

MANGO HILL INFRASTRUCTURE DEVELOPMENT CONTROL PLAN

Precinct Plan 050



Town Centre Frame Major Community Facilities 'E' Precinct

6 March 2012

**MANGO HILL INFRASTRUCTURE
DEVELOPMENT CONTROL PLAN**

Precinct Plan No. 050

for

**Major Community Facilities and Major Open
Space 'E' Precinct**

North Lakes Development

06 March 2012

CONTENTS

- 1.0 Introduction**
- 2.0 Structure Plan Context**
- 3.0 General Desired Environmental Outcomes**
- 4.0 Planning Intent**
- 5.0 Development Concept**
 - 5.1 Development Context
 - 5.2 Concept Overview
- 6.0 Precinct Plan**
 - 6.1 Introduction
 - 6.2 Land Use Pattern
 - 6.3 Transport and Circulation System
 - 6.4 Open Space and Landscape Concept
 - 6.5 Engineering Services
 - 6.6 Stormwater Management
- 7.0 Design Intents and Performance Criteria – Major Community Facilities Land Use Element**
 - 7.1 Major Community Facilities Land Use Element
 - 7.2 Major Open Space Land Use Element
- 8.0 Environmental Management Objectives**
 - 8.1 Stormwater Discharge
 - 8.2 Flora & Fauna
 - 8.3 Air Quality
 - 8.4 Noise
 - 8.5 Lighting
- 9.0 Special Design Criteria**
- 10.0 Infrastructure Obligations of the Principal Developer**
 - 10.1 Infrastructure to be Provided
 - 10.2 Infrastructure Affected by Development
 - 10.3 Approval of State Infrastructure
 - 10.4 How the Required Infrastructure Relates to the Infrastructure Agreement
 - 10.5 Program for Infrastructure Provision
 - 10.6 Estimated Water and Sewerage Demands

CONTENTS

List of Figures

1. Location Plan	MCFA-PP-F01	July 2011
2. Structure Plan Context	MCFA-PP-F02	June 2011
3. Development Context and Concept Principles	MCFA-PP-F03	December 2011
4. Precinct Plan Map	MCFA-PP-F04	December 2011
5. Landscape Concept Plan	MCFA-PP-F05	June 2011
6. Road layout Plan	MCFA-PP-F06	June 2011
7. Water Supply Headworks	MCFA-PP-F07	June 2011
8. Sewerage Headworks	MCFA-PP-F08	June 2011

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 and Major Open Space 'E' Precinct*. This document constitutes the precinct plan for the *Major Community Facilities and Major Open Space 'E' Precinct*.
- 1.4 The location of the precinct within the DCP area is shown on *Figure 1*. The area of the precinct is approximately 19ha 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. The Precinct is bound by the North-South Arterial Road to the north, Anzac Avenue to the east, North Lakes State College and *Precinct 009 Major Community Facilities 'A' Precinct* to the south and Memorial Drive and Discovery Drive to the west. While the precinct predominantly comprises the Major Community Facilities land use element, it also includes Major Open Space land use elements. The location of the precinct and land uses within the Structure Plan is shown on *Figure 1 and Figure 2*.

3.0 General Desired Environmental Outcomes

In relation to the land use elements of Major Community Facilities and Major Open Space, 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”.*

DCP, Cl.9.1.1:

- “(a) To provide a comprehensive and integrated system of open space fulfilling aesthetic, recreation, conservation, transportation and environmental management functions for the DCP area”.*

4.0 Planning Intent

Clause 8.2 of the DCP provides an outline of the planning intent for the Major Community Facilities Area and Clause 9.2 and 9.2.5 provides an outline of the planning intent for the Open Space Area. Both relate to the provision and integration of a diverse range of community facilities, recreation and sporting facilities and other types of open space with convenient vehicular and pedestrian access. The intent is summarised as follows:

“To provide a range of community services for the growing population of the DCP area with community facilities provided in:

- (a) *the town centre core and frame to fulfil a high level function;*
(b) *the designated major community facilities area which will fulfil a regional function or serve a population part of which will reside beyond the DCP area.”*

“It is intended that a full range of open space opportunities will be conveniently available to the community as it develops.”

“Sporting Fields generally are to be provided in a number of major clusters, including one in the northern part of the DCP area and one in the southern part. The sporting fields are generally intended to be linked with the community facilities in order to achieve the benefits of collocation and multiple uses. The linear park system will provide pathways linking to the district playing fields.” This precinct will provide the southern component of the desired district playing field network.

“The amenity of surrounding residential areas is to be protected by the design and development of the district playing fields.”

“Sporting fields may also provide a hydraulic mitigation function for major flood events.”

5.0 Development Concept

5.1 Development Context

Figure 3 shows the design concept for the Major Community Facilities and Major Open Space ‘E’ Precinct in relation to its wider development context.

The precinct's location, adjacent to education facilities (Major Community Facilities on Structure Plan), the Town Centre Frame, major roads and the linear park (Major Open Space on the Structure Plan), 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 and Major Open Space "E" Precinct* is set within the wider context of the southern part of the DCP area comprising Town Centre Core and Frame and Urban Residential area. In combination with the Open Space Area the Local and Major Community Facilities Areas form a recognisable precinct between Anzac Avenue and the North/South Arterial Road. The open space system provides an integrated network of linear park, waterways, water bodies used for environmental and water quality management measures, landscaped areas, buffer areas, pedestrian and bicycle pathways and other open space and recreational areas.

The open space linear park "valley" forms an integrated and conveniently accessible link connecting the standard, medium and high density residential areas with the community and commercial services of the mixed use Town Centre Core and Frame areas as well as the diverse range of community services and facilities, recreation and sporting facilities and other types of open space within the Local and Major Community Facilities Areas. Pedestrian, bicycle and vehicular linkages to, across and around the town park have been determined in this context.

- 5.1.2 The proximity of the precinct to the Town Centre Core and Frame and Urban Residential land use elements, together with the precincts location adjacent to education facilities (to the north and south) provides convenient vehicular and pedestrian access to a diverse range of community services and facilities, recreation and sporting facilities and other types of open space.
- 5.1.3 The major entry roads of North-South Arterial Road and Anzac Avenue have been positioned to create a strong urban design axis with views to the precinct. It will also provide a strong development corridor linking this precinct south along Anzac Avenue and north to existing and future residential villages. Memorial Drive provides an important connection from the precinct via the major entry roads of Discovery Drive, North-South Arterial Road and Anzac Avenue to the northern residential areas of the DCP, Mango Hill Village and the wider established and emerging residential areas in the locality. The context of the precinct facilitates both the local and regional function of community, sporting and recreation, and open space facilities.
- 5.1.4 The adjacent *Major Community Facilities "A" Precinct*, existing educational facilities and sporting fields and the linear park system in combination with the *Major Community Facilities "E" Precinct* provides a diverse and comprehensive range of community services and facilities, recreation and sporting facilities and other types of open space conveniently accessible to the local and regional community.

5.2 Concept Overview

The *Major Community and Open Space Facilities 'E' Precinct* is envisaged to be developed as a high quality community and open space area consisting of an integrated sporting and recreational complex inclusive of sporting fields and multi purpose indoor and outdoor recreation facilities and park to cater for a diverse range of sporting and recreation activities. The open space element will provide for park, informal or passive outdoor recreation activities in a landscaped setting. The existing wetland and established forest areas are to be retained, protected and revegetated where needed.

Figure 4, Precinct Plan Map, allows for a development concept comprising major open space and community facilities to the west of Anzac Avenue serving North Lakes residents' needs and a population residing beyond the DCP area. The provision of these open space and 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 the like 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 open space element generally along Memorial Drive and the North – South Arterial Road boundaries and extending across to Discovery Drive will comprise waterways, water bodies used for environmental and water quality management measures, landscaped areas, buffer areas, park and similar open space areas. This area will provide opportunities for pedestrian and bicycle pathways, picnic and bbq areas, seating and viewing areas, shelters, and other informal or passive outdoor activities with minimal impact upon the environmental amenity or general purpose of the area.

6.2.3 Major Community Facilities

The major community facilities element will provide a range of facilities that will service the needs of North Lakes and the wider regional community. The following is a summary of the likely facilities to be provided in this area:

- Community Facilities

An integrated sporting and recreational complex comprising sporting fields, multi purpose facilities, indoor and outdoor recreation, night lighting, young peoples facilities, skate facilities, club house, ancillary car park, park, kiosks, public toilets, and other buildings, structures, surfaces or equipment associated with organised sporting or recreation activities, such as spectator stands or pavilions, sports nets or fences, playgrounds, cricket pitches or practice nets, courts, practice areas, and the like.

The community facilities should be provided within the *Major Community Facilities and Major Open Space 'E' 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 sport fields and facilities, and open space area with the wider open space and recreation corridor of the adjacent linear park and existing playing fields to the north;
- (iii) Along planned bus routes which will likely follow the major roads bounding the sector;
- (iv) With convenient access to, and visibility from Anzac Avenue and North-South Arterial which links the open space and community area to the residential villages of North Lakes and the external urban areas it is intended to serve; and
- (v) To form part of the major open space master plan of North Lakes.

- Other Community Facilities

If an open space and community establishment does not eventuate, other major community facilities and compatible land use which cater for social, educational, health fitness 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 open space and 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 access spines of Anzac Avenue and North-South Arterial. 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 adopted. 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 to the precinct will be as follows:

Connections via higher order roads Anzac Avenue and North South Arterial will connect the precinct to residential villages to the north and shopping and educational facilities to the south. Memorial Drive will further consolidate the connectivity to the shopping and educational facilities to the south.

Direct access to Anzac Avenue will not be permitted.

Direct access onto the Memorial Drive roundabout will be obtained via Innovation Place as per *Figure 3 – Precinct Plan Map*, which runs adjacent to the southern boundary and will provide access to the *Major Community Facilities and Major Open Space “E” Precinct*.

The Department of Transport and Main Roads should be advised if there are potential traffic issues that may cause safety and/or efficiency issues to the state-controlled road network. Additionally, any proposed advertising sign or device that is visible from Anzac Avenue must be designed, constructed and there after maintained in accordance with the department’s *Roadside Advertising Guide (RAG)*. Prior to placement of any advertising sign or device visible from Anzac Avenue, the applicant is to submit detailed plans of the advertising sign or device to the department for review and its installation is to be approved. This legislative provision is independent of the *Mango Hill Infrastructure Agreement*.

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 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 principle spatial elements or key areas of the Landscape Concept Plan for the Precinct area illustrated on *Figure 4* and summarised as follows:

- *District Playing Fields:* The playing fields will be provided adjacent to the Anzac Avenue frontage (eastern boundary) and the North Lakes State College playing fields (*Major Community Facilities 'A' Sector Plan 009-1000*) to consolidate the sporting theme along Anzac Avenue.
- *Community Facilities:* Community facilities will be provided on the balance of the site above the Q20 flood line (shown as yellow on the Precinct Plan map). Individual elements will be developed in accordance with a Masterplan prepared for the Precinct. A multi purpose facility catering for indoor and/or outdoor sporting and/or recreation activities will be developed adjacent to the access road and North Lakes State College car park area (shown as orange on the Precinct Plan Map).
- *Streetscape Planting:* The streetscape treatments of local collector and access streets will create a cohesive and positive impression of the development, with selection of plant materials for roadways based on aesthetic, practical, maintenance and safety considerations, and the intended scale and characteristics of each road.

The resulting open space system and streetscape treatments within and adjacent to the precinct should have diversity and interest for a wide range of users while at the same time serving as a mechanism for restoring the DCP area's degraded landscape environment.

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 4*) 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 Water Supply

- (i) Reticulation systems to service all facilities 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;
- (iii) The existing sewage pump station within the precinct will be retained and access formalised via a road reserve over the existing constructed access; and
- (iv) Water headworks contributions.

6.5.2 Sewerage

- (i) Trunk gravity main from the existing Council sewerage infrastructure to connect with each facility in the Precinct as shown on *Figure 7 – Sewerage Headworks*; and
- (ii) Sewerage 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 facilities within the Precinct, by Energex 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 – Major Community Facilities Land Use Elements

7.1 Major Community Facilities Land Use Element

7.1.1 Intent

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

7.1.2 Performance Criteria

The intent may be achieved where:

- (i) A range of land uses are proposed to be established surrounding the development to support the open space and community facilities, such as primary and/or secondary educational facilities, community services, commercial services, recreational facilities and/or social activity centres, Town Centre Core and Frame etc. to the extent required to serve the DCP Area;
- (ii) An appropriate streetscape presentation is established consistent with the development's significant community function;
- (iii) Convenient accessibility from cycleway, pedestrian movements and public transport is available to the facilities;
- (iv) 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;
- (v) Any development within this precinct must be appropriately designed to mitigate potential noise impacts associated with the surrounding major roads;
- (vi) Provision of coach and taxi facilities on site; and
- (vii) Provision of secure cycle and parking facilities (end of trip facilities) for employees and visitors to the club.

7.2 **Major Open Space Land Use Element**

7.2.1 Intent

To provide a comprehensive and integrated system of open space fulfilling aesthetic, recreation, conservation, transportation and environmental management functions for the area.

7.2.2 Performance Criteria

The intent may be achieved where:

- (i) A full range of open space opportunities to be conveniently available to the community as it develops;
- (ii) Retention where practicable of continuous corridors of trees, shrubs and grasslands which is subject to minimal maintenance regimes for the purpose of

permitting the movement of fauna through the DCP area and providing natural outlooks for residents;

(iii) Inclusion of artificial wetlands and water bodies for water management prior to discharge into the external creek system; and

(iv) Enhancement of open spaces by the provision of educational and interpretative facilities.

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

Construct the following roads including carriageways, stormwater drainage, verges, bus set-downs, 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. All internal collector roads and access streets; and
2. Pathways and bikeways, including commuter and recreational bikeways, in accordance with the MHIA.

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

- .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

No approval of State Government Infrastructure is required for construction of facilities within Major Community Facilities 'E' Precinct.

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. 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 4.8ETs, based on an indoor recreation conversion factor for a 2,500m² multi purpose facility and 1,000m² Club House; and

10.6.2 For the purpose of assessing sewerage capacity, the estimated number of Equivalent Persons for this precinct is 9.6EPs, based on an indoor recreation conversion factor for a 2,500m² multi purpose facility and 1,000m² Club House.