

**MANGO HILL INFRASTRUCTURE
DEVELOPMENT CONTROL PLAN**

Precinct Plan No. 048

for

**Town Centre Frame Public Transport 'C'
Precinct**

North Lakes Development

24 February 2011

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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 *Town Centre Frame Public Transport 'C' Precinct*. This document constitutes the precinct plan for the Town Centre Frame Public Transport 'C' Precinct.
- 1.4 The location of the precinct within the DCP area is shown on Figure 1. The area of the precinct is approximately 5,708m² 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 central area within the Town Centre Frame. The Precinct is located on the northern side of Endeavour Boulevard and bound by this road and extension of "The Corso". While the precinct predominantly comprises the Public Transport land use element, it also includes ancillary open space land use elements. This Public Transport facility is not identified on the Mango Hill Development Control Plan, but the Infrastructure Agreement between The Principal Developer and Queensland Transport. The location of the precinct within the Structure Plan is shown on Figure 2.

3.0 General Desired Environmental Outcomes

In relation to the land use element of Town Centre Frame, the DCP states the following desired environmental outcomes:

DCP, Cl. 5.1.1:

"(a) To provide opportunities for mixed use development and employment as part of the Major Employment Centre in locations highly accessible to the town centre core, the MIBA and the existing and planned regional transport network."

In relation to the structural element of Transport and Circulation and in particular the public transport system the DCP states the following DEO's:

“(a) To establish, through a comprehensive and integrated approach to planning, an efficient, functional transport system within the DCP area, appropriately linked to the regional transport network and the surrounding urban areas.”

4.0 Planning Intent

4.1 Clauses 5.2 and 5.3 of the DCP provide an outline of the planning intent for activities, community infrastructure and structural elements such as the transport system. Clause 5.3 provides an outline of the development character to be achieved particularly in relation to built form, streetscape and functional relationships.

Clause 10.3 of the DCP provides an outline of the development intent for the public transport network including bus services and a public transport transit centre. The development intent identifies that the public transport network requires high quality public transport services to achieve their functional potential. To this end current “state of the art” transport services and facilities are anticipated to be developed. Transport policy initiatives to deliver:

- (i) “whole of journey” approach to active transport planning to deliver a connected network of safe on and off road active transport facilities including provision of end of trip facilities with secure bicycle parking and showers in town centres and at public transport stations;
- (ii) High-frequency Urbanlink bus and rail services where passengers can “turn up and go”;
- (iii) Increased walking and cycling to public transport will expand the coverage of sustainable transport options right to the door;

are supported and strongly encouraged as planning goals and development outcomes.

Clause 4.17 of the MHIA 1999 (QT and Principal Developer) provides for the dedication of land to DTMR to facilitate development of a PTI and P and R Facility.

5.0 Development Concept

5.1 Development Context

Figure 3 shows the urban design concept for the Public Transport ‘C’ Precinct in relation to its wider development context.

Adjacent to the town centre core, development within the town centre frame generally will address the street to establish a formal edge, with street furniture, paving and landscaping integrated with building design. This more intense form of development will relate physically and functionally with the town centre core.

Development fronting The Corso will recognise, integrate and build upon the development and planning intent already established for the ‘main street’ character of North Lakes Drive and the ‘pedestrian priority’ character of The Corso connecting from the ‘hub’ and activity of the Town Centre Core to the open space environs of Lake Eden.

A high level of accessibility within the town centre frame is intended to be achieved through the integration of the street pattern, public car parking, public transport and the transit centre, and the path system within landscaped open space. An important consideration in the development of the town centre frame will be the connectivity between development sites, public transport, public car parking and the town centre core. Building siting and design must reinforce desirable or established functional or visual linkages within the town centre core and town centre frame.

The unique nature and function of the Public Transport Interchange (PTI) is recognised within the overall development and landscape context of the town centre frame. Alternative development outcomes are envisaged. Alternative development outcomes should achieve the development and landscaped objectives of the town centre frame wherever possible and as par as practicable. Where these objectives are not achievable due to the nature and function of the PTI, the key design elements and identified streetscape and contextual outcomes are to be incorporated within any alternative solution. As example, high quality urban open space and plaza areas to present within the streetscape; framing of the street with defined / hard urban edges incorporated into landscaped open space and public areas; using landscaping features or lightweight built form to replicate intended built form within the streetscape; and “pedestrian friendly” priority to the streetscape are recurring themes and development objectives within the town centre frame.

Alternative development outcomes will be considered upon nature, function, planning merit and degree of concordance or “fit” with the development and landscaping concepts and objectives set out in the Sector Plan as well as previously approved Sector Plans in the town centre frame.

5.2 Concept Overview

The Public Transport ‘C’ Precinct is proposed to be developed as a PTI for the North Lakes and greater region. The Infrastructure Agreement between the Principal Developer and Queensland Transport identified the need for a PTI. The original location for this has since been moved to this location given its ideal location closer to the higher density housing, distance to The Corso as a pedestrian friendly street and close proximity to the Town Centre Core.

Figure 4, Precinct Plan Map, allows for a development concept comprising public transport facilities to the north of Endeavour Boulevard serving North Lakes residents’ needs and a population residing beyond the DCP area. The provision of these community 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.

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

5.3 General Form of Development

The Precinct is located in a highly accessible and visually prominent location within the town centre. Endeavour Boulevard links the Precinct to the town centre, the MIBA and residential areas to the north where The Corso links the precinct to the balance of the town centre frame and Lake Eden to the north.

The architecture of any development within the Precinct should be contemporary, with variations in building form achieved by use of roof lines, shading and other features. All buildings within this Precinct will have a compatible architectural character, with the consistency of the overall design character reinforced by materials, finishes, colours, and details that will combine to promote a strong sense of place.

Development within the Precinct should relate physically and functionally with each other in terms of architecture, location of major entries and changes in level. The development should feature the incorporation of horizontal and vertical variations in the facades with attractive entries and well-lit pedestrian access.

The built form and landscaping within the Precinct are to emphasise the changes between the vehicle priority environment of Endeavour Boulevard and the lower speed, pedestrian-friendly environment of The Corso.

The built form within the Precinct should allow a high level of accessibility and convenience for pedestrians, cyclists and motor vehicles. The Precinct is to feature a highly inter-connected road and pathways network in order to minimise conflicts between vehicles and pedestrians.

Consistency of overall design character within the Precinct and adjoining Precincts is to be achieved through integration of building design and urban spaces, and the use of high quality materials, finishes, colours and details in order to promote a modern town centre with a strong sense of place. The visual focus points of the Precinct are to be located at the corners of Endeavour Boulevard and The Corso.

5.3.1 Endeavour Boulevard

Endeavour Boulevard is to be developed as a vehicle priority street providing access to the town centre, the MIBA and residential areas to the north west of the town centre and connecting to Discovery Drive to the east.

Development along the Endeavour Boulevard frontage of the precinct will provide a defined edge, and a transition, between the intense activities of this sector and the mixed use areas to the north of Endeavour Boulevard.

Development in the precinct will incorporate a landmark building to define the north-west corner of the intersection of Endeavour Boulevard and The Corso. This building is to be built to the boundary to complement frontage development on Endeavour Boulevard and The Corso with a minimum building height of two

storeys. This building will be similar in scale and character to the landmark building proposed to be development on the intersection of The Corso and North Lakes Drive. In order to strengthen the urban form of the precinct, buildings located on corner allotments should define the street environment by presenting an alternative façade to each frontage. Corner buildings should have an outward orientated building design and where appropriate, have generous footpaths, awnings and display windows and a high quality streetscape urban design character.

The scale of buildings along Endeavour Boulevard will be appropriate to the setting and use of the precinct while providing a complementary interface with the possible future mix of activities opposite and to the south. The use of varied built forms and consistent with a common theme will contribute to the visual interest and urban form of development along this frontage.

The landscape treatment of Endeavour Boulevard will include high quality streetscaped urban character. The landscaping in the street will provide both a signature of the importance of the traffic function as well as a transition from the precinct to the mixed used development to the north.

5.3.2 The Corso

The Corso will have its southern anchor in the shopping centre (town centre core) and continue north through this precinct to terminate at the lakefront plaza at the edge of Lake Eden. This spine will be developed as a continuous series of urban outdoor spaces, making it an ideal location for active frontage developments and pedestrian-based activities.

The Corso will be developed as a pedestrian priority environment with a strong urban character defined by the built edge, landscape and streetscape treatment. Development of The Corso will demonstrate particular emphasis on the quality of public spaces and landscaping. It is intended to function as a secondary urban street.

The character of the street adjacent to the sector will allow for the high intensity pedestrian activity anticipated at the North Lakes Centre by providing open footpaths offering shelter, visual interest through appropriate street plantings, public art and furnishings, and high levels of accessibility for all members of the community.

Streetscape treatment of The Corso is to include distinctive landscape paving, lighting and other elements to link The Corso into the Town Centre Core and Lake Eden and establish it as a community focus and pedestrian priority environment. The Corso will be constructed as a two-lane road with kerbside car parking set into kerblines built-outs. Plantings in the kerblines build-outs will ultimately create a high level of arboreal amenity creating a visual continuity within the street and providing shade to on-street car parking and adjacent pedestrian areas. The street frame will have a particular emphasis on the quality of public places and landscaping.

The Corso will be a low vehicular traffic environment with a distinctive pedestrianised character.

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 Public Transport

This Precinct will provide a Public Transport Interchange for North Lakes and the wider community. This Precinct will also include landscaped open space in order to present a high quality interface between the transport function and the surrounding urban streetscape..

The public transport facilities will be connected by pathways and located in proximity to open space and park and its major bicycle/pathway system. The location of these facilities offers convenience for motorists with direct access off Endeavour Boulevard and The Corso. Careful attention will be given to the detailed planning of these public transport facilities at the sector planning stage, to ensure appropriate management of traffic and protection of the amenity of adjacent urban development.

6.2.3 Ancillary Open Space

The ancillary open space in the south eastern corner of the precinct will provide a landscaped area for separating the vehicular priority of the PTI from the pedestrian priority of the main street.

6.3 Transport and Circulation System

The Precinct forms part of essential infrastructure required as part of the Infrastructure Agreement with The Principal Developer and Queensland Transport.

Pedestrian and bicycle circulation adjacent to the precinct will be a priority within the open space and landscape planning. The park will provide a landscaped open space for those waiting to use the PTI facility. 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. Ancillary open space provisions within the precinct will fulfil aesthetic and environmental management functions.

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 landscaping and pavement 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.

The unique nature and function of the Public Transport Interchange (PTI) is recognised within the overall development and landscape context of the town centre frame. Where open space is proposed to the site frontage of the PTI it is both logical and desirable to extend the established and recurring landscape and streetscape development objectives within the town centre frame to that open space. As example, high quality urban open space and plaza areas to present within the streetscape; framing of the street with defined / hard urban edges incorporated into landscaped open space and public areas; using landscaping features or lightweight built form to replicate intended built form within the streetscape; and “pedestrian friendly” priority to the streetscape are recurring themes and development objectives within the town centre frame.

Alternative development outcomes will be considered upon nature, function, planning merit and degree of concordance or “fit” with the development and landscaping concepts and objectives set out in the Sector Plan as well as previously approved Sector Plans in the town centre frame.

6.5 Engineering Services

6.5.1 Sewerage

- (i) Trunk gravity main from the existing Council sewerage infrastructure to connect with each lot in the Precinct as shown on *Figure 7 – Sewerage Headworks*; and
- (ii) Sewerage headworks contributions.

6.5.2 Water Supply

- (i) Reticulation systems to service all properties in the Precinct;
- (ii) Those sections of the mains shown on *Figure 6 – Water Supply Headworks*, necessary to service the anticipated demand in the Precinct; and
- (iii) Water headworks contributions.

6.5.3 Energy and Communications

- (i) Provide for the construction of local utilities (Telstra Customer Access Unit) in accordance with *Figure 3 – Precinct Plan Map*.
- (ii) Allow for underground electricity distribution to all properties within the Precinct, by Energen or another appropriate supplier of electricity;
- (iii) Arrange for the provision of underground conduits along all road verges, including the central pedestrian and/or vehicular thoroughfare where appropriate, within the Precinct and adjacent roads to meet the anticipated demands of the DCP area.

7.0 Design Intents and Performance Criteria – Public Transport Facilities Land Use Elements

7.1 Generic Land Uses

As required by Sector 2.3.2 (f) of the DCP, the intended desirable and undesirable generic land uses for the Precinct are:

7.1.1 Desirable Land Uses

- (i) Commercial services;
- (ii) Passenger Terminal;
- (iii) Retail; and
- (iv) Special Use (Public Transport Interchange).

7.1.2 Undesirable Land Uses

- (i) Community premises;
- (ii) Educational;
- (iii) Residential uses;

- (iv) Retirement village;
- (v) Rural uses;

7.2 Public Transport Land Use Element

7.1.1 Intent

To provide public transport 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 neighbouring Town Centre Frame, Town Centre Core and Urban Residential Areas.

7.1.2 Performance Criteria

The intent may be achieved where:

- (i) The PTI is to be designed to integrate with the development intent of the Town Centre Frame in consideration of development panning intent, streetscape, built form and traffic and transport circulation and access.
- (ii) Building development is 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.
- (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 sun shading device etc.
- (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 public transport 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.
- (x) Car parking areas are readily accessible to the PTI, 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 public transport facilities development without overwhelming the visual integrity of development and landscaping.
- (xii) Any interface between public transport 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 manage the quality and quantity of stormwater within and from the Precinct so as not to cause a nuisance or annoyance to any person, prevent erosion and flooding, maximise soil infiltration and minimise overland flow.

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

- .1 The Corso (north extension) as shown on Figure 3 – Precinct Plan Map.
- .2 Intersections at Endeavour Boulevard and The Corso (north extension) and The Corso (north extension) and Lakefield Drive, to suit the standard of construction of adjacent roads including, if required, auxiliary turn lanes, stand up lanes and traffic signals, if not previously constructed.
- .3 Bikeways, pathways and street trees including particular “town centre” pavement treatment along the road frontage in accordance with the MHIA, if not already constructed.
- .4 All external roads (that border the Precinct); and
- .5 Pathways and bikeways.
(refer to *Figure 5 – Road Layout*)

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

- .1 Trunk gravity main from the existing Council sewerage infrastructure to connect with each lot in the Precinct as shown on Figure 7 – Sewerage Headworks; and
- .2 Sewerage headworks contributions.

10.1.4 Park

- .1 The requirements for park provision throughout the DCP area are provided for in the MHIA.

10.1.5 Stormwater

- .1 Stormwater management works progressively in accordance with the Stormwater Management Plan for Tributary C as approved by Council; and
- .2 Stormwater drainage systems to roads and lots, including the central pedestrian and/or vehicular thoroughfare, where appropriate; and

- .3 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

Queensland Transport (now called Department of Transport and Main Roads) has agreed to construct the PTI 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.

This Precinct Plan falls within this required infrastructure relating to the Infrastructure Agreement.

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. The infrastructure is to be provided prior to commencement of use of the land within the Sector Plan, unless otherwise agreed by the Council. 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 8.5ETs; and
- 10.6.2 For the purpose of assessing sewerage capacity, the estimated number of Equivalent Persons for this precinct is 17.12EPs.