

**BATHURST
FLOODPLAIN
MANAGEMENT PLAN
1995**

BATHURST FLOODPLAIN MANAGEMENT PLAN

ADOPTED STRATEGY

The Plan requires that the following actions be taken within the floodprone areas so described, at an estimated cost of \$11.6m over a period of 15 to 16 years, and assumes State and Federal Government Grant Assistance to the value of \$600,000 per annum, representing 80% of the total cost of \$750,000 per annum.

The Plan is described under three headings:

- A. Individual Areas
- B. Ongoing Management
- C. Priorities

A. INDIVIDUAL AREAS

1. KELSO FLOODPLAIN

Description

This area encompasses all land between the Macquarie River Channel and the eastern flood extremity, and generally north of the Main Western Railway to Tyer's Park Racecourse.

Action 1.1

The Voluntary Purchase of all residential properties within the area, with the exception of flood fringe properties fronting Gilmour Street. The priority of purchase is based on:

- (a) Occupied by Owner
- (b) Hazard Rating for the 1% AEP Flood
- (c) Whether over floor flooding has been experienced previously.
- (d) The level of adverse effects to the property as a result of other structural measures on the Floodplain.
- (e) The purchase prices shall remain confidential, including Non-Disclosure Clauses in all Sale Contracts, so as not to affect other sensitive property dealings.

Action 1.2

The area adjacent to Gilmour Street, within the Kelso Floodplain area, and upon the Low Hazard Flood Fringe, including all properties fronting Gilmour Street and 86 - 92 Hereford Street, shall be protected by the construction of a relatively squat levee to normal standards and/or land fill to 500mm above the 1% AEP Flood from Learmonth Park to immediately beyond Hereford Street. Such construction can proceed immediately upon detailed survey design and land acquisition, accrual of appropriate grant funds and/or landholder contributions. However, prior to the construction of this levee, land use and building restrictions, as referred to in Item 2.3 below, shall apply, and according to item 2.4, following levee construction.

2. HAVANNAH STREET AREA

Description

The Havannah Street area includes all floodprone lands between the Showground and south to include that area immediately east of the Russell Street Underpass, including the Southern Mitchell Electricity Sub-Station.

Action 2.1

Immediately embark on detailed survey, design and land acquisition for the construction of levees, with alignments generally conforming with those labelled F, B1 and E1 in previous Studies, including any integration with Carlingford Street strategies.

Action 2.2

Following the detailed design, land acquisition and rezoning, progressively construct the levees, commensurate with annual Grant Funds.

Action 2.3

Building controls be enforced in the area to be protected, prior to the construction of levees that do not allow:

- (a) Encroachment on the possible alignment of the levees.
- (b) Increased potential flood damage prior to levee construction.
- (c) Adverse effects on adjoining properties prior to levee construction.

Action 2.4

Following progressive construction of levee protection, Building controls are enforced to maintain the relevance of the 1% AEP flood.

3. MORRISSETT STREET AREA

Description

The Morrissett Street area generally comprises of floodprone land from the Wastewater Treatment Works generally southeast to the Jordan Creek Confluence.

Action 3.1

The required action is the immediate detailed survey, design and property acquisition of an earth levee, generally along the alignment of Levee C in previous Studies.

Action 3.2

Following the detailed design, land acquisition and rezoning, progressively construct the levees, commensurate with annual Grant Funds.

Action 3.3

Prior to the construction of levees, other flood mitigation controls on buildings remain in force as for the Havannah Street area.

Action 3.4

Measures for the Morrisset Street area, as for action 2.4.

4. AREA UPSTREAM OF THE RAILWAY LINE

Description

This area generally comprises all land south of the Main Western Railway Line, not including that area enclosed by Levee E1 and within the Havannah Street area, but inclusive of all floodprone lands south towards and including Beresford Street.

Action 4.1

The further investigation of alternative schemes to Voluntary Purchase, involving the negotiation with all commercial properties in the two distinct areas regarding sponsorship and/or commitment to the funding of structural options.

Action 4.2

Should an economic and effective structural scheme be devised, in consultation with the East Bathurst Flood Mitigation Group, then this should be immediately followed by a detailed design, survey and acquisition of levees around the Carlingford Street area and generally along the alignment of Levee D shown on previous plans.

Action 4.3

Following the detailed design, land acquisition and rezoning, progressively construct the levees, commensurate with annual Grant Funds.

Action 4.4

Prior to any levee construction, flood mitigation controls on buildings shall apply as for the Havannah Street area.

Action 4.5

Measures for the area upstream of the Railway Line, as for action 2.4

Action 4.6

Should a structural flood mitigation scheme not come to fruition, then Voluntary Purchase of all properties with floor levels less than 500mm above the 1% AEP Flood Level be systematically purchased under a Voluntary Purchase Scheme, but it be recognised that Government funding would be a very low priority for such purchases. (The existing State Government Policy only sponsors the purchase of high hazard houses).

5. PERTHVILLE

Description

This area comprises all floodprone lands within the Village of Perthville.

Action 5.1

The required action is the medium term detailed survey, and design of creek clearing and deepening, bridge widening and an earth levee on the east side of Queen Charlottes Vale Creek, generally along the alignment shown in Figure 1 of Willing and Partners Perthville Floodplain Management Plan Report (December 1994), in conjunction with the Department of Water Resources, with respect to lower freeboard allowances, in the appropriate circumstances, and any consequences on maintenance standards.

Action 5.2

Following detailed design, land acquisition and any rezoning, progressively construct;

- a) creek clearing and deepening
- b) bridge widening
- c) levee

commensurate with Annual grant funds.

Action 5.3

Prior to the construction of levees, other flood mitigation controls on buildings remain in force as for the Havannah Street area.

Action 5.4

Measures for Perthville as for Action 2.4.

6. FURTHER INVESTIGATION

Action 6.1

The investigation and design of additional Railway embankment openings, with a view to these measures offering compensatory effects for the construction of structural mitigation options elsewhere on the Floodplain, and the cost effective integration of such measures within the overall Floodplain Management Plan.

Action 6.2

The investigation of structural options to protect the area known as the Levee A area, including some part of River Road and Church Lane. This will involve public participation, design, economics and the matter of ongoing subsidy of levee maintenance.

B. ONGOING MANAGEMENT

7. FLOODPLAIN GENERALLY

Action 7.1

The possible development and land use of all other floodprone land within the City of Bathurst shall be in conformity with Council's Floodprone Lands Policy. Currently Council's Interim Floodprone Land Policy 10.

8. RECURRENT COSTS

Description

Recurrent costs associated with the Floodplain Management Plan predominantly include maintenance costs after any levee construction. The importance of correct strategic defence initiatives, to protect the integrity of the levee structure, is paramount. Consequently, in the costings within the Floodplain Management Plan, between 1% and 3% of the capital construction cost has been allowed annually for maintenance.

Action 8.1

The maintenance costs will recur from the time that each individual levee is constructed. Provision shall be made in ongoing Financial Plans for the following costs.

Levee	Annual Maintenance Cost
E1	7,600
B	7,300
F	8,100
C	14,000
Gilmour Street	5,300
D (Provisional)	14,000
Carlingford Street (Provisional)	7,800
Perthville	<u>10,500</u>
Total Annual Maintenance Cost	74,600

9. FUNDING

Action 9.1

Council make provision in its Five Year Plan and beyond, the sum of \$150,000 per annum (and indexed), being 20% of the total flood mitigation annual expenditure.

10. POLICY AMENDMENT

Action 10.1

That Council's Interim Floodplain Development Policy, Policy No. 10, be amended by adding the following clause.

"10. Flood Mitigation Works

Flood Mitigation works shall be exempt from the provisions of this Policy, provided that

- a. the works are identified in the Bathurst Floodplain Management Plan,*
- b. the works have fulfilled all the criteria established in the Floodplain Management Plan*
- c. the works comprise the adopted actions to implement the Floodplain Management Plan."*

C. PRIORITIES

1. POLICY

The formulation of Policy to facilitate the implementation of the Floodplain Management Plan as identified by Actions. 1.2, 2.3, 3.3, 4.4, 6.1, 7.1, 8.1, 9.1 and 10.1

2. KELSO VOLUNTARY PURCHASE SCHEME

Continuance of the Kelso Floodplain Voluntary Purchase Scheme, as identified in Action 1.1, and the construction of a Squat Levee adjacent to Gilmour Street, as identified by Action 1.3. In addition, all local real estate agents, shall be asked to approach Council in the first instance for purchase of any property identified on the Kelso floodplain, should it be placed on the open market.

3. FURTHER INVESTIGATIONS

Investigation of supplementary measures as identified by Actions 6.1 & 6.2, for appropriateness of inclusion in the Floodplain Management Plan, prior to Action 11.4.

4. HAVANNAH STREET LEVEE PROTECTION

Commensurate with Action 11.2, the construction of levee protection to the Havannah Street Area, as identified by Actions 2.1 & 2.2 in the following sequence.

- a. Levee E1
- b. Levee B1
- c. Levee F, including Floodgate on Old Vale Creek

5. MORRISSETT STREET LEVEE PROTECTION

Levee protection to the Morrissett Street Area, as identified by Actions 3.1 & 3.2, following Action 11.4.

6. FLOOD MITIGATION: UPSTREAM OF THE RAILWAY

The provision of structural and/or non-structural flood mitigation measures in the area upstream of the Railway Line, including the Carlingford Street Area, as identified by Actions 4.1, 4.2, 4.3 and 4.5, following Action 11.5

7. PERTHVILLE FLOOD MITIGATION

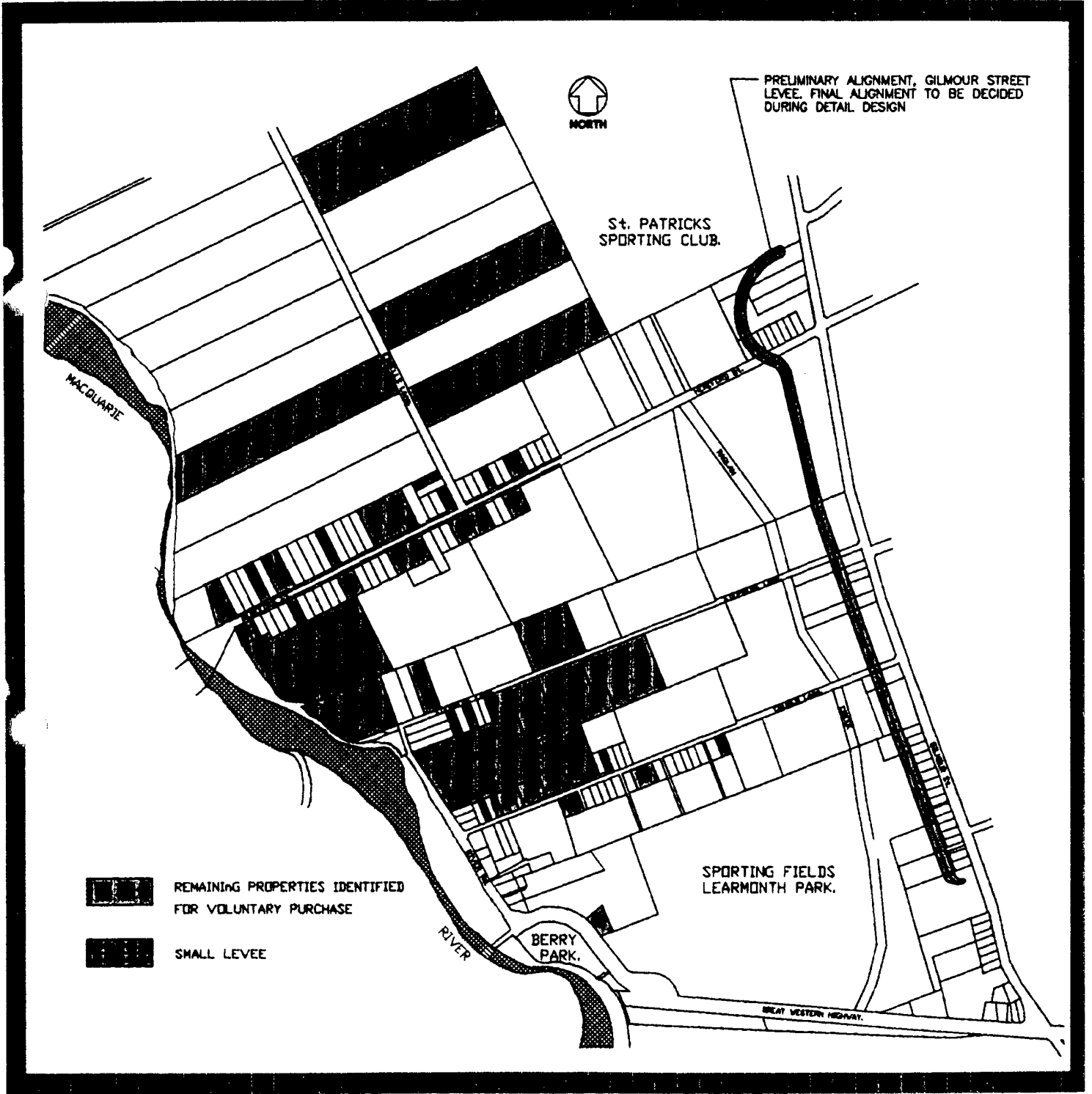
Construction of flood mitigation measures in the Village of Perthville, following Action 11.6 as identified by Actions 5.1 and 5.2 in the following sequence:

- a) Creek clearing and deepening
- b) Bridge widening
- c) Levee construction.

8. MONITOR & REVIEW

The ongoing priority of monitoring, reviewing and updating the Floodplain Management Plan as an integral part of its implementation, commensurate with all other Actions.

**KELSO FLOODPLAIN
FLOODPLAIN MANAGEMENT PLAN**

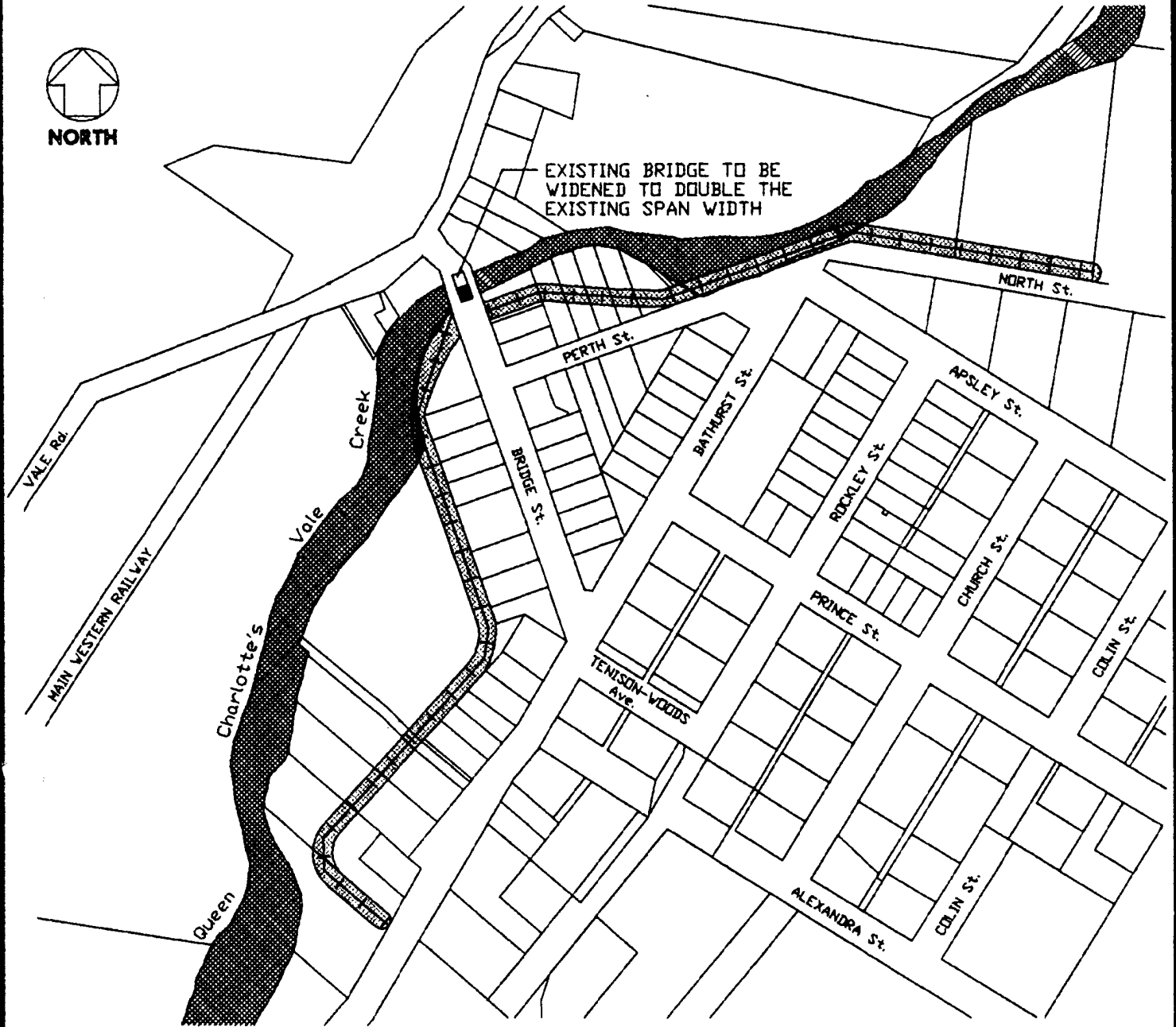


PERTHVILLE FLOODPLAIN MANAGEMENT PLAN.



NORTH

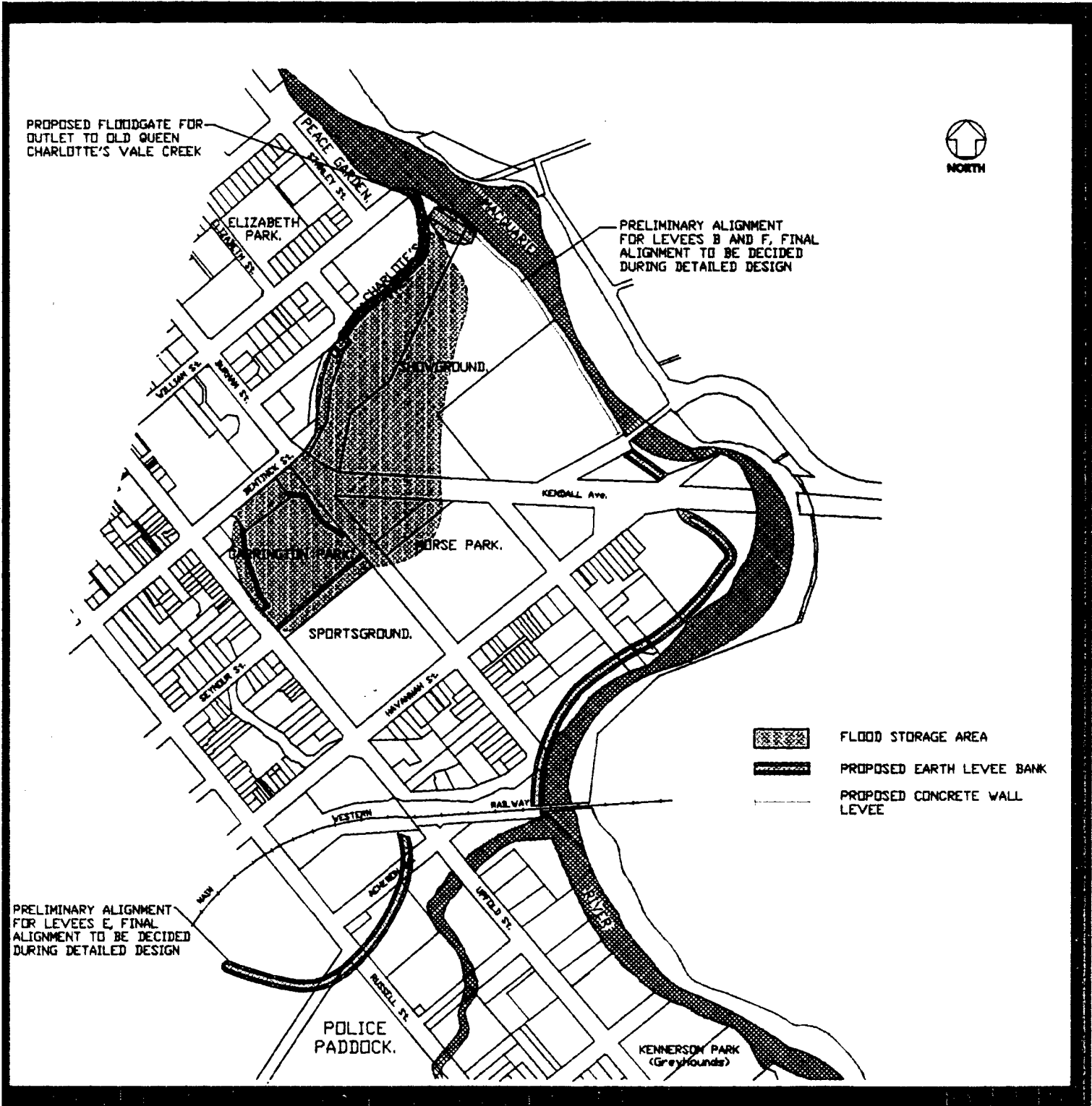
EXISTING BRIDGE TO BE
WIDENED TO DOUBLE THE
EXISTING SPAN WIDTH



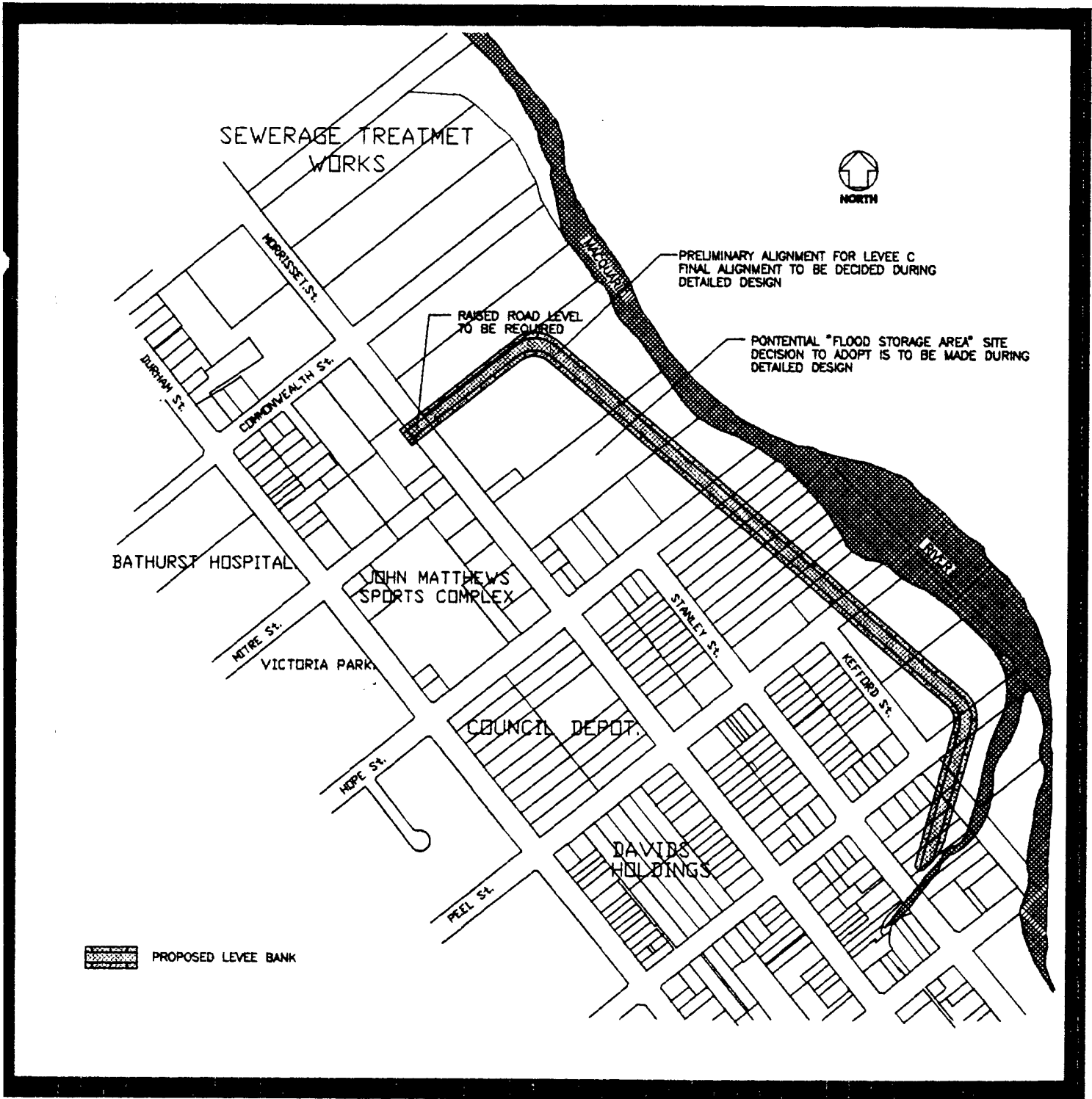
 CREEK CLEARING AND DEEPENING

 INDICATIVE LEVEE ALIGNMENT
(FINAL ALIGNMENT TO BE DETERMINED
AT TIME OF DETAILED DESIGN)

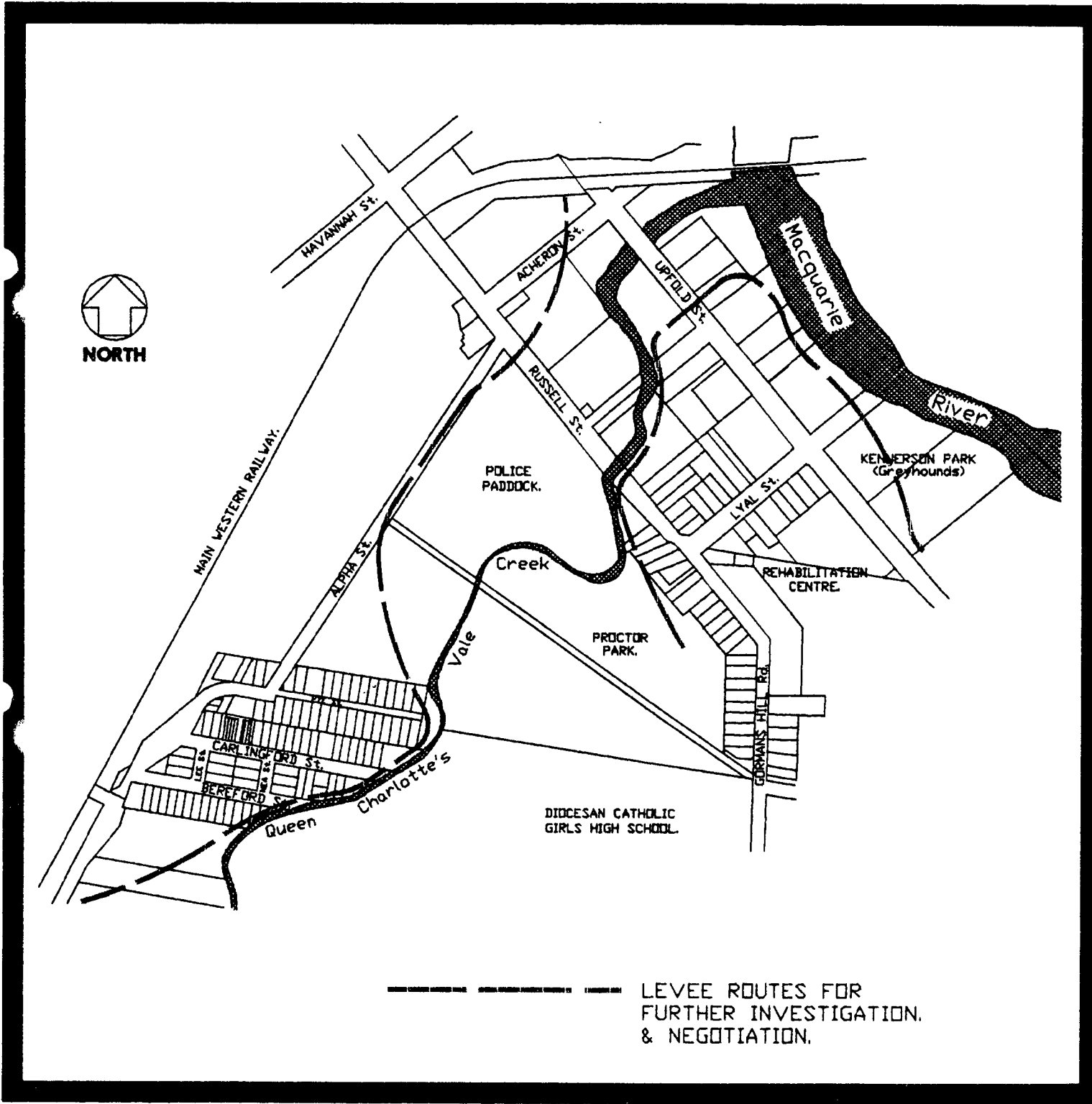
HAVANNAH STREET AREA FLOODPLAIN MANAGEMENT PLAN



MORRISSETT STREET AREA FLOODPLAIN MANAGEMENT PLAN



UPSTREAM OF THE RAILWAY LINE AREA
FLOODPLAIN MANAGEMENT PLAN.



----- LEVEE ROUTES FOR
FURTHER INVESTIGATION
& NEGOTIATION.

**CITY ENGINEER'S REPORT TO THE EXTRAORDINARY
COUNCIL MEETING TO BE HELD
THURSDAY, 27 APRIL, 1995**

20 April 1995

The General Manager
BATHURST NSW 2795

1. FLOODPLAIN MANAGEMENT PLAN (F04/13) Item prepared by Mr Neil Allen.

Section A: Introduction

Attached, again, for Councillors' information, is the City Engineer and Administration Engineer's Report on the Floodplain Management Plan dated November 1993. In addition, the City Engineer's previous Perthville Floodplain Management Plan Report, incorporating the findings of the Consultant and community input, is also **attached**.

The remainder of this report is substantially a reprint of the City Engineer's Second Report to the Combined Committee Meeting of 8 June, 1994, but incorporating recent Studies and other developments. It should be stated at the outset, however, that in considering a Floodplain Management Plan, it must be understood, that the document will continue to be dynamic, being revised, updated and further detailed during the course of its implementation.

Section B: Discussion

Perthville

As previously reported, Council's consultants Willing and Partners have completed both the Perthville Floodplain Management Study Plan following active community consultation. Copies of these reports have been distributed to Councillors previously.

In receiving these reports Council considered the City Engineer's report on 14 December 1994 and subsequently resolved to exhibit the plan until 11 March 1995. Probably as a consequence of previous resident involvement, no further submissions have been received.

The City Engineer's previous covering report is included as Attachment 2.

This is page 1 of the **City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.**

_____ **GENERAL MANAGER** _____ **MAYOR.**

Project Costs

All costings associated with Reports predating the "Willings" Perthville Floodplain Management Plan Report have been adjusted in accordance with CPI increases, to reflect a new preliminary estimate of cost. A summary of these overall costs is tabulated in Attachment 1.

As reported many times previously, the costs associated with any strategic planning exercise, are preliminary and subject to detailed investigation, design and estimation immediately prior to implementation.

It would be very poor staff and resource management to carry out detailed survey, design and estimation of works which have minimal chance of being implemented.

The Report at hand is one of weighing up the options, and identifying an optimum course of action prior to Council committing its staff and financial resources to more detailed investigation.

As identified in Section 7.0 of Attachment 3 the final costs of implementing the plan can be affected upwards and/or downwards depending on the resolution of several factors, which can only be determined following detailed research.

Strategy Philosophy

Advice has been received that, should Council wish to construct levees in the short term, it can do so provided it takes this action as a matter of Policy.

The following report and its recommendations are structured in such a way as to allow actions to be taken which are of the overall greatest benefit to Floodplain users.

In adopting any Floodplain Management Strategy, Council could develop its Plan upon any one of the following criteria:

- Level 1 By removing all flood liability to all properties.
- Level 2 By removing all flood liability to all buildings.
- Level 3 By doing nothing at all.
- Level 4 By offering protection against flooding of a designated risk.

This is page 2 of the **City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.**

_____ **GENERAL MANAGER** _____ **MAYOR.**

The first two criteria would address the affects of the Probable Maximum Flood (PMF) and amount to an extremely expensive and cost in-efficient solution.

**Conservative
Indicative Cost**

- i. Voluntary Acquisition of all PMF affected dwellings - **\$38m**
- ii. Voluntary Acquisition of PMF affected properties on the Kelso Floodplain, and PMF Levee Protection - **\$46m**

The third option above, i.e., the do nothing option, would cost in the order of \$440,000 per annum in ad-indefinitum in annual average damages. Quite obviously this is more expensive in the long run than the recommended strategy below.

The preferred course of action which is affordable to Council and provides the most equitable returns for expenditure in terms of reduction of flood risk is the adoption of a Designated Flood equal to the 1% AEP Event, and the mitigation of its effects or removal of the affected property, i.e., the Level 4 Criteria.

The essential element at issue is that of the construction of flood mitigation works, which have an adverse effect, albeit temporary in the context of the total Floodplain Management Plan, on other floodprone properties.

The matter of liability can be viewed differently when applied to a Public Authority or an individual, with different Statutes governing the acceptable behaviour of each.

The City Engineer and Administration Engineer's Report (**Attachment 3**) on the Floodplain Management Plan has attempted to show that an increase in flood level does not necessarily cause an increase in damage, nor could it be expected, when the matter is considered thoroughly, that one would necessarily follow the other. This is one of the contributing reasons why the concept of hazard is important in Floodplain Management. If a property is subject to a very serious risk of damage and danger to its inhabitants, it is unlikely that small increases in flood levels would change this already very serious risk. The concept of Floodplain Management attempts to fairly and equitably manage and lessen this risk.

It is a matter for the Council if it wishes to base its Floodplain Management Plan on moral grounds, however, in adopting any Scheme, Council should be aware that Grant subsidies are likely only to be

This is page 3 of the **City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.**

_____ **GENERAL MANAGER** _____ **MAYOR.**

available where the Scheme represents the most cost effective approach to control and reduce the overall flood risk and associated flood damage costs.

A total 1% AEP Voluntary Purchase Scheme, estimated to cost \$16.2m, does not achieve the greatest cost/benefit, and does not generally include those houses with less than 500mm freeboard, nor does it include commercial/industrial premises. This represents an estimated cost of \$4.6m above the estimated Combined Levee/Voluntary Purchase Scheme cost of \$11.6m. It is likely that Grant Funds would not subsidise this additional cost, on the usual 40:40:20 basis, and that Council would have to meet the total of the additional cost, bringing Council's contribution to \$6.9m of the \$16.2m total. It could also have the effect of extending the Plan implementation by approximately 31 years.

Should Council adopt a FPMP as outlined in Section C (see page 5) then the following aspects are relevant:

a) Social Impact

The social implications of flooding and the impact of the Floodplain Management Plan are addressed in Section 1.1,1.2,1.3,1.4, & 6.1 of the City Engineer's and the Administration Engineer's report on the Floodplain Management Plan (**Attachment 3**).

b) Environmental & Aesthetic Impact

Prior to the construction of any structural flood mitigation measures, such as levees, a detailed survey and design, property acquisition and any rezoning must be completed. As an integral part of this process, the environmental and aesthetic impact would be addressed in detail, and subsequently exhibited within any rezoning component.

Notwithstanding that the "Kinhill" Floodplain Management Study Report identified the levee options as having a neutral or minor adverse impact, the issue will be addressed again and canvassed at development stage.

c) Adverse Flood Impact

In implementing the proposed Floodplain Management Plan, temporary adverse effects could be experienced during the course of the programme. Whether the small increases in flood levels actually equate to an adverse impact on a building will be governed by:

This is page 4 of the **City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.**

_____ **GENERAL MANAGER** _____ **MAYOR.**

1. The progress of the Voluntary Acquisition Scheme i.e. which properties have been purchased.
2. The level of flooding already experienced by the property i.e. a small increase in flood level does not necessarily increase flood damage.
3. The exact impact of an additional railway embankment opening, if constructed, in mitigating the adverse effects of other structural works.

The proposed implementation programme (attachment 4) identifies 4 milestones of achievement, at Year 4, 8, 12 and 16.

At each of these milestones the estimated increase in flood levels as a result of the foregoing works is shown in the following attachments, which have been extracted from the Computer Based Floodplain Model Report (Willings).

Milestone 1 (Year 4) - attachment C
Milestone 2 (Year 8) - attachment D
Milestone 3 (Year 12) - attachment E

Obviously at Milestone 4 (Year 16), assuming that all properties within the Kelso floodplain have been acquired, the adverse impact is insignificant.

Section C - Recommended Actions

The recommended Plan requires that the following actions be taken within the floodprone areas so described, at an estimated cost of \$11.6m over a period of 15 to 16 years.

1. Kelso Floodplain

Description

This area encompasses all land between the Macquarie River Channel and the eastern flood extremity, and generally north of the Main Western Railway to Tyer's Park Racecourse.

Action 1.1

The Voluntary Purchase of all residential properties within the area, with the exception of flood fringe properties fronting Gilmour Street. The priority of purchase is based on:

- (a) Occupied by Owner

This is page 5 of the City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.

_____ GENERAL MANAGER _____ MAYOR.

- (b) Hazard Rating for the 1% AEP Flood
- (c) Whether over floor flooding has been experienced previously.
- (d) The level of adverse effects to the property as a result of other structural measures on the Floodplain.
- (e) The purchase prices shall remain confidential, including Non-Disclosure Clauses in all Sale Contracts, so as not to affect other sensitive property dealings.

Action 1.2

The area adjacent to Gilmour Street, within the Kelso Floodplain area, and upon the Low Hazard Flood Fringe, including all properties fronting Gilmour Street and 86 - 92 Hereford Street, shall be protected by the construction of a relatively squat levee to normal standards and/or land fill to 500mm above the 1% AEP Flood from Learmonth Park to immediately beyond Hereford Street. Such construction can proceed immediately upon detailed survey design and land acquisition, accrual of appropriate grant funds and/or landholder contributions. However, prior to the construction of this levee, land use and building restrictions, as referred to in Item 2.3 below, shall apply, and according to item 2.4, following levee construction.

2. Havannah Street Area

Description

The Havannah Street area includes all floodprone lands between the Showground and south to include that area immediately east of the Russell Street Underpass, including the Southern Mitchell Electricity Sub-Station.

Action 2.1

Immediately embark on detailed survey, design and land acquisition for the construction of levees, with alignments generally conforming with those labelled F, B1 and E1 in previous Studies, including any integration with Carlingford Street strategies.

Action 2.2

Following the detailed design, land acquisition and rezoning, progressively construct the levees, commensurate with annual Grant Funds.

This is page 6 of the City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.

_____ GENERAL MANAGER _____ MAYOR.

Action 2.3

Building controls be enforced in the area to be protected, prior to the construction of levees that do not allow:

- (a) Encroachment on the possible alignment of the levees.
- (b) Increased potential flood damage prior to levee construction.
- (c) Adverse effects on adjoining properties prior to levee construction.

Action 2.4

Following progressive construction of levee protection, Building controls are enforced to maintain the relevance of the 1% AEP flood.

3. Morrissett Street Area

Description

The Morrissett Street area generally comprises of floodprone land from the Wastewater Treatment Works generally southeast to the Jordan Creek Confluence.

Action 3.1

The required action is the immediate detailed survey, design and property acquisition of an earth levee, generally along the alignment of Levee C in previous Studies.

Action 3.2

Following the detailed design, land acquisition and rezoning, progressively construct the levees, commensurate with annual Grant Funds.

Action 3.3

Prior to the construction of levees, other flood mitigation controls on buildings remain in force as for the Havannah Street area.

Action 3.4

Measures for the Morrissett Street area, as for action 2.4.

This is page 7 of the **City Engineer's** Report to the **Extraordinary Council** Meeting to be held Thursday, 27 April, 1995.

_____ **GENERAL MANAGER** _____ **MAYOR.**

4. Area Upstream of the Railway Line

Description

This area generally comprises all land south of the Main Western Railway Line, not including that area enclosed by Levee E1 and within the Havannah Street area, but inclusive of all floodprone lands south towards and including Beresford Street.

Action 4.1

The further investigation of alternative schemes to Voluntary Purchase, involving the negotiation with all commercial properties in the two distinct areas regarding sponsorship and/or commitment to the funding of structural options.

Action 4.2

Should an economic and effective structural scheme be devised, in consultation with the East Bathurst Flood Mitigation Group, then this should be immediately followed by a detailed design, survey and acquisition of levees around the Carlingford Street area and generally along the alignment of Levee D shown on previous plans.

Action 4.3

Following the detailed design, land acquisition and rezoning, progressively construct the levees, commensurate with annual Grant Funds.

Action 4.4

Prior to any levee construction, flood mitigation controls on buildings shall apply as for the Havannah Street area.

Action 4.5

Measures for the area upstream of the Railway Line, as for action 2.4

Action 4.6

Should a structural flood mitigation scheme not come to fruition, then Voluntary Purchase of all properties with floor levels less than 500mm above the 1% AEP Flood Level be systematically purchased under a Voluntary Purchase Scheme, but it be recognised that Government funding would be a very low priority for such purchases.

This is page 8 of the **City Engineer's Report to the Extraordinary Council Meeting** to be held Thursday, 27 April, 1995.

_____ **GENERAL MANAGER** _____

_____ **MAYOR.**

5. Perthville

Description

This area comprises all floodprone lands within the Village of Perthville.

Action 5.1

The required action is the medium term detailed survey, and design of creek clearing and deepening, bridge widening and an earth levee, generally along the alignment shown in Figure 1 of Willing and Partners Perthville Floodplain Management Plan Report (December 1994), in conjunction with the Department of Water Resources, with respect to lower freeboard allowances, in the appropriate circumstances, and any consequences on maintenance standards.

Action 5.2

Following detailed design, land acquisition and any rezoning, progressively construct;

- a) creek clearing and deepening
- b) bridge widening
- c) levee

commensurate with Annual grant funds.

Action 5.3

Prior to the construction of levees, other flood mitigation controls on buildings remain in force as for the Havannah Street area.

Action 5.4

Measures for Perthville as for Action 2.4.

6. Further Investigation

Action 6.1

The investigation and design of additional Railway embankment openings, with a view to these measures offering compensatory effects for the construction of structural mitigation options elsewhere on the Floodplain, and the cost effective integration of such measures within the overall Floodplain Management Plan.

This is page 9 of the **City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.**

_____ **GENERAL MANAGER** _____ **MAYOR.**

Action 6.2

The investigation of structural options to protect the area known as the Levee A area, including some part of River Road and Church Lane. This will involve public participation, design, economics and the matter of ongoing subsidy of levee maintenance.

7. Floodplain Generally

Action 7.1

The possible development and land use of all other floodprone land within the City of Bathurst shall be in conformity with Council's Floodprone Lands Policy. Currently Council's Interim Floodprone Land Policy 10.

8. Recurrent Costs

Description

Recurrent costs associated with the Floodplain Management Plan predominantly include maintenance costs after any levee construction. The importance of correct strategic defence initiatives, to protect the integrity of the levee structure, is paramount. Consequently, in the costings within the Floodplain Management Plan, 1% of the capital construction cost has been allowed annually for maintenance.

Action 8.1

The maintenance costs will recur from the time that each individual levee is constructed. Provision shall be made in ongoing Financial Plans for the following costs.

Levee	Annual Maintenance Cost
E1	7,600
B	7,300
F	8,100
C	14,000
Gilmour Street	5,300
D	14,000
Carlingford Street	7,800
Perthville (Provisional)	<u>10,500</u>
Total Annual Maintenance Cost	74,600

This is page 10 of the City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.

_____ GENERAL MANAGER _____ MAYOR.

9. Funding

Action 9.1

Council make provision in its Five Year Plan and beyond, the sum of \$150,000 per annum (and indexed), being 20% of the total flood mitigation annual expenditure.

10. Policy

Action 10.1

That Council's Interim Floodplain Development Policy, Policy No. 10, be amended by adding the following clause.

"10. Flood Mitigation Works

Flood Mitigation works shall be exempt from the provisions of this Policy, provided that

- a. the works are identified in the Bathurst Floodplain Management Plan,*
- b. the works have fulfilled all the criteria established in the Floodplain Management Plan*
- c. the works comprise the adopted actions to implement the Floodplain Management Plan."*

11. Priorities

Action 11.1

The formulation of Policy to facilitate the implementation of the Floodplain Management Plan as identified by Actions. 1.2, 2.3, 3.3, 4.4, 6.1, 7.1, 8.1, 9.1 and 10.1

Action 11.2

Continuance of the Kelso Floodplain Voluntary Purchase Scheme, as identified in Action 1.1, and the construction of a Squat Levee adjacent to Gilmour Street, as identified by Action 1.3. In addition, all local real estate agents, shall be asked to approach Council in the first instance for purchase of any property identified on the Kelso floodplain, should it be placed on the open market.

This is page 11 of the City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.

_____ GENERAL MANAGER _____ MAYOR.

Action 11.3

Investigation of supplementary measures as identified by Actions 6.1 & 6.2, for appropriateness of inclusion in the Floodplain Management Plan, prior to Action 11.4.

Action 11.4

Commensurate with Action 11.2, the construction of levee protection to the Havannah Street Area, as identified by Actions 2.1 & 2.2 in the following sequence.

- a. Levee E1
- b. Levee B1
- c. Levee F, including Floodgate on Old Vale Creek

Action 11.5

Levee protection to the Morrissett Street Area, as identified by Actions 3.1 & 3.2, following Action 11.4.

Action 11.6

The provision of structural and/or non-structural flood mitigation measures in the area upstream of the Railway Line, including the Carlingford Street Area, as identified by Actions 4.1, 4.2, 4.3 and 4.5, following Action 11.5

Action 11.7

Construction of flood mitigation measures in the Village of Perthville, following Action 11.6 as identified by Actions 5.1 and 5.2 in the following sequence:

- a) Creek clearing and deepening
- b) Bridge widening
- c) Levee construction.

Action 11.8

The ongoing priority of monitoring, reviewing and updating the Floodplain Management Plan as an integral part of its implementation, commensurate with all other Actions.

Section D: Implementation

As Councillors are aware, Council is responsible for the development and implementation of a Floodplain Management Plan. The Floodplain and its extent is shown in **Attachment B**.

This is page 12 of the **City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.**

_____ **GENERAL MANAGER** _____ **MAYOR.**

Council now needs to give consideration to the management, implementation and ongoing maintenance of the Plan.

Such levels of management, implementation and maintenance activities can only be at a level which Council and its budget can afford.

However, before such levels of management, implementation and maintenance activities can be effectively set, and at a level which Council and its budget can afford, Council will need to fully consider all matters and options available to Council with respect to the management, implementation and maintenance activities.

To allow Council to fully consider all matters and options available to Council, legal advice was sought on the implementation of the Floodplain Management Plan.

The City Engineer and Administration Engineer's Joint Report dated November 1993, and Analysis and recommendations contained therein, and given the cost this represents to Council's annual budget, Council now must give proper consideration to:

1. Whether it has the financial resources to implement the recommendations contained in Section C of this Report; or
2. If not, whether it should reallocate funds from other departments/services to fund the recommendations; or
3. If not, consider adopting a level of expenditure with respect to the Assets which, given Council's financial position and its commitment to the provision and maintenance of important community works and services, it is able to afford.

The additional costs to Council of adopting the 'Level 1' (PMF Protection) recommendations submitted by the City Engineer have been estimated by the City Engineer to be at least \$2,600,000 in the first year and \$2,600,000 (present value) recurrent per annum for 15 years.

The Estimates of Income and Expenditure for 1994/95 were adopted by Council on 17 May 1994, and give detailed figures on level of expenditure in each of Council's Departments and the levels of expenditure for each service within each Department.

As Council is aware, the 1994/5 Estimates have been prepared on the basis of making provision for expenditures at levels which will maintain Council's existing operations in all Departments and will continue to allow Council **only to provide the services which it has been providing.**

This is page 13 of the **City Engineer's Report to the Extraordinary Council Meeting** to be held Thursday, 27 April, 1995.

_____ **GENERAL MANAGER** _____ **MAYOR.**

Funding restraints, particularly in the area of Rates, have meant that Council has been able to provide only the basic services and it has had little opportunity to either upgrade the level of service or offer additional services.

Council also would be aware that:

- (a) It was restricted to a **zero** Rate Increase in 1992, 2.5% for 1993 and for 1994/95 an increase of 0.5% was permitted by Legislation.
- (b) Council had budgeted for a balanced budget for 1994/95.
- (c) The **Draft Five Year Management Plan submitted to Council on 17 May 1994** indicated that significant deficits will be faced in subsequent years unless significant cost cutting exercises take place, or additional revenue sources identified.
- (d) Council's budget for Engineering Services in 1994/95 is as follows:

Operating Funds	\$10,767,863
Flood Mitigation & Management	
- grants	\$ 600,000
- reserve funds	\$ <u>150,000</u>
TOTAL	\$11,517,863

The effect of adopting the City Engineer's Option will be to increase the present expenditure levels by 7.0% in the first year and by up to 7.6% recurrent (at present value) thereafter.

- (e) Council's anticipated operating result for year ended 30 June 1995, will be a deficit of \$232,060 after providing for restricted asset accounts, which include Section 94 deposits received but not spent, employee leave entitlements and sinking fund requirements for the repayment of loans and Government Grants for future works.
- (f) Council's operating position may deteriorate due to expenditure on other assets the community expects Council to provide, such as car parks, swimming pool improvements, theatre and the like.

Based on these facts, Council needs to now consider:

1. Whether it has the financial resources to implement the recommendations contained in the City Engineer's Report.
2. If not, whether it should reallocate funds from other programmes to fund the recommendations; or

This is page 14 of the **City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.**

_____ **GENERAL MANAGER** _____ **MAYOR.**

3. If not, consider adopting a level of expenditure with respect to the Floodplain Management and implementation which, given Council's financial position and its commitment to the provision of a Floodplain Management Strategy for the City, that it is able to afford.

Following a detailed assessment of the City Engineer's Report, and following a detailed assessment of Council's financial position, the following activity overall level is the highest level that Council can afford with respect to the implementation of the Floodplain Management Plan, and given the financial restrictions and Council's community works and services commitments as detailed in the Estimates which were adopted by Council on 17 May 1994.

The grounds for this is that the following Plan will provide for the Floodplain Management Plan to be implemented and maintained at the highest standard Council can afford in all of its circumstances and having regard to the importance of the City Engineer's Report Recommendations.

Recommendations:

1. That the following Objective and Policy be adopted in relation to the Floodplain Management Plan.

"Objective:

Implement and maintain a Floodplain Management Strategy to the standard set out in "Level 4" of the City Engineers Report which is, in fact, the highest standard and condition that Council can reasonably afford in all of its circumstances and having regard to financial, economic, environmental, aesthetic, social or political factors or constraints.

Policy: Floodplain Management Plan

PART 1

SECTION 1

General Provisions Applying to all Parts and Sections

1. a) *All matters and activities set out in all Parts and Sections of this Policy and any determination made pursuant thereto by a responsible person SHALL ALWAYS be subject to and limited by the funds and resources ("resource availability") voted and resolved by Council.*

This is page 15 of the City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.

GENERAL MANAGER _____ MAYOR.

- b) *Subject to the provisions of Section 731 of the Local Government Act, 1993, a decision made by a responsible person in carrying out the functions of the Policy shall be a decision of the Council **PROVIDED ALWAYS** that a responsible person has acted in good faith for the purpose of executing this Policy.*
- c) *Expressions of words used in this Policy (or a particular provision of this Policy) which are defined in the dictionary at the end of this Policy have the meanings set out in the dictionary.*
- d) *A determination made by a responsible person in carrying out the functions of this Policy shall be recorded and maintained in such fashion as is determined by a responsible person. The manner and form of records as set out in Council's standard Risk Management procedure.*
- e) *Subject to a responsible person determining otherwise, "Codes of Best Practice", incorporating standard(s), method(s) and frequencies, shall be determined and implemented for all activities set out in this Policy and shall be reviewed on a continuing basis.*
- f) *"Responsible person(s) shall be determined by the General Manager or his / her delegate.*
- g) *The determination of responsible persons as set out in Council's standard Risk Management procedures.*

SECTION 2

Dictionary

2. **"as determined by a responsible person"** means:
- *a decision by a responsible person and
 - *a decision made pursuant with the execution of this Policy and the functions, powers and duties set out therein

"function" includes a power, authority and duty.

"month" means a calendar month.

"reasonably safe condition" means that in the **ABSOLUTE OPINION** of a responsible person:

This is page 16 of the **City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.**

_____ **GENERAL MANAGER** _____ **MAYOR.**

- *Safety measures were not required; or*
- *That safety measures taken were adequate and sufficient for a particular circumstance.*
- *Works carried out were in accordance with any Code of Best Practice or Standard determined pursuant with Section 1.e);*
- *Works carried out were in accordance with any Standard or Code of Practice adopted by Council not included in c);*

"responsible person" means the Council or an employee and/or a particular position as provided for in Council's standard Risk Management procedure.

"week" means the period Monday to Friday inclusive.

"working day" or "day" means Monday to Friday inclusive subject to the "ordinary working hours" of Council.

"work site" means and includes any specific place or places at which construction or maintenance works are being carried out on by or under the actual direction and control of Council.

"year" means a calendar year.

SECTION 3 Instrument of Delegation

3.

That subject to compliance with the requirements of the Local Government Act, 1993, and Ordinances thereunder and any express Policy or direction of Council, the Council pursuant to the provision of Section 377 of the Local Government Act, 1993, hereby delegates to the General , authority to exercise and perform on behalf of Council, all functions, powers, authorities, duties and matters contained in this Policy.

SECTION 4 Implementation

4.

That all recommendations in this Policy take operational effect from the date of Council Approval.

This is page 17 of the City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.

_____ GENERAL MANAGER _____ MAYOR.

2. Adopt this report, and the actions and priorities identified in Section C.
3. That a press release be issued explaining the Floodplain Management Plan.
4. That copies of the Floodplain Management Plan be distributed to the representatives of the Floodplain Management Sunset Committee.
5. That having fulfilled its purpose the Floodplain Management Sunset Committee be dissolved.

Yours faithfully

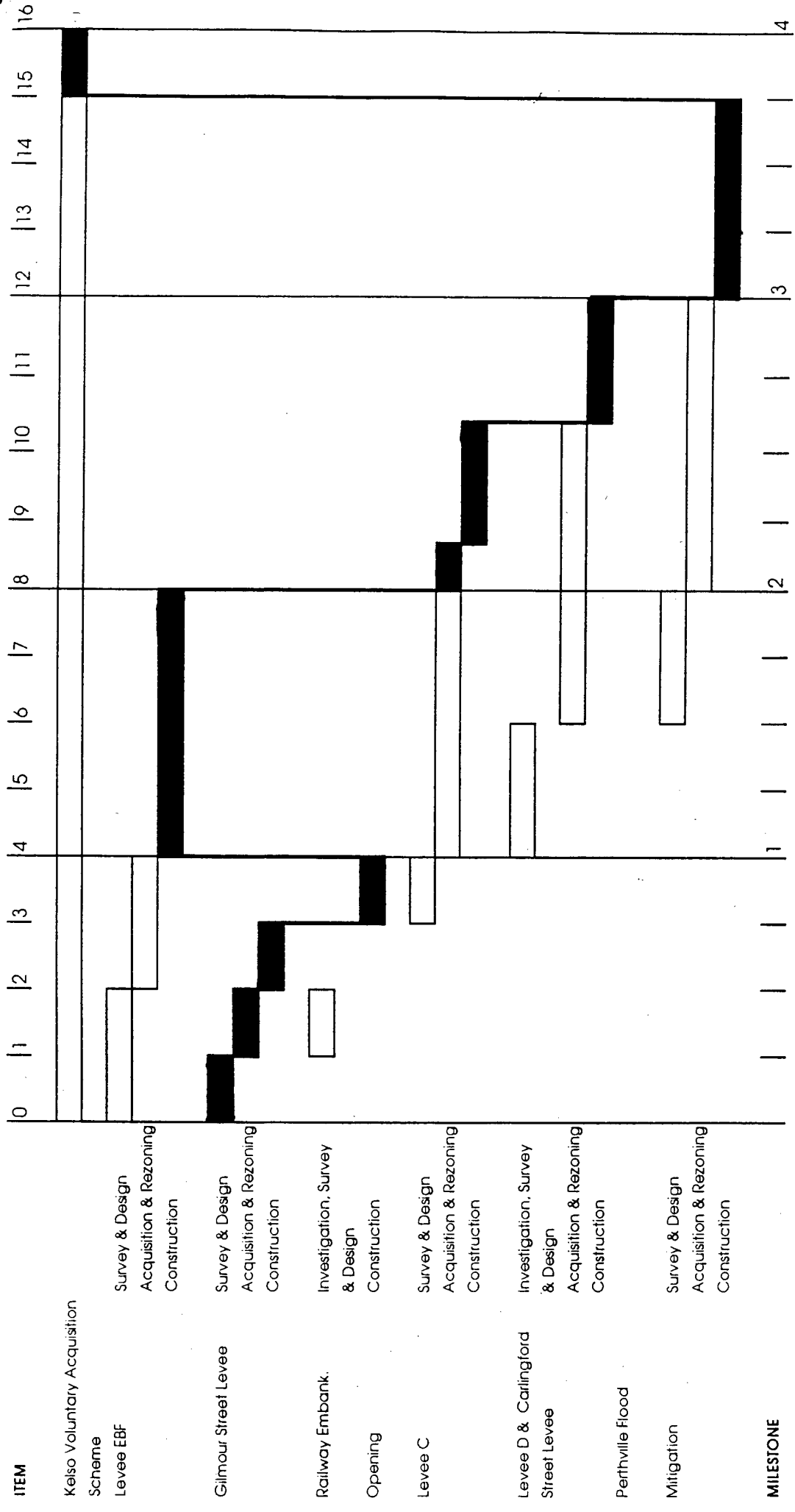


P. J. Gannon
CITY ENGINEER

This is page 18 of the **City Engineer's Report to the Extraordinary Council Meeting to be held Thursday, 27 April, 1995.**

_____ **GENERAL MANAGER** _____ **MAYOR.**

FLOODPLAIN MANAGEMENT PLAN IMPLEMENTATION YEAR



MILESTONE

CRITICAL PATH (SHOWN THUS)

**CITY ENGINEER'S SECOND REPORT TO THE COMBINED
COMMITTEE MEETING TO BE HELD
WEDNESDAY, 8 JUNE, 1994**

1 June 1994

The General Manager
BATHURST NSW 2795

1. FLOODPLAIN MANAGEMENT PLAN (F04/13) Item prepared
by Mr Neil Allen.

Section A: Introduction

Distributed separately again for Councillors' information, is the City Engineer and Administration Engineer's Report on the Floodplain Management Plan dated November 1993.

Advice has been received that, should Council wish to construct levees in the short term, it can do so provided it takes this action as a matter of Policy.

The following report and its recommendations are structured in such a way as to allow actions to be taken which are of the overall greatest benefit to Floodplain users.

In adopting any Floodplain Management Strategy, Council could develop its Plan upon any one of the following criteria:

- Level 1 By removing all flood liability to all properties.
- Level 2 By removing all flood liability to all buildings.
- Level 3 By doing nothing at all.
- Level 4 By offering protection against flooding of a designated risk.

The first two criteria would address the affects of the Probable Maximum Flood (PMF) and amount to an extremely expensive and cost in-efficient solution.

This is page 1 of the **City Engineer's Second** Report to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

_____ **GENERAL MANAGER** _____ **MAYOR.**

**Conservative
Indicative Cost**

- i. Voluntary Acquisition of all PMF affected dwellings - **\$37m**
- ii. Voluntary Acquisition of PMF affected properties on the Kelso Floodplain, and PMF Levee Protection - **\$45m**

The third option above, i.e., the do nothing option, would cost in the order of \$430,000 per annum in ad-indefinitum in annual average damages. Quite obviously this is more expensive in the long run than the recommended strategy below.

The preferred course of action which is affordable to Council and provides the most equitable returns for expenditure in terms of reduction of flood risk is the adoption of a Designated Flood equal to the 1% AEP Event, and the mitigation of its effects or removal of the affected property, i.e., the Level 4 Criteria.

The essential element at issue is that of the construction of flood mitigation works, which have an adverse effect, albeit temporary in the context of the total Floodplain Management Plan, on other floodprone properties.

The matter of liability can be viewed differently when applied to a Public Authority or an individual, with different Statutes governing the acceptable behaviour of each.

The City Engineer and Administration Engineer's Report on the Floodplain Management Plan has attempted to show that an increase in flood level does not necessarily cause an increase in damage, nor could it be expected, when the matter is considered thoroughly, that one would necessarily follow the other. This is one of the contributing reasons why the concept of hazard is important in Floodplain Management. If a property is subject to a very serious risk of damage and danger to its inhabitants, it is unlikely that small increases in flood levels would change this already very serious risk. The concept of Floodplain Management attempts to fairly and equitably manage and lessen this risk.

It is a matter for the Council if it wishes to base its Floodplain Management Plan on moral grounds.

In adopting any Scheme, however, Council should be aware that Grant subsidies are likely only to be available where the Scheme represents the most cost effective approach to control and reduce the overall flood risk and associated flood damage costs.

This is page 2 of the **City Engineer's Second** Report to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

_____ **GENERAL MANAGER** _____ **MAYOR.**

A total Voluntary Purchase Scheme, estimated to cost \$14.7m, does not achieve the greatest cost/benefit. This represents an estimated cost of \$3.2m above the estimated Combined Levee/Voluntary Purchase Scheme cost of \$11.5m. It is likely that Grant Funds would not subsidise this additional cost, on the usual 40:40:20 basis, and that Council would have to meet the total of the additional cost, bringing Council's contribution to \$5.5m of the \$14.7m total. It could also have the effect of extending the Plan implementation by approximately 21 years.

Should Council adopt a FPMP as outlined in Section B then the following aspects are relevant:

Social Impact

The social implications of flooding and the impact of the Floodplain Management Plan are addressed in Section 1.1,1.2,1.3,1.4, & 6.1 of the City Engineer's and the Administration Engineer's report on the Floodplain Management Plan.

Environmental & Aesthetic Impact

Prior to the construction of any structural flood mitigation measures, such as levees, a detailed survey and design, and properly acquisition and rezoning process must be completed. As an integral part of this process, the environmental and aesthetic impact will be addressed in detail, and subsequently exhibited within the rezoning component.

Notwithstanding that the "Kinhill" Floodplain Management Study Report identified the levee options as having a neutral or minor adverse impact, the issue will be addressed again and canvassed at development stage.

Adverse Flood Impact

In implementing the proposed Floodplain Management Plan, temporary adverse effects could be experienced during the course of the programme. Whether the small increases in flood levels actually equate to an adverse impact on a building will be governed by:

1. The progress of the Voluntary Acquisition Scheme i.e. which properties have been purchased.
2. The level of flooding already experienced by the property i.e. a small increase in flood level does not necessarily increase flood damage.
3. The exact impact of the additional railway embankment opening in mitigating the adverse effects of other structural works.

This is page 3 of the **City Engineer's Second** Report to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

_____ **GENERAL MANAGER** _____ **MAYOR.**

mitigating the adverse effects of other structural works.

The proposed implementation programme (attachment 4) identifies 4 milestones of achievement, at Year 4, 8, 12 and 16.

At each of these milestones the estimated increase in flood levels as a result of the foregoing works is shown in the following attachments, which have been extracted from the Computer Based Floodplain Model Report (Willings).

Milestone 1 (Year 4) - attachment C

Milestone 2 (Year 8) - attachment D

Milestone 3 (Year 12) - attachment E

Obviously at Milestone 4 (Year 16), assuming that all properties within the Kelso floodplain have been acquired, the adverse impact is insignificant.

Section B - Recommended Actions

The recommended Plan requires that the following actions be taken within the floodprone areas so described, at an estimated cost of \$11.8m over a period of 15 to 16 years.

1. Kelso Floodplain

Description

This area encompasses all land between the Macquarie River Channel and the eastern flood extremity, and generally north of the Main Western Railway to Tyer's Park Racecourse.

Action 1.1

The Voluntary Purchase of all residential properties within the area, with the exception of flood fringe properties fronting Gilmour Street. The priority of purchase is based on:

- (a) Occupied by Owner
- (b) Hazard Rating for the 1% AEP Flood
- (c) Whether overfloor flooding has been experienced previously.
- (d) The level of adverse effects to the property as a result of other structural measures on the Floodplain.

This is page 4 of the **City Engineer's Second** Report to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

_____ **GENERAL MANAGER** _____

_____ **MAYOR.**

- (e) The purchase prices shall remain confidential, including Non-Disclosure Clauses in all Sale Contracts, so as not to affect other sensitive property dealings.

Action 1.2

The area adjacent to Gilmour Street, within the Kelso Floodplain area, and upon the Low Hazard Flood Fringe, including all properties fronting Gilmour Street and 86 - 92 Hereford Street, shall be protected by the construction of a relatively squat levee to normal standards and/or land fill to 500mm above the 1% AEP Flood from Learmonth Park to immediately beyond Hereford Street. Such construction can proceed immediately upon detailed survey design and land acquisition, accrual of appropriate grant funds and/or landholder contributions. However, prior to the construction of this levee, land use and building restrictions, as referred to in Item 2 below, shall apply.

2. Havannah Street Area

Description

The Havannah Street area includes all floodprone lands between the Showground and south to include that area immediately east of the Russell Street Underpass, including the Southern Mitchell Electricity Sub-Station.

Action 2.1

Immediately embark on detailed survey, design and land acquisition for the construction of levees, with alignments generally conforming with those labelled F, B1 and E1 in previous Studies.

Action 2.2

Following the detailed design, land acquisition and rezoning, progressively construct the levees, commensurate with annual Grant Funds.

Action 2.3

Building controls be enforced in the area to be protected, prior to the construction of levees that do not allow:

- (a) Encroachment on the possible alignment of the levees.
- (b) Increased potential flood damage prior to levee construction.

(c) Adverse effects on adjoining properties prior to levee construction.

3. Morrissett Street Area

Description

The Morrissett Street area generally comprises of floodprone land from the Wastewater Treatment Works generally southeast to the Jordan Creek Confluence.

Action 3.1

The required action is the immediate detailed survey, design and property acquisition of an earth levee, generally along the alignment of Levee C in previous Studies.

Action 3.2

Following the detailed design, land acquisition and rezoning, progressively construct the levees, commensurate with annual Grant Funds.

Action 3.3

Prior to the construction of levees, other flood mitigation controls on buildings remain in force as for the Havannah Street area.

4. Area Upstream of the Railway Line

Description

This area generally comprises all land south of the Main Western Railway Line, not including that area enclosed by Levee E1 and within the Havannah Street area, but inclusive of all floodprone lands south towards and including Beresford Street.

Action 4.1

The immediate investigation of alternative schemes to Voluntary Purchase, involving the negotiation with all commercial properties in the two distinct areas regarding sponsorship and/or commitment to the funding of structural options.

Action 4.2

Should an economic and effective structural scheme be devised, then this should be immediately followed by a detailed design, survey and

This is page 6 of the **City Engineer's Second** Report to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

_____ **GENERAL MANAGER** _____ **MAYOR.**

acquisition of levees around the Carlingford Street area and generally along the alignment of Levee D shown on previous plans.

Action 4.3

Following the detailed design, land acquisition and rezoning, progressively construct the levees, commensurate with annual Grant Funds.

Action 4.4

Prior to any levee construction, flood mitigation controls on buildings shall apply as for the Havannah Street area.

Action 4.5

Should a structural flood mitigation scheme not come to fruition, then Voluntary Purchase of all properties with floor levels less than 500mm above the 1% AEP Flood Level be systematically purchased under a Voluntary Purchase Scheme, but it be recognised that Government funding would be a very low priority for such purchases

5. Further Investigation

Action 5.1

The investigation and design of additional Railway embankment openings, with a view to these measures offering compensatory effects for the construction of structural mitigation options elsewhere on the Floodplain.

Action 5.2

The investigation of structural options to protect the area known as the Levee A area, including some part of River Road and Church Lane. This will involve public participation, design, economics and the matter of ongoing ratepayer subsidy of levee maintenance.

6. Floodplain Generally

Action 6.1

The possible development and land use of all other floodprone land within the City of Bathurst shall be in conformity with Council's Floodprone Lands Policy. Currently Council's Interim Floodprone Land Policy 10.

7. Perthville

Description

This area comprises all floodprone lands within the Village of Perthville.

Action 7.1

In the interim, the floodprone lands within the Village of Perthville shall be subject to Council's Floodprone Lands Policy, currently Policy 10.

8. Recurrent Costs

Description

Recurrent costs associated with the Floodplain Management Plan predominantly include maintenance costs after any levee construction. The importance of correct strategic defence initiatives, to protect the integrity of the levee structure, is paramount. Consequently, in the costings within the Floodplain Management Plan, 1% of the capital construction cost has been allowed annually for maintenance.

Action 8.1

The maintenance costs will recur from the time that each individual levee is constructed. Provision shall be made in ongoing Financial Plans for the following costs.

Levee	Annual Maintenance Cost
E1	7,400
B	7,100
F	7,900
C	13,700
Gilmour Street	5,200
D	13,700
Carlingford Street	7,600
Perthville (Provisional)	<u>7,000</u>
Total Annual Maintenance Cost	69,600

9. Funding

Action 9.1

Council make provision in its Five Year Plan and beyond, the sum of \$150,000 per annum (and indexed), being 20% of the total flood mitigation

This is page 8 of the **City Engineer's Second** Report to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

_____ **GENERAL MANAGER** _____ **MAYOR.**

annual expenditure.

10. Policy

Action 10.1

That Council's Interim Floodplain Development Policy, Policy No. 10, be amended by adding the following clause.

"10. Flood Mitigation Works

Flood Mitigation works shall be exempt from the provisions of this Policy, provided that

- a. the works are identified in the Bathurst Floodplain Management Plan,*
- b. the works have fulfilled all the criteria established in the Floodplain Management Plan*
- c. the works comprise the adopted actions to implement the Floodplain Management Plan."*

11. Priorities

Action 11.1

The formulation of Policy to facilitate the implementation of the Floodplain Management Plan as identified by Actions. 1.2, 2.3, 3.3, 4.4, 6.1, 7.1, 8.1, 9.1 and 10.1

Action 11.2

Continuance of the Kelso Floodplain Voluntary Purchase Scheme, as identified in Action 1.1, and the construction of a Squat Levee adjacent to Gilmour Street, as identified by Action 1.3.

Action 11.3

Investigation of supplementary measures as identified by Actions 5.1 & 5.2, for appropriateness of inclusion in the Floodplain Management Plan, prior to Action 11.4.

Action 11.4

Commensurate with Action 11.2, the construction of levee protection to the Havannah Street Area, as identified by Actions 2.1 & 2.2 in the following

This is page 9 of the **City Engineer's Second** Report to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

_____ **GENERAL MANAGER** _____ **MAYOR.**

sequence.

- a. Levee E1
- b. Levee B1
- c. Levee F, including Floodgate on Old Vale Creek

Action 11.5

Levee protection to the Morrissett Street Area, as identified by Actions 3.1 & 3.2, following Action 11.4.

Action 11.6

The provision of structural and/or non-structural flood mitigation measures in the area upstream of the Railway Line, including the Carlingford Street Area, as identified by Actions 4.1, 4.2, 4.3 and 4.5, following Action 11.5

Action 11.7

The ongoing priority of monitoring, reviewing and updating the Floodplain Management Plan as an integral part of its implementation, commensurate with all other Actions.

Section C: Implementation

As Councillors are aware, Council is responsible for the development and implementation of a Floodplain Management Plan. The Floodplain and its extent is shown in **Attachment B**.

Council now needs to give consideration to the management, implementation and ongoing maintenance of the Plan.

Such levels of management, implementation and maintenance activities can only be at a level which Council and its budget can afford.

However, before such levels of management, implementation and maintenance activities can be effectively set, and at a level which Council and its budget can afford, Council will need to fully consider all matters and options available to Council with respect to the management, implementation and maintenance activities.

To allow Council to fully consider all matters and options available to Council, legal advice was sought on the implementation of the Floodplain Management Plan.

This is page 10 of the **City Engineer's Second Report** to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

_____ **GENERAL MANAGER** _____ **MAYOR.**

The 20+yr Floodplain management Plan Report of

November 1993, and Analysis and recommendations contained therein, and given the cost this represents to Council's annual budget, Council now must give proper consideration to:

1. Whether it has the financial resources to implement the recommendations contained in Section B of this Report; or
2. If not, whether it should reallocate funds from other departments/services to fund the recommendations; or
3. If not, consider adopting a level of expenditure with respect to the Assets which, given Council's financial position and its commitment to the provision and maintenance of important community works and services, it is able to afford.

The additional costs to Council of adopting the 'Level 1' (PMF Protection) recommendations submitted by the City Engineer have been estimated by the City Engineer to be at least \$2,600,000 in the first year and \$2,600,000 (present value) recurrent per annum for 15 years.

The Estimates of Income and Expenditure for 1994/95 were adopted by Council on 17 May 1994, and give detailed figures on level of expenditure in each of Council's Departments and the levels of expenditure for each service within each Department.

As Council is aware, the 1994/5 Estimates have been prepared on the basis of making provision for expenditures at levels which will maintain Council's existing operations in all Departments and will continue to allow Council **only to provide the services which it has been providing**. Funding restraints, particularly in the area of Rates, have meant that Council has been able to provide only the basic services and it has had little opportunity to either upgrade the level of service or offer additional services.

Council also would be aware that:

- (a) It was restricted to a **zero** Rate Increase in 1992, 2.5% for 1993 and for 1994/95 an increase of 0.5% was permitted by Legislation.
- (b) Council had budgeted for a balanced budget for 1994/95.
- (c) The **Draft Five Year Management Plan submitted to Council on 17 May 1994** indicated that significant deficits will be faced in subsequent years unless significant cost cutting exercises take place, or additional revenue sources identified.

This is page 11 of the **City Engineer's Second Report** to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

_____ **GENERAL MANAGER** _____

_____ **MAYOR.**

(d) Council's budget for Engineering Services in 1994/95 is as follows:

Operating Funds	\$10,767,863
Flood Mitigation & Management	
- grants	\$ 600,000
- reserve funds	<u>\$ 150,000</u>
TOTAL	\$11,517,863

The effect of adopting the City Engineer's Option will be to increase the present expenditure levels by 7.0% in the first year and by up to 7.6% recurrent (at present value) thereafter.

- (e) Council will have an estimated equity balance of \$5,081,319 as at 30 June, 1994, after providing for \$14,428,734 of restricted asset accounts, which include Section 94 deposits received but not spent, employee leave entitlements and sinking fund requirements for the repayment of loans and Government Grants for future works.
- (f) Council's Cash Account position may deteriorate due to expenditure on other assets the community expects Council to provide, such as car parks, swimming pool improvements, theatre and the like.

Based on these facts, Council needs to now consider:

1. Whether it has the financial resources to implement the recommendations contained in the City Engineer's Report.
2. If not, whether it should reallocate funds from other programmes to fund the recommendations; or
3. If not, consider adopting a level of expenditure with respect to the Floodplain Management and implementation which, given Council's financial position and its commitment to the provision of a Floodplain Management Strategy for the City, that it is able to afford.

Following a detailed assessment of the City Engineer's Report, and following a detailed assessment of Council's financial position, the following activity overall level is the highest level that Council can afford with respect to the implementation of the Floodplain Management Plan, and given the financial restrictions and Council's community works and services commitments as detailed in the Estimates which were adopted by Council on 17 May 1994.

The grounds for this is that the following Plan will provide for the Floodplain Management Plan to be implemented and maintained at the

highest standard Council can afford in all of its circumstances and having regard to the importance of the City Engineer's Report Recommendations.

Recommendations:

1. That the following Objective and Policy be adopted in relation to the Floodplain Management Plan.

Objective:

Implement and maintain a Floodplain Management Strategy to the standard set out in "Level 4" of the City Engineer and Administration Engineer's Joint Report dated November 1993, which is, in fact, the highest standard and condition that Council can reasonably afford in all of its circumstances and having regard to financial, economic, environmental, aesthetic, social or political factors or constraints.

Policy: Floodplain Management Plan

PART 1

SECTION 1

General Provisions Applying to all Parts and Sections

1.
 - a) All matters and activities set out in all Parts and Sections of this Policy and any determination made pursuant thereto by a responsible person **SHALL ALWAYS** be subject to and limited by the funds and resources ("resource availability") voted and resolved by Council.
 - b) Subject to the provisions of Section 731 of the Local Government Act, 1993, a decision made by a responsible person in carrying out the functions of the Policy shall be a decision of the Council **PROVIDED ALWAYS** that a responsible person has acted in good faith for the purpose of executing this Policy.
 - c) Expressions of words used in this Policy (or a particular provision of this Policy) which are defined in the dictionary at the end of this Policy have the meanings set out in the dictionary.
 - d) A determination made by a responsible person in carrying out the functions of this Policy shall be recorded and maintained in such fashion as is determined by a

This is page 13 of the **City Engineer's Second Report** to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

_____ **GENERAL MANAGER** _____ **MAYOR.**

responsible person. The manner and form of records as set out in Council's standard Risk Management procedure.

- e) Subject to a responsible person determining otherwise, "**Codes of Best Practice**", incorporating standard(s), method(s) and frequencies, shall be determined and implemented for all activities set out in this Policy and shall be reviewed on a continuing basis.
- f) "**Responsible person(s)**" shall be determined by the General Manager or his/her delegate.
- g) The determination of responsible persons as set out in Council's standard Risk Management procedures.

SECTION 2 Dictionary

2. "**as determined by a responsible person**" means:
- *a decision by a responsible person and
 - *a decision made pursuant with the execution of this Policy and the functions, powers and duties set out therein

"**function**" includes a power, authority and duty.

"**month**" means a calendar month.

"**reasonably safe condition**" means that in the ABSOLUTE OPINION of a responsible person:

- *Safety measures were not required; or
- *That safety measures taken were adequate and sufficient for a particular circumstance.
- *Works carried out were in accordance with any Code of Best Practice or Standard determined pursuant with Section 1.e);
- *Works carried out were in accordance with any Standard or Code of Practice adopted by Council not included in c);

"**responsible person**" means the Council or an employee and/or a particular position as provided for in Council's standard Risk Management procedure.

"**week**" means the period Monday to Friday inclusive.

"**working day**" or "**day**" means Monday to Friday inclusive subject to the "ordinary working hours" of Council.

"**work site**" means and includes any specific place or places at which construction or maintenance works are being carried out on by or under the actual direction and control of Council.

"**year**" means a calendar year.

SECTION 3 Instrument of Delegation

3.

That subject to compliance with the requirements of the Local Government Act, 1993, and Ordinances thereunder and any express Policy or direction of Council, the Council pursuant to the provision of Section 377 of the Local Government Act, 1993, hereby delegates to the General , authority to exercise and perform on behalf of Council, all functions, powers, authorities, duties and matters contained in this Policy.

SECTION 4 Implementation

4. That all recommendations in this Policy take operational effect from from the date of Council Approval.
2. That a press release be issued explaining the Floodplain Management Plan.
3. That copies of the Floodplain Management Plan be distributed to the representatives of the Floodplain Management Sunset Committee.
4. That having fulfilled its purpose the Floodplain Management Sunset Committee be dissolved.

This is page 15 of the **City Engineer's Second** Report to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

_____ **GENERAL MANAGER** _____ **MAYOR.**

2. REGIONAL ROAD NETWORK (G10/05 194053000032) Item prepared by Mr Doug Patterson - Council has received a letter from the Roads & Traffic Authority (copy **attached**) detailing changes to Council's Regional Road Network and State Road Network.

The proposals put forward by the Authority are to reclassify the following Regional Roads to State Road status.

1. Main Road 54 North - Sofala Road
2. Main Road 253 - Oberon Road

The Authority proposes that these reclassifications be adopted on an agreed basis as from the 1 July 1994. The permanency of the classifications is subject to the completion of the state wide review process which will then be formalised in legislation.

The result of the review is what Council had put as a proposal to the Authority for reclassification. The State Road status ensures the roads will remain as classified roads as the long term proposal is eventually to revert Regional Roads to Local road status.

The reduction in the Block Grant by \$92,000 will be compensated by allocation of funding on the State Preservation grants. The main concern of the block grants is that adequate funding is provided for traffic facilities work which needs to be in the order of \$50,000.

The Authority is seeking Council's agreement to commence using the new network as from 1 July 1994 and this proposal should be supported by Council.

Recommendation - That Council advise the Roads & Traffic Authority that it agrees to the altered classified road network as from 1 July 1994 and that funding on the Regional Road Block Grant should also account for an allowance of a minimum of \$50,000 for Traffic Facilities work.

Yours faithfully

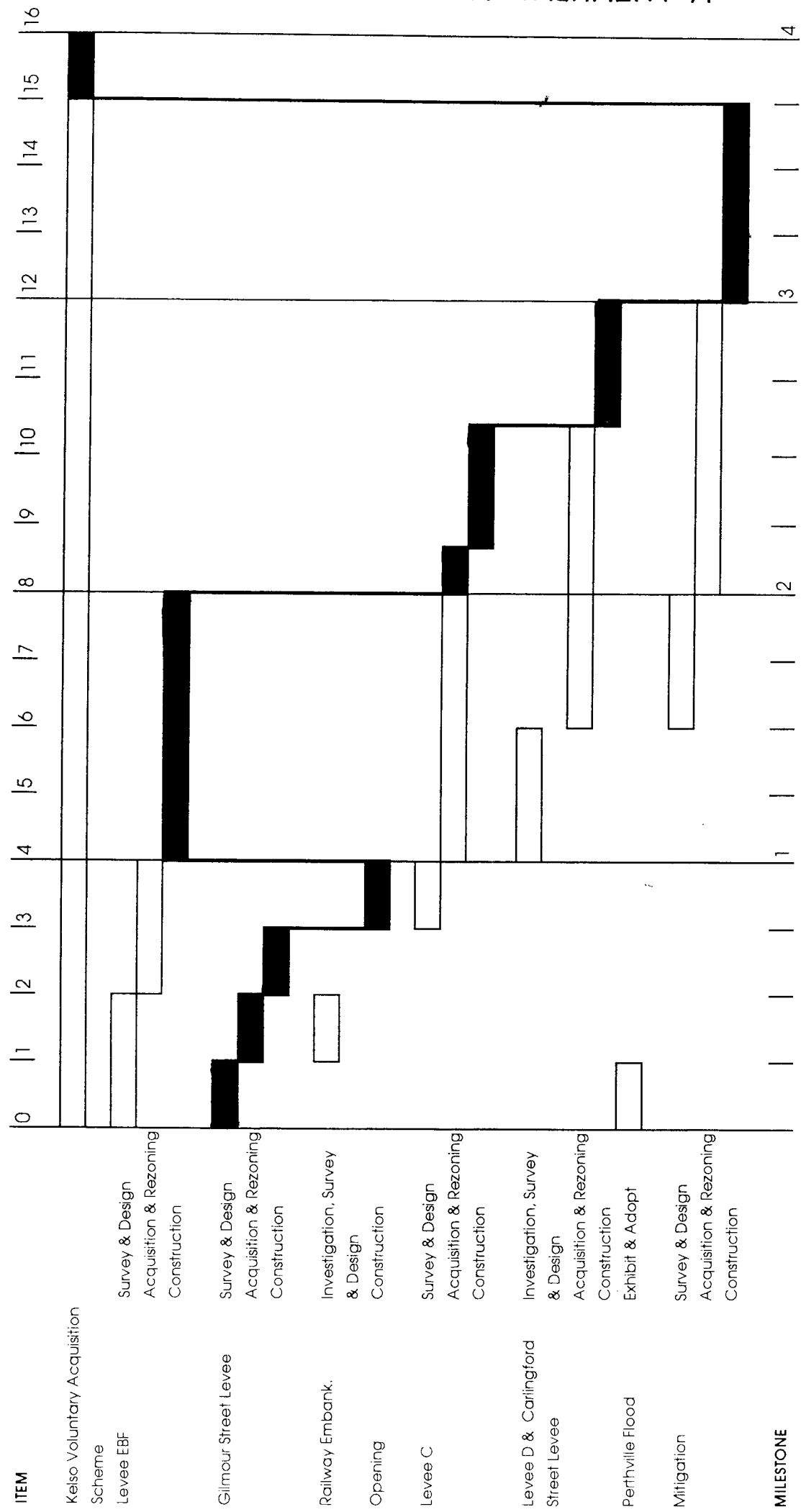

P. J. Gannon
CITY ENGINEER

This is page 16 of the **City Engineer's Second** Report to the Combined Committee Meeting to be held Wednesday, 8 June, 1994.

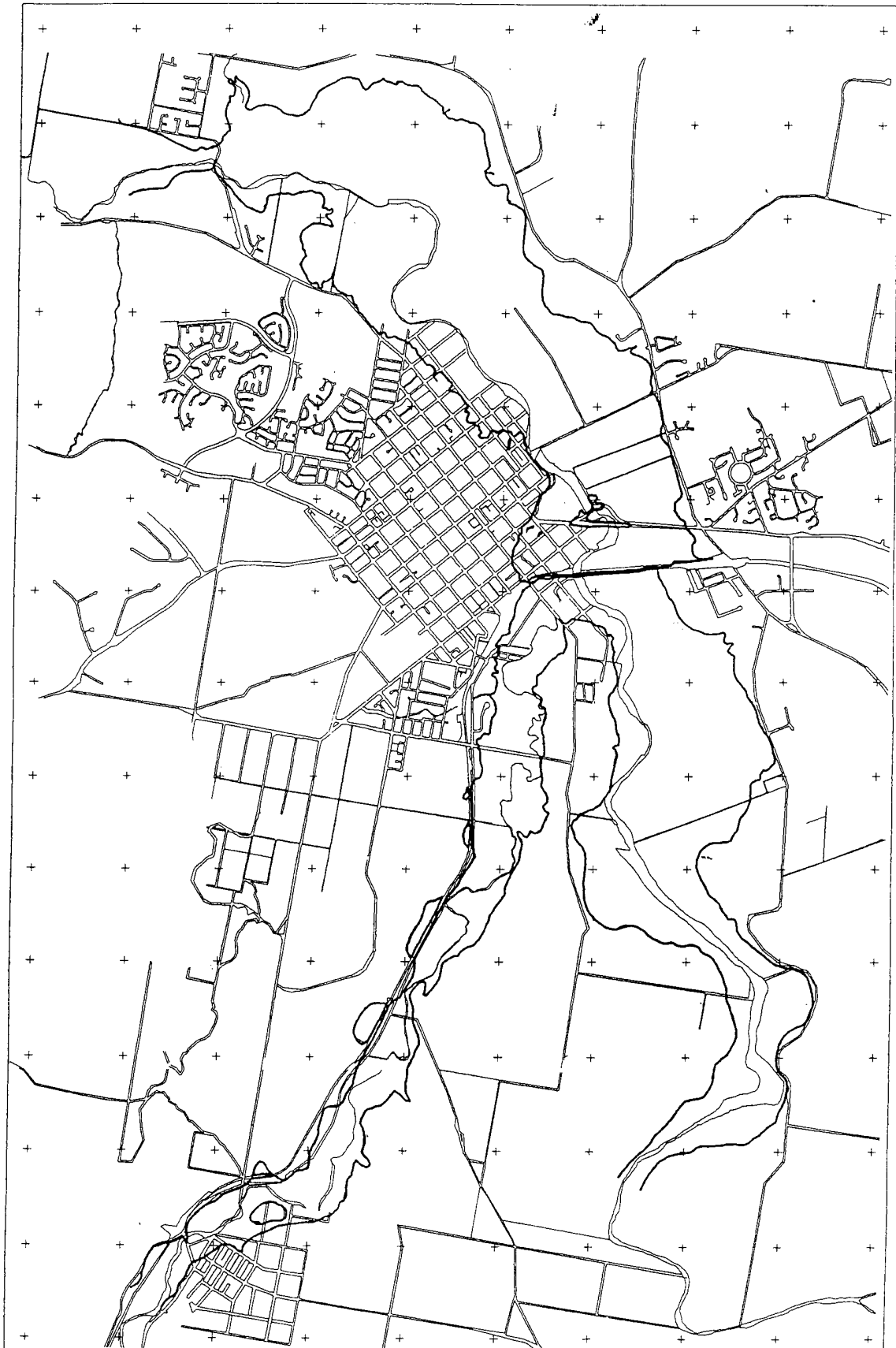
_____ **GENERAL MANAGER** _____

_____ **MAYOR.**

FLOODPLAIN MANAGEMENT PLAN IMPLEMENTATION, YEAR



ATTACHMENT B



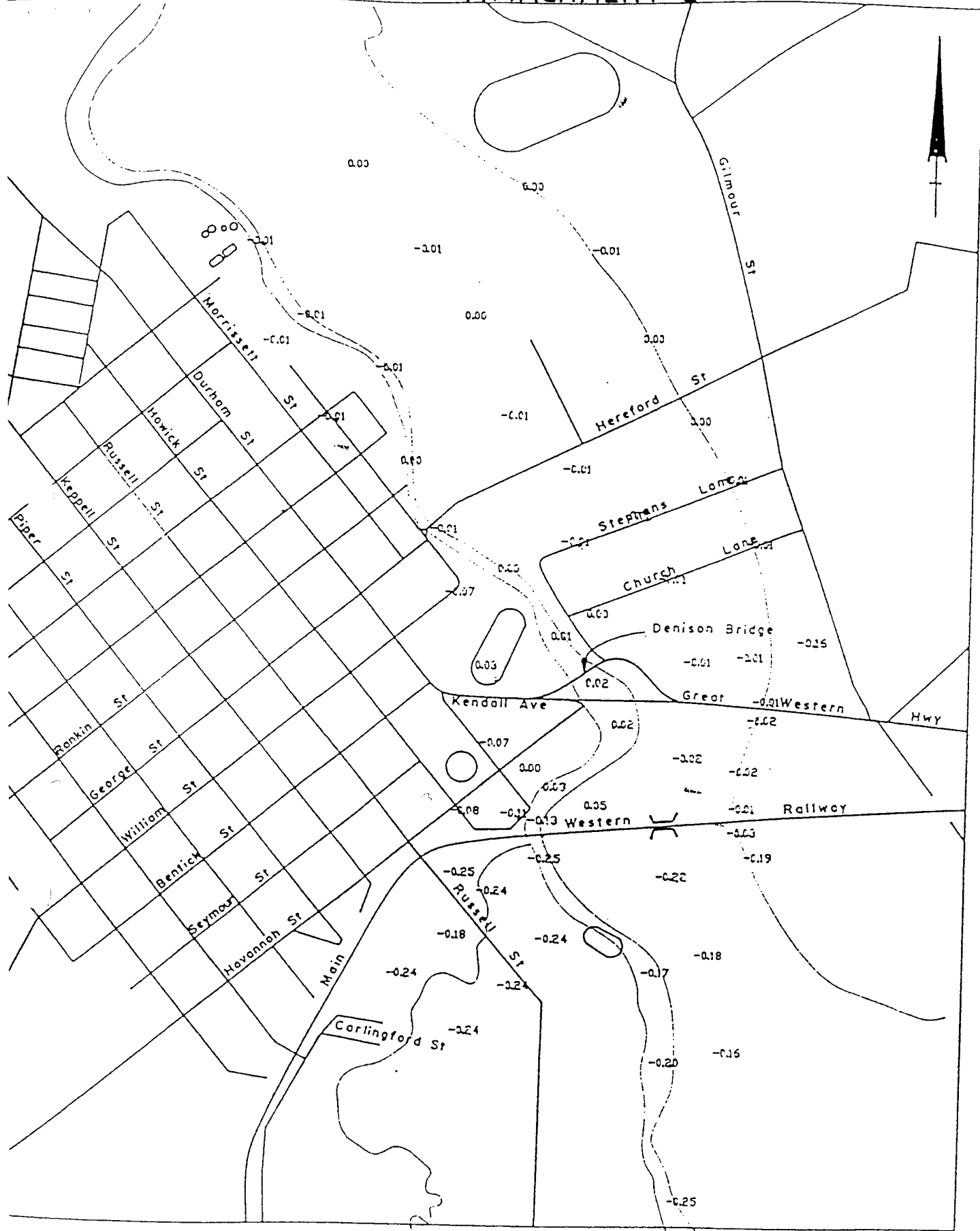
5 August 1992

REVISION	DATE	CHECKED

NOT TO SCALE

NOTE: This map has been prepared using the most up to date ground level, hydrologic and hydraulic data available at the date of the latest revision.

BATHURST CITY COUNCIL
 BATHURST FLOOD INUNDATION MAP
 1% AEP FLOOD LIMITS

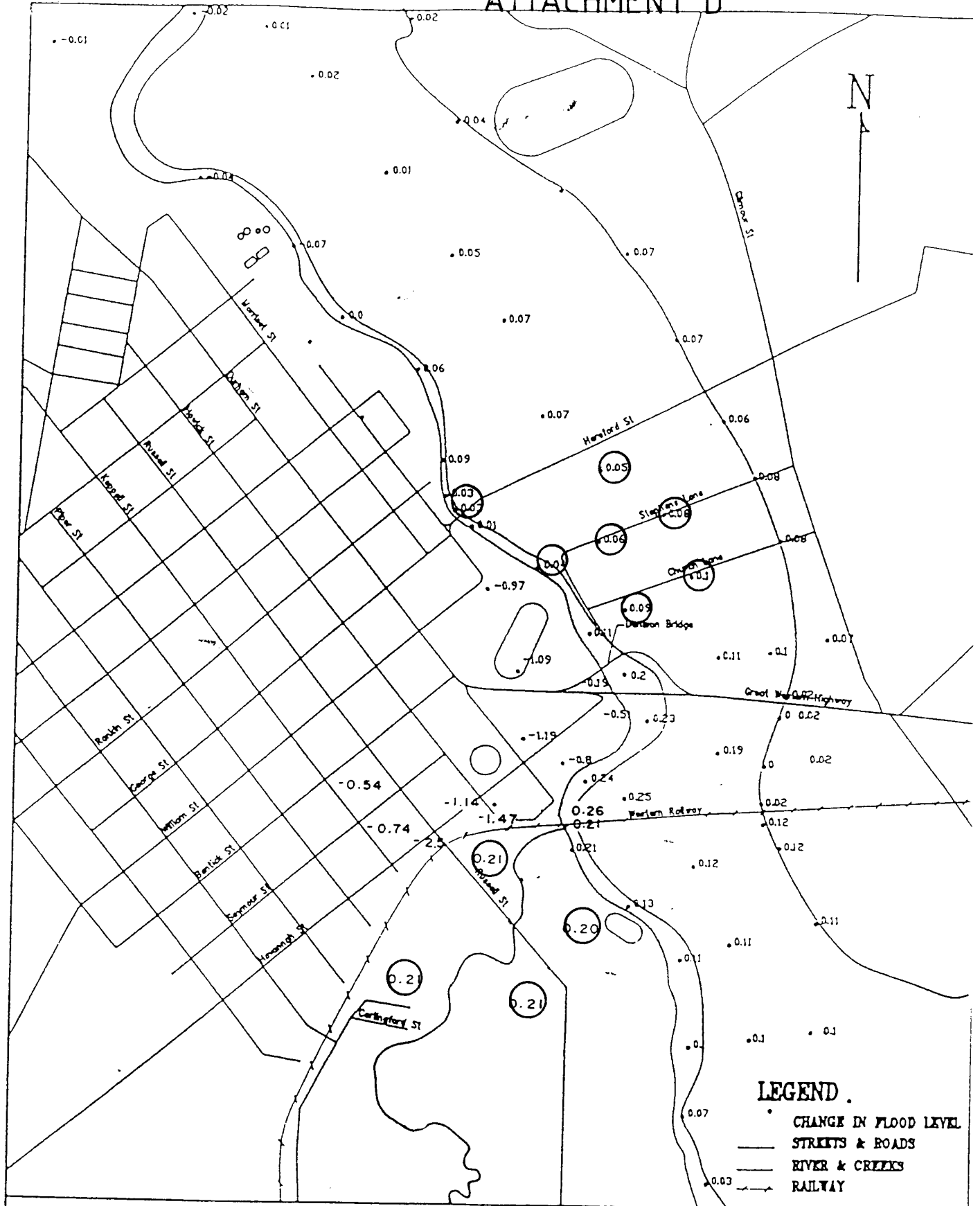


MILESTONE 1 (YEAR 4)

Figure 39 (WILLINGS CBFM)

Effect of Additional Railway Culverts on 100 Yr ARI Floods Levels

○ Increases in Flood Level as a result of Flood Mitigation works at House/building site remaining unprotected by foregoing works.

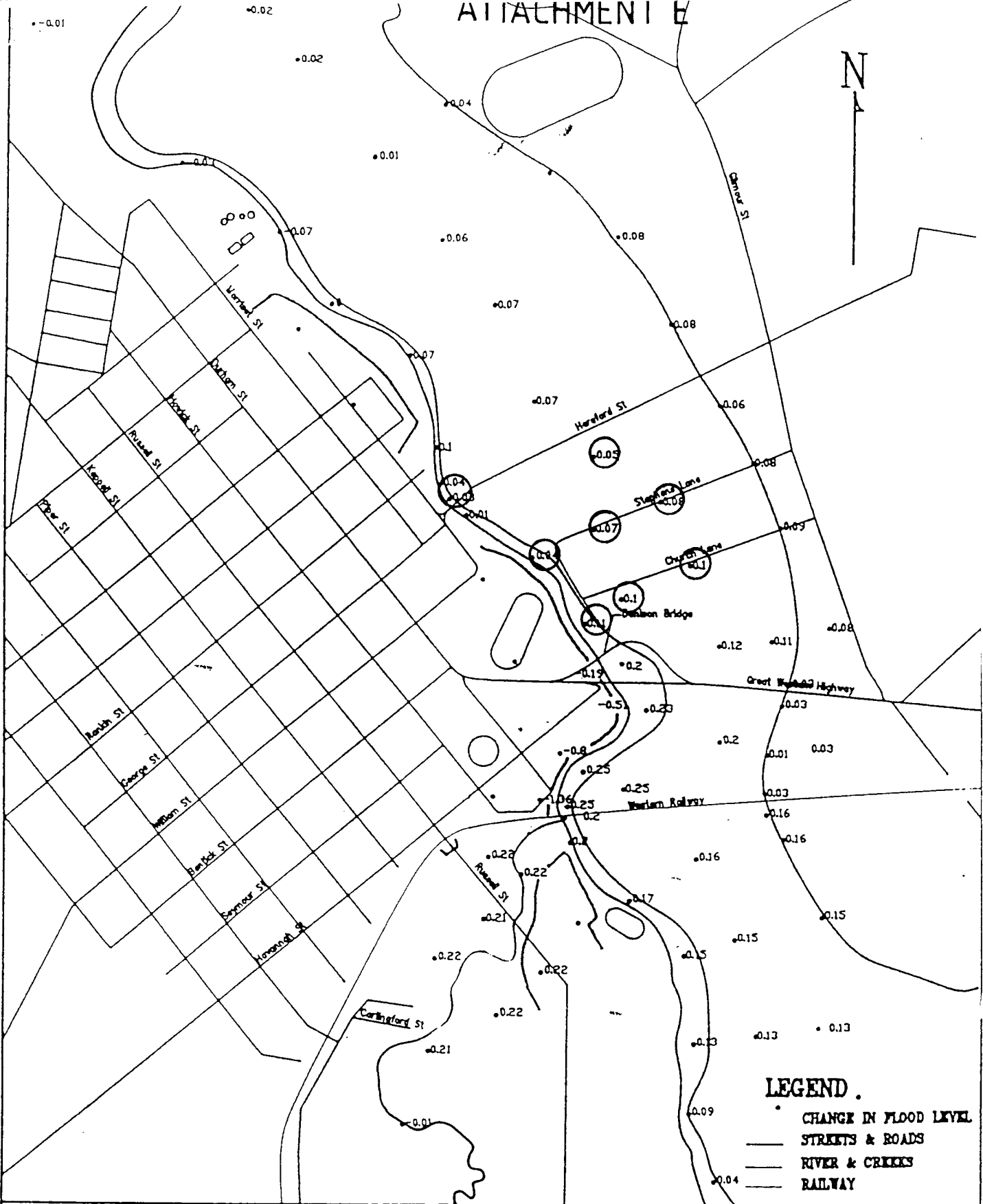


MILESTONE 2 (YEAR 8)

Figure 46 (WILLINGS CBFM)

Effect of Combined Levee Option C,F,B & E2 on 100 Yr ARI Flood Levels

○ Increases in Flood Level as a result of Flood Mitigation Works at existing house/building sites which remain unprotected by foregoing works



MILESTONE 3 (YEAR 12)

Figure 31 (WILLINGS CBFM)

Effect of Combined Levee Option C, F, B, E2 & D on 100 Yr ARI Flood Levels

○ Increases in Flood Level as a result of Flood Mitigation Works at existing house/building sites which remain unprotected by foregoing works.

BATHURST CITY COUNCILMINUTES OF THE EXTRAORDINARY MEETING OF COUNCIL
HELD ON THURSDAY 27 APRIL 1995 AT 6.30 PM

PRESENT: Cr Gurdon-O'Meara (Chair), Ashwood, Allen, Chifley, Irvine, Locke, Orreal, Wardman

- 1. APOLOGIES - RESOLVED** that the apologies received from Cr Bant (who had advised that as he had a pecuniary interest in the matter before Council, he would not be attending) and Cr Ross.

DECLARATION OF INTEREST

Cr Chifley declared an interest in the City Engineer's report, left the room and took no part in discussion or debate

CITY ENGINEER'S REPORT

- 2. ITEM 1 - FLOODPLAIN MANAGEMENT PLAN (F04/13) - RESOLVED** that:

- (1) the following Objective and Policy be adopted in relation to the Floodplain Management Plan.

"Objective:

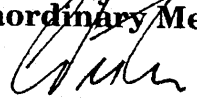
Implement and maintain a Floodplain Management Strategy to the standard set out in "Level 4" of the City Engineers Report which is, in fact, the highest standard and condition that Council can reasonably afford in all of its circumstances and having regard to financial, economic, environmental, aesthetic, social or political factors or constraints.

Policy: Floodplain Management Plan

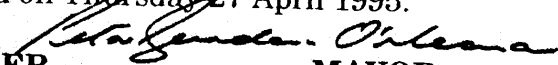
PART 1**SECTION 1****General Provisions Applying to all Parts and Sections**

1. a) All matters and activities set out in all Parts and Sections of this Policy and any determination made pursuant thereto by a responsible person **SHALL ALWAYS** be subject to and limited by the funds and resources ("resource availability") voted and resolved by Council.

This is page 1 of the Minutes (Min Book Folio 6608) of Extraordinary Meeting of Council held on Thursday 27 April 1995.



GENERAL MANAGER



MAYOR

- b) Subject to the provisions of Section 731 of the Local Government Act, 1993, a decision made by a responsible person in carrying out the functions of the Policy shall be a decision of the Council **PROVIDED ALWAYS** that a responsible person has acted in good faith for the purpose of executing this Policy.
- c) Expressions of words used in this Policy (or a particular provision of this Policy) which are defined in the dictionary at the end of this Policy have the meanings set out in the dictionary.
- d) A determination made by a responsible person in carrying out the functions of this Policy shall be recorded and maintained in such fashion as is determined by a responsible person. The manner and form of records as set out in Council's standard Risk Management procedure.
- e) Subject to a responsible person determining otherwise, "**Codes of Best Practice**", incorporating standard(s), method(s) and frequencies, shall be determined and implemented for all activities set out in this Policy and shall be reviewed on a continuing basis.
- f) "**Responsible person(s)**" shall be determined by the General Manager or his/her delegate.
- g) The determination of responsible persons as set out in Council's standard Risk Management procedures.

SECTION 2 Dictionary

2. "**as determined by a responsible person**" means:
 *a decision by a responsible person and
 *a decision made pursuant with the execution of this Policy and the functions, powers and duties set out therein


"**function**" includes a power, authority and duty.

"**month**" means a calendar month.

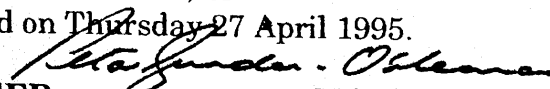
"**reasonably safe condition**" means that in the **ABSOLUTE OPINION** of a responsible person:

- *Safety measures were not required; or
- *That safety measures taken were adequate and sufficient

This is page 2 of the Minutes (Min Book Folio 6609) of
 Extraordinary Meeting of Council held on Thursday 27 April 1995.



GENERAL MANAGER



MAYOR

for a particular circumstance.

*Works carried out were in accordance with any Code of Best Practice or Standard determined pursuant with Section 1.e);

*Works carried out were in accordance with any Standard or Code of Practice adopted by Council not included in c);

"responsible person" means the Council or an employee and/or a particular position as provided for in Council's standard Risk Management procedure.

"week" means the period Monday to Friday inclusive.

"working day" or **"day"** means Monday to Friday inclusive subject to the "ordinary working hours" of Council.

"work site" means and includes any specific place or places at which construction or maintenance works are being carried out on by or under the actual direction and control of Council.

"year" means a calendar year.

SECTION 3 Instrument of Delegation

3.

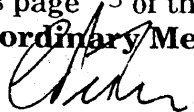
That subject to compliance with the requirements of the Local Government Act, 1993, and Ordinances thereunder and any express Policy or direction of Council, the Council pursuant to the provision of Section 377 of the Local Government Act, 1993, hereby delegates to the General , authority to exercise and perform on behalf of Council, all functions, powers, authorities, duties and matters contained in this Policy.

SECTION 4 Implementation

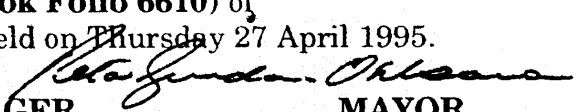
4. That all recommendations in this Policy take operational effect from the date of Council Approval.

- (2) Council adopt this report, and the actions and priorities identified in Section C.
- (3) That a press release be issued explaining the Floodplain Management Plan.

This is page 3 of the Minutes (Min Book Folio 6610) of
Extraordinary Meeting of Council held on Thursday 27 April 1995.



GENERAL MANAGER



MAYOR

- (4) That copies of the Floodplain Management Plan be distributed to the representatives of the Floodplain Management Sunset Committee.
- (5) That having fulfilled its purpose, the Floodplain Management Sunset Committee be dissolved.

And further, that Council hold a Public Meeting with all affected owners and residents, to explain Council's decision and how it will work, and that residents and owners be invited via letters to owners, and letterbox drops.

CONFIRMED *Stefania Oileana*

DATE: 17 May 1995

[Signature] GENERAL MANAGER *Stefania Oileana* MAYOR