

SANDBELT OPEN SPACE PROJECT

DEVELOPMENT PLAN

MAY 1994



MELBOURNE
Parks & Waterways

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1. EXECUTIVE SUMMARY

The concept of a series of linked parks has been proposed in the Heatherton Dingley area since the early 1970's. The concept was based on the extent of disturbed land from which large sand deposits have been extracted. Landfill has followed sand extraction to fill the sand pits and restore the land for subsequent use.

This report recommends a series of parklands which covers approximately 1060ha stretching from Warrigal Road, Heatherton to Springvale Road, Dingley. Some 390ha of this land is already developed as golf courses.

The area is ideally located to address the major deficiency in the distribution of regional parks in Melbourne for a band of suburbs between Caulfield and Clayton. Although the area contains few sites of botanical and fauna significance, these are nevertheless valuable recreational assets. The extent of disturbed land in the area makes open space a particularly appropriate end use due to the lack of alternative uses and its diminished economic value.

The Implementation Strategy (Deloitte, 1992) recommended the preparation of a strategic plan for the development of the Sandbelt Open Space Project. This report provides a framework for establishing a series of recreation areas and a process for implementation. It defines the boundaries as well as the range and distribution of activities within the study area. It sets out the way in which both the public and private sector should develop the area.

This report is a working document. It incorporates an information base and proposals to assist Melbourne Parks & Waterways and the Cities of Moorabbin, Oakleigh and Springvale in making decisions on park development. The study has been particularly mindful of the need to match new park proposals with established and projected visitor demands and the need to minimise land acquisition costs by agencies.

Identified leisure demands which influenced the preparation of this Development Plan included:

- an extensive catchment population to the north and north west of the study area which is currently under provided in regional open space facilities;
- the need to provide for recreation opportunities and experiences which are currently being displaced by the impact of urban development;
- the need to meet the changing recreation needs of the community and accommodate high impact (noisy and visually intrusive) activities and sports which are generally not catered for within local and district open space;
- demand for a network of trails;
- the regional demand for additional golf courses; and
- the need for a major recreational lake in this region.

The Development Plan proposes:

- a core area of 355ha of publicly owned land which provides a continuous linear park spine from Warrigal Road, Moorabbin to Braeside Park, Dingley;
- acquisition of 170ha of disturbed land to achieve this continuous park linkage;
- a regional park concept which complements Braeside Park and other conservation and recreation areas;
- six broad park themes which include: Regional Parklands; an Outdoor Adventure/Education area; Golf facilities; Equestrian Activities; Conservation Park; and an area developed for commercial Family/Fun/Theme Park Activities;
- two major regional parklands; a new park at Warrigal Road with a focus on recreation, and the existing at Braeside Park which currently provides a focus on Conservation;
- central pedestrian and bicycle trails/shared footways over the 10km length of the linked parks. Secondary trails and linkages to the surrounding communities are identified;
- an 8.5km horse trail extending from Warrigal Road, Moorabbin to Rowan Road, Dingley;
- overpasses as an essential measure on all main road crossings of the primary horse trail and shared footway;
- that the broad scale vegetation pattern and character be based on the indigenous vegetation pattern with exotic plantings at specific sites;
- sites for high impact recreation areas, for equestrian activities and for additional golf facilities; and
- an implementation program, much of which will be completed by the end of the century.

Management of the Sandbelt Open Space Project will be co-ordinated by Melbourne Parks and Waterways and the Cities of Moorabbin, Oakleigh and Springvale. Melbourne Parks and Waterways is the lead agency. A Strategic Advisory Group has been established to provide input and facilitate community participation in the development and management of the Sandbelt Open Space Project.

Average annual cost for the establishment of the Sandbelt Open Space Project is estimated to be \$1.7 million. Acquisition costs will total approximately \$15.0 million in today's values. Development costs are estimated at \$22.0 million. When fully established, annual management costs are estimated to be \$1.4 million and annual income \$170,000.

The financial analysis for establishment of the recreation area is based on a series of conservative assumptions. There is the potential for ongoing negotiation and consultation with land owners to greatly reduce the level of public funding required to achieve an open space area of regional significance.

The issue of environmental liabilities resulting from previous land uses will a significant factor in the detailed planning which now must commence.

2. INTRODUCTION

2.1 BACKGROUND TO THE PROJECT

Extensive sand extraction and subsequent landfilling in the Heatherton, Clayton South and Dingley area have created a area of disturbed land between Warrigal Road and Springvale Road. The concept of using this land as the basis for a series of parks has been proposed since the early 1970's.

A number of reports have explored the concept, most recently to develop a strategy to implement the concept (Deloitte, 1992). The Implementation Strategy put forward a broad vision for the park, a management plan, a supporting financial plan and recommended legislative framework.

The vision contained within the Implementation Strategy proposed "A chain of physically integrated parks providing for a wide range of regional and local recreation opportunities in a quality environment". It proposed that the development of the linked parks should provide equitable access to, and provision of, leisure and recreation facilities and recognise different concepts of recreation and leisure. This report confirms the previous intent that the parks would embrace active and passive recreational pursuits, on both public and privately held land.

The recommended plan involved the appointment of Melbourne Parks & Waterways as the lead agency under a co-operative agreement with the Cities of Moorabbin, Oakleigh and Springvale.

Following the adoption of the Implementation Strategy by the four agencies in April 1992, Melbourne Parks and Waterways has assumed the role of lead agent, an officer from each agency forms a Co-ordinating Unit and a Strategic Advisory Group, to provide for broad community and industry input, has been established. The Implementation Strategy report recommended that Melbourne Parks & Waterways be responsible for the preparation of a strategic plan for the development of the series of parks. This report documents the process and product of that plan preparation.

The study has been particularly mindful of the need to match new park proposals with established and projected visitor demands and the need to minimise land acquisition costs.

2.2 SCOPE OF THE PROJECT

The study brief required that the Plan should:

- identify the recreation and open space demands in the region;
- identify the conservation, cultural and heritage values of the study area;
- identify the major park elements and the use for which specific parcels of land will be required;
- define the park boundary;

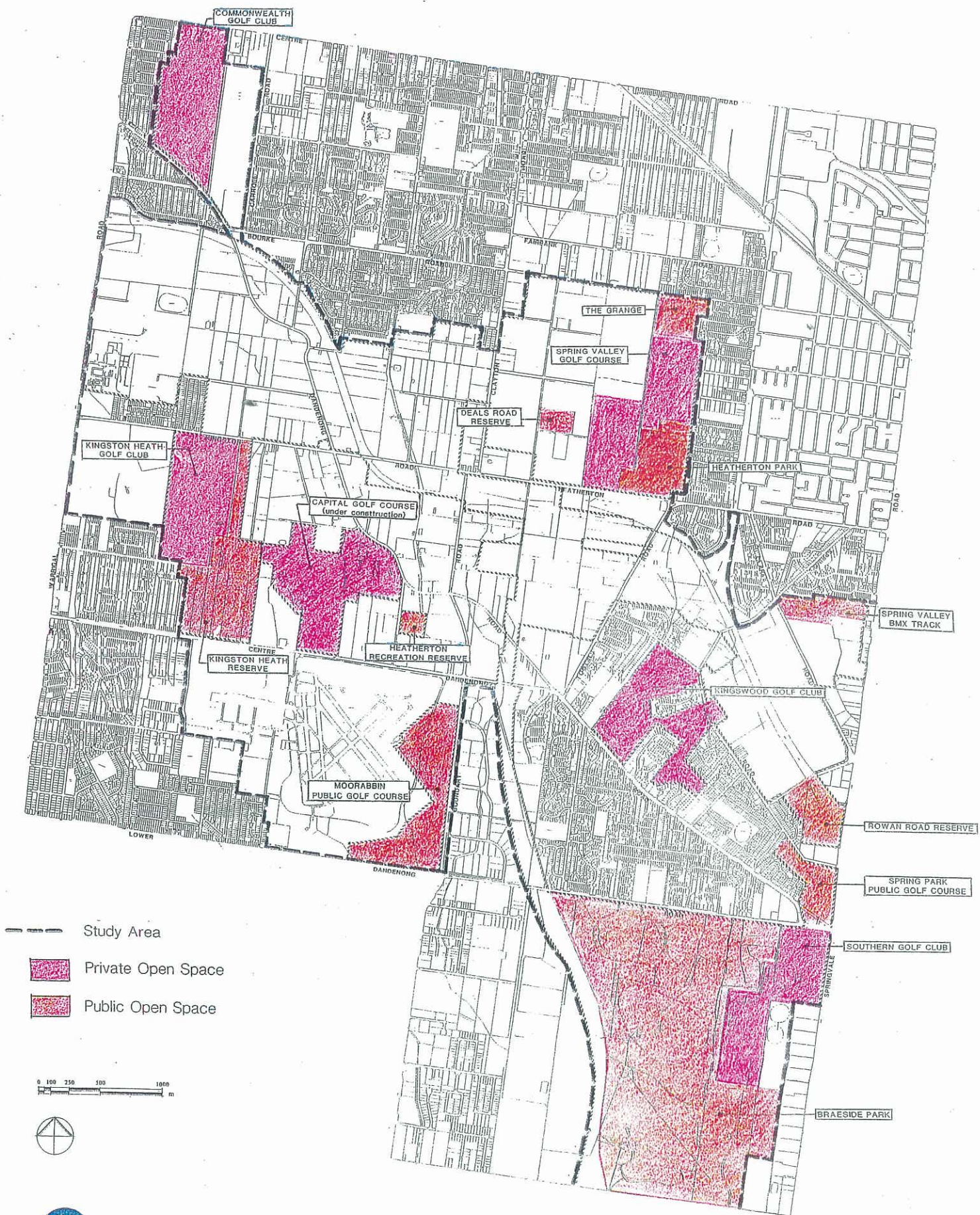
- develop a staged action program consistent with the availability of land and funding;
- minimise the amount of land to be publicly acquired;
- achieve the general support from major stakeholders; and
- include concept designs and costings for the Melbourne Parks & Waterways land at Warrigal Road. (These designs have been developed as a separate project).

The study area for the Development Plan was to encompass the area identified in the 1992 Implementation Strategy and independently assess those boundaries. Figure 1 shows the study area for this report and the existing recreation and open space development within the study area.

2.3 PROJECT TEAM

To cover the wide range of issues to be addressed in the study, Melbourne Parks and Waterways assembled the following team.

⁸¹⁶⁷⁰⁰⁰ MELBOURNE PARK AND WATERWAYS	PARK PLANNING
LODER & BAYLY CONSULTING GROUP	PROJECT MANAGEMENT -LAND USE & OPEN SPACE PLANNING -LANDSCAPE DESIGN -RECREATION PLANNING -ENVIRONMENTAL PLANNING -COMMUNITY CONSULTATION -LAND MANAGEMENT -ACCESS PLANNING & DESIGN -STATUTORY PLANNING
LACEY MANAGEMENT SERVICES	-RECREATION PLANNING -BUSINESS PLANNING
CONTEXT PTY. LTD.	-HISTORICAL AND CULTURAL RESEARCH
NEIL CRAIGIE & ASSOCIATES	-WATERWAY ASSESSMENT & MANAGEMENT -WATERWAY RESTORATION
ECOLOGICAL HORTICULTURE	-FLORA & FAUNA RESEARCH



STUDY AREA & EXISTING RECREATION DEVELOPMENT

Figure 1

SANDBELT OPEN SPACE PROJECT DEVELOPMENT PLAN

2.4 ACKNOWLEDGEMENTS

The input to the study by members of Committees, and by staff from relevant authorities has been appreciated. Comment and information from members of the public and representatives of various interest groups has also been of assistance and is gratefully acknowledged.

A Steering Committee was responsible for overseeing the management of the Development Plan. Membership of the Steering Committee comprised:

MELBOURNE PARKS & WATERWAYS

Phil Rowland (Chair)	Principal Planner
Janice Grieves	Project Manager

CITY OF MOORABBIN

Ian Cairns	Group Manager, Technical Services
Peter Soding	Group Manager, City Development

CITY OF OAKLEIGH

Michael Dickenson	Controller Design
Michael Top	Director Planning and Development

CITY OF SPRINGVALE

John Moore	Director of Strategic Development
Trevor Ryan	Manager of Engineering Services

Since September 1993, a Co-ordinating Committee and the Strategic Advisory Group have been established. Representatives from Councils, industry and the community have provided invaluable advice and assistance in reviewing the draft Development Plan and preparing a final document.

3. RECREATION AND OPEN SPACE DEMAND

3.1 INTRODUCTION

The proposal for the study area to be developed for extensive recreation use due to the extent of disturbance needs to be examined in relation to the visitor demand for a regional park facility. A study was commissioned to determine the extent of visitor demand for a regional recreation facilities within the Moorabbin, Oakleigh and Springvale area.

The Sandbelt Open Space Project offers a unique opportunity to develop regional open space facilities in close proximity to the south east of Melbourne. It represents an opportunity to address the lack of open space within the region. This study process gave high priority to assessing the existing and future provision of regional open space.

3.2 REGIONAL OPEN SPACE DEMAND

The customer research program undertaken by Melbourne Parks and Waterways has established primary catchment populations for regional parks. The primary catchment population represents 60% of park visitors which live within 30 minutes travelling time from a park. When the primary catchment population area is mapped, it can be shown that these visitors reside within an approximate 10 kilometre radius of the park.

This method was used to estimate the primary catchment area for the Sandbelt Open Space Project area. The primary catchment area incorporated the municipalities of Moorabbin, Oakleigh, Springvale and Caulfield. Figure 2 highlights the 10 kilometre radius which represents the primary catchment population for the Sandbelt Open Space Project. It also shows the relationship of the primary catchment population of the Sandbelt Open Space Project to the primary catchment populations for Braeside and Dandenong Valley Parks.

Table 1 indicates the projected population for each of the municipalities within the primary catchment area of Sandbelt Open Space Project at five year intervals to the year 2011. These populations have been based on the Department of Treasury projections (1991) and are currently being reviewed by the Department of Planning. While the population projection information included in this report is considered the most reliable, it is important to recognise that changes to State and Local Government policy and priorities may influence the future population.

Table 2 compares the changes in the primary catchment population for Sandbelt Open Space Project, Braeside Park and Dandenong Valley Park over the same period. Details on the primary catchment population for Braeside Park included the municipalities of Springvale, Mordialloc, Dandenong and Moorabbin, and for Dandenong Valley Park included the municipalities of Knox, Waverley, Dandenong and Nunawading.

SANDBELT OPEN SPACE PROJECT

Table 1

Warrigal Road Proposed Regional Park - Primary Catchment Population/Projected Population ('000)

Year/LGA	Moorabbin		Oakleigh		Springvale		Caulfield		MSD	
1991	99		58		90		70		3138	
1996	96	-3.03%	57	-1.72%	93	3.33%	67	-4.29%	3304	5.29%
2001	95	-1.04%	55	-3.51%	92	-1.08%	66	-1.49%	3418	3.45%
2006	94	-1.05%	55	0.00%	91	-1.09%	65	-1.52%	3526	3.16%
2011	94	0.00%	54	-1.82%	89	-2.20%	64	-1.54%	3626	2.84%

source: Dept of Treasury Population Projection, October 1991

Table 2

Population by Catchment ('000)

Year	Braeside Park		Dandenong Valley Park		Warrigal Road Park		MSD	
1991	277		409		317		3138	
1996	271	-2.17%	408	-0.24%	313	-1.26%	3304	5.29%
2001	267	-1.48%	401	-1.72%	308	-1.60%	3418	3.45%
2006	264	-1.12%	398	-0.75%	305	-0.97%	3526	3.16%
2011	261	-1.14%	398	0.00%	301	-1.31%	3626	2.84%

source: Dept of Treasury Population Projection, October 1991

The results from the Customer Research Project undertaken by Melbourne Parks and Waterways indicate that of the total visitors to a typical park; 18% visit on a weekly or monthly basis; 42% visit on a yearly basis; 13% visit once every 10 years; and 21% do not ever visit a park. Translated to the estimated total catchment population for Sandbelt Open Space Project (a 100% catchment population based on the primary catchment population representing 60% of park visitors), Table 3 indicates the frequency of visitors over the next twenty years.

Table 3

Warrigal Road Proposed Regional Park -projected visitor frequency (total catchment) ('000)

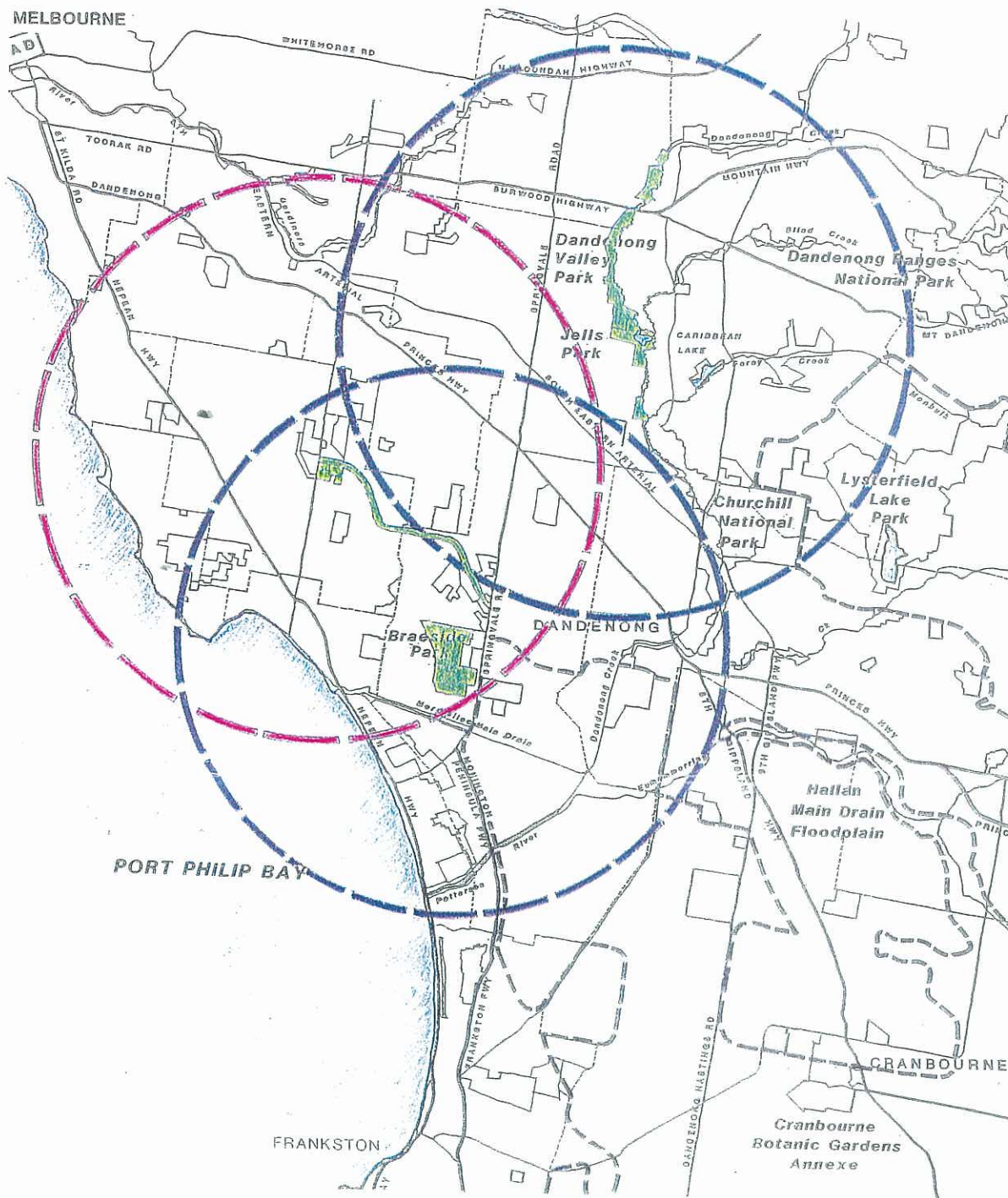
Year	Total catchment Population	Weekly/monthly 18%	Once a year 48%	10 years 13%	Never 21%
1991	528				
1996	522	94	250	68	110
2001	513	92	246	67	108
2006	508	92	244	66	107
2011	502	90	241	65	105

Given the expected visitor frequency over the next twenty years, Table 4 estimates the maximum number of visitors to these parklands on an annual basis. However, the estimate does not take into account the competing regional opportunities which are also available to the total catchment population.

Table 4

Warrigal Road Proposed Regional Park - estimated annual visitors (total catchment) ('000)

Year	Total catchment Population	Weekly/monthly 18%	Once a year 48%	10 years 13%	Potential visitation	Est. annual visitation
1991	528					
1996	522	1127	250	7	1384	415
2001	513	1109	246	7	1362	409
2006	508	1098	244	7	1349	405
2011	502	1084	241	7	1331	399



-  Major Regional Parks
-  Catchment Areas for Existing Regional Parks
-  Catchment Area for Regional Park at Warrigal Road



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CATCHMENTS IN THE REGION OF MAJOR PARKS

SANDBELT OPEN SPACE PROJECT DEVELOPMENT PLAN

Figure
2

City of Moorabbin
City of Oakleigh
City of Springvale

It is estimated that approximately 25% - 30% of the total catchment population are likely to visit Sandbelt Open Space Project area having regard to the opportunities at Braeside Park and Dandenong Valley Park. It would be feasible that at least 346,000 to 415,000 visitors could be achieved as facilities are developed. But this is largely dependant on the quality and scale of facilities and the degree to which they provide experiences which are unique or not provided elsewhere in the region.

The potential activities and facilities which serve a regional market are discussed in Appendix 1.

3.3 OPEN SPACE NEEDS OF ADJOINING MUNICIPALITIES

The Sandbelt Open Space Project also provides an excellent opportunity to address gaps in the provision of local open space and recreation facilities. Moorabbin, Oakleigh and Springvale Councils have an opportunity to secure sites to address local open space needs. Studies of recreation and open space needs have identified requirements for additional facilities and the key findings of those studies are set out in Appendix 1. Recreation and open space planning in the study area needs to take account of changing community needs.

The areas of demand highlighted by Council officers during the project are summarised below:

- All Councils have expressed the desire to develop an integrated network of bike/walking paths throughout the region.
- There is a demand for spaces for locating noise generating activities which have been progressively displaced from their own municipality and from throughout Melbourne's Eastern and South Eastern suburbs. Municipal Recreation Officers from other neighbouring Councils have confirmed this need. Information supplied by the Victorian Sports Federation (Vicsport) also indicates growth in motor sports, motorcross and shooting activities.
- The area is well suited for further development of golf facilities, building on the reputation of existing courses in the region. Recent research commissioned by MPW supports the demand for additional golf facilities in the Melbourne region.
- Moorabbin and Springvale Councils have a need to relocate equestrian activities. Enquiries indicate a need for additional equestrian facilities across the metropolitan area largely as a result of the pressure of urban development. Vicsport indicates that, despite the loss of some facilities, the equestrian associations have a combined membership of 25,000 in Victoria and are growing in popularity.
- Moorabbin has identified the need for both an indoor/outdoor netball complex, a 3 oval field sports complex to replace grounds lost through the rationalisation of school properties in the area and a requirement for additional softball and basketball facilities. Filled land is not suitable for

constructed facilities or paved surfaces. Where playing fields are located on filled land, it can be difficult to achieve a level playing surface where the fill is of considerable depth. Sites on unfilled land will be required if these needs are to be met.

- Springvale has given consideration to the establishment of a camping centre for Scouting/Guiding activities within the park and also a regional adventure playground. With regard to the establishment of a camping facility, informal enquiries with both the Scout Association and the Lord Mayor's Camp Fund indicated that there is significant school and club demand for urban camping opportunities and corporate, youth and school demand for leadership training facilities.

Total open space provision in Moorabbin, Oakleigh and Springvale is relatively high at approximately 7 ha/1,000 population in each municipality (based on the 1987 Open Space Inventory). Much of this is restricted however, i.e. golf courses, so that in Oakleigh and Moorabbin, unrestricted public open space is 3 ha/1,000. The distribution of open space is uneven and there is a relative oversupply of active sports grounds compared to passive recreational areas.

3.4 CHARACTERISTICS OF THE CATCHMENT POPULATION

Given the relatively local catchment of regional parks, the analysis of population characteristics was carried out on the population residing within a 5 km radius of the proposed park. This analysis area has an estimated long term population of 350,000.

Based on 1991 Census data, the catchment population has

- a younger age profile than the Metropolitan Statistical District (MSD);
- a higher proportion of people speaking languages other than English at home (28% compared with 22% for the MSD). Included in this were higher than average numbers speaking Greek, Chinese, Vietnamese, Spanish and French;
- less families with dependent children and more families comprising either couples or couples with other related individuals when compared with the MSD;
- a lower proportion than the MSD with high individual annual income; and
- a similar proportion of home ownership when compared to the MSD with 70% being home owners/buyers.

These variations from the MSD average are not significant but some conclusions may be drawn regarding this catchment population's preferences for park usage. They are:

- the fact that the population is younger than the MSD average suggests, suggests that a mix of structure and unstructures uses of parkland will be required; and
- the lower income profile and higher ethnic composition indicate preferences for low cost opportunities and the use of parks for informal social gatherings respectively.

3.5 LEISURE PREFERENCES

The most popular active leisure activities involve informal pastimes such as gardening, walking for pleasure and informal sport. Facilities which receive the most use are those which can be used on a casual basis, are free of charge, have good access, appeal to a broad age range and provide quality recreation opportunities. These invariably include regional parks and beaches.

There continues to be an increase in passive recreational pursuits which involve families and informal groups participating in activities such as nature study, bushwalking, cycling, and social events. More 'active' pursuits like tennis, have continued to grow because of their family, social and casual elements.

Recent customer research (AMR Quantum, 1992) for Melbourne Parks & Waterways shows that Melbourne's regional parks help to satisfy many of the popular informal active leisure pastimes. Family and group barbecues and picnics, cycling, walking and jogging are favoured activities. The leisure preferences of families, group users of open space, and individuals are discussed in Appendix 1.

The AMR Quantum survey identified "Entertainment Seekers" and "Disinterested Actives" as two groups which traditionally have not used regional parks.

The Sandbelt Open Space Project provides a unique opportunity to meet the needs of market segments not usually attracted to parks due to the limited natural features and the discretion thereby afforded to the redevelopment of the area.

3.6 COMMERCIAL LEISURE DEVELOPMENT MARKET

Melbourne's regional parks have traditionally provided free access. Given the anticipated mix of public and private involvement in the Sandbelt Open Space Project, there is the opportunity for a more commercial approach to park development and management which maximises the potential financial return and minimises the burden on the public sector. A detailed examination of the extent of commercial opportunities has not been undertaken. A discussion of some of the relevant issues follows.

Metropolitan or greater catchment: The study area is well serviced by major roads. More than 1.5 million people live within 30 minutes travelling time by car and almost the whole of metropolitan Melbourne is within an hour's drive. The area is located where city based tourist trips to Phillip Island could readily integrate a visit, if a suitable attraction were operating.

A major commercial theme park would be a significant attractant but is not favoured because:

- it would alienate from free public access a very large area;
- recreation areas will become available progressively. This would add to the difficulties of a developer who would wish to gain access to large portions at any one time; and
- a major theme park is already being considered nearby in the City of Springvale.

The current financial climate and the objectives for the Development Plan require a significant private sector involvement in the Sandbelt Open Space Project. However, that involvement should not seek to attract a metropolitan catchment.

Regional catchment: Many commercial leisure and sporting facilities seek to serve a greater than local catchment. The extensive land within the Sandbelt Open Space Project could accommodate a considerable number of operators. The ability to incorporate high impact activities and other activities which are being displaced in other urban areas, increases the potential of drawing from this catchment.

4. NATURAL SYSTEMS ANALYSIS

A task in the study was to identify the conservation, environmental and cultural attributes of the study area. The identification of a significant site or feature can determine a park theme, create an opportunity to enhance a feature, or constrain activity to preserve a significant habitat.

Four specialist studies were commissioned and the findings documented in the following reports.

- The Flora and Fauna of the Proposed Chain of Parks: Sites of Significance. December 1992. Ecological Horticulture Pty. Ltd.
- The Heatherton Dingley Chain of Parks: A Topographic Prediction for the Location of Archaeological Aboriginal Sites. Isabel Ellender.
- Cultural Heritage: Historic Places. Context Pty. Ltd.
- Heatherton-Dingley Chain of Parks: Waterways Management Factors - Opportunities and Constraints. N.M. Craigie & Associates.

The detailed analysis, principal findings and recommendations from each of these studies are contained in a separate resource document available for Melbourne Parks and Waterways. A summary of those findings follows.

4.1 FLORA

Past and present land-use in the study area has greatly modified the original vegetation which is now largely restricted to small reserves and isolated remnants within other areas (e.g. golf courses). Heathy Woodlands are characteristic of the sand hills of the study area while Swamp Shrub lands dominate those inter dune swales which are poorly drained. Grassy Woodlands dominate areas with clay soils in the south of the study area (e.g. Braeside Park). Some artificial water bodies (e.g. disused sand pits) contain aquatic and amphibious vegetation communities.

Six vegetation communities have been identified.

- 1.0 Eucalyptus pryoriana (Rough barked Manna Gum) Heathy Woodland.
- 2.0 Eucalyptus cephalocarpa (Silverleaf Stringybark) Sclerophyll Woodland.
- 3.0 Eucalyptus ovata (Swamp Gum) Open Forest.
- 4.0 Eucalyptus camaldulensis (River Red Gum) Grassy Open Woodland.
- 5.0 Melaleuca ericifolia (Swamp paperbark) Swamp Shrubland.
- 6.0 Freshwater Herbfield complex.

Assessment of Significance

Sites of botanical significance are areas where features of the vegetation meet defined botanical criteria. In the context of the present study the following areas apply to the scale of significance:

Local: The Cities of Oakleigh, Moorabbin and Springvale

Regional: The Greater Melbourne Metropolitan Area as defined by the Flora Survey Group, Department of Conservation and Natural Resources (DCNR) for their Melbourne Vegetation Survey.

State: Victoria

A total of 306 indigenous vascular plant species have been recorded for the study area during this study and from other unpublished data. All are considered to be of local significance, with 81 of regional significance.

Sites of Significance

Six sites have been identified for the study area as having regional or greater botanical significance.

Site 1 - Braeside Park	High regional significance
Site 2 - Rowan Woodland Reserve	Regional significance
Site 3 - Dingley Road Reserve	Regional significance
Site 4 - The Grange Reserve	High regional significance
Site 5 - Carroll Road Quarry	Regional significance
Site 6 - Commonwealth Golf Course Wetland	Regional significance

4.2 FAUNA

This assessment of fauna drew largely on published and unpublished information of the study area. A two day field survey was conducted in the area, to supplement and enhance this data. Five sites of regional significance and six sites of local significance were identified. A listing follows.

- R1. Braeside Park and Southern Golf Club**
- R2. Rowan Road Flora and Fauna Reserve and Spring Park Public Golf Course**
- R3. Clarke Road Tip and adjacent freeway reservation land**
- R4. Old Quarry Site east of Commonwealth Golf Club**
- R5. Dingley Road Reserve**
- L1. Wetland in quarry site south of BMX Track, Clarke Road**
- L2. Wetland east of Grange Road**
- L3. Readymix Heatherton Sand Supplies Site**
- L4. The Grange Reserve**
- L5. West of Mornington Peninsula Freeway Reservation, north of Governor Road**
- L6. Continuation of Deals Road, adjacent to Refuse Tip**

Sites of Indeterminate significance

Three sites of potential significance were not assessed during the survey. These were Commonwealth Golf Club, Kingston Heath Golf Club and Spring Valley Golf Club.

Because the future use of these sites is established and is compatible with the development of a series of parks, it was decided to concentrate the field work resources on areas subject to potential change. It is likely that these sites support fauna of at least local significance.

4.3 ARCHAEOLOGY

Aboriginal Archaeological Context

A broad scale survey of the Metropolitan District (Presland 1983) located sites throughout the Melbourne area and identified the Cranbourne Sands geological unit as having a high archaeological potential for significant sites. Including the Braeside and Clayton areas. The present study area has not been part of any systematic archaeological survey and therefore, there are no recorded Aboriginal sites in the study area.

The study area is situated on a Quaternary age sand dune field. Approximately 6 to 8,000 years ago, when the sea level stabilised at its current level, numerous small swamps began to form in the dune swales. This environment supported a Manna Gum and Silky Heathland vegetation on the dunes and a Wet Heathland with the occasional Red Gum in the swales which trapped a heavy highly organic sediment. This provided a resource rich environment for food and raw materials for utensils.

Survey of Potential Sites

A survey was carried out to identify any sites and areas of archaeological sensitivity. The highest archaeological potential for the study area was considered to be:

- the remnants of sand dune ridges;
- the swales represented by windmills and water holes;
- old drainage lines trending north-west/south-east but also cutting obliquely through the dunes;
- remnant vegetation; and
- areas of less disturbance.

Locating suitable survey areas proved to be a difficult task because the landscape has been substantially altered over time. Seven localities were selected for foot survey. The only artefacts site found is of low significance because it is badly disturbed. It appears that there has been a gross loss of Aboriginal sites in the area.

4.4 CULTURAL HERITAGE- HISTORIC PLACES

The extensive sand extraction in the area has been steadily changing the character of the area.

An identification of historic places remaining in the study area was based on an examination of historical maps, comparison with historical and recent aerial photographs, and limited field survey. This was supplemented by historical research to assist explanation of the evidence seen in the field.

Only two features of other than local significance have been identified in the area. One is the section of the historic market garden vehicle metal traffic plates located in Centre Dandenong Road near Grange Road (listed on the National Trust and the Historic Buildings Register). The other is the Commonwealth Golf Club House assessed as of regional significance as a particularly notable example of a club house.

The alignment of Old Dandenong Road appears to be one of the oldest features in the study area and worthy of incorporation into the park layout.

4.5 WATERWAYS AND WATER BODIES

Drainage Systems in the Sandbelt Open Space Project District

From west to east, the key systems affecting the proposed Sandbelt Open Space Project are Dunlops Drain, Gartsides Drain, Dingley Drain, and Edithvale Road Drain. Abutting the western boundary of the Dunlops Drain catchment is the Mordialloc Settlement Drain catchment.

Landfill leachates are currently exerting significant detrimental impact in all four drainage systems. These impacts extend downstream into receiving waters of some significance, particularly within Braeside Park. Current predictions are that increased problems are likely to arise from other completed landfills in the area. Another issue is the continual problem with waterborne litter from the urban catchments upstream.

Some General Conclusions For Waterway Development

The design features of the Spring Valley Park Retarding Basin/Lake provide a clear indication of the significant constraints which will limit waterway development throughout the Sandbelt Open Space Project. At this time, it is considered that the design features can be adopted as a model for other waterways in the area.

In essence, surface water drainage systems (which includes flows along the floor of the valleys and flows in pipelines), will be separated from groundwater systems. Hence, any lakes or wetlands are most likely to have to be provided with impervious liners, and abutting slopes will have to be capped with compacted impervious fill and provided with surface water diversion drains.

There are likely to be EPA requirements regarding the finished height of filled areas, due to concerns over potential capillary rise of water tables inducing leachate seepage from the base of the slopes onto adjacent areas.

Management plans will need to address the issues of windborne litter from active landfill sites and waterborne litter from the urban catchments upstream.

4.6 VISUAL ANALYSIS

The study area provides some interesting landscape features. The existing sand extraction areas provide the greatest topographic relief but these are effectively screened from the road by the mounding and screen planting that is a requirement of the extraction permit process. Where mounding is not present, filtered views are achieved through the boundary vegetation. Topography is only a highlight on the Warrigal Road site where low hills with established windbreaks provide an important horizon line and visual backdrop to views from the road. The area to the north of Moorabbin Airport is devoid of trees and visually exposed.

Travelling west along Lower Dandenong Road, the lightly treed open space of Braeside Park creates a gateway to the park system/study area by setting the park theme.

Elsewhere, the various golf courses with their treed boundaries provide intermittent views into the manicured green spaces within.

The winding, mostly tree lined Old Dandenong Road provides almost continuous filtered views into the adjoining landuses and has the character of a rural road.

5. LAND OWNERSHIP AND STATUS

The current land ownership and status of the key land parcels in the study area were reviewed and the owner's intentions for each parcel explored.

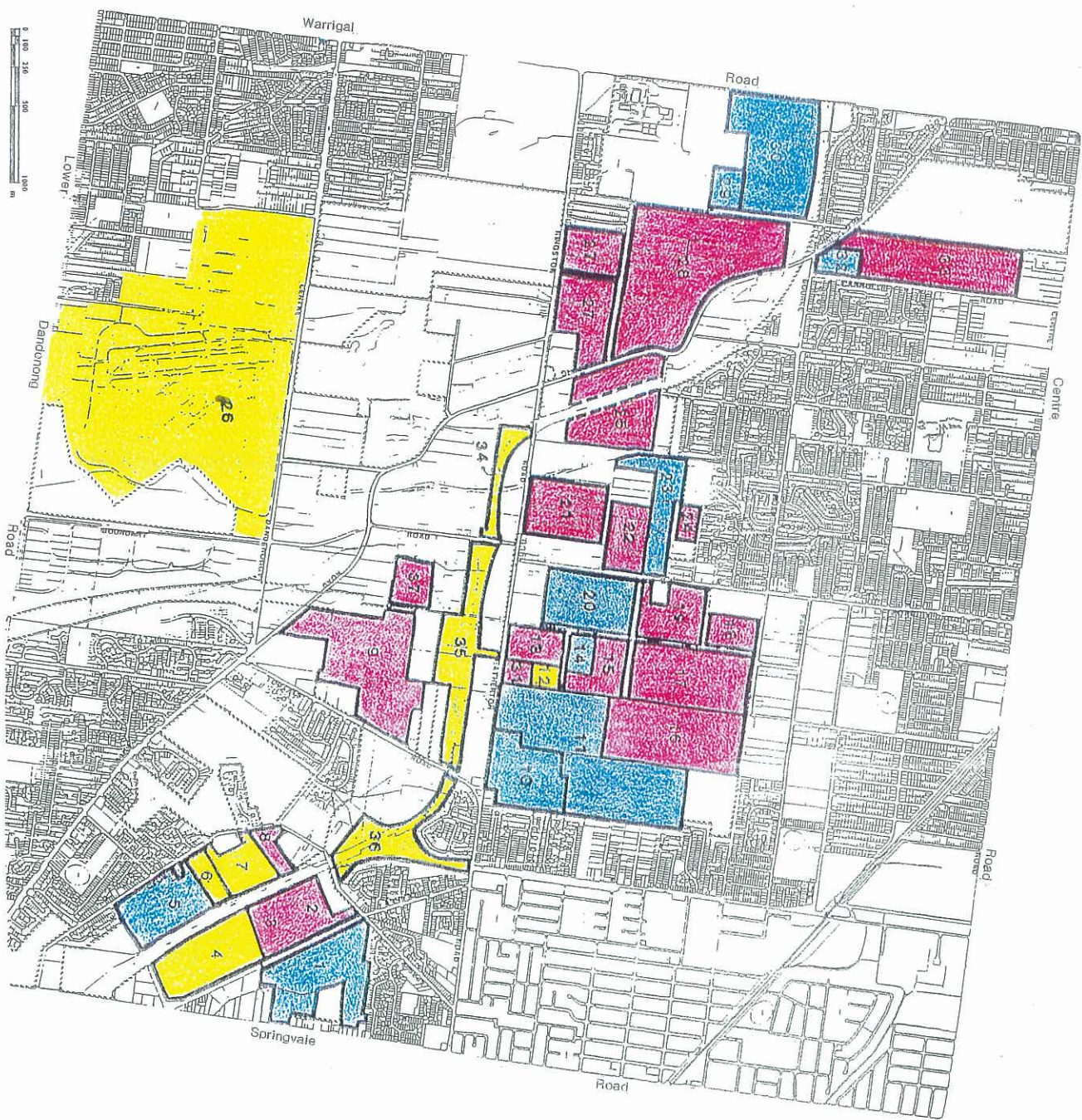
Many of the key land parcels have been, or will be, subject to sand extraction and landfill. A detailed environmental audit will be essential for each property and the future liability for any cleanup will need to be clarified prior to park development. The suitability of land for open space purposes must be confirmed as a prerequisite prior to acquisition for the Project.

The estimated timing to complete the extraction and/or landfill for each property was reviewed. This is particularly relevant to the implementation of the Project. The depressed economy has reduced the demand for concrete sand and the volume of refuse. It is therefore possible only to broadly estimate timing of extraction and landfill.

The main land parcels are listed below and shown on Figure 3. Figure 3 also highlights those parcels of land owned by Melbourne Parks and Waterways and the cities of Moorabbin, Oakleigh and Springvale, other public land and private land. Reference numbers for sites 1 to 30 are consistent with the numbers used by the South Eastern Regional Refuse Disposal Group. This numbering system is used to avoid introducing a new set of reference numbers.

TABLE 5: OWNERSHIP OF MAIN LAND PARCELS

1	City of Springvale	20	City of Camberwell
2	PBM Group	21	Pioneer Concrete Pty.Ltd
3	PBM Group	22	A.J. Baxter and Development
4	Ministry for Planning and Development	23	City of Moorabbin
5	City of Springvale	24	Allied Sand
6	City of Waverley	25	Pioneer Concrete Pty.Ltd.
7	City of Mordialloc	26	Commonwealth of Australia
8	A.V. Developments	27	Pioneer Concrete Pty.Ltd.
9	Ernest Smith Contractors	28	Readymix Group
10	City of Oakleigh	29	City of Moorabbin
11	Spring Valley Golf Club	30	Melbourne Parks & Waterways
12	City of Prahran	31	Proll and Emerson
13	Rocla	32	City of Moorabbin
14	City of Oakleigh	33	Pioneer Concrete Pty.Ltd.
15	Cleanaway	34	Roads Corporation
16	Pioneer Concrete P/L	35	Roads Corporation
17	Pioneer Concrete P/L	36	Roads Corporation
18	Boral	37	A.J. Baxter
19	Cleanaway	38	Dept. of Health & Community Services



Agencies

- Melbourne Parks & Waterways
- City of Oakleigh
- City of Morrabbin
- City of Springvale



Other Public Land



Private land



MELBOURNE
Parks & Waterways

**SANDBELT
OPEN SPACE PROJECT**

**PRINCIPAL
LAND PARCELS**

Figure
3



City of Moorabbin
City of Oakleigh
City of Springvale
Melbourne Water

6. PARK THEMES

6.1 INTRODUCTION

Major parks are often located to conserve and give access to some special feature which provides the rationale for the park. In contrast, the concept for the Sandbelt Open Space Project was initiated from the need to develop a constructive end use for a large area of degraded land. In addition, there is a need to ensure provision of a regional park for an area presently under catered for in open space.

The above discussion of recreation and open space demands (Chapter 3) demonstrates the need for a regional park to cater for a range of leisure activities and specific recreation uses.

The existing and potential activities have been classified and grouped into complementary themes. The themes have been allocated to areas within the Sandbelt Open Space Project based on the geographical conditions, natural resource analysis, access and circulation issues and the suitability of the site to support the activities. The recommended themes are discussed below. The allocation of these themes to precincts within the Sandbelt Open Space Project is discussed in the following chapter.

6.2 RECOMMENDED THEMES

The recommended themes for the Sandbelt Open Space Project arise from the existing and proposed features and development in the area and from the assessment of leisure demand, open space needs and target markets as reported in Chapter 3.

While much of the study area has been subject to sand extraction and landfill, the area contains an established park and a number of high quality public and private golf courses which provide two existing recognisable themes for the Sandbelt Open Space Project.

Conservation Parkland

Braeside Park covers an area of 295 ha. and contains areas of remnant native bushland, native grasslands and extensive seasonal wetlands. It is being managed by Melbourne Parks and Waterways as one of a number of metropolitan parks with an objective to conserve and enhance the natural features and to provide a regional recreational facility. Braeside Park forms the southern portion of the project area and provides a key theme of conservation parkland for the Sandbelt Open Space Project.

Two remnant woodlands in the area reinforce the conservation theme. The Grange Reserve and Rowan Woodland Reserve protect remnant woodland of high regional and regional botanical significance. They have also been assessed as having significance (local and regional respectively).

Golf

The study area lies within a region which enjoys a international reputation for its golf courses. Continuing community demand and sufficient land resources will further consolidate golf as a prominent activity. Golf is recommended as a key theme for the Sandbelt Open Space Project. The continuing involvement of the private sector in the provision of golf facilities is recognised and supported.

Regional Park

The investigations of the recreation and open space demands in the region highlighted the large catchment to the north and north-west of the study area which is not within thirty minutes travelling time of a major regional park. Braeside Park, the coastal open space corridor and Dandenong Valley Park already serve large areas of Melbourne's south-east sector. A suitably structured park in the Sandbelt Open Space Project can meet demand for the same provision of regional open space from suburbs such as Bentleigh, Murrumbeena, Carnegie and Oakleigh.

Equestrian Activities

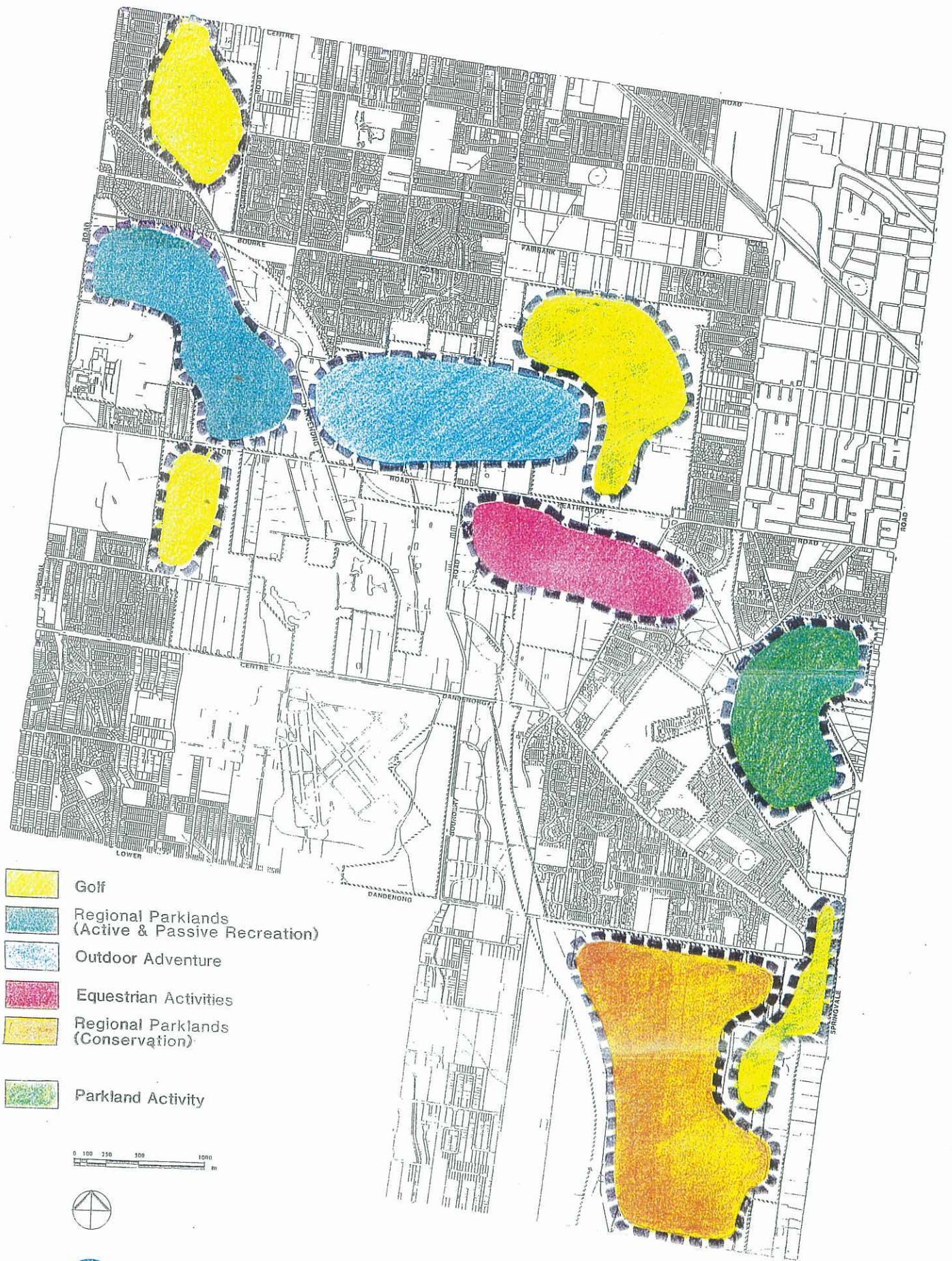
The region has a tradition of horse-riding, trotting, horse training and agistment. A number of equestrian groups are currently situated within the area. These include the Southern Light Harness Club and the Moorabbin Group of Riding for the Disabled.

Equestrian activities in the surrounding region are being progressively displaced due the pressure of urban development. It is recommended that equestrian uses form one of the key themes adopted for the Sandbelt Open Space Project. The Project area has the potential to provide an extensive open space network and trail system within which equestrian use could be a primary activity.

Outdoor Adventure/Education

Analysis of the recreation and open space demands identified a wide range of outdoor recreation and education activities some of which are generally not accommodated within the urban area. Many outdoor and adventure activities could be accommodated within the Sandbelt Open Space Project. This group of activities represents a potential additional theme. Examples of activities which could fit within this grouping are children's farm, scouting/guiding, cross-country running/orienteering, urban camp, leadership training, archery, pistol shooting, go-karting, climbing, motorcross, roller-blading and horse-riding.

Outdoor adventure/education is recommended as a key theme for the Sandbelt Open Space Project.



7. THE DEVELOPMENT PLAN

7.1 INTRODUCTION

The Development Plan aims to provide a framework for establishing the Sandbelt Open Space Project as a major open space asset for the south east area of Melbourne. It defines the boundaries and the range and distribution of activities and provides a framework for both public and private sector development.

7.2 THE VISION

The Sandbelt Open Space Project is envisaged as a "....chain of physically integrated parks providing for a wide range of regional and local recreation opportunities in a quality environment". (Deloitte, 1992). The Implementation Strategy emphasised the need for park development to have regard to the equitable access to, and provision of, leisure and recreation facilities, and to recognise different perceptions of urban parks and different concepts of recreation and leisure. The Development Plan provides the framework to meet these needs.

The Plan reviews and recommends a proposed boundary for the Sandbelt Open Space Project. It also defines the core area required for public ownership in order to achieve a continuous open space link. In addition, it identifies the adjacent areas to be developed by public and private agencies with complementary recreation uses. It specifies the major park themes, the trails and linkages and the landscape framework. The likely timing of land availability has been reviewed and a staging program prepared.

7.3 THE SHAPING OF THE PLAN

A variety of objectives, opportunities and constraints have shaped the Plan. The major influences include:

- open space and recreation demand;
- the extent and location of disturbed land;
- the location of existing and proposed open space and recreation facilities;
- environmental and cultural values;
- the requirement to physically integrate the parks;
- the need to minimise the amount of land to be publicly acquired; and
- land in public ownership.

The Extent and Location of Disturbed Land

The concept of a series of parks in the Heatherton and Dingley area arose directly from the extensive sand extraction and the limited uses available to disturbed land. The location of this existing and future disturbed land has been a fundamental influence on the shaping of the Development Plan. Figure 4 shows the extent of land already disturbed by sand extraction.

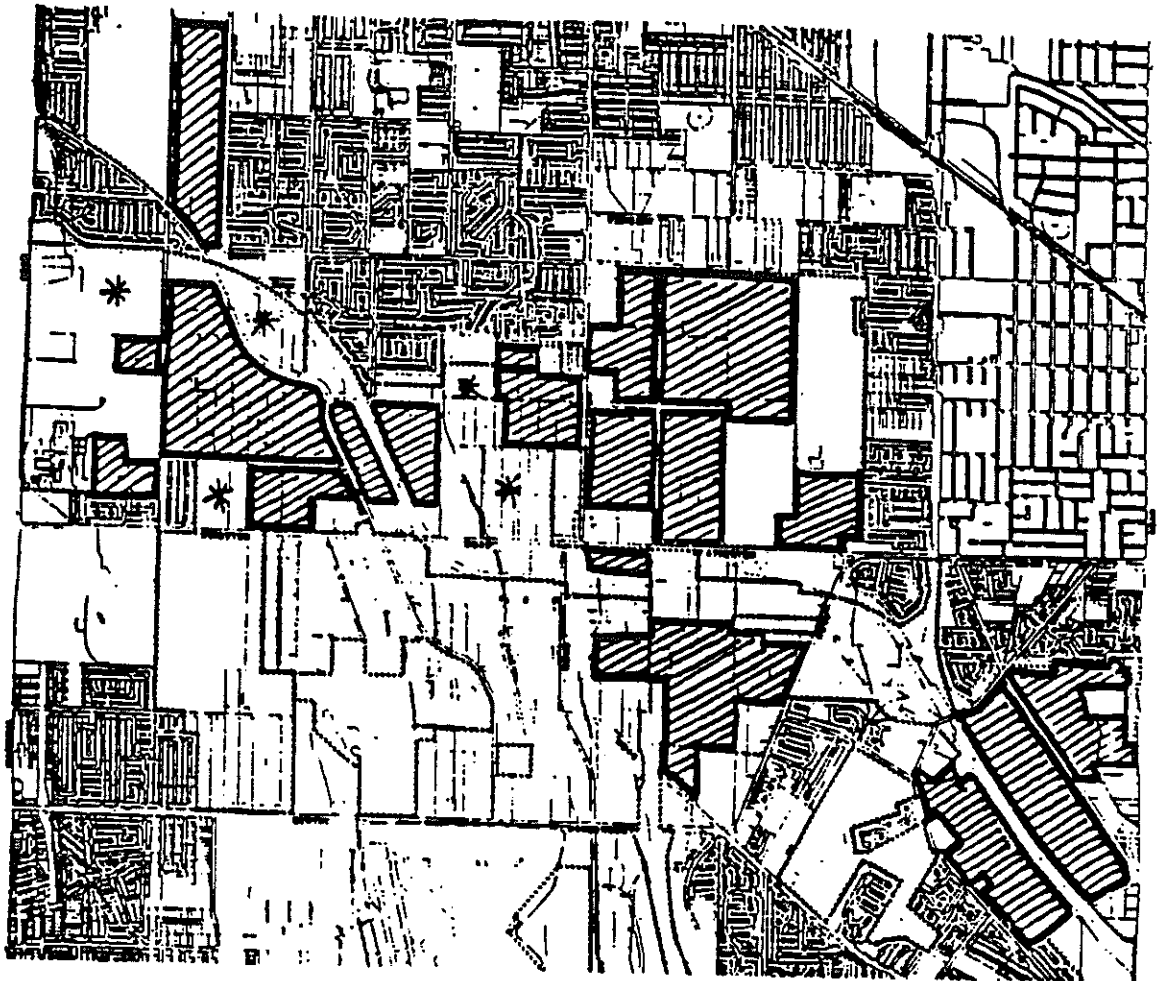


Figure 4: Land Disturbance from Sand Extraction

Most of the extraction sites in the study area have already been disturbed. A number of sites still to be extracted are located west of Clayton Road. These are shown in Figure 4 by asterisk.

The Location of Open Space and Recreation Facilities

The study area has extensive public and private open space already established, for example Braeside Park, various municipal reserves and private golf courses. Planning or development of additional open space and recreation facilities is underway in the private and public sectors, for example Spring Valley Park in Springvale South and the Hudson Conway golf course estate on Centre Dandenong Road. Figure 5 shows the existing and proposed recreation land. The Development Plan builds on these.

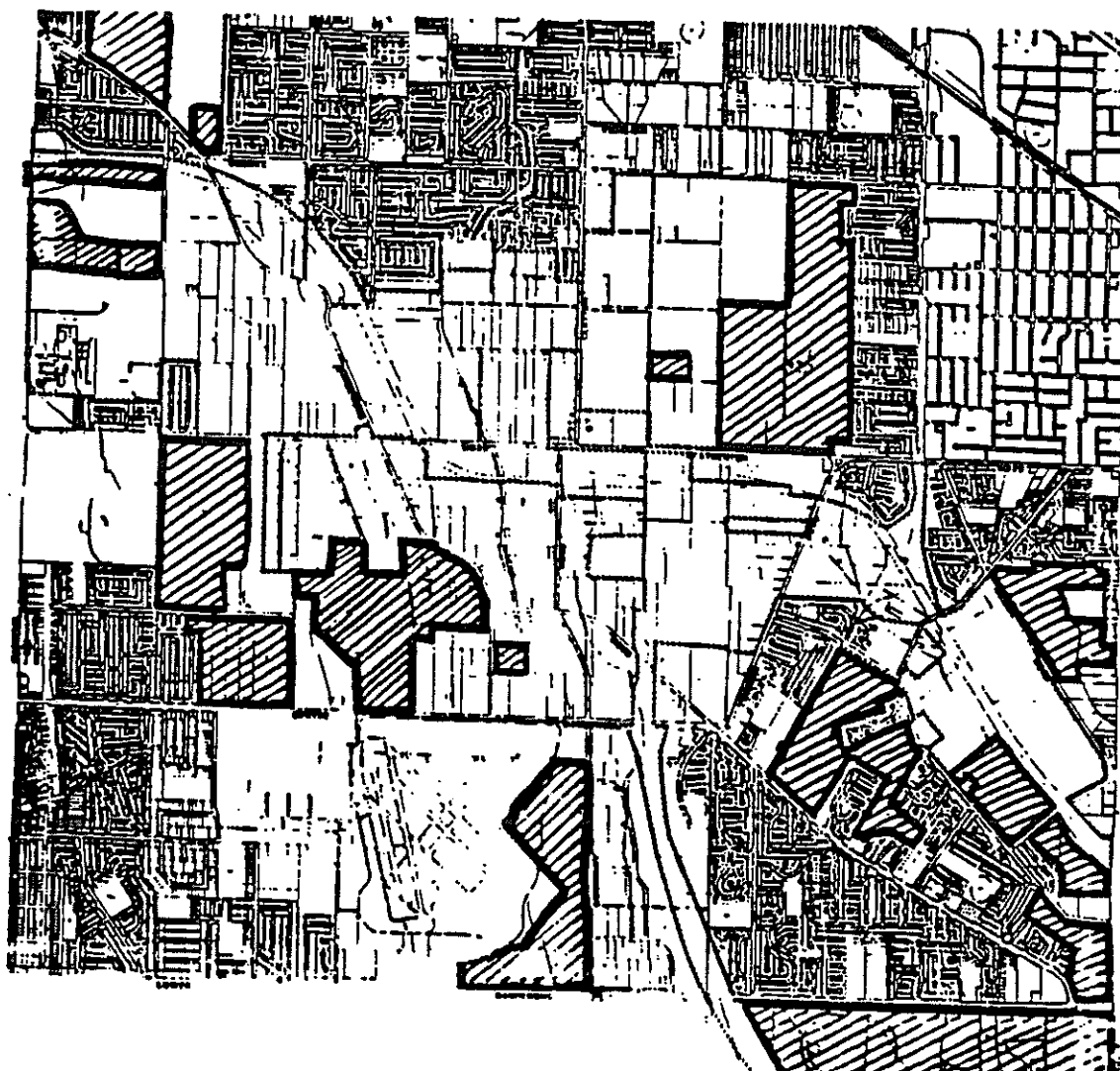


Figure 5: Existing and Proposed Recreation Land

Land in Public Ownership

There are a large number of sites owned by public agencies within the study area. Of greatest relevance is the land owned by the four agencies responsible for implementing the Sandbelt Open Space Project as these sites will not require acquisition.

VicRoads has extensive land ownership in the area which is significant on two counts. Substantial sections may not be required for road purposes for some years. The opportunity exists to utilise these areas for park and trail purposes in the interim.

Secondly, VicRoads will have surplus land for disposal following road construction which is likely to be in the form of linear strips and could assist in achieving trail links.

The study area includes land holdings of several councils from outside the study area. The majority of which are landfill sites. Enquiries reveal that these councils do not have a long term interest in the land. Sites in public ownership for which there are no proposals for recreation use are shown in Figure 6.

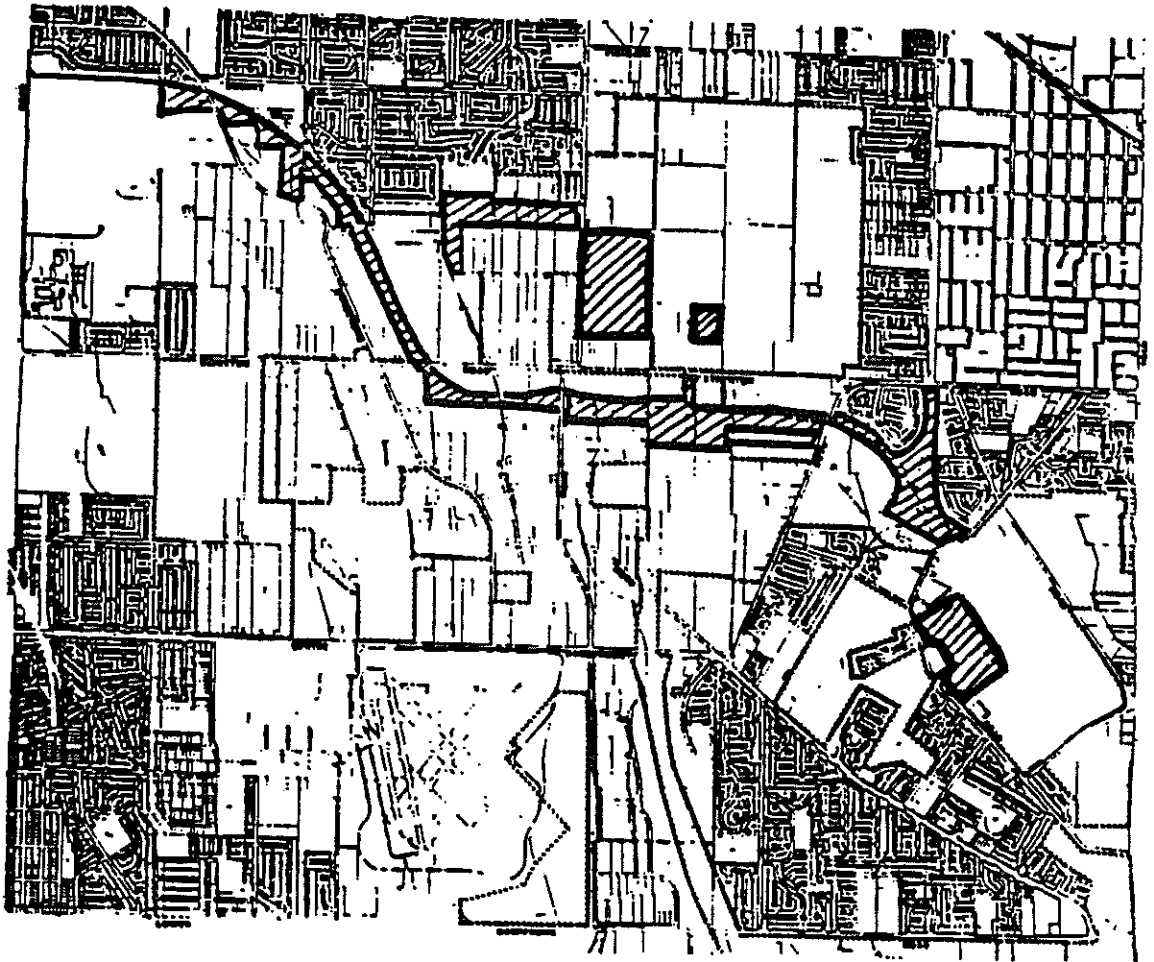


Figure 6 Land Without Specific Open Space Plans and Owned by Public Agencies

Environmental and Cultural Values

Analysis of the environmental and cultural values of the study area identified sites of regional or local significance and interest. Some of these sites are protected through existing parks and reserves, for example Braeside Park and the Grange Reserve. Other sites are variously located on extraction and landfill sites, road reservations and market gardens.

A number of sites have significant values and have been considered in the Development Plan.

The implications for the Development Plan of each site of Regional Significance are summarised below.

Braeside Park and Southern Golf Club - major existing assets of fundamental significance in shaping the Development Plan.

Rowan Woodland Reserve and Spring Park Public Golf Course - already in public ownership and available for incorporation into the Development Plan.

Dingley Arterial Road Reserve - roadworks programmed to commence in 1994 will disturb the remnant swamp shrubland but a significant portion can be conserved and provide a core for future expansion along the drainage line.

The Grange Reserve - already in public ownership and available for incorporation into the Development Plan.

Carroll Road Quarry - permit issued for filling the whole site. The site's significance derives from the fresh water herbfields and the associated fauna. The southern quarry hole supports the most significant environment on the site. While the site's dense growth of aquatic plants is attractive for certain water birds and frogs, the site sits above 15 metres of slimes ponds, which raises a number of public safety issues.

The populations of Growling Grass Frog and Striped Marsh Frog are unusually large; that of the former was the largest density encountered in the Melbourne region by the specialist assessing the study area.

Representations about the site have been made during the study and confirm its significance. The site is considered to be at the higher end of regional significance but does not justify elevation to state significance.

The portion of the site containing the wetland of significance has been used to store slimes from washing sand extracted to the north. The frog habitat overlies many metres of slimes. For safety reasons, retention of the wetland would require that public access be prohibited. The abutting residents are keen to see the pit filled for safety reasons and the land developed for public open space. The City of Moorabbin owns the southern portion of the site.

Approvals have been issued for landfill and the slimes are proposed to be pumped to the landfill sites and used as cover material.

Commonwealth Golf Course Wetland - the wetland is situated at the northern end of the golf course.

Springvale By-pass Reservation and Adjacent Land - some limited extraction is still to occur on the adjacent land. Roadworks have commenced and a local conservation group is propagating plants for reinstatement of the roadside vegetation.

The Linking of the Parks

The need to provide an extensive trail network has been an influential factor since the initial concept of the chain of parks. Effective integration of the recreation areas can achieve a trail network stretching ten kilometres. The Development Plan proposes a core area of publicly owned land which will achieve a continuous open space link.

achieve a trail network stretching ten kilometres. The Development Plan proposes a core area of publicly owned land which will achieve a continuous open space link.

The trails will be a major recreation feature of the Sandbelt Open Space Project and will access other recreation facilities through the area. In providing for a quality recreation experience all main road crossings will require specific design treatment.

The Limitation on the Public Acquisition of Land

The need to sensibly limit the amount of land to be purchased by the community has been an important consideration in the study and is assisted by the extensive existing public land in the area.

The need to limit expenditure on land acquisition has been complemented by the presence of disturbed land the value of which is greatly diminished compared to that of adjacent undisturbed land.

Open Space and Recreation Demand

Analysis of the visitor and leisure demands has identified a range of factors relevant to the preparation of the Development Plan. Those most influential factors in shaping the plan have been:

- the demand for a large parkland for predominantly passive recreation to serve the catchment to the north and north-west;
- the need for space for high impact sports which are being displaced from other urban areas;
- a demand for land for equestrian activities being displaced from other areas;
- demand for a network of trails; and
- a demand for more golf courses in Melbourne which could be partly satisfied in the Sandbelt Open Space Project.

7.4 THE ALLOCATION OF THE THEMES

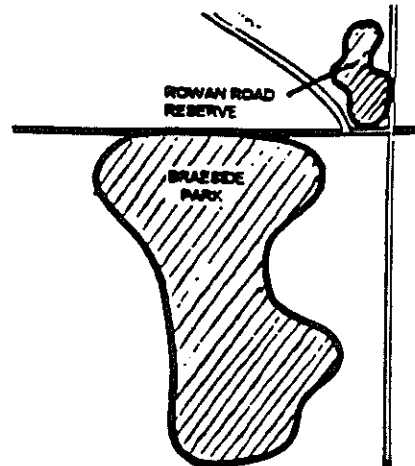
Detailed analysis has been undertaken to identify the most appropriate location for each park theme. The basis on which each locality was selected is described in the following section and are shown in Figure 7.

Conservation Parkland

The conservation parkland theme has an established focus already with Braeside Park. The Rowan Road Reserve consolidates the conservation theme at the southern end of the study area. Spring Park Golf Course provides an important corridor for fauna to move between the two sites. The Grange Reserve is another significant conservation area but is isolated from Braeside Park.



SITES WITH HIGHEST
CONSERVATION VALUES



Regional Parklands

Regional parklands require a large area suitable for general active and informal use. The Ministry for Planning and Development publication "Planning Guide for Urban Open Space" (1989 p. 11) proposed that parks of regional significance "should be large enough to allow extensive walking and a reasonable degree of isolation from other urban activities large enough to cater for a wide range of recreational activities." It has to be large enough to accommodate the facilities necessary to become a regional attraction.

As outlined in Chapter 3, there is a lack of regional parklands for residents in the Caulfield, Murrumbeena, Bentleigh area of Melbourne. The potential visitor demand for regional parklands is estimated to attract up to 400,000 visitors per annum. Regional parklands totalling 100 ha is required to cater for the visitor demand, provide for a range of activities and provide sufficient buffer from the surrounding urban development. Water features have been identified in the customer research program as a special feature in parks. Warrigal Road has also been identified as the only suitable site for a water feature to form part of the regional parklands.

The visitor catchment for new regional parklands lies predominantly to the north. The two candidate locations with good access from the north and of adequate scale, are:

- the site including Melbourne Parks & Waterways, City of Moorabbin, Pioneer Concrete and Heatherton Sand Supplies land south and west of Old Dandenong Road; and
- land between Clayton Road and Spring Valley Golf Club.

The former location is proposed for several reasons:

- it is the larger area;
- is more readily assembled;
- it is directly accessible from Warrigal Road;
- it includes about 50 ha already in public ownership; and
- a major water body, an important attraction in a major park, can be more effectively provided.

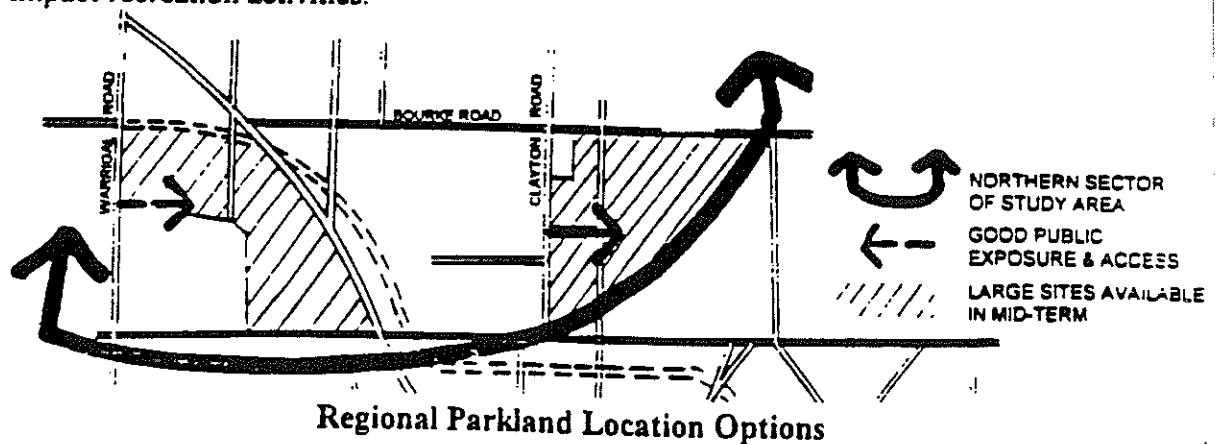
The site is bounded by Warrigal Road, the reservation for the Dingley Arterial, Old Dandenong Road, Kingston Road, and a mix of existing and proposed uses to the south west. The total area is approximately 160 ha. The final size of the regional parklands will be determined when detailed site design work is completed.

A major lake and associated land and water based recreation activities would be a significant feature in the northern end of the regional parklands which could compliment both structured and unstructured recreation. The opportunity exists in the future to provide an area with a reasonable degree of isolation from the surrounding roads and other urban activities in the southern area to complement the more intensive activities in the north.

Warrigal Road and the Dingley Arterial provide clearly defined boundaries for the parklands to the north and north west. Old Dandenong Road is worthy of preservation because of its historic significance. If used as the eastern boundary the preservation of the alignment would be achieved. The character of the road and its low traffic levels would serve as an attractive access road to the park. Kingston Road is proposed as the southern boundary given its high traffic volumes.

These proposed boundaries take in an extensive area of land currently or potentially disturbed by sand extraction. The land fronting Warrigal Road, which is already owned by Melbourne Parks and Waterways, is also included. Melbourne Water Corporation owns a parcel of land on the eastern side of Warrigal Road, south of Fairchild Street, Moorabbin. This land south of sites 29 and 30 on Figure 4 is not required for regional parklands, but is designated as non core area, which can be developed commercially for a range of uses adjacent to parklands.

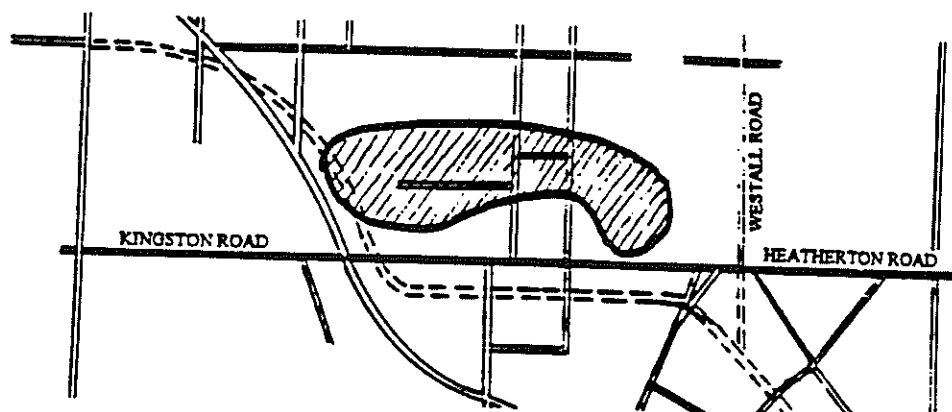
The site located between Clayton Road and Spring Valley Golf Club contains some areas suitable for noisy recreation activities and is the optimum area for additional high impact recreation activities.



Outdoor Adventure/Education

Many of the activities in this category are suitable for siting on disturbed land. They do not require high exposure to passing traffic and in some cases, such as an urban camp or a children's farm, are better located away from main roads.

The focus for these activities is an east west area between Old Dandenong Road and Spring Valley Golf Course, including the area nominated for high impact activities, which are compatible with this theme.

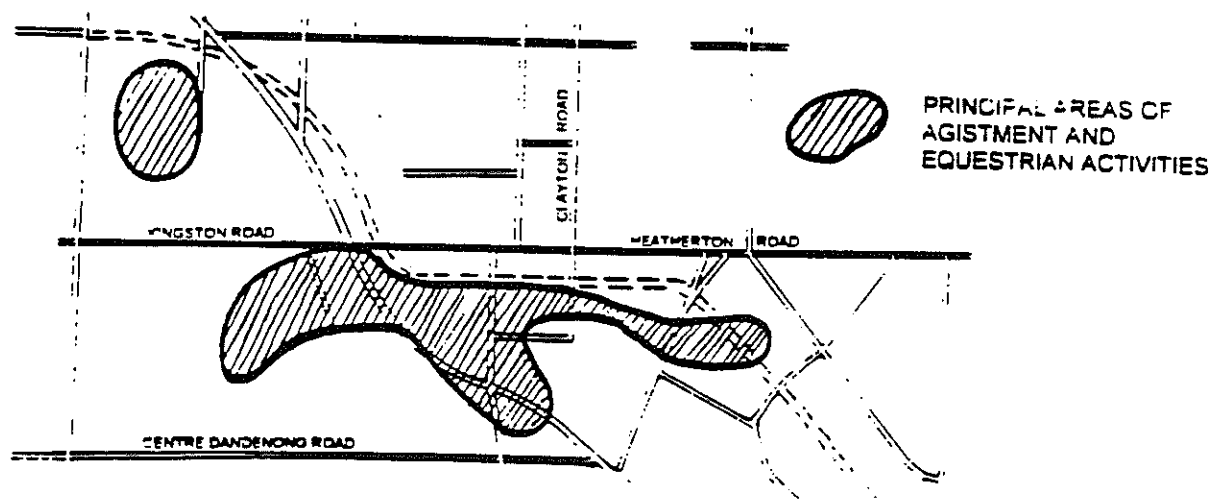


Proposed Outdoor Adventure/Education Locality

Equestrian Activities

Equestrian activities are currently more prevalent in the southern part of the study area. A location which can integrate with the trail network could provide the focus for this theme. The proposed location is the east west area on the southern side of Kingston Road and Heatherton Road, roughly centred on the freeway reservation.

There are no features in this area which make it more suitable for other nominated themes. The equestrian trail must pass through this area given the proximity of residential development at Springvale South and Dingley, and Spring Valley Golf Course.



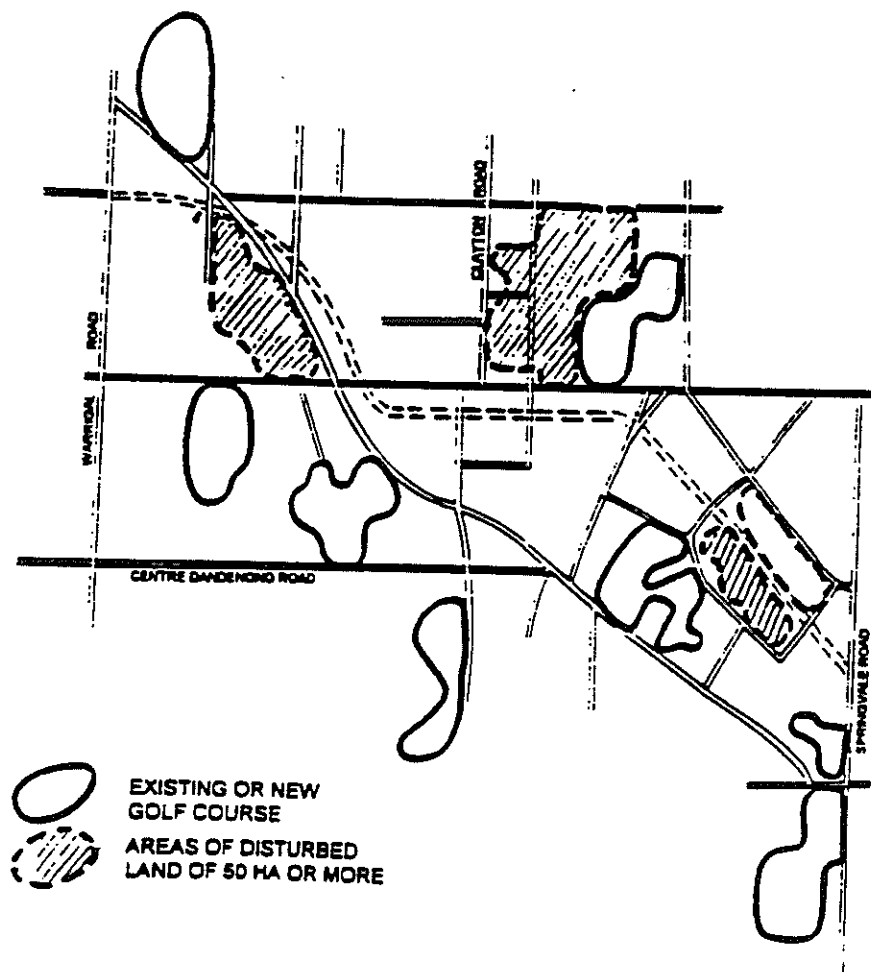
Principal Existing Areas of Equestrian Activity

Golf

In common with equestrian activities, golf facilities are currently spread throughout the study area. There is a strong association of golf within the region.

Golf courses and driving ranges have been considered suitable uses for disturbed land, particularly when the final capping and shaping of the landfill can be designed for that end use. There are a number of locations within the study area where future golf courses could be located.

Pioneer Concrete propose to construct an 18 hole golf course on the latter site bounded by Osborne Avenue, Spring Valley Golf Club, Ryans Road and Deals Road. The use of this site for a golf course is preferred as the Springvale site will have a major arterial road on one boundary and which would be more suitable for noise tolerant activities.



Some Existing and Potential Golf Course Sites

Parkland Activity

The area encompassing past sand extraction sites between Dingley and Springvale South does not have strategic advantages for a particular theme. Springvale Council has plans for two large areas of park in this area, one at Spring Valley Park, between Clarke Road and Springvale Road, and another adjacent to Spring Road and Rowan Road. The area has excellent access adjacent to Springvale Road which could be developed and managed as a private park or recreation facility. The recreation activities would need to take account of the extent of disturbed land. A Parkland Activity theme, reflects the commercial recreation activities to be developed in this area.

7.5 THE CORE AREA OF THE SANDBELT OPEN SPACE PROJECT

A key objective for the study required that the area of land necessary for full public access and managed by one of the four agencies be determined. This core area is an essential link between the recreation activity areas. The trail network is contained within this core area, the single exception being the principal bike and pedestrian trails between Rowan Road and Braeside Park. In this case, the trail runs along the edge of Springvale Road for several hundred metres.

7.6 THE DEVELOPMENT PLAN

The Development Plan (Figure 9) highlights the core area of land which links the Regional Parklands at Warrigal Road, Moorabbin to Braeside Park, Dingley. The principal trail network is contained within this area.

Land abutting and adjacent to the core area, is proposed for other public and private park activities. Kingston Heath Reserve, Heatherton Park and the land west of Carroll Road do not abut the core area but are linked through the proposed trail network.

A number of sites within the Project area are highlighted as Existing Private Open Space. These include private golf clubs and the land proposed by Brighton Grammar for school playing fields.

Some recreation sites within the study area contribute to the open space character of the area but are not integral to the Project. These have been classified as Satellite activities. They include Heatherton Recreation Reserve, Moorabbin Public Golf Course and the Hudson Conway golf course currently being developed on Centre Dandenong Road.

Possible Recreation Uses

Specific activities suitable for the five sections of the core parkland, and their abutting public and private recreation land, are listed in Table 6. The areas accord with the park themes as follows:

- Area 1 Regional Parklands
- Area 2 Outdoor Adventure
- Area 3 Outdoor Adventure (high impact) and Golf
- Area 4 Equestrian Activities
- Area 5 Parkland Activities

Table 6: Candidate Activities for each Section

<u>Area 1</u>	<u>Area 2</u>	<u>Area 3</u>	<u>Area 4</u>	<u>Area 5</u>
Boat Sheds	Abseiling	Archery	Cross Country	Amusement Park
Fishing	Aboretum	Mini Golf	Rodeo	Mountain Bikes
Hotel	Camping	Mini Bikes	Riding School	BMX
Kite Flying	Community Garden	Go-karting	Equestrian Centre	Community Garden
Interpretation	Fauna Park	Mountain Bikes	Trots Track	Youth Camp
Kayaking	Forest	Trail bikes	Pony Club	Golf
Circus	Lodges/Cabins	Golf	Forest Park	Caravan Park
Restaurant	Mountain Bikes	Ski Slope	Show Jumping	Cafe/Kiosk
Canoeing	Outdoor Adventure	Community Garden		Mini Golf
Lodges/Cabins	Ovals			Ski Slope
Cafe/Kiosk	Rock Climbing			Zoo
Model Boats	Rollerblading			Fauna Park
Concerts	Rollerskating			
Art Gallery	Scouts/Guides			
Sailing	Skateboarding			
	Zoo			
Activities Common to each Section				
Fitness & Cycle				
Tracks				
Bridle Paths				
Lookouts				
Picnic Areas				
Playgrounds				

The objectives of the study required a review of the boundary which was proposed in the Implementation Strategy. A revised boundary is shown in Figure 8. This report recommends the adoption of the current study in all but the following locations:

- the strip of land between Kingston Heath Golf Course and the lots fronting Pietro Road is excluded. Traffic volumes on Pietro Road are low, making it suitable for incorporation in the bicycle trail network. The strip of land is not required therefore for an off road trail.
- a 30m corridor straddling the boundary between the Honey Factory and the Reception Centre between Spring Road and Rowan Road Reserve, encompassing a strip of the existing vegetation and space for pedestrian and cycle links.

Proposed Trail Network

Trails are an important feature in the concept of a series of linked parks. The Project area offers excellent potential for a significant network of trails for walking, cycling and horse riding.

Grade separation is essential where the trails cross main roads, in order to provide for quality recreational experiences and attract high levels of use. The arterial roads through the area carry high volumes of traffic making at grade crossings difficult and unsafe.

An underpass is less attractive unless the road is elevated and the underpass remains close to ground level. The topography in this area does not provide opportunities to achieve an elevated road. The high water table precludes underpasses, as equestrian trails have specific clearance requirements. Sections of the Proposed Dingley Arterial will be below natural ground level to minimise noise. In this case underpasses will be difficult to achieve.

Overpasses are recommended for grade separation for the trail network at major roads. All the nominated locations can accommodate a gradual access gradient to the overpass so that the change in level would facilitate ease of access for pedestrians, cyclists and horse riders. The change of elevation achieved at each overpass would also provide long range views into the surrounding recreation areas and, at some locations, distant views to the Dandenongs and other landmarks.

The Development Plan highlights the proposed equestrian trail extending 8.5 km from Dingley to Warrigal Road, Moorabbin. High sided bridges would be constructed over the Dingley Arterial near Elder Street. The trail is proposed to ramp up to the overpass which would be 3m wide. This assumes that horses would not pass on the overpass. Similar overpasses would be constructed at Clayton Road, Heatherton Road, the Dingley Arterial south of Heatherton Road, and Tootal Road.

The Victorian Horse Council has sought a trail southwards through Braeside Park to link into the Keysborough/Bangholme area. The built up area of Dingley presents a major barrier to such a link. The Mornington Peninsula Freeway reservation could provide a route for some years until the Freeway was constructed. However conflicts

with traffic where the trail crossed Lower Dandenong Road, Centre Dandenong Road and Old Dandenong Road make it an unsuitable route.

Figure 9 also highlights a central trail for cyclists and pedestrians. While the overpasses and some sections of the trails would operate as shared footways, cyclists and pedestrians should have separate paths across most of the central route. The bike path should be constructed as a 3m wide path. The potential conflict with rollerbladers on busy sections of the trail needs to be addressed during the design and construction of the path.

Three major trails are shown which create loops along the central route. These routes are:

- a Heatherton loop south from the Regional Park, through Kingston Heath Reserve and along the southern edge of Centre Dandenong Road to Dingley;
- a route along the Dingley Arterial Road reservation between where the central trails cross that reservation near Elder Street and south of Heatherton Road; and
- a western route to Braeside Park along the Dingley Freeway Reservation.

In addition, 3m wide shared footways are to be built by VicRoads beside the Dingley Arterial and the Springvale By pass.

A shared footway overpass is proposed over the same five roads as for the equestrian trails. A further overpass is required across Boundary Road. VicRoads may also construct an overpass where the Dingley Arterial crosses the present alignment of Old Dandenong Road, once both carriageways of the Arterial are completed.

7.7 WETLANDS AND WATER-BODIES

A major lake is proposed in the new regional parklands. Water features are an important attraction in parks. They contribute to the range of activities, are of interest for the casual onlooker and provide attractive views within and over the park. The proposed lake is required to incorporate the retarding basin function. The lake will incorporate wetlands to satisfy the drainage requirements and address water quality issues.

The Development Plan indicates a potential wetland along the drainage line from Clayton South passing to the west of Leslie Road. The design of the wetland should serve environmental and visual objectives as well as measures to trap water borne litter carried from the catchment.

7.8 FRAMEWORK PLANTING

The future broad scale vegetation pattern/character should be based generally on the original vegetation for the following reasons:

- ease of maintenance;
- to limit establishment costs;
- enhance wildlife corridors; and
- build on the remnant vegetation.

A landscape and planting framework has been prepared and is shown in Figure 8.

Where vegetation communities were once found growing on elevated sand hills, they should be reinstated. Pockets of remnant vegetation should be preserved and reinforced with new plantings of a similar plant species. Priority should be given to the propagation of planting stock from remnant indigenous source material in the area.

The size of the study area indicates that even a modest planting program and its ongoing maintenance will incur a substantial cost. Irrigation would be inappropriate in other than limited areas. In many areas, the thin layer of topsoil over the existing landfill sites, combined with the porous nature of fill material, will create a harsh dry environment in which only the hardiest of plant species will survive.

Where an overall landscape character type is required, for example an Open Woodland, species and planting density or pattern can be modified to give the site the appearance of an Open Woodland even if the species do not occur locally. Species shown to be environmental weeds, such as *Acacia longifolia*, should be avoided.

Recent landfill capping techniques have improved vegetation establishment and management. Existing EPA requirements in the final capping of sites are sufficient only for establishing grass cover. However, gas venting or collection systems, combined with a one to two metre mounding at particular areas over the clay cap is required to enable indigenous plant species to adapt to the particular site condition to be planted. Very few plants have naturally adapted to a rehabilitated landfill setting but, due to the shallowness of their root systems, many plants of a heathland community can be used. Where sites have not been disturbed, local native vegetation can be successfully established.

Within the broader landscape framework, there is scope for areas of individual or contrasting landscape character. For example, on the Warrigal Road site where soil will not be excavated, planting of exotic deciduous/coniferous woodland could be undertaken in conjunction with a herbfield/grassland meadow. In other areas that may be developed and operated privately, the planting style should reflect the individual area. The range of planting activities can occur within an overall binding framework which provides the setting for individual events.

Specific localised treatment of planting densities may be required. Examples include: informal open space, where it is necessary to provide for filtered views, and areas where structures or roads need to be screened.

The five main vegetation patterns proposed for the framework planting are described below. The proposed distribution is shown on Figure 8.

- * **Heathy Woodland** - would generally be located on higher areas, particularly sand dunes. Upper storey would be open with trees to 8m with an understorey of low shrubs.

TREES *EUCALYPTUS* *pyroriana* - dominant species
 EUCALYPTUS *cephalocarpa* - occasional
 EUCALYPTUS *radiata* - occasional

SHRUBS *ACACIA* *oxycedrus*
 LEUCOPOGON *virgatus*
 LEPTOSPERMUM *myrsinoides*
 BANKSIA *marginata*

- * **Schlerophyll Woodland** - remnants found over most of the site on lower slopes of sand dunes and level areas. Trees to 10m with an understorey below of varying density to 2m.

TREES *EUCALYPTUS* *cephalocarpa*

SHRUBS *MELALEUCA* *squarrosa*
 ACACIA *oxycedrus*
 LEPTOSPERMUM *continentale*
 PLATLOBIUM *obtusangulum*

- * **Open Forest** - distribution mainly confined to moister soils in poorly drained areas or along drainage lines/depressions. Trees to 15m with tall shrub understorey to 3m.

TREES *EUCALYPTUS* *ovata*

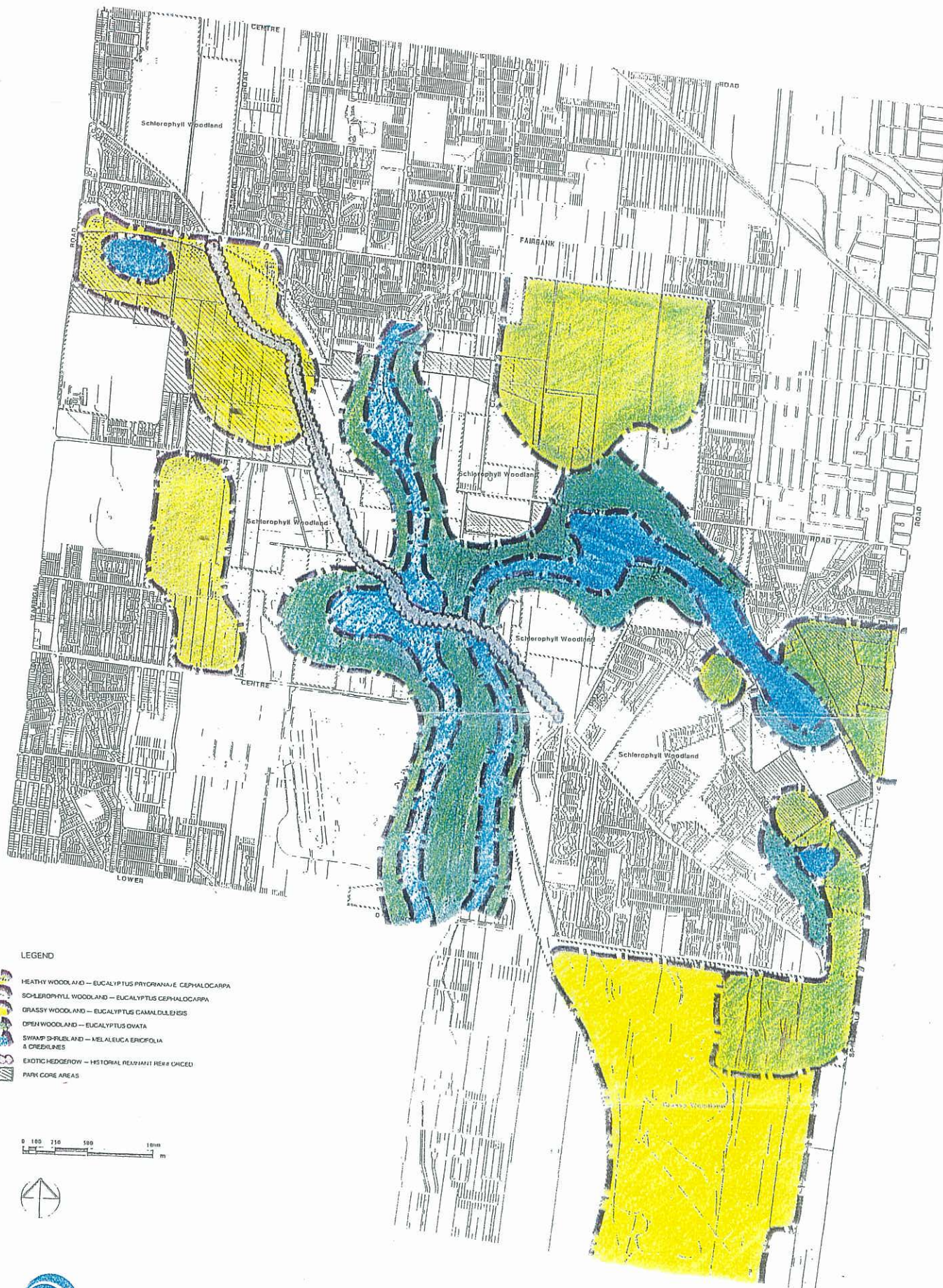
SHRUBS *MELALEUCA* *ericifolia*
 ACACIA *verticillata* var. *verticillata*
 SOLANUM *laciniatum*
 CASSINIA *aculeata*

- * **Grassy Woodland** - this area is restricted to soils with a higher clay content. Really only found at Braeside. Scattered trees over a grassed understorey.

TREES *EUCALYPTUS* *camaldulensis*

- * **Swamp Shrubland** - as implied by the name, this vegetation unit will be developed in depressed, water-logged depressions and creeklines. No trees present, this is basically a closed shrubland with a ground layer dominated by sedges.

SHRUBS *MELALEUCA* *ericifolia* - dominant species
 OZOTHAMNUS *ferrugineus*



LANDSCAPE FRAMEWORK

Figure
8

SANDBELT OPEN SPACE PROJECT DEVELOPMENT PLAN

City of Moorabbin
City of Oakleigh
City of Springvale

ACACIA verticillata var. verticillata
MELALEUCA squarrosa

The open space adjacent to the intersection of Lower Dandenong Road and Centre Dandenong Road provides an opportunity to landscape a primary entry to the Project area. Planting in the Heathy Woodland character is recommended. This style would integrate with the abutting woodland character on the Spring Park Golf Course and enhance the wildlife corridor between Rowan Woodland and Braeside Park. This landscape treatment is consistent with the planning for this area by the Dingley Village Community Association.

7.9 DESIGN GUIDELINES

Buildings/Structures

The Sandbelt Open Space Project encompasses a range of landscape themes of individual character. It would therefore be appropriate to allow buildings to vary in form and colour in response to the individual site or site activity. There are basic guidelines which should apply and are detailed below. Further indicative guidelines are being developed and form part of the Planning Scheme Amendment.

Massing and Form

Given the lack of variation in elevation, building shapes should generally be contained to a maximum height of 7 metres above the ground line. Where a higher building is necessary, for example for a basketball stadium, the visual impact of the building mass should be considered.

To reduce the massing of extensive buildings, the roof lines should be multi or split level and building form generally low slung with articulation of elements. Details such as overhanging eaves and exposed frames also help to avoid buildings presenting as inappropriate bulk intrusions.

Verandahs, trellises and pergolas are an effective method of reducing the impact of building form and help integrate buildings into their setting.

Materials and Colour

The variety of materials and colour should be flexible within an appropriate recommended palette. Roofing should be corrugated metal of either a natural galvanized finish or "Colour Bond". Timber and rendered or unrendered brick are the favoured main cladding materials.

Colours should be from a wide range which avoids primaries and pastels. (Although primaries are considered appropriate in play structures due to the purpose they serve.)

A typical colour range would include but not be limited to: Olive, Grey, Sandstone, Grey/Blue, Earthy Reds, Sage Cream and Dark Greens as these colours reflect the predominant colours of the proposed landscape framework.

The use of highlighting colours is appropriate on building elements. In some instances it may also be appropriate for a building to be featured by deviating from the preferred colour range.

Other Elements

Park Signage

It is recommended that a standard logo be developed for the Sandbelt Open Space Project. This would give consistency to signage and reflect the integrated nature of the concept of an interlinked chain of parks. Signage should include Melbourne Parks and Waterways corporate sign requirements and those of the other agencies. Highlight colours could be used on associated signs to designate specific parks within the area. Consistent lettering style and a co-ordinated set of sign formats should be used.

Signage poles should be of a similar material to bollards and other vehicle barriers around entries and access roads. Due to the number of roads, timber bollards are less costly than powder-coated metal.

Fencing

Horse agistment and cattle grazing are proposed as an ongoing land use. They represent useful land management tools which are consistent with the broad objectives of the Project.

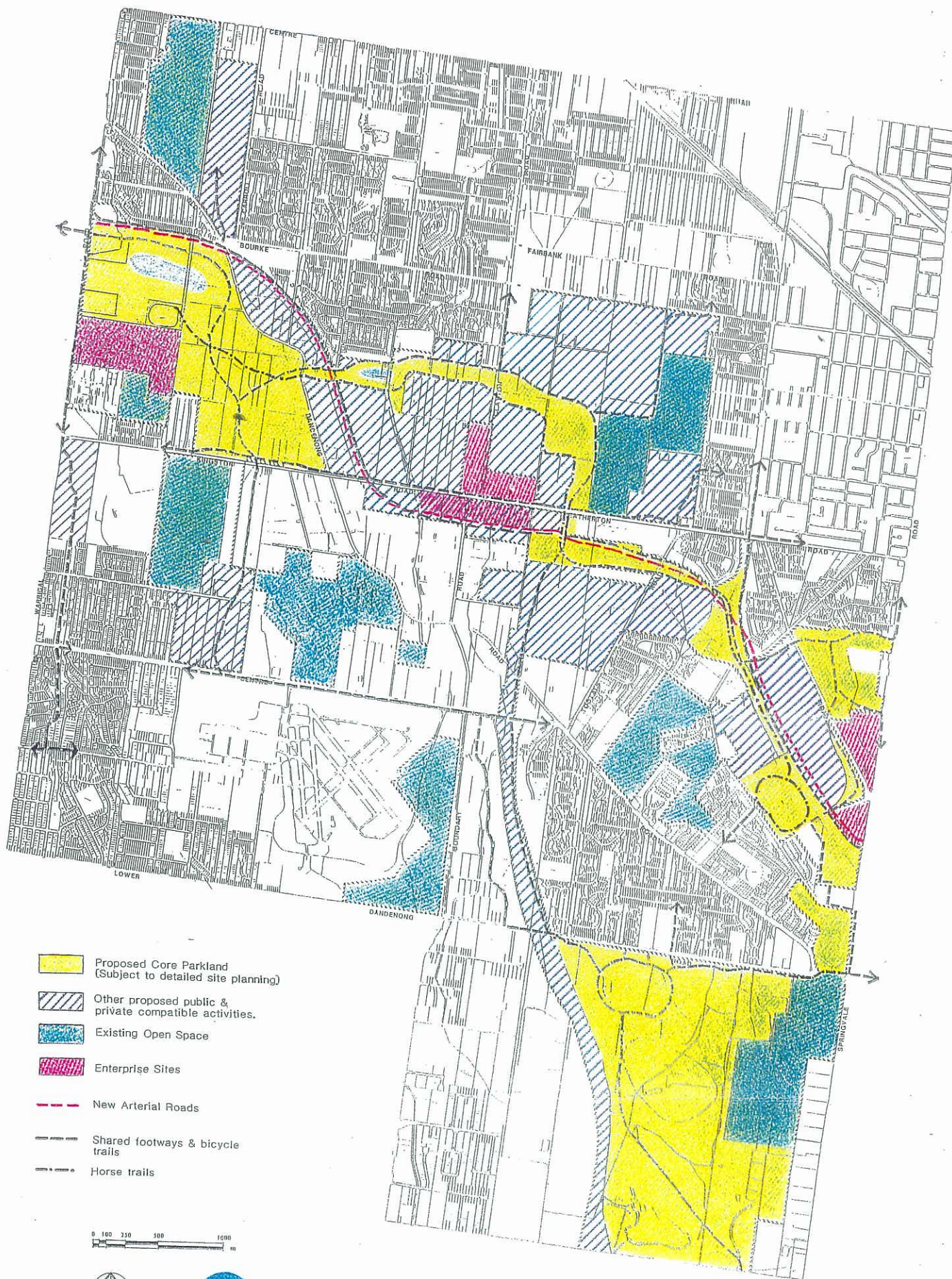
As horses and cattle have different fencing requirements, two types of fencing are proposed: Five strands of wire, with the top and middle strands being barbed, to fence in cattle, and four strands of wire, all unbarbed, with the top strand electrified, for horses.

Horse stabling yards in the park could take on a strong rural flavour, being constructed of naturally split post and rail timber.

7.10 PROGRAM FOR IMPLEMENTATION

The stages in which the Development Plan can be implemented are dependent on available funding and the timing of sand extraction and landfill operations. The rate of extraction and landfill is directly linked to the general level of economic activity. If there is no significant growth in demand for sand and landfill from 1993 levels, the staging plan may prove to be ambitious. Figure 10 illustrates the broad staging sequence for land availability in the core area in relation to the four time periods shown.

The staging plan reflects the broad sequence of sand extraction and landfill from east to west across the Project area. The core land south of Heatherton Road may be developed by the end of the century. However, very little of the core area north of Kingston Road can be developed until after the year 2000. The final link, between Old Dandenong Road and Leslie Road, is unlikely to be available for development until after 2005.



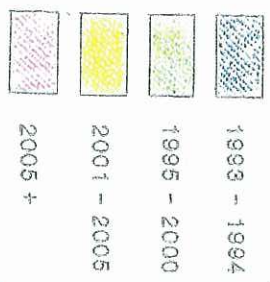
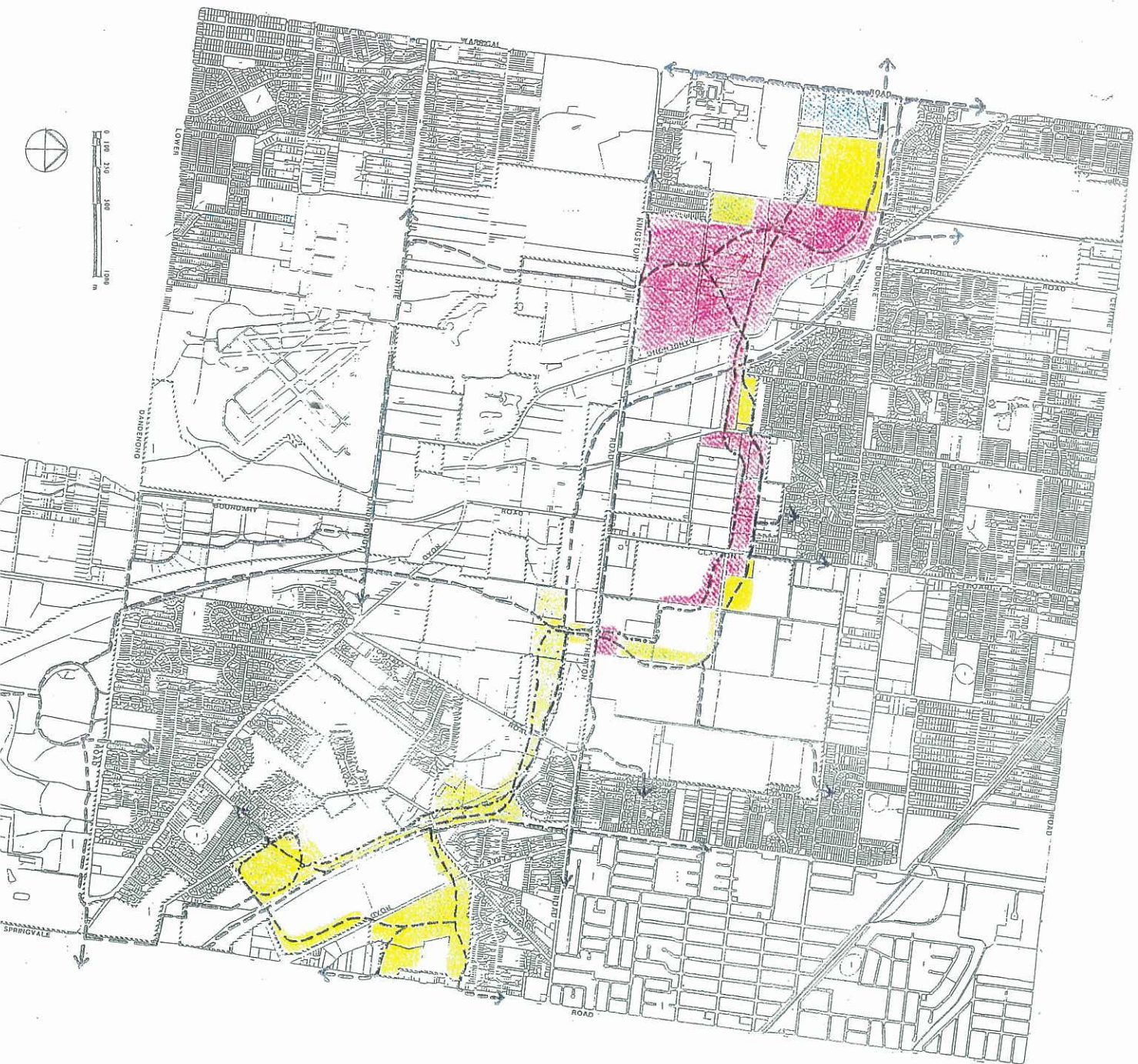
MELBOURNE
Parks & Waterways

DEVELOPMENT PLAN

Figure
9

SANDBELT OPEN SPACE PROJECT

City of Moorabbin
City of Oakleigh
City of Springvale



MELBOURNE
Parks & Waterways

**SANDBELT
OPEN SPACE PROJECT**

**INDICATIVE
STAGING PLAN**
(Subject to funding
and site availability)

Figure
10



City of Moornabbin City of Springvale
City of Dandenong Melbourne Water

While a number of recreation areas cannot be developed in the immediate future, it is possible to commence developing the trail network in the short term. A shared footway is proposed by VicRoads along the northern and eastern side of the Dingley Arterial reservation between Warrigal Road and Boundary Road. The timing for development of this road is uncertain. However, VicRoads is not opposed to the footway being constructed in advance if it is located adjacent to the boundary of the reservation and clear of the road alignment.

Construction of this Dingley Arterial trail will link the residents of Clayton South and Oakleigh South to the recreation areas south of Heatherton Road. Development of this trail as an interim link can be achieved over the total length of the Project area in the initial years of implementation. The new regional parklands would then be linked to the balance of other recreation areas east of Boundary Road.

The development of leisure facilities on land outside the core area will be dependent on the interest and resources of the respective land owners.

7.11 DEVELOPMENT OF NON CORE PARKLAND

The designated non core area provides the opportunity for private and public organisations to develop a range of commercial businesses, primarily recreation based, which are complementary to the core area. It has been designed to enable the development of land on sites which are not critical to the trail network or public open space system. The range of opportunities will be supported by the Planning Scheme Amendment for the Sandbelt Open Space Project, recognising that this area forms part of the metropolitan planning schemes "non urban wedge".

A number of enterprise sites were included in the Implementation Strategy (Deloitte, 1992) as formal recognition of the role private organisations in the development and implementation of the project. These sites were high profile sites which could assist in both funding the development and contributing to the implementation of the project. They include Melbourne Water land on Warrigal Road, south of Fairchild Street, the surrounding Heatherton and Clayton/Boudary Roads, and two sites north of the Westall extension fronting Springvale Road. (See Figure 9)

The urban design guidelines for the Sandbelt Open Space Project will form part of the Planning Scheme Amendment for the project area. They provide guidelines and parameters on the requirements for site development works to demonstrate the way commercial and open space uses can be integrated.

8. MANAGEMENT FRAMEWORK

Introduction

The core area of the Sandbelt Open Space Project contains parcels of land which are currently in public and private ownership, which will be required for full public access and be managed by one of the four agencies.

The management of the core area will be between the four authorities, the three Local Councils and Melbourne Parks and Waterways. Adjacent to the core area will be a mix of private and public land for recreation and open space uses. The core area will provide regional recreation opportunities, while adjacent land uses may provide for both regional and local recreation needs.

8.1 MANAGEMENT MODEL

A variety of management models which recognised this ownership pattern were discussed in the Implementation Strategy (Deloitte 1992). The agreed management model has Melbourne Parks and Waterways as the designated lead agency.

Melbourne Parks & Waterways is the lead agency. A Co-ordinating Unit has been formed with representation by the four agencies. The principles upon which the Unit operate include:

- Evaluating sensitive commercial strategies to ensure the development of the Sandbelt Open Space Project through the creation of new revenue sources, efficient use of expenditure and evaluation of financial, operational and service delivery;
- Adopting a strategic approach in developing and managing the Sandbelt Open Space Project. A Business Plan and policy framework will be developed to guide decision making and forward planning;
- Adopting a consultative approach in developing and managing the Sandbelt Open Space Project. Genuine opportunities for consultation will be provided to facilitate community, industry and park visitor input into decision making;
- Applying a co-operative management model in managing the Sandbelt Open Space Project business. Melbourne Parks and Waterways will work with the three Councils, industry and the local community to create a world class system of Parks for the residents of the south-east region of Melbourne.

A Strategic Advisory Group has been established for an initial period of twelve months, providing a liaison and reference group and facilitate community participation and ownership in the planning and decision-making process. The Group will advise Melbourne Parks and Waterways and the Cities of Moorabbin, Oakleigh and Springvale on strategic development and implementation of the Project. The Group comprises

- Independent Chairperson (Mr Ian Robins)
- City of Oakleigh representative
- City of Moorabbin representative
- City of Springvale representative
- Community Representatives
- Sand Producers Association Representative
- Victorian Waste Management Association Representative
- South East Region Refuse Disposal Group Representative
- Melbourne Parks and Waterways Representative

8.2 THE ROLE OF MELBOURNE PARKS & WATERWAYS

Melbourne Parks & Waterways is responsible for managing the metropolitan parks and waterways. It is the lead agency for the Sandbelt Open Space Project. Figure 11 illustrates the management structure for the Project.

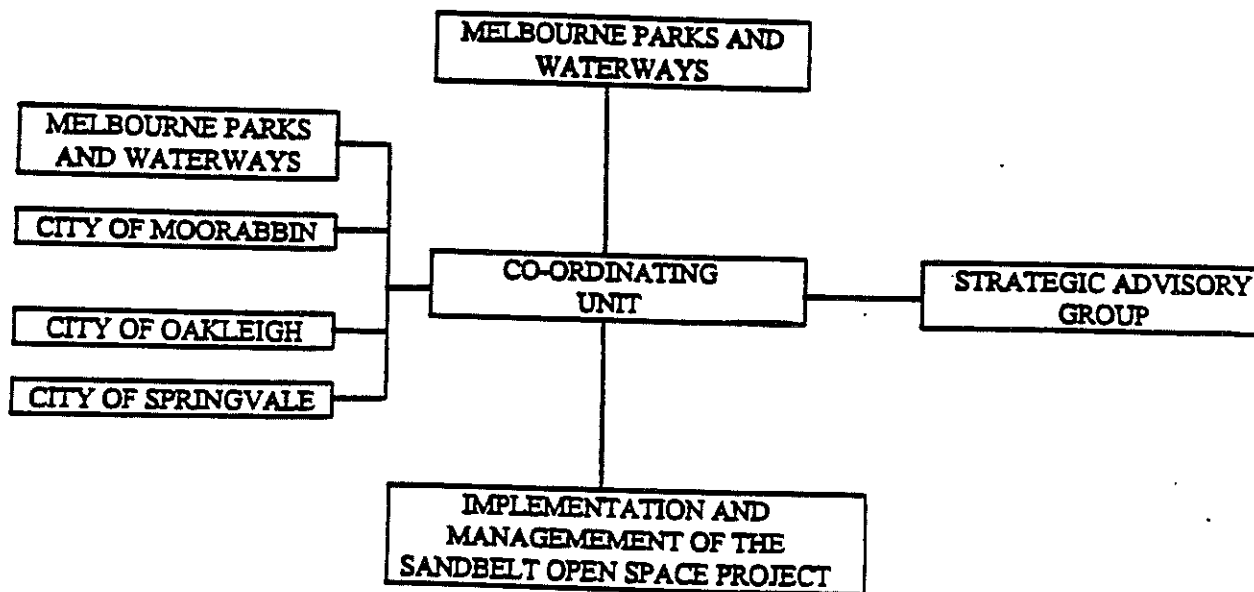


Figure 11: Management Structure

8.3 ROLE OF MUNICIPAL PARKS MANAGEMENT

The Sandbelt Open Space Project will be predominantly regional in focus with local ancillary recreational facilities. Each local authority will develop and manage any of its own purely municipal facilities, while ensuring integration with the Sandbelt Open Space Project. This allows each municipality to decide its own standards and financial arrangements, but does not preclude co-operation and supporting activity from Melbourne Parks and Waterways as the lead agency.

The distinction used to determine whether a public park area should be managed by local government or Melbourne Parks & Waterways will be based on its predominant land use role. If its major use is for local recreation, especially sporting and supportive passive activity, then it should be managed by its responsible Council. If it is predominantly regional, or essential to the regional network, then its management could be by Melbourne Parks & Waterways.

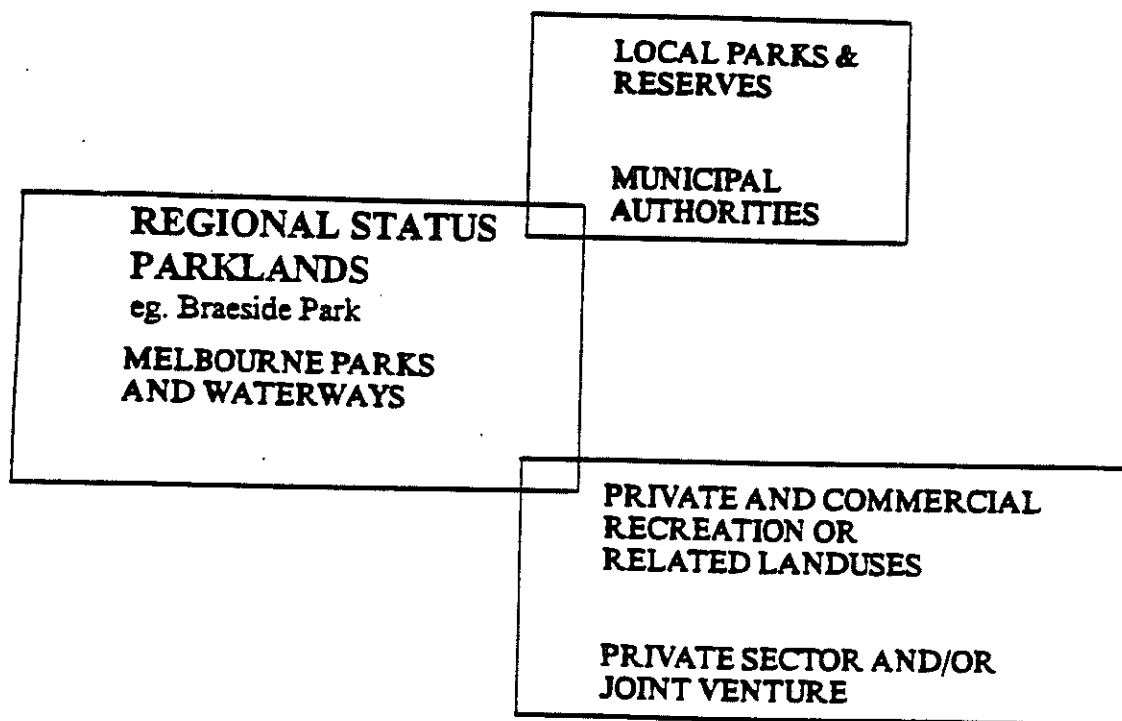


Figure 12: Management Responsibilities

9. FUNDING, COSTS AND RETURNS

Introduction

The Sandbelt Open Space Project is a major area of potential regional open space. Resource constraints will nevertheless apply and in conjunction with the extended periods for some extraction and landfill projects, will lead to a program of implementation extending beyond twenty years. The costs and returns estimated for that program are set out in this chapter.

9.1 REVENUE SOURCES

The Implementation Strategy (Deloitte, 1992) identified five potential revenue sources for establishment of the Sandbelt Open Space Project: They are:

- Levies on sand extraction;
- Levies on filling;
- Government grants; and
- Melbourne Parks and Waterways Funds.

Five additional revenue sources also could be considered:

- Sand deposits on Melbourne Parks & Waterways' land;
- Local Government contributions;
- Vic Roads;
- Corporate sponsorship; and
- Developer contributions.

Levies

Melbourne Parks and Waterways is continuing to seek specific funds for implementing the project such as extending the waste levy or gaining funds from existing levies.

Melbourne Parks and Waterways Funds

Melbourne Parks and Waterways receives its revenue primarily from a rate levied on all land owners (except farms) within the metropolitan area. Melbourne Parks and Waterways has a substantial land holding fronting Warrigal Road which represents a major contribution to the Project's establishment and it will secure further core land identified as essential to the development of a regional parkland.

The Melbourne Parks & Waterways Program is an interagency program to co-ordinate the funding and development of parkland and waterways throughout Greater Melbourne region. The Program provides funding for open space development works within the strategic open space network. The Sandbelt Open Space Project will be just one of a number of competing claims on this revenue source.

Sand Deposits on Land Adjacent to Warrigal Road

One of the highest quality remaining sand deposits in the study area is on land owned by Melbourne Parks and Waterways. Full extraction of this resource may extend to depths of 15m or more and create a potential landfill site. The surrounding communities have suffered the impacts of extraction and landfill for many years and oppose additional operations.

Any decision to extract this resource should be subject to conditions which protect surrounding residents and to a revenue gain to the community which makes a substantial contribution to the implementation of the Sandbelt Open Space Project.

An agreement which allows a company to extract this resource may require the company to forgo plans to extract an alternative site with lower quality deposits. The revenue gains may then be achieved without the penalty of an additional extraction and landfill site.

Local Government Contributions

A number of small local government parklands exist within the core and non core area of the Sandbelt Open Space Project. Local government continues to resource these sites which include Kingston Heath Reserve, Heatherton Park and Rowan Road Reserve. Local government resources should be applied to the establishment of open space within the Sandbelt Open Space Project which is intended to serve the local community. Part local government funding would be appropriate for sites which serve a substantial local need in conjunction with serving a wider catchment.

VicRoads

VicRoads funds are allocated to the implementation of the Principal Bicycle Network and are anticipated to assist with the development of significant lengths of proposed bike path in the Sandbelt Open Space Project.

Corporate Sponsorship

In the longer term, the Sandbelt Open Space Project will draw large numbers of visitors to a high profile area, presenting the opportunity for attractive sponsorships and concessions. Special events will also be hosted, generating further sponsorships of a short term nature.

Developer Contributions

Negotiations of approvals will provide the opportunity to consider the application of development levies under the Planning and Environment Act to fund relevant works.

9.2 ESTIMATED ACQUISITION COSTS

It is anticipated that a range of mechanisms will be utilised to secure the proposed core area a number of which will not involve full, direct acquisition costs. The following analysis is based on a worst case scenario assuming that all land within the core area will need to be publicly acquired.

The estimated acquisition costs for the land proposed for the core area is up to \$15 million. This cost is an estimate only and is presented to allow the agencies and general community to appreciate the significant scale of the Project.

Opportunities to achieve the desired land use through mechanisms other than outright acquisition are being investigated by Melbourne Parks and Waterways as part of the Planning Scheme Amendment.

The environmental liabilities associated with land which has been subject to sand extraction and landfilling can be significant. The above estimates do not incorporate the potential for costs associated with future liabilities. Before acquiring any land, or assuming management responsibility, a statement would be obtained from those responsible for filling the site on its suitability for use as open space. A detailed environmental audit may be necessary before such a statement can be made.

9.3 ESTIMATED DEVELOPMENT COSTS

Development costs are estimated at \$50,000/ha for the 320.5 ha of parkland within the core area. The remaining 34.5 ha in the core area is proposed to be leased from VicRoads until required for roadworks. It is estimated that \$5,000/ha will be required for the limited development of this land.

An allowance has also made for a contribution towards establishment works on local government sites outside the core area which partly serve regional needs. It is estimated that \$20,000/ha will be required for the 25 ha.

The preceding estimates do not include provision for the principal trails and associated overpasses. The shared footway is estimated at \$150/linear metre for a 3m wide path and \$80/linear metre for the horse trail. Construction of the overpasses is estimated to cost \$1,800/m² and 3m width for both the shared footway and horse trail. Seven overpasses are proposed at \$108,000 each across Clayton Road (2), Heatherton Road (2), Boundary Road (1) and Tootal Road (2). Four overpasses at \$375,000 each are proposed to cross the Dingley Arterial. The total cost is estimated to be \$2,256,000.

Alternative means of achieving the trail crossings should be investigated to minimise the cost and achieve a quality recreation setting. It is recommended that liaison with Vicroads and local councils continues to achieve trail crossings as part of any future road works.

The estimated development costs are \$22 million and the total project establishment costs are \$37 million.

9.4 ESTIMATED MANAGEMENT COSTS

Melbourne Parks and Waterway's Dandenong Valley Park has been used to provide comparative analysis of the annual management costs for the project. They are in the order of \$3 - 4000/ha. A core area of 320ha would ultimately require approximately \$1 - \$1.2 million p.a. for management and supervision.

Any contribution from Sandbelt Open Space Project funds to assist with the management of local government sites, within the Project area but outside the core area, which serve regional as well as local needs (for example, The Grange) would be additional to the costs detailed in this plan.

9.5 ESTIMATED REVENUE FOR MANAGEMENT COSTS

Possible sources for management revenue are:

- fee, lease and rental income;
- municipal funds;
- Melbourne Parks and Waterways funds; and
- income from gas co-generation projects.

Fees, Leases and Rent

Any substantial income from staging events or operating services and recreational facilities, will flow to the successful operators where they bear the financial risk. Income to park management is assumed to be limited to income from renting or leasing sites or buildings for events, concessions and services. This area should be subject to further examination in the preparation of a business plan for the Sandbelt Open Space Project.

Municipal Funds

Sites within the project area which meet purely local needs would be funded from this source. The study area is seen by the three participating municipalities as an area where some existing deficiencies in their open space network might be redressed. Some sites within the Sandbelt Open Space Project may accommodate uses which serve the local community. Where alternative sites are available elsewhere in the municipality these uses would not have been located within the Project area.

Other sites owned by local government and considered appropriate for integration into the Sandbelt Open Space Project are likely to serve both the local community and a wider catchment. Management costs for these sites would appropriately be shared by the Project and the relevant municipality.

Melbourne Parks and Waterways Funds

Melbourne Parks and Waterways funds will be provided to manage parts of the core regional open space.

Gas Sales

Revenue to the agencies from the gas sales could provide a further source of revenue which could assist in developing the Project area.

APPENDIX 1: RECREATION AND OPEN SPACE ANALYSIS

The recreation and open space demands relevant to the Project have been identified from:

- the current trends in leisure service demand,
- the market segments now using major parks,
- the experience, and settings which these segments prefer,
- the current and projected characteristics of the catchment population.
- the specific open space demands of the three participating municipalities, and

POTENTIAL MARKET SEGMENTS

Trends in Leisure Service Demand

The existing patterns of people's leisure participation have been documented in a number of national and State Surveys. The most comprehensive of these were the National Participation Surveys conducted for the Commonwealth Department of the Arts, Sport, Environment, Tourism and Territories in 1985 and 1986.

Of the top 10 activities, only 3 can be considered 'active' in nature and 6 were 'home based' activities as shown in the following table.

<u>Rank</u>	<u>Activity</u>	<u>%</u>
1	Watching TV at home	94%
2	Visiting friends/relatives	65%
3	Reading	63%
4	Listening to music	63%
5	Relaxing/doing nothing	41%
6	Gardening for pleasure	37%
7	Dining/eating out	32%
8	Walking for pleasure	31%
9	Informal sport	29%
10	Entertaining at home	28%

11	Organised sport	25%
14	Arts/crafts/hobbies at home	22%
15	Socializing at hotels/clubs	22%

The facilities which recorded the highest rate of use were parks/playgrounds (9.1%) and beaches/rivers/lakes (8.9%).

People in lower income groups tend to have lower levels of participation in activities that cost more.

Older Australians (55+ yrs) had the highest rates of participation in gardening and walking activities.

These findings have been replicated in a variety of statewide, regional and local studies. Local studies have also highlighted the fact that:

- facilities which are most used are those which can be used on a casual basis, are free, have good access and appeal to a broad age range. These invariably include major parks, beaches, libraries, and other natural features.
- home based activities are most popular, followed by beach and water based activities, hobbies, health and fitness pursuits, arts, crafts and cultural activities and then sport.

Other important trends are:

- there continues to be an increase in passive activities which involve the whole family (e.g. outdoor and nature activities, bushwalking, cycling, and social visitation), in reading and library use, in the need for art and craft experiences, in self development activities like Tai Chi and meditation, and generally in the number and range of activities undertaken. There is also an increase in shorter holidays nearer home. More 'active' pursuits like tennis have continued to grow because of their family, social and casual elements.
- changing technology has popularised activities like rollerblading and skateboards.

With regard to outdoor facilities, however, the fundamentals of consumer behaviour have remained unchanged:

- 80% of users will travel only 10 to 15 minutes to participate in activities and 95% travel by car;
- consumers expect value for money, demand good service, use facilities which provide amenities (toilets/change areas) at least equivalent to what they have at home, and attend their preferred activities on a regular basis;
- 80% are motivated by fitness with the most popular activities being health and fitness related and whole of life sports (e.g. tennis, swimming);

Market Segments Using Major Parks

In assessing the demand for recreational usage of the Sandbelt Open Space Project three types of usage are important - local informal use, local specific use and metropolitan-wide use.

Local Informal Use

Local demand for informal use accounts for the majority of informal use of any 'broad acre' passive parklands which are developed. Extensive customer research undertaken by Melbourne Parks & Waterways (MPW) in recent years has confirmed that most users of this

form of parkland come from a limited catchment area, usually defined in terms of travelling time. As a 'rule of thumb', 80% of users will come from within a catchment boundary defined by 10 to 15 minute travelling time from the parkland. The research also suggests that the major groups which use 'broad acre' parkland are:

Families

Overall, families are estimated to account for 40% of all visits to metropolitan parks and attend for barbecues and picnics, to cycle and for special events. Their needs are set out below"

Barbecue/Picnickers are seeking convenient, safe areas in semi-natural settings. Its usage is year-round and is variable with the weather; but is greatest on Sundays and in the period from the Melbourne Cup weekend to the end of the school holidays. During this peak season, these users often attend as extended families. Their needs are for:

- * adequate and available carparking;
- * direct access from carparking areas to barbecue's;
- * shady, protected areas with picnic shelters and easy to use barbecue equipment;
- * easy access to toilets and a kiosk/canteen;
- * safe play areas for their children to use which are able to be supervised from barbecue and picnic areas;
- * short, safe walking tracks which are easily accessible form picnic areas.

Family Cyclists are seeking to use safe cycle tracks in a semi-natural setting. Usage is related to the weather and peaks on weekends, especially Sundays, during the late spring and early summer. Their needs are for:

- * carparking, kiosk, water fountains and toilets;
- * linked cycle paths within the park and to the external cycle track network;
- * direct access from car park to cycle tracks;
- * hard surface cycle tracks with good information and directional signage.

Major Event Attenders come for a variety of organised and entertaining educational activities conducted by MPW. These activities are concentrated inn the summer months to coincide with school holiday periods. Their needs are for:

- * carparking and toilets
- * park areas able to withstand intensive use and which are isolated from abutting residential areas and main usage areas of the park.

Individual & Small Group Users

Individual and small group users comprise an estimated 30% of park users and participate in the following range of activities:

Runners/Power Walkers use the parks to get fit by using safe running/walking tracks in semi-natural settings. Usage is relatively constant throughout the year and is more intensive than existing statistics indicate. Runners use the parks before and after work hours and on weekends. Power walkers are often in groups of 5 to 10 and attend the parks on weekdays around school pick-up and drop-off times (i.e. 9am and 3pm). Their needs are for:

- * carparking, kiosk, water fountains and toilets;
- * looped, unsealed pathways in semi-natural settings, preferably with changes in the topography;
- * direct access from car park to pathways;
- * good directional signage

Walkers/Sightseers are seeking more natural settings - wetlands, views of rivers, pleasant bushland - remote from the intensively used areas, cyclists and surrounding residential areas. They use the parks at all hours of the day, particularly Saturdays and Sundays. Their usage increases in spring and summer and they tend to avoid the hottest and coldest days of the year. Their needs are for:

- * carparking and toilets;
- * low-key walking trails in natural settings;
- * good direction and information/interpretive signs

Passive Users want high quality natural environments with a minimum of external influences. They use the parks for nature appreciation and to sit and talk at all hours of the day, particularly Saturdays and Sundays. Their usage increases in spring and summer and they tend to avoid the hottest and coldest days of the year. Their needs are for:

- * carparking and toilets;
- * low-key walking trails in high quality natural environments;
- * good direction and information/interpretive signs

Dog Walkers want areas of open space in which to exercise their dogs. They are year round users of the parks and generally use them before and after work hours and during the same hours on weekends. They need

- * carparking and toilets;
- * low-key walking trails away from cyclists and group users.

Cyclists use the parks to attain high levels of fitness by using good quality, off-road cycle tracks. Many are serious cycling and triathlon competitors whose usage is constant throughout the year. They use the parks in after-work hours and on weekends. Their needs are for:

- * carparking, water fountains and toilets;
- * longer, looped and well-sealed cycle tracks, preferably with changes in the topography;
- * direct access from carpark to cycle tracks;
- * good directional signage

The study area is served by a considerable number of bus routes. All main roads through and bordering the area, except Heatherton Road carry at least one bus service linking back to the surrounding suburbs. Many also connect with rail services, for example at Oakleigh, Clayton, Springvale, Dandenong, Moorabbin, Cheltenham and Mentone Stations.

Public transport therefore offers a fair coverage of the study area but levels of service are not good on several routes and are very poor at week-ends. Several of the services don't run at all on week-ends and several stop in mid-afternoon on Saturdays. The only service on Sundays is an hourly service along Warrigal Road. The current level of service reflects the non-urban land uses in the area.

Bicycle Routes

The extent of the Sandbelt Open Space Project area makes it inevitable that a number of routes in the Principal Bicycle Network for Melbourne will cross or abut the chain. The network proposes routes on Warrigal Road (Old Dandenong Road to South Road), Clarinda Road, Clayton Road, Westall Road, Springvale Road and the Dingley Arterial between Warrigal Road and Kingston Road, and between Heatherton Road and Springvale Road. Routes are proposed on the east-west arterials Kingston Road/Heatherton Road, Centre Dandenong Road and Lower Dandenong Road between Scarlet Street and beyond Springvale Road. Tootal Road is also included in the network.

Some sections of these routes are already in place, for example along Lower Dandenong Road - although this is a poor quality path at present.

The draft Bay to Ranges strategy (Melbourne Water, Sep. 1992) included a proposed trail between Warrigal Road and Braeside Park and linking with a proposed bike path beside the Mordialloc Main Drain to connect to the Dandenong Creek Bike Path and to Mordialloc Creek.

Strategic Bicycle Plans are currently being prepared for Moorabbin and Springvale and will identify additional routes to link the surrounding areas to the Sandbelt Open Space Project.

Oakleigh has adopted a strategic bicycle network which reinforces the Principal Bicycle Network and incorporates more local routes. Two routes in Clayton South would assist access to the Sandbelt Open Space Project by leading to Viney St./Elder St. and to Mack Crescent and into Mia Street.

Local Pedestrian and Bicycle Access

For residents abutting the Sandbelt Open Space Project easy access on foot will provide open space for exercising dogs, walking, informal ball games and the other leisure activities common in local parks.

Barriers such as existing and proposed main roads and drainage channels will limit points of access from some areas.

The available points are therefore significant factors in the preparation of the plan.

Special Interest Groups are seeking a high quality experience related to their special interest (e.g. history, geology, nature, conservation, bird watching etc). Their usage is constant throughout the year, except for the very busy summer period, and is concentrated on weekends. Their needs are for:

- * carparking, kiosk and toilets;
- * access to areas which exhibit their special area of interest;
- * an informed speaker who is conversant with their special interest (possible access to a lecture theatre/classroom);
- * information on the park and their special topic which they can take away with them.

Schools

School users account for some 15% of total park use and fall into the following broad categories.

Picnic Groups are seeking social experiences in convenient, safe barbecue and picnic areas in semi-natural settings. At this time, they attend in groups up to 800, with occasional larger groups. Their needs are for:

- * adequate and available bus parking;
- * parking in close proximity to barbecues and picnic shelters;
- * shady, protected areas with picnic shelters and easy to use barbecue equipment;
- * easy access to a toilets and a kiosk/canteen;
- * safe playgrounds which can be supervised from barbecue and picnic areas;
- * flat grassed areas for social games and sports activities, close to barbecues and picnic shelters;
- * short, safe walking tracks which are easily accessible from picnic areas.

Education/Tree Planting Groups are seeking educational experiences related to a selected resource (e.g. river, historic building, rock outcrop, etc). Their usage is limited to within the four school terms. Their needs are for:

- * bus parking, kiosk and toilets;
- * access to the resource being studied;
- * an informed speaker who is conversant with the resource being studied (possible access to a lecture theatre/classroom);
- * information kits on the park and the resource being studied which they can take away with them.

Sport Groups use the parks to conduct competitions, particularly cross-country running and orienteering. Depending upon the specific needs of the sport, these schools usually require using safe running tracks plus marshalling areas. Usage is confined to weekdays in the winter months. Their needs are for:

- * bus parking, kiosk, water fountains and toilets;
- * looped and unsealed pathways, preferably with changes in the topography;

- * access from bus park to pathways;
- * directional signage

In summary then, the proportion of local informal users from each market segment is as set out in descending order in the following table:

Family BBQ & Picnic	30%	School Education Group	5%
Social/Ethnic Groups	9%	Indiv & Group Dog Walkers	4%
Indiv & Groups BBQ & Picnic	8%	Family Event Attenders	4%
Family Cycling	6%	Indiv & Group Walkers	3%
School Picnic	5%	Indiv & Group Event Attenders	3%
Indiv & Group Runners	5%	Special Interest Group	3%
Indiv & Group Cyclists	5%	Sporting Groups	3%
School Sports Groups	5%	Indiv & Group Passive	2%

(Source: Melbourne Parks & Waterways Customer Research)

Local Specific Usage

As with local informal usage, demand for specific uses will also come from a narrowly defined catchment. Most sporting uses, for example, will attract from the same catchment areas as indicated for informal use (i.e. up to 10 to 15 min travelling time).

Specific use is a 'catch all' descriptor of the many single purpose activities which might take place in the parkland. Without being exhaustive, the following list illustrates many of the types of outdoor activities which are broadly consistent with a park setting:

Abseiling	Concerts	Motor-cycling
Adventure	Craft Work	Orienteering
Playground	Field Sports	Roller Skating/Blading
Archery	Fishing	Rowing
Boating	Go-karting	Sailing
Camping	Golf	Scouting/Guiding
Canoeing	Horse Activities	Shooting
Climbing	Model Operating	Speed Boat Racing
Community Garden	Motorcross	Water Skiing

Attendance at these activities is usually confined to out of work hours and particularly to weekends. This may be balanced if school usage can be generated on weekdays. The needs of these users will vary from one to another but generally include:

- the physical requirements of the activity itself, plus
- some form of purpose-built meeting place/administrative centre for participants

Many of these activities could be accommodated in the parkland but piecemeal development of areas to accommodate a variety of needs must be avoided. The park should become a major centre focussed on particular groups of uses.

Metropolitan-wide Usage

By contrast to local usage, metropolitan-wide usage will only be achieved if the parklands are developed to provide experiences which are unique. The Melbourne Zoo, the Botanical Gardens, Luna Park and Sovereign Hill are examples of places which provide unique experiences and which draw from wide catchments. Unless there is some unique natural attraction (e.g. Phillip Island Penguin Parade), the experiences must be developed.

Given the existing range of Metropolitan wide attractions, the following are among the possibilities which might be considered:

Outdoor Adventure - for example, an international standard triathlon course with an artificial lake to provide the beach entry/1,500m swim course and linear pathways could provide the cycling and running courses; facilities for rogaining, orienteering and equestrian activities; or an outdoor education centre providing camping education/leadership training opportunities for scouts, guides and other community groups.

Nature Reserve - for example areas set aside for a controlled herd of deer or kangaroo (as at Anglesea Golf Course); or an area established for the protection and breeding of endangered species.

Gardens/Farm - for example an urban farm.

Metropolitan Sports Centre for a major centre for elite sports and sports training camp (e.g. Narrabeen in NSW) or the preferred location for particular sports (e.g. equestrian, shooting).

Commercial Theme Park such as an Australian Bush Park, an Environmental Education Centre, an entertainment/tourist theme as illustrated by those operating in Southern Queensland (i.e. Movieworld, Sea World and Dream World), or other commercial elements such as caravan park, horse agistment, nursery activities and/or an outdoor art gallery.

Providing for Traditional Non-users

A recent survey (AMR Quantum: 1993) for Melbourne Parks & Waterways segmented park users into six groups. It identified "Entertainment Seekers" and "Disinterested Actives" as two groups which are traditionally non-users.

The fact that most recreation experiences which will be available to users at the Open Space will have been created rather than result from the conservation of pre-existing natural features, provides a unique opportunity to meet the needs of market segments not usually attracted to MPW's large parks.

CHARACTERISTICS OF THE CATCHMENT POPULATION

The preceding sections have discussed the recreation patterns and preferences of Australians generally and the users of Melbourne's major parks in particular. To focus on the possible uses of the proposed parkland, the characteristics of the population within a 5km radius of the proposed parkland were analysed.

The catchment area has an estimated long-term population of 350,000. Based on 1986 Census data, the catchment population has

- an older age profile than the Metropolitan Statistical district (MSD);
- a higher proportion of people speaking languages other than English at home (24% compared with 22.5% for the MSD). Included in this were higher than average numbers speaking Greek, Chinese, Vietnamese, Spanish and French;
- less families with independent children and more families comprising either couples or couples with other adult family members when compared with the MSD;
- substantially lower proportion than the MSD average with high individual annual income;
- higher home ownership with 26.5% being home owners/buyers cf 20.4% for the MSD.

These variations from the MSD average except for the average income figure, are not great but some conclusions may be drawn regarding this catchment population's preferences for park usage. They are:

- the fact that the population is older than the MSD average - and is likely to remain so over the next two decades - suggests that passive and informal uses of parkland will be more popular than active uses. Contemporary research shows that older adults use parkland less frequently than other age groups;
- the lower income profile and higher ethnic composition indicates preferences for low cost opportunities and for use of parklands for informal social gatherings.

ACCESS FOR POTENTIAL USERS

Private Transport

The study area, in relative terms for Melbourne, has excellent accessibility from much of the metropolitan area. The on-going implementation of the Springvale By-pass is further improving this accessibility.

Given the high level of accessibility by freeway and divided arterial road, an average off-peak travel speed of 50 kph for trips of up to half an hour would place 650,000 within 15 minutes and an additional one million within 30 minutes. Virtually the whole of metropolitan Melbourne lies within an hour's drive.

Public Transport

No rail line runs through or abuts the study area. The Frankston line passes 3km to the west and the Dandenong line passes 3km to the north-east.

The key points are:

- Clayton South: Mia Street provides the link from the hinterland south to the study area.
- Clayton South: West of Springs Road and the drainage reserve south of Bourke Road, the street network is oriented towards Elder St.
- Heatherton (south of Kingston Heath Golf Course and Kingston Centre): Farm Road offers an east-west option, and a route through the Kingston Centre is the north-south alternative.
- Oakleigh South: an underpass or overpass is proposed where Old Dandenong Road will be cut. In the short term the Arterial will connect to Old Dandenong Road. A median refuge would assist pedestrians and cyclists to cross the two lane interim road.
- Springvale South: new arterial roads will create barriers. West of the Springvale Bypass and north of the Dingley Arterial, Tootal Road will be the link. Its intersection with the Arterial will need to provide for convenient and safe crossing. East of the Springvale Bypass, Spring Road and Springvale Road will be the access options.
- The intersection of the bypass and Spring Road will not provide for through movement for motor vehicles on Spring Road. A median island is proposed to assist pedestrians and cyclists to stage their crossing of the Bypass.
- Dingley: The street network offers multiple access points to Spring Road and into the Sandbelt Open Space Project area. To the south, proposed pedestrian signals on Lower Dandenong Road adjacent to Braeside Park entrance determine the primary access point.

TARGET MARKETS

The target markets for the leisure facilities in the study area range from the immediately abutting communities to metropolitan wide specific interest groups.

Adjacent communities

The local communities immediately abutting the study area have looked to the Sandbelt Open Space Project as the eventual compensation for years of adverse impact from sand extraction and landfilling. They seek ready access to open space for informal use and enjoyment of a landscaped environment. In addition, individuals within this target group will form part of regional and wider target markets for other facilities in the Sandbelt Open Space Project.

The wider local catchment

The wider local community represents a key target market. The study area provides an opportunity for Moorabbin, Oakleigh and Springvale Councils to obtain sites for unsatisfied

open space needs for their residents. Studies of the recreation needs in each of the three municipalities were reviewed. The identified needs are summarised below:

Oakleigh: Recreation Facilities Study (Whittenbury: 1991)

This study identified problems with the distribution and use of open space and suggested that the development of the Sandbelt Open Space Project offered the opportunity to:

- a) relocate and upgrade sporting facilities so that open space in residential areas could be released for general community use;
- b) accommodate 'high impact' recreation not otherwise compatible with built up areas; and
- c) meet local unmet needs for tennis, netball, hockey and lacrosse.

Springvale: Open Space Study (Council: 1972)
Open Space/Recreation Facilities (Council: 1990)
Indoor Sporting Facilities (Council: 1991)

These studies have identified that Springvale is under-provided for in terms of the total amount of public open space, and the number of sportsgrounds and facilities. In particular, there is a shortage of public golf courses and equestrian facilities and demand exists for additional cricket pitches, sporting ovals and soccer fields.

Moorabbin: Recreation Needs Study (Council: 1989)

Again, this study highlighted the fact that while Moorabbin contained some reasonably sized areas of open space, much of it was devoted to structured sporting fields inaccessible to the general public. Short term requirements identified in the study were for facilities for athletics, badminton, baseball, cricket, gymnastics, tabletennis, tennis and weightlifting.

As for Oakleigh, the Sandbelt Open Space Project presents an opportunity to address the deficiency in open space by relocating existing clubs and releasing land for informal open space.

Discussions with council officers during the preparation of the Development Plan reinforced many of these conclusions and raised additional needs. The areas of demand highlighted by Council officers are summarised below.

- All Councils have expressed the desire to develop an integrated network of bike/walking paths throughout the region.
- There is a demand for spaces for noise generating activities which have been progressively displaced from their own municipality and from throughout Melbourne's Eastern and South-eastern suburbs. Such activities include power-boating, jet-skiing, water skiing, mini-bikes, trail bikes, go-karts, band practice, shooting, model aeroplanes and model boats. Municipal Recreation Officers from other neighbouring Councils have confirmed this need. Information supplied by the Victorian Sports

Federation (Vicsport) also indicates growth in motorsports, motorcross and shooting activities.

- The area is well suited to future development for golfing purposes, building on the reputation of existing courses in the region. Recent research commissioned by MPW supports the need for additional golfing opportunities in the Melbourne region.
- Springvale has a need to relocate equestrian activities. Enquiries support the need for equestrian activities within the metropolitan area. Contact with a number of 'urban fringe' Councils indicated that the pressure of urban development inevitably displaced equestrian activities within their municipalities. Vicsport indicates that, despite the loss of some facilities, the equestrian associations have a combined membership of 25,000 in Victoria and are growing in popularity.
- Moorabbin has identified the need for both an indoor/outdoor netball complex, a 3 oval fieldsports complex to replace grounds lost through the rationalization of school properties in the area, and a requirement for additional softball and basketball facilities.
- Springvale has given consideration to the establishment of a camping centre for Scouting/Guiding activities within the park and also a regional sized adventure playground. With regard to the establishment of a camping facility, informal enquiries with both the Scout Association and the Lord Mayor's Camp Fund indicated that there is significant school and club demand for urban camping opportunities and corporate, youth and school demand for leadership training facilities.

Melbourne's regional parks play a significant role in serving regional catchments. Braeside Metropolitan Park provides the southern termination to the study area. The distribution of these parks brings much of the metropolitan area within the ten to fifteen minutes travelling time shown to be the extent of their primary catchments. Figure 2 shows an extensive area to the north and north-west of the study area external to these primary catchments. The northern section of the Sandbelt Open Space Project represents the last opportunity to meet the demands of this target group for regional scale parkland.

Total open space provision in Moorabbin, Oakleigh and Springvale is relatively high at approximately 7 ha/1,000 population in each municipality (based on the 1987 Open Space Inventory). Much of this is restricted however (golf courses for example) so that in Oakleigh and Moorabbin unrestricted public open space is 3 ha/1,000. The distribution of open space is uneven and there is a relative over-supply of active sportsgrounds compared to passive reserves.

Metropolitan catchment

This will only be a significant target market if a unique facility of broad appeal were developed. In the absence of any unique facility of broad appeal, the Sandbelt Open Space Project will only draw users, on the metropolitan scale, from special interest groups attracted by a specialist facility. If the area accommodates some of the high impact activities discussed above, this drawing power will be much greater than that of other major parks. The number of users attracted would nevertheless be a very small proportion of the total users of the park; however they may be significant contributors to park income.

BBQ/Picnickers are seeking quiet barbecue and picnic areas in semi-natural settings. Usage is year-round and is variable with the weather, but is greatest on Sundays and in the period from the Melbourne Cup weekend to the end of the school holidays. Their needs are for:

- * carparking
- * shady, quiet areas with access to toilets and kiosk/canteen;
- * safe walking tracks which are accessible from picnic areas.

Major Event Attenders attend the parks for a variety of organised and entertaining educational activities conducted by the Board. These activities are concentrated in the summer months to coincide with school periods. Their needs are for:

- * carparking and toilets
- * park areas able to withstand intensive use and which are isolated from abutting residential areas and main usage areas of the park.

Group Users

Group Users of major parks account for some 15% of total use and fall into these categories:

Social/Ethnic users are seeking a social experience in convenient, safe barbecue and picnic areas in semi-natural settings. Usage has two peak periods - in December and from Australia Day to Easter. During these peak seasons, these users often attend in groups of 50 to 400, with occasional larger groups. They use only the immediate area and do not stray into other areas of the parkland. Their needs are for:

- * adequate and available carparking;
- * carparking in close proximity to barbecues and picnic shelters;
- * shady, protected areas with picnic shelters and easy to use barbecue equipment;
- * easy access to toilets and a kiosk/canteen;
- * safe playgrounds for children to use which are able to be supervised from barbecue and picnic areas;
- * flat grassed areas for social sports activities - bocce, cricket, soccer etc. - close to barbecues and picnic shelters;
- * short, safe walking tracks which are easily accessible from picnic areas.

Sporting Groups use the parks to conduct competitions, particularly cross-country running and orienteering. Depending upon the specific needs of the sport, these groups usually require using safe running tracks plus marshalling areas. Usage is confined to weekends in the winter months. Their needs are for:

- * car and bus parking, kiosk, water fountains and toilets;
- * looped and unsealed pathways, preferably with changes in the topography;
- * access from car park to pathways;
- * directional signage

Commercial Leisure Development Market

The major parks of Melbourne have traditionally been, to a very large degree, free access public parkland. The unusual form and exceptional size of the Sandbelt Open Space Project, coupled with the current economic climate of declining public resources, and the requirement for the Development Plan to minimise the amount of land to be publicly acquired, all point to greater private sector involvement than normal. What is the target market for commercial leisure facilities in the study area?

Metropolitan or greater catchment: The study area is highly accessible by road from much of Melbourne. More than 1.5 million people are within 30 minutes by car and almost the whole of metropolitan Melbourne lies within an hour's drive. The area is sited where city-based tourist trips to Phillip Island could readily integrate a visit, if a suitable attractor were operating.

A major commercial theme park such as Movie World or Sea World would be such an attractor, but is not favoured for the Sandbelt Open Space Project because

- it would alienate from free public access a very large, and therefore one of the prime, areas;
- the parkland will become available progressively. This would add to the difficulties of a developer who would wish to gain access to large portions at any one time;
- a major theme park is already being considered nearby in the City of Springvale.

The current financial climate and the objectives for the Development Plan do require a significant private sector involvement in the Sandbelt Open Space Project. That involvement should occur at a scale below that required for a top level theme park.

Sub-metropolitan catchment: Many commercial leisure and sporting facilities seek to serve a greater than local catchment. The extensive land within the Sandbelt Open Space Project could accommodate a considerable number of operators. The ability to incorporate higher impact activities and other activities which are being displaced in other urban areas increases the potential of drawing from this catchment.