

Petition Glenfields Att 4 Previous Report

4.1.9 GLENFIELDS ESTATE, MOUNTAIN CREEK - SECOND ROAD ACCESS

File No: ECM 30/11/2010
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Infrastructure Services
Attachments: Att 1 - Concept designs (PSC Att Pg 73)
Att 2 - Conservation Area Program (PSC Att Pg 74)
Att 3 - Emergency Access Link Preliminary Design (PSC Att Pg 84)

PURPOSE

The purpose of this report is provide Council with a status report on investigations into providing a second road access into Glenfields Estate, Mountain Creek.

EXECUTIVE SUMMARY

The development of the Glenfields Estate was approved in 1992 and a part of that approval was the creation of a road reservation to allow for a potential second access into the estate from the North West. The road was never constructed as it was not a condition of development.

In September 2009 there was a grass fire to the west and south of the estate. This resulted in large amounts of smoke passing into the residential area. Subsequently there have been numerous requests and a petition to Council to construct the second access road.

Following the requests to council, investigations began to assess the feasibility of constructing the road through the road reservation, or an alternative. These included;

- An assessment of the need from traffic demand,
- Assessment of the environmental impacts,
- Concept design of the new road,
- Preparation of preliminary cost estimates
- Assessment of impacts upon the connecting road and community to the north,
- An assessment of the risk to life as a result of a fire and flood
- Investigation of alternative access routes to the estate

The construction of a road through the Mountain Creek Conservation Area is expected to be environmentally damaging. It is estimated to cost between \$6,840,000 and \$25,500,000 subject to road standards, the amount of land acquisition and road widening. The construction is also expected to have an adverse impact upon residents in Mountain Creek Road. The traffic modelling suggests that there would be relatively low traffic demand for this new road and the purpose would be predominantly an emergency route. However, it may not be able to be used as an emergency route during a fire as it traverses through a heavily forested part of the reserve. No funding is currently provided in the adopted 2010/2011 five year capital program, developer contributions or infrastructure plans, for any road construction.

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An alternative emergency route has also been considered, that could be activated by the emergency services agencies if necessary. Council has been discussing with the Department of Main Roads and Transport an option to construct a gated emergency access road linking to the Sunshine Motorway from Berrigan Place. The estimated cost of this option is \$100,000; however this amount may change subject to the requirements of the Department of Transport and Main Roads. The works could be carried out in such a way as to have no impact upon Berrigan Place under normal circumstances.

OFFICER RECOMMENDATION

That Council:

- (a) note the report titled "Glenfields Estate Mountain Creek Second Road Access";
- (b) take no further action on the northern access road;
- (c) continue to negotiate with the Transport and Main Roads Department to obtain an emergency access / egress road from the Sunshine Motorway to Glenfields Estate Mountain Creek; and
- (d) give consideration in the development of the 2010/2011 five year capital program to funding the construction of an any emergency road to Glenfields Estate, Mountain Creek as outlined in (c) above.

FINANCE AND RESOURCING

The report identifies potential funding for a roads project with a cost dependant upon the direction council wishes to follow. The estimated cost could be \$100,000 for an emergency access or between \$6,840,000 or \$25,500,000 for a new road and bridge dependant upon the standard of road and property costs.

There are currently no funds provided in the 2010/2011 five year capital program for any new roads at Glenfields Estate Mountain Creek. Funding would need to be considered as a part of the future program budget process and it would need to compete with other "growth project" across the region. It is also worth noting that there are no accumulated developer contributions, nor is a major road link included in the priority infrastructure plans, hence funding would be required from loans or a general revenue allocation.

CORPORATE PLAN

Corporate Plan Theme: *Accessibility and Connectedness*

Emerging Priorities: 6.4 A community that recognises the importance of universal access and equity

Strategies: 6.4.2 Work in partnership with government, the private sector and community groups to understand needs and promote high quality universal access

CONSULTATION

Internal Consultation

- Environmental Operations
- Regional Strategy and Planning – traffic modelling
- Cr Christian Dickson
- Environmental Policy Branch

External Consultation

- Department of Transport and Main Roads

Community Engagement

There have been preliminary discussions only outlining the investigation process with the Glenfields Estate residents group. This has involved staff attending several meetings of the group, individual dialogues and letters. The group have not been informed at this time of the results of the investigations.

PROPOSAL

The development of the Glenfields Estate was approved by the courts system in 1992 and a part of that approval was the creation of a road reservation to allow for a potential second access into the estate from the North West. There was no requirement for the developer to construct the road. The location of the road reservation is shown on the following plan, greater detail of the route for the second access road is provide on a plan (**Attachment 1**).



In September 2009 there was a grass fire to the west and south of the estate. This resulted in large amounts of smoke passing into the residential area. Subsequently there have been numerous requests and a petition to Council to construct the second access road. Whilst initially it was claimed the road is necessary for reasons of safety, further requests have sought the road for a convenience link and/or to relieve peak traffic congestion along the existing route.

Investigations

Following the requests to council investigations began to assess the feasibility of constructing the road or an alternative. These included:

- An assessment of the need from traffic demand,
- Assessment of the environmental impacts,
- Concept design of the new road,
- Preparation of preliminary cost estimates
- Assessment of impacts upon the connecting road and community to the north,
- An assessment of the risk to life as a result of a fire and flood
- Investigation of alternative access routes to the estate

A very brief summary of the results of this work are as follows;

• Traffic Demand

Currently the only access into the estate is via Prelude Drive which has a traffic volume of 5,900 vehicles per day. Modelling of the traffic indicates that the predominant traffic movements into and out the estate after providing the second road would predominantly be still along the existing road network. The modelling predicts volumes of 700 vehicles per day on the new road that would connect to the North West versus 5,300 vehicles per day on the current route via Prelude Drive to the south east. The 100 additional vehicles per day would be motorists choosing this as a short cut instead of using Karawatha Drive. Even if the modelling figures are out by a factor of two and the new route volumes are doubled this is still a relatively low traffic volume when compared to other roads in Council's network, it suggests that travel demand is not a driver for a new road.

• Environmental Impacts

The new road would most certainly result in long term detrimental impacts to the Mountain Creek Conservation Area. The impacts of roads and other linear infrastructure such as powerlines on natural areas are well documented. One of the more pronounced impacts is the creation of a linear barrier, that is, the separation of a contiguous natural area into two smaller units. There is much scientific evidence that this separation effectively creates a barrier that can introduce long term environmental impact particularly in relation to the movement of native fauna.

The Mountain Creek Conservation Area currently protects several Commonwealth and State listed fauna and flora species. A paper detailing the impact concerns is provided as Attachment 2.

The Sunshine Coast Biodiversity Strategy recognises the importance of this corridor and has identified it as Core Habitat Area. For the issues summarised above and outlined within the Attachment 2, the Environmental Operations and Environment Policy Branches do not support the construction of the road.

- **Concept Design of the New Road**

The road construction would necessitate the construction of 370 metres of new sealed road through the heavily treed area of the conservation area, the construction of a new bridge across the Mountain Creek, road pavement works along Glenfields Boulevard, and Mountain Creek Road and construction of two intersections. There would be significant environmental works required at the bridge crossing should council be able to obtain the necessary State government approvals.

- **Bridge and Design Standard**

The bridge would need to be at a high enough level to be able to provide an adequate level of flood immunity for an evacuation route. This should be above the 100 year average recurrence interval. The concept long section of the road has taken this into account however there have been no waterway calculations for the bridge undertaken at this time. Whilst a relatively short span bridge is technically possible it is expected that due to damming of the waterway by the road embankment at points where peaks flows from the creek may currently break the creek banks an additional bridge half span has been allowed in the estimated costs. The current Council development standards would indicate that the new road would be a neighbourhood collector road and road widening would be required along Mountain Creek Road and the western end of Glenfields Boulevard. However the traffic modelling suggests that a lesser width of road would suffice. The concept has been prepared at a minimum cost standard as suggested by the model volumes. The work would involve property acquisition if Council were to apply council's current neighbourhood collector road standards. Preliminary plans of the works can be made available should any councillor wish to see them.

- **Cost Estimates**

It is estimated that the minimum amount of funds required to construct the road and bridge is \$6,840,000. If Council were to strictly apply the current neighbourhood collector road standards for this road in accordance with the road hierarchy then the cost could be as high as \$25,500,000 subject to the amount of land acquisition and road widening. The higher figure includes a provision of \$10,750,000 for land in Mountain Creek Road.

- **Impacts on the Connecting Road and Community to the North**

It is anticipated that there would be major objections to the proposal from people who live in Mountain Creek Road who would be significantly adversely impacted by the road. The impacts would be traffic noise and traffic volume increases for the lesser standard of road. More significantly would be loss of some residential properties if the higher standard road were constructed. There would also be an impact on the intersection of Mountain Creek Road and Karawatha Drive that could necessitate improved intersection controls. This aspect has not been looked at in any detail.

- **Vulnerability to Fire and Flood**

If Council provided this road and there was a bush fire within the Mountain Creek Conservation Area it may not be able to be used as an emergency route as it traverses through a heavily forested part of the reserve. It could in fact lead people into danger and not out it.

There is a risk of minor flooding of the intersection of Glenfields Boulevard and Parklea Esplanade in a major to extreme event. This may impact upon access to the estate. The depth of flooding at this point is indicated to be between 0 & 0.5 metres, the lowest range indicated by the flood mapping. Hence the amount of impact is difficult to predict. The duration of such flooding is not known, but expected to be only a short period. The Flood mapping does not indicate any risk to houses.

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During a subsequent telephone conversation council has been advised that further detail must be provided to justify this option. This justification documentation is in the process of being prepared.

It is proposed that council continue to negotiate with the Department of Transport and Main Roads to allow construction of this emergency access from the Sunshine Motorway.

Legal

Council has no general legal obligations to construct unformed roads within existing road reservations.

Policy

The policy implications of the report concern the standard of road that Council would construct if it were to proceed to construct the road and bridge.

Risk

Any large residential development with a single road access presents risks to the public in evacuation circumstances and is undesirable. Provided the proper fire breaks are maintained then the bush fire risk to residential properties may be managed. However a second emergency access / egress for residents and emergency services should be considered in order to provide an opportunity for a second evacuation route, if a major emergency arose.

Previous Council Resolution

Council Resolution (OM10/204)
Meeting Date: 4th August 2010

That Council authorise the Chief Executive Officer to provide a comprehensive report on the proposed extension of Glenfields Boulevard, Mountain Creek within a three month timeframe. Council should also consider relevant factors which contribute to the proposed extension whilst noting the following key community concerns that are required to be addressed as part of a report back to Council; namely:

- (i) environmental impacts on Mountain Creek and relevant wildlife corridors where appropriate;*
- (ii) traffic increases on nearby residents in the vicinity of Mountain Creek Road and the existing Glenfields estate; and*
- (iii) the cost's associated with the extension including intersection upgrades on Mountain Creek Road and Karawatha Drive, Buderim.*

Related Documentation

- Preliminary plans for and access to the Sunshine Motorway
- Mountain Creek Conservation Area management plan
- Traffic modelling by Regional Strategy and Planning Department

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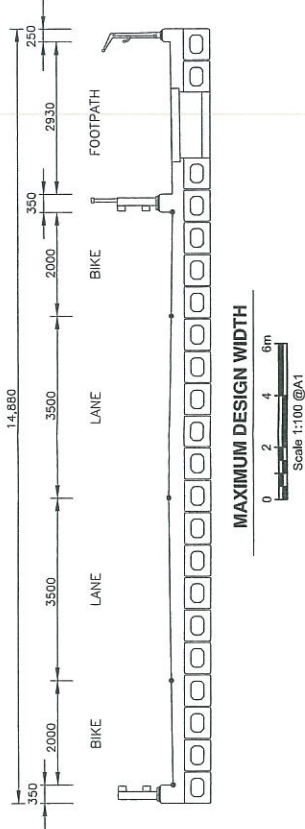
Critical Dates

It is desirable that a resolution to the additional access be found as soon as possible.

Implementation

Implementation of the emergency access road to the Sunshine Motorway will be subject to approvals and funding. Council will produce a newsletter keeping the local residents updated and proposed Council action, following adoption of this report and once further approval is received for the emergency access road.

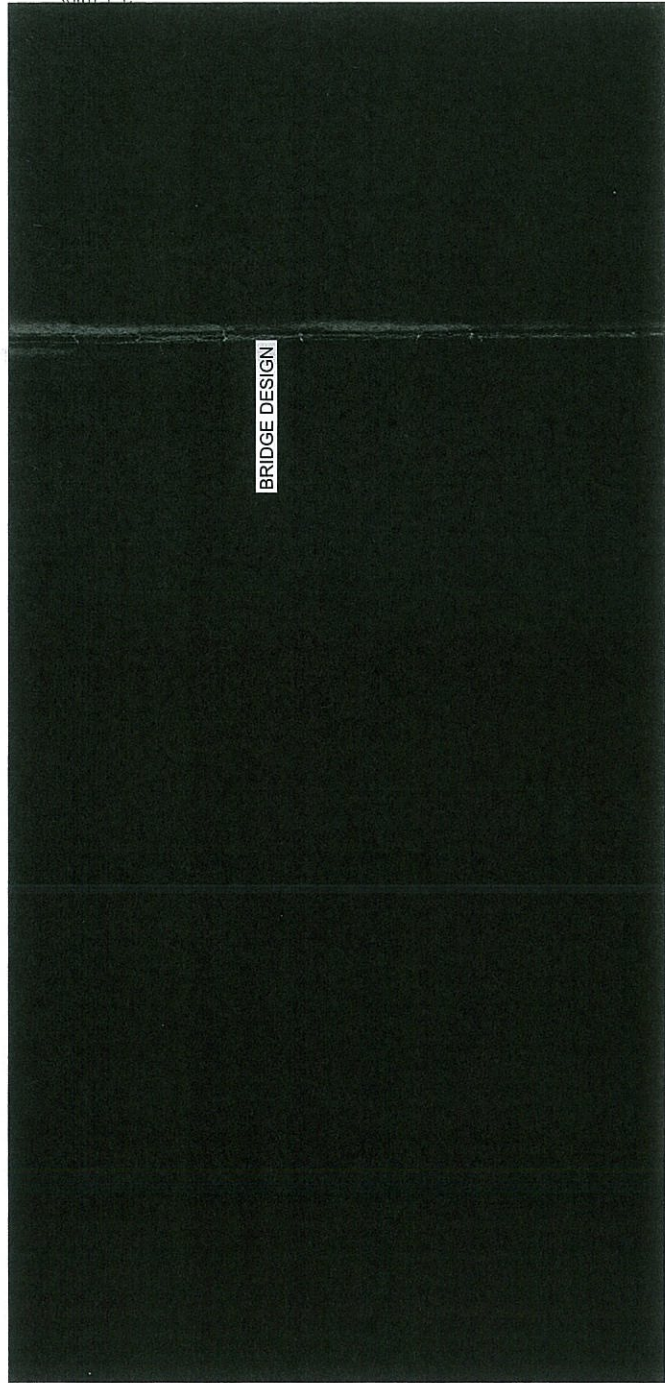




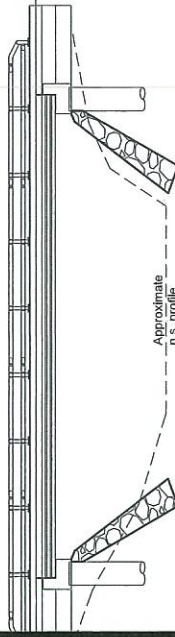
MAXIMUM DESIGN WIDTH

NOTES:

- BRIDGE WITH TWO ON ROAD BIKE LANES WIDTH REQUIRED 14.8m
- BRIDGE WITH NO ON ROAD BIKE LANES WIDTH REQUIRED 11.8m



BRIDGE DESIGN



BRIDGE SECTION

BRIDGE ESTIMATES

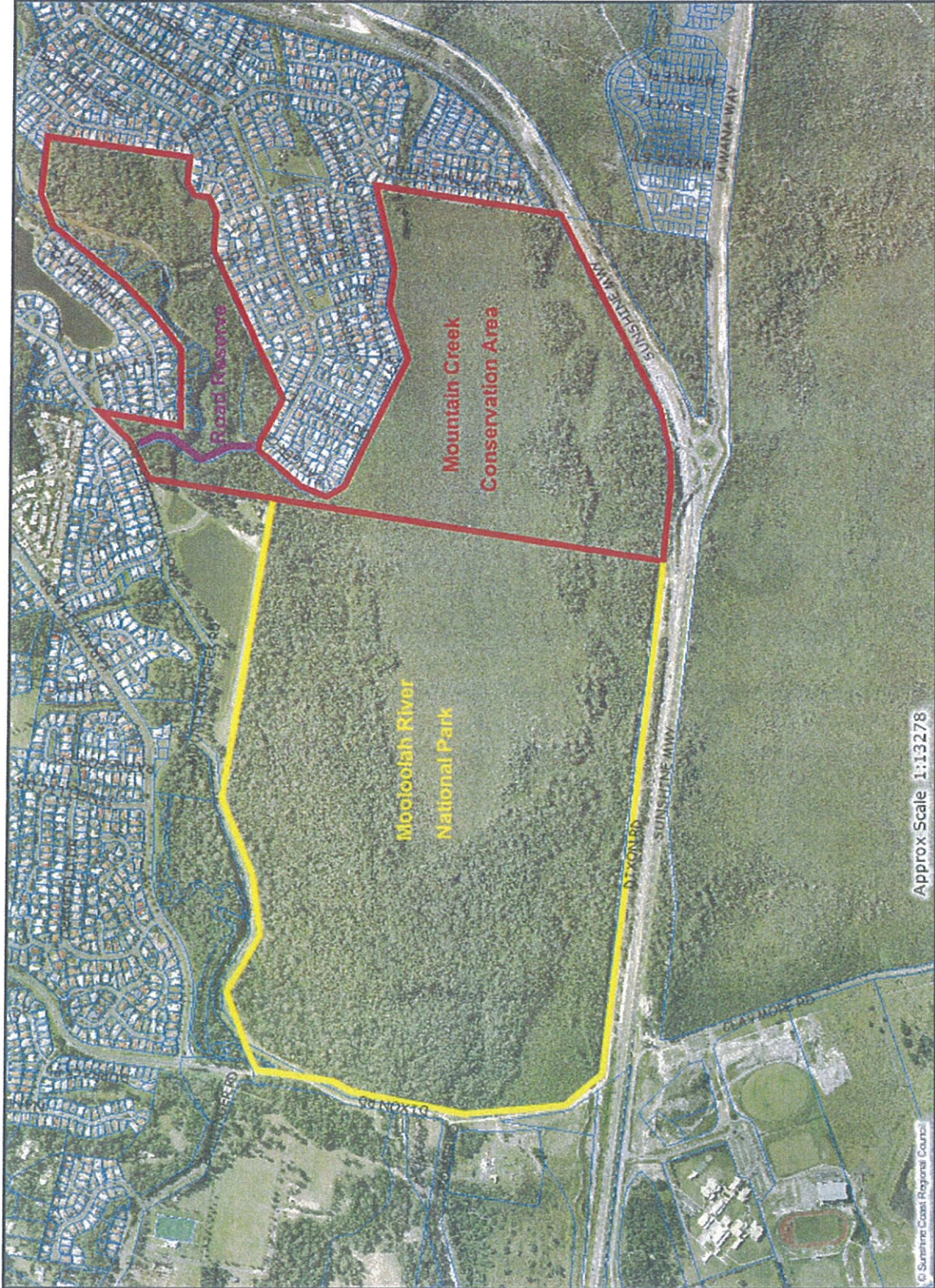
BRIDGE DIMENSIONS
 19m SPAN
 14.8m WIDTH

A1	REV	DATE	REVISIONS	REC.	APPR.	PSM No (AMD) RL SURVEYED DRAWN G. Cavanagh CHECKED	TRANSPORT & ENGINEERING SERVICES DESIGN SERVICES (NORTH) Nambour Office Corner of Bury Street & Currie Street, Nambour, Locked Bag 72, Sunshine Coast Centre, Nambour, QLD 4580 Nambour Ph: (07) 5475 8581 Fax: (07) 5441 6338	Sunshine Coast Regional Council	GLENFIELDS BOULEVARD LINK ROAD FROM GLENFIELDS BVD TO MOUNTAIN CREEK ROAD BRIDGE/CULVERT COSTING	Project Number 20672 Drawing Sheet No. C006-A
	A	09/2009	Preliminary Design released for Comment.							

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Map One - Mountain Creek Conservation Area and Mooloolah River National Park



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MOUNTAIN CREEK CONSERVATION AREA - STRATEGIC MANAGEMENT PLANNING AND OPERATIONAL PROGRAM

1.0 Background

In 1998/99 the former Maroochy Shire Council, Queensland State Government and the Commonwealth contributed \$2.75 M to the purchase of 246Ha described as Lot 112 NPW647 and Lot 2SP107434. The former parcel extended the Mooloolah River National Park by 164Ha and the latter parcel (82Ha) was gazetted Mountain Creek Conservation Area (Refer Attachment One). This strategic acquisition was based on the area's significant regional biodiversity value. Acquisition also provided a mechanism to protect these values through cessation of any future development threat.

1.1 Ecological Attributes

Prior to acquisition the area was described by Olsen (1998:13) as "...perhaps the highest biotic value of any parcel of land currently outside the public conservation reserve estate in this region."

According to Maher and Associates et al (1998:3.AppA) "this area has one of the highest concentrations of rare and threatened species in the coastal lowlands of southeast Queensland."

The Mountain Creek Conservation Area (MCCA) is declared an Environmentally Significant Area under the Land Protection (Pest and Stock Route Management) Act 2002.

The MCCA contains six Regional Ecosystems (Queensland Department of Environment and Resource Management Regional Ecosystem Mapping Version 5):

Regional Ecosystem	Description	Conservation Status (NCA 92)
12.3.2	<i>Eucalyptus grandis</i> ± <i>E. microcorys</i> , <i>Lophostemon confertus</i> tall open-forest with vine forest understorey ('wet sclerophyll').	Of Concern
12.3.11	<i>Eucalyptus siderophloia</i> , <i>E. tereticornis</i> , <i>Corymbia intermedia</i> open forest on alluvial plains usually near coast	Of Concern
12.3.13	Closed heathland on seasonally waterlogged alluvial plains usually near coast	Of Concern
12.3.14	<i>Banksia aemula</i> woodland on alluvial plains usually near coast	Of Concern
12.3.8	Swamps with <i>Cyperus</i> spp., <i>Schoenoplectus</i> spp. and <i>Eleocharis</i> spp.	Of Concern
12.9-10.14	<i>Eucalyptus pilularis</i> tall open forest on sedimentary rocks	Not Of Concern

Six endangered, vulnerable or rare plant species occur within the MCCA (Thomas 2007):

Species	Nature Conservation Act 1992	EPBC Act 1999
<i>Eucalyptus conglomerata</i>	Endangered	Endangered
<i>Acacia attenuata</i>	Vulnerable	Vulnerable
<i>Acacia baueri</i> ssp <i>baueri</i>	Vulnerable	
<i>Boronia rivularis</i>	Rare	
<i>Schoenus scabripes</i>	Rare	
<i>Gompholobium virgatum</i> var. <i>emarginatum</i>	Rare	

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MOUNTAIN CREEK CONSERVATION AREA - STRATEGIC MANAGEMENT PLANNING AND OPERATIONAL PROGRAM

Six endangered, vulnerable or rare fauna species have been recorded in the area (Maher and Associates et al 1998)

Species	Common Name	NCA 92	EPBC Act 1999
<i>Crinia tinnula</i>	Wallum Froglet	Vulnerable	
<i>Litoria olongburensis</i>	Wallum Sedgefrog	Vulnerable	Vulnerable
<i>Litoria freycineti</i>	Wallum Rocketfrog	Vulnerable	
<i>Ornithoptera richmondia</i>	Richmond Birdwing Butterfly	Vulnerable	
<i>Pezoporus wallicus</i>	Ground Parrot	Vulnerable	
<i>Calyptorhynchus lathami</i>	Glossy Black Cockatoo	Vulnerable	

According to the former Maroochy Biodiversity Strategy, the MCCA contributes to;

- Mooloolah Core Vegetation Area
- Critically Irreplaceable Area
- Two Critical Ecological Links (Mooloolah Core – Buderim Mosaic, Mooloolah Core – Ballinger Mosaic)

2.0 Strategic Management Planning

In 2006 a Statement of Management Intent (SMI) for the MCCA was developed in close consultation with local residents. The SMI outlines values of the MCCA and management strategies to help protect and promote these values including;

- Native Flora and Fauna
- Pest Management
- Fire Management
- Recreation and Education
- Research and Monitoring

The SMI provides the guiding principles for day to day management activities consistent with corporate and community expectations.

A 3 year management plan (2008 - 2010) distils the SMI into annual management actions for operational and reporting purposes (see Attachment Two).

All operational and capital works have been funded through the former Maroochy Shire Council Environment Levy. As per the regional transitional arrangements, future management will be funded through general operating and capital works.

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MOUNTAIN CREEK CONSERVATION AREA - STRATEGIC MANAGEMENT PLANNING AND OPERATIONAL PROGRAM

3.0 Operational Program

Refer Attachment Two

3.1 Fire Management

Glenfields Fire Trails



Vegetation in the MCCA is typical of the coastal lowlands with a mix of Tall Open Forest and Heath (Wallum). Bushfires have occurred in the past with the last fire event approximately 9 years ago. Since 2006 Council has allocated more than \$350K for construction and maintenance of fire trails in the MCCA. The majority of these trails also provide public access for passive recreation.

Vegetation in the northern portion of the reserve is characterised by Tall Open Forest with a shrubby understorey. Capital works has been largely focused in this part of the reserve due to proximity of residential property. There are now 7 distinct management units which provide an enhanced capacity to undertake prescribed hazard reduction burns as well as wildfire suppression.

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MOUNTAIN CREEK CONSERVATION AREA - STRATEGIC MANAGEMENT PLANNING AND OPERATIONAL PROGRAM

Vegetation in the southern portion of the reserve is characterised by coastal Heath (Wallum) that typically does not exceed 2.5m in height. This area shares a large common boundary with the Mooloolah River National Park and forms a significant contiguous tract of coastal heath. There are no internal fire trails. Residential property to the north and east adjoin a 10m wide perimeter fire trail.

09/10 Fire management operational and capital works

- Vegetation maintenance along the southern perimeter fire trail to reinstate a continuous 10m width
- Upgrade of vehicle access points at Sailfish Drive, Escobar Drive and Glenfields Boulevard.

Glenfields Boulevard to Mountain Creek Drive Road Connection – An Environmental Cost Benefit Assessment

A proposal to connect Glenfields Boulevard to Mountain Creek Road via a gazetted council road reserve will require construction within the Mountain Creek Conservation Area. Part of the decision making process needs to consider the potential environmental impact on and adjacent to council land which is managed primarily for conservation purposes.

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MOUNTAIN CREEK CONSERVATION AREA - STRATEGIC MANAGEMENT PLANNING AND OPERATIONAL PROGRAM

Environmental Benefit

Construction of roads in and adjacent to natural areas can provide a benefit in terms of improving access for management purposes including bushfire mitigation. Roads can also provide opportunities for passive recreational activities such as walking.

In recent years council has undertaken substantial capital works in the MCCA to upgrade fire management and recreational infrastructure. There are additional works planned for the 09/10 financial year to further improve the standard of management infrastructure in an effort to further reduce bushfire risk to the local community.

The construction of the proposed road through the MCCA would not augment the current or planned network of management trails. The proposed road therefore represents a negligible benefit to the ongoing management of the MCCA.

Environmental Cost

The impact of roads and other linear infrastructure such as powerlines on natural areas is well documented. Much academic endeavour has been invested in understanding the range and magnitude of impacts that arise from service corridors. Typically these corridors are linear and of sufficient width for construction and maintenance of the asset. The range of potential impacts will vary in time and space from initial construction through to ongoing maintenance programs.

One of the more pronounced impacts is the creation of a linear barrier, that is, the separation of a contiguous natural area into two smaller units. There is much scientific evidence that this separation effectively creates a barrier that can introduce long term environmental impact particularly in relation to the movement of native fauna.

In 2008 Council in collaboration with the University of the Sunshine Coast commenced a fauna movement study at the western end of the MCCA. The purpose of this study was threefold;

- Improve our understanding of fauna values associated with MCCA
- Improve our understanding of fauna movement within and adjacent to the linkage between the MCCA and Mooloolah River National Park
- Utilise this data to support the decision making process in relation to the proposed road

Results from the study confirmed movement of native fauna across the undeveloped road reserve. Movement was recorded for both terrestrial (ground dwelling) and arboreal (tree dwelling) species.

The study area was established in the last remaining connection between the MCCA and Mooloolah River National Park. This is the same area that stands to be impacted as result of the proposed road. In effect, the road if constructed will dissect a critical link that is a known wildlife movement corridor. Should this occur, a cascade of flow on effects is likely and the significant biodiversity values of the MCCA may start to erode. This gradual and incremental decline in ecosystem health is also well documented and is particularly pertinent in areas experiencing urban growth pressures.

Recommendation

The proposed road if constructed will most certainly result in long term impacts for the MCCA. This may in turn extend through to the Mooloolah River National Park. As the asset manager, Environmental Operations does not support the construction of a road through the MCCA.

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MOUNTAIN CREEK CONSERVATION AREA - STRATEGIC MANAGEMENT PLANNING AND OPERATIONAL PROGRAM

Conclusion

Environmental Operations does acknowledge the ESD principles of fauna sensitive road design. Council has incorporated these principles in the upgrade of Dixon Road Buderim which adjoins the western flank of the Mooloolah River National Park. If an extension to Glenfields Boulevard is required Environmental Operations will provide technical guidance in the design phase to ensure every effort is made to mitigate environmental impact.

References

Department of Environment and Resource Management. Regional Ecosystem Mapping Version 5. 2005.

Environment Protection and Biodiversity Conservation Act 1999.
Department of Environment, Water, Heritage and the Arts.

Land Protection (Pest and Stock Route) Management Act 2002
Department of Primary Industries and Fisheries

Nature Conservation Act 1992.
Department of Environment and Resource Management.

Mary Maher & Associates, Ecograph, LAMR, and T.Low. 1998. Conservation assessment and management plans for remnant vegetation in Maroochy Shire (Draft) – Volume 1. Mary Maher & Associates, Brisbane QLD.

Maroochy Shire Council Biodiversity Strategy 2006.

Olsen, M. 1998. Biophysical analysis of the Sippy Downs Planning Study Area. LAMR Pty Ltd, Oxley QLD.

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Operational Program - Mountain Creek Conservation Area
3 Year Management Plan: 2007 - 2010

Attachment Two

SIMI Strategies		Budget 2007/08	Budget 2008/09	Budget 2009/10	Budget
1.0 NATIVE PLANTS					
1.1	Rehabilitating disturbed areas with appropriate native vegetation.	NA	Undertake Rehab works associated with Stage 1 Capital Works	Undertake Rehab works associated with Stage 2 Capital Works	\$5k
1.2	Ongoing monitoring to assess any long term significant changes in the health of native plant communities and threatened species.	\$0.5k		Complete Bushland Operational Assessment (condition mapping)	\$6k
2.0 NATIVE ANIMALS					
2.1	Protecting native animals and their habitats to ensure their long term survival.		Commence collaborative research with USC. Small mammal community ecology associated with the western corridor and proposed road	Continue collaborative research	\$2k
2.2	Compiling a comprehensive fauna list for the area over time.		Develop a Fauna Database and data management process for collating fauna data from internal and external sources	Ongoing	
2.3	Ensuring that all wood, logs and non invasive litter is retained on site for habitat.		Significant habitat elements mapped and managed appropriately	Ongoing	
2.4	Recording all significant native animal sightings for monitoring purposes.		Refer 2.2	Refer 2.2	
3.0 PEST PLANTS					
3.1	Removing introduced plants and rehabilitating areas with suitable native plants.		Maintain scheduled Bush Regeneration program	Maintain scheduled Bush Regeneration program	\$10k
3.2	Ongoing monitoring to identify potential future invasions.		Refer 3.1	Refer 3.1	
3.3	Co-ordinate pest management programs with key stakeholders, particularly neighbours and the		Scope Bushland Neighbours Program (BNP), Education/ awareness of ESA and potential incentives	Review BNP	\$3k

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Operational Program - Mountain Creek Conservation Area 3 Year Management Plan: 2007 - 2010

Attachment Two

S/M/Strategies	2007/08	Budget 2008/09	Budget 2009/10	Budget
Queensland Parks and Wildlife Service.				
3.4 Developing ongoing community education aimed at preventing the spread of exotic species from neighbouring gardens, particularly garden clippings.	Refer 3.4	\$3k	Refer 3.4	
4.0 PEST ANIMALS				
4.1 Developing ongoing monitoring to detect any changes that may threaten the forests values, including domestic animals such as cats and dogs.	Report sightings to Regulatory Services ~ Wild Animal Register		Ongoing	Ongoing
4.2 Encouraging the removal of dog faeces through the installation of 'doggy bag' dispensers' at all major entrances.	Council policy to cease installing dispensers			
4.3 Developing ongoing community education aimed at ensuring domestic animals don't roam through the area.	Refer 3.3		Refer 3.3	
5.0 RECREATION AND EDUCATION				
5.1 Installing informative signage that highlights the values of the area.	Develop Capital Works Master Plan (CWMP) in consultation with local community	\$15k	Commence Stage 1 of the CWMP including: Upgrade and/or realignment of walking tracks, Directional Signage	\$90k Commence Stage 2 of the CWMP including: Installation of interpretive signage, seating and viewing areas.
5.2 Ongoing maintenance of existing walking tracks to ensure they are maintained to a safe standard.				Annual maintenance program linked to Risk Assessment and Management System(RAMS)
5.3 Promoting the many values of the area and its conservation importance	Refer 3.3		Refer 3.3	

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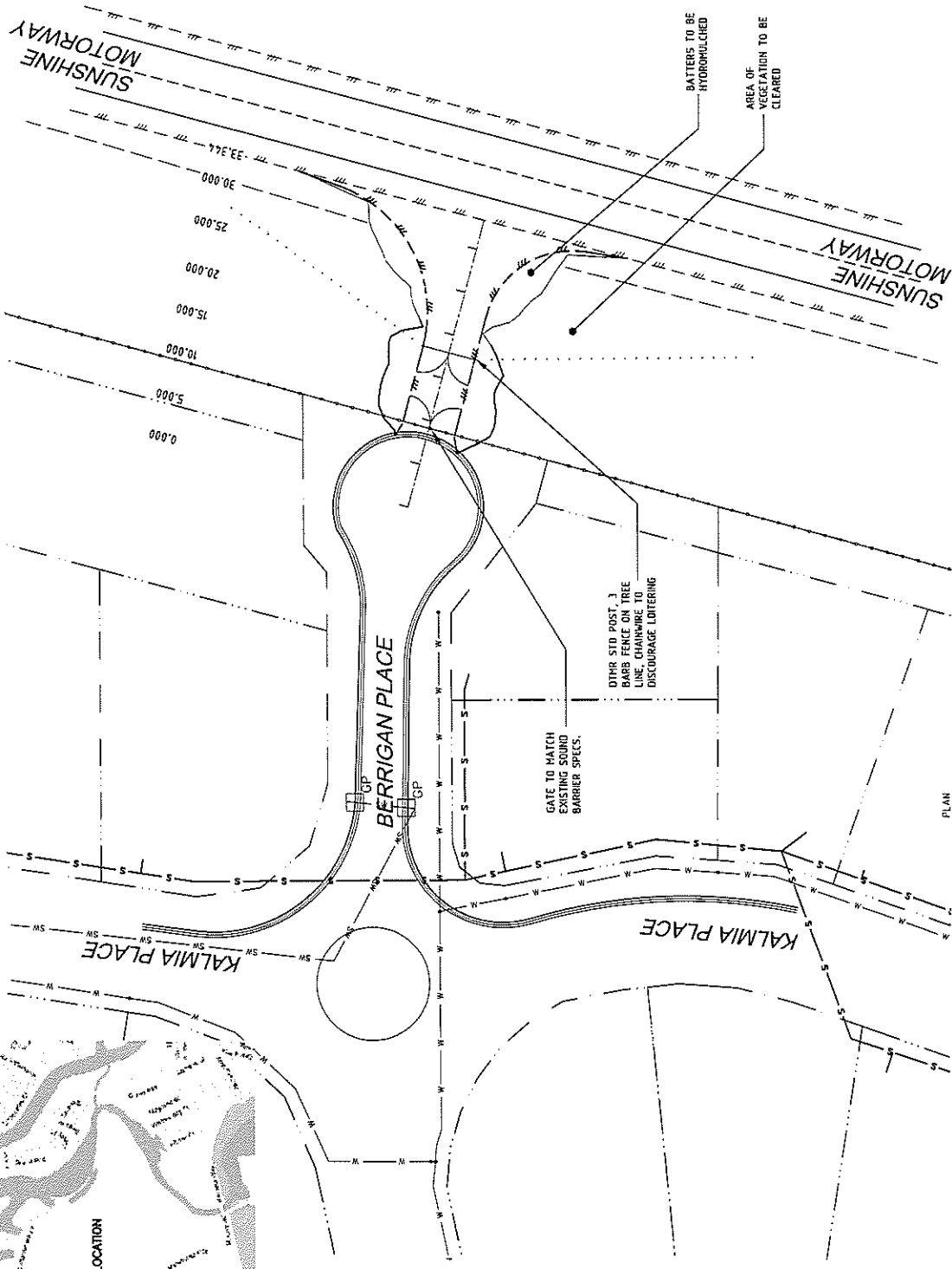
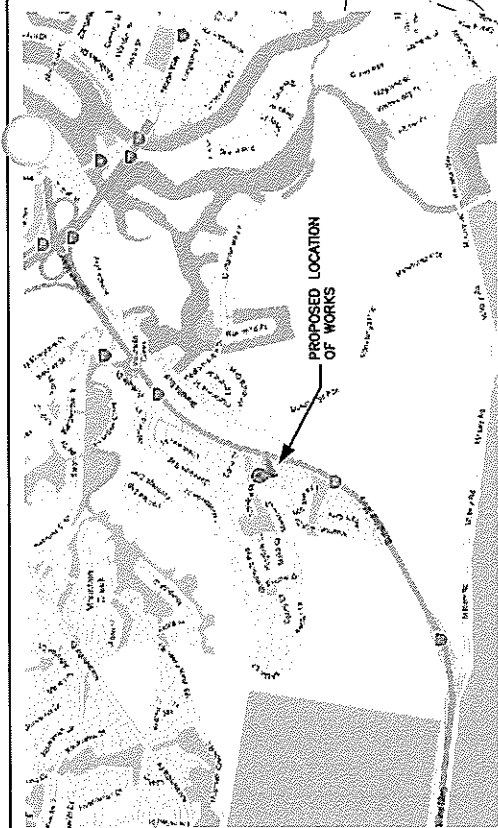
Operational Program - Mountain Creek Conservation Area 3 Year Management Plan: 2007 - 2010

Attachment Two

SMI Strategies	2007/08	Budget 2008/09	Budget 2009/10	Budget
to the wider community.				
5.4 Working with neighbours and visitors to encourage appropriate use and behaviour within the Conservation Area.	Refer 3.3	Refer 3.3		
5.5 Developing ongoing community involvement with management and monitoring of the area.	Refer 3.3	Refer 3.3		
5.6 Ensuring adequate infrastructure is in place including rubbish bins.	Refer 5.1	Refer 5.1	Refer 5.1	
5.7 Potential community engagement in waterway recovery projects.	Refer 3.3	Refer 3.3	Refer 3.3	
5.8 Designed so no native vegetation is lost, and does not prevent regeneration and/or expansion of native vegetation.	Refer 5.1	Refer 5.1	Refer 5.1	
5.9 Designed to take advantage of degraded areas, including the protection of tree roots, significant plants and important habitat areas.	Refer 5.1	Refer 5.1	Refer 5.1	
6.0 FIRES				
6.1 Working with Queensland Fire Rescue Service and other relevant agencies to develop an access and fire suppression plan.	Develop Fire Management Plan (FMP) in combination with Capital Works Master Plan, brief key stakeholders of the FMP	Actions linked to Stage 1 Capital Works	Refer 5.1	Undertake annual actions identified in the FMP
6.2 Maintaining natural species diversity and regeneration through the exclusion of fire from fire-sensitive vegetation types.				Undertake a prescribed burning program to reduce bushfire risk to neighbouring properties

GLENFIELDS ESTATE - EMERGENCY ACCESS LINK BERRIGAN PLACE, MOUNTAIN CREEK

*BASED ON AUSTRROADS 2009 RURAL PROPERTY ACCESS STANDARD



LEGEND	
SW	STORMWATER
---	TOE OF BANK
---	UNDERGROUND
---	TELSTRA
W	WATERMAIN
S	SEWER
---	TABLE DRAIN INVERT
---	EDGE OF BITUMEN
---	CONTROL LINE
---	FENCE
□	EXISTING GULLY PIT
GP	GP

NOTES:
 1. SURVEY DATA DERIVED FROM SCRC MAPPING
 2. TERRAIN DERIVED FROM GIS AERIAL LASER SURVEY
 3. SERVICES LOCATION AND DEPTH HAVE NOT BEEN CAPTURED

E D C B A	100/009/10	Preliminary Design released for Comment	REV DATE	REVISIONS	REC.	APPR.	CHECKED	DRAWN	CHRIS LLOYD	- 3/007/2010	- 7 / 2010	Nambour ph: (07) 5475 9501 fax: (07) 547 5038	Corner of Bury Street & Curle Street, Nambour, Locked Bag 72, Sunshine Coast Mail Centre, Nambour QLD 4560	Nambour Office	ASSET & INVESTIGATIONS	TRANSPORT & ENGINEERING SERVICES	Sunshine Coast Regional Council	BERRIGAN PLACE - MOUNTAIN CREEK	Project Number	20000	Drawing Sheet No	C001-A
				GLENFIELDS ESTATE EMERGENCY ACCESS DESIGN PLAN																		

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