

Existing and proposed locations of permanent purification plants within the metropolitan area are the existing Werribee Farm, and the South Eastern Purification Plant north of Frankston.

Major trunk systems intended to serve further development within the metropolitan area include a north-west interceptor sewer discharging into the trunk sewer leading to the Werribee Farm and a major trunk sewer located near the Dandenong Creek leading to the South-Eastern Purification Plant.

Any further development to the north and west of Melbourne will generally be served by the north-western interceptor, and having regard to the nature of the valley systems in these areas, cost of major extensions to serve such areas would generally increase as development proceeds to the north and west.

To the east of Melbourne investigations have indicated that the proposed Dandenong valley sewer could be extended to the site of a proposed purification plant on the Brushy Creek. From this point a contour sewer should be constructed in a north-easterly direction to pick up the catchments of the Olinda and Stringybark Creeks. This aspect is dealt with in greater detail in the section dealing with the Yarra valley. It follows from this that the northern part of the valley together with the Woori Yallock catchment would not be commanded by this sewer route and any further development would entail additional major works at high cost.

Because of the time lapse in carrying out these works it will be necessary to provide a number of temporary treatment plants around the metropolitan area to allow development to proceed. These will add substantially to costs and it is desirable that they be kept to a minimum.

A small area north east of Kinglake drains to the north, while a larger area lying generally south of Emerald and east of Berwick and another area south-east of Langwarrin drain to Western Port Bay. These are problem areas and the latter requires major investigation of the possible effect on the ecology of Western Port Bay before any development is permitted.

The water pollution control overlay illustrates these concepts, with respect to the major elements of the disposal systems. Reticulation costs are affected by local geological and terrain characteristics.

Miscellaneous Constraints: Overlay 4

These include a variety of matters. Major electricity transmission lines and terminal stations referred to earlier have been shown on this overlay. Building height restrictions and noise levels around various airports have also been shown where known. In addition other airports have been located to indicate that a problem might exist. However, with respect to these latter fields, since capital investment will be low, this use would not necessarily ban other development at some time in the future. Some radio and telecommunications installations have been shown but others have been omitted because of advice that they will cause no problem.

There have been two statements of planning policy issued by the State Planning Council which affect land within the metropolitan area, one for the Dandenong Ranges and the other for the Yarra valley. These can be considered as constraints, and the general extent of areas covered are indicated on the overlay.

Mineral Resources: Overlay 5

As the metropolitan area develops, there will be an increasing demand for construction materials such as clay, rock and sand. Because some of these materials are scarce and transport costs are high in relation to the in situ value, it is considered that, whenever possible, all proven deposits in close proximity to urban areas should be made available for extraction.

However, certain limiting factors will have to be taken into consideration before decisions are made on any specific application for the use of land for mineral extraction.

These are:

1. The use of land for competing urban purposes.
2. The need to conserve certain areas for landscape, ecological or similar reasons.
3. The effect of extraction on drainage patterns and the after use of the land.

The Mines Department has supplied information on the location of proven and potential mineral deposits and estimates of future demand. This information has enabled an assessment to be made of the need to extract material. Complete examination of the area has not been possible and further investigation may reveal deposits, suitable for extraction, in locations not shown on the mineral resources overlay. If this

occurs, zoning changes in the vicinity may need to be considered.

Proven and potential basalt deposits of considerable extent are located to the west and north of Melbourne. To the east, in the vicinity of the Dandenong Ranges and its foothills, lesser deposits of hard aggregate material exist.

Although because of higher standards some rock is no longer regarded as satisfactory, it is believed that adequate reserves exist in the metropolitan area to meet foreseeable requirements.

In the Dandenong Ranges and its environs, there is a conflict between the need to conserve the pleasant landscape qualities and the need to extract rock from the area. Over one third of metropolitan requirements are extracted in this area, and having regard to its closeness to future development and the possible depletion of reserves to the north and west of Melbourne, it is desirable that at least this proportion of requirements continue to be extracted in the present area.

Proven and potential deposits of clay are located to the north, north-east and east of Melbourne. In general, except for fine grained plastic clays, it seems likely that adequate supplies may be available within the metropolitan area. However, clay deposits present a particular problem, in that a great variety of different materials are used by the industry. Unlike sand and rock, these deposits cannot be readily detected at the surface, and detailed surveys are required.

It has been estimated that about 300 million cu. yards of sand, of which 210 million cu. yards will be for concrete manufacture, will be required in the metropolitan area in the next 30 years.

Adequate sand deposits do not exist in the metropolitan area to satisfy the demand. Proven deposits of coarse sand suitable for concrete manufacture are located in the Springvale Clarinda district.

If fully utilized, these are only sufficient to provide about one quarter of the estimated requirements for concrete manufacture in the next three decades, and the importance of preserving the opportunity to extract this sand cannot be over emphasised.

Potential deposits are located nearby and because of the scarcity, the opportunity to extract this sand, if the size of the deposits warrant it, must be retained as far as possible.

Other proven deposits of sand are located in the Frankston-

Cranbourne district, but these are generally finer grained varieties which usually have to be mixed with coarse sand before being used. Availability of these sands may be restricted because some of them are located on reserved land or in areas of conservation significance. Some are also located just outside the boundary of the metropolitan area.

Even if all the proven sand in the area were available, it would only satisfy about one-fifth of the estimated total sand requirements of the metropolitan area in the next three decades. Having regard to the apparent shortage of sand reserves it is desirable that further investigations be carried out to locate additional reserves.

As potential mineral deposits of whatever type are proved or disproved by the Mines Department, the information will be used to update the mineral resources overlay and to reconsider the future use in the area concerned.

When development that would prejudice the conservation of mineral resources is proposed the developer should be required to submit a report satisfactory to the Mines Department as one of the factors to be considered before any zoning changes or development takes place.

Conservation Areas: Overlay 6

In recent years considerable attention has been given to the loss or change in natural environment that is occurring throughout the world. There is now a growing realization, that if land having landscape and habitat significance, within or in close proximity to the metropolitan area, is to be retained for the enjoyment of the people, then restriction on development will be required. Where it is necessary that such areas be developed, effective measures will need to be taken to ensure that development has regard to the preservation of as much of the natural character and amenity as possible.

To assist the Board's investigation of areas of conservation significance and interest, the views of the Fisheries and Wildlife Department, the Conservation Council of Victoria and similar bodies were sought. In addition many interested individuals also supplied valuable information. The Conservation Council of Victoria which represents numerous groups concerned about conservation and the protection of various aspects of the non-urban environment, prepared, at the request of the Board, a comprehensive report on the areas it considered to have conservation significance in the metropolitan region.



A selective examination of the information resulting from these investigations has produced the conservation overlay which contains two broad categories: areas of conservation significance and areas of landscape interest.

The former are areas which should generally be retained in their present state, because of their natural beauty, the animal, bird, and plant populations they support or their scientific or historical interest. Some of these areas contain rare species of flora and fauna and unique land forms. They include areas of high scenic attraction which abut publicly owned land and which have potential as metropolitan parks. Conservation areas in the west, north-west and south-east of the region generally are of lesser quality than those in the north-east and east, but nonetheless the scarcity of high quality landscape and habitat in these locations increases their relative importance.

The areas which have been classified as of landscape interest have been changed from the natural state principally through clearing and the establishment of rural activities.

However some of the original landscape still remains and it is interspersed with the rural land giving attractive views and a pleasant unspoiled character which, desirably should be retained. The control over the landscape areas would not be as rigid as in the conservation areas as further changes in these areas could occur without major detriment to their character.

Some important features shown on the overlay are:

1. The coastline and environs of Port Phillip Bay.
2. The waterways, valleys and environs of the Werribee, Maribyrnong, Plenty and Yarra Rivers and their tributaries and the Dandenong Creek and its tributaries.
3. Areas containing major stands of timber. These vary from the dense cover within and adjoining national parks; state forests; and reservoir sites, which are a feature to the north, to more open forest types such as in the vicinity of the Djerriwarrh Creek and parts of the Werribee River, and the open red gum forests north west of Quarry Hill.
4. The combination of broken country and timber which together with rural uses produces the pleasant scenic character of the areas to the north-east and the eastern parts of the metropolitan area.
5. The various hill formations ranging from the Dandenongs,

2 Structural Elements

Lysterfield and Warramate Hills in the east to the more isolated formations such as Quarry Hill and Mt. Gellibrand in the north and west.

The land included in the conservation and landscape areas supports a remarkable diversity of native birds and animals, and a great variety of plant life. Plant species range from the giant mountain ash to delicate wildflowers and many species of native orchid. The birds include the timid lyrebird, the now rare yellow helmeted honeyeater and many varieties of waterfowl and birds of the plains, forests and gullies. Native animals include wallabies, kangaroos, the platypus and echidna, wombats, bandicoots, the feather-tail glider and bushy and ringtail possums.

The Board has consulted the Department of Agriculture, the Soil Conservation Authority, the Victorian Farmers Union and the Department of Agricultural Economics at Melbourne University to obtain representative views on rural activities.

Although the parts of the metropolitan area used for pastoral and agricultural activities are extensive, the output from them is not economically significant in terms of the state's total rural output and any loss of production could be made good from other parts of the state. From this point of view there is no reason why these lands should not be made available for urban development to the extent required.

On the other hand it is proposed that as far as possible existing areas of high productivity should be retained in their present uses and that there should be control over the clearing of new land for rural production. This latter policy is prompted by considerations of preserving conservation areas and limiting run-off and stream pollution.

Parts of Werribee, Dingley and the eastern slopes of the Dandenongs which produce green leafed vegetables, fruit and horticultural produce, are proposed to be retained in their present use, and such uses will be permitted to expand as necessary in the future. Because it is considered that this form of rural development does not create visual disharmony with the surrounding landscape, these areas have been included on the overlay depicting conservation areas.

In the non-urban areas which are not required for urban development the retention of existing rural and farming activities should be encouraged by all possible means, as they generally add to the environment it is desired to retain.

It has been suggested in some quarters that subdivision into

