

**MANGO HILL INFRASTRUCTURE
DEVELOPMENT CONTROL PLAN**

Precinct Plan No. 009

for

Major Community Facilities 'A' Precinct

North Lakes Development

18 September 2001

(Approved by Council subject to conditions, under delgated authority, on 18/9/2001
(MP01/2842). The conditions have been included in this document.)

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1.0 Introduction

- 1.1 The Mango Hill Infrastructure Development Control Plan (DCP) provides for the creation of a precinct within any part of the DCP area chosen by the principal developer. The principal developer may then prepare a precinct plan and lodge it with Council for approval in accordance with the relevant provisions of the DCP.
- 1.2 The purpose of a precinct plan, as provided for in the DCP, is to show in indicative terms more detail for a planning area within one land use element of the DCP Structure Plan or across a number of elements. This planning area is created to allow for a more detailed interpretation of a part of the structure plan.
- 1.3 The principal developer has created a precinct to be known for planning purposes as the *Major Community Facilities 'A' Precinct*. This document constitutes the precinct plan for the Major Community Facilities 'A' Precinct.
- 1.4 The location of the precinct within the DCP area is shown on Figure 1. The area of the precinct is approximately 16.3 hectares although, consistent with DCP requirements, the areas and boundaries shown on the plan are only notional.
- 1.5 Where a discrepancy arises between the performance criteria of this precinct plan and the requirements of the DCP or Mango Hill Infrastructure Agreement, the requirements of the DCP or Infrastructure Agreement will prevail.

2.0 Structure Plan Context

The precinct is located in the south-eastern part of the DCP area. It is broadly bounded by the future major road extension of Discovery Drive and the Town Centre Frame to the west and south, the future extension of Memorial Drive and Major Open Space to the north, and Anzac Avenue to the east, as shown on the Structure Plan. While the precinct predominantly comprises the Major Community Facilities land use element, it also includes small parts of the Town Centre Frame and Open Space land use elements. The location of the precinct within the Structure Plan is shown on Figure 2.

3.0 General Desired Environmental Outcomes

In relation to the predominant land use element of Major Community Facilities Area, the DCP states the following general desired environmental outcomes:

DCP, Cl.8.1.1:

- “(a) To encourage the provision of an appropriate range of community facilities in convenient locations and in step with residents’ needs, integrated with the overall development of the DCP area*

- (b) *To maximise the use and community benefits of community facilities through the provision of multi-purpose premises, the co-location of uses and establishing high levels of accessibility*
- (c) *To achieve an integrated network of pleasant, safe public places for cultural and social interaction.”*

4.0 Planning Intent

Clause 8.2 of the DCP provides an outline of the planning intent for Major Community Facilities Area, including the following summary:

“Major community facilities are designated on the structure plan for the land to the east of the town centre, adjacent to a linear park and Anzac Avenue.

One of the desired environmental outcomes for this area is to provide an integrated shared campus secondary school complex to provide for the Mango Hill population, with additional enrolments coming from other adjacent residential areas and potentially the wider region.

Alternative desirable environmental outcomes may include a stand-alone secondary school together with other appropriate major and local community services.”

5.0 Development Concept

5.1 Development Context

Figure 3 shows the urban design concept for the Major Community Facilities ‘A’ Precinct in relation to its wider development context.

The precinct’s location, adjacent to the linear park (Major Open Space on Structure Plan), the Town Centre Frame and major roads, as well as its proximity and visibility from Urban Residential areas, have strongly influenced the design concept. Key principles to consider in the wider development context of the precinct are outlined below:

- 5.1.1 The Major Community Facilities Precinct is set within the wider context of the southern part of the DCP area. This southern part basically comprises the Town Centre (Core and Frame), Major Community Facilities, Urban Residential Area, and a Local Community Facilities. It is an identifiable development between Anzac Avenue and the North-South Arterial Road focused on the linear park ‘valley’. The linear park is being progressively developed with an attractive landscape character and a range of recreational opportunities including district sportsfields. It will be a unifying open space element which links the lower density Lakeside Residential Precinct, the higher

density residential and mixed use Town Centre Frame and the local and major community facilities areas together, connecting them to the wider DCP area. Pedestrian, bicycle and vehicular linkages to, across and around the town park/linear park have been determined in this context.

- 5.1.2 The proximity of the precinct to the future Town Centre Core, Town Centre Frame and Urban Residential land use elements, together with the precinct's location close to approved local community and educational facilities (to the north), means an integrated, convenient and well planned mix of residential, retail, commercial, employment, community and recreational facilities surrounding the precinct.
- 5.1.3 The major north-south entry road of Discovery Drive has been positioned to create a strong urban design axis with views to the precinct. It will also provide a strong development corridor linking this node south to Anzac Avenue and north to existing and future residential villages. The extension of Memorial Drive along the north-western boundary of the precinct will also provide an important connection to the established residential area of Mango Hill Village.
- 5.1.4 In the eastern part of the adjacent Lakeside Residential Precinct the proposed educational facilities in that precinct have been located to reinforce the wider educational and community development area formed with the possible school campus proposed within the Major Community Facilities 'A' Precinct and the district sportsfields.

5.2 Concept Overview

The Major Community Facilities 'A' Precinct is proposed to be developed as a high quality, educational and community area comprising a possible pre-school to secondary school campus and other related community services.

Figure 4, Precinct Plan Map, allows for a development concept comprising major community and educational facilities to the east along Discovery Drive serving local residents' needs and a population residing beyond the DCP area. The provision of these community and educational facilities will be closely coordinated with other development in the manner envisaged for the overall North Lakes project in section 8.0 of the DCP.

A major internal road network with a legible and formal geometry providing safe and convenient access for local traffic.

The precinct plan shows the major land uses and structuring elements in sufficient detail to allow for the preparation of more detailed sector plans. The areas and locations of the various land uses, roadways, intersections, open space and suchlike are indicative only and subject to variation following detailed subdivision and engineering design. Consistent with the DCP, it is important that flexibility be maintained for future planning which needs to be responsive to changing requirements of the community and the market-place. Sector plans to be prepared in the future for individual stages and land uses will provide more detail on the precise locations of roads, parks and various forms of development

6.0 Precinct Plan

6.1 Introduction

Figure 4 provides a more detailed interpretation of the land use planning and development intents for a part of the North Lakes Structure Plan. The key principles which have determined the urban design structure for the precinct plan are explained below.

6.2 Land Use Pattern

6.2.1 Background

In accordance with section 2.3.2(f) of the DCP, the desirable and undesirable land uses are to be identified in generic terms during the preparation of this precinct plan. The desirable land uses are described below. The sector plans stemming from this precinct plan will finalise the specific land use rights as required by section 2.4.9 of the DCP.

6.2.2 Open Space

The linear park in the north-western corner of the precinct and externally along the northern boundary will provide a range of recreational and environmental opportunities including walkways, picnic areas, informal open space areas, seating and viewing facilities, district sportsfields and detention basins, wetlands and the like.

6.2.3 Major Educational and Community Facilities

A range of educational and community facilities will serve the needs of residents. The following is a summary of the likely facilities to be provided within this precinct.

- **Educational Facilities**

An integrated school complex incorporating pre-school, primary and secondary educational facilities and services.

This educational facility should be provided within the Major Community Facilities 'A' Precinct due to the following locational criteria:

- (i) opposite a linear park to enable direct access to the major bicycle/pathway system;
- (ii) to integrate the school sportsfields (located within the school campus) with the wider open space and recreation corridor of the adjacent linear park and district sportsfields;

- (iii) along planned bus routes which will likely follow the major roads bounding the sector;
- (iv) with convenient access to, and visibility from Discovery Drive which links the school campus to the residential villages of North Lakes and the external urban areas it is intended to serve; and
- (v) to form part of a wider major grouping of educational facilities at the eastern end of the Lakeside Residential Precinct.”

This educational facility may be developed as a stand-alone school campus or integrated with other appropriate major and local community facilities having regard to the planning and development intents for Community Facilities as outlined in Section 8.0 of the DCP.

- Other Community Facilities

If an educational establishment does not eventuate, other major community facilities and compatible land use which cater for social, educational, health or recreational needs of residents or visitors would be appropriate. The DCP indicates, for example, that a medical centre, community building or various forms of outdoor or indoor recreation may be established as services to residents of the DCP area and the wider community.

The DCP further states that retail, commercial, industrial or residential uses are generally not considered appropriate in the major community facilities area. However, some retail or residential uses, where provided as a minor and ancillary component of an approved community facility, may be appropriate.

The major community facilities will be connected by pathways and located in proximity to the linear park and its major bicycle/pathway system. The location of these facilities offers convenience for motorists with direct access off the main north-south access spine of Discovery Drive. Careful attention will be given to the detailed planning of these major community facilities at the sector planning stage, to ensure appropriate management of traffic and protection of the amenity of adjacent urban development.

6.3 Transport and Circulation System

Consistent with the DCP Structure Plan, the major internal road network is based on a modified grid layout. A clear hierarchy of roadways related to traffic function including bus movements, is to be adopted in the detailed design of the precinct and its adjacent roads. The road network has been planned so that through traffic will be generally limited to the sub-arterial and arterial roads associated with the precinct.

The main external road connections will be as follows:

- Connections via lower order roads to Discovery Drive which connects the precinct to Anzac Avenue in the south and residential villages to the north. This will be the main approach road to the precinct. However, as discussed above, the Memorial Drive link through the Town Centre will ultimately be replaced as the main access thoroughfare by a new road connection to the Halpine Drive intersection at Anzac Avenue.
- Direct access on to the extension of Memorial Drive along the northern boundary of the precinct and via a secondary road providing access to the future district sportsfields.

Pedestrian and bicycle circulation adjacent to the precinct will be a priority within the open space and landscape planning. The linear park and town park will provide the main spine of the pedestrian/cycleway network (including the existing pedestrian/cycle underpass to Discovery Drive) which will be linked to the residential villages and local park system via lower order roadways and pathways where required. This pedestrian/cycleway network will provide access to the major and local community facilities, as well as to the future Town Centre, Mixed Industry and Business Area and Urban Residential Precincts.

6.4 Open Space and Landscape Concept

The landscape setting of the precinct will be established to ensure its integration into the surrounding local and regional landscapes. Open space provisions within the precinct will form part of the comprehensive and integrated system of open space planned for the DCP area, fulfilling aesthetic, recreation, transportation and environmental management functions.

The principal open space adjacent to the precinct will be the linear park and district sportsfields forming part of the district open space system. Together with the town park, this major open space is planned as a connecting network of linked bushland areas, managed waterways and water cycle management systems (e.g. gross pollutant traps, artificial wetlands and the lake) and open spaces aligned with the principal east-west overland flow path. This linear park will be integrated with an area identified for future district sportsfields.

Landscaping of the precinct needs to permit casual, two-way surveillance from external and internal vantage points to promote public safety and crime prevention.

Streetscape treatments of major roads and local streets adjacent to the precinct will create a cohesive and attractive impression for the development, with selection of plant materials for road frontages based on aesthetic, practical, maintenance and safety considerations, and the scale of each reserve width in the hierarchy.

The Landscape Concept Plan (refer Figure 6) promotes the planting of predominantly native species to reflect the original natural setting of the DCP area. This planting strategy for the precinct and adjacent roads will establish a landscape framework which provides an attractive setting for the built form in terms of visual integration and reinforces a landscaped environment for residents and visitors. Exotic and flowering

species may be used primarily for special colour accents at significant entry points or as feature planting within parks.

6.5 Engineering Services

6.5.1 Sewerage

Sewerage infrastructure will be provided by a trunk gravity sewer within the linear park. The gravity sewer will ultimately drain to Pump Station 1 which is close to the northern boundary of the precinct.

The nearest proposed residential lot is more than 100 metres from this pump station.

6.5.2 Water Supply

Trunk water mains are proposed along Discovery Drive and Memorial Drive. A network of reticulation mains to service this precinct and other surrounding precincts will be designed in accordance with Council's Design Manual and Policy WS. W13.

6.5.3 Energy and Communications

Electricity supply will be provided by Energex or another appropriate supplier of electricity. The primary supply to the area is ultimately proposed to be augmented by a major overhead line located along the North-South Arterial Road and via Anzac Avenue to a sub-station located to the south-east (external) of the precinct. The precinct area will be serviced by underground power to pad-mounted transformers located within the local road reserves.

Gas can be supplied from an existing gas main in Anzac Avenue. It is proposed that the supply of gas will be negotiated as an underground supply to individual lots.

Communications and cable services will be installed underground. The network will be installed at each stage of subdivision development. Towers are not proposed to be located within this precinct.

6.6 Stormwater Management

The linear park and town park to the north of the precinct contain a major flow path which drains an upstream catchment to the west as well as the precinct area. A lake, stormwater filtration wetlands and gross pollutant traps are being progressively integrated into this continuous open space system. These devices are part of an overall stormwater management strategy to manage the impacts of development on stormwater flows and quality. Peak discharges will be limited by a major detention basin located downstream of the precinct and upstream of Kinsellas Road. While the detention basin will be constructed in stages, it will have sufficient capacity to mitigate stormwater

flows from the developed area at any time. The lake, wetlands and other devices are part of the system designed to achieve stormwater discharge quality standards.

7.0 Design Intents and Performance Criteria – Major Community Facilities Land Use Elements

7.1 Major Community Facilities Land Use Element

7.1.1 Intent

To provide a range of major educational and/or community facilities which:

- are conveniently located;
- serve the needs of a population a part of which resides beyond the DCP area; and
- are integrated with the overall development of the adjacent Town Centre Frame and Lakeside Residential precincts.

7.1.2 Performance Criteria

The intent may be achieved where:

- (i) A range of complementary land uses are established, such as primary and/or secondary educational facilities, community services, recreational facilities and/or social activity centres, to the extent required to serve the DCP Area and surrounding communities and in the context of intended civic, community, recreational and commercial facilities planned within the adjacent Town Centre Frame.
- (ii) Building development is low rise and sympathetic to the site and the surrounding predominantly urban mixed use development character of the precinct.
- (iii) Building forms and architectural features are to be of a high standard, consistent with the prominent location of the facilities adjacent to the linear park.
- (iv) Building design provides an appropriate response to the South-East Queensland climate including the possibility of a contemporary interpretation of traditional vernacular elements such as verandahs, terraces, balconies, pergolas and sun shading devices.
- (v) Design elements such as variations in building setbacks and plan and elevational treatments, and in external wall materials and in roofscape treatments are encouraged.

- (vi) The landscape treatment of the major community facilities provides an attractive landscape setting and assists in breaking up the scale of the buildings and car parking areas.
- (vii) An appropriate streetscape presentation is established consistent with the development's significant community function.
- (viii) Convenient accessibility from cycleway, pedestrian movements and public transport is available to the facilities.
- (ix) Pedestrian areas and public spaces are located to maximise opportunities for casual two-way surveillance, generally separated from traffic areas and linked to the open space network by pathways. Measures are to be undertaken to limit the pedestrian and cyclist movements from the precinct directly to Anzac Avenue. Such measures must focus movement to the existing and future signalised intersections.
- (x) Car parking and bus setdown areas are readily accessible to the community and educational facilities buildings, partially screened with landscaping from pedestrian areas and public spaces and planted with shade trees.
- (xi) Signage is unobtrusive from public open space, and in keeping with the character of the major community facilities development without overwhelming the visual integrity of development and landscaping.
- (xii) Any interface between major community facilities and Town Centre Frame development ensures that the affect on the amenity of these areas is minimised.
- (xiii) Any development within this precinct must be appropriately designed to mitigate potential noise impacts associated with the surrounding major roads.

8.0 Environmental Management Objectives

8.1 Stormwater Discharge

Objectives

To ensure that stormwater infrastructure, constructed within the catchment of Tributary C, is to be designed to meet agreed discharge standards for specific stormwater pollutants and that peak flow regimes are at pre-development levels.

Performance Indicators

Water discharged must meet the requirements of Environmental Protection Policy (EPP) Water, and in particular, must be designed to achieve the following Annual Mean Concentrations at Kinsellas Road:

- Total Phosphorous - 0.1 mg/l
- Total Nitrogen - 0.75 mg/l
- Suspended Solids - 50 mg/l

The design parameters for peak flows must not exceed the values in the Stormwater Management Plan approved by Council.

8.2 Flora & Fauna

Objectives

To re-establish fauna habitats and wildlife corridors.

To re-establish stands of native vegetation

Performance Indicators

Retain significant remnant stands of native vegetation in areas of open space where reasonable and practicable.

Establishment of new stands of appropriate native vegetation which incorporates food species for indigenous fauna.

8.3 Air Quality

Objectives

To ensure that people are protected from undue pollution of the air from smoke, dust, odour, fumes and gases generated by development within the precinct.

Performance Indicators

Air quality must meet the requirements of Environmental Protection Policy (EPP) Air.

During construction of the precinct:

- infrastructure complaints in excess of one per week may indicate unacceptable work practices. For the purposes of this clause, a complaint is one resulting in the issue of an abatement notice under EPP (Air); and
- construction activities are to comply with Council's Policy LP32.

8.4 Noise

Objectives

To ensure noise generated is not unreasonable and does not cause nuisance to adjacent residential properties.

Performance Indicators

Noise generated from development is reasonable as provided by the Environmental Protection Policy (EPP) Noise.

Noise generated from development which is unreasonable is abated as required by EPP (Noise).

During construction of the precinct infrastructure complaints in excess of one per week may indicate unacceptable work practices. For the purposes of this clause, a complaint is one resulting in the issue of a noise abatement notice under EPP (Noise).

Provision of traffic noise amelioration in accordance with Council Policy LP25.

8.5 Lighting

Objectives

To ensure that lighting associated with development does not create a nuisance, particularly at residential properties.

Performance Indicators

No person will cause, carry out or erect a light source in such a manner that light emanating from the source is a nuisance.

All lighting other than public lighting (e.g. road lighting) is to comply with AS42821997 *Control of the obtrusive effects of outdoor lighting*. The curfew hours applicable to this precinct are to be 10pm - 6am, unless otherwise varied by a sector plan or Council resolution.

9.0 Special Design Criteria

During the course of development and as contemplated by the DCP, variations to Council's existing development standards are anticipated and will be considered on their technical merits with reference to the intents and performance criteria outlined in previous sections of this precinct plan. Technical details and supporting information on design variances will be recorded in Council's *North Lakes Register of Alternative Acceptable Design Solutions*.

10.0 Infrastructure Obligations of the Principal Developer

10.1 Infrastructure to be Provided

The infrastructure required to be provided by the principal developer to serve the sector includes internal and external infrastructure provisions in accordance with the Mango Hill Infrastructure Agreement 1999 (MHIA) and agreements made with the State Government in accordance with the DCP. These obligations are summarised as follows:

10.1.1 Roads

Unless already constructed, construct the following roads including carriageways, stormwater drainage, verges, bus setdowns, footpaths, bikeways, landscaping, traffic control devices and street lighting as applicable. Any reference to initial construction in this section is a reference to construction approved by Council in accordance with the rezoning conditions and MHIA.

- .1 A four lane median divided arterial road (North Lakes Drive) between Node H and Node I in accordance with the MHIA and State Government Agreements. The initial standard of construction will be a two lane median divided road
- .2 Anzac Avenue/North Lakes Drive intersection to suit the construction of North Lakes Drive between Nodes H and I and the requirements of the Department of Main Roads and Queensland Transport, including associated auxiliary right turn, left turn and stand-up lanes and traffic signals

- .3 The intersection at Node I to suit the standard of construction of adjacent roads including auxiliary left turn, right turn and stand-up lanes and traffic signals. The staging of traffic signals may be undertaken in accordance with the timetable approved by Council in accordance with the MHIA.
- .4 The initial stage of construction of a two lane trunk collector or sub arterial standard road between Node J and Node B and Node B and Node AJ in accordance with the MHIA. The initial stages are to be constructed from Discovery Drive to all accesses points shown on the Sector Plan Map at the time the relevant access is required. Each stage is to provide a turnaround facility, if appropriate.
- .5 The intersections at Node J and Node B to suit the standard of construction of adjacent roads including auxiliary left turn, right turn and stand up lanes and traffic signals. The staging of traffic signals may be undertaken in accordance with the timetable approved by Council in accordance with the MHIA.
- .6 Bikeways and pathways required along the road and park frontages to the sector and all the above external roads in accordance with the MHIA. The Major Recreational Pathway shown on Figure 4 crossing Tributary C between Community Facilities Sector One and Road J to B is to be constructed at the time of the initial construction of the road between Nodes J and B.

The construction of the abovementioned infrastructure to the final standard is to be undertaken in accordance with the staging and timing outlined in the MHIA. The initial standard of construction referred to above will be undertaken to suit the rate of development of the sector. Where initial construction is not stated, the road is to be constructed to the standard described above to suit the rate of development of the sector.

10.1.2 Water

- .1 If not already constructed, construct a water supply network within the DCP area (including those sections of the mains shown on Figure 7), necessary to service the anticipated demand within this sector.
- .2 Make contribution towards water headworks and bulk water supply in accordance with the MHIA.

10.1.3 Sewerage

Construct a sewerage system to service the sector and make contributions towards sewerage headworks in accordance with the MHIA and unless otherwise agreed with Council:

- .1 Construct RM1 as shown on Figure 8 from pump station 1 (PS1) to Murrumba Downs
- .2 Construct pump station 1 (PS1) shown on Figure 8; and
- .3 Construct the trunk main TM1 as shown on Figure 8.

10.1.4 Park

The requirements for park provision throughout the DCP area are provided for in the MHIA. No area within this sector will be dedicated as park.

10.1.5 Stormwater

The principal developer must comply with the provisions of the Stormwater Management Plan for Tributary C as approved by Council and construct stormwater management works so far as they relate to this sector. The provisions of the Stormwater Management Plan override Clause 45(a) of the planning scheme.

Stormwater management works so far as they relate to the sector are to be provided in accordance with the MHIA, Council's Design Manual and the Stormwater Management Plan for Tributary C, including the construction of all drainage and landscaping works in Tributary C between the sector and the Road J to B shown in Figure 6.

In addition, the principal developer must construct stormwater drainage systems and stormwater management systems as required by the MHIA and the Environmental Protection (Water) Policy.

10.2 Infrastructure Affected by Development

Without the provision of additional infrastructure, the development of this sector may place demands on the following infrastructure:

- .1 roads external to the DCP area and the sector;
- .2 water supply infrastructure;
- .3 sewerage infrastructure;
- .4 stormwater;

- .5 parks;
- .6 electricity supply; and
- .7 communications systems.

The infrastructure described in clause 10.1, together with the obligations of the principal developer under the MHIA, is required to mitigate the adverse affects on such infrastructure.

10.3 Approval of State Government Infrastructure

Education Queensland has agreed to construct a State Pre-School to Secondary School within this Precinct and written acknowledgement has been provided by the State confirming this intention.

10.4 How the Required Infrastructure relates to the Infrastructure Agreement

The MHIA describes the infrastructure which must be provided by the principal developer as part of its obligation to provide infrastructure, as envisaged by chapter 12 of the DCP. The works described in clause 10.1 are the principal developer's obligations under the MHIA in so far as they relate to this sector.

Infrastructure Agreements have been entered into by the principal developer with the Department of Main Roads and Queensland Transport. Any infrastructure requirements of those State Government departments relating to this sector will be provided in accordance with the existing agreements.

10.5 Program for Infrastructure Provisions

The principal developer will provide all the infrastructure referred to in clause 10.1 at times to satisfy the requirements of the MHIA which provides for the infrastructure to be constructed to meet the rate of development in the sector. Initial infrastructure works are anticipated to be constructed by 31st December 2001. The staging of the roadworks, where approved by Council, will be as described in clause 10.1.1 and the MHIA.

Except as described elsewhere in this Clause, no other works depend on the provision of this infrastructure.

Council is to use its best endeavours, including its powers of resumption if lawful, to obtain all necessary rights to permit the construction of water and sewerage infrastructure if such infrastructure is constructed on land external to the DCP area over which Council does not have such rights.

10.6 Estimated Water and Sewerage Demands

As required by the Infrastructure Agreement, the principal developer states as follows:-

- 10.6.1 For the purpose of assessing water supply capacity, the estimated number of Equivalent Tenements for this precinct is 139;
- 10.6.2 For the purpose of assessing sewerage capacity, the estimated number of Equivalent Persons for this precinct is 390.