Dandenong South Industrial Area Extension Structure Plan

CITY OF GREATER DANDENONG

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SGS Economics & Planning

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1 Introduction

1.1 Background

The City of Greater Dandenong has prepared a structure plan for the Dandenong South Industrial Area Extension. This Structure Plan has been derived by extracting the core elements from the document known as Dandenong South Structure Plan Working Paper, SGS Economics and Planning and City of Greater Dandenong, May, 2008. That document is a reference document in the Greater Dandenong Planning Scheme.

This Structure Plan document contains structure plan diagrams for two areas, namely Lyndhurst and Keysborough.

1.2 Aims and Objectives

The aim of this Structure Plan is to facilitate the development of the industrial area and to ensure the provision of well-serviced industrial infrastructure capable of accommodating the existing and future industrial and commercial activities.

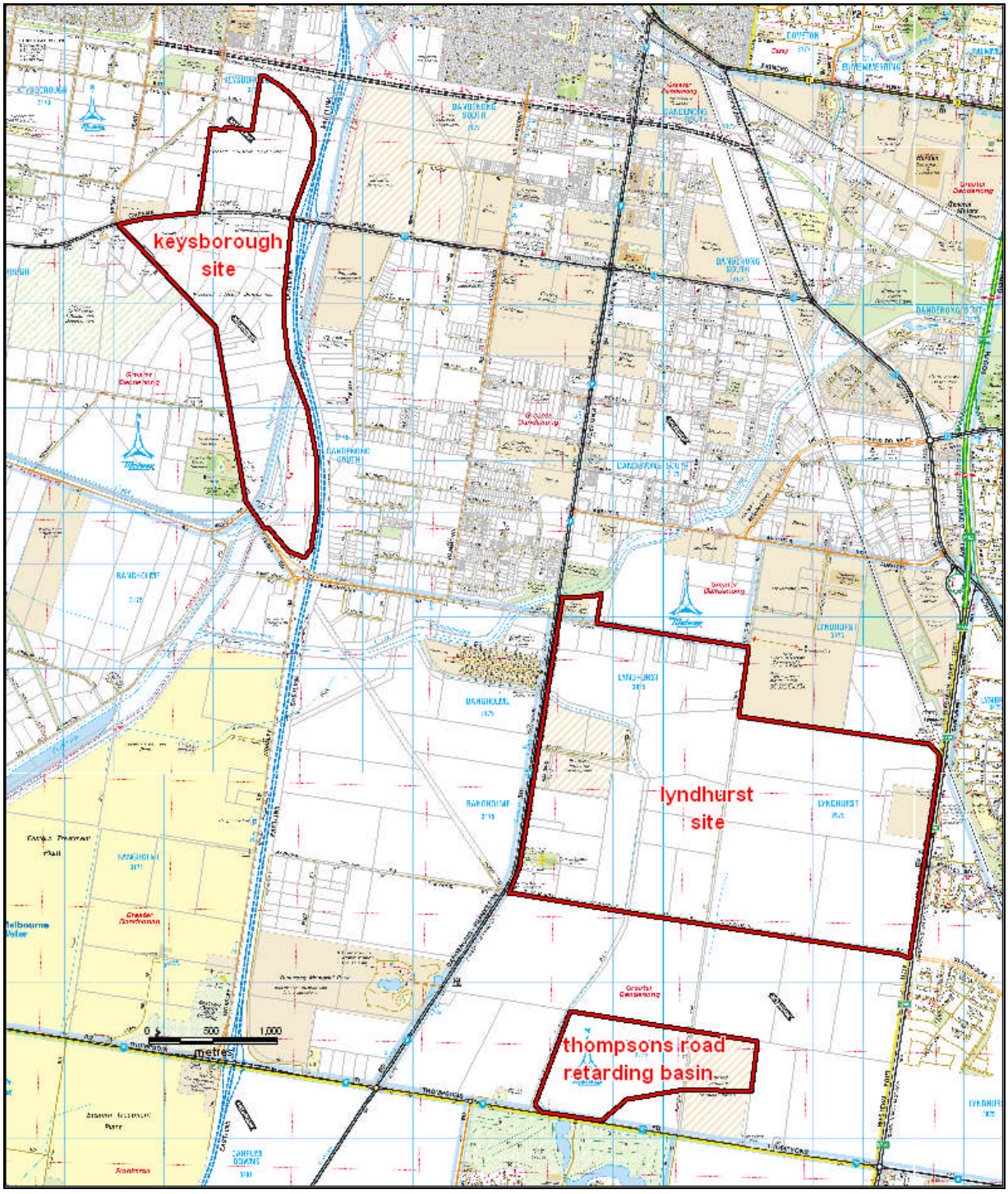
Development of the land should create an environment that is sensitive and responsive to the surrounding landscape and environmental issues. In this regard the following outcomes are required:

- High quality urban design and landscaping.
- Environmentally sensitive subdivision and building design based on sustainability principles.
- Facilitation, development and management of effective and sustainable transport networks within the study area and its integration into the regional transportation system.

1.3 Structure Plan Area

- This Structure Plan applies to the areas shown in Figure 1

Figure 1 Area of the Structure Plan



2 The Structure Plans

2.1 The Overall Vision

The vision for the Lyndhurst and Keysborough extensions to the Dandenong South industrial area is:

> *The development of industrial estates which are designed and developed to host a cluster of "new economy" industry, including manufacturing, wholesaling, logistics and transport and storage businesses. The estates will incorporate the principles of:*
>
> - *High quality urban design and landscaping.*
> - *Environmentally sensitive subdivision and building design based on environmental sustainability.*
> - *Facilitation, development and management of effective and sustainable transport networks within the study area and its integration into the regional transportation system.*

A discussion on 'new economy' manufacturing and the economic analysis informing this Structure Plan can be found in the Dandenong South Structure Plan Working Paper, May 2008, a Reference Document in the Greater Dandenong Planning Scheme.

2.2 Keysborough Structure Plan

2.2.1 Constraints

Cultural and Educational Facilities

There are three existing cultural facilities in the study area – the Keysborough Turkish and Islamic Cultural Centre (KTICC) and Mt Hira College located at 396 Greens Road, the Polish Catholic Centre at 337-343 Greens Road and the Dhamma Sarana Buddhist Centre at 329-335 Greens Road. The preparation of more detailed plans (Development Plans) for industrial land in the vicinity of these community uses must be mindful of the potential impact upon them.

Flora and Fauna

The preparation of the Structure plan was accompanied by the concurrent preparation of the *Dandenong South Native Vegetation Precinct Plan*, *January 2009* (NVPP), the preparation of the NVPP was informed by the Reference Document, *Detailed Flora and Fauna and Habitat Assessment for Greater Dandenong Planning Scheme Amendment C67, Dandenong South, Victoria*. The retention and removal of native vegetation within the Structure Plan will be controlled by the NVPP, an incorporated document in the Greater Dandenong Planning Scheme, and the associated *Dandenong South Native Vegetation Precinct Plan Background Report –Keysborough*, which is a reference document in the Greater Dandenong Planning Scheme.

Residential Interface

Abutting the Keysborough site along the north-west boundary, land is proposed to be developed for residential purposes. A buffer of 30 metres is provided between these two land uses in varying proportions along that interface. The buffer is to be provided in the following manner:

- In relation to the part of the land north of the land described as Lot 7 LP200715 comprise either a 25m road reserve abutting the western boundary including a 5m landscape strip located at the western edge of the road reserve or a 25m wide landscaped area. This landscaped area is to constitute part of any contribution required towards public open space required by the planning scheme; or
- In relation to the part of the land adjacent to the west of Lot 7 200715 comprise either a 20m road reserve abutting the western boundary including a 5m landscape strip located at the western side of the road reserve or a 20m wide landscaped area. Of this landscaped area, 5m only (for either option), is to constitute part of any contribution required towards public open space required by the planning scheme: or
- Where a road is not proposed abutting the western boundary the treatment must comprise a 25m wide landscaped area which is intended to form part of an integrated interface treatment which will be managed in conjunction with a landscaped area on the adjoining residential land.

This landscaped area is to constitute part of any contribution required towards public open space required by the planning scheme

- The treatment of the remaining boundary of the industrial area and any adjoining residential land must comprise a 15m wide landscaped area which is intended to form part of an integrated interface treatment which will be managed in conjunction with an equivalent 15m setback landscaped area on the adjoining residential land. This landscaped area is to constitute part of any contribution required towards public open space required by the planning scheme.

Interface issues with existing residents should be managed via the Development Plan approval process.

Land Subject to Inundation

The south-western part of the site, adjacent to Dandenong Creek, is within a Land Subject to Inundation Overlay (LSIO) because of the low-lying topography; therefore any development must adhere to requirements as set out by Melbourne Water.

Heritage Sites

The entire Keysborough site is identified within the Aboriginal Cultural Heritage Sensitivity mapping, provided by Aboriginal Affairs Victoria. The requirements of the Aboriginal Heritage Act 2006 and Regulations 2007 may apply to industrial development in these areas. The preparation of Development Plans within this area requires consideration of the implications of this.

2.2.2 Design Rationale

The Structure Plan for Keysborough has the following features:

1. **Conservation areas** that:
   - Encompass many of the existing River Red Gums and Narrow Leaf Peppermints, protecting them by retaining them within conservation areas, much of which is to become part of the Public Open Space network and through the application of the NVPP;
   - Allows co-location with public open space in accordance with the Keysborough Open Space Network Plan;
   - Allows for the provision of offset, tree and understorey planting to ensure a net gain of vegetation is achieved which helps create more sustainable flora and fauna communities in accordance with the NVPP;
   - Separates new industrial development from existing rural residential properties on the western side of Perry Road;
   - Provides routes for jogging, walking and cycling linked to the north and south along Dandenong Creek, which connects to the leisure and commuter routes along EastLink.
   - May accommodate passive and active recreational facilities in accordance with the Keysborough Open Space Network Plan;
   - Is encouraged to incorporate swale drains as part of the overall sustainable drainage network and water sensitive urban design outcomes;

- Protect native vegetation which is not being incorporated into the Public Open Space Network through the application of the NVPP;
- Provides for new tree and understorey planting and indigenous material of local provenance to create more sustainable flora and fauna communities in accordance with the NVPP; and
- Provides a high quality setting for development.

2. A **network of watercourses, wetlands and retarding basins** that:
   - Incorporates wetland systems and applies best principles to meet water quality objectives as per the 'Best Practice Environmental Management Guidelines' (Victorian Stormwater Committee 1999), thereby improving water quality entering Dandenong Creek and providing habitat for fauna;
   - Ensures developments within the study area and further downstream are free from flooding in the 1 in 100 year flood event;
   - Are sensitive to the needs of vegetation that depends on particular hydrological patterns and cycles, such as the River Red Gums;
   - Allows co-use as Public Open Space in accordance with the Keysborough Open Space Network Plan; and
   - Provides an attractive setting for development, which will help to attract businesses to the estate.

3. A **road network** that:
   - Includes internal connections to the surrounding road network at multiple points in accordance with the access to arterial road principles below to provide controlled, convenient access and distribute traffic loads generated from the area;
   - Allows connectivity to the nominated collector road network through the development of an internal road network, as required;
   - Takes advantage of the remnant scattered River Red Gums to enhance the image of the estate as a whole and aid legibility;
   - Provides routes suitable for future bus services to connect the estate with Dandenong CBD and surrounding residential areas, including established and future residential areas in Keysborough South and to the north-west of the area;
   - Can be aligned to facilitate efficient access to each lot while:
     - minimising the need for direct access to existing arterial roads; and
     - not unnecessarily severing land or creating parcels of land that are difficult to develop.
   - Incorporates all necessary services infrastructure;
   - Includes generous provision for pedestrians and cyclists;
   - Is intended to have distinctive streetscape treatments within each precinct in order to provide local identity;
   - Allows the subdivision of land into a range of lot sizes and configurations through the creation of subdivisional roads to the satisfaction of the Responsible Authority;
   - Provides for internal collector roads to service the area. The internal collector roads are nominated on the Structure Plan Diagram and are contained within a minimum road reserve of 25m. This may increase where the internal collector road approaches the arterial road network to 30m or 34m, as required. This is to be determined as part of the Development Plan approval phase of the development of the site;
   - Provides for a signalised intersection at a location which has regard to the signals at Greens Road and EastLink;

- Includes the potential for an unsignalised left in left out intersection to service the estate on the north side of Greens Road;
- Provides for two (2) signalised intersections along Perry Road, south of Greens Road, at appropriate distances having regard to the existing road network of Greens Road, Bangholme Road and Keys Road and the constraint of the bend in Perry Road;
- Does not allow for traffic through the residential areas to the north of Greens Road. This will be facilitated by the closure of Bend Road at a suitable time. No access to traffic generated in this industrial area to Chandler Road; and
- Includes footpaths:
    - On at least one side of the road for subdivisional roads;
    - On both sides of the road for internal collector roads to comprise one 2.5m footpath and one 1.5m footpath; and
    - On one side of the road for collector roads to comprise one 1.5m footpath where the site abuts a public open space path.

4. A **minor activity centre** that:
    - provides a daily convenience function that complements the surrounding industrial use of the land;
    - is located to provide convenient access to the worker population in the Keysborough site;
    - enjoys good exposure to passing traffic;
    - contains a total floor area of between 1200m² and 1500m²;
    - retains a significant landscape setback of approximately 20m from Perry Road to respect the amenity of the adjoining Green Wedge Zone;
    - if developed adjacent to any conservation areas, retains the native vegetation in the context of the development of the site as an activity centre;
    - is the focus of all non-industrial uses, with the sprawling of commercial activity along the remainder of Perry Road strongly discouraged;
    - is provided access by the internal collector road network;
    - is appropriately located near conservation areas and/or public open space; and
    - is developed after the preparation of an Urban Design Framework in accordance with the provisions of Section 4.5 of this Structure Plan.

5. **Building siting and design** requirements including:
    - Key development frontages along all primary roads to ensure high quality entrances to the estate and a high quality image
    - Signature development sites to contribute to legible circulation around the estate and identification of the gateways to the site.

    The provision of some on-site outdoor passive open space within development sites for use by employees is also encouraged.

6. **Landscape buffers** that:
    - Separates new industrial development from residential areas and community uses, as designated on the Structure Plan Diagram, where appropriate.

Traffic and Transport

Traffic modelling and traffic generation figures produced in regard to EastLink have not been publicly available for use and analysis in this report. However, traffic modelling and analysis has been undertaken by Ashton Traffic Services, John Piper Traffic and the Department of Infrastructure regarding the likely traffic generated by the extended industrial area once it is fully developed, assuming the pattern of development and employment density outlined in the Structure Plans.

Preliminary road upgrade recommendations were initially made based on urban design framework considerations as outlined in above sections of the report. The modelling was then used to test the validity of the initial recommendations and, as a result of the modelling, some changes were made. This work included consideration of cross municipality traffic flow as well as the traffic generated from the new industrial area.

The modelling results indicate that for the Keysborough site it is recommended that:

- Perry Road be upgraded as a two lane road with a third centre lane for turning vehicles.
- Keysborough site internal collector roads be constructed mainly as two lane roads with a third centre lane used for turning vehicles or as a landscaped median, except for higher volume sections linking to Greens Road, which will be four lanes.

Any access to the north side of Greens Road or the east side of Perry Road, south of Greens Road, that is not shown on the Keysborough Structure Plan should be proposed with due consideration of the following access principles:

- Any connection will be limited to left in/left out movements only in the form of either subdivisional road connections or service road connections;
- Each lot must continue to have internal road connectivity via the signalised intersections incorporated into the structure plan to provide for safe right turning movements, especially for trucks;
- The entry and exits of any service roads should have a minimum 100 metre clearance from signalised intersections to minimise confusion and conflict with traffic turning at the intersection, to allow for the provision of left hand turn deceleration lane at the entry and to allow traffic exiting the service road to safely access the right turn lanes where U-turns would be allowed;
- Any subdivisional road connections should carry no more than 1,000-2,000 vehicles per day and have low level of interconnectivity to limit the attractiveness of the routes for ‘rat runs’; and
- Any subdivisional road connections should have a minimum 100 metre clearance from signalised intersections and allow for the provision of a left turn deceleration lane and desirably be mid distance between signalised intersections.

In addition, no additional access points will be supported to the south side of Greens Road.

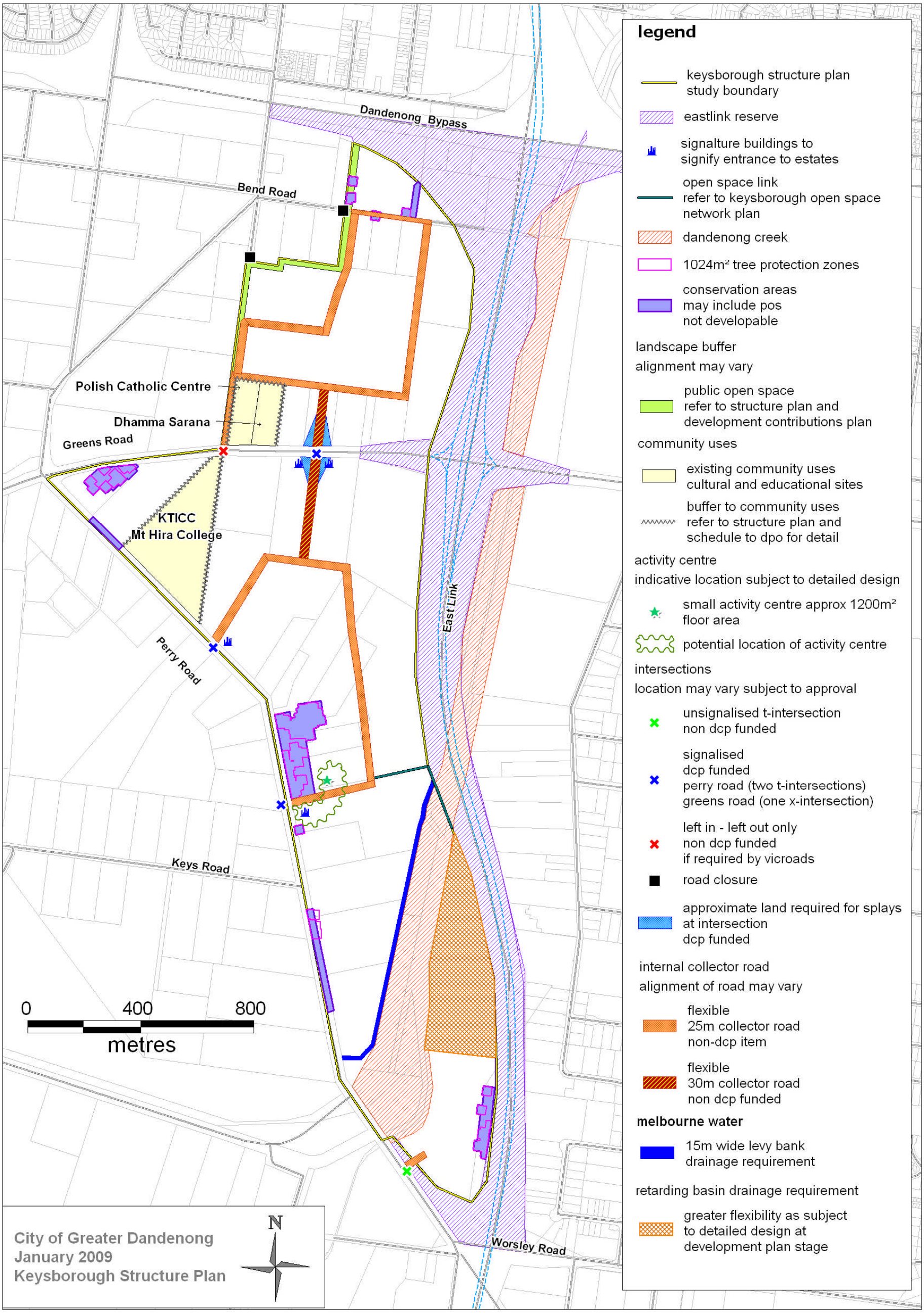
All to the satisfaction of VicRoads and the responsible authority.

Drainage and Retarding Basins

Keysborough will be required to make provision for the following drainage requirements:

- A retarding basin incorporating a wetland within the floor of the basin is needed on a 12.6 ha parcel of land between the EastLink Reserve and Dandenong Creek. This basin will have a storage capacity of 180,000 m3 at a top water level of 5.7m AHD. This site is yet to be purchased by Melbourne Water.
- Two main outfall drains are required to service the area between Dandenong Creek and Perry Road. The northern outfall drain crosses Perry Road near the southern boundary of the KTICC and Mt Hira College land, just north of the bend in Perry Road. The southern outfall crosses Perry Road just north the Perry Road bridge crossing over Dandenong and Mordialloc Creeks. The drainage strategy for the Perry Road Catchments is to convey the increased flows down to the Mordialloc Creek Floodplain and augment the existing storage rather than constructing retarding basins east of Perry Road.
- There is no significant filling within the land to be developed. However, the rear (eastern) boundary of the lots backing onto the drainage reserve abutting Dandenong Creek will need to be raised around 900mm above existing levels.
- A drainage reserve approximately 15 metres wide is required along the western side of the Dandenong Creek levee bank between the East Link Freeway and Perry Road. This reserve is required to: carry runoff from the East Link Freeway, allow for future works on the Dandenong Creek levee bank and also to provide maintenance access and a landscape strip along the creek.
- There are two existing Public Use 1 zones alongside Dandenong Creek of 12.8 ha and 18.4 ha. There is a small parcel of land (2.1 ha.) affected by a Land Subject to Inundation Overlay that will be added to this zone.

Figure 2 Keysborough Structure Plan



2.3 Lyndhurst Structure Plan

2.3.1 Constraints

Existing Residential

There are a number of existing rural residences on the south side of Colemans Road.

Interface issues with existing residents should be managed via the Development Plan approval process.

Flora and Fauna

The preparation of the Structure plan was accompanied by the concurrent preparation of the *Dandenong South Native Vegetation Precinct Plan, January 2009* (NVPP), the preparation of the NVPP was informed by the Reference Document, *Detailed Flora and Fauna and Habitat Assessment for Greater Dandenong Planning Scheme Amendment C67, Dandenong South, Victoria*. The retention and removal of native vegetation within the Structure Plan will be controlled by the NVPP, an incorporated document in the Greater Dandenong Planning Scheme, and the associated *Dandenong South Native Vegetation Precinct Plan Background Report – Lyndhurst*, which is a reference document in the Greater Dandenong Planning Scheme.

Land Subject to Inundation and Proposed Major Retarding Basin

A substantial part of the site, along the Eastern Contour Drain is affected by a Land Subject to Inundation Overlay and is constrained for industrial purpose. Melbourne Water has proposed a major retarding basin in part of this area, known as the Taylors Road Retarding Basin. After construction of the Retarding Basin and filling of the developable land, it is contemplated that the Land Subject to Inundation Overlay be removed.

Heritage Sites

Part of the Lyndhurst site is identified within the Aboriginal Cultural Heritage Sensitivity mapping, provided by Aboriginal Affairs Victoria. The requirements of the Aboriginal Heritage Act 2006 and Regulations 2007 may apply to industrial development in these areas. The preparation of Development Plans within both areas require consideration of the implications of this.

2.3.2 Design Rationale

The Structure Plan for Lyndhurst has the following features:

1. **Conservation areas** that:
   - Encompass many of the existing River Red Gums, protecting them by retaining them within vegetation reserves through the application of the NVPP;
   - Allows co-location with public open space in accordance with the Lyndhurst Open Space Network Plan;
   - Allows for the provision of offset, tree and understorey planting to ensure a net gain of vegetation is achieved which helps create more sustainable flora and fauna communities in accordance with the NVPP;
   - Separates new industrial development from Green Wedge properties on the south side of Glasscocks Road;
   - Provides routes (paths for jogging, walking and cycling etc) within conservation areas. This open space network is to be co-located along drainage corridors and may make use of encumbered land within conservation areas. In the long term it is envisaged that this network will connect to the wider open space network along the Eumemmerring Creek and into the residential areas within Casey and Frankston;
   - Assists in the creation of potential habitat links with the Eumemmerring Creek to the north-east of the Lyndhurst site and the significant conservation areas (approximately 20ha remnant Plains Grassy Woodland) to the north-east of the Lyndhurst site;
   - May accommodate passive and active recreational facilities in accordance with the Lyndhurst Open Space Network Plan;
   - Is encouraged to incorporate swale drains as part of the overall sustainable drainage network and water sensitive urban design outcomes;
   - Protect native vegetation which is not being incorporated into the Public Open Space Network through the application of the NVPP; and
   - Provides a high quality setting for development.

2. A network of **watercourses, wetlands and retarding basins** that:
   - Encompasses the existing drainage channels;
   - Incorporates wetland systems and applies best principles to meet water quality objectives as per the 'Best Practice Environmental Management Guidelines' (Victorian Stormwater Committee 1999), thereby improving water quality entering Eumemmerring Creek and providing habitat for fauna;
   - Ensures developments within the study area and further downstream are free from flooding in the 1 in 100 year flood event;
   - Are sensitive to the needs of vegetation that depends on particular hydrological patterns and cycles, such as the River Red Gums;
   - Allows co-use as Public Open Space in accordance with the Lyndhurst Open Space Network Plan; and
   - Provides an attractive setting for development, which will help to attract businesses to the estate.

3. A **road network** that:
   - Includes internal connections to the surrounding road network at multiple points in accordance with the access to arterial road principles below to provide controlled, convenient access and distribute traffic loads generated from the area;
   - Allows connectivity to the nominated collector road network through the development of an internal road network, as required;
   - Takes advantage of the remnant scattered River Red Gums to enhance the image of the estate as a whole and aid legibility;
   - Provides routes suitable for future bus services to connect the estate with Dandenong CBD, surrounding residential areas to the south and east and established employment areas of Dandenong South;
   - Encourages buildings to front major arterial roads, including the Western Port Highway, to maximise business exposure and appearance;
   - Can be aligned to facilitate efficient access to each lot while:
     - minimising the need for direct access to arterial roads; and
     - not unnecessarily severing land or creating parcels of land that are difficult to develop.
   - Incorporates all necessary services infrastructure;
   - Is intended to have distinctive streetscape treatments within each precinct in order to provide local identity;
   - Allows the subdivision of land into a range of lot sizes and configurations through the creation of subdivisional roads to the satisfaction of the Responsible Authority;
   - Provides for internal collector roads to service the area. The internal collector roads are nominated on the Structure Plan Diagram and are contained within a minimum road reserve of 25m. This may increase where the internal collector road approaches the arterial road network to 30m or 34m, as required. This is to be determined as part of the Development Plan approval phase of the development of the site;
   - Upgrades the intersection at Remington Drive and Abbotts Road;
   - Realigns Glasscocks Road to the north of the existing reserve, enabling the retention of native vegetation within the current Glasscocks Road corridor and allowing the existing road to become a service road for properties to the south whilst forming part of the Lyndhurst Open Space Network;
   - Realigns Bayliss Road and Taylors Road adjacent to their existing reservations to avoid native vegetation in accordance with the NVPP;
   - Can be aligned to facilitate efficient access to each lot while:
     - minimising the need for direct access to future and existing arterial roads (Western Port Highway, Glasscocks Road, Dandenong Frankston Road and Colemans Road West); and
     - not unnecessarily severing land or creating parcels of land that are difficult to develop.
   - Provides for Colemans Road west to be upgraded and land set aside for the long term duplication of this road;
   - Requires the access at Bayliss Road to be closed when one of the following occurs:
     - Upon declaration of the Western Port Highway to a Freeway;
     - If the extension of the railway to the north of Bayliss Road is permitted to cross Bayliss Road to the south as part of the development of the land on the south side of Bayliss Road as an Inland Port; or
     - VicRoads determine that the operation of the intersection of Bayliss Road and the Western Port Highway is not satisfactory.

- Provides for a temporary access to the Western Port Highway at the intersection of Moreton Bay Boulevard, to the satisfaction of VicRoads.
- Includes footpaths:
    - On at least one side of the road for subdivisional roads;
    - On both sides of the road for internal collector roads to comprise one 2.5m footpath and one 1/5m footpath; and
    - On one side of the road for collector roads to comprise one 1.5m footpath where the site abuts a public open space path.

4. Two **activity centres**:
    - A major activity centre that:
        - provides a range of retail, commercial and other services relevant to the industrial development in the area;
        - is located for convenient access to the wider industrial area beyond the Lyndhurst site to the north;
        - provides good exposure to passing traffic;
        - contains a total floor area of approximately 6000m²;
        - is zoned appropriately as B1Z;
        - presents a suitable design response having regard to the amenity of the adjoining Green Wedge Zone;
        - is provided access by the internal collector road network;
        - is appropriately located near conservation areas and/or public open space; and
        - is developed after the preparation of an Urban Design Framework in accordance with the provisions of Section 4.5 of this Structure Plan.
    - A minor activity centre that:
        - provides a daily convenience function that complements the surrounding industrial use of the land;
        - is located to provide convenient access to the remainder of the worker population in the Lyndhurst site;
        - complements the larger activity centre to be developed to the north-west;
        - enjoys good exposure to passing traffic;
        - contains a total floor area of between 1200m² and 1500m²;
        - retains a significant landscape setback of approximately 20m from the future Glasscocks Road;
        - is provided access by the internal collector road network;
        - is appropriately located near conservation areas and/or public open space; and
        - is developed after the preparation of an Urban Design Framework in accordance with the provisions of Section 4.5 of this Structure Plan.

5. **Building siting and design** which provides:
    - Key development frontages along all primary roads, to ensure high quality entrances to the estate and a high quality image;
    - Signature development sites, to contribute to legible circulation around the estate;
    - Recognition of the existing operations of the Lyndhurst Landfill; and
    - An appropriate urban design and landscaping response having regard to Section 4 of this Structure Plan.

The provision of some on-site outdoor passive open space within development sites for use by employees is also encouraged.

Traffic and Transport

Preliminary road upgrade recommendations were initially made based on urban design framework considerations as outlined in above sections of the report. The modelling was then used to test the validity of the initial recommendations and, as a result of the modelling, some changes were made. This work included consideration of cross municipality traffic flow as well as the traffic generated from the new industrial area.

From the traffic modelling it is recommended that:

- Abbotts Road be upgraded to a four lane divided road.
- Glasscocks Road eventually be upgraded to a six lane divided road.
- Colemans Road, from Dandenong-Frankston Road to the new road from the north, be upgraded to a four lane road.
- Lyndhurst site internal roads constructed mainly as two lane roads with a third centre lane used for turning vehicles, except for higher volume sections linking Glasscocks Road and Dandenong-Frankston Road with the site.

It is noted that this modelling is based on a 2031 scenario. Not all of the above recommendations are to be provided as part of the Development Contributions Plan for the site. The road network has been designed to be able to accommodate the above capacity in the future.

Any access to Frankston Dandenong Road and Colemans Road West that is not shown on the Lyndhurst Structure Plan should be proposed with due consideration of the following access principles:

- Any connection will be limited to left in/left out movements only in the form of either subdivisional road connections or service road connections;
- Each lot must continue to have internal road connectivity via the signalised intersections incorporated into the structure plan to provide for safe right turning movements, especially for trucks;
- The entry and exits of any service roads should have a minimum 100 metre clearance from signalised intersections to minimise confusion and conflict with traffic turning at the intersection, to allow for the provision of left hand turn deceleration lane at the entry and to allow traffic exiting the service road to safely access the right turn lanes where U-turns would be allowed;
- Any subdivisional road connections should carry no more than 1,000-2,000 vehicles per day and have low level of interconnectivity to limit the attractiveness of the routes for 'rat runs'; and
- Any subdivisional road connections should have a minimum 100 metre clearance from signalised intersections and allow for the provision of a left turn deceleration lane and desirably be mid distance between signalised intersections.

No additional access points will be supported to Glasscocks Road or the Western Port Highway.

All to the satisfaction of VicRoads and the responsible authority.

There is also potential to develop an inland port in the Lyndhurst area.

Drainage and Retarding Basins

Lyndhurst will be required to provide five retarding basins and two widened drainage reserves/ floodway zones. These are:

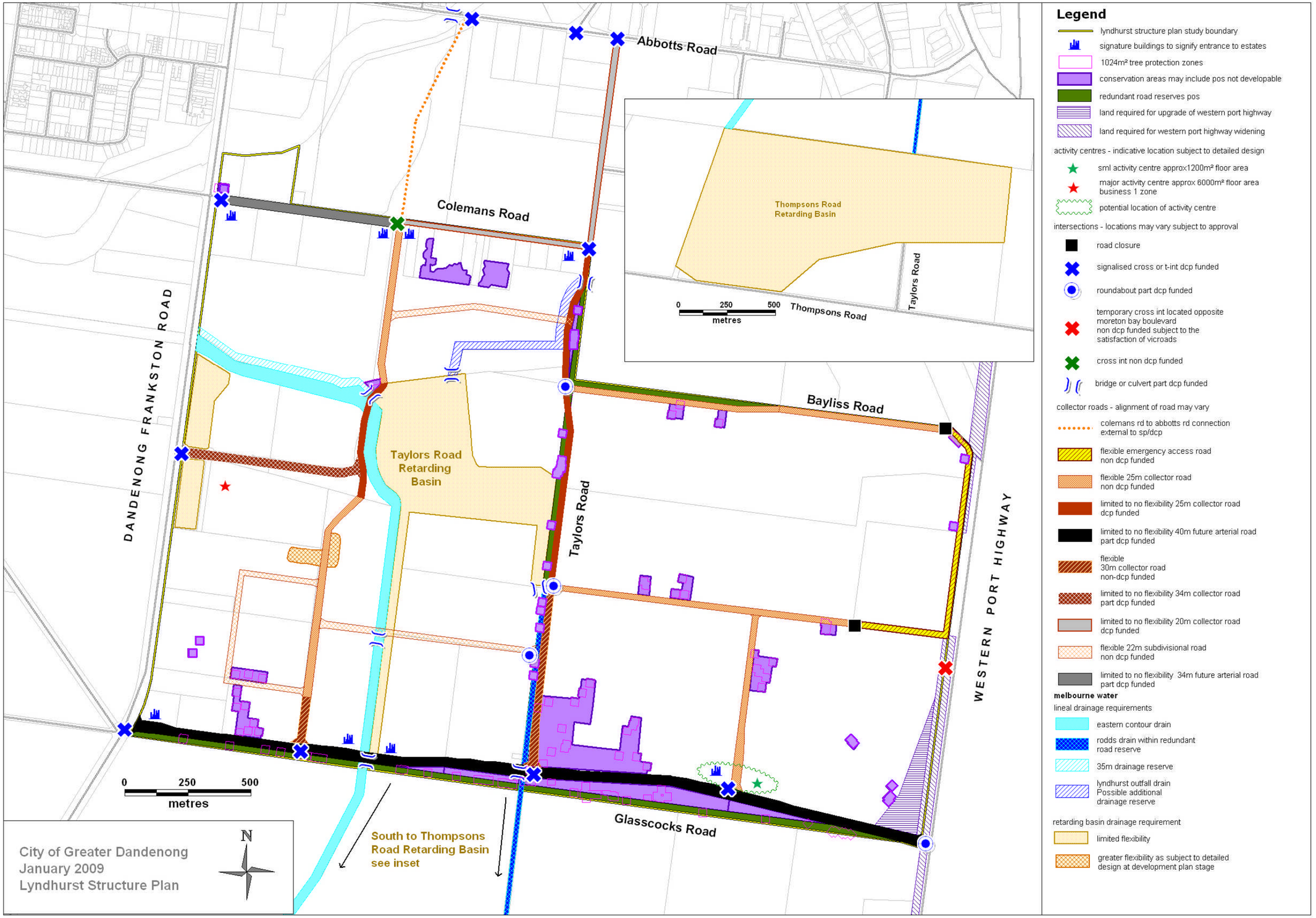
- A 27 ha. Retarding Basin incorporating a wetland within the floor of the basin is proposed on a parcel of land on the west side of Taylors Road opposite Bayliss Road. The basin is sited on flood prone land on the junction of the Eastern Contour Drain and Rodds Drain and has a capacity of 650,000 m3 at a top water level of approximately 9.85m AHD. This site is yet to be purchased by Melbourne Water, but is sought to be included in the Public Acquisition Overlay to facilitate purchase.
- The Eastern Contour Drain north from Glasscocks Road is to be widened by 40 m to form part of the Taylors Road Retarding Basin for flood conveyance and storage purposes. The widening is to take place on the eastern side of the drain. The 40 m strip is sought to be included in the Public Acquisition Overlay to facilitate purchase.
- A 3.6 ha parcel of land adjacent to Dandenong-Frankston Road, north of the Jayco access road is required for the 'Jayco' land for a 49,010m3 capacity basin at a top water level of 8.1m AHD. This site has been agreed with the landowners, Jayco, and the basin has now been constructed. It is yet to be determined in consultation with the owners as to whether or not this site will remain in private ownership or be purchased by Melbourne Water. Irrespective of ownership, the site will require an Urban Floodway Zone on the majority of the site with a Land Subject to Inundation Overlay covering the entire parcel of land.
- A 2.3 ha parcel of land adjacent to Frankston-Dandenong Road, south of the Jayco access road is required for a 32,450m3 capacity basin at a top water level of 8.1m AHD. This site has been agreed with the landowners, Jayco, and the basin has now been constructed. It is yet to be determined in consultation with the owners as to whether or not this site will remain in private ownership or be purchased by Melbourne Water. Irrespective of ownership, the site will require an Urban Floodway Zone on the majority of the site with a Land Subject to Inundation Overlay covering the entire parcel of land.
- A 1.62 ha parcel of land to the south east of the Jayco site is required for a 23,500m3 capacity basin. The site is yet to be purchased by Melbourne Water as the exact location can be altered to suit development requirements.
- The Eastern Drain between the Frankston-Dandenong Road and the Taylors Road Retarding Basin needs to be widened on the northern side of the existing reserve for improved flood conveyance. The additional land required may be up to 35 metres in width. However it is necessary to undertake a detailed design of the waterway to determine the exact width required. It is recommended that a reserve be created on the plan of subdivision when the land is subdivided following the detailed design of the waterway. The Planning Scheme would then be amended to place an Urban floodway Zone over the newly created reserve.
- The Lyndhurst Outfall Drain needs to be realigned between the Taylors Road Retarding Basin and the corner of Taylors and Colemans Road. The exact width and alignment of the drain is dependent on detailed design. It is recommended that a reserve be created on the plan of subdivision when the land is subdivided following the detailed design of the waterway. The Planning Scheme would then be amended to place an Urban floodway Zone over the newly created reserve.

- Rodds Drain north of Glasscocks Road is situated within part of the existing road reserve. The drain needs to be widened and the steep batters made flatter. If a new additional reserve was created for Taylors Road the improvements could be contained within the existing road reserve.
- Filling will be needed on the area that is to be developed within the area that is presently within the flood plain i.e. land covered by the LSIO. The depth of filling adjacent to the remodelled waterways will be in the order of one metre.

Melbourne Water has also indicated that they would prefer that road access, where possible, be designed alongside Eastern Contour Drain to allow for maintenance and visibility. Access tracks within the retarding basin can be used for the purposes of public open space.

In addition to these requirements within the structure plan area, it is also necessary to construct a large retarding basin on the low land on both sides of Taylors Road just north of the Thompsons Road. This basin contains two storage areas and occupies an area of around 90ha. The total capacity of the two storage areas within the basin is 2,140,000 m3. The top water level of the higher storage is 14.85m AHD.

Figure 3 Lyndhurst Structure Plan


Abbotts Road
Colemans Road
Bayliss Road
Taylors Road
Glasscocks Road
DANDENONG FRANKSTON ROAD
WESTERN PORT HIGHWAY
Taylors Road Retarding Basin
Thompsons Road Retarding Basin
Thompsons Road
Taylors Road
0 250 500
metres
South to Thompsons Road Retarding Basin see inset
N
City of Greater Dandenong
January 2009
Lyndhurst Structure Plan
Legend
lyndhurst structure plan study boundary
signature buildings to signify entrance to estates
1024m² tree protection zones
conservation areas may include pos not developable
redundant road reserves pos
land required for upgrade of western port highway
land required for western port highway widening
activity centres - indicative location subject to detailed design
sml activity centre approx1200m² floor area
major activity centre approx 6000m² floor area business 1 zone
potential location of activity centre
intersections - locations may vary subject to approval
road closure
signalised cross or t-int dcp funded
roundabout part dcp funded
temporary cross int located opposite moreton bay boulevard non dcp funded subject to the satisfaction of vicroads
cross int non dcp funded
bridge or culvert part dcp funded
collector roads - alignment of road may vary
colemans rd to abbotts rd connection external to sp/dcp
flexible emergency access road non dcp funded
flexible 25m collector road non dcp funded
limited to no flexibility 25m collector road dcp funded
limited to no flexibility 40m future arterial road part dcp funded
flexible 30m collector road non-dcp funded
limited to no flexibility 34m collector road part dcp funded
limited to no flexibility 20m collector road dcp funded
flexible 22m subdivisional road non dcp funded
limited to no flexibility 34m future arterial road part dcp funded
melbourne water
lineal drainage requirements
eastern contour drain
rodds drain within redundant road reserve
35m drainage reserve
lyndhurst outfall drain Possible additional drainage reserve
retarding basin drainage requirement
limited flexibility
greater flexibility as subject to detailed design at development plan stage

3 Public Open Space

The proper provision of a well designed public open space network should be a function of all urban development. The key goal with respect to Public Open Space in the Structure Plan areas is to provide a network of open spaces which are linked within the areas, as well as to the broader Public Open Space network. This network of open space will include not only reserves, but also drainage reserves and the road network for linking reserves where appropriate.

Provision of Public Open Space within the Keysborough and Lyndhurst Structure Plan areas is to be funded by a development contributions plan whereby contributions for Public Open Space will be either a monetary payment or the transfer of land in lieu, or a combination of both, depending on an agreed set of principles and calculation formulae.

The proposed use and development of the land will be for intense urban purposes (as industrial land) and as such, justifies the requirement for Public Open Space. As the previous land use was for rural purposes, there are no existing public open space facilities in the Structure Plan area. In creating a vibrant, 'new economy' industrial area, this structure plan and associated documents encourage the provision of appropriate components of vegetation management and open space. It is considered that the employment of almost 30,000 people generated by this Structure Plan area will greatly increase the demand for both passive and active recreational opportunities.

Whilst the type of recreational opportunities afforded to employees within an industrial area is different to that of a residential setting, it is necessary to provide adequate places for the population to take advantage of before or after work or during breaks. Within industrial areas, the primary aim is then to provide for public open space that meets the needs of workers and visitors to the industrial area in addition to facilitating linkages to the broader open space network via waterway / roadway trails and flora and fauna corridors.

Industrial open space should therefore include facilities and opportunities for passive and informal active recreation, while also addressing landscape and conservation values.

3.1 Public Open Space Provision

Some broad principles for the development of the public open space network within the structure plan area are outlined as follows:

- Provision of appropriate open spaces areas for employee rest and recreation during breaks or before and after work, contributing to the health and well being of the workforce as well as the economic vitality of the area.
- Ensuring reserves are improved with appropriately targeted infrastructure such as paths, furniture, shelters, signage and planting.
- Ensuring remnant vegetation or conservation areas are incorporated within or co-located with public open space areas where appropriate and possible.
- As much as is practicable, ensuring reserves are equitably distributed to promote accessibility.

- Ensuring that reserves are adequately linked and connected to the broader open space network, maximising potential use.
- Where possible and appropriate, utilising drainage reserves for open space. This maximises availability of developable land while also enabling the development of a connected open space network.
- It is envisaged that open space areas could also be combined / co-located with facilities that may be frequently attended during the course of a work day, such as a café or facility for conferences.

3.2 Specific Principles for Public Open Space Provision

For Land to be accepted as public open space by Council it must accord with a number of key criteria which contribute to the quality, functionality and maintainability of the open space network. These principles, upon which the Development Contributions Plan is based, are outlined below:

3.2.1 Principle 1 - Appropriate distribution and accessibility

- Public Open Space should be provided in the form of a physical network where possible rather than a stand alone or isolated parcel which has little or no connectivity to other public open space via linear links or pedestrian and bicycle trail. The road network may be considered for linking parcels of open space, where it includes an appropriate reservation with pedestrian or shared path infrastructure.
- Any land which is to be credited as public open space must be located so that it is accessible and forms a logical part or extension of an open space network or the system of drainage reserves which link both locally, and where appropriate to a network of open space linkages.
- The Open Space Network may supplement and be aligned with the storm-water drainage infrastructure where practical and provide for potential future linkages to adjacent land via approved corridors.
- Land between or adjoining areas encumbered by scattered trees or patches may be suitable for open space accreditation provided they meet the other principles set out above.
- Where conservation zones for existing or proposed offset tree planting are accepted for incorporation within the open space network, they shall be accepted on the basis of a minimum protection zone of 1024m2 around each existing or prospective tree (32x32m square around a typical 16m diameter tree canopy) to ensure long term viability of the vegetation.
- Land specifically set aside and encumbered for protection of native vegetation (i.e. scattered trees or patches or offsets) will not be credited for open space under any circumstances due to the need for it to be protected indefinitely and essentially inaccessible to the public.
- Council may consider utilising appropriate sections of the public open space network (which it owns) for future 'net gain' vegetation recruitment, the cost and value of which must be borne by those removing the native vegetation.

3.2.2 Principle 2 - Adequate in size and shape

- Land provided for public open space should be of an area and dimensions to allow multiple passive and active uses and adaptation to multiple uses to extend the carrying capacity of the site and interest of users.

3.2.3 Principle 3 - Comprised of a mix and diversity of spaces

Public Open Space will be comprised of a mix and diversity of spaces, which:

- Provide areas for social interaction and passive enjoyment during lunch breaks or before / after work activities.
- Provide walking paths, with linkages to the broader open space network.
- Provide unstructured open areas for informal recreation and relaxation.
- Include unstructured areas with scattered trees and tree groups to provide areas of both sun and shade and as buffer zones between conservation areas.
- Incorporate conservation areas linking to flora and fauna corridors.

3.2.4 Principle 4 - Provided with appropriate facilities and infrastructure to encourage usage

Public Open Space will be provided with appropriate facilities and infrastructure to encourage use, including but not limited to:

- Seating areas along the path network as well as in picnic areas at regular intervals equipped with shelters and BBQ facilities and other associated amenities.
- Facilities for informal active recreation, for example small scale exercise stations or open space for ball sports.
- Facilities for comfort and convenience: include features such as rubbish bins, toilet facilities, drinking taps etc (where appropriate).

Open space development should complement other nearby open space or conservation areas where this exists, including areas owned by public authorities and adjoining municipalities.

3.2.5 Principle 5 - Supported by good planning and design

The planning and management of Public Open Space Open should be supported by good planning and design, and:

- Be site responsive by contributing to the desired character of the area by incorporating best practice open space design principles.
- Be landscaped to improve amenity and appearance, responding to the other guiding principles.

- Designed to meet the needs of users by creation of safe, clean and enjoyable places which promote social interaction.
- Utilise materials, fixtures and furnishings of an appropriate quality, which are durable.
- Ensure quality linkages to the broader open space network by designing to promote easy way finding.

3.2.6 Principle 6 - Incorporate measures for sustainability

- Native vegetation conservation areas which are co-located with approved open space areas shall be appropriately protected from vehicle or pedestrian traffic.
- Buffer zones to be provided between native vegetation conservation areas and 'hard' infrastructure such as paths, furniture, picnic shelters.
- Passive or low impact activities to occur closest to offset/conservation areas, more high impact or formal activities to be located further away.
- Maximise the viability and value of conservation areas by linking protected areas under public ownership, where this is consistent with Principle 1.
- Ensure that development of open space reflects best practice in environmentally sensitive design, construction and maintenance
- Where possible and appropriate, incorporate Water Sensitive Design principles in open space development to improve water use efficiency, storm-water quality and long term viability of vegetation.
- Utilise indigenous species within open space areas suitable for local microclimates. Non indigenous species may be considered for high intensity areas such as picnic areas where approved.

3.3 Keysborough Public Open Space

3.3.1 Keysborough Requirements

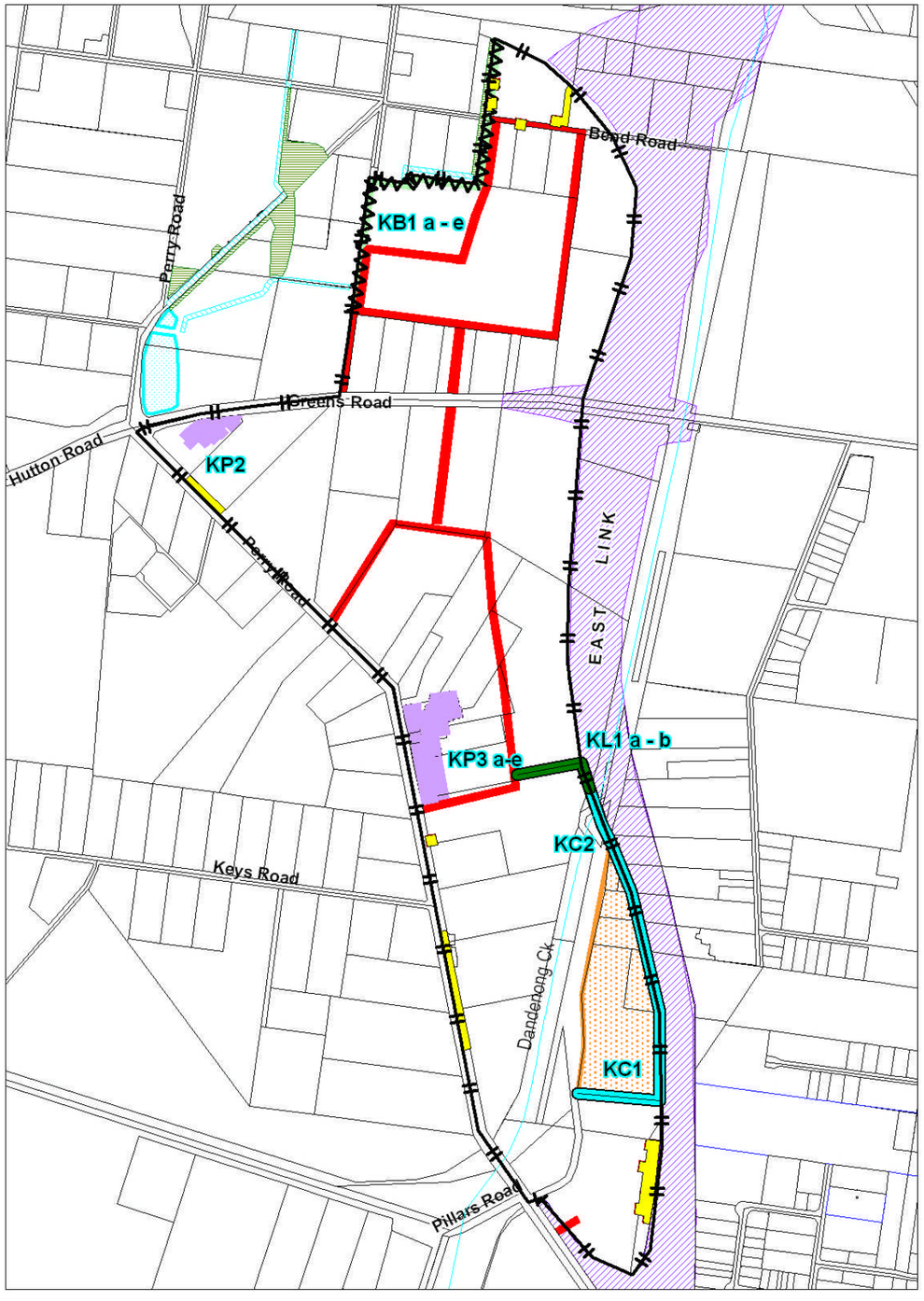
The Keysborough open space network is shown in Figure 4.

A Public Open Space contribution of 1.391% applies to the Keysborough Structure Plan area.

The preparation of Development Plans must give effect to the open space network shown in Figure 4.

The provision of open space must be consistent with any open space requirements set out in the Development Contributions Plan.

Figure 4 Keysborough Open Space Network



Legend

Open Space Network

Existing open space

Open space links within drainage corridors

Open space links on other land

Landscape buffer

Conservation Areas

Conservation areas associated with Public Open Space

All other conservation areas

Melbourne Water

Drainage basins

Proposed C36 Open Space and Drainage

Drainage basin

Drainage corridor

Public open space

Tree reserve

Roads

Collector road

Eastlink

3.4 Lyndhurst Public Open Space

3.4.1 Lyndhurst Requirements

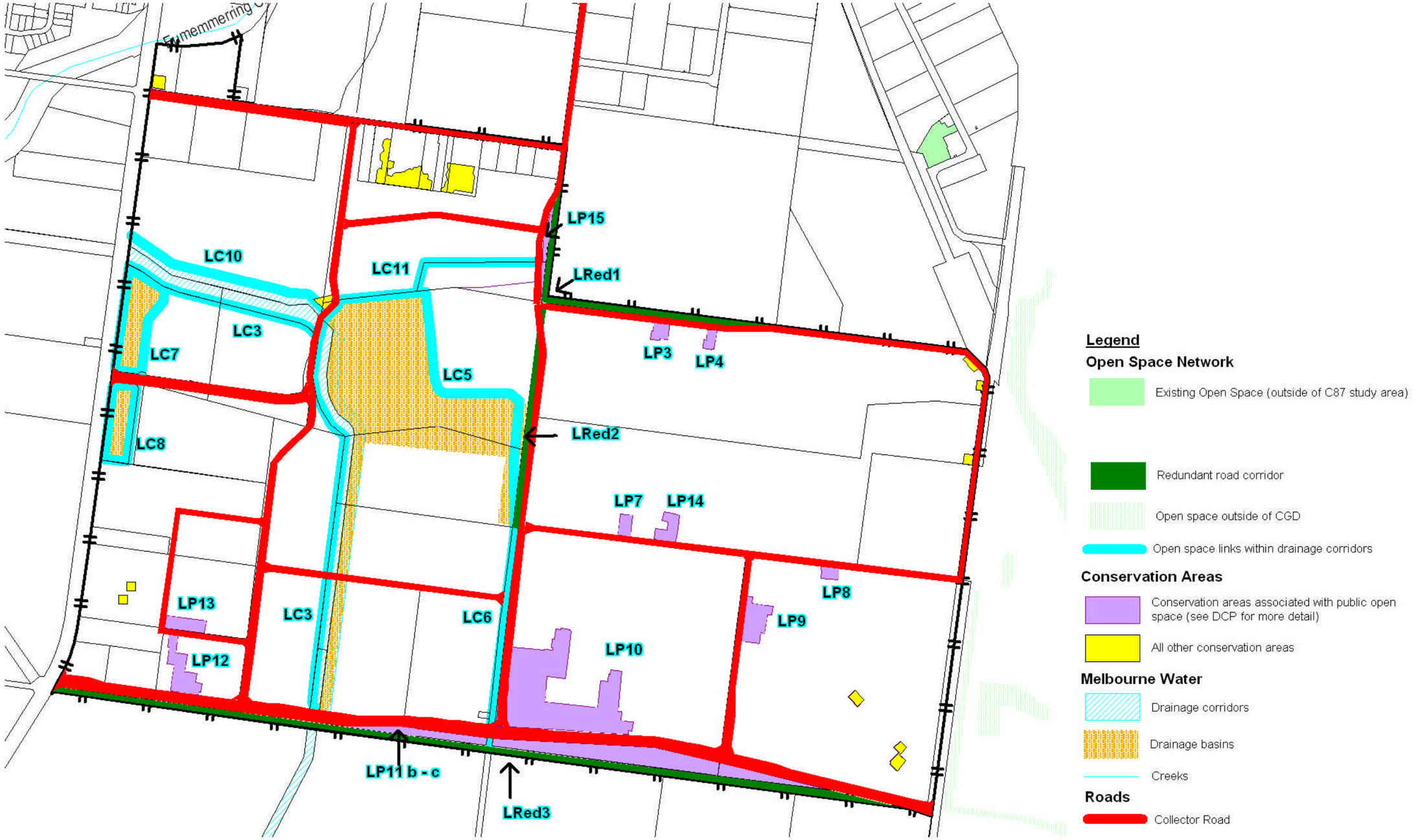
The Lyndhurst open space network is shown in Figure 5.

A Public Open Space contribution of 1.733% applies to the Lyndhurst Structure Plan area.

The preparation of Development Plans must give effect to the open space network shown in Figure 5.

The provision of open space must be consistent with any open space requirements set out in the Development Contributions Plan.

Figure 5 Lyndhurst Open Space Network



4 Urban Design and Landscaping

Urban design guidelines for both Structure Plans are the same and address:

- Estate layout
- Site layout and External Site Design
- Building Design
- Interface with Other Uses

4.1 Estate layout

New subdivision within the Structure Plan areas should:

- Provide a range of lot types that are regular in shape.
- Provide lot configurations that facilitate energy efficient site and building design and water sensitive urban design.
- Protect and enhance watercourses and native vegetation which is to be retained
- Ensure a well designed interface between development and Public Open Space areas to maximise utilisation of Public Open Space and foster public safety.
- Create interesting estate entrances through the provision of landscaping and other urban design features. An example of the use of landscaping to define estate entrances is shown below.
- Provide well located, informative high quality estate identification signage. Excessive signage, including promotional signage is considered inappropriate in gateway locations.

Figure 6 Example of distinctive entry treatment, Dandenong South.

Site Layout and External Site Design

The layout of individual sites within the subject areas should:

- Ensure the separation of pedestrian and vehicle circulation and location of visitor parking at the entrance to each site.
- Require landscaping to be appropriate to the character of the area, and should soften car parks and buildings. An example the use of landscaping within a recent industrial development is shown in figure 7.

- Require front building setbacks adjoining existing and future arterial roads (Western Port Highway, Glasscocks Road, Dandenong Frankston Road, Colemans Road West, Greens Road and Perry Road) to be generally 20m. This zone could be fully landscaped and could include car parking. A minimum 5m landscape strip between the property boundary and any car parking should be provided to create a unified appearance of the area.
- Require front building setbacks adjoining nominated collector roads on the Structure Plan to be generally 9m. This zone could be fully landscaped and could include car parking. A minimum 3m landscape strip between the property boundary and any car parking should be provided to create a unified appearance of the area.
- For both existing and future arterial and collector roads, building setbacks for a sideage will be permitted to be reduced. A 5m and 3m landscape component, respectively, is still required.
- Front building and landscaping setbacks for subdivisional roads are not specified, but should be well designed to incorporate landscaping and assist in creating a unified appearance for each area.
- All landscaping must be appropriately designed to ensure long term viability by providing adequate space for protection and full growth potential.
- Locate loading and storage areas to the rear or side of buildings with screening as appropriate.
- Ensure visibility to all parking spaces from the interior of the building is achieved.
- Conform to the principles of the Safer Design Guidelines for Victoria (Crime Prevention Victoria and Department of Sustainability and Environment, 2005).
- Ensure fencing is less obtrusive that allows the building itself to become part of the security solution for the site. This is to be achieved by utilising high quality fences which should not be located within the front landscape setback and should be set back to, or behind, the line of the building.

Figure 7 Example of characteristic office landscaping, Lyndhurst

4.2 Building Design

The design of new buildings within the subject areas should:

- Should be of a high standard with buildings in highly visible locations, primarily the Signature Buildings, receiving greater attention to presentation and detail.
- Insist on the location of office or showroom components to be orientated to the front of the site.

- Avoid exposed plain concrete block walls along street frontages or boundaries to the public realm.
- Incorporate facades on corner buildings that address both streets.
- Ensure signage is integrated with building architecture and landscape design of the structure plan areas.
- Avoid the use of highly reflective materials.
- Integrate service and plant equipment within the building, or to the rear of a building.
- Incorporate existing vegetation into the design response of the site and building wherever possible. An example of the retention of vegetation within the context of an industrial development is identified in figure 8.
- Have active and dynamic frontages with uses that promote safety and comfort for users of the public realm particularly where adjoining public plazas and open space.

Figure 8 Retention of vegetation, Dandenong South

4.3 Interface with Other Uses

The design of new commercial or industrial areas should:

- Be separated from existing and future residential uses and community uses by appropriate buffers of open space and/or a road.
- Restrict the potential for industrial traffic to filter through to residential areas. In particular, this will be achieved by restricting access along the Western Port Highway to the intersection with Glasscocks Road only (except for temporary access at Moreton Bay Boulevard subject to the satisfaction of VicRoads) within the Lyndhurst site and the closure of Bend Road to the north of the Keysborough site.
- Protect the amenity of the adjoining green wedge by limiting points of vehicle access to intersections as designated on the structure plans for each area and points of access in accordance with the access to main road principles subject to the satisfaction of VicRoads and the responsible authority.
- Protect the amenity of the adjoining green wedge by protecting and enhancing vegetation. A 20m landscape setback is required for all site developments adjoining a Green Wedge Zone. A 20m setback is not required from the western boundary of the larger activity centre in

Lyndhurst as an integrated design treatment with the adjoining retarding basin would serve the intended design purpose.

- Ensure signage compliments the adjoining green wedge areas, is unobtrusive and does not impact on the amenity of the area.
- Ensure an appropriate level of building scale and mass occurs along boundaries with sensitive uses.
- Incorporate/co-locate public open space, conservation areas on private land and watercourses within the design response for the estate. An example of the development of the land which actively prevents buildings backing onto watercourses, whilst making a feature of the natural setting is identified in figure 9.

Figure 9 Example of treatment of watercourse within industrial estate.

4.4 Public Realm

The public realm is to be developed as a high quality setting helping to attract businesses to the estates and offering a high level of amenity to workers. Key elements of the public realm are the linear corridors of open space, entry features, watercourses and commercial centres within both the Keysborough and Lyndhurst sites.

Open Space

The network of public open space will be designed to:

- Provide a high quality environmental setting for development.
- Co-locate pedestrian, cycle and vehicle routes to maximise activity and natural surveillance.
- Accommodate a variety of passive and active recreational facilities that will link into existing open space corridors, such as the Dandenong Creek. A recent example of improved public open space is shown in figure 10.

Figure 10 Example of passive recreational opportunities, Dandenong Wetlands

4.5 Activity Centres

The development of the major and minor commercial centres should be carried out after the preparation of an Urban Design Framework for those centres. The Urban Design Framework should be prepared having regard to the Activity Centre Guidelines, Department of Planning and Community Development, 2005.

The activity centres should feature public plazas as part of the design. The role of the public plazas will be to develop a focal point for the local community and a meeting point accessible to the workers of the area.

The public plazas will be attractive and vibrant, and will build on the strong local character of the area, influenced by the natural environment. It is envisaged that the public plazas will play an important role in the development of an Integrated Transport Plan, by actively locating public transport interchanges within each commercial centre. Each public plaza should incorporate (but is not limited to):

- Paving and street design that comfortably and safely accommodates pedestrians and cyclists.
- Pergolas, shade structures or similar.
- Advanced planting and landscaping that maintains sightlines for natural surveillance.
- Seats and bins.
- Integrated lighting to enhance visibility and safety.
- Automatic teller machines.
- Public toilets and telephones.
- Public transport.
- Minimal, well located and integrated signage.
- Public art to engage visitors to the site.
- Bicycle facilities to facilitate sustainable modes of transport.
- Linkages to pedestrian, cycle and road network to promote accessibility and use.