Irrigation Infrastructure Renewal Projections - 2013/14 to 2046/47

Report - Warrill Valley Tariff Group

April 2012

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Document Status

Version	Date	Author	Reviewed	PCG Approval
1	20/4/12	AL/GH	MD	
2				

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1. Introduction

Seqwater owns and operates the following seven irrigation schemes:

- Central Lockyer WSS;
- Lower Lockyer WSS;
- Logan River WSS;
- Mary River WSS;
- Cedar Pocket WSS;
- Warrill Valley WSS; and
- Central-Brisbane WSS.

Seqwater also owns and operates a distribution system, the Morton Vale Pipeline.

There are nine tariff groups associated with these schemes.

To assist with the determination of price paths, a forecast of future renewal expenditure is required at the individual tariff group level.

The renewal projections have been developed, in accordance with the scope and methodology separately documented in the Methodology report. The projections have been developed in separate reports, one for each tariff group.

This report outlines the projections for the Warrill Valley Tariff group. It should be read in conjunction with the Methodology report.

2. Asset Information

2.1 Irrigation Infrastructure

A summary of Seqwater's irrigation infrastructure facilities and assets is provided in **Table 1** below.

Table 1 Summary of Irrigation Infrastructure

WSS Scheme	Tariff Group	Dams	Weirs	Off-Stream Storage	Other Key Assets
Warrill Valley	Warrill Valley	Moogerah Dam	Aratula Weir, Chruchbank Weir, Kents Lagoon Diversion Weir, Railway Weir, Warrill Creek Diversion Weir, West Branch Warrill Diversion Weir	NA	Black Gully Diversion, Normanby Gully Diversion, Upper Warrill Diversion, West Branch Warrill Diversion, Warroolaba Creek Diversion, Gauging Stations, Flowmeters

A schematic drawing of the scheme is provided in Appendix A.

2.2 Relevant Asset Information

The following existing information was reviewed and where relevant, utilised to develop the renewal projections:

- Asset Register
- Annual, 5 Year and Comprehensive Dam Safety Reviews and Assessments
- Dams Weirs Valuations 2010
- Water Meter Upgrade Plan
- Draft WSS 20 Year Programme of Work 2008/09 – 2028/29
- 2011 Site Safety Assessments
- Extracts from Financial Asset Register
- 2009 Asset Valuation – Cardnos
- 2010 Asset Valuation – Dams & Weirs – Cardnos
- Moogerah Dam Facilities Asset Management Plan (FAMP) 2012

3. Projections

3.1 Summary

A summary of the renewal and refurbishment projections for the period 2013/14 – 2046/47 is provided in Table 3.

Further details are provided in Appendix B.

It should be noted that all values are in $2012-13.

3.2 Significant Projects

A list of projects that come under one of the following categories are outlined in Table 2 below:

- Scheduled between 2013/14 and 2016/17 financial years and having a project value greater than the average project value for that period; and
- A project that has an impact on the annuity of greater than 10%.

Table 2 Significant Projects

Asset	Description of Work	Timing of Work	Project Value	Signif.*
Moogerah Dam	Replacement of dam wall access ladder (FAMP)	2013/14	$100k	IA/HAV
Upper Warrill Diversion	Scour valve refurbishment – Siphon 4	2014/15	$36k	HAV
Upper Warrill Diversion	Scour valve refurbishment – Siphon 7	2015/16	$24k	HAV

Notes: *Significance: HAV – Higher than Average Value (for period from 2013/14 to 2016/17) IA – Project has an impact on the annuity of greater than 10% (refer Section 3.3 for commentary)

Table 3 Summary of Renewal Projections

Parent Asset	Expenditure Forecast Each Year ($k)																
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Moogerah Dam	120	-	-	-	-	-	15	145	-	18	-	-	-	-	-	-	-
Warrill Valley Distribution	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aratula Weir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Black Gully Diversion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Churchbank Weir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gauging Station-Warril Creek	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-	-	-
Kents Lagoon Diversion Weir	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	21
Normanby Gully Diversion	-	6	-	10	-	-	-	-	-	-	-	-	-	10	21	-	-
Railway Weir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reynolds Creek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	-	75	78	-	22	-	21	-	-	-	-	326	14	-	-	-	-
Warrill Creek Diversion Weir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	194	-
West Branch Warrill Diversion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Warroolaba Creek Diversion Weir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Warrill Creek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Warroolaba Creek Diversion	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-
Water Flowmeters	-	-	-	-	-	-	-	-	-	-	-	-	46	46	46	46	46
Total	**120**	**81**	**78**	**10**	**32**	**-**	**36**	**145**	**-**	**88**	**-**	**326**	**81**	**56**	**67**	**240**	**67**

Parent Asset	Expenditure Forecast Each Year ($k)																
	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47
Moogerah Dam	-	-	251	-	-	-	21	-	-	-	-	731	18	-	-	-	-
Warrill Valley Distribution	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aratula Weir	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	606	-
Black Gully Diversion	-	-	-	-	7	-	-	-	-	-	-	-	-	-	19	-	-
Churchbank Weir	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
Gauging Station-Warril Creek	-	-	70	-	-	-	-	-	-	-	-	-	70	-	-	-	-
Kents Lagoon Diversion Weir	-	-	1	-	5	-	-	-	-	-	-	-	-	-	1,358	21	-
Normanby Gully Diversion	-	-	-	-	-	-	10	-	-	14	-	-	-	-	309	-	10
Railway Weir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reynolds Creek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	-	-	-	-	47	-	-	-	-	-	-	-	-	-	64	-	-
Warrill Creek Diversion Weir	-	-	-	114	-	-	-	-	-	-	-	-	-	-	-	-	-
West Branch Warrill Diversion	-	-	-	47	-	-	-	-	-	-	-	-	-	305	-	-	-
Warroolaba Creek Diversion Weir	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Warrill Creek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Warroolaba Creek Diversion	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-
Water Flowmeters	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Total	**67**	**46**	**368**	**207**	**109**	**46**	**77**	**51**	**46**	**60**	**46**	**777**	**134**	**351**	**1,796**	**673**	**73**

3.3 Additional Commentary

For some assets, the available asset data indicated the theoretical asset life was either expired or due to expire within the first four years. Where a site assessment was not able to verify the need to renew an asset within the first 5 years, the timing of the renewal was updated to occur beyond 2017/18 financial year. This was the case for the following assets:

- Moogerah Dam valve actuators - useful life was extended based on assessment in FAMP.
- Moogerah Dam low flow valves and butterfly valve - useful life was extended based on assessment in FAMP.
- Upper Warrill Diversion fencing - useful life was extended based on site assessment.

Commentary on projects that have a higher than average project value includes:

- Refurbishment of scour valve at Siphon 4 in Upper Warrill Diversion as assessed in Draft WSS 20 Year Programme of Work 2008/09 – 2028/29 and site inspection.
- Refurbishment of scour valve at Siphon 7 in Upper Warrill Diversion as assessed in Draft WSS 20 Year Programme of Work 2008/09 – 2028/29 and site inspection.

Commentary on projects that have an impact on the annuity of greater than 10% or have a higher than average value is provided as follows:

- Replacement of access ladder on Moogerah Dam wall as detailed in FAMP.

For the forecasted renewal expenditure between 2013/14 and 2016/17, values were compared with Sunwater's renewals projections which were the basis of the SunWater irrigation prices for 2006/07 to 2010/11. When excluding the water meter upgrade costs which will be excluded from the annuity, it was noted the total value of Seqwater's renewal forecast was approximately 111% of Sunwaters. The difference is believed to be primarily due to:

- Seqwater projections being based on more up-to-date information.
- Seqwater projections including higher expenditure on Moogerah Dam in 2013/14.

Appendix A

Water Supply Scheme Schematic

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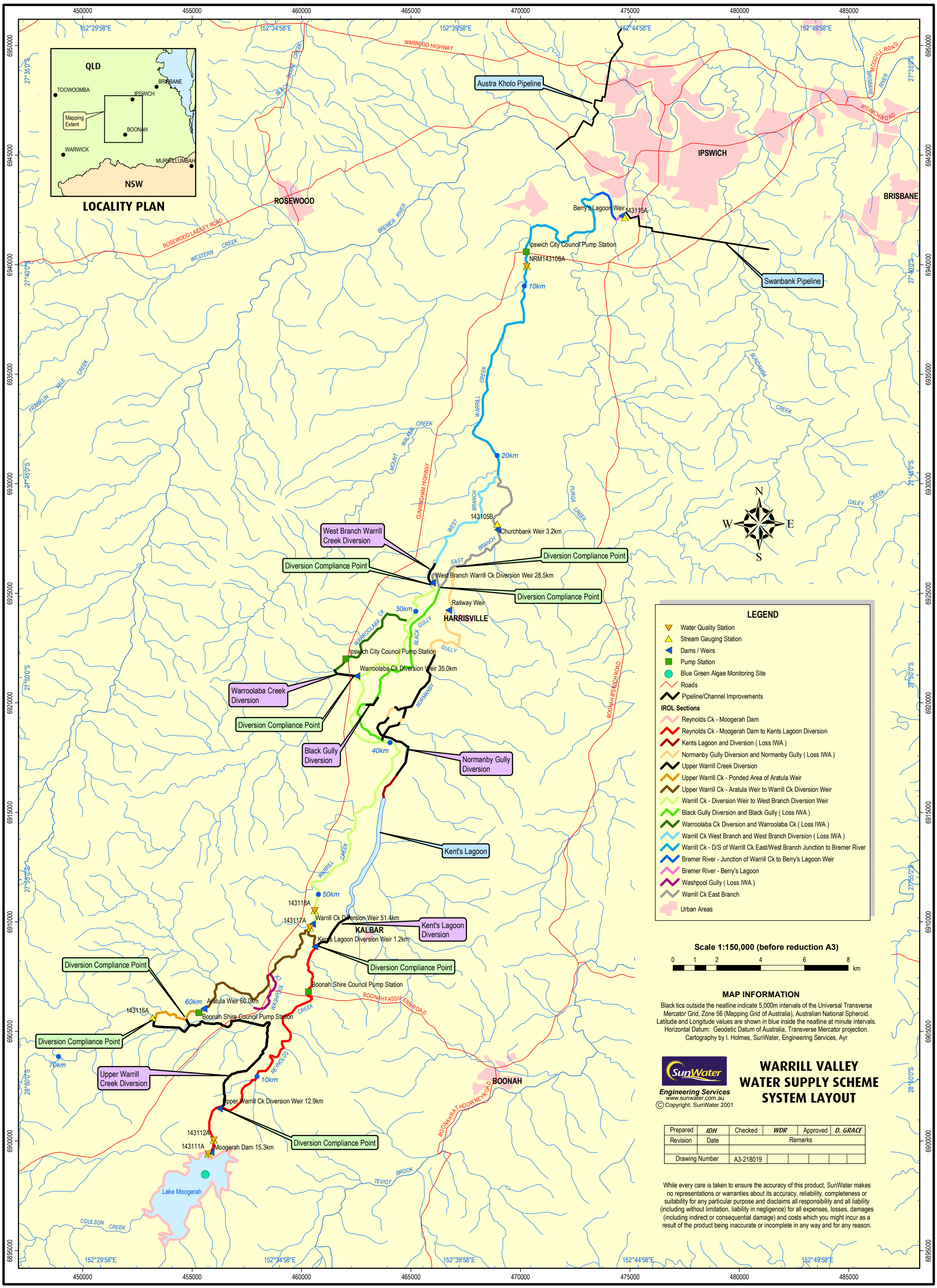
25 October 2001 4:21 PM



Appendix B

Renewal Projections

Asset Details			Renewal Details		Expenditure Forecast Each Year ($k)																																				
Parent Asset	Asset Description	Works Description	Comments	Costing Source	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47
Moogerah Dam	Structure Of Building	Replace	-	Static Asset Data	-	-	-	-	-	-	-	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moogerah Dam	Store/Workshop	Replace	-	Static Asset Data	-	-	-	-	-	-	-	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moogerah Dam	Control	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-
Moogerah Dam	Fencing	Refurbish	Replace sections of fencing	FAMP	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moogerah Dam	Hoist, 1.6T Demag Elec Incl Trolley	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	9	-	-	-	-	-
Moogerah Dam	Hoist, 1.6T Demag Elec Incl Trolley	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	9	-	-	-	-	-
Moogerah Dam	Valve, 660Mm Cone English Electric	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	111	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moogerah Dam	Valve, 660Mm Cone English Electric	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	111	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moogerah Dam	Electrical Installations	Replace	-	Est	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	-	-	-
Moogerah Dam	Valve, 229Mm Sluice	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moogerah Dam	Valve, 229Mm Sluice	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moogerah Dam	Valve, 203Mm Butf John	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moogerah Dam	Pipe Work	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-
Moogerah Dam	Concrete Structure	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	672	-	-	-	-	-
Moogerah Dam	Ladders	Refurbish	Access ladder t o be replaced	FAMP/DCE	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moogerah Dam	Concrete Structure	Refurbish	Concrete wall - Repair concrete	FAMP	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aratula Weir	Valve, 250Mm Sluice Tyco	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Aratula Weir	Embankment	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	594	-	-
Aratula Weir	Outlet Works	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-
Aratula Weir	Protection Works	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-
Black Gully Diversion	Siphon Outlet - 140.21M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-
Black Gully Diversion	Concrete Works	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-
Black Gully Diversion	Pipework	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-
Churchbank Weir	Outlet Valve	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Churchbank Weir	Outlet Works	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Churchbank Weir	Outlet Works	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Churchbank Weir	Walkway	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
Gauging Station-Warril C	Gauging Stations-Warrill Ck	Replace	-	Workshop - 31 Jan 2012	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-	-	-	-	-	70	-	-	-	-	-	-	-	-	70	-	-	-	-	-
Kents Lagoon Diversion \	Actuator, Man Awma	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kents Lagoon Diversion \	Xing/Kents-Goetsch Rd-3400M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	-	-	-	-
Kents Lagoon Diversion \	Pipework	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1280	-	-	-	-
Kents Lagoon Diversion \	Pumpwell 1-Mcgrath-518.16M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-
Kents Lagoon Diversion \	Pumpwell 2-Helt Villis-844.30M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-
Kents Lagoon Diversion \	Concrete Works	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-
Kents Lagoon Diversion \	Trash Screen	Replace	-	Est	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-
Kents Lagoon Diversion \	Regulating Gate At 17.8M	Refurbish	Gate is in well - maintain gate	20yr PW	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-
Kents Lagoon Diversion \	Regulating Gate At 17.8M	Refurbish	Refurbish Slide Gate and Gate Guides	20yr PW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kents Lagoon Diversion \	Well At 17.8M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-
Normanby Gully Diversio	Normanby Gully Diversion	Refurbish	Refurbish: Desilt channel	Site visit/estimate	-	-	-	10	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	10
Normanby Gully Diversio	Siphon 1 Inlet - 10570.8M	Replace	-	Est	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-
Normanby Gully Diversio	Siphon 2 Inlet - 10668.9M	Replace	-	Est	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-
Normanby Gully Diversio	Siphon 1 Outlet - 10595.16M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-
Normanby Gully Diversio	Siphon 2 Outlet - 10725M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-
Normanby Gully Diversio	Siphon 3 Outlet - 12079.23M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-
Normanby Gully Diversio	Regs/Inlet - Siphon 3-11987.47	Replace	-	Est	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-
Normanby Gully Diversio	Regs/Inlet - Siphon 3-11987.47	Replace	-	20yr PW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normanby Gully Diversio	Concrete Works	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-
Normanby Gully Diversio	Regs/Inlet To Loop-11905M	Replace	-	Est	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-
Normanby Gully Diversio	Regs/Inlet To Loop-11905M	Replace	-	20yr PW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normanby Gully Diversio	Concrete Works	Replace	-	Est	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	-	-
Normanby Gully Diversio	Concrete Works	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	-	-	-	-
Normanby Gully Diversio	Regulating Gate	Replace	-	Static Asset Data	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normanby Gully Diversio	Pipeworks	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-
Normanby Gully Diversio	Pipeworks	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	-	-	-	-
Normanby Gully Diversio	Pipeworks	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	-	-	-	-
Normanby Gully Diversio	Self Cleaning Trash Screen	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-
Normanby Gully Diversio	Structure	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-
Normanby Gully Diversio	Self Cleaning Trash Screen	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-
Normanby Gully Diversio	Structure	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-
Upper Warrill Diversion	Diversion Channel-Open Earth	Replace	Refurbish: Desilt Channel	20yr PW	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Fencing, Gates & Grids	Refurbish	Some not fenced, leave grids - replace - $100,000 @ 30 yr intervals 6.5kmx2 + crossings + gates -Spe	20yr PW	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Regulating Gate	Replace	-	Static Asset Data	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Regulating Structure Mid-Pipe	Replace	-	20yr PW	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Screen To Inlet Of Siphon	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-
Upper Warrill Diversion	Trash Screen At Inlet	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Double Air Valves-2829M, 3342M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Manhole - 2754.63M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Trash Screen Inlet Structure	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	-	-
Upper Warrill Diversion	Trash Screen Inlet Structure	Replace	-	20yr PW	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Scour Valves-2741,3103,3459M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	-	Refurbish	Breakdown maintenance only - no planned inspections - Denso wrapped	20yr PW	-	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Trash Screen At Inlet	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-
Upper Warrill Diversion	Screen To Inlet Of Siphon	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Scour Valve At 5072M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Scour Valve At 5072M	Replace	Breakdown maintenance only - no planned inspections - Denso wrapped	20yr PW	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Irrig Outlet At 5860M- Johnson	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Irrig Outlet At 5860M- Johnson	Replace	-	20yr PW	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Irrig Outlet At 6048M- Johnson	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Screen At Siphon Inlet	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-
Upper Warrill Diversion	Scour Valve At 6122M, 5860M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Asset Details		Renewal Details			Expenditure Forecast Each Year ($k)																																	
Parent Asset	Asset Description	Works Description	Comments	Costing Source	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47
Upper Warrill Diversion	Scour Valve At 6122M, 5860M	Refurbish	Breakdown maintenance only - no planned inspections - Denso wrapped	20yr PW	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Trash Screen At Siphon Inlet	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-
Upper Warrill Diversion	Scour Valve At 6850M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Scour Valve At 6850M	Refurbish	Breakdown maintenance only - no planned inspections - Denso wrapped	20yr PW	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Trash Screen At Siphon Inlet	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-
Upper Warrill Diversion	Trash Screen At Siphon Inlet	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-
Upper Warrill Diversion	Double Air Valve At 10911.60M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Pumpwell At 10647M-Moffatt	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Pumpwell At 11215M-Mcgrath	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Pumpwell At 11376M-Shellbach	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Trash Screen At Siphon Inlet	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-
Upper Warrill Diversion	Scour Valve At 9961M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Scour Valve At 9961M	Refurbish	Breakdown maintenance only - no planned inspections - Denso wrapped	20yr PW	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Butterfly Valve Off Pumpwell	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-
Upper Warrill Diversion	Double Air Valve At 273M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Trash Screen At Siphon Inlet	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-
Upper Warrill Diversion	Scour Valve At 122M(0M 399Ft)	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Scour Valve At 122M(0M 399Ft)	Refurbish	Breakdown maintenance only - no planned inspections - Denso wrapped	20yr PW	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Warrill Diversion	Butterfly Valve	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Warrill Creek Diversion V	Cable	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-
Warrill Creek Diversion V	Control Equipment	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	-	-	-	-	-	-	-	-	-	-	-	-	-
Warrill Creek Diversion V	Access Road & Hardstanding	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	194	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
West Branch Warrill Dive	Diversion Pipeline-00M To 600M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	267	-	-	-
West Branch Warrill Dive	Inlet To Diversion Pipe-1.22M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-
West Branch Warrill Dive	Outlet-Divn Pipeline-600M	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-
West Branch Warrill Dive	Structure - Pipes & Concrete	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-
West Branch Warrill Dive	Sluice Valve	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	-	-	-	-	-	-	-	-	-	-	-	-	-
Warroolaba Creek Divers	Ladder	Replace	-	Site visit est	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Warroolaba Creek Divers	Trash Screen	Replace	-	Site visit est	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-
Water Supply Flowmeter	Water Meters	Replace	Replace batch of 13 meters every year	Est	-	-	-	-	-	-	-	-	-	-	-	-	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
				Total	**120**	**81**	**78**	**10**	**32**	**0**	**36**	**145**	**0**	**88**	**0**	**326**	**81**	**56**	**67**	**240**	**67**	**67**	**46**	**368**	**207**	**109**	**46**	**77**	**51**	**46**	**60**	**46**	**777**	**134**	**351**	**1796**	**673**	**73**