Planning Scheme Policies

1.0 Planning Scheme Policy 1/07 - Engineering Requirements for Development Applications

1.1 Intent

The intent of this policy is to clarify the local government's engineering requirements with regard to development applications made under the planning scheme.

1.2 Scope

This policy applies to development applications within the planning scheme.

1.3 Provisions

The policy "Engineering Requirements for Development Applications" clarifies the local government's intent and application of the provision of:

(i) Construction security over matters relating to outstanding works both internal and external prior to the endorsement of a survey plan; and

(ii) Maintenance securities required against the integrity of construction works associated with a Development Permit.

1.3.1 Definitions

"Security" - a cash bond or unconditional guarantee from an Accredited Financial Institution;

"local government"- Isis Shire Council

"Applicant" - The entity described as the applicant on the development application form.

"Construction Security" - Security provided to the local government for the cost of construction works applicable to the value of the works to be undertaken occurring at the time the security is taken.

"Maintenance Security" - Security provided to the local government as a guarantee for the integrity of the works completed as required by the development permit.

"On-maintenance" – The acceptance by Council that the operational works are substantially complete and able to be used for their intended purpose, and therefore commencement of the maintenance period.

"Tender Value" – Shall be the actual tender value where tenders were invited from at least three construction firms, otherwise a construction value agreed by Council.

1.3.2 PROVISIONS

(i) Prior to the commencement of any construction work associated with a development approval, the Applicant shall lodge detailed Engineering Plans and Specifications with the local government for approval. The Engineering Plans and Specifications shall be certified by a Registered Professional Engineer of Queensland and shall include, where applicable, but not be limited to, details for:

(a) External Works;

(b) Roadworks;

(c) Storm water drainage;

(d) Water supply works;

(e) Sewerage works; and

(f) Electricity supply.

(ii) Prior to the sealing of a survey plan and/or acceptance 'on-maintenance' of any operational/construction works associated with a development approval, the Applicant shall lodge with the local government a Maintenance Security in the form of a cash bond or unconditional guarantee from an Accredited Financial Institution. The value of the Maintenance Security shall be 10% of the tendered price to conduct the works for works less than $200,000, 7.5% for works between $200,000 and $500,000 and 5% for works greater than $500,000, or as otherwise approved by the local government.

The relevant plan of survey must be given to the local government for its approval before the end of its currency period for the permit.

1. The local government must approve the survey plan if:

   (i) The conditions of the development permit have been complied with; and

   (ii) There are no outstanding rates or charges levied by the local Government or expenses that are a charge over the land under any Act; and

   (iii) The plan is prepared in accordance with the development permit.

2. Alternatively, the local government may approve the survey plan if:

   (i) Satisfactory security is given to the local Government to ensure compliance with the requirements of sub-section 1(i) to (iii); and

   (ii) The plan is prepared in accordance with the development permit; and

   (iii) Satisfactory evidence can be provided that the outstanding works will be completed within 3 months of the date of the signing of the plan of survey.

Satisfactory security for the purposes of sub-section 2(i) shall consist of a construction security and a seprate maintenance security. A Construction Security shall be lodged with the local government in the form of a cash bond or unconditional bank guarantee from an Accredited Financial Institution to the value of the outstanding construction cost of the works, plus a

contingency loading equivalent to 10% of the outstanding price to conduct the works for works less than $200,000, 7.5% for works between $200,000 and $500,000 and 5% for works greater than $500,000, or as otherwise approved by the local government. The value of this Maintenance Security shall be equivalent to the original Maintenance Security.

(iii) The local government shall apply a Maintenance Period of two (2) years to a development in its entirety. During the maintenance period, the applicant will remain liable for:

(a) The repair and rectification of any defects or damages within the constructed works;

(b) The re-design and reconstruction of any works that have failed to perform in accordance with the design intent;

(c) The rectification of any omissions in the design drawings that are necessary for compliance with the conditions of the development, or the local government's Local Laws and Policies current at the time of submission of the Engineering Plans and Specifications; and

(d) The maintenance of the works to a standard acceptable to the local government.

Notes

The local government's maintenance period is not to be confused with the defects liability period applicable to contractors as identified in the General Conditions of Contract. The local government's requirements relate directly to the Applicant referred to in the development application form lodged with the local government and not the Contractor;

The reconstruction of works carried out to rectify either a construction defect or the failure of the works to perform in accordance with the design intent, may be subject to a further Maintenance Period of up to two (2) years as determined by the local government.

(iv) If during the Maintenance Period the applicant should fail to:

(a) Repair or rectify a defect or damage to the works;

(b) Redesign or reconstruct any works which does not perform in accordance with the design intent;

(c) Rectify any omissions in the design drawings; or

(d) Maintain the works to a standard suitable to the local government;

Within twenty one (21) days of the first occurrence of the defect, damage, non-performance, omission or the need for maintenance, the local government may call upon the bond or unconditional guarantee without notice, for the local government to carry out the necessary rectification works.

(v) The Maintenance Period will be invoked by local government following the completion of all works, a site inspection by the local government's engineer and the submission to the local government of the following information:

(a) Appropriate test and level data;

(b) Certificate of conformance to all plans, specifications and conditions signed by a Registered Professional Engineer of Queensland; and

(c) "As constructed" drawings of the development certified by a Registered Professional Engineer of Queensland.

(vi) At the expiry of the Maintenance Period, the applicant shall submit a certified statement from a Registered Professional Engineer of Queensland stating that the development is in a satisfactory condition and is still in accordance with the plans, specifications and conditions. Upon receipt of this certified statement and any necessary inspection fees, the local government shall surrender to the applicant any remaining cash or bank guarantee Maintenance Security, following the deduction of any maintenance costs incurred by the local government. Inspection fees shall be in accordance with the local government's Schedule of Miscellaneous Fees and Charges or as otherwise determined by the local government.

2.0 Planning Scheme Policy 2/07 - Public Open Space Contributions

2.1 Intent

The intent of this policy is to ensure that public open space (park) is provided in an efficient and cost effective manner which facilitates future maintenance.

2.2 Scope

This policy applies to assessable development under the planning scheme for reconfiguring a lot.

2.3 Provisions

Park contributions required by the local government shall be provided in accordance with the provisions of this Planning Scheme Policy.

Where the Reconfiguring a Lot Code requires an area of land to be provided for use as park, the land to be provided as park shall not be:

(i) Less than 10% of the total site area to be subdivided;

(ii) Lower in level than the flood level resulting from the runoff of a one in two year (Q2) storm calculated in a manner considered satisfactory to the local government's engineer;

(iii) A proposed street;

(iv) An easement for drainage purposes;

(v) An easement for any purpose, unless in the local government's opinion the area of part of the area covered by the easement is suitable for use a public garden or recreation space;

Land provided to the local government under this section shall:

(i) Be readily accessible to the public and must in the local government's opinion be so located and of such area and dimensions and topography as to be suitable for the purpose for which it is likely to be used;

(ii) Be suitable for mowing, if required by the local government;

(iii) Unless specifically stated otherwise as a condition of reconfiguring a lot approval, be dedicated in total at the first stage of subdivision.

2.4 General Requirements

(i) In all cases where the land to be reconfigured includes or adjoins sea foreshores, watercourses, creeks or rivers or any other such body of water or tidal system as the local government may determine, the local government may require provision to be made for the dedication of park beside such watercourses or water bodies as mentioned above which may be adjacent to, pass through or are included in the land proposed to be reconfigured.

(ii) All costs, charges and expenses whatsoever connected with or incidental to the transfer of land for public garden and recreation space shall be paid by the applicant.

(iii) Where the local government considers that an area of land need not be provided, or where the local government considers that land designated on the proposal plan is not acceptable land suitable for a park contribution, then the local government may require the applicant to pay the local government an equivalent monetary contribution per additional allotment proposed in the reconfiguring a lot plan.

The amount of the contribution per additional allotment for land shall be:

- $3,000 for the locality of Woodgate; and
- $2,000 elsewhere in the Shire of Isis.

Notwithstanding this, the applicant is not required to pay a contribution for allotments dedicated as access restriction strips, drainage reserves, community purposes or any other allotment to be transferred into the local government's ownership.

2.5 Implementation

(i) Any monetary contribution for each allotment shall be paid to the local government in cash at the time of lodgement of the plan of reconfiguring a lot for that allotment, for the endorsement of the local government's consent and seal.

(ii) In the circumstances the local government has required works to be undertaken, the works undertaken in lieu of other contributions shall be completed in association with other development works as may be required by conditions of approval, provided that all such works shall be completed or otherwise bonded to the satisfaction of the local government before the endorsement and release of the plan or survey.

(iii) Any sum so paid to the local government shall be expended in the manner and the time specified in the Act.

3.0 Planning Scheme Policy 3/07 - Contributions towards Water Supply and Sewerage Services

This resolution adopts the Policy for Contributions towards Water Supply and Sewerage Services and enables contributions to be required from developers towards the provisions of these services.

3.1 Introduction

This policy is formulated in accordance with Section 6.1.20 (2) of the Integrated Planning Act 1997 which provides for contributions by developers towards the provision of water supply and sewerage works. It is intended that the policy shall result in reasonable and relevant conditions being applied, in that the developer shall be required to pay the cost or make a contribution towards the cost based on the costs incurred or to be incurred for the provision of water supply and sewerage services for the particular development.

3.2 Definitions

The definitions of terms used in this policy are set out below:

Act- Integrated Planning Act 1997.

"Sewerage headworks" means those works, structures or equipment determined by the local government to be sewerage headworks, and listed in Appendix 2;

"Sewerage works external" means all works, structures or equipment for the purpose of connecting land to the local government's sewerage scheme: The term does not include sewerage headworks, or sewerage works internal;

"Water supply headworks" means those works, structures or equipment determined by the local government to be water supply headworks, and listed in Appendix 1;

"Water supply works external" means all works, structures or equipment for the purpose of connecting land to the local government's water supply scheme: The term does not include water supply headworks, or water supply works internal;

"Development" as defined under the Integrated Planning Act 1997.

3.3 General Policy

(i) The local government's general policy is that in respect of the Development the applicant is required to make a contribution to the local government, on a fair and equitable basis which will allow the applicant to utilise part of the reserve capacity which is available or the additional capacity which shall be made available in the headworks and/or works external for either the water supply or sewerage scheme in a Defined Water Supply Area or Defined Sewer Area or Areas sewered by connection from existing using mains for water.

(ii) Where the relevant land is the only land that will be serviced by the water supply and/or sewerage headworks and/or works external, the local government may require the applicant to pay the full cost of providing headworks or works external,

Where the relevant land and other land will be serviced by the water supply and/or sewerage headworks and/or works external, the local government may require the applicant to contribute towards the cost of providing headworks or works external.

(iii) It should be realised that the contributions will not always be sufficient to permit the necessary augmentation work to be carried out immediately and that the augmentation of headworks and works external can only be undertaken in well planned staged increments which bear a relationship to the design capacities of each component of the system.

(iv) Where an agreement is required to carry out works, the monies lodged with the local government for the purposes of headworks and works external augmentation will be separately identified in local government accounts and applied to the purpose for which they are lodged in accordance with the development of the works required.

(v) Where no agreement is required, monies lodged with the local government will be held in reserve for future non-specific augmentation.

(vi) The contributions shall be based upon the current construction costs of the relevant headworks and works external services.

3.4 Payment Of Contributions

(i) It is the intent of this policy that headworks and works external contributions shall henceforth be imposed on all Development applications where there will be an increase in the demand for the water and sewerage services on the land and where no such appropriate contributions have been received in respect of that land, and where the local government sets a condition that the land be connected to those services.

In those cases where a further application is received relating to the use of the same land and the appropriate contributions shall be levied unless in the opinion of the local government the subsequent application will entail an increase in demand on headworks and/or works external over and above that envisaged at the time of the original application. Monies paid at the time of the original application shall not be refundable where the further application may result in a decrease in demand.

(ii) Payment of costs or a contribution towards the cost of water supply and sewerage headworks, water supply and sewerage works external or water supply and sewerage works internal, shall be made to the local government in accordance with the Act or at such other time as may be agreed to between the local government and the applicant. At the time of granting approval to the application the local government may require the applicant to lodge and maintain an approved security that he will pay the cash contribution within the prescribed time.

(iii) For Development the applicant shall provide security in a form acceptable to the local government for headworks and/or headworks external contributions and such security shall be lodged with the local government at a time as required by the local government. The security shall be converted to cash within fourteen (14) days after the date of the granting by the local government of approval for building work pursuant to the Act associated with the Development in question. This fourteen (14) day period for the conversion to cash can be extended by the local government.

Where no building work is associated with the Development in question within fourteen (14) days after the approval of the Development or such longer period or periods as may be determined by the local government.

(iv) For subdivision applications (reconfiguration of a lot) payment of headworks or works external contributions shall be required within fourteen (14) days after the date of receipt by the local government of notification by the applicant of his intention to commence works associated with the subdivision of land or at such time as may be agreed. The applicant is required to give the local government not less than fourteen (14) days notice of his intention to commence work.

(v) For Development application other than the reconfiguration of a lot payment of headworks contributions shall be required within fourteen (14) days after the approval of carrying out of building work associated with the Development the subject of the application or such longer period or periods as may be agreed upon between the local government and the applicant; or

Where no building work is associated with the proposed Development, within fourteen (14) days after the date of receipt by the applicant of notification of the approval by the local government of the application or such longer period or periods as may be agreed upon between the local government and the applicant.

(vi) The applicant may be required to pay a headworks charge as calculated in accordance with the policy and provide all water supply works external and internal and sewerage works external and internal where these works are not identified in Appendix 2. The applicant may be required to provide security for the headworks and water supply works external, sewerage works external, water supply works internal and sewerage works internal.

(vii) Where an application for Development is approved subject to the condition that the applicant is to undertake water and/or sewerage external or external works or pay to the local government the costs of sewerage works external, sewerage works internal, water works external, water works internal or a contribution towards the costs of water supply and sewerage headworks, water supply and sewerage works external or water supply and sewerage works internal an agreement shall be entered into between the applicant and the local government (if the local government deems it necessary) setting forth the following:

(a) The nature, and timing extent of the works for which payment is to be made (including a general specification thereto) to local government;

(b) All sums that the applicant is required to pay to the local government;

(c) The time within which the sum shall be paid;

(d) The amount and nature of any security required to be lodged;

(e) The date on or before which the local government or the Applicant shall commence the works;

(f) The date on or before which such works shall be completed by the local government or Applicant;

(g) The land to which the works or charge applies; and

(h) The nature extent and timing of works to be undertaken by the Applicant.

The agreement shall be an agreement for the purpose of Section 5.2.1 of the Act.

In the case where an agreement is required, no monies shall be paid to or accepted by the local government until the agreement in writing has been made. Receipts and expenditures of such sums received by the local government under each agreement entered into shall be recorded separately and distinctly.

Upon written application and where a fee has been set by the local government, and upon payment of the appropriate fee, the local government will advise the applicant whether headworks contributions have been previously paid in respect to a designated parcel of land or the Development thereon, and the extent to which such prior contribution has satisfied the headworks contributions applicable under this policy.

3.5 Headworks Contributions

(i) For water supply, headworks contributions are a contribution towards the following facilities, where applicable:

(a) Water supply catchments and storage structures le.g. dams);

(b) Inlet structures;

(c) Raw water pumping stations le.g. bores);

(d) Water treatment facilities;

(e) Service reservoirs;

(f) Rising mains to supply side of elevated reservoirs;

(g) Elevated Reservoirs;

(h) Land Purchase;

(i) Distribution and Trunk Water Mains;

(j) Booster Stations within the Distribution System;

(k) Any other facilities referred to in Appendix 1.

(ii) For sewerage, headworks contributions are a contribution towards the following facilities, where applicable:

(a) Sewerage Treatment works;

(b) Effluent Disposal System;

(c) Land Purchase;

(d) Tank and Main Sewers;

(e) Sewage Pumping Stations;

(f) Pressure Mains;

(g) Any other facilities referred to in Appendix 2.

(iii) Where there is an existing scheme (water or sewerage) with sufficient reserve capacity where augmentation is not necessary and/or planned, the defined headworks are the existing headworks.

(iv) Where an existing scheme (water or sewerage) is at or near capacity and an appropriate augmentation has been planned, headworks shall be existing and

future works as defined in the corresponding planning report relating to the augmentation.

(v) Where no scheme (water or sewerage) exists and an appropriate scheme has been planned, headworks shall be the future works as defined in the corresponding planning report relating to the planned scheme. Headworks items may be amended in terms of size and design based upon detail design.

(vi) Where no scheme exists and there is no scheme planned at the time of application, the headworks contributions (charge) shall be determined individually for each application, based on a feasible scheme of headworks designed expressly for the purpose; the amount of contribution to be in proportion to the applicant's share of the total design capacity of the headworks. This contribution shall be a charge pursuant to Section 5.1.7 of the Act.

(vii) Future works and/or planned augmentations shall be reviewed and if required amended annually or at such other intervals as deemed necessary by the local government.

3.6 Determination Of Headworks Contributions

(i) The method of determining headworks contributions shall be based on the charge in the equivalent populations which would result from the local government approving an application for Development. The equivalent population increases shall be the actual number of equivalent persons where this can be ascertained otherwise they shall be calculated using the information supplied in Appendix 3 and 4.

(ii) Contributions for headworks relate to applications for Development.

Contributions for headworks shall be determined for each application as follows:

(a) Water

Water Supply Headworks Contribution Hw = Ew x Cw

and Ew = (P2 x W2) - (P1 x W1)

Where

Ew = change in equivalent population for water demand

P1 = population before the application

P2 = population after the application

W1 = water consumption factor applicable to P1 as detailed in Appendices 3 or 4

Cw = unit contribution per head as determined in Appendix 1

W2 = Water consumption factor applicable to P2 as detailed in Appendices 3 or 4.

(b) Sewerage

Sewerage Headworks Contribution Hs = Es x Cs

and Es = (P2 x S2) - (P1 x S1)

Where

Es = change in equivalent population for sewage generation

P1 = population before the application

P2 = population after the application

S1 = sewage generation factor applicable to P1 as detailed in Appendices 3 or 4

Cs = Unit contribution per head as determined in Appendix 2

S2 = Sewerage generation factor applicable to P2 as detailed in Appendices 3 or 4.

(iii) Cost Escalation

The contribution as calculated above shall be adjusted in line with consumer price index (CPI) fluctuations. For the purposes of adjustment, Council will use the All Groups Index Numbers for Brisbane as determined by the Australian Bureau of Statistics.

(iv) Unit contributions per head for sewerage headworks shall be a uniform rate per equivalent persons applicable throughout each separable sewerage catchment, notwithstanding that several catchments may compromise a sewerage scheme.

(v) Unit contributions per head for water supply headworks shall be a uniform rate per equivalent person applicable throughout the whole of each separate water supply scheme.

(vi) For a particular application, if specific headworks items are not required to service the land, the local government may allow these particular items to be omitted from the Unit Contribution calculations as detailed in Appendices 1 and 2.

(vii) In exceptional circumstances (at the discretion of the local government) where the local government wishes to encourage either a specific development considered to have extraordinary benefit to the community as a whole or development to a particular area, then the local government may decide to set the quantum of the Unit Calculations at some lesser arbitrary percentage.

3.7 Works External Contributions

(i) Definition

Works External Contributions shall be the immediate cost incurred or to be incurred by the local government in providing the appropriate works external where the relevant land is the only land that will be serviced by the works, or a contribution towards the cost, where the relevant land and other land will be serviced by the works. In designing external works and internal works design and for other infrastructure requirements in the defined areas shall be taken.

(ii) Applicability

Works External Contributions shall be applied to applications for Development.

(iii) Determination of Works External Contribution

Where an application for Development relates to land excluded from the defined water and/or sewerage area, and where the local government sets a condition that the land be connected to those services, the Works External Contribution shall be the cost of connecting the land/development to those services at the point or connection stipulated by the local government,

The works external may include, inter alia: - Work immediately necessary to connect to the water and sewerage system external to the development and this may include mains, pump stations, rising mains to provide the level of service appropriate to the Development as required by Statute and/or the Local Authority and local government guidelines and/or standards.

3.8 Works Internal

(i) Application of Policy

Where an applicant seeks to reconfigure a lot, and the local government provides a water supply and/or sewerage and requests the land to be connected to those systems and for the water and/or sewerage to be reticulated to lots within that reconfiguration the applicant shall design, detail and construct the necessary works internal to engineering standards defined by the local government and in accordance with detailed engineering plans which have been approved by the local government prior to the commencement of constructions. The applicant may engage the local government to carry out the works and enter into an agreement if required. The whole of the cost of works internal including, inter alia, mains and fittings, pump stations, rising mains, shall be met by the applicant seeking to subdivide the land.

3.9 Appendices

Attached to this schedule are appendices 1-5.

Appendix 1	Water Supply Headworks - Summary of Works
Appendix 2	Sewerage Headworks - Summary of Works
Appendix 3	Water Supply and Sewerage Population Densities and Water Consumption Factors for "Self Assessable" uses in Town Planning Zones
Appendix 4	Water Supply and Sewerage Design Population for Particular Developments

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Appendix 1 - Water Supply Headworks - Summary of Works

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WATER SUPPLY HEADWORKS

SUMMARY OF WORKS

Appendix 1A

Item No	Description	Existing Works		Planned Works		Total Works		
		July-02 Costs	Design EP	July-02 Costs	Design EP	July-02 Costs	Design EP	July-02 Cost/EP
CHILDERS								
	Water Treatment Plant							
	Weir	1262856	5200			1262856	5949	212.28
	Acquire 500ML Water Allocation	320000	+ 480	180000	+ 270	500000	5949	84.05
	Intake Works & Pump Station	107400	5949			107400	5949	18.05
	Water Treatment Works	857000	4500	255000	5949	1112000	5949	186.92
	Telemetry System			240000	5949	240000	5949	40.34
	Access Roads at WTP	190000	5949			190000	5949	31.94
	Clear Water Storages	175000	4500	160000	5949	335000	5949	56.31
	Childers Treated Water Pumps	87800	3344			87800	3344	26.26
	Risisng Mains							
	- WTP to Forest Ridge	1848961	3344			1848961.1	3344	552.92
	- Forest Ridge to Mahogany Park	313809	2927			313808.89	2927	107.21
	- Mahogany Park to Booster Pump Station	688040	2592			688040	2592	265.45
	- Booster to Childers Storage	476991	2592			476991	2592	184.02
	- Childers Service Storage to Elevated Storage	160669	2592			160669	2592	61.99
	Storages							
	@ Booster Pump Station	13200	2592			13200	2592	5.09
	Childers Service Storage	495413	2592	400000		895413	2592	345.45
	Childers Elevated Storage	624000	2592			624000	2592	240.74
	Pump Stations							
	In line Booster			120000		120000	3344	35.89
	@ Booster	100350	2557			100350	2557	39.25
	@ Childers Service Storage	100350	2557			100350	2557	39.25
	Trunk Mains							
	Elevated Storage to Churchill St	5427						
	Churchill St (Stewart - McIlwraith)	56079	2557			126546	2557	49.49
	Goodwood Rd (Hwy - Browns Rd)	65040						
	Pizzey St Upgrade			32741				
	North St (Churchill - Mugomery)			129014		282320	2557	110.41
	Churchill St (western end)			92615				
	Ridgway St			27950				
					CHILDERS WATER Total Cost/EP			**$ 2,693.30**

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WATER SUPPLY HEADWORKS

SUMMARY OF WORKS

Appendix 1B

Item No	Description	Existing Works		Planned Works		Total Works		
		July-02 Costs	Design EP	July-02 Costs	Design EP	July-02 Costs	Design EP	July-02 Cost/EP
WOODGATE								
	Water Treatment Plant							
	Weir	1262856	5200			1262856	5949	212.28
	Acquire 500ML Water Allocation	320000	+ 480	180000	+ 270	500000	5949	84.05
	Intake Works & Pump Station	107400	5949			107400	5949	18.05
	Water Treatment Works	857000	4500	255000	5949	1112000	5949	186.92
	Telemetry System			240000	5949	240000	5949	40.34
	Access Roads at WTP	190000	5949			190000	5949	31.94
	Clear Water Storages	175000	4500	160000	5949	335000	5949	56.31
	Woodgate Treated Water Pumps	54000	2605			54000	2605	20.73
	Risisng Mains							
	- WTP to Service Storage	1135034	2605			1135034	2605	435.71
	Storages							
	Woodgate Service Storages	827214	2605			827214	2605	317.55
	Elevated Storage	163200	1389			163200	1389	117.49
	Pump Stations							
	@ Woodgate Service Storages	88350	1500	20000	2605	108350	2605	41.59
	Standby Generator	30000	2605			30000	2605	11.52
	Trunk Mains							
	Service Storage to Elevated Storage	247591	1571	200000	934			
	Service Storage to Second Ave (300mm)	115500						
						988802	2605	379.58
	Elevated Storage to Mackeral St	211051	1258					
	Emporer St to Walkers Point Rd	84873			1256			
	Frizzells Rd	64165	2864					
	Lorikeet Ave to Sea View Dr	65622	2064					
					WOODGATE WATER Total Cost/EP			**$ 1,954.07**

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WATER SUPPLY HEADWORKS

SUMMARY OF WORKS

Appendix 1C

Item No	Description	Existing Works		Planned Works		Total Works		
		July-02 Costs	Design EP	July-02 Costs	Design EP	July-02 Costs	Design EP	July-02 Cost/EP
FOREST RIDGE								
	Water Treatment Plant							
	Weir	1262856	5200			1262856	5949	212.28
	Acquire 500ML Water Allocation	320000	+ 480	180000	+ 270	500000	5949	84.05
	Intake Works & Pump Station	107400	5949			107400	5949	18.05
	Water Treatment Works	857000	4500	255000	5949	1112000	5949	186.92
	Telemetry System			240000	5949	240000	5949	40.34
	Access Roads at WTP	190000	5949			190000	5949	31.94
	Clear Water Storages	175000	4500	160000	5949	335000	5949	56.31
	Childers Treated Water Pumps	87800	3344			87800	3344	26.26
	Risisng Mains							
	- WTP to Forest Ridge	1848961	3344			1848961	3344	552.92
	Storages							
	@ Forest Ridge	232641	300	45000	+ 117	277641	417	665.81
	Pump Stations							
	In line Booster			120000		120000	3344	35.89
	Forest Ridge	59700	417			59700	417	143.17
	Standby generator			25000	417	25000	417	59.95
	Trunk Mains							
	Mullers Rd	29498	212	65475		94973	417	227.75
						FOREST RIDGE WATER Total Cost/EP		**$ 2,341.63**

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WATER SUPPLY HEADWORKS

SUMMARY OF WORKS

Appendix 1D

Item No	Description	Existing Works		Planned Works		Total Works		
		July-02 Costs	Design EP	July-02 Costs	Design EP	July-02 Costs	Design EP	July-02 Cost/EP
MAHOGANY PARK								
	Water Treatment Plant							
	Weir	1262856	5200			1262856	5949	212.28
	Acquire 500ML Water Allocation	320000	+ 480	180000	+ 270	500000	5949	84.05
	Intake Works & Pump Station	107400	5949			107400	5949	18.05
	Water Treatment Works	857000	4500	255000	5949	1112000	5949	186.92
	Telemetry System			240000	5949	240000	5949	40.34
	Access Roads at WTP	190000	5949			190000	5949	31.94
	Clear Water Storages	175000	4500	160000	5949	335000	5949	56.31
	Childers Treated Water Pumps	87800	3344			87800	3344	26.26
	Risisng Mains							
	- WTP to Forest Ridge	1848961	3344			1848961	3344	552.92
	-Forest Ridge to Mahogany Park	313809	2927			313808.9	2927	107.21
	Childers RM to Storage			20000	775	20000	775	25.81
	Storages							
	Land Acquisition			40000	775	40000	775	51.61
	@ Mahogany Park			62000	335	62000	335	185.07
	Pump Stations							
	In line Booster			120000		120000	3344	35.89
	@ Mahogany Park Storage			125000	335	125000	335	373.13
	Standby Generator			25000	335	25000	335	74.63
	Trunk Mains							
	from Storage to Knockroe Rd							
	along Knockroe Rd			540000	775	540000	775	104.48
	along Goodwood Rd							
	Storage to Goodwood Rd (east)							
					MAHOGANY PARK WATER Total Cost/EP			**$ 2,166.90**

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WATER SUPPLY HEADWORKS

SUMMARY OF WORKS

Appendix 1E

Item No	Description	Existing Works		Planned Works		Total Works		
		July-02 Costs	Design EP	July-02 Costs	Design EP	July-02 Costs	Design EP	July-02 Cost/EP
RISING MAIN								
	Water Treatment Plant							
	Weir	1262856	5200			1262856	5949	212.28
	Acquire 500ML Water Allocation	320000	+ 480	180000	+ 270	500000	5949	84.05
	Intake Works & Pump Station	107400	5949			107400	5949	18.05
	Water Treatment Works	857000	4500	255000	5949	1112000	5949	186.92
	Telemetry System			240000	5949	240000	5949	40.34
	Access Roads at WTP	190000	5949			190000	5949	31.94
	Clear Water Storages	175000	4500	160000	5949	335000	5949	56.31
	Childers Treated Water Pumps	87800	3344			87800	3344	26.26
	Risisng Mains							
	- WTP to Forest Ridge	1848961	3344			1848961	3344	552.92
	- Forest Ridge to Mahogany Park	313809	2927			313808.9	2927	107.21
	- Mahogany Park to Booster Pump Station	688040	2592			688040	2592	265.45
	- Booster to Childers Storage	476991	2592			476991	2592	184.02
	Storages							
	@ Booster Pump Station	13200	2592			13200	2592	5.09
	Childers Service Storage	495413	2592	400000		895413	2592	345.45
	Pump Stations							
	In line Booster			120000		120000	3344	35.89
	@ Booster	100350	2557			100350	2557	39.25
	Trunk Mains							
					CHILDERS WATER Total Cost/EP			**$ 2,191.43**

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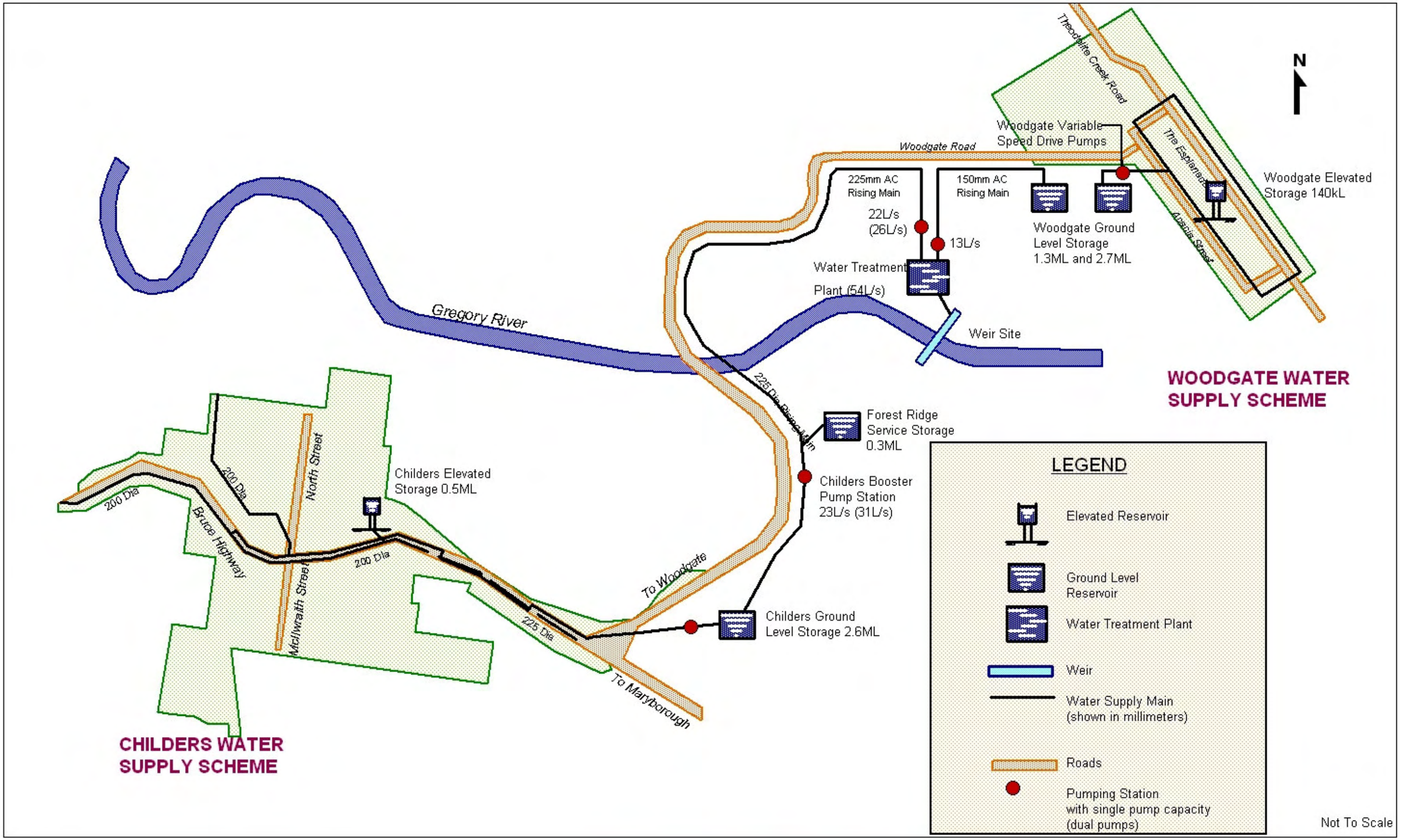

ISIS SHIRE COUNCIL
WATER SUPPLY SCHEMATIC
DECEMBER 1997

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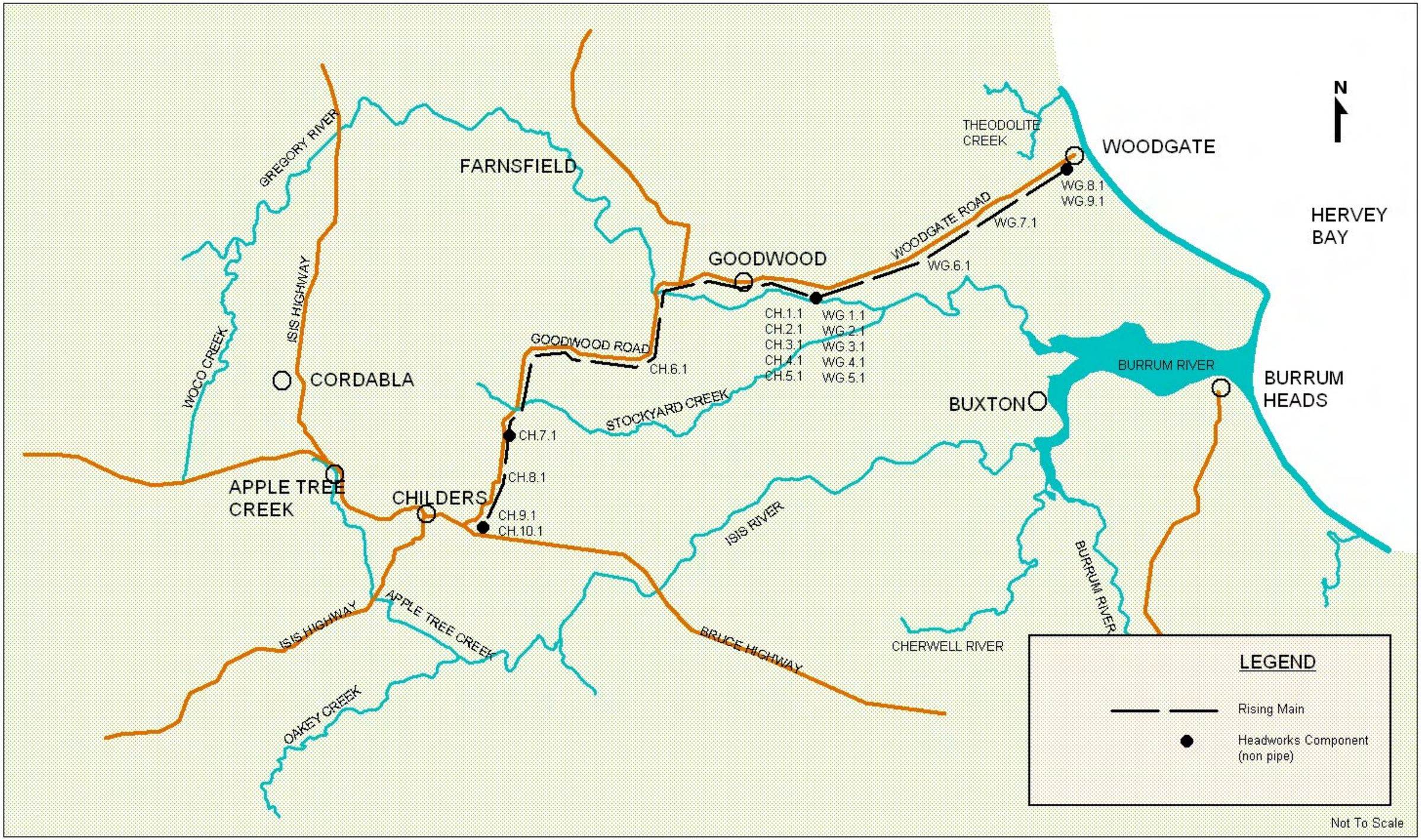

ISIS SHIRE COUNCIL
WATER SUPPLY HEADWORKS
CHILDERS AND WOODGATE - SHEET 1 **2900/03-85-7**

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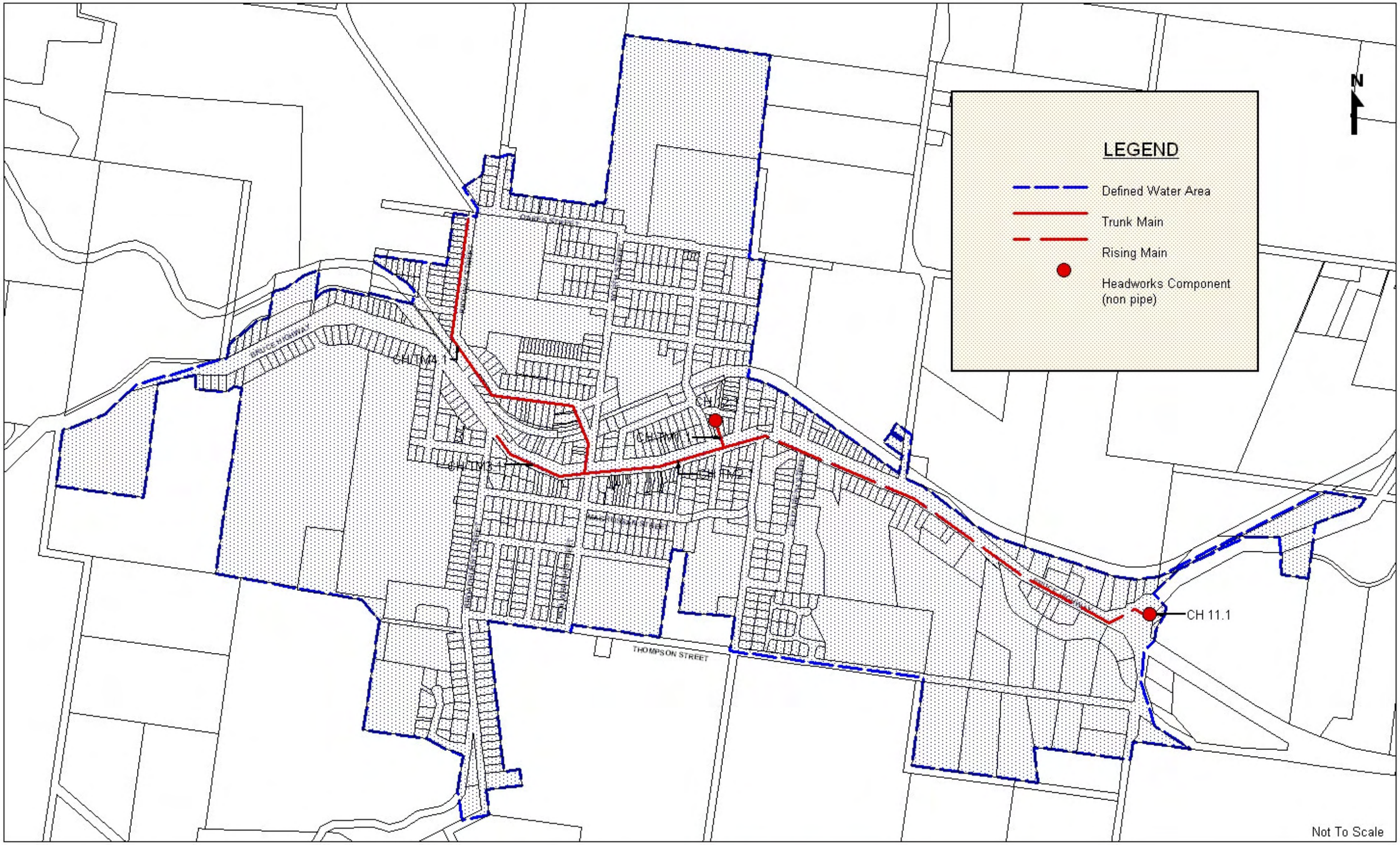

ISIS SHIRE COUNCIL
WATER SUPPLY HEADWORKS
CHILDERS - SHEET 1

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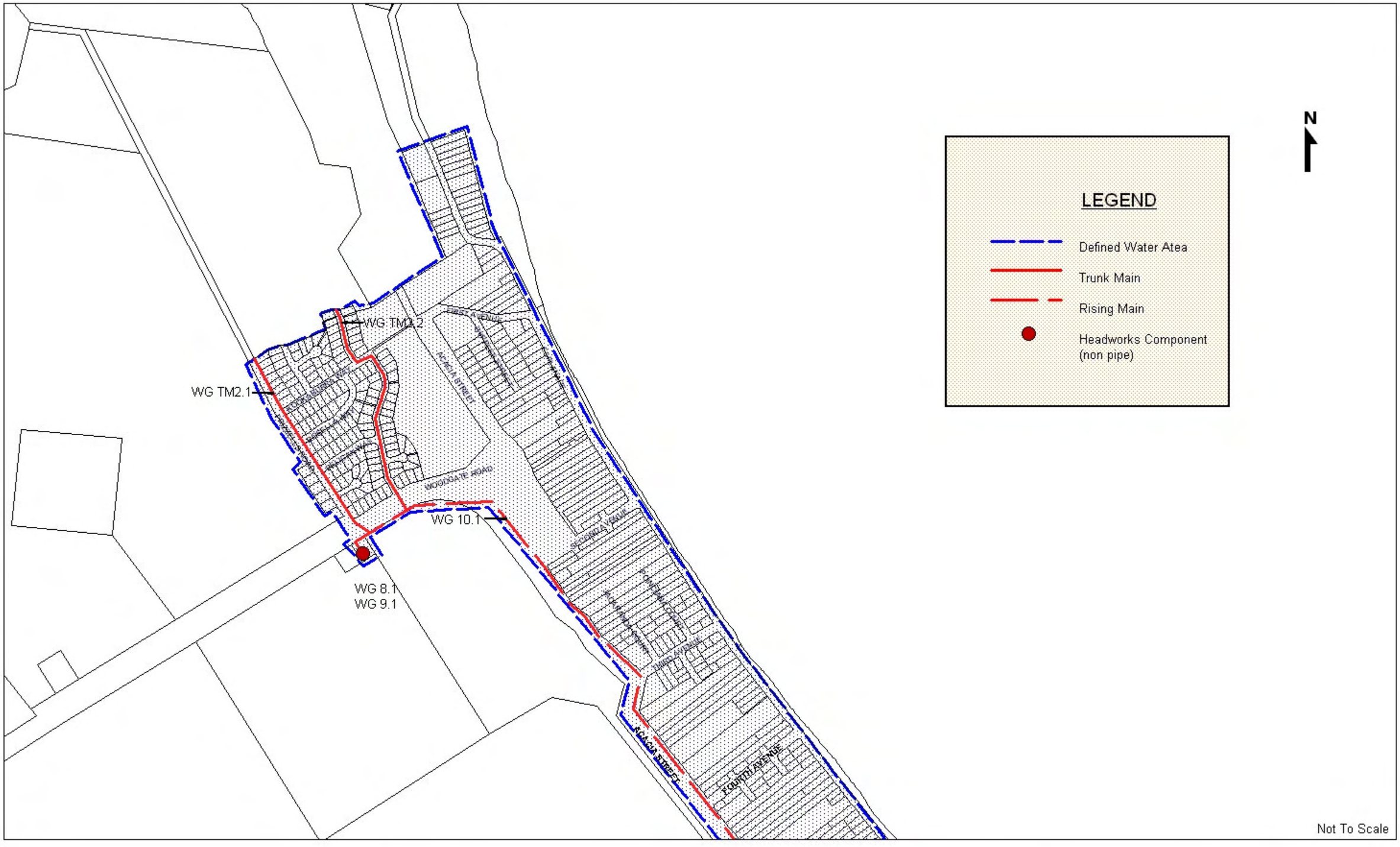

ISIS SHIRE COUNCIL
WATER SUPPLY HEADWORKS
WOODGATE - SHEET 1

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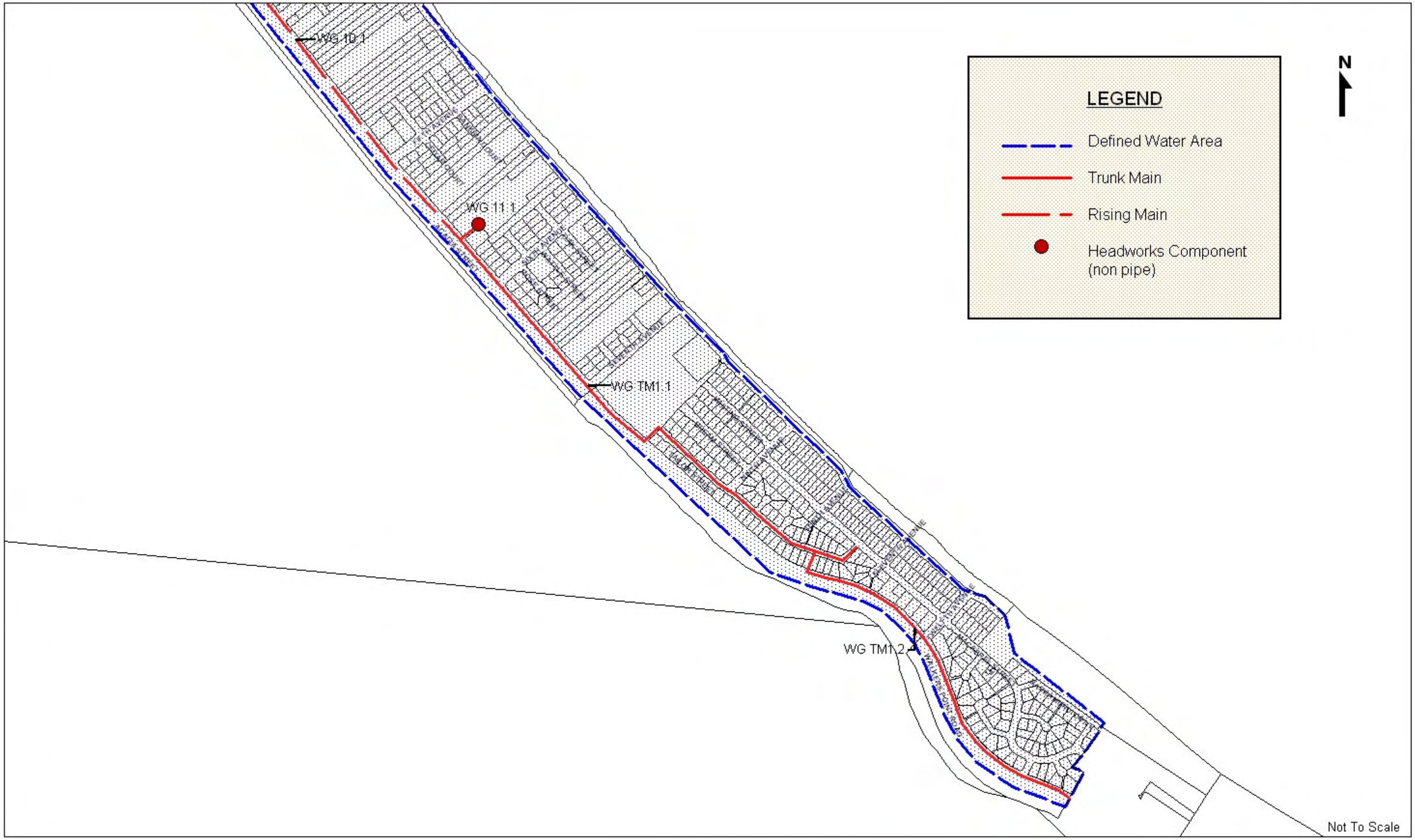

ISIS SHIRE COUNCIL
WATER SUPPLY HEADWORKS
WOODGATE - SHEET 2

2900/03-85-6

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Appendix 2 - Sewerage Headworks - Summary of Works

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ISIS SHIRE COUNCIL

Appendix 2

WOODGATE SEWERAGE HEADWORKS

SUMMARY OF WORKS

COMPONENT	COST/EP
Land & Overheads	$264.90
Reticulation	$377.57
Treatment Plant	$984.24
Rising Main	$376.67
Irrigation	$170.75
TOTAL	**$2,174.12**

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SEWERAGE HEADWORKS

SUMMARY OF WORKS

Appendix 2A

Item No	Description	Existing Works		Planned Works		Total Works		
		July-05 Costs	Design EP	July-05 Costs	Design EP	July-05 Costs	Design EP	July-05 Cost/EP
2.1 CHILDERS Catchment A (Nelson St)								
STP	Sewage Treatment Plant	1380731	1939	641000	1939	1908641	1939	984.34
PS A	Pump Station A (Nelson St)	100186	195			100186	195	513.78
RM A	Rising Main A	23031	195			23031	195	118.11
TS 1A/5.1	Trunk Sewer 1A/5 (McIlwraith St to TS 1A.1)	140473	1279			140473	1279	109.83
TS 1A.1	Trunk Sewer 1A (TS 1A/5.1 to STP)	215938	2600			215938	2600	83.05
				CHILDERS Catchment A - Total Cost/EP				**$ 1,809.11**
2.2 CHILDERS Catchment E/B (Thompson Rd/Taylor St)								
STP	Sewage Treatment Plant	1380731	1939	641000	1939	1908641	1939	984.34
PS B	Pump Station B (Taylor St)	65098	643			65098	613	106.20
PS E	Pump Station E (Thompson Rd)	115475	643			115475	613	188.38
RM B	Rising Main B	31439	643			31439	613	51.29
RM E	Rising Main E	51033	643			51033	613	83.25
TS 1A/5.2	Trunk Sewer 1A/5 (RM B to McIlwraith St)	53984	718			53984	718	75.19
TS 1A/5.1	Trunk Sewer 1A/5 (McIlwraith St to TS 1A.1)	140473	1279			140473	1279	109.83
TS 1A.1	Trunk Sewer 1A (TS 1A/5.1 to STP)	215938	2600			215938	2600	83.05
				CHILDERS Catchment E/B - Total Cost/EP				**$ 1,681.52**
2.3 CHILDERS Catchment C (Lord St)								
STP	Sewage Treatment Plant	1380731	1939	641000	1939	1908641	1939	984.34
PS C	Pump Station C (Lord St)	110622	975			110622	975	113.46
RM C	Rising Main C	13160	975			13160	975	13.50
TS 1A.2	Trunk Sewer 1A (Lord St to TS 1A/5.1)	222176	1265			222176	1265	175.63
TS 1A.1	Trunk Sewer 1A (TS 1A/5.1 to STP)	215938	2600			215938	2600	83.05
				CHILDERS Catchment C - Total Cost/EP				**$ 1,369.99**
2.4 CHILDERS Catchment D (Gravity)								
STP	Sewage Treatment Plant	1380731	1939	641000	1939	1908641	1939	984.34
TS 1A.2	Trunk Sewer 1A (Lord St to TS 1A/5.1)	222176	1265			222176	1265	175.63
TS 1A/5.1	Trunk Sewer 1A/5 (McIlwraith St to TS 1A.1)	140473	1279			140473	1279	109.83
TS 1A.1	Trunk Sewer 1A (TS 1A/5.1 to STP)	215938	2600			215938	2600	83.05
				CHILDERS Catchment D - Total Cost/EP				**$ 1,352.86**

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SEWERAGE HEADWORKS

SUMMARY OF WORKS

Appendix 2A

2.5 CHILDERS Catchment G (Light Industrial Estate)								
STP	Sewage Treatment Plant	1380731	1939	641000	1939	1908641	1939	984.34
PS B	Pump Station B (Taylor St)	65098	613			65098	613	106.20
PS E	Pump Station E (Thompson Rd)	115475	613			115475	613	188.38
PS G	Pump Station G (Goodwood Rd)	28302	120			28302	120	235.85
RM B	Rising Main B	31439	613			31439	613	51.29
RM E	Rising Main E	51033	613			51033	613	83.25
RM G	Rising Main G	23054	250			23054	250	92.22
TS 1A/5.2	Trunk Sewer 1A/5 (RM B to McIlwraith St)	53984	718			53984	718	75.19
TS 1A/5.1	Trunk Sewer 1A/5 (McIlwraith St to TS 1A.1)	140473	1279			140473	1279	109.83
TS 1A.1	Trunk Sewer 1A (TS 1A/5.1 to STP)	215938	2600			215938	2600	83.05
				CHILDERS Catchment G - Total Cost/EP				**$ 2,009.59**
2.6 CHILDERS Catchment H (Sugar Bowl)								
STP	Sewage Treatment Plant	1380731	1939	641000	1939	1908641	1939	984.34
PS H	Pump Station H (Sugar Bowl)	35377	200			35377	200	176.89
RM H	Rising Main H	13620	200			13620	200	68.10
TS 1A.1	Trunk Sewer 1A (TS 1A/5.1 to STP)	215938	2600			215938	2600	83.05
				CHILDERS Catchment H - Total Cost/EP				**$ 1,312.38**
2.7 CHILDERS Catchment I (William St)								
STP	Sewage Treatment Plant	1380731	1939	641000	1939	1908641	1939	984.34
PS I	Pump Station I (William St)	9434	50			9434	50	188.68
PS C	Pump Station C (Lord St)	110622	975			110622	975	113.46
RM I	Rising Main I	2948	50			2948	50	58.96
RM C	Rising Main C	13160	975			13160	975	13.50
TS 1A.2	Trunk Sewer 1A (Lord St to TS 1A/5.1)	222176	1265			222176	1265	175.63
TS 1A.1	Trunk Sewer 1A (TS 1A/5.1 to STP)	215938	2600			215938	2600	83.05
				CHILDERS Catchment I - Total Cost/EP				**$ 1,617.63**

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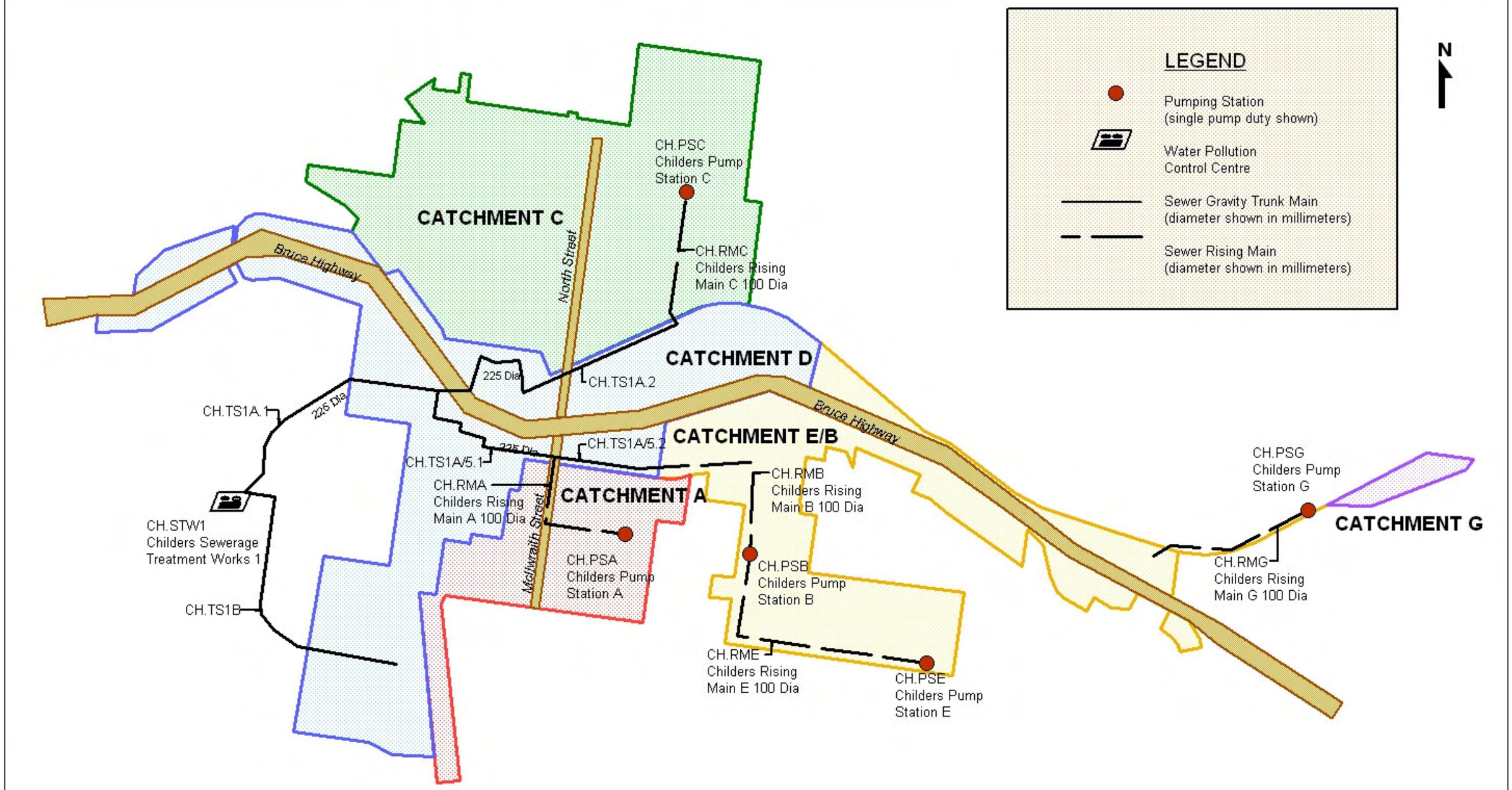

FIGURE 1.2

Not To Scale

ISIS SHIRE COUNCIL
SEWERAGE SCHEMATIC LAYOUT
DECEMBER 1997

2900/03-85-2

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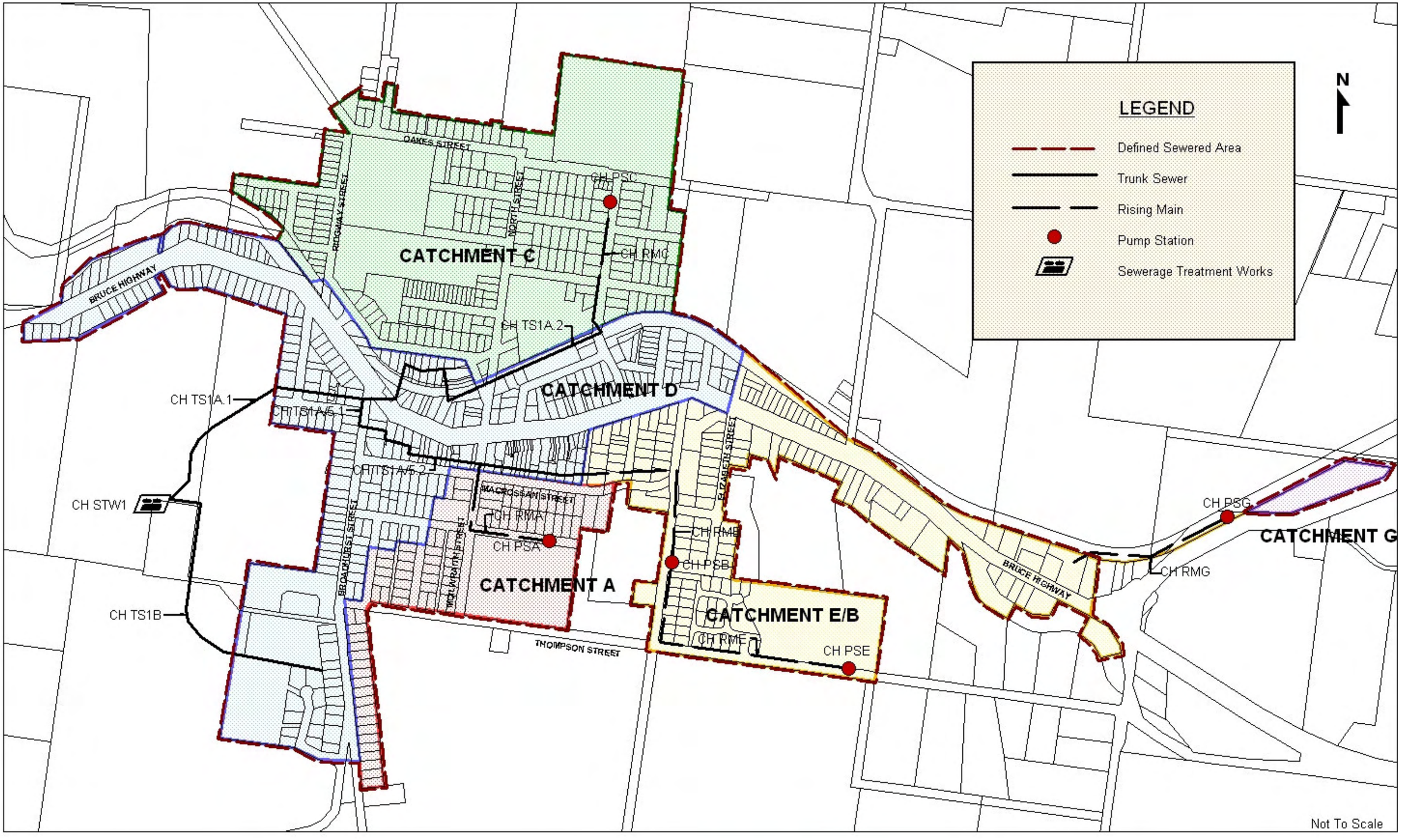

ISIS SHIRE COUNCIL
SEWERAGE HEADWORKS
CHILDERS - SHEET 1

2900/03-85-4

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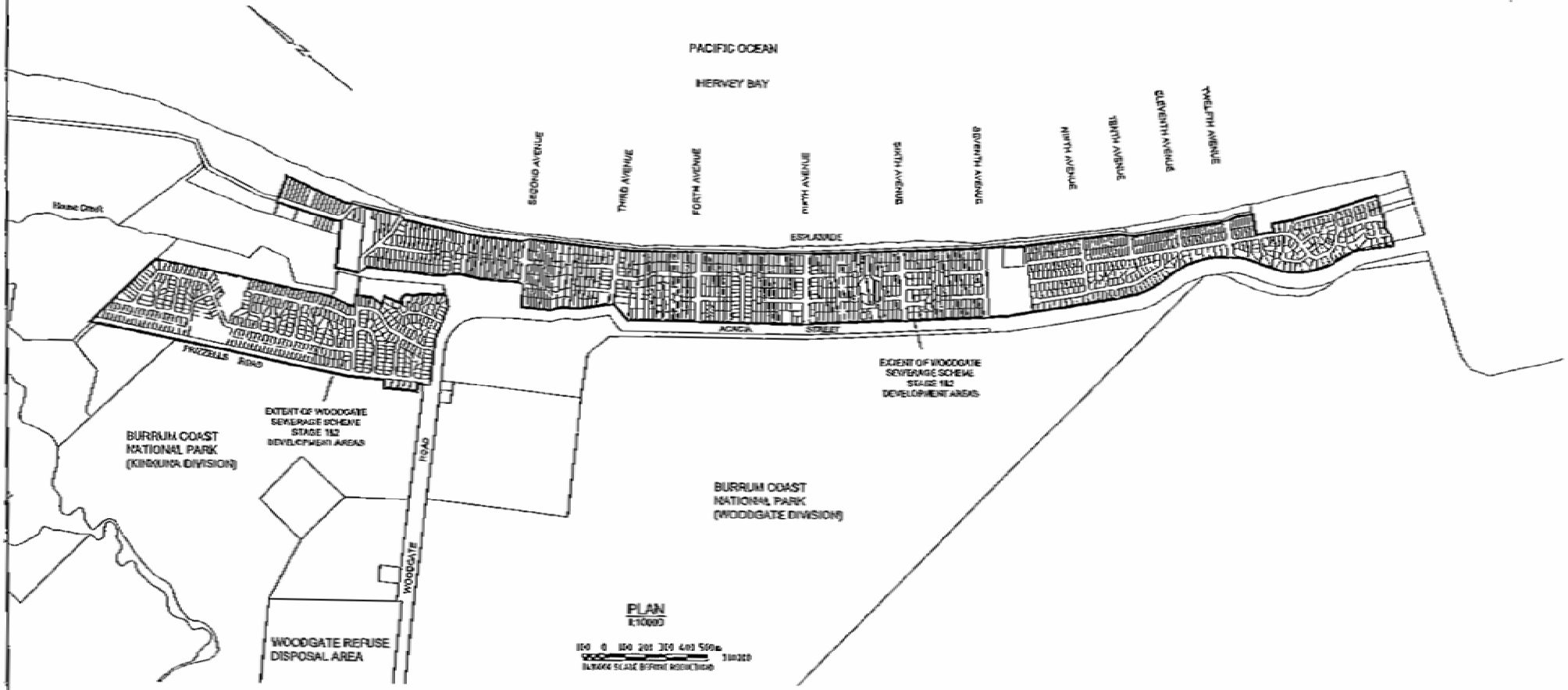
WOODGATE SEWERAGE SCHEME



DESIGNED: R.E./D.G.	A1	DATUM: A.H.D.	Cardno MBK (Qld) Pty Ltd	ISIS SHIRE COUNCIL	DATE: 3-12-2900
DRAWN: G.L.				WOODGATE SEWERAGE SCHEME	DRAWING No.
CHECKED: R.E.B.				LOCALITY PLAN AND ASSOCIATED DRAWINGS	2900/17/01-01 A

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Appendix 3 - Water Supply and Sewerage Population Densities and Water Consumption Factors for "Self Assessable" uses in Town Planning Zones

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APPENDIX 3

WATER SUPPLY AND SEWERAGE POPULATION DENSITIES AND WATER CONSUMPTION FACTORS FOR TOWN PLANNING ZONES

ZONE	POPULATION DENSITIES PER HECTARE		WATER CONSUMPTION FACTOR	SEWERAGE GENERATION FACTOR
	NET AREA	GROSS AREA		
Residential	40	30	1.0	1.0
Rural Residential	2	1.6	1.25	1.0
Rural/ Rural Protected	To be assessed at time of application		1.25	Nil
Commercial	80	60	0.5	1.0
Industry	80	60	0.5	1.0
Open Space and Recreation	Nil	Nil	Nil	Nil
Infrastructure	To be assessed at time of application			

Gross Area includes future roads and parkland.

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Appendix 4 - Water Supply and Sewerage Design Population for Particular Developments

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WATER SUPPLY AND SEWERAGE DESIGN POPULATIONS FOR PARTICULAR DEVELOPMENTS

	Development	Unit	Population Per Unit	Water Consumption Factor	Sewerage Generation Factor
1.0	Residential				
1.1	Detached dwelling – Residential	house	3.2	1.0	1.0
	Detached dwelling – Rural Res.	house	3.2	1.25	1.0
1.2	Multiple Dwelling	1 bedroom	1.5	0.75	1.0
		2 bedroom	2.4	0.75	1.0
		3 bedroom+	3.2	0.75	1.0
1.4	*Hotel	suite	1.6	0.5	1.0
1.5	Caravan Parks/ Camping Grounds	hectare	150	0.5	1.0
		site	2.5	0.5	0.6
2.0	Educational Establishments & Hospitals				
2.1	*Child Care Centres	child	0.25	0.5	1.0
2.2	*Primary Schools	pupil	0.25	0.5	1.0
2.3	*High Schools	pupil	0.5	0.5	1.0
2.4	*Tertiary Education Centres	pupil	0.5	0.5	1.0
2.5	*Hospitals	bed	3.4	0.5	1.0
2.6	*Convalescent Hospitals	bed	1.6	0.5	1.0
2.7	*Institutional Accommodation	bed	1.0	0.5	1.0
3.0	Commercial				
3.1	Health Care Service (Medical Centre)	doctor	5.0	0.5	1.0
3.2	Restaurant	table	5.0	0.5	1.0
3.3	Take	m²**	4.0	0.5	1.0
3.4	Special Facilities, etc.	W.C.	3.0	0.5	1.0
3.5	Offices	W.C.	3.0	0.5	1.0
		1.8m of urinal	3.0	0.5	1.0

(1) Information in this appendix is to be used as a guide only, where particular applications do not itemise maximum population usage.

* Allowance to be made for staff.

** Based on useable customer area.

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4.0 Planning Scheme Policy 4/07 – Reconfiguring a Lot involving Good Quality Agricultural Land

4.1 Intent

The intent of this policy is to identify the information to be provided to support applications to reconfigure a lot containing good quality agricultural land (GQAL) in the Rural Protected Zone (Category 1 or Category 2) or the Rural Zone involving lot sizes and dimensions smaller than specified in the Reconfiguring a Lot Code in the Isis Planning Scheme.

4.2 Scope

This policy applies to assessable development for reconfiguring a lot containing GQAL[52].

4.3 Interpretation

for the purpose of this planning scheme policy the following term has the meaning identified:

"*Primary production*" includes agriculture, horticulture, animal husbandry, flowers, ornamental plants or succulents grown on a commercial basis (but not including a Plant Nursery as defined in Part 2 of the Isis Planning Scheme);

"*Sustainable primary production*" means primary production that is able to be undertaken on a lot in the long term with no net loss of the productive capacity of the land and no detrimental on-site or off-site environmental impacts, as determined by a land capability and environmental assessment report;

"*Preferred type of sustainable primary production*" means the type of sustainable primary production intended to be undertaken on the lots created by the proposed reconfiguring.

4.4 Information Requirements

An application to reconfigure a lot containing GQAL in the Rural Protected Zone (Category 1 or Category 2) or the Rural Zone involving lot sizes and dimensions smaller than specified in the Reconfiguring a Lot Code[53] in the Isis Planning Scheme must be accompanied by:

(a) a business plan;

(b) a land capability and environmental assessment report; and

(c) other information, including information required to demonstrate compliance with other applicable planning scheme codes.

---

[52] Refer to Isis Shire Natural Features & Resources Overlay Map 4 Good Quality Agricultural Land (Schedule 1)

[53] A proposed lot less than 40 ha is unlikely to comply with the Natural Features and Resources Overlay Code (Section 5.4) or the Reconfiguring a Lot Code (Section 6.10) of the Isis planning scheme.

4.4.1 Business Plan

(a) The business plan is to be prepared by a suitably qualified and experienced financial consultant.

(b) The business plan is to provide recommendations and conclusions about the following matters for each proposed lot:

(i) the capacity of the lot to generate income sufficient on its own to support a hgousehold, having regard to:

- use of the lot for the preferred type of sustainable primary production in accordance with the recommendations of the land capability and environmental assessment report;
- the level of capital and operating costs associated with establishment and maintenance of the preferred type of sustainable primary production;
- the likely production volume and range of prices to be received for the primary product or products produced; and
- any other factors relevant to the income producing capacity of the lot.

(ii) the capacity of the alternative types of sustainable primary production identified in the land capability and environmental assessment report to provide an alternative income source, in response to fluctuations in climatic and market conditions affecting the preferred type of sustainable primary production.

4.4.2 Land Capability and Environmental Assessment Report

(a) The land capability and environmental assessment report is to be prepared by a suitably qualified and experienced land consultant.

(b) The land capability and environmental assessment report is to address the following matters for each proposed lot:

(i) an assessment of the agricultural land classes of the proposed lot in terms of *State Planning Policy SPP1/92 – Development and the Conservation of Agricultural Land*;

(ii) an assessment of land capability and constraints, including:

- rainfall
- climatic limitations other than rainfall
- moisture availability for crop or vegetation growth;
- effective soil depth;
- soil physical factors affecting crop or vegetation growth (e.g. surface crusting, hard pans, cementation, etc);
- soil nutrient fertility;
- soil salinity or sodicity;
- topography;
- matters affecting workability of the soil (e.g. rockiness, stiff clay, waterlogging. etc);

- susceptibility to erosion; and

- susceptibility to flooding;

(ii) an assessment of whether the lot is capable of long term use for the preferred type of sustainable primary production, including the need for rotation and spelling;

(iii) the requirement for water supply or irrigation to support the preferred form of sustainable primary production; the availability of an adequate water supply and whether or not the water supply is subject to tradeable rights;

(iv) an assessment of the likely maximum , minimum and average annual (or, if appropriate, seasonal) volume of production from the lot under sustainable primary production practices;

(v) the potential for off-site impacts as a consequence of long term use of the lot in the manner proposed, including on other agricultural land or sites of high environmental value;

(vi) an assessment of the suitability of the land for other types of sustainable primary production suitable for the area;

(vii) recommendations about appropriate equipment, skills, production techniques, other land management practices and other specific actions or preconditions required to ensure the preferred sustainable type of primary production can be undertaken on the lot.

4.4.3 Other Information

The application should also be accompanied by:

(a) a proposal plan at an appropriate scale showing the proposed boundaries of each lot, location of GQAL classes and proposed building envelope/s; and

(b) information to demonstrate there is an adequate and suitable area for a detached dwelling, including its curtilage, that does not diminish the availability of land suitable for sustainable primary production and that -

(i) complies with the applicable codes of the Isis planning scheme;

(ii) contains adequate space for on-site wastewater treatment and disposal;

(iii) provides adequate separation from Agricultural activities in accordance with the Planning Guidelines – Separating Agricultural and Residential Land Uses; and

(iv) will not experience adverse impacts from other nearby activities including for example rural activities and extractive industries.

(c) information required to demonstrate compliance with other applicable codes of the Isis planning scheme.

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5.0 Planning Scheme Policy 5/07 - State Approvals

5.1 Areas that trigger State agency assessment

- Area for which an area management advice for industrial activity or natural mineralisation has been issued
- Area for which an area management advice for unexploded ordinance has been issued
- Area of high nature conservation value (for purpose of vegetation management - IPA)
- Area vulnerable to land degradation (for purpose of vegetation management – IPA)
- Industrial area (for purpose of brothel regulation – *Integrated Planning Regulation 1998*)
- Land below 5 metres AHD or areas identified in a planning scheme as containing acid sulfate soils
- Land on the environmental management register or contaminated land register under the *Environmental Protection Act 1994*
- Registered place (for regulation of building work – *Standard Building Regulation 1993*)
- Remnant endangered regional ecosystem (for purpose of vegetation management - IPA)
- Remnant vegetation (for purpose of vegetation management - IPA)
- State-controlled roads (including future State-controlled roads)
- Strategic port land (not subject to planning scheme – *Transport Infrastructure Act 1994*)
- Brothel regulation – *Integrated Planning Regulation 1998*
- Tropical cyclone area (for regulation of building work – *Standard Building Regulation 1993*)
- Urban area (for purpose of vegetation management – IPA)
- *Aboriginal Cultural Heritage Act 2003*[54]
- *Queensland Heritage Act 1992*.

5.2 Areas affecting referral coordination triggers under schedules 6 and 7 of the *Integrated Planning Regulation 1998*

- Matters protected under the *Aboriginal Cultural Heritage Act 2003*

[54] Under section 23 of the *Aboriginal Cultural Heritage Act 2003* a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage (the "cultural heritage duty of care"). Maximum penalties for breaching the duty of care are $750,000 for a corporation and $75,000 for an individual. For further advice contact the Cultural Heritage Coordination Unit on (07) 3238 3838 or e-mail cultural.heritage@nrm.qld.gov.au. The duty of care guidelines and cultural heritage search forms are available at www.nrm.qld.gov.au.

- Catchment area declared under the *Water Resources Act 1989*
- Area below a floodline adopted by the local government
- A protected area, registered place or restricted zone as defined under the *Queensland Heritage Act 1992*
- A coastal management district under the *Coastal Protection and Management Act 1995*
- Area under the *Nature Conservation Act 1992* that is a protected area (including national parks, conservation parks, resource reserves, nature refuges, coordinated conservation areas, wilderness areas, World Heritage management areas and international agreement areas), subject to a conservation agreement, or identified as a critical habitat or an area of major interest
- Designated landscape area (for regulation of building work – *Standard Building Regulation 1993*)
- Fish habitat area or closed waters under the *Fisheries Regulation 1995*
- Wetlands of international importance under the Ramsar Convention as defined under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)
- Wetlands of importance within the Queensland chapter of *A Directory of Important Wetlands in Australia* as published by the Australian Nature Conservation Agency, 1996, Canberra
- Other wetlands as described by item 5 of schedule 7 of the *Integrated Planning Regulation 1998* (to the extent they can be identified).

6.0 Planning Scheme Policy 6/07 – Development Standards

6.1 Introduction

This document has been prepared to assist developers, consultants and others engaged in the preparation of development applications within the limits of Isis Shire Council. The document outlines the basic expectations of Council, including reference to other documents that are appropriate regarding the Operational Works components of a development for typical 'reconfiguration of lot' type developments.

While the document, and the associated reference documents may not specifically address other more specific type developments, the document provides the basis for the assessment of the Operational Works applications. For example, a 'material change of use' development may result in conditions necessitating specific Operational Works. This document shall provide the necessary requirements associated with the Operational Works design and construction.

The document is not exclusive but where a proposal is not in conformity with the requirements, it will be necessary for the applicant to provide full justification that the proposal is reasonable and relevant for the development within Isis Shire having due regard for:

I. public safety
II. operational considerations
III. whole of life costing, and
IV. consistency of equipment.

The preparation of this document and its referencing of other documents does not preclude Council from applying specific development conditions associated with any specific development application through the Integrated Planning Act processes. The document becomes relevant in the application of development conditions.

Where contradiction or ambiguity occurs between this document and other conditions, policies etc, the following order of precedence shall apply:

I. IPA application approval conditions,
II. Council Policy,
lll. Development Standards.

THIS DOCUMENT, AND OTHER REFERENCED DOCUMENTS, SHALL BE UPDATED FROM TIME TO TIME AS NECESSARY TO REFLECT COMMUNITY EXPECTATIONS, LEGISLATION AND NEW TECHNOLOGY. IT IS THE RESPONSIBILITY OF USERS TO ENSURE THAT THEY HAVE THE MOST UP-TO-DATE VERSION OF THE DOCUMENTS.

6.2 Reference and Source Documents

The following documents should be read in conjunction with this document.

6.2.1 Council Specifications

Qld Aus-Spec #1 Development Specification DESIGN (Isis Shire Council)

Qld Aus-Spec #1 Development Specification CONSTRUCTION (Isis Shire Council)

(Where other than the above Construction Specifications are used, it shall be the responsibility of the developer, or their agents, to verify that their proposed documents cover all aspects to the same standard as in the referenced documents)

6.2.2 Others

Integrated Planning Act, 1997 and Amendments

Local Government (Planning & Environment) Act 1990

Local Government Act (1993)

Environment Protection Act, 1994 and Amendments

Water Act 2000 and Amendments

Guidelines for Planning and Design of Urban Water Supply Schemes, (Water Resources Commission)

Guidelines for Planning and Design of Sewerage Schemes (Water Resources Commission)

On-site Sewerage Code (July 2002), Natural Resources and Mines

Sewerage Code of Australia 2002, WSAA (with Qld Addendum)

Water Supply Code of Australia 2002, WSAA (with Qld Addendum)

Qld Urban Drainage Manual

Queensland Streets

Queensland Residential Design Guidelines

Standard Drawings, Institute of Municipal Engineering Australia (Queensland)

6.3 Layout and Public Infrastructure

The layout of a development shall be a consideration of the IDAS development application. In considering the application at that stage, consideration will be given to the optimum layout of future public infrastructure including roads, drainage, water supply and sewerage, as applicable. These issues will be considered together with the optimum utilization of the land resource.

While layout of some such infrastructure may not be specified in the conditional IPA approval, its placement and configuration may be addressed at the Operational Works stage and this document provides the basis for that assessment.

6.3.1 Roads

While the Aus-Spec #1 Development Specification Design (Isis Shire Council) and document provides the road hierarchy, the following additional guidelines are given:

6.3.1.1 Distance to a Collector or Rural Principal* Road

In a development application for reconfiguration of an allotment, the maximum allowable distance from the subject land to a collector or rural principal road (as defined in the Aus-Spec Design document) shall be:

I. In a residential development - 500m

II.	In a rural residential development	- 1000m
III.	In an industrial development	- 500m
IV.	In a rural development	- 5000m

* The Rural Principal road classification (not defined in the Aus-Spec Design document) is a trunk collector road with regional significance necessitating a higher standard of construction.

6.3.1.2 Access Street/Place

The maximum length of a cul-de-sac, or 'No Through" road, shall not exceed 200m in an Urban Residential development and 200m in an Industrial or Commercial development. Adequate pedestrian pathway inter-connections shall be provided in urban areas. In rural residential developments, a cul-de-sac shall not exceed 500m although issues regarding emergency services access could reduce this criteria.

6.4 Road Types

6.4.1 Road Reserve Widths

Standard road reserves are as follows:

Residential	Access Place	12.0m
	Access Street	15.0m
	Collector Street	20.0m
	Trunk Collector	25.0m
Rural Residential	Access Place	20.0m
	Access Street	20.0m
	Collector Street	20.0m
Commercial/Industrial	Access Place	25.0m
	Access Street	25.0m
	Collector Street	25.0m
Rural	Access/Collector	20m

While the above are default standards, developer, or their consultants may put proposals to Council for varied widths at the development approval stage. Such proposal shall include justification for such reduction. Where necessary due to development requirements of other Council Planning or Strategic documents, wider reserves may be required.

6.4.2 Typical Cross Section

Typical cross sections for each road type are shown in Drawings C043-04 to C043-06.

6.4.2.1 New Roads

Council shall require the full construction standard for new roads having regard for the likely development to utilize that road i.e. a new entry road into a development that will ultimately be a Collector Road standard but initially will only service the number of blocks for an 'Access Street" shall be constructed to the "Collector Road" standard initially.

6.4.2.2 Existing Roads

Council may require existing roads to be upgraded for the frontage of any development. Such upgrade shall be to at least a minimum standard for the road classification (as described in the table below) where it currently exists or can be achieved by widening on the development side of the existing construction. Where achievable with one-side widening only, the widening shall be based on widening from the existing pavement centreline to the required standard on that side only. Otherwise full upgrading shall be required. Where the existing construction has defective vertical or horizontal alignment, full construction may be required to correct the deficiency.

The construction standards are as shown in the following table:

Road Classification	**Zoning**	**Required Standard**	**Minimum Standard**
Rural Principal	All	2 x 3.5m sealed lanes plus 0.5m sealed shoulders on 8.0m formation	6.0m sealed pavement on 8.0m formation
Rural Collector	All	6.5m sealed pavement on 8.0m formation	6.0m sealed pavement on 8.0m formation
Rural Access	Rural	6.0m gravel pavement (CBR 35) on 8.0m formation	6.0m gravel pavement on 8.0m formation
	Rural Protected	5.5m sealed pavement on 8.0m formation	5.5m sealed pavement on 8.0m formation
	Rural Residential	6.0m sealed pavement on 8.0m formation	6.0m sealed pavement on 8.0m formation
Urban Collector	All	Nominal 13.0m kerb line to kerb line with kerb and channel both sides	8.0m sealed pavement with kerb and channel on one side on 12.0m formation
Urban Access	All	Nominal 8.0m kerb line to kerb line with kerb and channel both sides	6.0m sealed pavement with kerb and channel on one side on 10.0m formation
Industrial/Commercial	Industrial Commercial	Nominal 13.0m kerb line to kerb line with kerb and channel both sides	8.0m sealed pavement with kerb and channel on one side on 12.0m formation

6.4.3 Typical Cross Section Elements

In urban developments, the following element minimum widths are required:

Constructed pathway (Drawing C043-09)	footpath	2.0m
Travel Lane	absolute minimum Ideal minimum One-way	2.9m 3.5m 4.0m
Parking Lane	Access Place/Street Major road	2.5m 2.7m
Turn Lane	Absolute minimum Ideal minimum	3.0m 3.5m
Cul-de-sac	At the end of the cul-de-sac, adequate provision shall be made for a standard unit truck to carry out a three-point turn via a circular, "T", or "Y" arrangement. The **minimum radius** to a nominal kerb line, or edge of bitumen shall be 9.0m in a residential, rural residential or commercial development but 15.0m in an industrial area.	

Continuous separate parking and two-way travel lanes are not necessary in residential type development. Queensland Streets provides options in this regard. Localised narrowing may be utilized for traffic calming measures.

6.4.4 Signs and Line Marking

General traffic signage and line marking shall be provided in accordance with general design standards and/or guidelines having regard for the various stages of development, namely with limited development and ultimate development on the adjacent properties.

Street name signage shall be provided as appropriate to Council's satisfaction to clearly provide directions.

In rural and rural residential areas, rural numbering shall be provided to each property in accordance with the Council's system. Alternatively, the developer may commission Council to determine and provide and install numbering at the developer's cost.

6.4.5 Service Conduits

In urban and rural residential developments, service conduits shall be provided across the pavement to provide for the provision of water, electricity and communication infrastructure to individual properties. Conduit and/or trenching requirements shall be to the utilities' requirements.

The service conduit shall, unless approved otherwise, cross the road perpendicular to the road reserve centreline and be laid to the specifications and requirements of the respective service authority.

The ends of all service conduits shall be sealed with an approved end cap and the location of the ends/conduits identified using marker discs (or imprint stencil) cast into the kerb, or other approved marker stakes where there is no kerb. The conduit shall commence no more than 0.5m from the relevant service, e.g. water main, and extend to 1.5m from the property boundary to be serviced.

6.4.6 Property Accesses

The Aus-Spec Design manual provides criteria regarding availability of accesses to property. The follow accesses shall be constructed as part of the operational works for a development:

Residential		
- single unit	Access Place/Street	kerb crossing only
	Collector Street	kerb crossing only
- multiple units	Access Place/Street	concreted, AC or bitumen sealed across footpath
	Collector Street	concreted, AC or bitumen sealed across footpath
Rural Residential	Access Place	gravel driveway to boundary
	Access Street	gravel driveway to boundary
	Collector Street	gravel driveway to boundary
	Rural Principal	no access to this road
Commercial & Industrial	Access Place	heavy duty concrete
	Access Street	heavy duty concrete
	Collector Street	two lane heavy duty concrete
Rural	Access Place	gravel driveway to boundary
	Access Street	gravel driveway to boundary
	Collector Street	gravel driveway to boundary
	Shire Principal	gravel driveway to boundary

The typical layout for access is shown on Drawings C043-01 (Un-kerbed), CO43-07 (Urban Driveway Slab and Tracks) and C043-08 (Commercial and Industrial).

6.5 Road Capacity

In general, when approval is given to a development proposal, the approval shall clarify the road classification and hence the design requirements.

6.5.1 Catchment Area

The figures below indicate the traffic capacities used to provide the road classification, expressed as the maximum number of allotments, or individual dwelling units in residential areas, within the "catchment area" of that section of road:

Residential	Access Place	20 dwelling units
	Access Street	100 dwelling units
	Collector Street	500 dwelling units
Rural Residential	Access Place	20 dwelling units
	Access Street	50 dwelling units
	Collector Street	500 dwelling units
Industrial	Access Place	5 allotments (5ha max)
	Access Street	20 allotments (10ha max)
	Collector Street	100 allotments (50ha max)
Commercial	Access Place	15 allotments
	Access Street	30 allotments
	Collector Street	100 allotments

Rural	Access Road	10 allotments
	Collector Road	100 allotments

6.6 Stormwater Drainage

In general, the requirements for stormwater drainage are defined in the Aus-Spec Design manual for Isis Shire. The following additional guidelines are provided.

6.6.1 Major/Minor Storms

While the Aus-Spec Design document provides the criteria for the minor storm, the major storm for residential, rural residential, commercial and industrial development shall be the 100year frequency event. The major storm for general rural development shall be the 50year frequency event.

6.6.2 Interallotment Drainage

Interallotment drainage shall be provided for every residential, rural residential, commercial and industrial allotment which does not naturally drain directly to its frontage street, a natural creek or other reserve under the control of Council and to where Council is agreeable for the drainage to discharge, or where formal discharge rights have been established.

6.7 Street Lighting

Street lighting shall be provided in accordance with the relevant Australian Standard for any development in an urban or rural residential area. The facilities shall be provided to the satisfaction of Ergon Energy so that they can undertake ongoing maintenance and charging to Council under their schedule of fees. The developer shall accept, and pay, all capital costs associated with the design and installation of the lighting such that Council shall be charged the Tariff 2 (or equivalent) for electricity usage and future maintenance only.

6.8 Water Supply

Reticulated water supply shall be required for developments within the defined water areas of Childers and Woodgate. Some rural residential areas shall be conditioned to provide reticulated water supplies. Connection of other developments to the reticulation system adjacent to the declared water areas or via off-takes from the rising mains between the treatment plant and Childers and Woodgate shall be subject to Council approval at the development approval stage.

6.8.1 Reticulated Water

6.8.1.1 Design

The design shall generally be in accordance with the Guidelines for Planning and Design of Urban Water Supply Schemes issued by the then Water Resources Commission, the Water Act (2000) and subsidiary Regulations and/or WSA Water Supply Code of Australia (with Queensland Addendum).

The developer shall generally be responsible for design and construction of the internal water supply infrastructure associated with their development and the

external infrastructure to connect to the existing reticulated scheme. Any upgrade of existing infrastructure required to service the development would be assessed by Council and conditioned either as an upgrade requirement, and/or as a financial contribution (infrastructure charge).

Where developments along the rising main are approved with off-line reservoirs, the reservoir site development shall be undertaken to Council approval, including aesthetics.

Where a developer is proposing a new water supply scheme to service a development, the developer, or their agents, should contact Council to determine relevant issues relating to raw water supply and treatment if it is proposed that these facilities be subsequently handed over to Council for future operation and maintenance.

6.8.1.2 Infrastructure Material

The infrastructure shall be designed and specified having regard to

I. the environment of the infrastructure, and
II. existing infrastructure utilized by Council.

Having regard to the above, where suitable the following standards of material shall be utilized:

Water mains	uPVC (to AS2977) or concrete lined ductile iron
Fittings	cast or ductile iron, concrete or epoxy lined
Road Crossings (Collector/Trunk)	concrete lined ductile iron

6.8.1.3 Alignment

The alignment of reticulation infrastructure shall be generally in accordance with Drawings C043-02 and C043-03.

6.8.2 Rainwater Supply

Where reticulated water is not available or approved as above, the developer, or subsequent owner, shall make provision for supply of water for on-site usage via a tank supply.

The general minimum on-site storage shall be 45000 litres. This quantity may be reduced to 9000 litres where the owner can provide evidence that they have an operational bore, or stream supply (approved by Natural Resources and Mines where required) AND the quality of water from that source is suitable for domestic use.

6.9 Sewerage

Reticulated sewage shall be required for developments within the defined sewer areas of Childers and Woodgate. Connection of other developments to the reticulation system adjacent to the declared water areas shall be subject to Council approval at the development approval stage.

6.9.1 Reticulated Sewerage

6.9.1.1 Design

The design shall generally be in accordance with the Guidelines for Planning and Design of Sewerage Schemes issued by the then Water Resources Commission, the Water Act (2000) and subsidiary Regulations and/or the WSA Sewerage Code of Australia (with Queensland Addendum).

In the Childers declared area, the developer shall generally be responsible for design and construction of the internal infrastructure associated with their development and the external infrastructure to connect to the existing reticulated scheme. Any upgrade of existing infrastructure required to service the development would be assessed by Council and conditioned either as an upgrade requirement, and/or as a financial contribution (infrastructure charge).

In Woodgate, Council shall be responsible for the design and construction of the reticulated sewerage funded via the infrastructure charge.

Where a developer is proposing a scheme to service a development, the developer, or their agents, should contact Council to determine relevant issues relating to raw water supply and treatment if it is proposed that these facilities be subsequently handed over to Council for future operation and maintenance.

6.9.1.2 Infrastructure Material

The infrastructure shall be designed and specified having regard to

I. the environment of the infrastructure, and
II. existing infrastructure utilized by Council.

Having regard to the above, where suitable the following standards of material shall be utilized for reticulated mains:

Gravity sewer mains	uPVC (to AS1260) or FRP
Vacuum sewers	HDPE/MDPE
Fittings	cast or ductile iron, concrete or epoxy lined
Manholes	concrete

6.9.1.3 Alignment

The alignment of reticulation infrastructure shall be generally in accordance Drawings C043-02 and C043-03.

6.9.2 On-Site Treatment and Disposal

Where reticulated sewerage is not available or approved as above, the developer shall prove that all segments of the proposed development are capable of being serviced by an appropriate facility in accordance with the On-site Sewerage Code and the Environmental Protection Act. A development approval shall stipulate the type of on-site facility to be provided by subsequent owner/occupiers.

When making an application to build on a site requiring an on-site sewerage treatment and disposal system, the owner shall have a site assessment and design prepared by a suitably qualified person, and submitted to Council, to make provision for the collection, treatment and disposal on-site in accordance with the On-site Sewerage Code.

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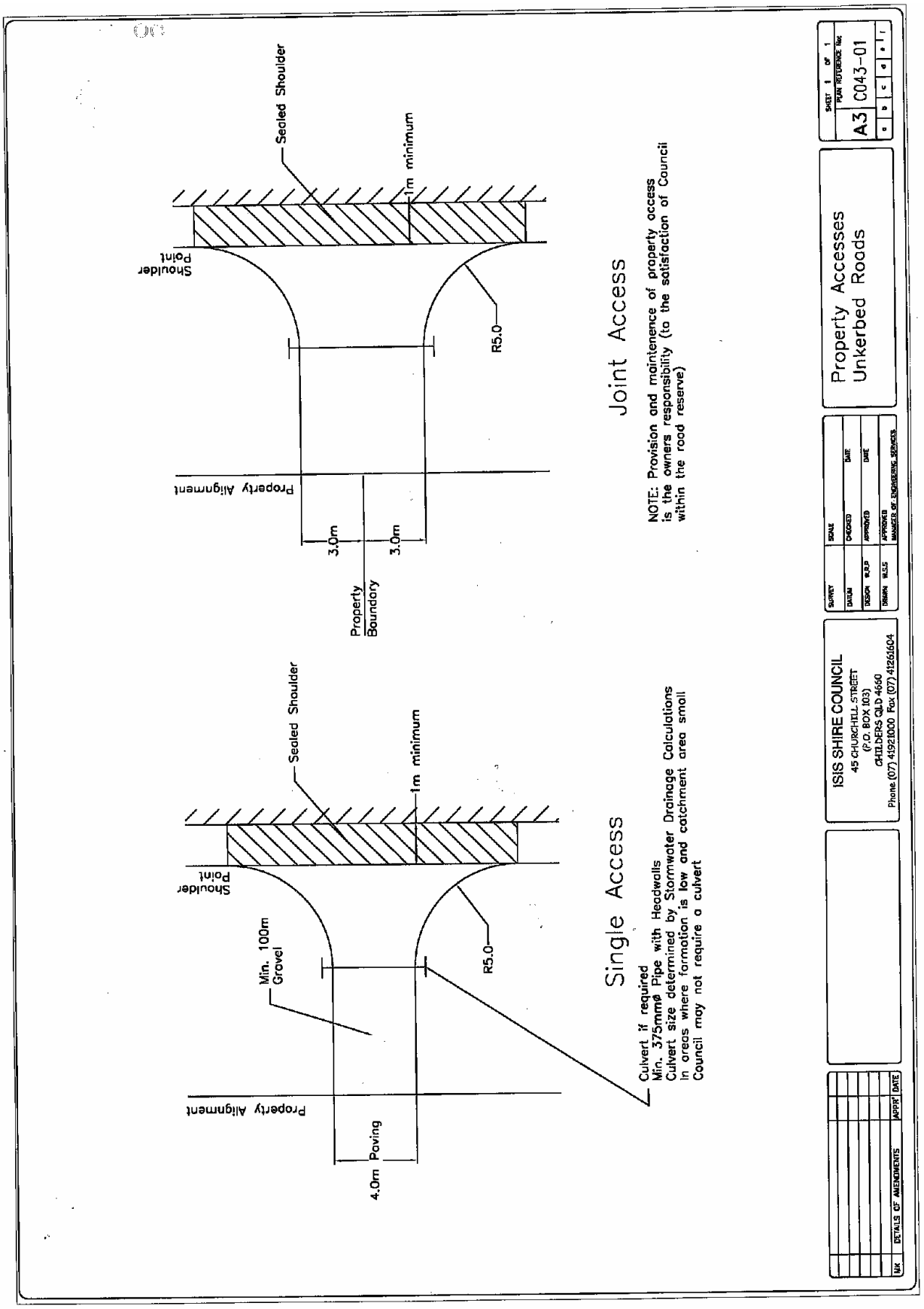
Sealed Shoulder
1m minimum
Shoulder Point
R5.0
Property Alignment
3.0m
3.0m
Property Boundary
Joint Access
NOTE: Provision and maintenance of property access is the owners responsibility (to the satisfaction of Council within the road reserve)
Sealed Shoulder
1m minimum
Shoulder Point
Min. 100m Gravel
R5.0
Property Alignment
4.0m
Paving
Single Access
Culvert if required
Min. 375mmø Pipe with Headwalls
Culvert size determined by Stormwater Drainage Calculations
In areas where formation is low and catchment area small
Council may not require a culvert
ISIS SHIRE COUNCIL
45 CHURCHILL STREET
(P.O. BOX 103)
CHILDERS QLD 4660
Phone (07) 41921000 Fax (07) 41261604
SURVEY
DATUM
DESIGN W.R.P.
DRAWN W.L.S.
SCALE
CHECKED
DATE
APPROVED
DATE
APPROVED
MANAGER OF ENGINEERING SERVICES
Property Accesses
Unkerbed Roads
SHEET 1 OF 1
PLAN REFERENCE No:
A3 C043-01
a b c d e f
No DETAILS OF AMENDMENTS APPR' DATE

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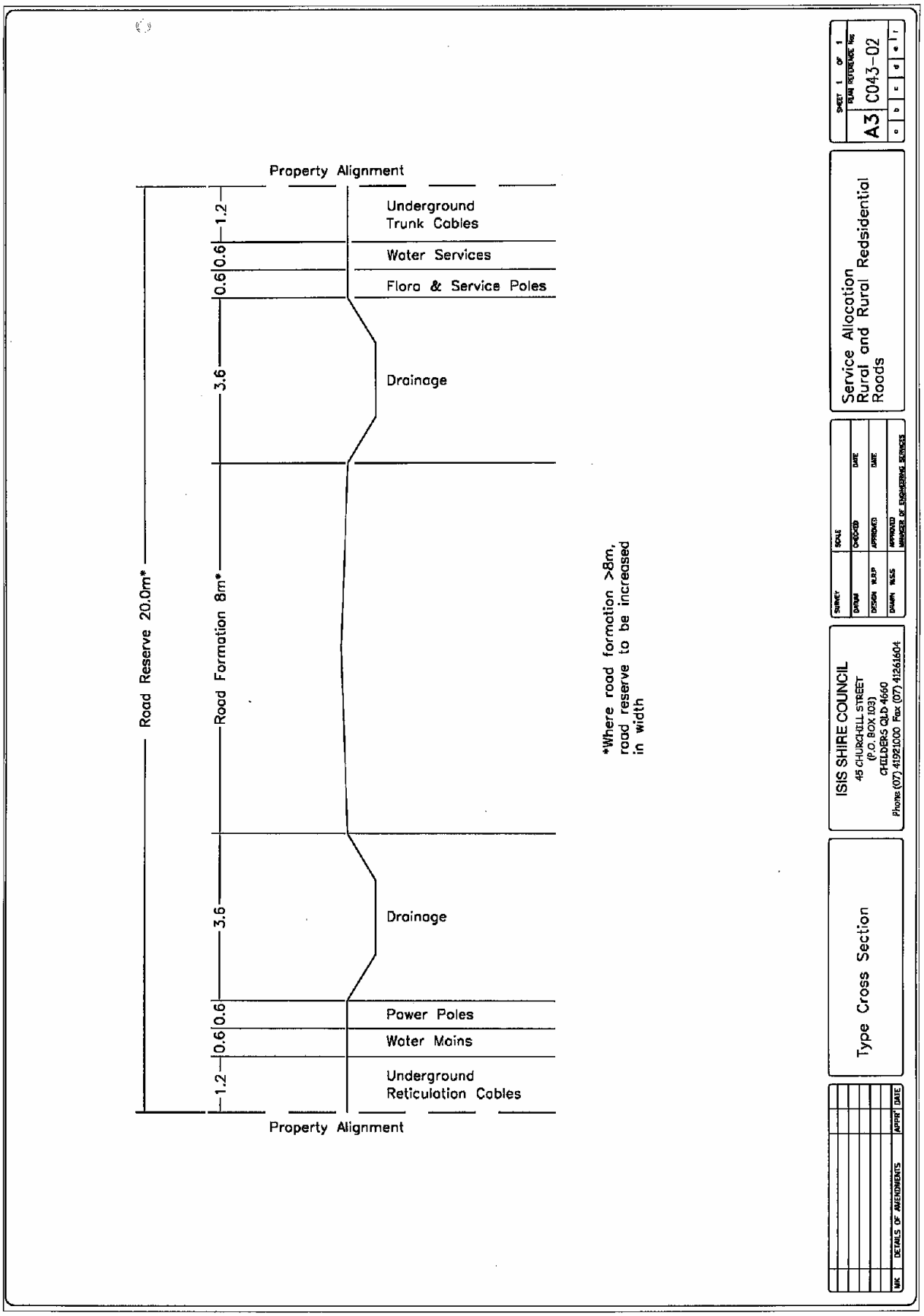
Property Alignment
Underground Trunk Cables
Water Services
Flora & Service Poles
Drainage
Drainage
Power Poles
Water Mains
Underground Reticulation Cables
Property Alignment
1.2
0.6
0.6
3.6
3.6
0.6
0.6
1.2
Road Reserve 20.0m*
Road Formation 8m*
*Where road formation >8m, road reserve to be increased in width
Service Allocation Rural and Rural Redsidential Roads
A3 C043-02
Type Cross Section
ISIS SHIRE COUNCIL
45 CHURCHILL STREET
(P.O. BOX 103)
CHILDERS QLD 4660
Phone: (07) 41921000 Fax (07) 41261604
SURVEY
DRAWN
DESIGN W.R.P
DRAWN W.S.S
SCALE
CHECKED
APPROVED
APPROVED
DATE
DATE
MANAGER OF ENGINEERING SERVICES
NO.
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APPR'D
DATE

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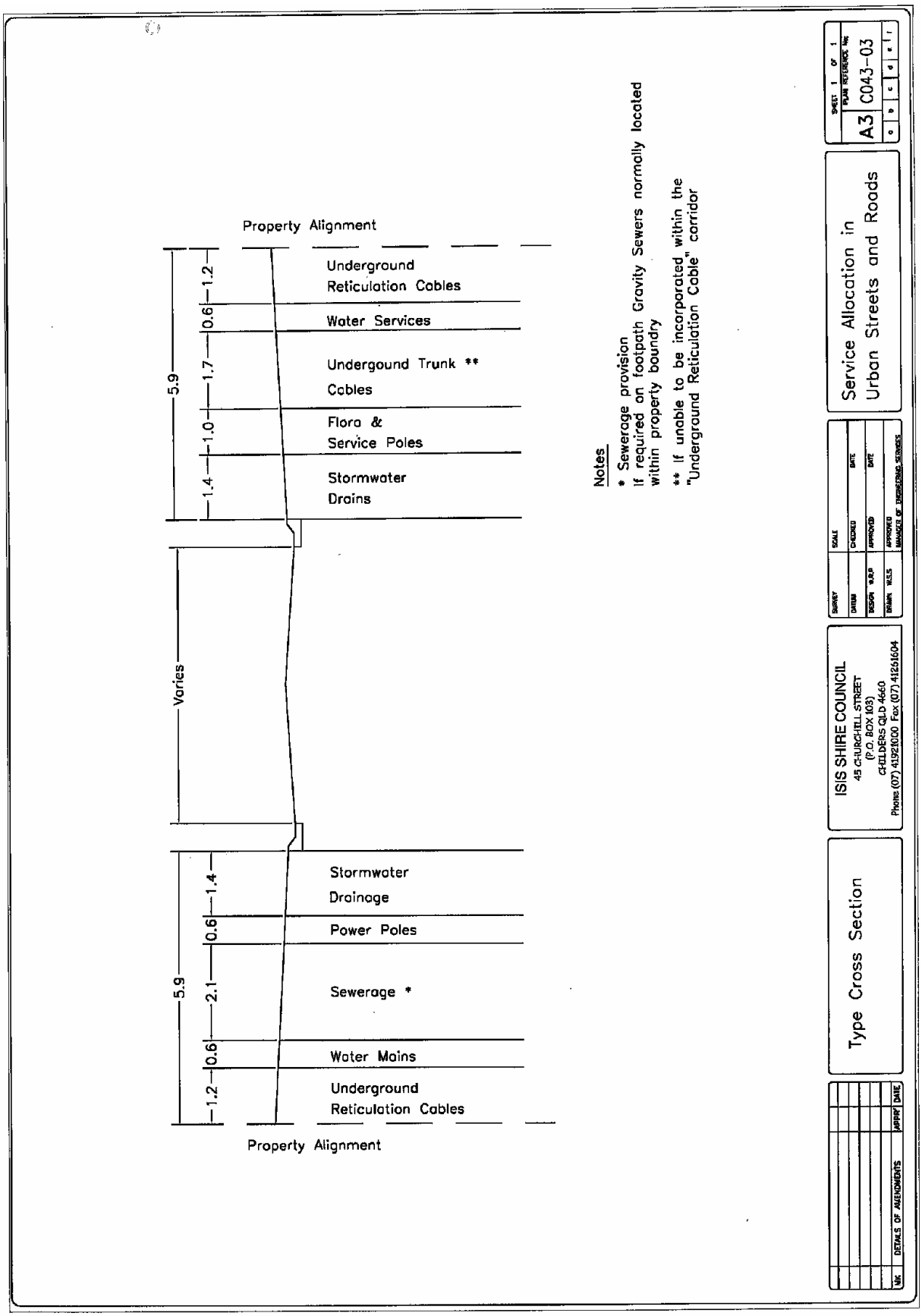
Property Alignment
Underground Reticulation Cables
Water Services
Undergound Trunk ** Cables
Flora & Service Poles
Stormwater Drains
1.2
0.6
1.7
1.0
1.4
5.9
Varies
Stormwater Drainage
Power Poles
Sewerage *
Water Mains
Underground Reticulation Cables
1.4
0.6
2.1
0.6
1.2
5.9
Property Alignment
Notes
* Sewerage provision If required on footpath Gravity Sewers normally located within property boundry
** If unable to be incarporated within the "Underground Reticulation Cable" corridor
Service Allocation in Urban Streets and Roads
A3 C043-03
Type Cross Section
ISIS SHIRE COUNCIL
45 CHURCHILL STREET
(P.O. BOX 103)
CHILDERS QLD 4660
Phone (07) 41921600 Fax (07) 41261604
SURVEY
DATUM
DESIGN W.R.P
DRAWN W.L.S
SCALE
CHECKED
APPROVED
APPROVED
DATE
DATE
MANAGER OF ENGINEERING SERVICES
NO. DETAILS OF AMENDMENTS APPR'D DATE

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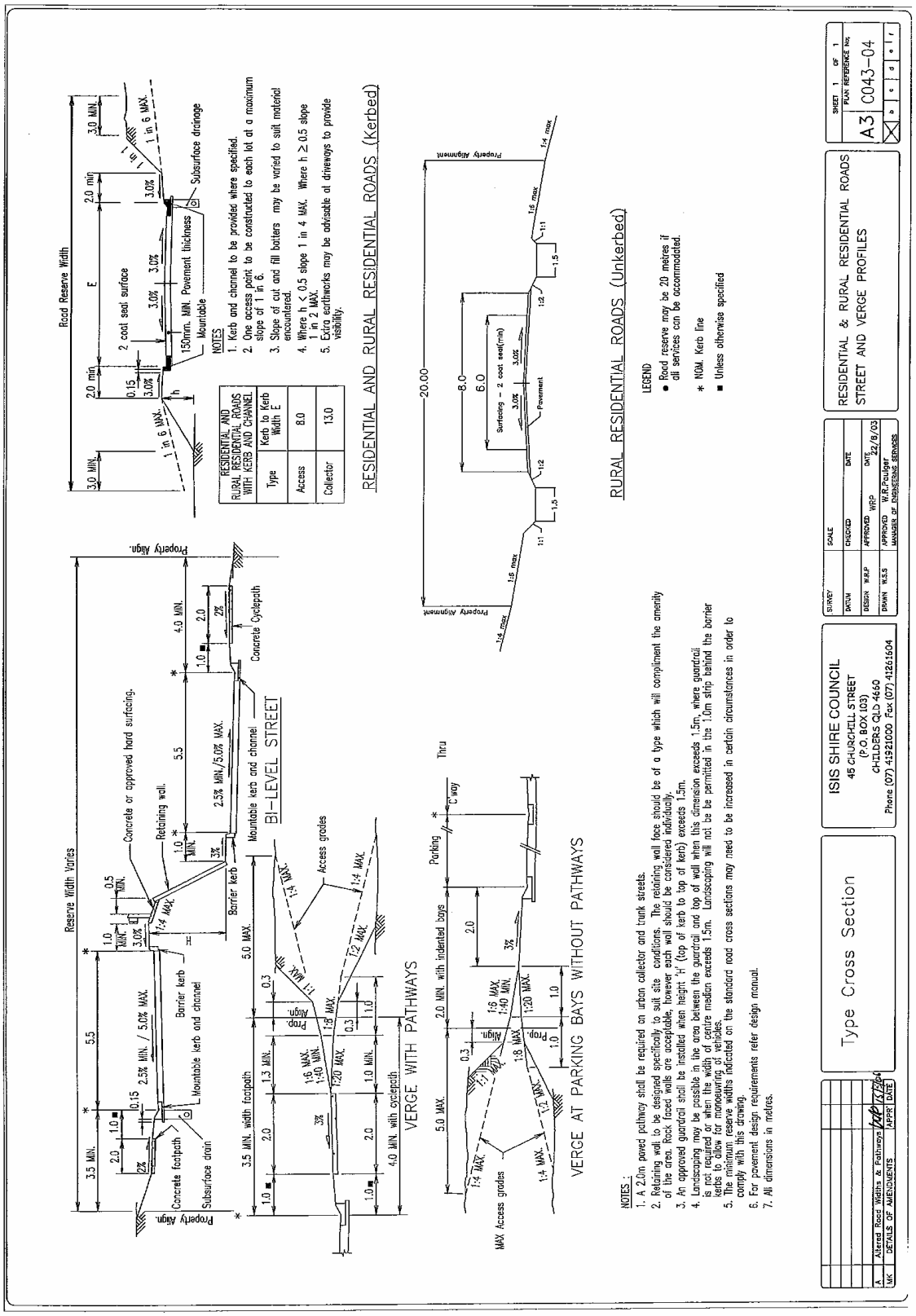
Road Reserve Width
E
2.0 min
3.0 MIN.
2 coat seal surface
3.0%
150mm. MIN. Pavement thickness
Mountable
Subsurface drainage
1 in 6 MAX.
h
NOTES
1. Kerb and channel to be provided where specified.
2. One access point to be constructed to each lot at a maximum slope of 1 in 6.
3. Slope of cut and fill batters may be varied to suit material encountered.
4. Where h < 0.5 slope 1 in 4 MAX. Where h ≥ 0.5 slope 1 in 2 MAX.
5. Extra earthworks may be advisable at driveways to provide visibility.
RESIDENTIAL AND RURAL RESIDENTIAL ROADS WITH KERB AND CHANNEL
Type
Kerb to Kerb Width E
Access 8.0
Collector 13.0
RESIDENTIAL AND RURAL RESIDENTIAL ROADS (Kerbed)
Reserve Width Varies
Property Align.
Concrete or approved hard surfacing.
Retaining wall.
Barrier kerb
Mountable kerb and channel
Concrete footpath
Subsurface drain
Concrete Cycleway
BI-LEVEL STREET
Access grades
VERGE WITH PATHWAYS
Parking
Thru
C'way
VERGE AT PARKING BAYS WITHOUT PATHWAYS
RURAL RESIDENTIAL ROADS (Unkerbed)
20.00
8.0
6.0
Surfacing - 2 coat seal(min)
Pavement
Property Alignment
LEGEND
Road reserve may be 20 metres if all services can be accommodated.
* NOM. Kerb line
Unless otherwise specified
NOTES :
1. A 2.0m paved pathway shall be required on urban collector and trunk streets.
2. Retaining wall to be designed specifically to suit site conditions. The retaining wall face should be of a type which will compliment the amenity of the area. Rock faced walls are acceptable, however each wall should be considered individually.
3. An approved guardrail shall be installed when height 'H' (top of kerb to top of kerb) exceeds 1.5m.
4. Landscaping may be possible in the area between the guardrail and top of wall when this dimension exceeds 1.5m, where guardrail is not required or when the width of centre median exceeds 1.5m. Landscaping will not be permitted in the 1.0m strip behind the barrier kerbs to allow for manoeuvring of vehicles.
5. The minimum reserve widths indicated on the standard road cross sections may need to be increased in certain circumstances in order to comply with this drawing.
6. For pavement design requirements refer design manual.
7. All dimensions in metres.
A. Altered Road Widths & Pathways
MK DETAILS OF AMENDMENTS APPR DATE
Type Cross Section
ISIS SHIRE COUNCIL
45 CHURCHILL STREET
(P.O. BOX 103)
CHILDERS QLD 4660
Phone (07) 41921000 Fax (07) 41261604
SURVEY
DATUM
DESIGN W.R.P
DRAWN W.S.S
SCALE
CHECKED DATE
APPROVED W.R.P DATE 22/8/03
APPROVED W.R.Poulger
MANAGER OF ENGINEERING SERVICES
RESIDENTIAL & RURAL RESIDENTIAL ROADS
STREET AND VERGE PROFILES
SHEET 1 OF 1
PLAN REFERENCE No.
A3 C043-04

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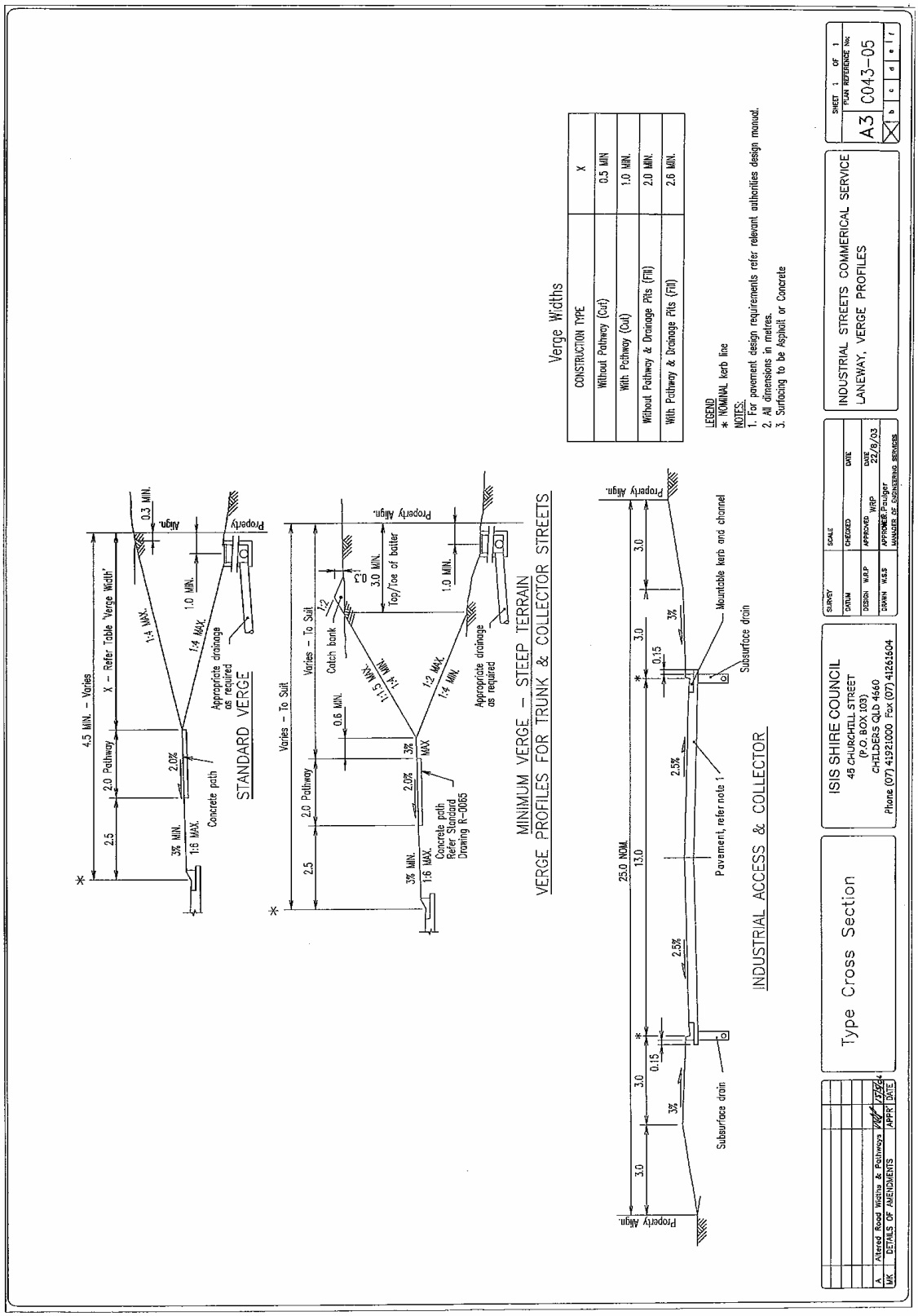
Verge Widths
CONSTRUCTION TYPE | X
Without Pathway (Cut) | 0.5 MIN
With Pathway (Cut) | 1.0 MIN.
Without Pathway & Drainage Pits (Fill) | 2.0 MIN.
With Pathway & Drainage Pits (Fill) | 2.6 MIN.
LEGEND
* NOMINAL kerb line
NOTES:
1. For pavement design requirements refer relevant authorities design manual.
2. All dimensions in metres.
3. Surfacing to be Asphalt or Concrete
STANDARD VERGE
MINIMUM VERGE – STEEP TERRAIN
VERGE PROFILES FOR TRUNK & COLLECTOR STREETS
INDUSTRIAL ACCESS & COLLECTOR
Type Cross Section
ISIS SHIRE COUNCIL
45 CHURCHILL STREET
(P.O. BOX 103)
CHILDERS QLD 4660
Phone (07) 41921000 Fax (07) 41261604
INDUSTRIAL STREETS COMMERICAL SERVICE
LANEWAY, VERGE PROFILES
A3 C043-05
SHEET 1 OF 1
PLAN REFERENCE No:
A Altered Road Widths & Pathways
MK DETAILS OF AMENDMENTS
APPR DATE
SURVEY
DATUM
DESIGN W.R.P
DRAWN W.S.S
SCALE
CHECKED
DATE
APPROVED W.R.P
DATE 22/8/03
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MANAGER OF ENGINEERING SERVICES

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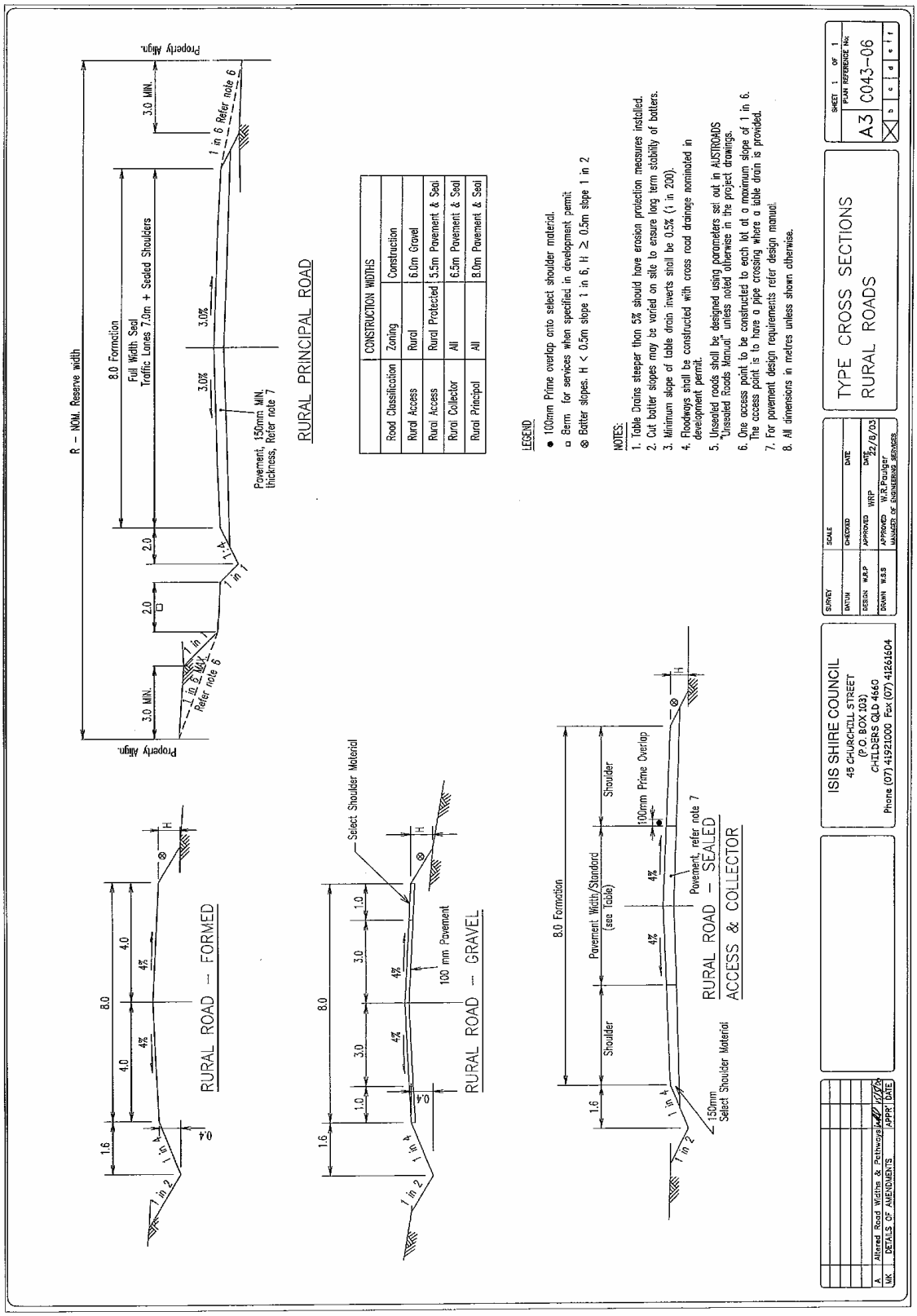
R – NOM. Reserve width
8.0 Formation
Full Width Seal
Traffic Lanes 7.0m + Sealed Shoulders
3.0 MIN.
3.0%
2.0
1 in 6 Refer note 6
1 in 4
1 in 2 MAX. Refer note 6
Pavement, 150mm MIN. thickness, Refer note 7
Property Align.
RURAL PRINCIPAL ROAD
CONSTRUCTION WIDTHS
Road Classification | Zoning | Construction
Rural Access | Rural | 6.0m Gravel
Rural Access | Rural Protected | 5.5m Pavement & Seal
Rural Collector | All | 6.5m Pavement & Seal
Rural Principal | All | 8.0m Pavement & Seal
LEGEND
● 100mm Prime overlap onto select shoulder material.
□ Berm for services when specified in development permit
⊗ Batter slopes. H < 0.5m slope 1 in 6, H ≥ 0.5m slope 1 in 2
NOTES:
1. Table Drains steeper than 5% should have erosion protection measures installed.
2. Cut batter slopes may be varied on site to ensure long term stability of batters.
3. Minimum slope of table drain inverts shall be 0.5% (1 in 200).
4. Floodways shall be constructed with cross road drainage nominated in development permit.
5. Unsealed roads shall be designed using parameters set out in AUSTROADS "Unsealed Roads Manual" unless noted otherwise in the project drawings.
6. One access point to be constructed to each lot at a maximum slope of 1 in 6. The access point is to have a pipe crossing where a table drain is provided.
7. For pavement design requirements refer design manual.
8. All dimensions in metres unless shown otherwise.
RURAL ROAD – FORMED
8.0
4.0
4.0
4%
4%
1.6
1 in 4
1 in 2
0.4
H
RURAL ROAD – GRAVEL
Select Shoulder Material
8.0
1.0
3.0
3.0
1.0
4%
4%
100 mm Pavement
0.4
1.6
1 in 4
1 in 2
H
RURAL ROAD – SEALED
ACCESS & COLLECTOR
8.0 Formation
Pavement Width/Standard (see Table)
Shoulder
Shoulder
100mm Prime Overlap
4%
4%
Pavement, refer note 7
1.6
1 in 4
1 in 2
150mm Select Shoulder Material
H
ISIS SHIRE COUNCIL
45 CHURCHILL STREET
(P.O. BOX 103)
CHILDERS QLD 4660
Phone (07) 41521000 Fax (07) 41261604
SURVEY
DATUM
DESIGN W.A.P
DRAWN W.S.S
SCALE
CHECKED
DATE
APPROVED W.R.P
DATE 22/8/03
APPROVED W.R.Poulger
MANAGER OF ENGINEERING SERVICES
TYPE CROSS SECTIONS
RURAL ROADS
SHEET 1 OF 1
PLAN REFERENCE No:
A3 C043-06
A Altered Road Widths & Pathways 16/2/06
NR DETAILS OF AMENDMENTS APPR DATE

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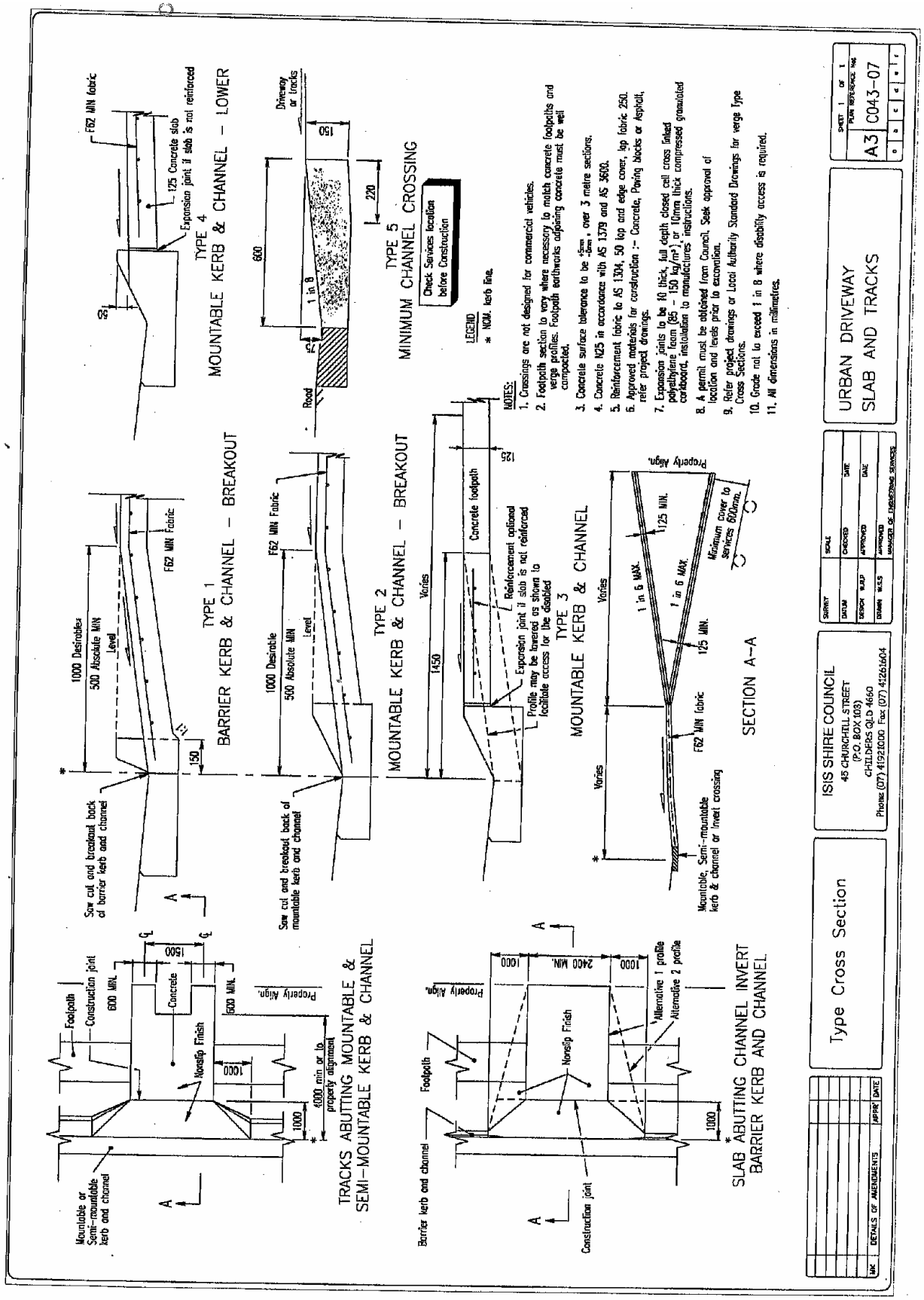
URBAN DRIVEWAY
SLAB AND TRACKS
A3 C043-07
Type Cross Section
ISIS SHIRE COUNCIL
45 CHURCHILL STREET
(P.O. BOX 103)
CHILDERS QLD 4660
Phone (07) 41921000 Fax (07) 41261604
TYPE 1
BARRIER KERB & CHANNEL – BREAKOUT
TYPE 2
MOUNTABLE KERB & CHANNEL – BREAKOUT
TYPE 3
MOUNTABLE KERB & CHANNEL
TYPE 4
MOUNTABLE KERB & CHANNEL – LOWER
TYPE 5
MINIMUM CHANNEL CROSSING
SECTION A–A
TRACKS ABUTTING MOUNTABLE & SEMI-MOUNTABLE KERB & CHANNEL
SLAB ABUTTING CHANNEL INVERT BARRIER KERB AND CHANNEL
NOTES:
1. Crossings are not designed for commercial vehicles.
2. Footpath section to vary where necessary to match concrete footpaths and verge profiles. Footpath earthworks adjoining concrete must be well compacted.
3. Concrete surface tolerance to be +5mm, -0mm over 3 metre sections.
4. Concrete N25 in accordance with AS 1379 and AS 3600.
5. Reinforcement fabric to AS 1304, 50 top and edge cover, 4sp fabric 250.
6. Approved materials for construction :- Concrete, Paving blocks or Asphalt, refer project drawings.
7. Expansion joints to be 10 thick, full depth closed cell cross linked polyethylene foam (85 – 150 kg/m³), or 10mm thick compressed granulated cardboard, installation to manufacturers' instructions.
8. A permit must be obtained from Council. Seek approval of location and levels prior to excavation.
9. Refer project drawings or Local Authority Standard Drawings for verge Type Cross Sections.
10. Grade not to exceed 1 in 8 where disability access is required.
11. All dimensions in millimetres.
LEGEND
* NOM. kerb line.
Check Services location before Construction
Saw cut and breakout back of barrier kerb and channel
Saw cut and breakout back of mountable kerb and channel
Reinforcement optional
Expansion joint if slab is not reinforced
Profile may be lowered as shown to facilitate access for the disabled
Concrete footpath
Footpath
Construction joint
Noneslip Finish
Alternative 1 profile
Alternative 2 profile
Barrier kerb and channel
Mountable or Semi-mountable kerb and channel
Mountable, Semi-mountable kerb & channel or invert crossing
Minimum Cover to Services 600mm.
Property Align.
Road
Driveway or tracks
F62 MIN fabric
F62 MIN Fabric
125 Concrete slab
Expansion joint if slab is not reinforced
1000 Desirable
500 Absolute MIN
Level
1 in 6 MAX.
1 in 8
Varies
1450
2400 MIN.
1500
600 MIN.
1000
4000 min or to property alignment
125 MIN.
150
220
600
125
SURVEY
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MANAGER OF ENGINEERING SERVICES
DATE
SHEET 1 OF 1
PLAN REFERENCE No.
DETAILS OF AMENDMENTS
APPR'D
DATE

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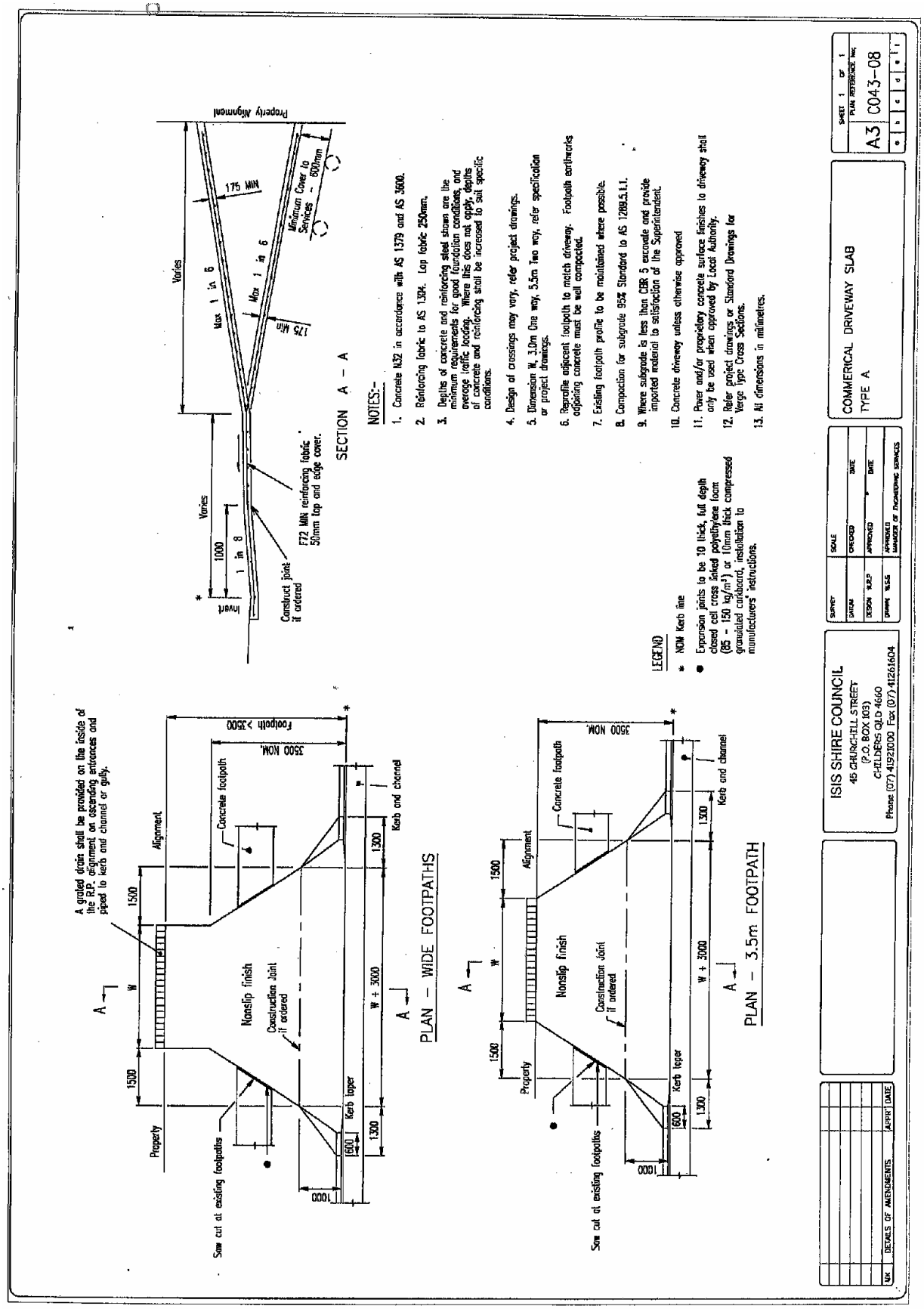
Property Alignment
175 MIN
Varies
Max 1 in 6
Max 1 in 6
Minimum Cover to Services - 600mm
175 MIN
Varies
1000
1 in 8
Invert
Construct joint if ordered
F72 MIN reinforcing fabric 50mm top and edge cover.
SECTION A - A
NOTES:-
1. Concrete N32 in accordance with AS 1379 and AS 3600.
2. Reinforcing fabric to AS 1304. Lap fabric 250mm.
3. Depths of concrete and reinforcing steel shown are the minimum requirements for good foundation conditions, and average traffic loading. Where this does not apply, depths of concrete and reinforcing shall be increased to suit specific conditions.
4. Design of crossings may vary, refer project drawings.
5. Dimension W, 3.0m One way, 5.5m Two way, refer specification or project drawings.
6. Reprofile adjacent footpath to match driveway. Footpath earthworks adjoining concrete must be well compacted.
7. Existing footpath profile to be maintained where possible.
8. Compaction for subgrade 95% Standard to AS 1289.5.1.1.
9. Where subgrade is less than CBR 5 excavate and provide imported material to satisfaction of the Superintendent.
10. Concrete driveway unless otherwise approved
11. Power and/or proprietary concrete surface finishes to driveway shall only be used when approved by Local Authority.
12. Refer project drawings or Standard Drawings for Verge Type Cross Sections.
13. All dimensions in millimetres.
LEGEND
* NOM Kerb line
● Expansion joints to be 10 thick, full depth closed cell cross linked polyethylene foam (85 - 150 kg/m³) or 10mm thick compressed granulated cardboard, installation to manufacturers' instructions.
A grated drain shall be provided on the inside of the R.P. alignment on ascending entrances and piped to kerb and channel or gully.
Footpath >3500
3500 NOM.
Concrete footpath
Alignment
1500
W
1500
Property
Nonslip finish
Construction Joint if ordered
Kerb taper
Kerb and channel
1300
W + 3000
1300
1000
Some cut at existing footpaths
PLAN - WIDE FOOTPATHS
3500 NOM.
Concrete footpath
Alignment
1500
W
1500
Property
Nonslip finish
Construction Joint if ordered
Kerb taper
Kerb and channel
1300
W + 3000
1300
1000
Some cut at existing footpaths
PLAN - 3.5m FOOTPATH
ISIS SHIRE COUNCIL
45 CHURCHILL STREET
(P.O. BOX 103)
CHILDERS QLD 4660
Phone (07) 41592000 Fax (07) 41261604
SURVEY
DATUM
DESIGN W.K.P.
DRAWN W.S.S.
SCALE
CHECKED
APPROVED
APPROVED MANAGER OF ENGINEERING SERVICES
DATE
DATE
COMMERICAL DRIVEWAY SLAB
TYPE A
SHEET 1 OF 1
PLAN REFERENCE No.
A3 C043-08
DETAILS OF AMENDMENTS
APP'D
DATE

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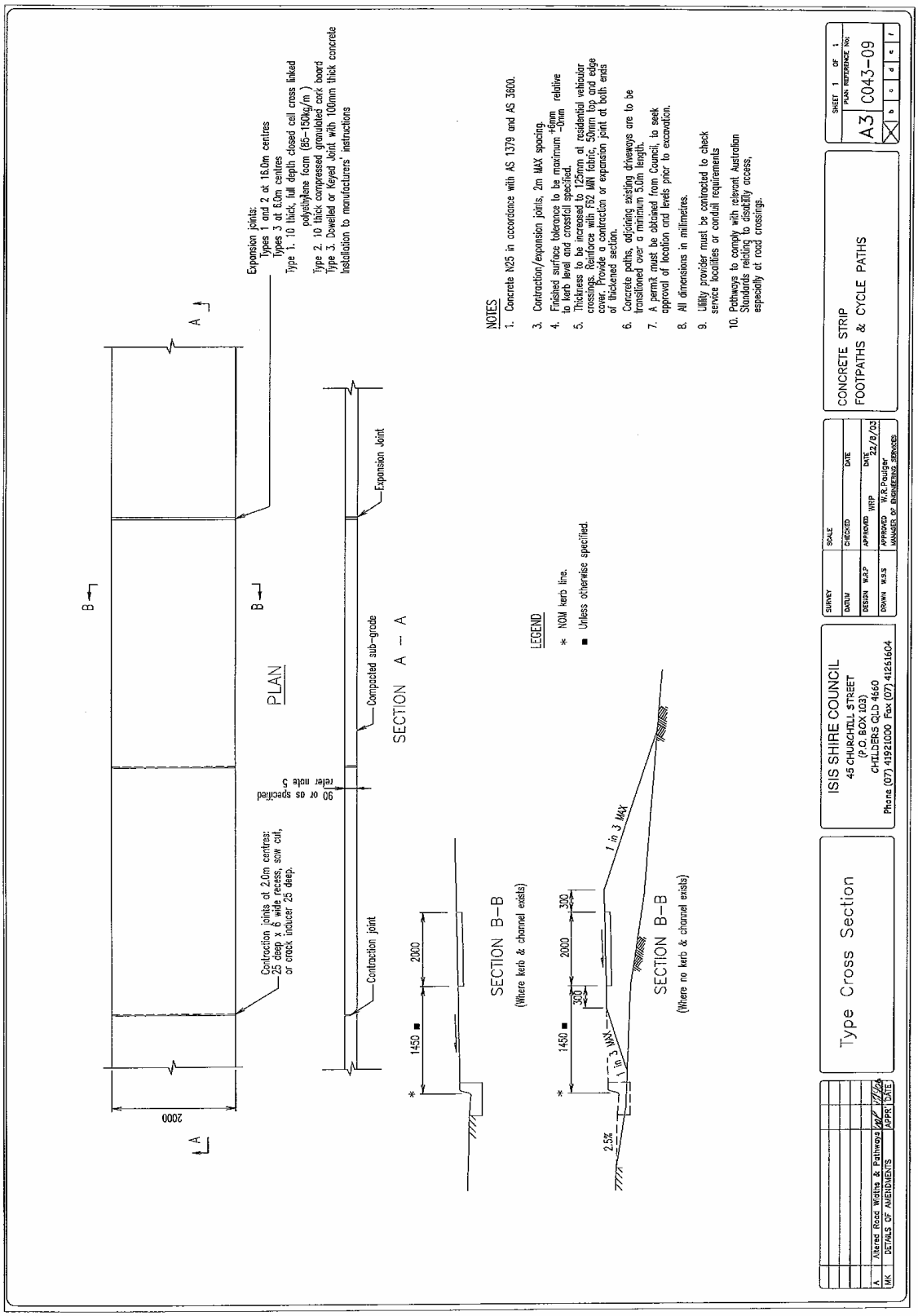
Expansion joints:
Types 1 and 2 at 16.0m centres
Types 3 at 8.0m centres
Type 1. 10 thick, full depth closed cell cross linked polyethylene foam (85-150kg/m)
Type 2. 10 thick compressed granulated cork board
Type 3. Dowelled or Keyed Joint with 100mm thick concrete
Installation to manufacturers' instructions
Contraction joints at 2.0m centres:
25 deep x 6 wide recess, saw cut,
or crack inducer 25 deep.
90 or as specified
refer note 5
Compacted sub-grade
Contraction joint
Expansion Joint
PLAN
SECTION A – A
SECTION B-B
(Where kerb & channel exists)
SECTION B-B
(Where no kerb & channel exists)
1 in 3 MAX
2.5%
2000
1450
300
LEGEND
* NOM kerb line.
■ Unless otherwise specified.
NOTES
1. Concrete N25 in accordance with AS 1379 and AS 3600.
3. Contraction/expansion joints, 2m MAX spacing.
4. Finished surface tolerance to be maximum +6mm -0mm relative to kerb level and crossfall specified.
5. Thickness to be increased to 125mm at residential vehicular crossings. Reinforce with F82 MIN fabric, 50mm top and edge cover. Provide a contraction or expansion joint at both ends of thickened section.
6. Concrete paths, adjoining existing driveways are to be transitioned over a minimum 5.0m length.
7. A permit must be obtained from Council, to seek approval of location and levels prior to excavation.
8. All dimensions in millimetres.
9. Utility provider must be contacted to check service localities or conduit requirements
10. Pathways to comply with relevant Australian Standards relating to disability access, especially at road crossings.
CONCRETE STRIP
FOOTPATHS & CYCLE PATHS
Type Cross Section
ISIS SHIRE COUNCIL
45 CHURCHILL STREET
(P.O. BOX 103)
CHILDERS QLD 4660
Phone (07) 41921000 Fax (07) 41261604
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SHEET 1 OF 1
PLAN REFERENCE No:
A3 C043-09
A Altered Road Widths & Pathways
MK DETAILS OF AMENDMENTS
APPR DATE