

Launceston Flood Authority

Annual Report 2019

Report for the period ending 30 June 2019



TABLE OF CONTENTS

1	CURRENT WORK	1
2	COMPLETED WORKS	1
3	INSPECTION, MONITORING AND REPORTING	2
4	MAINTENANCE	2
5	CURRENT WORKS	5
6	SILT RAKING	6

1 CURRENT WORK

1.1 Taroona Street Flood Gate

Currently, work is underway to change the Taroona Street (Riverbend Park entrance) Floodgate from a sliding gate to a bauer gate. This will allow for a larger opening and be more accommodating for the increased use in the area once Riverbend Park is opened.

2 COMPLETED WORKS

2.1 Invermay Levee Stabilisation Works

North Esk River stabilisation works with steel piling and tie rods anchoring north of Black Bridge were successfully completed by December 2018. This was followed with reinstatement with reinforced concrete slabs and grass seeding. Movement monitoring is ongoing.



Figure 1. Invermay Levee Stabilisation with steel piling and tie rods, October 2018

2.2 Newstead Levee Construction Completion

Final completion of the new Newstead Levee was achieved in July 2019. Figure 2 below shows test installation of the new floodgate in Hart Street which forms part of the flood protection system.



Figure 2. Newstead Levee floodgate test installation, July 2019

3 INSPECTION, MONITORING AND REPORTING

3.1 Routine Inspection and Monitoring

The *Water Management Act 1999* (the Act) and the *Water Management (Safety of Dams) Regulations 2015* legislate high risk dams. Levees are linear dams; their risk category is based on the severity of damage and loss to communities situated in inundation areas they are protecting in the event of a dam-break scenario, as guided by the Australian National Committee on Large Dams (ANCOLD).

Under the Act, ongoing maintenance is a responsibility of the dam owner; our Dam Permit conditions require us to undertake safety surveillance on the levees. As such we conduct regular visual inspections and analyse survey monitoring data to check for movement and trends. We also test and operate tide flaps, penstocks and floodgates to make sure that the whole flood protection system performs when needed.



Figure 3. Photo of floodwall survey monitoring on Invermay Levee, August 2019

3.2 Mandatory Five Yearly Comprehensive Inspection and Reporting

Launceston Flood Protection System (the levees) falls within "significant or higher" Consequence Category. In addition to routine surveillance and maintenance activities, we are required to conduct comprehensive inspections, produce and submit a 5 Yearly Dam Safety Surveillance Report to the dam regulating authority at the Department of Primary Industries, Parks, Water and Environment (DPIPWE).

In October 2018, we carried out a mandatory comprehensive inspection in conjunction with dam safety engineers from consultants Pitt & Sherry. Post-inspection, the majority of identified defects have been completed while the remaining ones will be addressed in the oncoming dry weather months as outlined later in this report.

A draft version of the *5 Year Launceston Levee System Comprehensive Inspection Report* has been issued by Pitt & Sherry to the City of Launceston and is currently being reviewed by the dam owner. The approved report will then be submitted to the DPIPWE Dam Safety Department.

4 MAINTENANCE

4.1 Crack monitoring and repairs

The levees continue to be maintained to a high standard under our duty of care.

At the end of summer 2018, we filled shallow longitudinal cracks on the gravel footpath on Invermay Levee between Churchill Park and Heritage Forest, with sloppy bentonite slurry as recommended by Pitt & Sherry's geotechnical engineer as shown in Figure 4 below.



Figure 4. Photos of crack repairs with bentonite slurry Invermay Levee, March 2019

Shrinkage cracks usually appear during very hot and dry summer periods especially in areas with poor soils as in Invermay; we will increase surveillance in those areas and intervene when necessary. The medium to long-term plan is to add topsoil to identified sections so as to improve the quality of grass coverage. Where the settlement is in excess of 30cm we will find the cause and rectify by adding a clay layer before the topsoil and grass seeding.

We repaired some localised cracks in the Kings Wharf Levee opposite the North Esk Rowing Club by digging out and backfilling in layers with new clay before covering with topsoil and grass seeding. For details see Figure 5 below.



Figure 5. Photos of crack repairs and reinstatement on Kings Wharf Levee, April 2019

We also carried out repairs to improve grass coverage along bare sections of the earthen levees. Good grass coverage protects the levee from general wear and tear, as well as insulating the underlying clay material from drying out and shrinking in hot temperatures. A good sward of grass acts to protect the soil from eroding should overtopping occur during extreme flood events.

In autumn we added topsoil and trialled a new hardy grass variety on the Kings Wharf Levee between Goderich Street and Taroona Street. This was in anticipation of the opening of the new Riverbend Park public facility and potential for increased wear and tear from high pedestrian traffic, that is likely to result in more frequent superficial maintenance on this section alongside Lindsay Street.

Figure 6 shows progressive work to improve grass coverage on the Kings Wharf Levee. We will continue with these improvements on all the levees within our affordable budget.



Figure 6. Photos of grass repairs on Kings Wharf Levee, March to July 2019

4.2 Vegetation Management on Levees

Unwanted and invasive vegetation hinders operational access and visual inspection of levee elements, as well as providing habitat for animal burrowing detrimental to an earthen levee. Decaying tree roots in the levee embankment can act as flood flow paths and a root ball from an overblown tree could initiate a potential breach in the levee. Last summer we removed unwanted trees from various locations on the levees. These were:

- Paterson Levee - difficulties with visual inspection of crib wall at Margaret Street Sewage Pump Station.
- East Launceston Levee near East Tamar Junction rail yard - trees hindered access, gate opening and promoted rabbit burrowing in earthen levee.
- City Levee - south-east side of Charles Street Bridge and Tamar Street Bridge, tree blow over risk mitigation.
- Kings Wharf Levee - sprayed blackberries in stone wall on landside batter, Kings Wharf Road.
- Invermay Levee near Churchill Park - removed self-setting gum trees from destabilising rock revetment in riverside batter.

Figure 7 shows before and after photos of some of the clearance of unwanted vegetation done on levees this year.

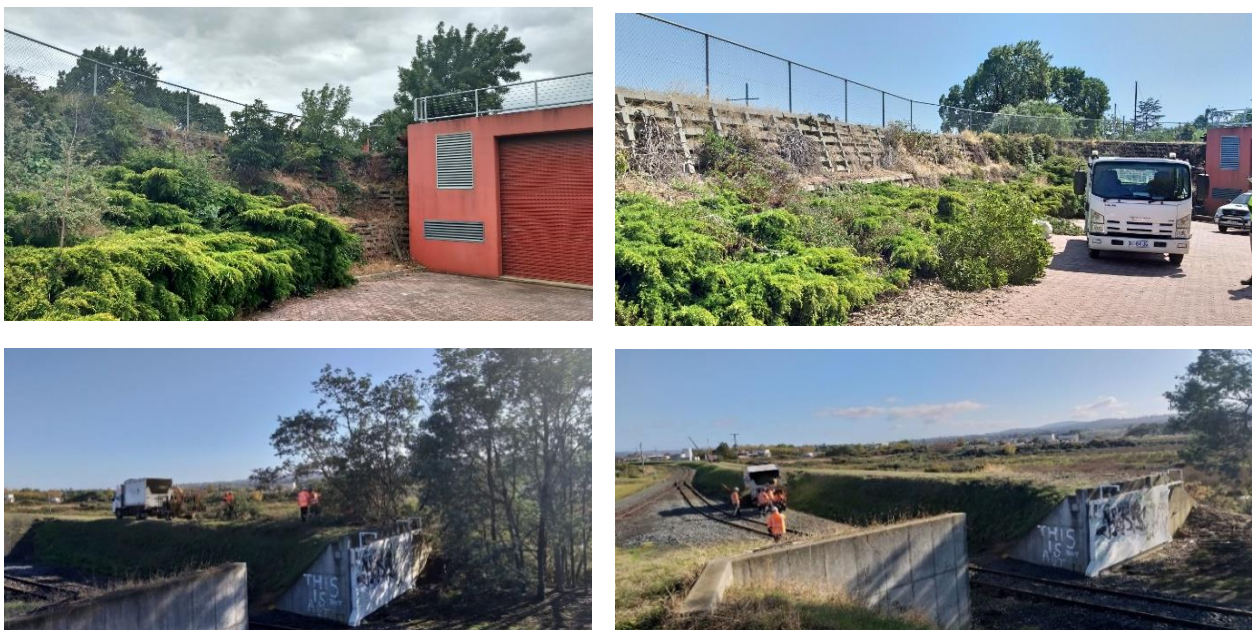


Figure 7. Photos of tree and bush clearing on levees, March and May 2019

4.3 Vandalism and Graffiti

Offences against property is a crime under the *Police Offences Act 1935*. Repairing damage caused by vandalism and graffiti costs public money and adversely impacts on our operational budget. City of Launceston crews were called out to rectify the following offences meted on the flood levees:

- Repair broken stainless steel cables on elevated public walkway behind QV Museum Inveresk on Invermay Levee (approximately \$2,000 annually),
- Cleanse graffiti on floodwalls and wingwalls on City, Invermay, East Launceston Levees and regatta side of Training Levee (approximately \$2,500 annually),
- Replace with steel panel demolished besser block walls on Training Levee in skate park (two panels replaced, \$2,000 per panel). This may continue as it is a popular gathering area for youths.

Figure 8 shows a vandalised wall at the back of the Training Levee.



Figure 8. Photos of vandalised besser block wall panel, May 2019

5 CURRENT WORKS

5.1 East Launceston Levee Floodgate Upgrades

Designs for upgrading the two floodgates across the railway lines (EG2 and EG3) by consultants Pitt & Sherry have been approved in-principle by engineers at TasRail. See Appendix A for location of gates.

Estimated construction and supervision costs are in the range \$550,000 to \$600,000. Considering the gates are currently functional, a decision has been made to defer upgrade works to a more appropriate time in the future.

5.2 Kings Wharf Levee Tarooma Street Floodgate Upgrade (Riverbend Park)

A new floodgate system has been manufactured and is currently stored at the Remount Depot in Mowbray; a permanent storage facility will be constructed at the time of installation expected in October 2019. There will be need to modify the existing levee during civil works, to accommodate a wider floodgate and access to Riverbend Park.

Figure 9 shows the current floodgate at the entrance to Riverbend Park, which is proposed to be widened and renewed with an alternative Bauer gate system.



Figure 9. Photos of existing Tarooma St sliding floodgate and new Bauer gate

5.3 Mowbray Levee Penstock Renewals

Three new penstock gates have been procured to replace the old ones at the western end of Hope Street and Mowbray Street. Details of new installation planned for summer 2019 (Figure 10) are as follows:

- Replace aging cast iron penstocks with new stainless steel penstock gate valves, below-ground.
- Replace rectangular concrete slab and heavy concrete-filled lids with lighter terra firma access covers incorporating safety cages to improve operational and public safety.
- Lower to ground level damaged raised manhole riser to facilitate safer access to below-ground penstocks.



Figure 10. Photo of planned renewal works on Mowbray Levee in summer 2019

6 SILT RAKING

Sediment mobilisation in the 2018/2019 financial year was undertaken in late winter/early summer (raking) and late autumn/early winter (prop washing).

A review of the program has recently been completed, in compliance with Condition 6 of the Grant of Authority issued by the Tasmanian Parks and Wildlife Service on 21 September 2018. The CoL/LFA formed a working group with members of NRM North's TEER Program to undertake the review of the data collected under the Sediment Raking Monitoring Plan. Dr Rebecca Kelly of NRM Pty Ltd was engaged to undertake the analysis of the water quality and bathymetry data.

Raking does mobilise benthic sediments but our recent work has proved that it does not result in mass movement out of the upper estuary. Sediment volume rose prior to the June 2016 flood event despite repeated raking campaigns. In the two years prior to the June 2016 flood, sediment volume again climbed with raking producing only very short-term falls in sediment volume. Sediment volumes were lowest several months after the June 2016 flood and persisted through the 2016/2017 summer months, coinciding with periods of high river inflow. The final bathymetry survey (June 2019) shows that sediment volume is again approaching pre-raking levels.

Sediment raking and prop washing has achieved short-term loss of mudflats on the West Tamar Shoal and at Seaport Marina however, this is not sustained, and raking without significant inflows leads to little effect on the levels of the shoals. Prop washing in Seaport Marina provides short-term improvements in navigational access to the marina, as it results in up to 2.5m of water at the berths at low tide; without prop washing, the marina rests on the mudflats at low tide. The final sediment management campaign for the financial year was to prop-wash Seaport Marina, taking 16 days to complete at a cost of \$68,672.40 (ex GST) to remove 3700m³ from the marina (\$18.54/m³). This requires constant maintenance, and is a trade-off with navigation access at the North Esk River confluence, as sediment moved from Seaport creates a barway in the North Esk River and contributes to the confluence shoal.

The data shows that there is an increase in sediment volume in the channels. The confluence of the kanamaluka/Tamar River estuary and the North Esk River is the worst affected, with substantially more sediment in this section since the commencement of raking. The major flood event in June 2016 was insufficient to restore this to pre-raking depth. The loss of channel depth creates difficulty navigating the upper estuary below mid-low tide. The entrance to the North Esk River is now 1.5m shallower than it was in February 2009 when sediment volume was at its highest. Tamar River Cruises has reported numerous cruise cancellations due to an inability to leave their wharf, and tourists have been stranded when the boats ran aground in the channel.

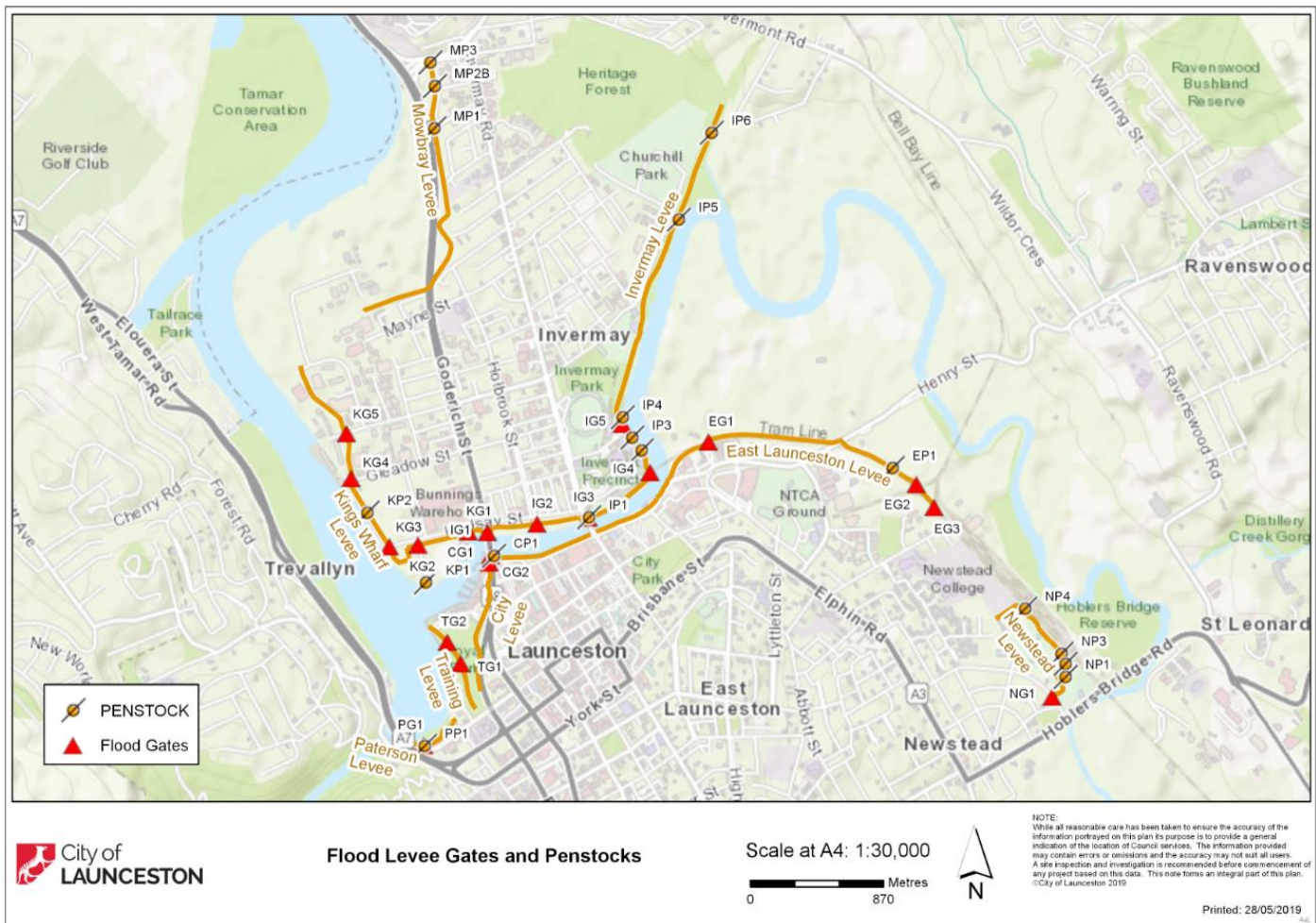
Given the demonstrated ineffectiveness of the raking program coupled with environmental and commercial harm as a result of the program, the decision was taken to cease all raking and prop washing activities in June 2019. The prop washing program at Seaport Marina was at that point incomplete; the marina works were completed on 17 June 2019 and there has been no further raking or prop washing since that time.

GHD Pty Ltd have been engaged to investigate future sediment management options, with a focus initially on restoring navigation channels to the upper estuary and North Esk River and identifying longer-term options for this area. Raking has changed the previously relatively solid mudflats into a highly mobile and fluid sediment, allowing it to easily slump into excavated channels. It is recognised that restoration of navigation channels may prove challenging in the short term given the unconsolidated nature of the sediments in the Yacht Basin and is likely to involve a dredging program.

Kathryn Pugh

Environmental Scientist

APPENDIX A - LEVEE LOCATION MAP WITH KEY STRUCTURES



Independent Auditor's Report

To Directors of the Launceston Flood Authority

Report on the Audit on the Statement of Revenues and Expenses

Opinion

I have audited the accompanying financial statement of the Launceston Flood Authority (the Authority), which comprises the statement of revenue and expenses (the Statement) for the year ended 30 June 2019, other explanatory notes and the statement of certification by the Chairman.

In my opinion, the accompanying Statement presents fairly, in all material respects, the financial performance of the Authority for the year ended 30 June 2019, in accordance with the financial reporting requirements of the *Local Government Act 1993* and the Authority's Rules.

Basis for Opinion

I conducted the audit in accordance with Australian Auditing Standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Statement* section of my report. I am independent of the Authority in accordance with the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to my audit of the Statement in Australia. I have also fulfilled my other ethical responsibilities in accordance with the Code.

The *Audit Act 2008* further promotes the independence of the Auditor-General. The Auditor-General is the auditor of all Tasmanian public sector entities and can only be removed by Parliament. The Auditor-General may conduct an audit in any way considered appropriate and is not subject to direction by any person about the way in which audit powers are to be exercised. The Auditor-General has for the purposes of conducting an audit, access to all documents and property and can report to Parliament matters which in the Auditor-General's opinion are significant.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Emphasis of Matter - Basis of Accounting

I draw attention to Note 1 to the Statement, which describes the basis of accounting. The Statement has been prepared to assist the Authority to meet the financial reporting requirements of the *Local Government Act 1993* and the Authority's Rules. As a result, the Statement may not be suitable for another purpose. My opinion is not modified in respect of this matter.

...1 of 3

Responsibilities of the Directors for the Statement

The directors are responsible for the preparation and fair presentation of the Statement in accordance with the financial reporting requirements of the *Local Government Act 1993* and the Authority's Rules and for such internal control as they determine is necessary to enable the preparation and fair presentation of the Statement that is free from material misstatement, whether due to fraud or error.

In preparing the Statement, the directors are responsible for assessing the Authority's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting unless they either intend to liquidate the Authority or to cease operations, or have no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Statement

My objectives are to obtain reasonable assurance about whether the Statement as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this Statement.

As part of an audit in accordance with the Australian Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the Statement, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.
- Conclude on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Authority's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the Statement or, if such disclosures are inadequate, to modify my opinion. My conclusion is based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Authority to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the Statement, including the disclosures, and whether the Statement represents the underlying transactions and events in a manner that achieves fair presentation.

I communicate with the directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.



Stephen Morrison
Assistant Auditor-General Financial Audit Services

Tasmanian Audit Office

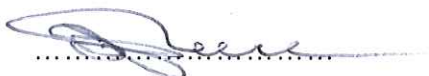
8 October 2019
Hobart

**STATEMENT ON BEHALF OF THE
LAUNCESTON FLOOD AUTHORITY
FOR THE YEAR ENDED 30 JUNE 2019**

In the opinion of the Launceston Flood Authority (the Authority) members:

- (a) the attached special purpose financial report is drawn up so as to give a true and fair view of the result from the activities of the Authority for the year ended 30 June 2019.
- (b) the special purpose financial report has been prepared in order to satisfy the financial reporting requirements of the Authority under section 36A of the Local Government Act 1993, section 17 of the Audit Act 2008, and the Authority rules.
- (c) there are, when this statement is made out, reasonable grounds to believe that the Authority will be able to pay its debts as and when they become due and payable.

Signed at Launceston this 7th day of August 2019.



Greg Preece
Chairman, Launceston Flood Authority



Paul Gimpl
Chief Financial Officer, City of Launceston

LAUNCESTON FLOOD AUTHORITY

Special Purpose Financial Report

STATEMENT OF REVENUES AND EXPENSES FOR THE YEAR ENDED 30 JUNE 2019

	Notes	2019 \$	2018 \$
REVENUES			
State Government - Flood Mitigation		330,151	322,338
State Government - Operational Funding		193,576	189,063
Launceston City Council - Operational Funding		181,805	178,240
Council Land Use and Occupation Fees		375	4,500
Interest Received		4,940	9,182
TOTAL REVENUES		710,847	703,323
EXPENSES			
River Works & Sediment Management		228,391	205,143
Levee Maintenance		350,082	192,229
Depreciation		586,394	572,918
Provision for Doubtful Debts		(984)	14
Gross Employee Costs		13,004	43,582
Labour Charged Recovery		(11,291)	(14,679)
Management Consultant		-	53,790
Land Tax		4,606	15,009
Committee Representative Costs	3	12,291	15,679
Other Overheads	4	34,528	69,573
TOTAL EXPENSES		1,217,021	1,153,258
NET OPERATIONS SURPLUS/(DEFICIT)		(506,174)	(449,935)

The accompanying notes form part of the special purpose financial report.

LAUNCESTON FLOOD AUTHORITY

Special Purpose Financial Report

NOTES TO THE STATEMENT OF REVENUES AND EXPENSES FOR THE YEAR ENDED 30 JUNE 2019

1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Financial Reporting Framework

The members have determined that the Launceston Flood Authority (the Authority) is not a reporting entity as there are no users who are dependant on its general purpose financial reports. The financial report is therefore a special purpose financial report which has been prepared to satisfy the financial reporting requirements of the Authority under section 36A of the Local Government Act 1993, Section 17 of the Audit Act 2008 and the Authority rules. The financial report has been prepared on an accruals basis and in accordance with the mandatory professional reporting requirements in Australia, but not all the disclosure requirements specified by Australian Accounting Standards.

Statements of Financial Position, Changes in Equity and Cash Flows required by AASB 101 *Presentation of Financial Statements* have not been prepared as the Authority has no assets or liabilities in its own right. The Authority manages assets for the City of Launceston (Council) and the capital expenditure incurred is done so on behalf of Council. Although the Authority has no assets, depreciation and any gain or loss on asset disposal has been allocated to reflect the availability of Council's assets for use by the Authority.

Significant Accounting Policies

Accounting policies are selected and applied in a manner which ensures that the resultant financial information satisfies the concepts of relevance and reliability, thereby ensuring the substance of the underlying transactions and other events reported. The following significant accounting policies have been adopted in the preparation and presentation of the financial report:

(a) Employee Costs

i) The total salary and associated direct labour on-costs of Council employees working for the Authority has been reported. Salary and honorarium costs expensed outside the labour overhead accounts have been included in Gross Employee Costs and credited back as Labour Charged Recovery in the Expenses section of the financial report.

ii) Provision is made by Council for benefits accruing to employees in respect of annual leave and long service leave at 30 June when it is probable that settlement will be required and they are capable of being measured reliably. The remuneration rate expected to apply at the time of settlement has been used in the calculation of the entitlements with on-costs included and charged to the Authority.

(b) Depreciation

The Authority has no assets in its own right but a depreciation charge has been determined by Council and allocated to the Authority to reflect the availability of Council's assets for use by the Authority.

(c) Goods and Services Tax (GST)

Revenues and expenses are recognised net of the amount of GST where applicable, except when the GST incurred is not recoverable from the Australian Taxation Office and the expense is reported inclusive of GST.

LAUNCESTON FLOOD AUTHORITY

Special Purpose Financial Report

NOTES TO THE STATEMENT OF REVENUES AND EXPENSES FOR THE YEAR ENDED 30 JUNE 2019

1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

(d) Revenue Recognition

Revenue is recognised in the period to which it relates.

2 ACTIVITIES OF THE AUTHORITY

The Launceston Flood Authority was established on 10th September 2008 as a single authority of Council under section 30 of the Local Government Act 1993 to take over the flood protection responsibilities and obligations of the Upper Tamar River Improvement Authority (UTRIA).

The Authority is responsible for the governance and maintenance of the Launceston Flood Protection Scheme and to undertake activities to decrease the riverine flood risk for Launceston.

The Authority also has oversight of the major levee reconstruction project under the Launceston Flood Risk Management Programme, jointly funded by the Council, the State and the Federal Government. The capital expenditure incurred under this programme together with other flood risk mitigation projects undertaken since the Authority was established is summarised in the following table.

LAUNCESTON FLOOD RISK MANAGEMENT PROGRAMME	2019 (\$'000)	2018 (\$'000)	Prior Years (\$'000)	Inception to Date (\$'000)
Capital Expenditure				
Levee Reconstruction Projects (Completed)	-	-	27,355	27,355
Land Acquisition	364	10,284	24,408	35,056
Other Risk Mitigation Costs	1,003	1,320	4,370	6,693
Sub-Total	1,367	11,604	56,133	69,104
Less Capital Projects not funded under the major levee reconstruction programme	(1,003)	(1,210)	(2,215)	(4,428)
Launceston Flood Risk Management	364	10,394	53,918	64,676

The Authority is a single authority under the Local Government Act (1993). Assets acquired from capital expenditure is done so on behalf of Council. These assets are accounted for in the Council's audited general purpose financial report. A commitment of \$62,000 remains as the final land acquisition expense. When this matter is finalised it will complete the expenditure in relation to the Launceston Flood Risk Management Programme.

LAUNCESTON FLOOD AUTHORITY

Special Purpose Financial Report

NOTES TO THE STATEMENT OF REVENUES AND EXPENSES FOR THE YEAR ENDED 30 JUNE 2019

3 COMMITTEE REPRESENTATIVE COSTS

Committee representative costs are made up of an honorarium paid to the independent Chairman and sitting fees for independent board members.

4 OTHER OVERHEADS

Other Overheads represent various costs incurred by Council on behalf of the Authority. These expenses include water charges, insurance, expert advice and internal service charges.

5 NET CASH POSITION SINCE INCEPTION (Excludes the Launceston Flood Risk Management Programme)

The finances of the Authority are administered by Council and all transactions are reported in the Council's audited financial statements from which these details are extracted. The closing balance shown in the following table is recognised as net funding provided by Council for Launceston Flood Authority purposes since inception.

LAUNCESTON FLOOD AUTHORITY ADJUSTED OPERATIONAL AND CAPITAL EXPENDITURE RESULT

	2019	2018
	\$	\$
Opening Balance Surplus/(Deficit) 01 July	(115,031)	971,683
Net Operations Surplus/(Deficit)	(506,174)	(449,935)
Operations Result Non-Cash Expense Adjustments		
Depreciation	586,394	572,918
LFA funded Levee Improvement Capital Projects	Note 2 (1,002,973)	(1,209,697)
Closing Balance Surplus/(Deficit) 30 June	(1,037,784)	(115,031)

This financial report has been prepared on an accrual basis. Non-cash expenses are included in both the current and comparative results on the Statement of Revenues and Expenses. The non-cash depreciation expense is added back into the operating result and capital expenditure is deducted, after excluding the Launceston Flood Risk Management Programme levee reconstruction projects, to determine a net cash result for the Authority. Grant revenue is shown to be fully expended for the period reported.

6 COMMITMENTS FOR CAPITAL EXPENDITURE

	2019	2018
	(\$'000)	(\$'000)
At the reporting date the Authority had entered into contracts for the following Capital expenditures:		
Infrastructure	-	19
Land Acquisition	62	103
	62	122
These expenditures are due for payment :		
Not later than one year	62	122