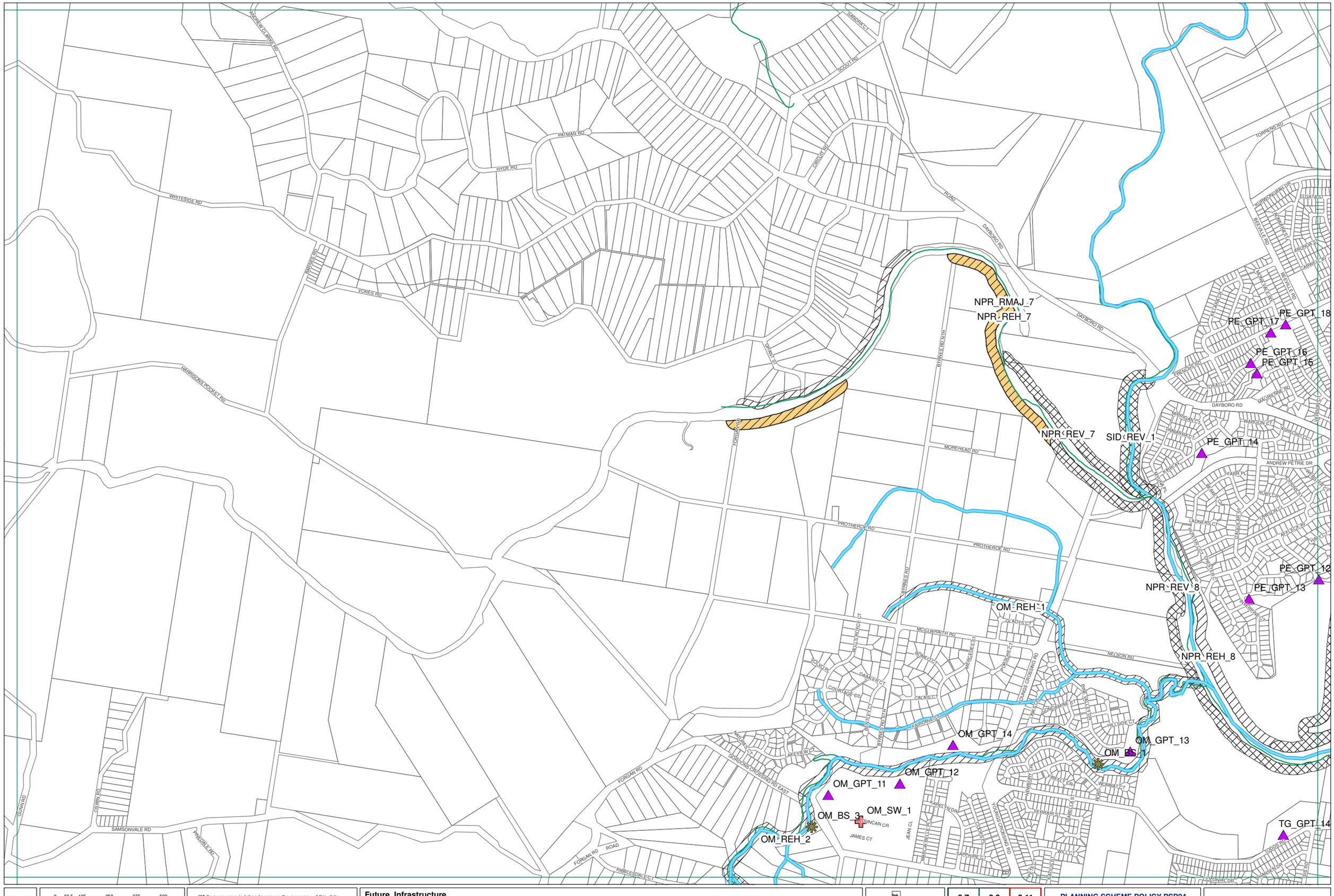
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 9.13



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

9.7	9.9	9.11
11.7	11.9	11.11
13.7	13.9	13.11

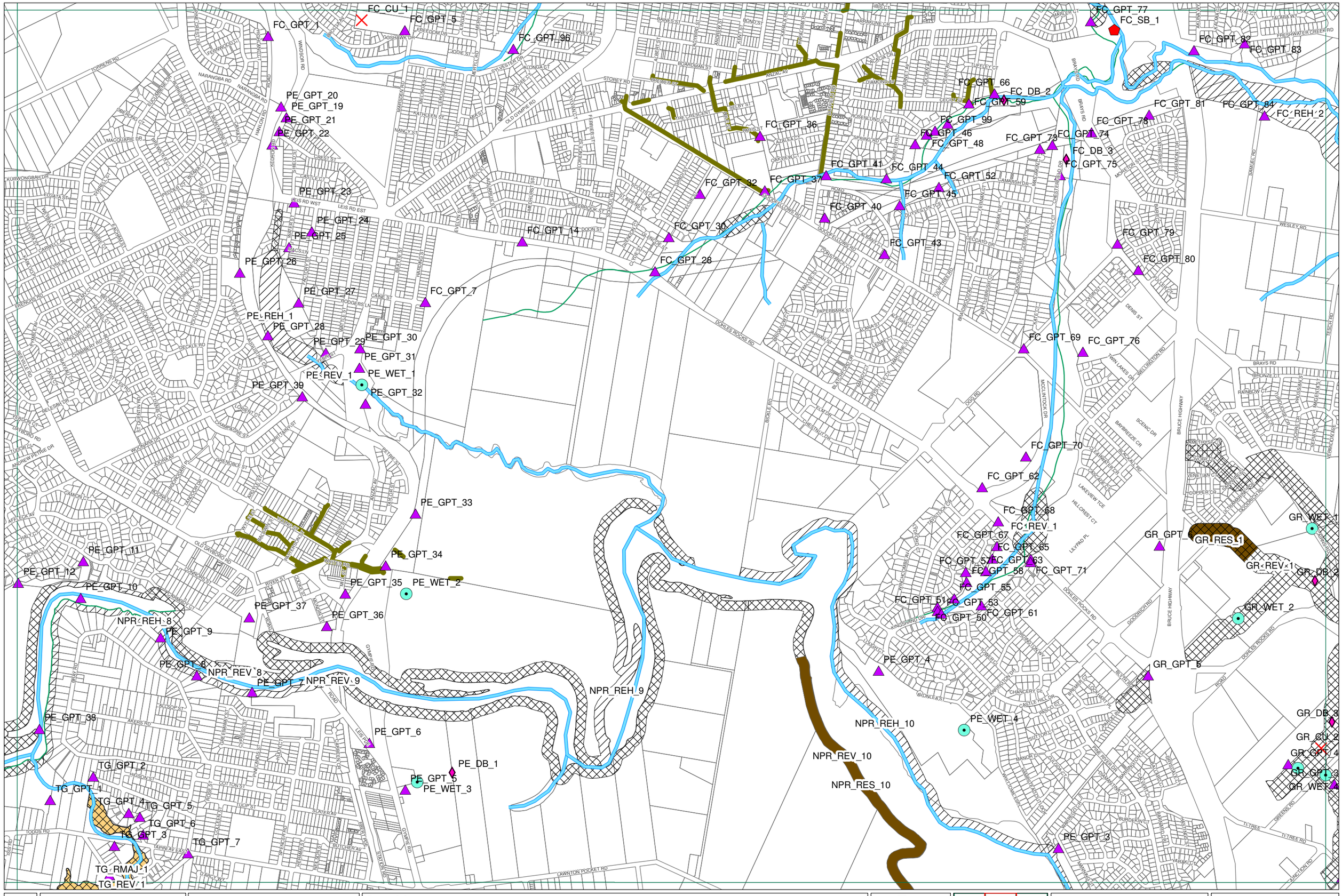
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 11.9



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

9.9	9.11	9.13
11.9	11.11	11.13
13.9	13.11	13.13

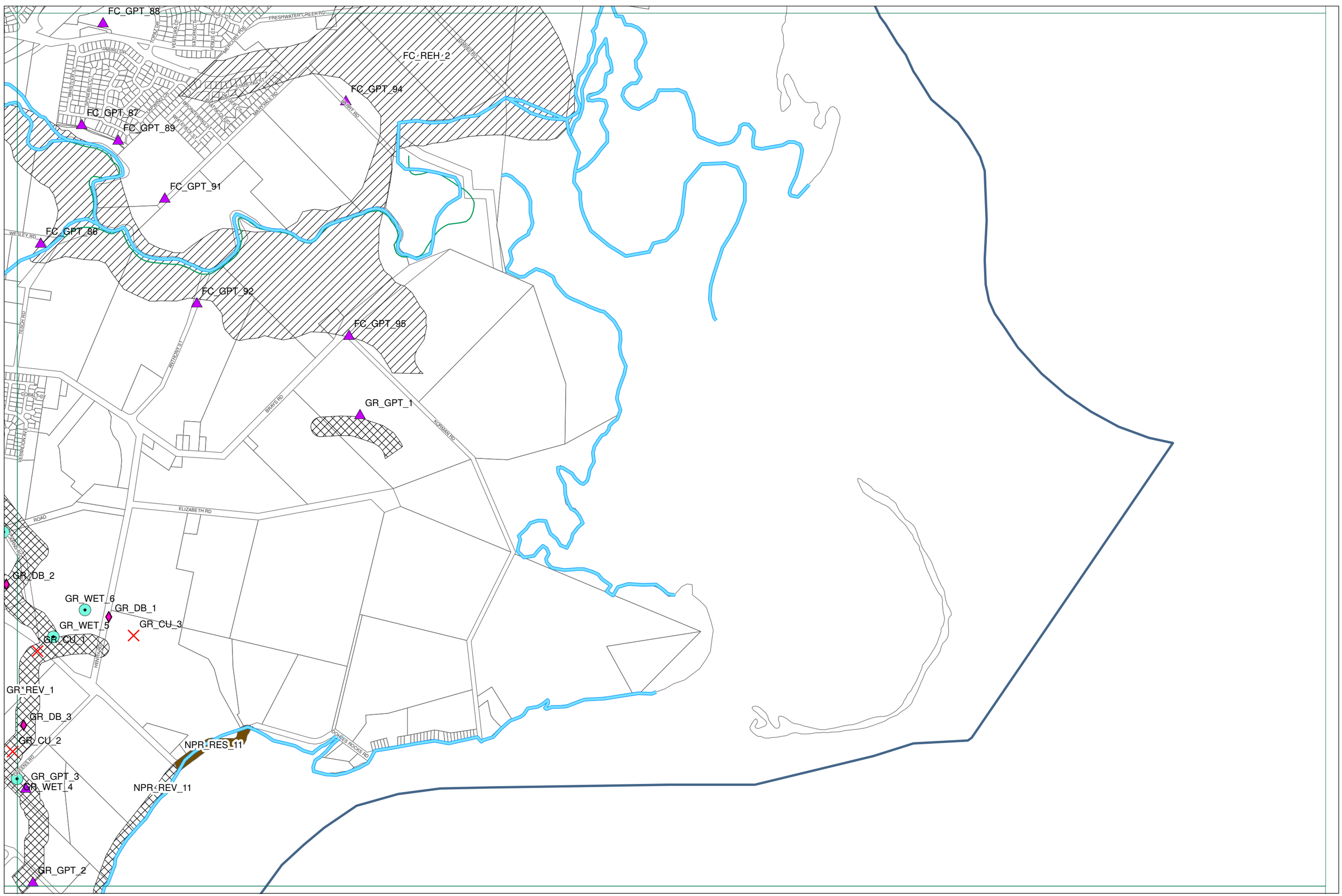
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 11.11



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

11.11	11.13
13.11	13.13

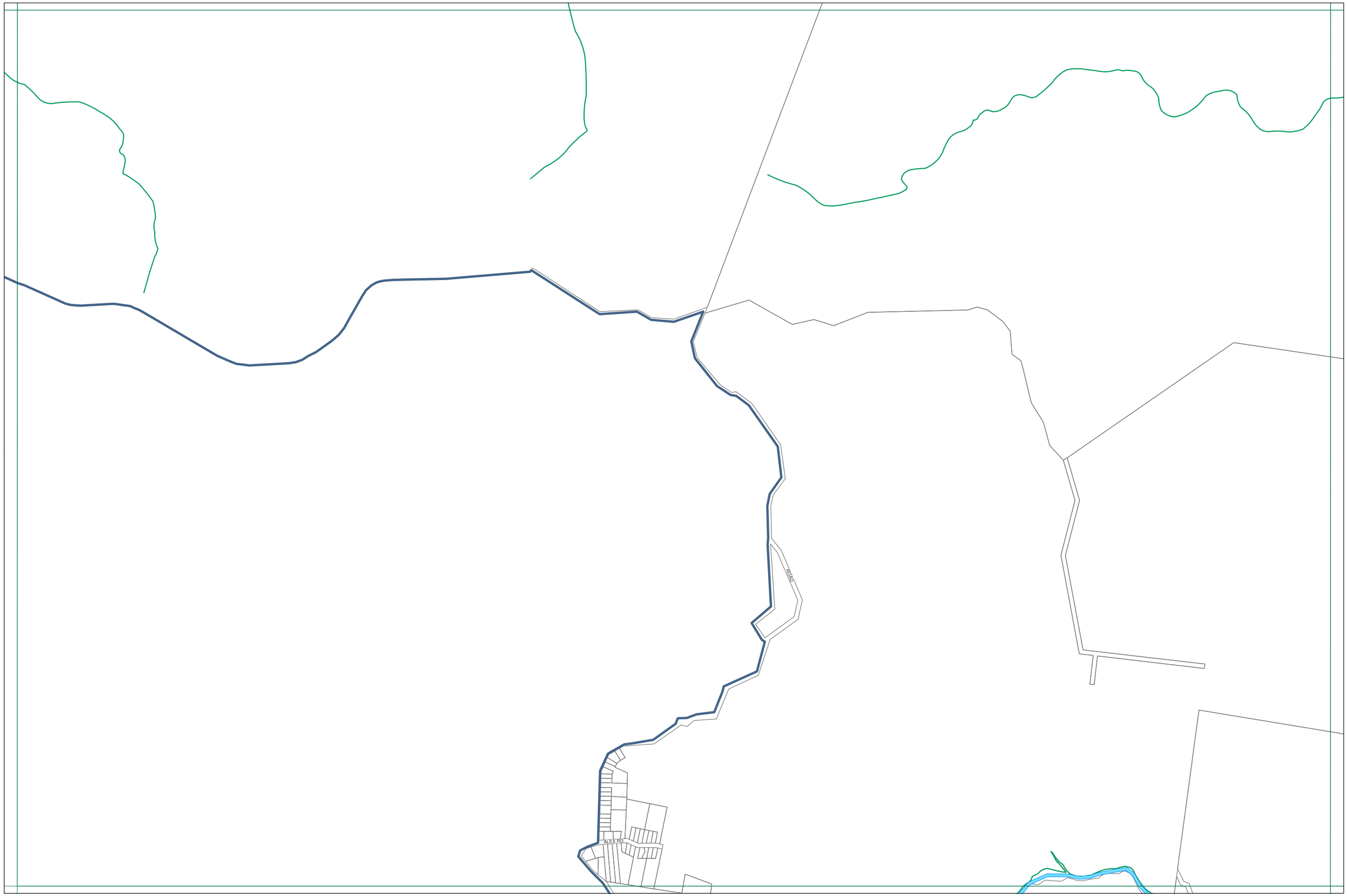
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 11.13



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

11.1	11.3	11.5
13.1	13.3	13.5
	15.3	15.5

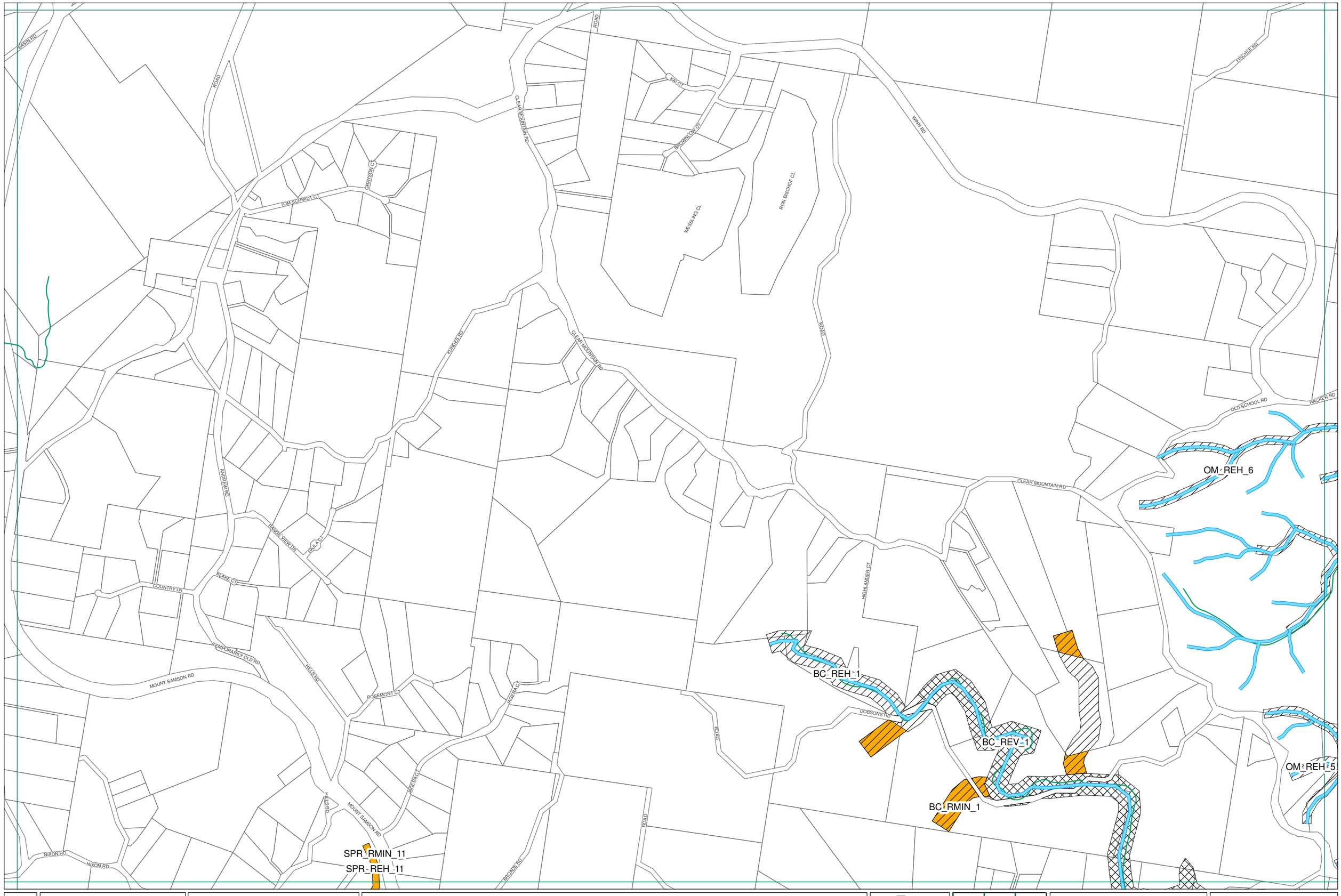
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 13.3



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

11.5	11.7	11.9
13.5	13.7	13.9
15.5	15.7	15.9

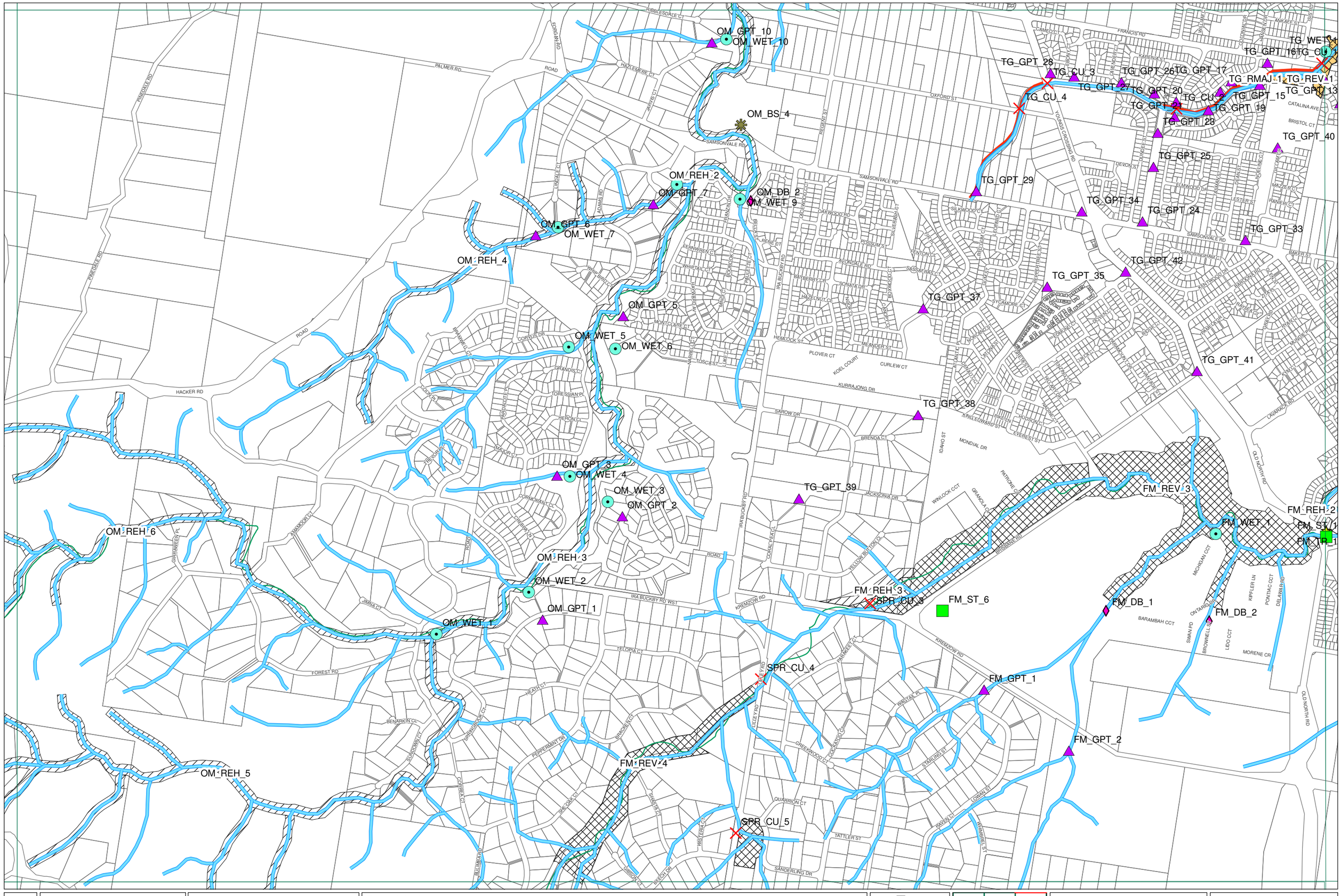
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 13.7



0 62.5 125 250 375 500
Metres

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Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

11.7	11.9	11.11
13.7	13.9	13.11
15.7	15.9	15.11

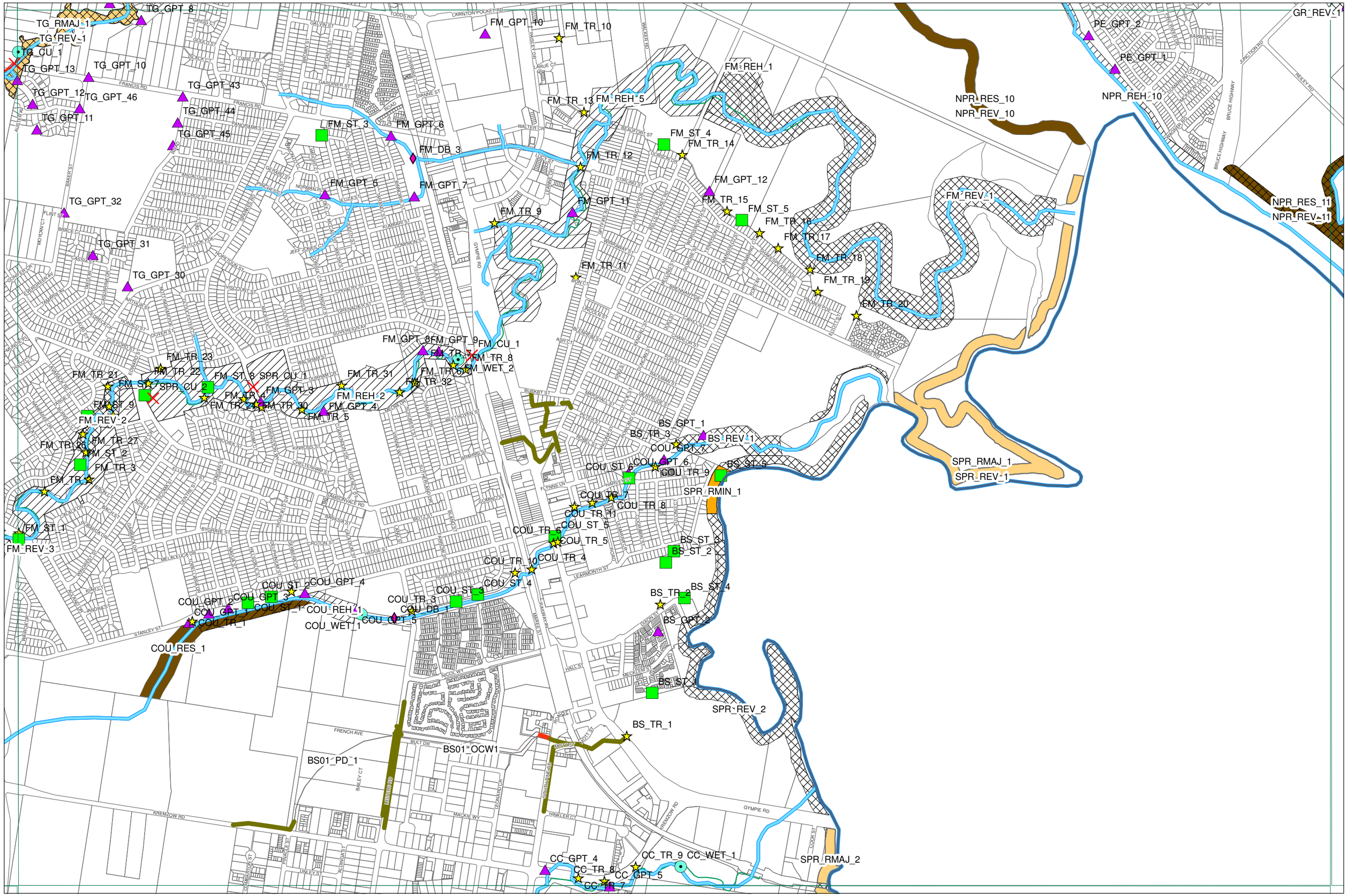
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 13.9



0 62.5 125 250 375 500

Metres

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Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

11.9	11.11	11.13
13.9	13.11	13.13
15.9	15.11	

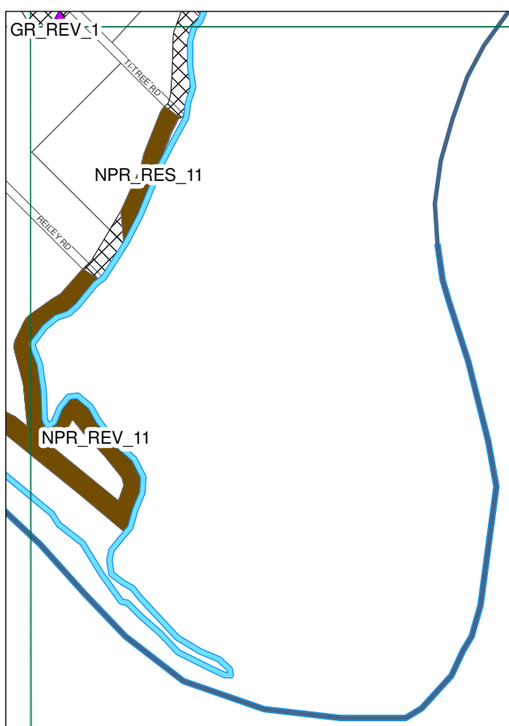
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 13.11



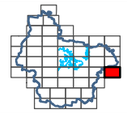
0 62.5 125 250 375 500

Metres

N
W E
S

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition



11.11	11.13
13.11	13.13

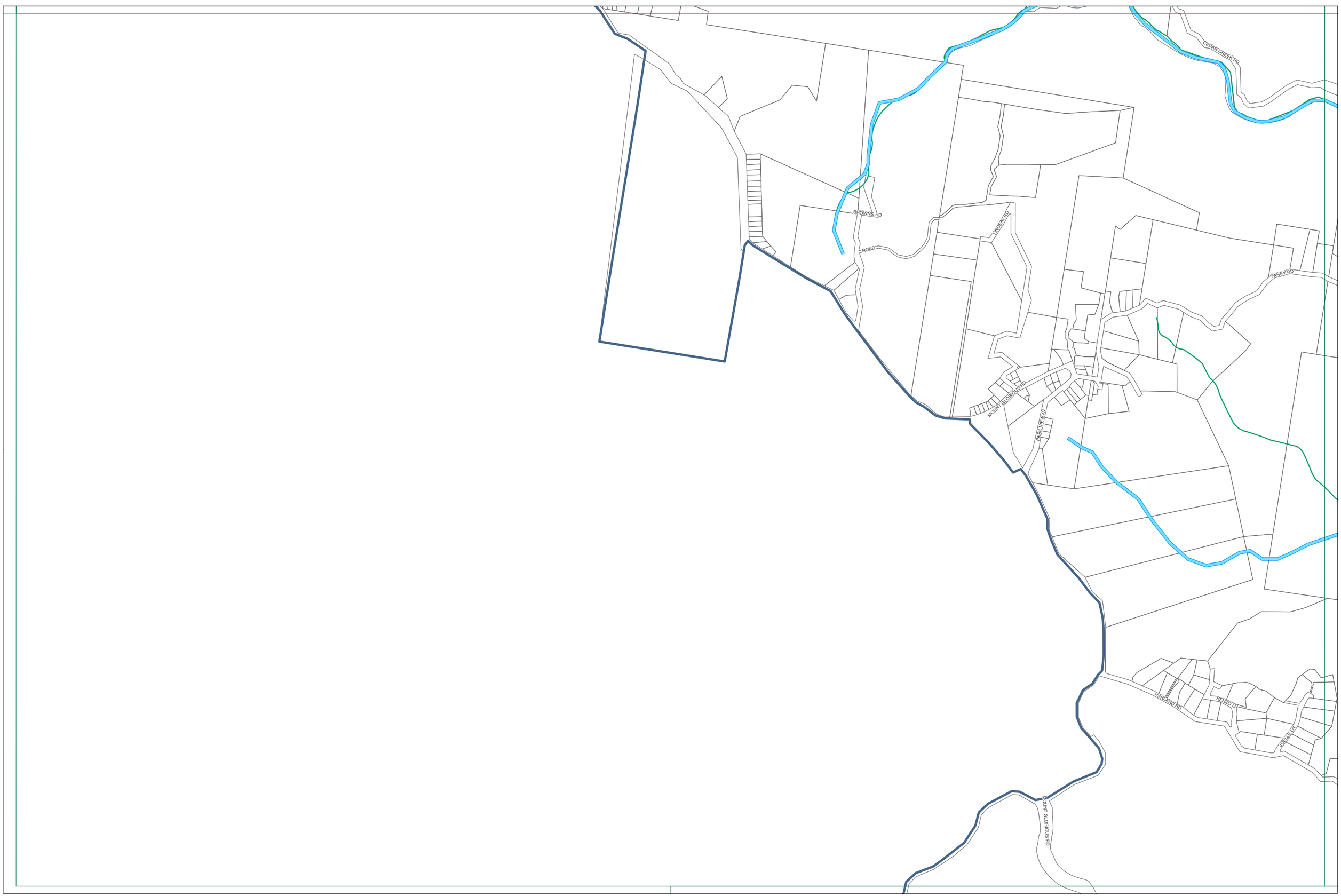
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 13.13



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

13.1	13.3	13.5
	15.3	15.5
	17.4	17.6

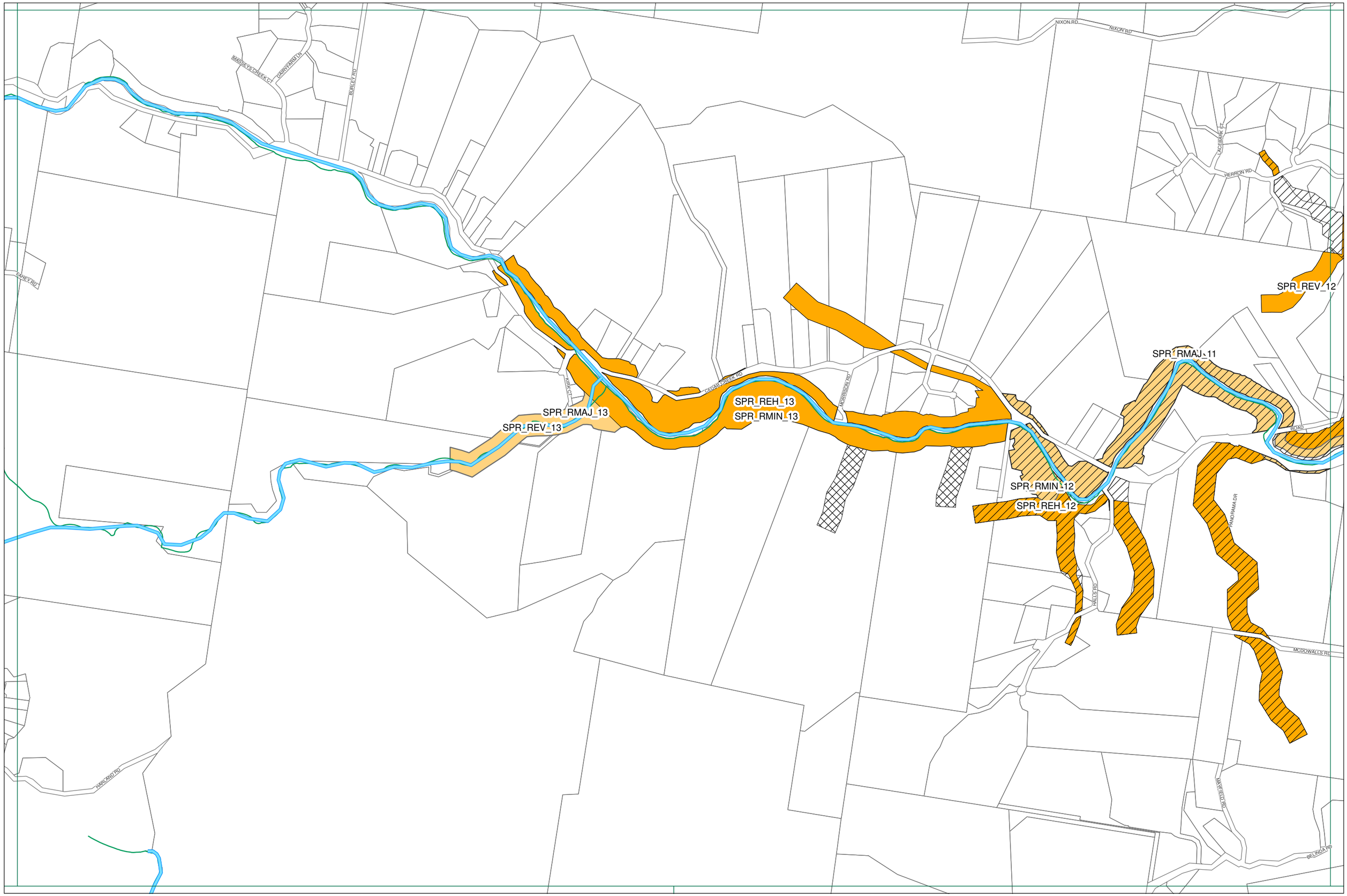
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 15.3



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

13.3	13.5	13.7
15.3	15.5	15.7
	17.4	17.6	17.8

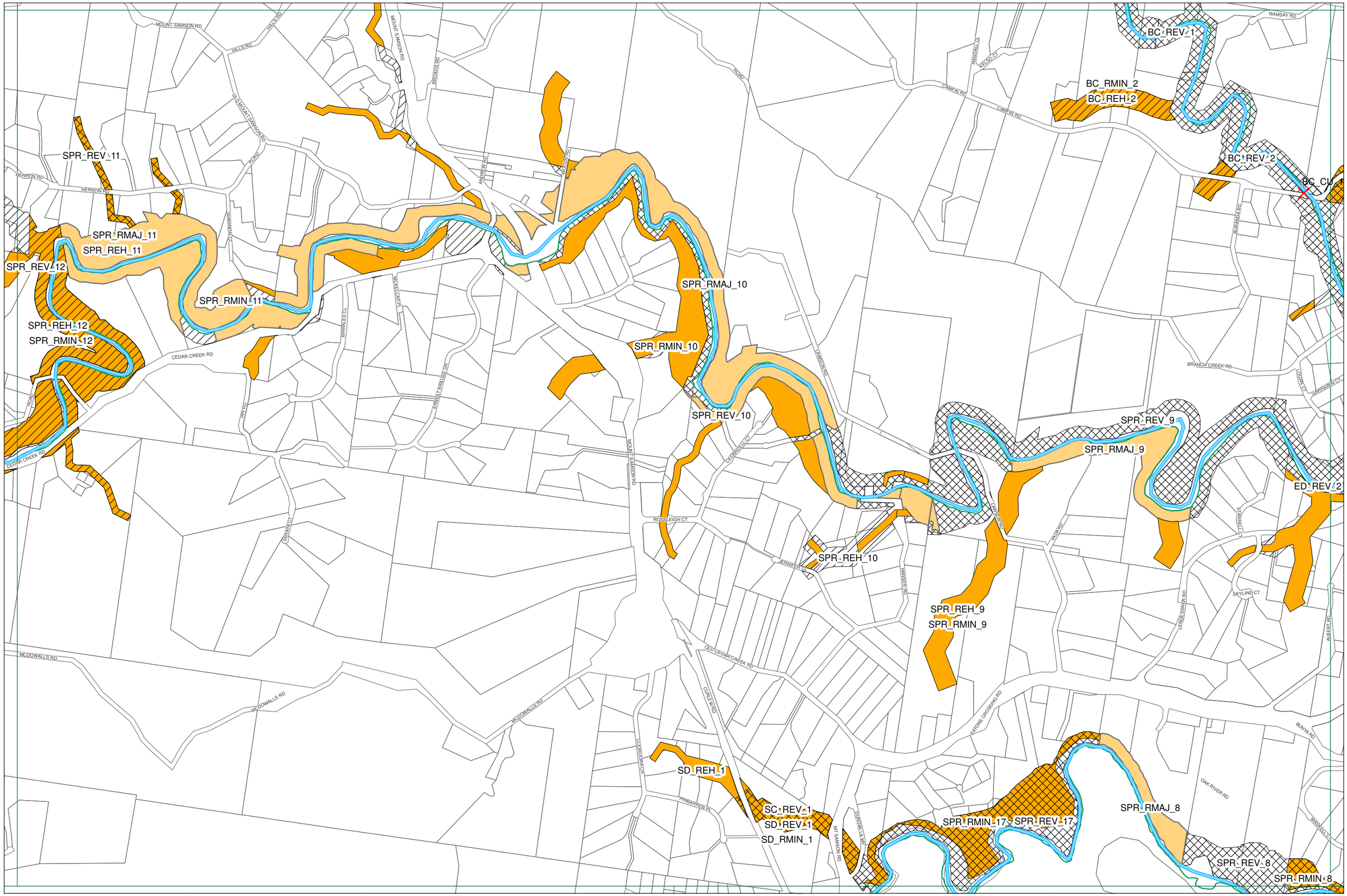
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 15.5



0 62.5 125 250 375 500

Metres

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Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

13.5	13.7	13.9	
15.5	15.7	15.9	
17.4	17.6	17.8	17.10

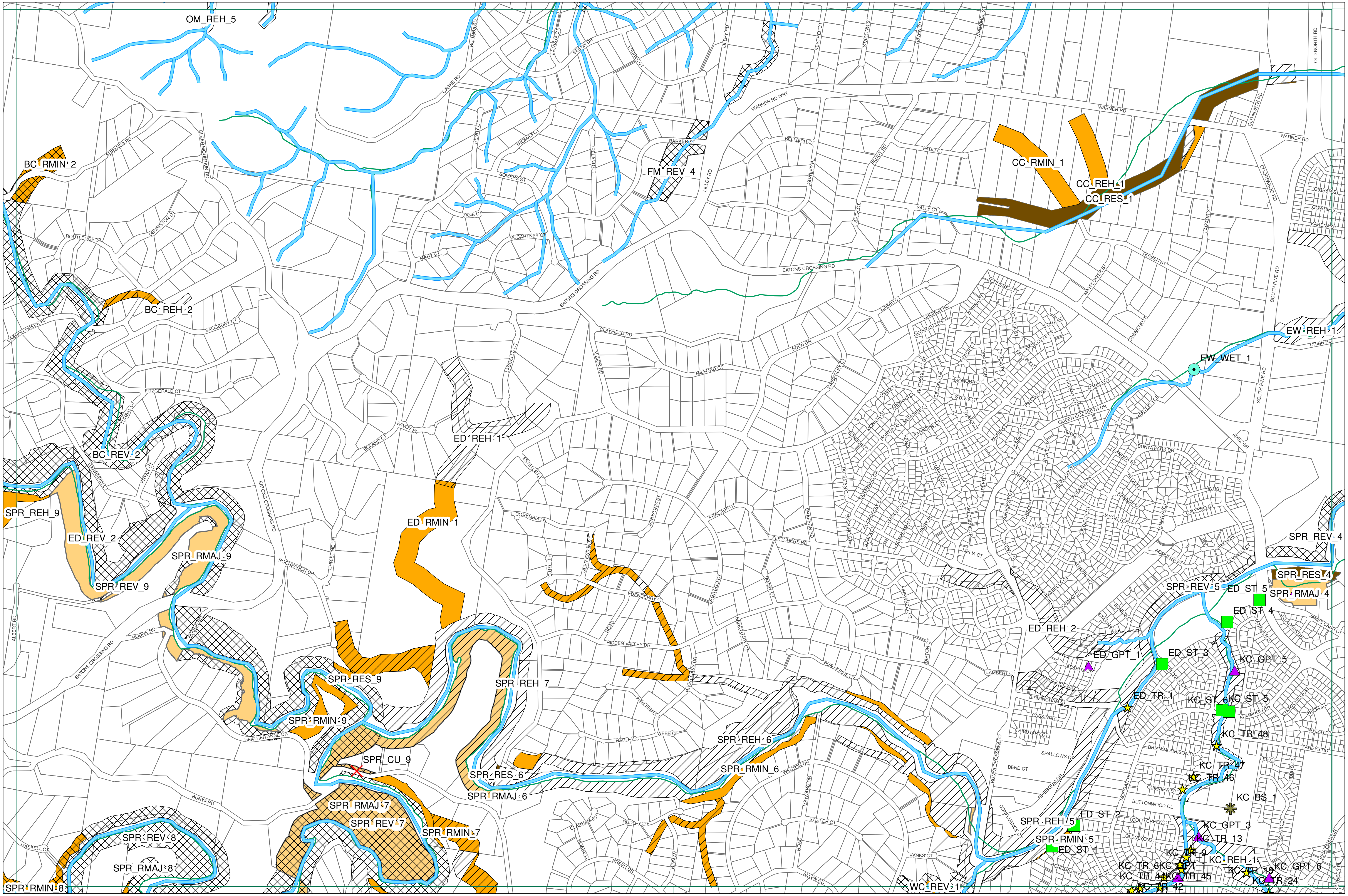
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 15.7



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Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

13.7	13.9	13.11
15.7	15.9	15.11
17.6 17.8		17.10

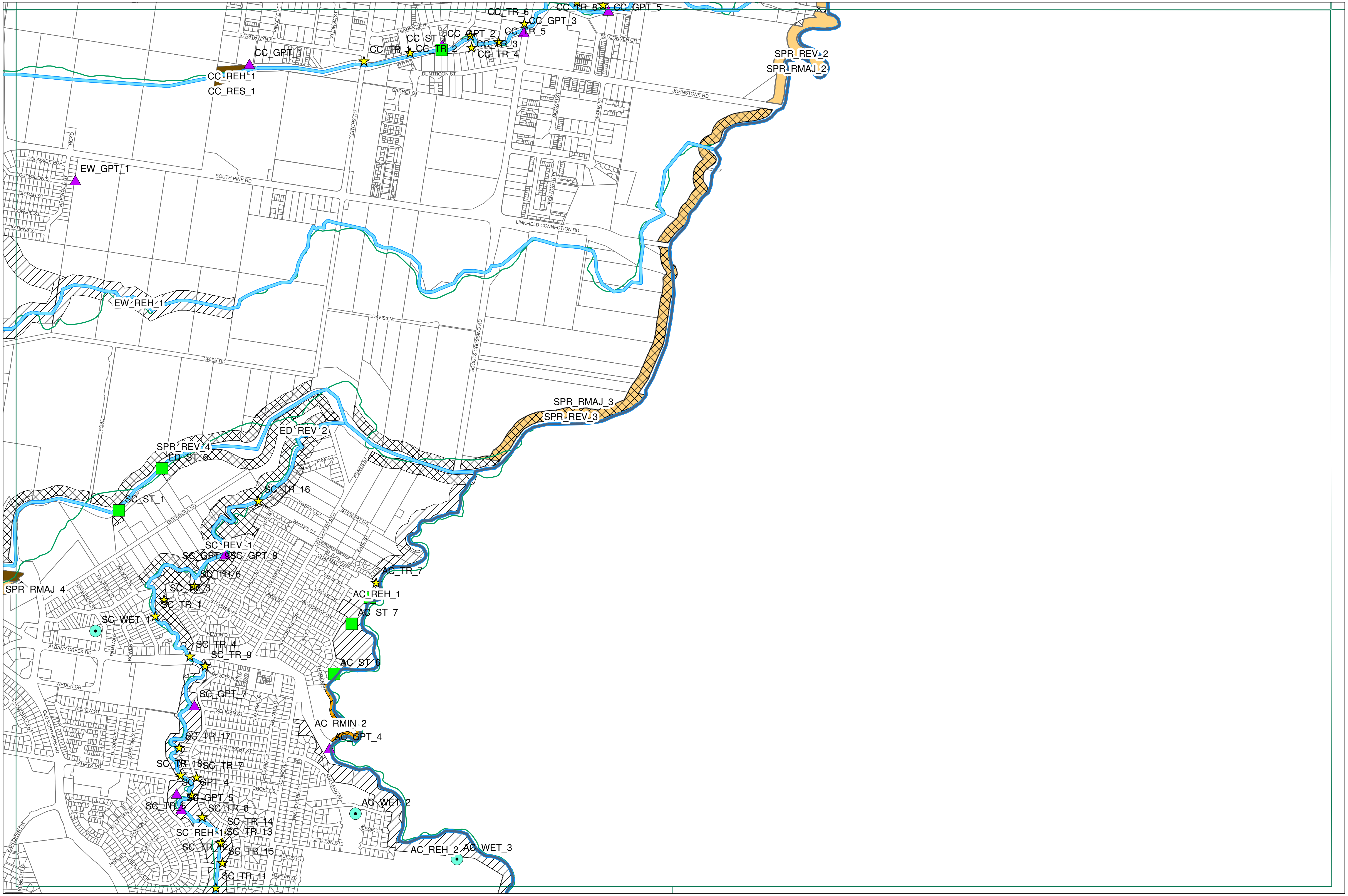
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 15.9



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Future Infrastructure

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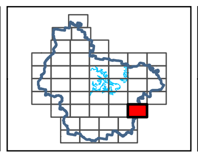
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition



13.9	13.11	13.13
15.9	15.11	

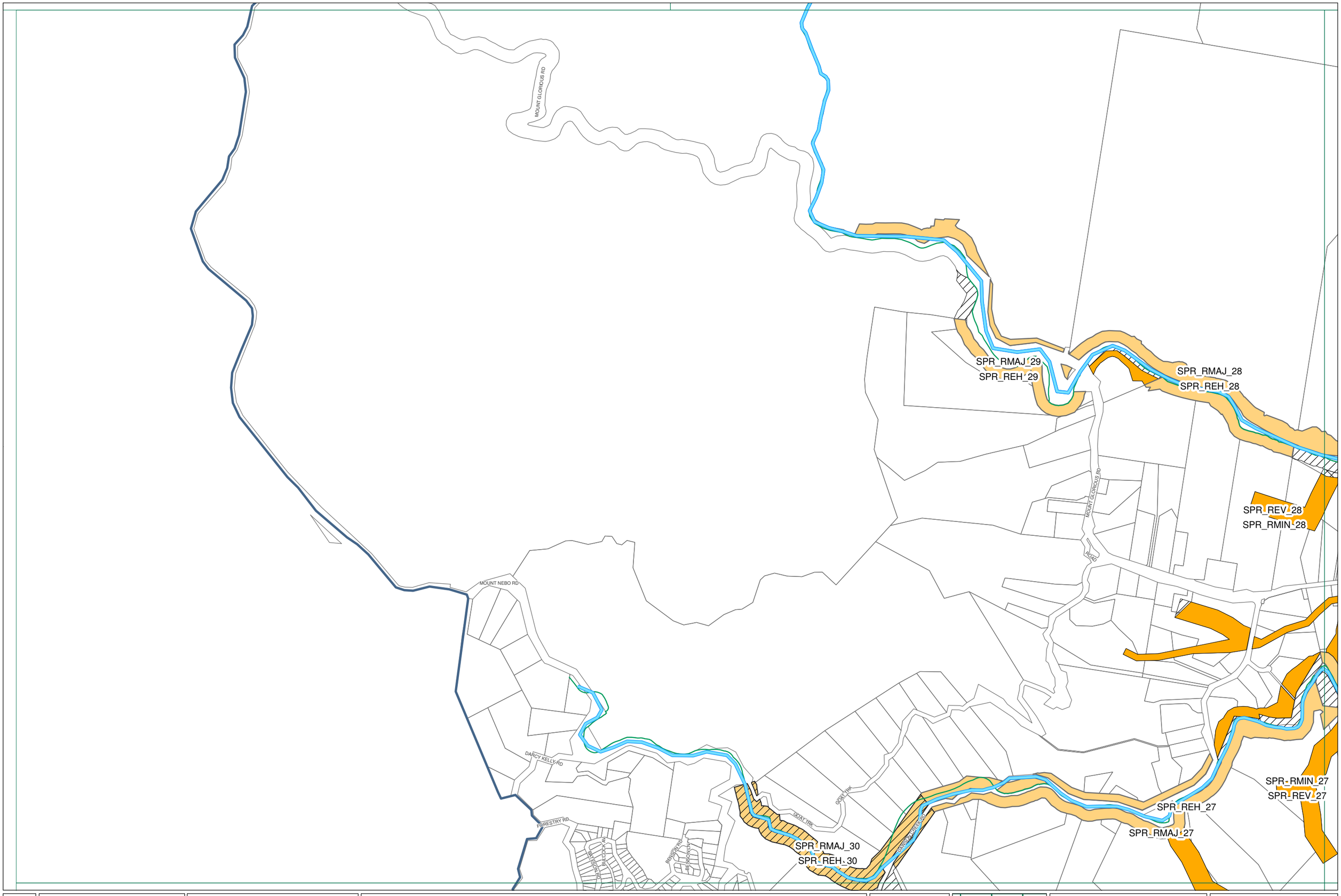
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 15.11



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

15.3	15.5	15.7
17.4	17.617.8	
19.4	19.619.8	

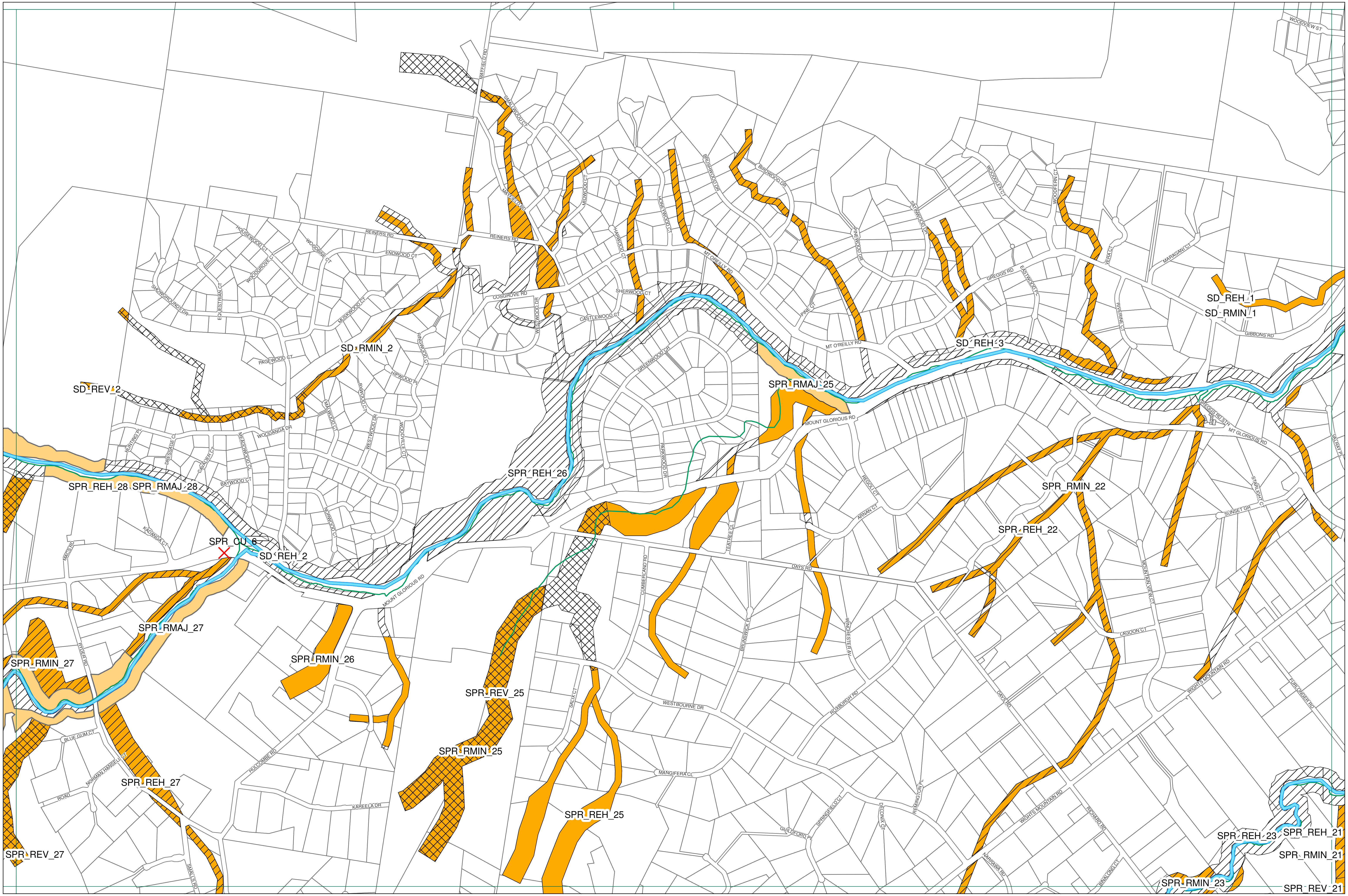
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 17.4



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Metres

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Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
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- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

15.3	15.5	15.7	15.9
17.4	17.6	17.8	
19.4	19.6	19.8	

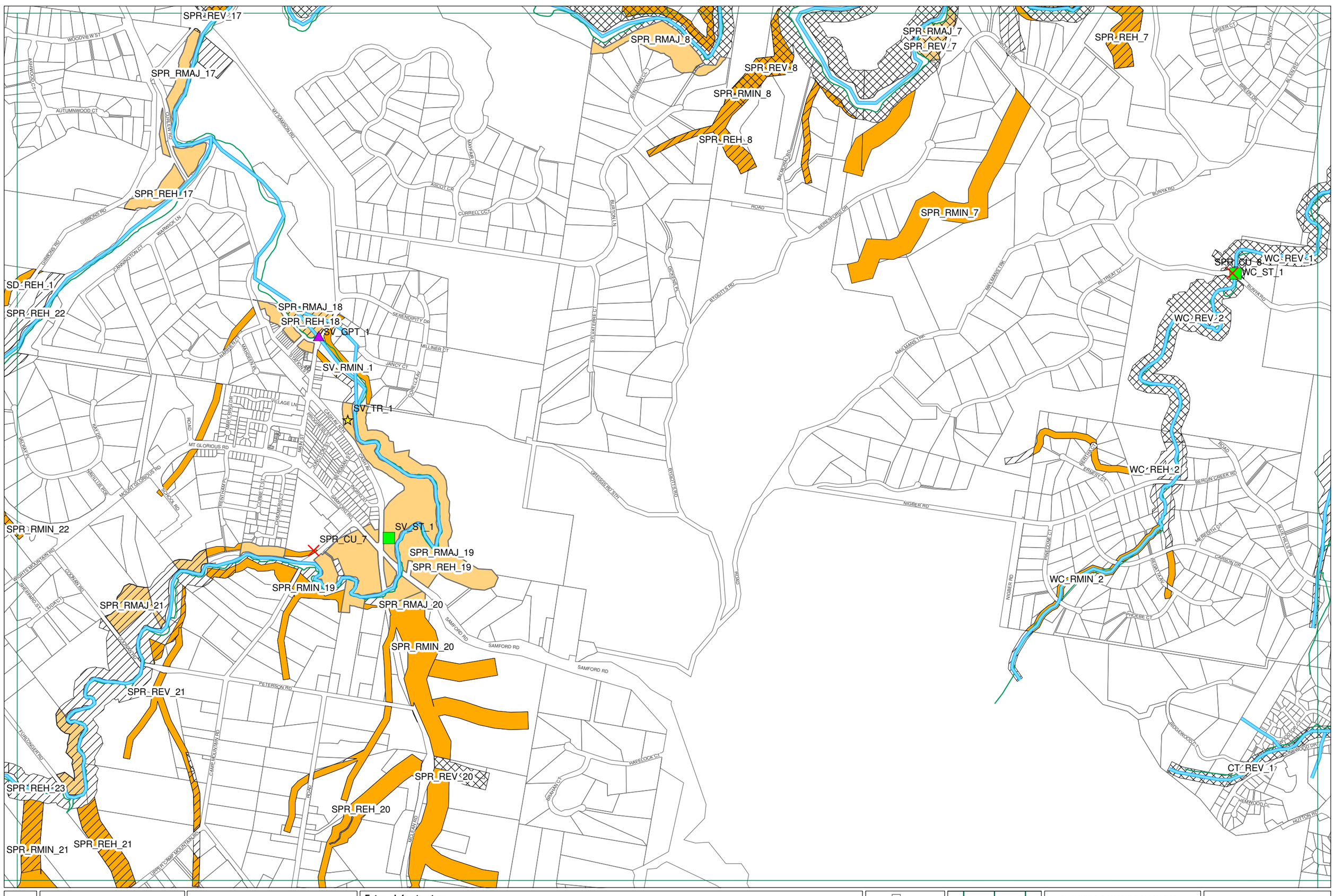
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 17.6



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
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- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

15.5	15.7	15.9	15.11
17.6	17.8	17.10	
19.6	19.8	19.10	

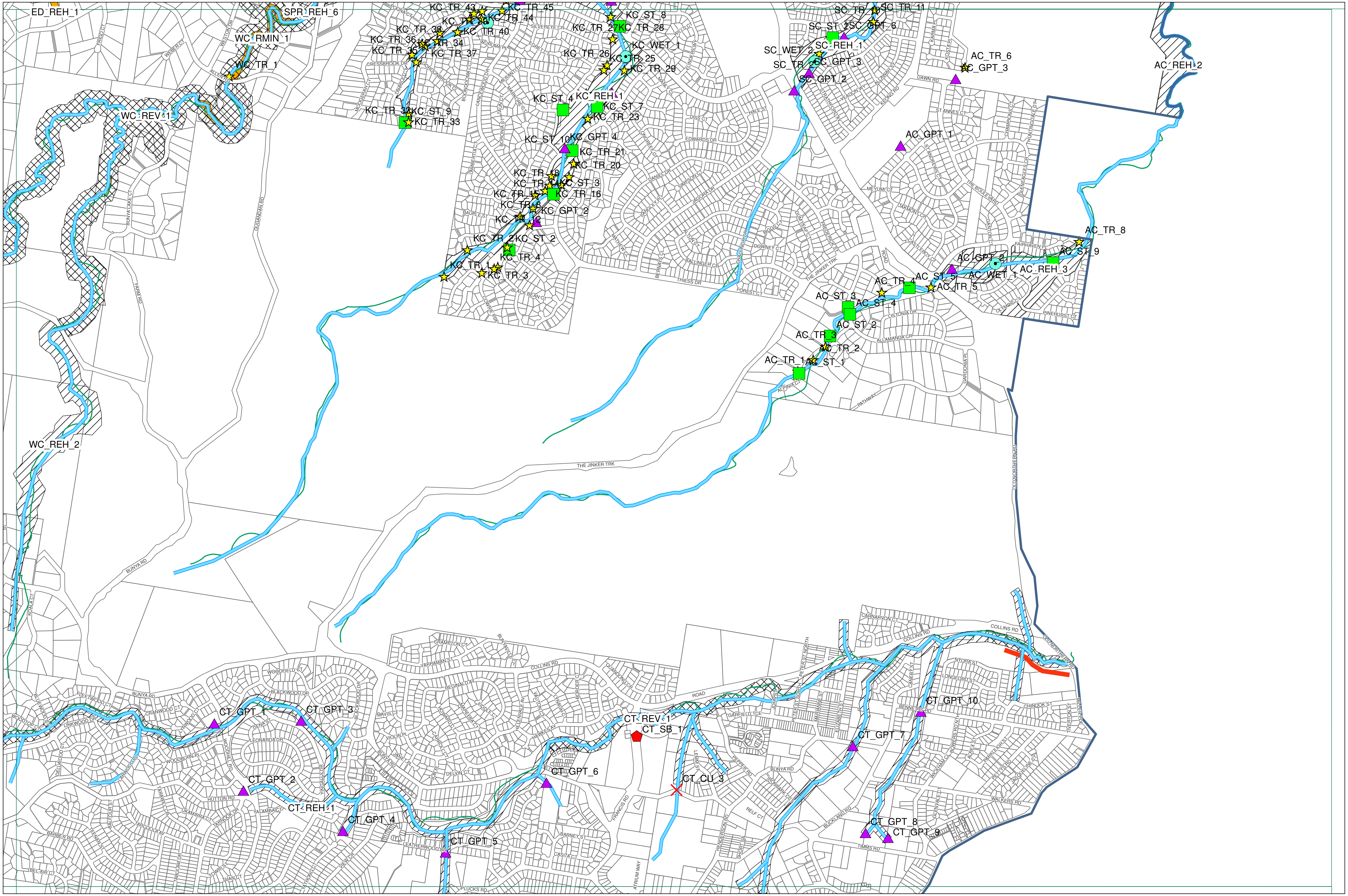
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 17.8



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Future Infrastructure

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- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

15.7	15.9	15.11
17.8	17.10	

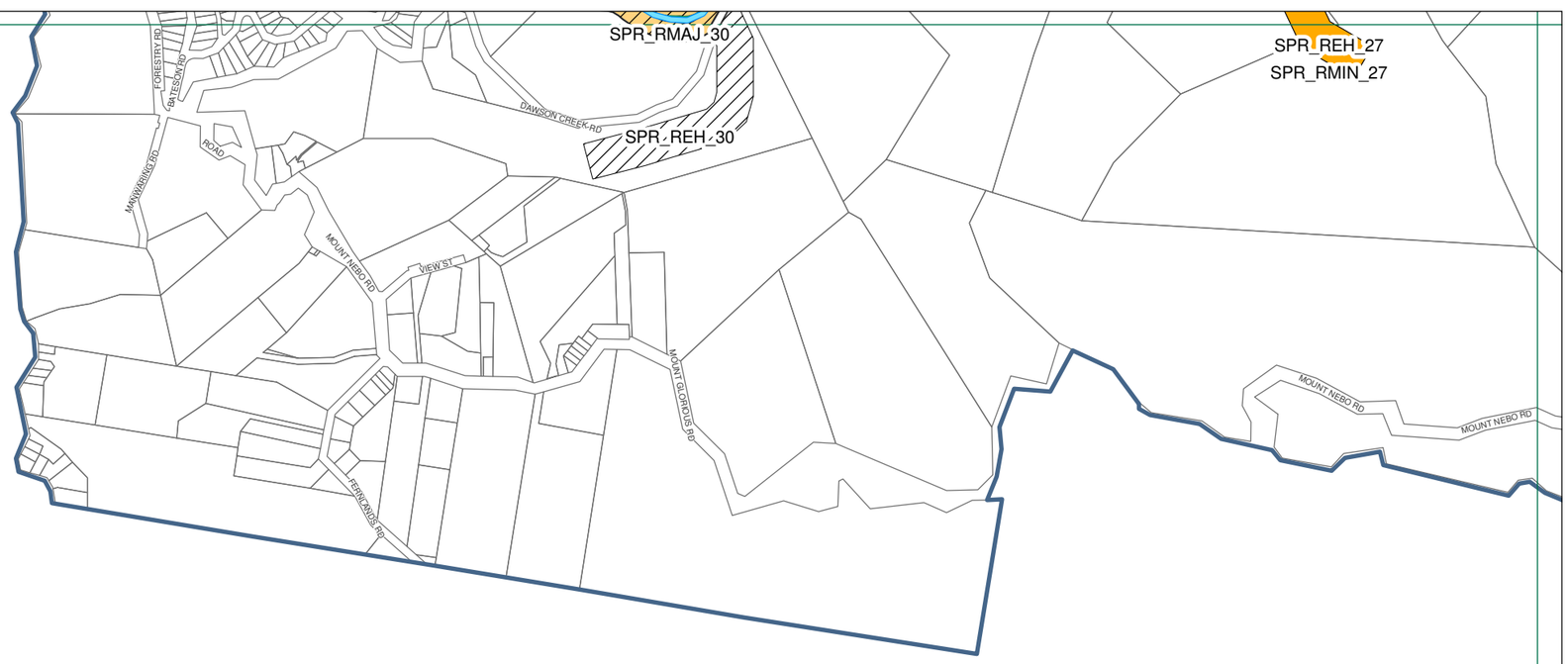
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 17.10



0 62.5 125 250 375 500

Metres

N W E S

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
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- Trash Rack
- Wetland
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- Rehabilitation
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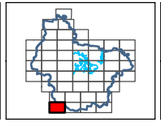
- RCMA Minor
- Acquisition



17.4	17.6
19.4	19.6

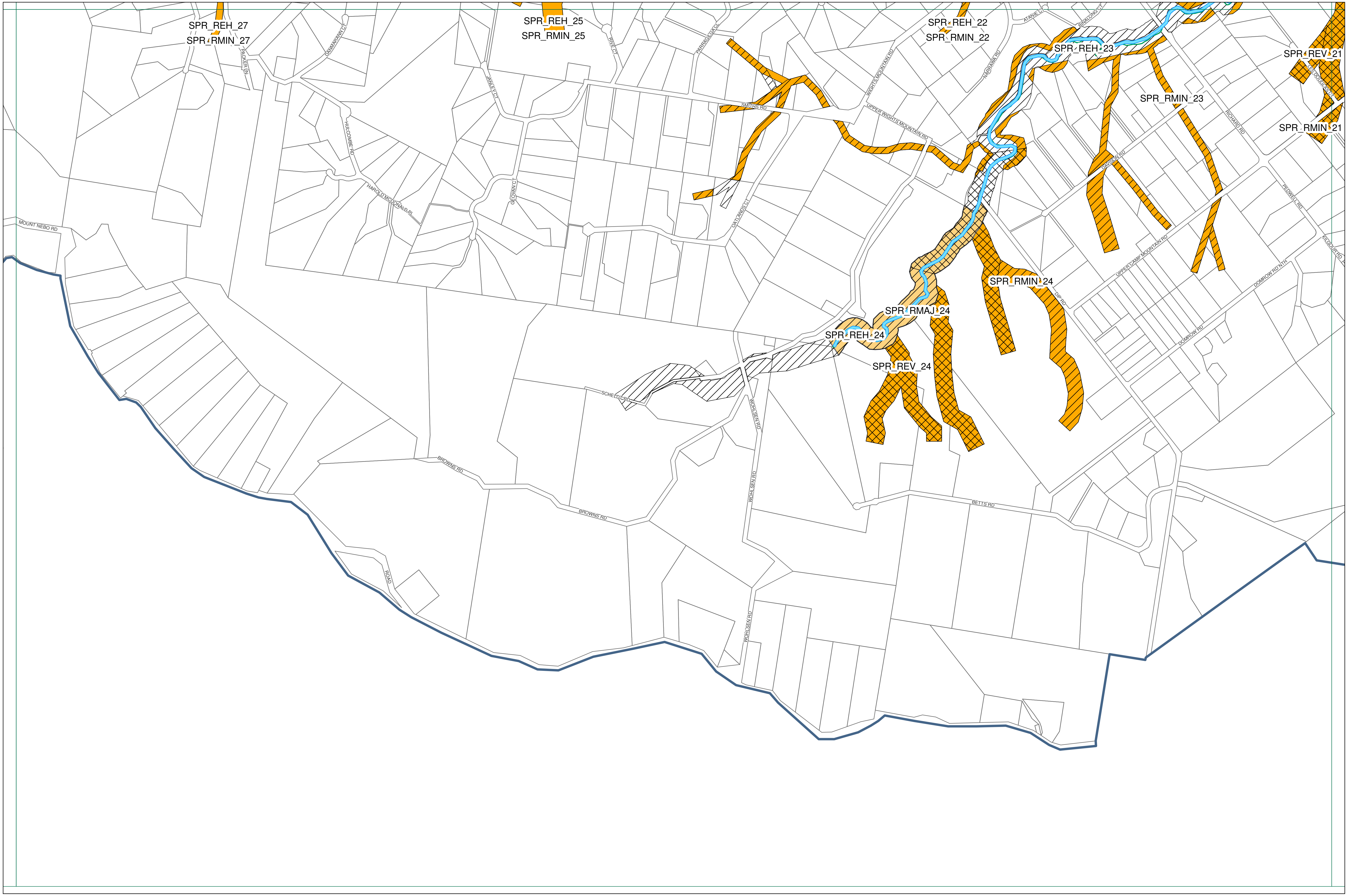
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 19.4



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
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- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

15.3	15.5	15.7	15.9
17.4	17.6	17.8	
19.4	19.6	19.8	

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 19.6

0 62.5 125 250 375 500
Metres

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Future Infrastructure

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- Crossing Upgrade
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- Sediment Trap
- Sedimentation Basin
- Swale
- Trash Rack
- Wetland
- IPA.StreamHealth
- Open Channel Work
- Pipe Drainage
- Rehabilitation
- Revegetation
- RCMA Major
- RCMA Minor
- Acquisition

17.6	17.8
19.6	19.8

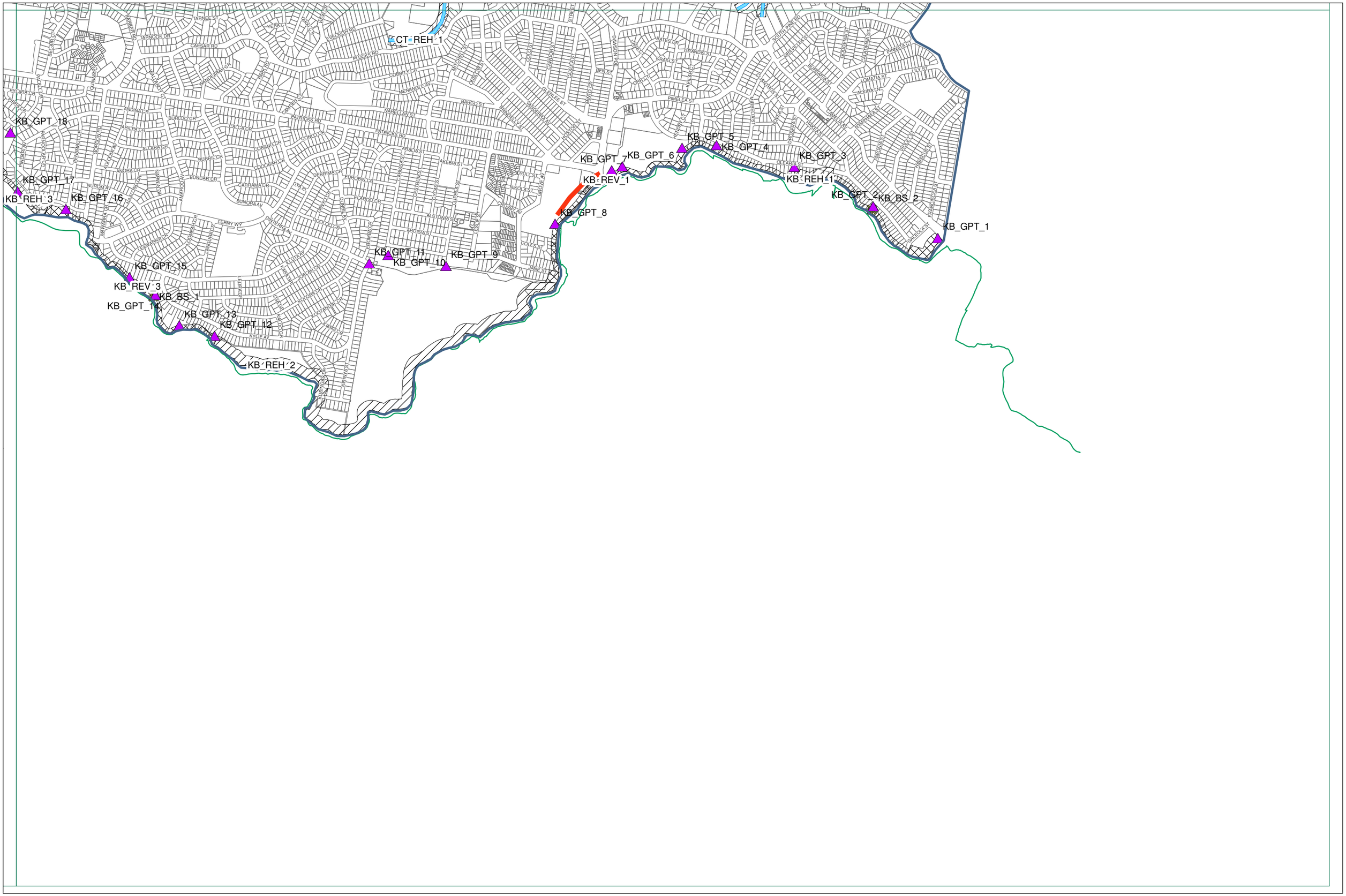
PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 19.8



0 62.5 125 250 375 500

Metres

Future Infrastructure

- Bank Stabilisation
- Crossing Upgrade
- Detention Basin
- GPT
- Sediment Trap
- Sedimentation Basin
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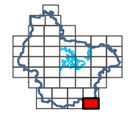
- RCMA Minor
- Acquisition



19.10

PLANNING SCHEME POLICY PSP24

DEVELOPMENT CONTRIBUTIONS FOR TRUNK INFRASTRUCTURE - STORMWATER

Effective from 1 September 2008

STORMWATER NETWORK PLAN FOR TRUNK INFRASTRUCTURE

Map Number 19.10

Schedule E: Desired Standards of Service

The Desired Standards of Service for Stormwater Infrastructure provision under this policy are detailed below in terms of 'Planning Requirements' and 'Design Objectives'. The 'Planning Requirements' and 'Design Objectives' seek to implement the purpose of the *Integrated Planning Act* and satisfy the relevant requirements of the *Environmental Protection Act* as well as the objectives of Council's Corporate Plan. The design objectives are the means by which the planning requirements are achieved.

Planning Requirements

Table E1 - Planning Requirements - Catchments

DESIRED STANDARD OF SERVICE • Corporate Objectives • Legal Responsibility • Community Needs	USER / COMMUNITY BENEFIT • Community & Customer Service • Quality and Safety • Economic Activity Support	ENVIRONMENTAL BENEFIT • Ecological Protection • Ecosystem Rehabilitation
Provide a system of infrastructure and land that allows for the adequate and safe drainage of urban lands to receiving waters.	Minimises risk of inundation of habitable areas	
	Minimises the damage and risk associated with flooding	
	Provides economic use of urban lands	
	Sets safe standards for the road system consistent with traffic movement and access requirements.	
Maximise the retention and enhancement of natural waterways	Maintains or increases recreational opportunities along waterways	Protects the environmental values of waterway systems
		Minimises the impact of development on the ecological health of waterways
		Minimises the impact of development on water quality.
Optimise the use of natural waterways and overland flow paths	Maintains or increases the scenic amenity of waterways	Protects areas of natural riparian vegetation in key habitat areas.
	Reduces the long-term costs of maintaining the waterways corridor.	Provides for faunal movement and migration.
		Reduces the risk of streambank erosion.
Optimise the provision of infrastructure, taking into account the use of Water Sensitive Urban Design techniques.	Provides waterway infrastructure at least life cycle cost.	Improves water quality at the point of discharge.
	Reduces the scale of infrastructure by maintaining existing hydrological parameters, such as flows, flow velocities and patterns.	Controls peak flows and thereby reduces the potential for erosion and sedimentation.
	Improves water quality and waterways health.	
Retention of riparian land in rural areas for stormwater runoff and treatment.	Minimises risk of inundation to habitable areas.	Minimises the impact of rural activities and development on the ecological health of waterways.
	Stabilise adjacent productive land.	Minimises the impact of rural activities and development on water quality.

Provide a system of stormwater infrastructure capable of removing harmful pollutant concentrations and loads	Minimises risk of unsafe stream, river and ocean water for human contact.	Minimises impact of development on stream and receiving environment water quality.
	Provides aesthetic waterway environment.	Maintains aquatic health and stream ecology and bio-diversity.

Table E2 - Planning Requirements - Waterways

DESIRED STANDARD OF SERVICE • Corporate Objectives • Legal Responsibility • Community Needs	USER / COMMUNITY BENEFIT • Community & Customer Service • Quality and Safety • Economic Activity Support	ENVIRONMENTAL BENEFIT • Ecological Protection • Ecosystem Rehabilitation
Conveyance of the design runoff in an allocated waterway corridor. Corridors shall preferably incorporate natural channels and floodplains.	Minimises risk of inundation of habitable areas	Maintains the natural functions of creeks and floodplains.
	Minimises the damage and risk associated with flooding	Reduces environmental damage due to flooding by maintaining the natural functions of floodplains.
	Reduces the cost of flood damage to the community.	
Preserve, wherever appropriate, sufficient buffers from urban development along waterways for ecological links, including fauna movement. Rehabilitate degraded waterway banks and floodplains through planting of native vegetation, erosion treatment measures and natural channel design features.	Meets community expectations regarding waterway access.	Protects environmentally sensitive areas from development.
	Ensures reasonable levels of water quality and turbidity in waterways.	Enhances nature conservation by retaining riparian areas for environmental purposes.
	Retains scenic amenity.	Minimises the impact of development on waterways health.
	Improves recreational opportunities.	Facilitates fauna movement.
Cater for long term morphological processes, such as erosion and sedimentation, by allowing sufficient width within waterway corridors.	Minimises the impact of erosion or sedimentation on private property.	Provides for natural processes of erosion and sedimentation.
	Reduces the need for costly structural treatments of waterway banks.	
Maintain, where possible, the design runoff at existing flow rates using regional detention facilities.	Controls the impact of flow rate increase on downstream landholders.	Minimises the impact of peak flow rate increase on natural waterways.

Table E3 - Planning Requirements - Overland Flow Systems

DESIRED STANDARD OF SERVICE • Corporate Objectives • Legal Responsibility • Community Needs	USER / COMMUNITY BENEFIT • Community & Customer Service • Quality and Safety • Economic Activity Support	ENVIRONMENTAL BENEFIT • Ecological Protection • Ecosystem Rehabilitation
Convey floodwater from the local catchment by a network of underground pipes, natural channels and overland flow paths without adversely impacting on properties or compromising environmental values associated with the flow paths and at an appropriate design runoff rate.	Ensures habitable areas are protected from inundation.	Promotes the protection of environmentally sensitive areas.
Design of the overland flow system to comply with established codes and local authority standards.	Provides an optimal balance of underground pipes, natural channels and overland flow paths in order to achieve economic land use.	Promotes the retention of natural channels or rehabilitation of existing natural flow paths.
Minimise the increase in flow rate utilising local and on-site detention facilities where appropriate.	Minimises adverse impacts from flooding for existing and future developments.	Minimises the impact on the environmental values of downstream waterways by maintaining existing flows and velocities.
	Reduces the size of waterway corridors and underground drainage.	Minimises channel erosion by the reduction of flow velocities.
	Provides active and passive recreation opportunities as appropriate.	
Minimise the discharge of pollutant materials from point and non-point sources.	Minimises the risk of human, animal or ecosystem contact with unsafe or polluted water in streams, rivers or ocean waters.	Minimises impact of development on stream and receiving environment water quality.
	Provides aesthetic waterway environment.	Maintains aquatic health as well as sustainable stream ecology and bio-diversity.

Table E4 - Planning Requirements - Waterway Crossings

DESIRED STANDARD OF SERVICE • Corporate Objectives • Legal Responsibility • Community Needs	USER / COMMUNITY BENEFIT • Community & Customer Service • Quality and Safety • Economic Activity Support	ENVIRONMENTAL BENEFIT • Ecological Protection • Ecosystem Rehabilitation
Design culverts and bridges with appropriate flood immunity and capacity to convey floodwater, taking into account the Council road hierarchy.	Ensures road crossings operate safely in times of inundation.	
	Reduces the risk of flooding for upstream properties.	
Upgraded bridges and culverts must not adversely impact on the natural environment, such as through the loss of vegetation or undesirable impacts on bio-diversity.		Minimises environmental impact.
Bridges and culverts must maintain faunal and recreation links.	Provides opportunities for extended pedestrian and bicycle links.	Maintains ecological linkage.

Design Objectives

Design Criteria shall be as shown in the Tables E5 to E8, unless noted otherwise in Catchment Management Plans/Master Drainage Reports and/or by detail Engineering Analysis. For additional explanation of the Design Criteria, refer to the Pine Rivers Shire Council Stormwater Drainage Design Standards as found in Planning Scheme Policy PSP 28 "*Civil Infrastructure Design*".

Table E5 - Design Objectives - Flooding of Habitable Areas

<table>
<tr><th>DESIGN ISSUE</th><th colspan="4">DESIGN CRITERIA</th></tr>
<tr><td rowspan="15">FLOOD IMMUNITY</td><td colspan="4">MAJOR SYSTEM</td></tr>
<tr><td colspan="3">Zone</td><td>Design ARI (years)</td></tr>
<tr><td colspan="3">All</td><td>100</td></tr>
<tr><td colspan="4">MINOR SYSTEM</td></tr>
<tr><td colspan="3">Zone</td><td>Design ARI (years)</td></tr>
<tr><td colspan="3">Central Business, Commercial, Local Business, Neighbourhood Facilities</td><td>10</td></tr>
<tr><td colspan="3">Service Industry, General Industry, Home Industry</td><td>5</td></tr>
<tr><td colspan="3">Residential B</td><td>5</td></tr>
<tr><td colspan="3">Residential A, Special Residential (Urban), Future Urban</td><td>5</td></tr>
<tr><td colspan="3">Special Residential (non urban), Park Residential, Rural Residential, Rural, Future Rural Living</td><td>5</td></tr>
<tr><td colspan="3">Park and Open Space, Sports and Recreation where length of drain is:</td><td>< 50m – adopt 5
> 50m enhance open watercourse (see Note 3)</td></tr>
<tr><td colspan="4">MAJOR DRAINAGE REQUIREMENTS</td></tr>
<tr><td colspan="2"></td><td colspan="2">Town Planning Zone</td></tr>
<tr><td colspan="2"></td><td>Urban, Rural Residential, Rural Area</td><td>Park Area</td></tr>
<tr><td colspan="2">Minimum requirements</td><td>An overland flow system for runoff in excess of the capacity of the pipe system, such that the design flow is carried through the subdivision or development clear of and with required freeboard to allotments</td><td>Major system flows are contained within the park area.</td></tr>
<tr><td rowspan="4">DEVELOPMENT LEVELS</td><td colspan="2">Zone</td><td>Min. Area within Allotment</td><td>Minimum Development Levels</td></tr>
<tr><td colspan="2">General Industry, Service Industry</td><td>4000 m^2</td><td>Q100 + freeboard</td></tr>
<tr><td colspan="2">Residential A, Residential B, Special Residential, Future Urban, Neighbourhood Facilities, Local Business, Central Business, Home Industry, Commercial</td><td>2000 m^2</td><td>Q100 + freeboard</td></tr>
<tr><td colspan="2">Park Residential, Rural Residential, Rural, Future Rural Living</td><td>1500 m^2</td><td>Q100 + freeboard</td></tr>
<tr><td rowspan="6">MINIMUM FREEBOARD</td><td>Location</td><td colspan="3">Minimum Freeboard</td></tr>
<tr><td>Existing Natural Watercourse</td><td colspan="3">Greater of
750mm; or
- The highest recorded flood level + 750mm – calculated Q100 flood level</td></tr>
<tr><td>Engineered Channels</td><td colspan="3">Greater of
500mm; or
- Flood level in unmaintained channel + 250mm – flood level of maintained channel</td></tr>
<tr><td>Urban Road Drainage</td><td colspan="3">Greater of
250mm; or
- 150mm + difference in level due to blocked catchpits or inlets.</td></tr>
<tr><td>Overland Flowpaths</td><td colspan="3">Greater of
250mm; or
- Flood level in unmaintained flow path + 150mm – flood level of maintained flow path</td></tr>
<tr><td>For Major Storm
(a) Where floor levels of adjacent buildings are above road level</td><td>(i) Total flow contained within road reserve
(ii) Freeboard > 250mm to floor level of adjacent buildings, and with maximum flow depth of 200mm</td><td colspan="2">(i) Total flow contained within road reserve
(ii) Freeboard ≥ 250mm to floor level of adjacent buildings, and with maximum flow depth of 300mm</td></tr>
</table>

	(b) Where floor levels of adjacent buildings are below or less than 300mm above	50mm above top of kerb	50mm above top of kerb
	(i) where 100mm fall on footpath towards kerb;	Top of kerb	Top of kerb
	(ii) where less than 100mm fall on footpath towards kerb;	As determined by Council's Engineer	As determined by Council's Engineer
	(c) other.		

Table E6 - Design Objectives – Roadways

DESIGN ISSUE	DESIGN CRITERIA		
FLOOD IMMUNITY			**Design ARI (years)**
	Major Road	Kerb and Channel Flow	50
		Cross Drainage (Culverts)	50
	Minor Road	Kerb and Channel Flow	Refer to relevant development category (satisfy highest ARI of abutting zones)
		Cross Drainage (Culverts)	10
	Bikeway	Cross Drainage	2
SAFETY	**Roadway Flow Width and Depth Limitation**		
	Major Roads		**Minor Roads**
	Normal situation Parking lane width (usually 2.5m) or breakdown lane width. Where no K&C – the minor storm should be contained in table drain.		(i) for K&C – Full pavement width with zero depth at crown; where no K&C – contained within table drain. (ii) Where one way crossfall, to high side of road pavement but not above top of kerb on low side.
	Where parking lane may be replaced by a through, acceleration, deceleration or turn lane = 1.0m		Where parking lane may be replaced by a through, acceleration, deceleration or turn lane = Not applicable.
	Where road falls towards median = 1.0m		Where road falls towards median = Not applicable.
	Pedestrian crossing or bus stops = 0.45m		Pedestrian crossing or bus stops = 0.45m
	At intersection kern returns (including entrances to shopping centres and other major developments) = 1.0m (3) (4)		At intersection kerb returns (including entrances to shopping centres and other major developments) = 1.0m (3) (4)
	Pedestrian Safety (Major and Minor Storms) a) No obvious danger = $\leq$ 0.6 m^2/s b) Obvious danger = $\leq$ 0.4 m^2/s		Pedestrian Safety (Major and Minor Storms) a) No obvious danger = $\leq$ 0.6 m^2/s b) Obvious danger = $\leq$ 0.4 m^2/s
	Vehicle Safety = $\leq$ 0.6 m^2/s		Vehicle Safety = $\leq$ 0.6 m^2/s

Table E7 - Design Objectives - Detention Areas

DESIGN ISSUE	DESIGN CRITERIA	
FLOOD IMMUNITY	**Design Parameter**	**Criteria**
	ARIs to be investigated for analysis	1, 5, 20 and 100 for critical durations
SAFETY	Depth / ARI	1.2m for 5 year event 1.5m for 20 year event 2.0m for 100 year event
	Structural Stability of outlet	Check under PF. conditions
	Basin Batter Slopes	1V:4H max
	Spillway Embankment Slopes	1V:6H max
	Minimum Spillway Width	3 metres
	Minimum Crossfall	1:100 - Multi Use Detention Basins (Playing Fields, Parks etc)

DESIGN ISSUE	DESIGN CRITERIA	
	Desired Crossfall	1:70 - Multi Use Detention Basins (Playing Fields, Parks etc)
	Max. Crossfall Length	70 metres - Multi Use Detention Basins (Playing Fields, Parks etc)
	Drainage Location	Sited along perimeter - Multi Use Detention Basins (with Single Playing Fields)
	Crown Location	Along longest centreline - Multi Use Detention Basins (with Single Playing Fields)

Table E8 - Design Objectives - Environmental

DESIGN ISSUE	DESIGN CRITERIA
WATERWAY BANK STABILITY	Existing watercourses or drainage features shall be re-vegetated with native species. An investigation into the stability of banks is required to ensure that no allotments will be subject to erosion or landslip. The investigation needs to cover site geology, stream hydraulics, creek morphology, remediation of buffer works
WATERWAY HEALTH	• Receiving Water Quality standards shall be in accordance with the ANZECC standards. • Oil/Grit Separators are to be provided for carparks or hardstand areas of Commercial or Industrial developments where other catchment based water quality treatment devices are not available. • Council standard weir type sediment and trash traps are to be provided on all outlets of stormwater drainage pipes serving catchments greater than 2 hectares. • GPTs designed for the collection and easy removal of sediment and trash are to be provided on the outlets of stormwater drainage systems serving catchments greater than 5 hectares. • All detention basins are to include a low flow water quality treatment facility. The minimum storage time is 24 hours and the maximum storage time is 48 hours. • Water Quality Control Ponds, Lakes and/or Artificial Wetlands are to be provided where a natural drainage feature traverses the development. Generally, these facilities will be applicable to subdivisional developments which are in excess of five (5) hectares or where Council's Engineer determines that the development will have a detrimental effect on the quality of the receiving waters. • Existing watercourses or drainage features shall be re-vegetated with native species in accordance with an approved landscaping plan.

REVIEW TRIGGERS

This policy is reviewed internally for applicability, continuing effect and consistency with related documents and other legislative provisions when any of the following occurs:

(1) The related documents are amended;

(2) The related documents are replaced by new documents;

(3) Amendments which affect the allowable scope and effect of a policy of this nature are made to the head of power; and

(4) Other circumstances as determined from time to time by a resolution of Council.

RESPONSIBILITY

This policy is to be:

(1) implemented by the Manager Development Services; and

(2) reviewed and amended in accordance with the "Review Triggers" by the Manager Strategic Direction in consultation with the Manager Development Services.

VERSION CONTROL

CEO Approval Date

Related Links:

ENDNOTES

Amendment No – 2/2008	Date Adopted – 19 August 2008	Effective Date – 1 September 2008

Planning Scheme Policy Reference	Description of Amendment
PSP 24	▪ To reflect updated network planning ▪ Update infrastructure contribution rates ▪ Incorporate additional material, for example, desired standards of service ▪ Re-wording and restructuring of the document to improve readability