

**Attachment 3**

**Rezoning application from  
James Lovell and Associates Pty Ltd  
June 2010**

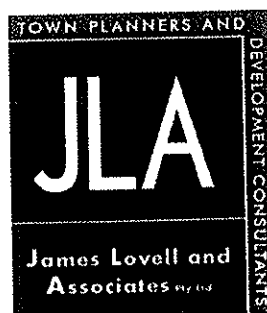
North Bligh Park

Proposed Amendment to the  
Hawkesbury Local Environmental Plan 1989

Planning Proposal

June 2010

09236/A



SCANNED

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## 1. INTRODUCTION

### 1.1 Preamble

This Report has been prepared to explain the intended effect of, and justification for, a Planning Proposal in relation to the rezoning of certain land located between the established residential areas of South Windsor and Bligh Park.

The subject land encompasses a total area of approximately 110 hectares, and currently comprises predominately small rural landholdings accommodating a limited number of dwellings and associated outbuildings.

The subject land is predominately zoned Rural - Mixed Agriculture pursuant to the Hawkesbury Local Environmental Plan (LEP) 1989. The Planning Proposal seeks to rezone the land to Residential - Housing to facilitate the creation of approximately 700 residential allotments and various recreational and commercial/retail facilities.

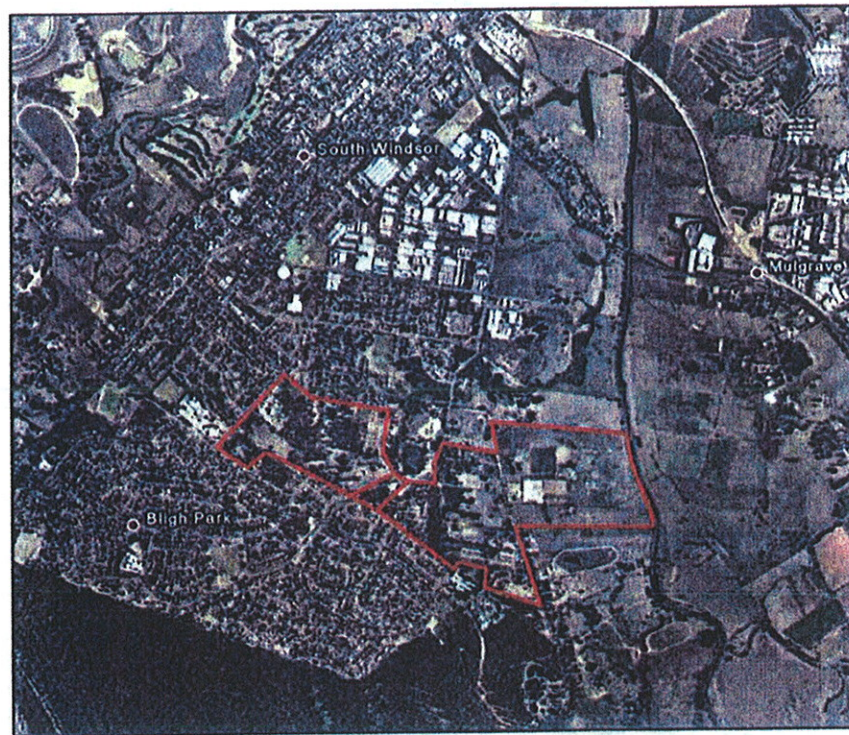


Figure 1 - Location

In general terms, the proposed rezoning is intended to facilitate the logical expansion of the established residential areas to the north (South Windsor) and south (Bligh Park).

The subject land includes some areas located below the established 100 year Average Recurrence Interval (ARI) Hawkesbury flood planning level of RL17.3 AHD. In the circumstances, a Flood Evacuation Report has been prepared to address the issue of evacuation in a flood event.

The Report identifies some necessary road infrastructure upgrade works, and concludes that those upgrade works will enable the evacuation of the existing and additional residential allotments in a way that integrates with the current State Emergency Service (SES) flood evacuation plan with a time safety margin.

Finally, this Report is accompanied by concept Subdivision Plans intended to demonstrate the ability of the land to accommodate a residential neighbourhood supported by all necessary infrastructure and services, with provision made for various recreational and commercial/retail facilities.

The concept Subdivision Plans generally provide for a continuation of the suburban character of South Windsor and Bligh Park in terms of the size and configuration of individual allotments, with the internal road network providing a connection with the existing road network.

## 1.2 Background

In 1993, Hawkesbury City Council resolved to rezone the subject land to facilitate its use for residential purposes to provide for the logical expansion of the established residential areas to the north and south.

In 1996, the then Minister for Planning resolved not to proceed with the rezoning on the basis of concerns regarding the ability to suitably evacuate the area in a flood event.

In 2000, Hawkesbury City Council again resolved to rezone the subject land to facilitate its use for residential purposes, however (then) New South Wales (NSW) Planning subsequently advised Council that the evacuation concerns remained.

In May 2004, the (then) Department of Infrastructure, Planning and Natural Resources advised Council that further consideration of the rezoning would not be given until such time as the Metropolitan Strategy was finalised.

In 2005, Council received two (2) separate but interrelated requests to rezone the subject land to facilitate its use for residential purposes (*Modog Pty Ltd* and *Valad Property Group*).

The rezoning requests were accompanied by a consolidated Flood Evacuation Report prepared to address the issue of evacuation in a flood event. The Report identified some necessary road infrastructure upgrade works, and concluded that the implementation of those upgrade works would enable the evacuation of the existing and additional residential allotments in a way that integrates with the current SES flood evacuation plan with a time safety margin.

The SES does not have a specific referral or concurrence role in the plan making process pursuant to the provisions of the Environmental Planning and Assessment Act 1979, and in any event, a response from the SES in relation to the Flood Evacuation Report may be sought as part of the rezoning process if necessary.

In the circumstances, the purpose of this submission is to formally request that Council proceed with a Planning Proposal to rezone the subject land to facilitate its use for residential purposes. The request is made on the basis that the Flood Evacuation Report comprehensively resolves the previous concerns regarding the ability to suitably evacuate the area in a flood event.

### 1.3 Purpose

This Report has been prepared pursuant to the provisions of the Environmental Planning and Assessment Act 1979 and accompanying Regulation. To that end, it:

- identifies the subject land and describes the surrounding locality;
- describes the nature and purpose of the Planning Proposal;
- identifies the relevant planning controls and land use strategies; and
- provides a preliminary assessment of the Planning Proposal against the provisions of Section 55(2) of the Environmental Planning and Assessment Act 1979 to assist in the preparation of a formal Planning Proposal.

## 2. SITE DESCRIPTION

### 2.1 Site Details

The subject land encompasses a total area of approximately 110 hectares and comprises 34 allotments formally identified in Table 2.1 as follows:

| Table 2.1 - Subject Land |                |                        |
|--------------------------|----------------|------------------------|
| Lot                      | Deposited Plan | Area (hectares)        |
| 11                       | 27136          | 4.69                   |
| 12                       | 27136          | 4.69                   |
| 13                       | 27136          | 2.53                   |
| 14                       | 27136          | 2.02                   |
| 15                       | 27136          | 2.02                   |
| 16                       | 27136          | 2.02                   |
| 17                       | 27136          | 2.02                   |
| 21                       | 27136          | 2.03                   |
| 101                      | 877234         | 2.03                   |
| 102                      | 877234         | 2.03                   |
| 308                      | 752061         | 2.02                   |
| 309                      | 752061         | 4.66                   |
| 310                      | 752061         | 3.38                   |
| 341                      | 752061         | 2.10                   |
| 1                        | 734723         | 18.94                  |
| 2                        | 734723         | 10.12                  |
| 1                        | 240451         | 7.032                  |
| 1                        | 837060         | 0.428                  |
| 4                        | 837060         | 2.287                  |
| 5                        | 837060         | 1.44                   |
| 20                       | 27136          | 2.03                   |
| 21                       | 27136          | 2.023                  |
| 22                       | 27136          | 3.237                  |
| 23                       | 27136          | 2.82                   |
| 32                       | 27136          | 2.22                   |
| 33                       | 27136          | 2.22                   |
| 34                       | 27136          | 2.023                  |
| 37                       | 27136          | 2.023                  |
| 40                       | 27136          | 2.298                  |
| 41                       | 27136          | 2.393                  |
| 1                        | 879662         | 1.703                  |
| 2                        | 879662         | 2.587                  |
| 1                        | 545599         | 2.023                  |
| 2                        | 545599         | 2.023                  |
| <b>Total</b>             |                | <b>110.11 hectares</b> |

## 2.2 Site Context

The subject land is located between the established residential areas of South Windsor to the north and Bligh Park to the south.

The subject land is generally centered upon the existing road network formed by Woods Road, Berger Road and Fairey Road to the north, South Creek to the east, Collith Avenue to the west, and Rifle Range Drive and Arkell Drive to the south.

The subject land is predominately characterised by small rural landholdings accommodating a limited number of dwellings and associated outbuildings.

The majority of the subject land has been historically cleared of vegetation, with natural regrowth responsible for the majority of the existing vegetation.

The topography of the land generally falls from the north-west to the south-east, although localised irregularities have occurred over time through the creation of various dams and drainage depressions.



### 3. PROPOSED LEP AMENDMENT

#### 3.1 General Description

The subject land is predominantly zoned Rural - Mixed Agriculture pursuant to the Hawkesbury Local Environmental Plan (LEP) 1989. The Planning Proposal seeks to rezone the land to Residential - Housing to facilitate the creation of approximately 700 residential allotments and various recreational and commercial/retail facilities.

The proposed rezoning can be affected by an amendment to the Land Zoning Map referred to in Clause 8 of the LEP, with the commercial/retail facilities included as *"development for certain additional purposes"* in Schedule 3.

#### 3.2 Future Development

This Report is accompanied by concept Subdivision Plans intended to demonstrate the ability of the land to accommodate a residential neighbourhood supported by all necessary infrastructure and services, with provision made for various recreational and commercial/retail facilities.

The concept Subdivision Plans generally provide for a continuation of the suburban character of South Windsor and Bligh Park in terms of the size and configuration of individual allotments, with the internal road network providing a connection with the existing road network.

Further, the Flood Evacuation Report notes that there are a number of *"high points"* on the subject land, at or above RL20.0 AHD. The subdivision layout will ultimately be dictated by the contours of the land such that from the front yard area of any property there would be a continually rising gradient along the roads and pedestrians paths, leading to the *"high points"* on the subject land.

The concept Subdivision Plans make provision for the construction of multi-storey points of refuge at the *"high points"*, designed with the potential to accommodate various commercial/retail facilities such as local shops, restaurants, child care facilities and community meeting rooms.

The multi-storey structures will be designed and built with materials which would ensure their structural integrity in all floods up to the Peak Maximum

Flood (PMF), circumstances in which the structures could function as “flood islands” within the SES definitions of evacuation classification.

#### 4. LEGISLATIVE CONTEXT

The Environmental Planning and Assessment Amendment Act 2008 and the Environmental Planning and Assessment Amendment (Plan Making) Regulation 2009 commenced on 1 July 2009, and incorporate amended provisions relating to the making of environmental planning instruments.

The amended provisions introduce a system known as the “gateway plan-making process”, intended to streamline the plan making process so that environmental planning instruments can be prepared, considered and approved in a much shorter timeframe.

Section 55(1) of the Environmental Planning and Assessment Act 1979 specifies that before an environmental planning instrument is made, the relevant planning authority is required to prepare a document that explains the intended effect of the proposed instrument, and sets out the justification for its making (“the Planning Proposal”).

Section 55(2) specifies that the Planning Proposal is to include a statement of the objectives and intended outcomes of the proposed instrument, an explanation of the provisions that are to be included in the proposed instrument, the justification for those objectives, outcomes and provisions, maps to be adopted by the proposed instrument, and details of the community consultation that is to be undertaken before consideration is given to the making of the proposed instrument.

Further, the Department of Planning has published “A Guide to Preparing Planning Proposals” (July 2009), to explain the format and content of a Planning Proposal to be prepared by the relevant planning authority.

##### 4.1 Objectives or Intended Outcomes

In general terms, the objective or intended outcome of the Planning Proposal is to facilitate the creation of approximately 700 residential allotments and various recreational and commercial/retail facilities.

More generally, the objectives or intended outcomes of the Planning Proposal include to:

- facilitate the logical extension to the established residential areas of South Windsor to the north and Bligh Park to the south;

- provide a quantum of residential allotments that will appropriately contribute to sub-regional housing targets without adverse impacts to the amenity and environment of the local area, consistent with the Metropolitan Strategy and Draft North West Subregional Strategy as well as relevant Section 117 directions;
- provide sufficient certainty in relation to the evacuation of the locality in a way that integrates with the current SES flood evacuation plan with a time safety margin;
- provide sufficient certainty regarding the future development of the subject land, particularly in terms of residential yield, road alignment and allotment configuration; and
- provide for the orderly and economic use of land supported by all necessary infrastructure and services.

#### 4.2 Explanation of Provisions

In general terms, the Planning Proposal seeks to facilitate the creation of approximately 700 residential allotments and various recreational and commercial/retail facilities.

The provisions of the Planning Proposal comprise an amendment to the Hawkesbury LEP 1989 Land Zoning Map to reflect a change in zone from Rural - Mixed Agriculture to Residential - Housing, with the commercial/retail facilities included as "development for certain additional purposes" in Schedule 3.

#### 4.3 Justification

##### Need for the planning proposal

##### *1. Is the planning proposal a result of any strategic study or report?*

Hawkesbury City Council has effectively been seeking to rezone the subject land to facilitate its use for residential purposes since 1993, however the rezoning has not progressed on the basis of concerns regarding the ability to suitably evacuate the area in a flood event.

Further, in May 2004, the (then) Department of Infrastructure, Planning and Natural Resources advised Council that further consideration of the rezoning would not be given until such time as the Metropolitan Strategy was finalised.

A Flood Evacuation Report has been prepared to address the issue of evacuation in a flood event. The Report identifies some necessary road infrastructure upgrade works, and concludes that those upgrade works will enable the evacuation of the existing and additional residential allotments in a way that integrates with the current SES flood evacuation plan with a time safety margin.

In December 2005, the State Government published a Regional Plan for Sydney known as the *City of Cities - A Plan for Sydney's Future* ("the Metropolitan Strategy").

In December 2007, the *Draft NorthWest Subregional Strategy* was released by the State Government to provide more detailed guidance as to how the objectives of the Metropolitan Strategy can be applied at the local and subregional level.

The Strategy identifies a target of 5,000 additional dwellings within the Hawkesbury Local Government Area (LGA), and the subject land is identified in Figure 20 of the Strategy as forming part of the South West Growth Centre.

Notwithstanding, the Strategy notes that future housing growth within the Hawkesbury LGA is constrained by the capacity of the existing flood evacuation network, and identifies a requirement to upgrade the network prior to the release of additional land to the south of the Hawkesbury River (which includes the subject land).

On that basis, the Strategy specifies that if growth is to occur south of the Hawkesbury River, it would be necessary to demonstrate that flood evacuation measures are in place to the satisfaction of the SES.

In the circumstances, the previous impediments to the rezoning have been resolved, and the proposed rezoning is consistent with the long-standing objective to rezone the subject land to facilitate its use for residential purposes.

2. *Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?*

The Planning Proposal is considered the most appropriate means of achieving the objective or intended outcome on the basis of its simplicity and

specificity with respect to the subject land and the nature of the intended development.

3. *Is there a net community benefit?*

The Planning Proposal will provide a substantial net community benefit in terms of:

- providing additional residential accommodation as a logical extension to the established residential areas of South Windsor to the north and Bligh Park to the south;
- providing additional residential accommodation supported by all necessary infrastructure and services; and
- providing a mechanism to evacuate the additional residential allotments in the event of a flood, and remedying the time safety deficit for the existing residential allotments.

Relationship to strategic planning framework

4. *Is the planning proposal consistent with the objectives and actions contained within the applicable regional or sub-regional strategy (including the Sydney Metropolitan Strategy and exhibited draft strategies)?*

In December 2005, the State Government published the Metropolitan Strategy to guide the growth of the Sydney Region for the next 25 years, embodying major decisions on the location of urban growth, new housing areas, employment, transport, schools and hospitals.

The State Government anticipates that Sydney's population will increase by 1.1 million people between 2004 and 2031, necessitating an additional 640,000 dwellings and 500,000 jobs.

The Draft NorthWest Subregional Strategy provides more detailed guidance as to how the objectives of the Metropolitan Strategy can be applied at the local and subregional level.

The Strategy specifies that the North West Subregion will accommodate 140,000 new dwellings by 2031, comprising 60,000 dwellings within the North West Growth Centre and 80,000 dwellings in other areas.

The Strategy identifies a target of 5,000 additional dwellings within the Hawkesbury LGA, and the subject land is identified in Figure 20 of the Strategy as forming part of the South West Growth Centre.

Notwithstanding, the Strategy notes that future housing growth within the Hawkesbury LGA is constrained by the capacity of the existing flood evacuation network, and identifies a requirement to upgrade the network prior to the release of additional land to the south of the Hawkesbury River (which includes the subject land).

On that basis, the Strategy specifies that if growth is to occur south of the Hawkesbury River, it would be necessary to demonstrate that flood evacuation measures are in place to the satisfaction of the SES.

Again, the Flood Evacuation Report concludes that not only will the infrastructure upgrade works enable the evacuation of the existing and additional residential allotments with a time safety margin, but that the existing evacuation time deficit will be remedied. That is, the infrastructure upgrade works will improve the existing evacuation situation.

In the circumstances, the Planning Proposal will directly contribute to the sub-regional housing targets by providing additional residential accommodation as a logical extension to the established residential areas of South Windsor to the north and Bligh Park to the south.

5. *Is the planning proposal consistent with the local council's Community Strategic Plan, or other local strategic plan?*

The Draft Hawkesbury Residential Strategy 2009 is generally intended to guide the future residential development within the LGA over the next 30 years and ensure future residential development is sustainable and meets the needs of the Hawkesbury population. The Draft Strategy recognises the requirements of the North West Subregional Strategy to provide an additional 5,000 dwellings.

The Draft Strategy identifies the opportunity to establish a "corridor" extending between Windsor and Bligh Park "containing a range of densities". In addition, the Draft Strategy specifies that flood evacuation issues should be resolved prior to development occurring between South Windsor and Bligh Park (which includes the subject land).

Again, the Flood Evacuation Report concludes that not only will the infrastructure upgrade works enable the evacuation of the existing and additional residential allotments with a time safety margin, but that the existing evacuation time deficit will be remedied. That is, the infrastructure upgrade works will improve the existing evacuation situation.

6. *Is the planning proposal consistent with applicable state environmental planning policies?*

State Environmental Planning Policy (SEPP) No. 55 - Remediation of Land specifies that a consent authority must not consent to the carrying out of development on land unless it has considered whether the land is, or is likely to be contaminated, and if the land is, or is likely to be contaminated, whether the land requires remediation before the land is developed for the proposed use.

The subject land has an established history of predominately residential and rural-residential related uses. In the circumstances, the historical use of the land is not such that it would prevent the rezoning to facilitate residential uses.

Irrespective, a preliminary soil contamination report will be prepared prior to the lodgment of any Development Application for residential subdivision of the subject land. Further, any identified areas of contamination will be remediated in accordance with a Remedial Action Plan and certified as suitable for residential use prior to any works commencing on the subject land (other than remediation works).

7. *Is the planning proposal consistent with applicable Ministerial Directions (s.117 directions)?*

The relevant Section 117(2) Directions (as amended) comprise:

- Direction 1.2 - Rural Zones;
- Direction 3.1 - Residential Zones;
- Direction 3.4 - Integrating Land Use and Transport;
- Direction 4.1 - Acid Sulfate Soils;
- Direction 4.3 - Flood Prone Land;
- Direction 4.4 - Planning for Bushfire Protection;
- Direction 6.1 - Approval and Referral Requirements;
- Direction 6.2 - Preserving Land for Public Purposes;



- Direction 6.3 - Site Specific Provisions; and
- Direction 7.1 - Implementation of the Metropolitan Strategy.

#### Direction 1.2 - Rural Zones

Direction 1.2 generally aims to protect the agricultural production value of rural land. The Direction specifies that a Planning Proposal must not rezone land from a rural zone to a residential, business, industrial, village or tourist zone unless the Director-General of the Department of Planning is satisfied that the rezoning is justified by a strategy which is, inter alia, approved by the Director-General, or in accordance with the relevant Regional Strategy or Sub-Regional Strategy which gives consideration to the objectives of the Direction.

The subject land is identified in Figure 20 of the North West Subregional Strategy as forming part of the South West Growth Centre. Notwithstanding, the Strategy specifies that if growth is to occur south of the Hawkesbury River, it would be necessary to demonstrate that flood evacuation measures are in place to the satisfaction of the SES.

Again, the Flood Evacuation Report concludes that not only will the infrastructure upgrade works enable the evacuation of the existing and additional residential allotments with a time safety margin, but that the existing evacuation time deficit will be remedied. That is, the infrastructure upgrade works will improve the existing evacuation situation.

#### Direction 3.1 - Residential Zones

Direction 3.1 generally aims to encourage a variety and choice of housing types to provide for existing and future housing needs, make efficient use of existing infrastructure, and minimise the impact of residential development on the environment and resource lands. The Direction specifies that a Planning Proposal must include provisions that will broaden the choice and locations available in the housing market, make efficient use of infrastructure, reduce the consumption of land on the urban fringe, and be of good design.

This Report is accompanied by concept Subdivision Plans intended to demonstrate the ability of the land to accommodate a residential neighbourhood supported by all necessary infrastructure and services, with provision made for various recreational and commercial/retail facilities.

The concept Subdivision Plans generally provide for a continuation of the suburban character of South Windsor and Bligh Park in terms of the size and configuration of individual allotments, with the internal road network providing a connection with the existing road network.

#### Direction 3.4 - Integrating Land Use and Transport

Direction 3.4 generally aims to ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve improved accessibility, increased choice of transport, reduced travel demand, and efficient movement of freight. The Direction specifies that a Planning Proposal must locate zones that are consistent with the aims, objectives and principles of *"Improving Transport Choice - Guidelines for planning and development"* (DUAP 2001), and *"The Right Place for Business and Services - Planning Policy"* (DUAP 2004).

Again, the concept Subdivision Plans generally provide for a continuation of the suburban character of South Windsor and Bligh Park in terms of the size and configuration of individual allotments, with the internal road network providing a connection with the existing road network.

#### Direction 4.1 - Acid Sulfate Soils

Direction 4.1 generally aims to avoid significant adverse environmental impacts from the use of land that has a probability of containing acid sulfate soils. The Direction specifies that the Council shall consider the Acid Sulfate Soils Planning Guidelines adopted by the Director-General of the Department of Planning when preparing a draft LEP that applies to any land identified on the Acid Sulfate Soils Maps as having a probability of acid sulfate soils being present.

The subject land is identified as Class 5 (less constrained) on the Acid Sulfate Soils Map, and is not located within 500 metres of another classification. In the circumstances, an acid sulfate soils risk assessment is not required.

#### Direction 4.3 - Flood Prone Land

Direction 4.3 generally aims to ensure that development of flood prone land is consistent with the NSW Government's Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005, and that the provisions of a Planning Proposal are commensurate with flood hazard and

includes considerations of the potential flood impacts both on and off the subject land.

The subject land includes some areas located below the established 100 year Average Recurrence Interval (ARI) Hawkesbury flood planning level of RL17.3 AHD. In the circumstances, a Flood Evacuation Report has been prepared to address the issue of evacuation in a flood event.

The Report identifies some necessary road infrastructure upgrade works, and concludes that those upgrade works will enable the evacuation of the existing and additional residential allotments in a way that integrates with the current SES flood evacuation plan with a time safety margin.

Further, the Flood Evacuation Report notes that there are a number of "high points" on the subject land, at or above RL20.0 AHD. The subdivision layout will ultimately be dictated by the contours of the land such that from the front yard area of any property there would be a continually rising gradient along the roads and pedestrians paths, leading to the "high points" on the subject land.

The concept Subdivision Plans make provision for the construction of multi-storey points of refuge at the "high points", designed with the potential to accommodate various commercial/retail facilities such as local shops, restaurants, child care facilities and community meeting rooms.

The multi-storey structures will be designed and built with materials which would ensure their structural integrity in all floods up to the Peak Maximum Flood (PMF), circumstances in which the structures could function as "flood islands" within the SES definitions of evacuation classification.

#### Direction 4.4 - Planning for Bushfire

Direction 4.4 generally aims to protect life and property and the environment from bush fire hazards and encourage sound management of bush fire prone areas. The Direction specifies that the relevant planning authority must consult with the Commissioner of the NSW Rural Fire Service, have regard to "Planning for Bushfire Protection 2006" (NSW Rural Fire Service, 2006), introduce controls that avoid placing inappropriate developments in hazardous areas, and ensure that bushfire hazard reduction is not prohibited within the asset protection zone.

The subject land is identified on the Hawkesbury LGA Bush Fire Prone Land Map as accommodating a mix of Vegetation Category 1, 2 and Buffer. In the circumstances, a Preliminary Bushfire Risk Assessment Report will be prepared prior to the lodgment of any Development Application for residential subdivision of the subject land.

Further, the eventual subdivision design will incorporate adequate provision of asset protection zones, adequate access and egress, and the provision of suitable service supplies.

#### Direction 6.1 - Approval and Referral Requirements

Direction 6.1 generally aims to ensure that LEP provisions encourage the efficient and appropriate assessment of development. The Direction specifies the general concurrence, consultation and referral mechanisms, and the Planning Proposal will satisfy those requirements.

#### Direction 6.3 - Site Specific Provisions

Direction 6.3 generally aims to discourage unnecessarily restrictive site specific planning controls. The Direction specifies the general content of an environmental planning instrument must not introduce any development standards or requirements in addition to those that already apply in the existing or proposed zone.

The provisions of the Planning Proposal comprise an amendment to the Hawkesbury LEP 1989 Land Zoning Map to reflect a change in zone from Rural - Mixed Agriculture to Residential - Housing, with the commercial/retail facilities included as *"development for certain additional purposes"* in Schedule 3.

#### Direction 7.1 - Implementation of the Metropolitan Strategy

Direction 7.1 generally aims to give legal effect to the vision, land use strategy, policies, outcomes and actions contained in the Metropolitan Strategy. The Direction specifies that a Planning Proposal shall be consistent with the Metropolitan Strategy.

The subject land is identified in Figure 20 of the Draft North West Subregional Strategy as forming part of the South West Growth Centre. Notwithstanding, the Strategy specifies that if growth is to occur south of the

Hawkesbury River, it would be necessary to demonstrate that flood evacuation measures are in place to the satisfaction of the SES.

Again, the Flood Evacuation Report concludes that not only will the infrastructure upgrade works enable the evacuation of the existing and additional residential allotments with a time safety margin, but that the existing evacuation time deficit will be remedied. That is, the infrastructure upgrade works will improve the existing evacuation situation.

#### Environmental, social and economic impact

8. *Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?*

The existing flora and fauna on the subject land has been assessed in a series of reports<sup>1</sup> prepared to accompany the previous rezoning requests which consistently note that no rare or threatened flora species have been observed on the subject land.

The reports further note that one (1) threatened fauna species (the Cumberland Land Snail) was detected on a portion of the subject land, and the land may provide potential habitat for additional threatened fauna species.

On that basis, the likely impacts of the use of the subject land for residential purposes were considered in a separate Eight-part test, prepared pursuant to (then) Part 5 of the Environmental Planning and Assessment Act 1979.

The Eight-part test concluded that the proposed rezoning of the site for residential purposes would not significantly impact upon any threatened flora or fauna or any endangered ecological communities, and that the removal of remnant vegetation from the subject land is not likely to be significant within the locality or region.

9. *Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?*

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<sup>1</sup> Ambrose Ecological Services Pty Ltd, August - September 2005, ERM November 2005, Ecological Australia, August 2005.

There are no other likely environmental effects likely to arise as a consequence of the Planning Proposal that cannot be adequately controlled as part of the development assessment process.

10. *How has the planning proposal adequately addressed any social and economic effects?*

The concept Subdivision Plans generally provide for a continuation of the suburban character of South Windsor and Bligh Park in terms of the size and configuration of individual allotments, with the internal road network providing a connection with the existing road network.

The concept Subdivision Plans demonstrate the ability of the land to accommodate a residential neighbourhood supported by all necessary infrastructure and services, with provision made for various recreational and commercial/retail facilities.

State and Commonwealth interests

11. *Is there adequate public infrastructure for the planning proposal?*

The subject land is serviced by all necessary public infrastructure.

12. *What are the views of State and Commonwealth public authorities consulted in accordance with the gateway determination?*

Any comments from State and Commonwealth public authorities can be responded to if required.

4.4 Community Consultation

The community consultation process will be implemented in accordance with Section 57 of the Environmental Planning and Assessment Act 1979.

## 5. CONCLUSION

This Report has been prepared to explain the intended effect of, and justification for, a Planning Proposal in relation to the rezoning of certain land located between the established residential areas of South Windsor and Bligh Park.

In general terms, the proposed rezoning is intended to facilitate the logical expansion of the established residential areas to the north (South Windsor) and south (Bligh Park).

The subject land is predominantly zoned Rural - Mixed Agriculture pursuant to the Hawkesbury LEP 1989. The Planning Proposal seeks to rezone the land to Residential - Housing to facilitate the creation of approximately 700 residential allotments and various recreational and commercial/retail facilities.

Hawkesbury City Council has effectively been seeking to rezone the subject land to facilitate its use for residential purposes since 1993, however the rezoning has not progressed on the basis of concerns regarding the ability to suitably evacuate the area in a flood event.

The subject land is identified in Figure 20 of the North West Subregional Strategy as forming part of the South West Growth Centre. Notwithstanding, the Strategy specifies that if growth is to occur south of the Hawkesbury River, it would be necessary to demonstrate that flood evacuation measures are in place to the satisfaction of the SES.

Again, the Flood Evacuation Report concludes that not only will the infrastructure upgrade works enable the evacuation of the existing and additional residential allotments with a time safety margin, but that the existing evacuation time deficit will be remedied. That is, the infrastructure upgrade works will improve the existing evacuation situation.

In the circumstances, the previous impediments to the rezoning have been resolved, and the proposed rezoning is consistent with the long-standing objective to rezone the subject land to facilitate its use for residential purposes.

## ATTACHMENT A

## FLOOD EVACUATION REPORT



# MOLINO STEWART

INTEGRATED SUSTAINABLE SOLUTIONS

21<sup>st</sup> January 2010

Mr Nick Rickard  
General Manager  
Modog  
PO Box 222  
Cammeray NSW 2062

Dear Nick,

## **Re: Potential Bligh Park North Flood Evacuation via Windsor**

This letter sets out the results of investigations we have undertaken in respect of the above.

It is our view that:

- providing the road infrastructure is appropriately upgraded, it would be possible to evacuate more than 700 new lots in Bligh Park in a way that integrates with the current SES flood evacuation plan for the region and there be a time safety margin available rather than the current time deficit; and
- should residents fail to evacuate in time, the proposed development design features will minimise risk to lives

The following details the results of our findings.

### **Current SES Designated Evacuation Routes**

The designated SES evacuation route for Windsor and Windsor South traffic is along Macquarie Street, left onto Argyle Street, right onto Cox Street where there is a railway crossing, straight onto Moses Street until Tebbut Street, left onto George Street, right onto Christie Street, left onto Macquarie Street until Day Street, and then onto the new South Creek Bridge (see Figure 1).

After crossing the bridge, vehicles would proceed down Railway Road North, cross the railway line on a level crossing at Groves Avenue, and then continue along Railway Road South (see Figure 2) until Level Crossing Road where they cross back over the railway line and follow Wallace Road to Bandon Road which will lead back onto Windsor Road. As an alternative to turning right onto Windsor Road from Bandon Road, vehicles could turn right into O'Connell Street and travel through Riverstone and either join Windsor Road via Garfield Road or pass through Schofields and Quakers Hill to reach the M7 Motorway. Windsor Road would also direct vehicles to the M7 Motorway.

There are two current weak points along the above designated and alternative evacuation routes.

- There is a low spot on Bandon Road between O'Connell Street and Windsor Road which could be cut by local flooding during an evacuation, necessitating the use of O'Connell Street instead of Windsor Road
- Similarly, there is a low spot of Garfield Road between Riverstone and Windsor Road and if it were cut by local flooding during an evacuation would necessitate the evacuation route to go through Schofields and Quakers Hill

The Cox Street level crossing, the new South Creek Bridge and most of the evacuation route between South Creek and Windsor Road is two lanes. This would provide for one lane of evacuation traffic and one return lane for emergency service vehicles.



*Figure 2: Railway Road South*



*Figure 3: Cox Street Railway pedestrian crossing showing the vehicle crossing gates*

#### **Existing Evacuation Traffic**

The current SES plan is based on an estimated 3,286 vehicles at Windsor/Windsor South. However, an Evacuation Route Upgrade Review completed by Patterson Britton & Partners in 2005 suggested that vehicle numbers should be increased to 5,050 based on 2004 projections of supposed 2001 census data. However, comparison of these two sets of data with the 2001 census figures for the collector districts in Windsor and South Windsor suggest that the SES data was an accurate reflection of reported vehicle ownership in 2001 but the Patterson Britton projections are based on erroneous starting figures.

Regardless of past estimates, we have analysed the 2006 Australian Bureau of Statistics Census data for Windsor and South Windsor which show that:

- There were 3,736 registered vehicles reported at residential properties in Windsor and Windsor South in 2006;

- In South Windsor 5% of properties did not report their vehicle ownership and at Windsor 6% did not report. If reported residential vehicles numbers are factors up by these percentages then there are an estimated 3,935 vehicles in Windsor and South Windsor

None of the above analyses take into account traffic from commercial premises. A survey of flood affected properties in 1988 counted 569 commercial and industrial premises in Windsor (Warragamba Flood Mitigation Dam EIS, Sydney Water, 1995). It did not indicate a separate count for South Windsor so it can be assumed that those vehicles are included. There is no more recent data available that I am aware of.

It is difficult to estimate how many commercial vehicles need to evacuate because:

- many of the vehicles at the commercial premises will belong to people who live locally and are already counted in the residential vehicles;
- many commercial vehicles are on the road during working hours and away from the site out of hours so may not need to evacuate; and
- the time when all of the residential vehicles are in the town is likely to be when most of the commercial vehicles aren't.

The Hawkesbury Social Atlas (Hawkesbury City Council, 2003) suggests that about three quarters of businesses in the LGA have less than 5 staff and two thirds have incomes of less than \$100,000 which suggests these businesses have no more than two staff. It would probably be reasonable to add two more vehicles to the residential evacuation numbers for each commercial property to get an estimate of the maximum number of vehicles likely to have to evacuate. For these analyses I have assumed 1,200 commercial vehicles evacuate at the same time as all of the residential vehicles.

This would give a total maximum of 4,936 vehicles having to evacuate.

### **Existing Route Capacity**

I have used the SES evacuation model for the Hawkesbury Nepean Valley to compare the time needed for evacuation with the time available for evacuation.

In estimating the time needed for evacuation I have assumed that:

- There will be sufficient doorknocking teams to generate traffic flows of 600 vehicles per hour;
- It will take 1 hour for people to accept the warning message;
- It will take 1 hour for people to prepare for evacuation;
- There will be a single outgoing evacuation traffic lane and one incoming emergency service vehicle lane;
- The average traffic flow rate will be 600 vehicles per hour;
- There will be traffic delays due to motor vehicles accidents, breakdowns, trees or power lines across the road or local flooding which can be accounted for using an SES specified traffic safety factor which is related to the total time required for vehicular evacuation

The time needed for evacuation has been estimated assuming:

- Doorknocking will commence by the time the river reaches about 11.5m AHD at Windsor Bridge; and

- The evacuation route will be cut when the floodwaters reach 17.3m AHD at the river gauge at Windsor Bridge on the Hawkesbury River which could be as little as 9 hours after doorknocking commences

Based on the above assumptions my analysis shows that if the existing evacuation traffic were to leave on the currently proposed evacuation route:

- 738 of the reported residential vehicles would not have time to evacuate (i.e. there is a 1.2 hour evacuation time deficit)
- If an allowance is made for unreported vehicles then 936 vehicles would not have time to evacuate (a 1.6 hour deficit)
- When commercial vehicles are also considered there could be as many as 1,938 vehicles unable to evacuate (a 3.2 hour deficit)

#### **Route Upgrade Potential**

1. A practical way to overcome this lack of capacity on the existing evacuation route would be to increase the route capacity to two lanes out for evacuation traffic and at least one lane in for emergency service vehicles. Most of the route west of South Creek already has this capacity with the exception of the Cox Street level crossing which would need widening to three lanes (two out and one in).
2. While the new South Creek crossing has only two marked lanes, it is of sufficient width to allow two outward bound and one inward bound stream of traffic, indeed it will need to be used in this way if the existing traffic is to be able to leave Windsor and South Windsor in the time available.
3. It is east of South Creek where the existing roads are most deficient. There may be several ways in which additional capacity could be achieved east of South Creek but no budget has been allocated for such works by the NSW State Government.
4. One way would be to simply provide an additional outward bound lane along the whole of the existing designated evacuation route. One problem with this approach is that there are several alternative routes around potential local flooding points which would mean tens of kilometres of road would need widening.
5. The length of road needing additional capacity could be minimised if the low point on Bandon Road is upgraded to be flood free in a 1 in 500 local flood which is the standard of design for all other new sections of regional flood evacuation route.
6. Figure 1 shows two alternative route upgrading options between South Creek and Windsor Road if the Bandon Road low point is upgraded. The first would follow the existing nominated evacuation route and would require a new three lane level crossing at Groves Avenue and the widening by one lane of Railway Road South, the Level Crossing Road level crossing, a short section of Level Crossing Road, Wallace Road and Bandon Road.
7. Alternatively, instead of crossing the railway at Groves Avenue the traffic could continue along Railway Road North which is currently wide enough for three lanes along most of its route and then a new section of three lane road would need to be constructed between Park Road and Level Crossing Road on the northern side of the Railway. From a cost perspective this new section of road would need to be compared to cost of widening the new Groves Avenue level crossing, the widening of Railway Road South and the existing level crossing to see which option is the least expensive.

### **Proposed Bligh Park North Development**

The proposed Bligh Park North development is shown in Figure 1 and would consist of about 700 to 800 lots. The landform is such that some of the land will need to be filled for it to be above Hawkesbury City Council's flood planning level (17m AHD). Much of the land is already above this level with the highest land above 20m AHD. In fact there are two such high points at this level.

The contours are such that these high points become low flood islands within the SES definitions of evacuation classification. That is roads leading from these high points as well as the surrounding land would be cut by floodwaters as the flood rose forming islands but flooding could rise above 20m AHD meaning that the highest ground could end up lower than the eventual flood level.

It is proposed to provide road links between the new development and South Windsor and also with Bligh Park. All of these roads would be above 17m AHD. There will also be a pedestrian link from Bligh Park North to Bligh Park which would be above 17.3m AHD.

The subdivision layout would be dictated by the contours such that from any property front yard there would be a continually rising gradient along roads and pedestrian paths to one of the high points within the subdivision. It is proposed that a commercial development will be built on each of these high points. Each will be at least three storeys high and have a minimum floor area of 500m<sup>2</sup> on each floor.

A draft conceptual layout of the subdivision is provided in the accompanying plans.

### **Vehicular Evacuation**

I have undertaken an analysis of the evacuation of the proposed Bligh Park North development assuming that:

- there would be 700 new residential lots;
- there would be 1.8 vehicles per dwelling in the new subdivision which is more than the 1.7 in the existing Bligh Park suburb; and
- the warning and evacuation timing assumptions used for Windsor and South Windsor would also be applicable to Bligh Park North

It is proposed to evacuate Bligh Park North in the same manner as the SES evacuation plan proposes for Windsor and South Windsor. A new road from the subdivision would lead onto Woods Road and thence onto George Street from where the traffic would follow the existing evacuation route for Windsor South (see Figure 1).

With this route upgraded to two lanes out there would be sufficient capacity for the existing Windsor and Windsor South traffic as well as the proposed Bligh Park North traffic with a 20 minute time surplus according to the SES evacuation model.

### **Managing Residual Life Safety Risks**

The developers have recognised that in a flood not everyone will be willing or able to evacuate in accordance with the SES evacuation plan and/or the evacuation may not occur as modelled. Were residents to remain in Bligh Park North and the floodwaters enter the development there is a real risk to life, particularly if the water reaches considerable depth.

To mitigate these risks the following initiatives are proposed.

a) *Provide a Pedestrian Route to Windsor Downs Nature Reserve*

Pedestrian access will be provided from Bligh Park North to Bligh Park. The paths will not drop below 17.3m AHD and will enter Bligh Park at locations which provide a rising grade pedestrian route to Windsor Downs Nature Reserve. The edge of the Reserve is at about 21m AHD but ground above the PMF can be accessed by walking through the Reserve.

It is acknowledged that these routes would not be suitable for Bligh Park North Residents once the water reaches 17.3m AHD by which is when vehicular evacuation routes would be cut by floodwaters. However, they do provide a suitable alternative evacuation route should vehicular exit from Bligh Park North be blocked before the water reaches this level.

b) *Rising Gradient to Central Safe Refuges*

As mentioned above, the subdivision layout would provide a continually rising gradient to a multistorey point of refuge along pedestrian routes. Commercial developments such as shops, restaurants and child care facilities as well as community meeting rooms etc could occupy these buildings.

The ground floor of the refuge building would be above the 1 in 500 flood level and the top floor above the PMF. This means that for events between the 1 in 100 flood and the 1 in 500 flood there would be a total of 3,000m<sup>2</sup> of floor space undercover. This averages out at almost 1.5m<sup>2</sup> per person were the whole of the Bligh Park North population to evacuate to these buildings. This is almost enough space for them all to lie down although it is not expected that all would be trapped by the rising flood waters and until the floods exceed the 1 in 200 level the majority would be able to remain in their homes.

Should the flood exceed the 1 in 500 level the available floor space would be reduced to 2,000m<sup>2</sup> until the flood waters were more than one metre above the 1 in 1,000 flood level. The final 1,000m<sup>2</sup> would be available up to the PMF. This would be sufficient space for almost half the population to stand. Should the buildings be built with a flat roof which is accessible from inside then the whole population could use these buildings to stay above the PMF although some would be exposed to the elements unless a canopy is provided on the roof.

These buildings would be designed and built with materials which would ensure their structural integrity in all floods up to the PMF. This would not be difficult to achieve because floodwaters in this location would have near zero velocity.

Water supply to the subdivision and these buildings would be designed to ensure that:

- there was a sprinkler fire suppression system within the refuge buildings as it would not be possible to provide fire services to the area if it were isolated by floodwaters
- fresh water supply within the buildings which would be adequate for three days

c) *Flood Cognisant Residential Building Designs*

The developers have recognised that some people may not evacuate by vehicle before being isolated by floodwaters and then choose to evacuate vertically within their homes to escape the floodwaters rather than walk to the safe refuge buildings.

To minimise loss of life to these people all residential buildings will be built with materials and designs which will maintain their structural integrity in all floods up to the PMF. Furthermore, buildings will be required to have tiled rooves so that should people evacuate into their roof cavity they have a means of exit.

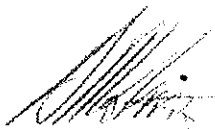
In conclusion I reiterate that it is my view that:

- the current evacuation route needs to be upgraded to provide exit lanes for existing evacuation traffic;
- such an upgrade would provide sufficient capacity for a 700 lot development at Bligh Park North and still leave spare capacity on that route;
- the proposed subdivision and building design features will reduce the risk to life of residents who fail to evacuate in time by motor vehicle.

I am happy to meet with the proponents and the regulatory authorities to discuss these findings further.

Yours faithfully

For Molino Stewart Pty Ltd



Steven Molino

Principal

Enclosures: 1

Y:\Jobs\2006\0228 Bligh Park North Flood Evacuation\Report\In Progress\0228 Bligh Park Evacuation  
Letter Jan 2010.doc



**Figure 1**

Bligh Park North  
Proposed Flood Evacuation Route

**Legend**

Low Points  
○

SES Routes  
—

Proposed BPN Route  
—

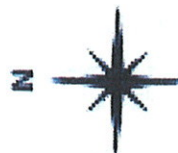
Railway  
—

Roads  
—

BPN Development Site  
■

South Creek Bridge  
—

Alternative BPN Route  
—



0 400 800 1200 Metres



**MOLINO STENART**  
ENVIRONMENT & NATURAL HAZARDS

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20 January 2010





## ATTACHMENT B

## CONCEPT SUBDIVISION PLANS

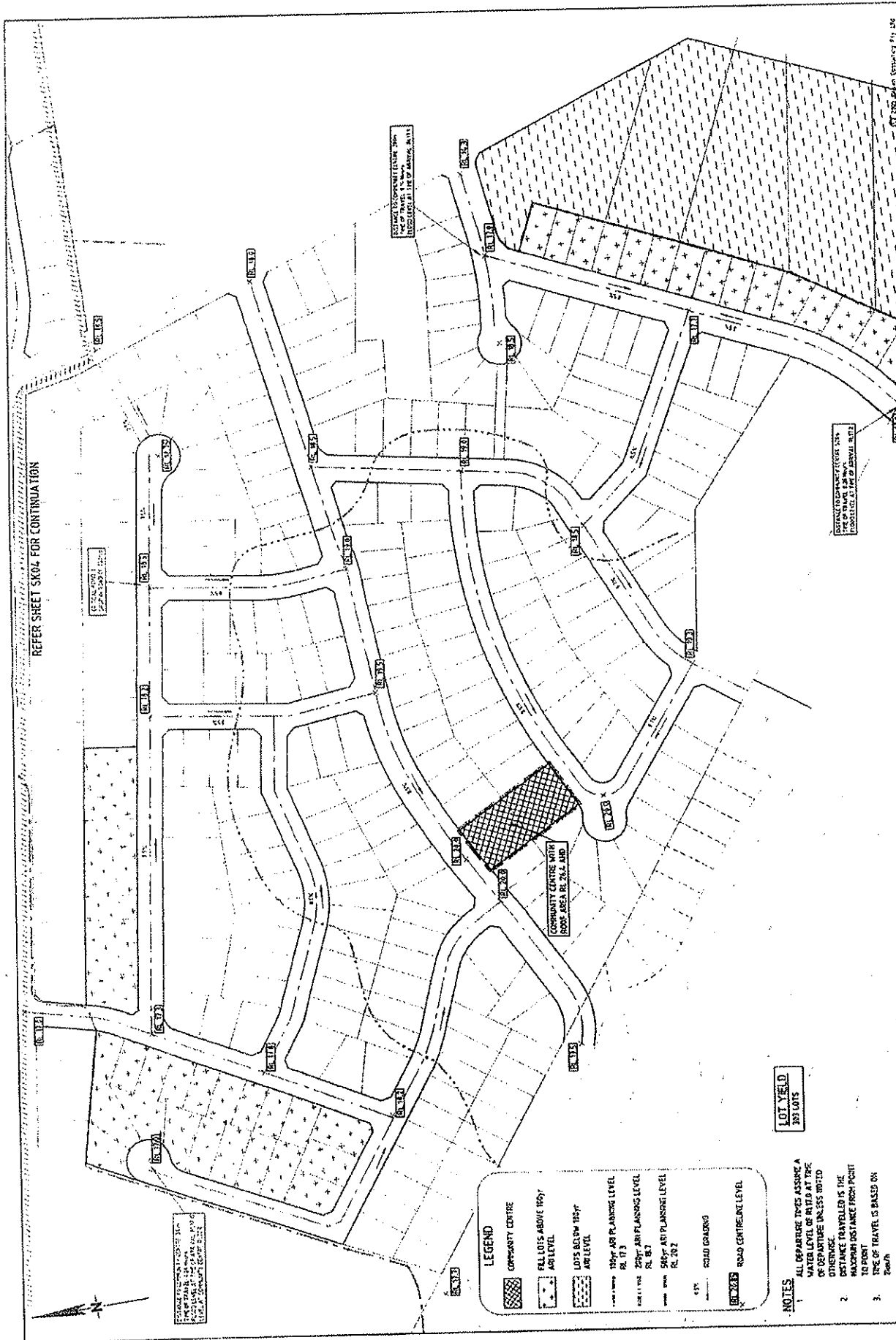


**WORKS**

2025-12-15

[illegible]





**LEGEND**

|  |                        |
|--|------------------------|
|  | COMMUNITY CENTRE       |
|  | FILL LOTS ABOVE 100'   |
|  | AW LEVEL               |
|  | LOT'S BELOW 100'       |
|  | AW LEVEL               |
|  | 100' AW PLANNING LEVEL |
|  | RL 17.3                |
|  | 200' AW PLANNING LEVEL |
|  | RL 18.7                |
|  | 500' AW PLANNING LEVEL |
|  | RL 20.2                |
|  | ROAD GRAVING           |
|  | ROAD CENTRELINE LEVEL  |

**LOT YIELD**  
391 LOTS

- NOTES**
- ALL DEPARTURE TIMES ASSUME A WATER LEVEL OF 100' AT THE OF DEPARTURE UNLESS NOTED OTHERWISE.
  - DISTANCE TRAVELLED IS THE MAXIMUM DISTANCE FROM POINT TO POINT.
  - TIME OF TRAVEL IS BASED ON 2000/1.

ALL ELEVATIONS IN FEET UNLESS NOTED OTHERWISE

| DATE     | BY | REVISION |
|----------|----|----------|
| 11/11/00 | 1  | 1        |
| 11/11/00 | 2  | 2        |
| 11/11/00 | 3  | 3        |
| 11/11/00 | 4  | 4        |
| 11/11/00 | 5  | 5        |
| 11/11/00 | 6  | 6        |
| 11/11/00 | 7  | 7        |
| 11/11/00 | 8  | 8        |
| 11/11/00 | 9  | 9        |
| 11/11/00 | 10 | 10       |

**MODOG DEVELOPMENTS**

**NORTH BLUSH PARK**  
CONCEPT GRADING

**BROWN**

**CONCEPT GRADING PLAN**  
SHEET 3

L07060.S03

01-01

REFER SHEET SK04 FOR CONTINUATION



