ENVIRONMENTAL PROTECTION AUTHORITY
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HON MINISTER FOR URBAN DEVELOPMENT AND TOWN PLANNING

Your Ref.

Our Ref. 61/73 BHH:cmb

RE: WHITFORD NODES

The EPA has considered the matter of the Whitford Nodes in some detail, including an on site inspection, and in the general context of coastal development, land use and management. The EPA is of the opinion, for reasons enumerated below, that the land known as the Whitford Nodes should not be used for private purposes but should be returned to public ownership and with appropriate management be used for public recreation.

The land in question comprises:

CT 1401/746 containing approximately 13.6 hectares;
CT 1169/937 containing approximately 23.3 hectares;
CT 1096/776 containing approximately 31.1 hectares.

In stating this principle the EPA recognises that fiscal and other difficulties will arise if such a course is taken, particularly in respect of the agreements that have been reached between the land developers and the State, and the availability of suitable land for exchange. In this regard, for example, if it is possible to exchange only some of the land, the EPA, suggests that priorities be set based on both the recreational potential and environmental fragility of the land in question.

In arriving at these conclusions the EPA has considered amongst other things the following aspects:

1. The future development of the North West Corridor and the limited stretches of suitable beach between Sorrento and Burns Beach indicate that there will be increasing pressures for use of the beaches in the Whitfords Mullaloo area. For example, a suggested ultimate population for the portion of the corridor to Burns Beach Road could be of the order of 150,000 people. In turn this means that more intensive beach management practices (such as outlined in Attachment 1) will need to be used. The EPA believes that the Wanneroo Shire has clearly shown its committment

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in this regard (though the appointment of a consultant to carry out studies, its own studies, public meetings and support of local public organisations) and that with adequate support could manage the Whitford coast for public recreation uses.

2. In considering the single problem of the Whitford Nodes the EPA was especially aware of the need to "set an example" for future beach management, particularly in view of the recognised importance of the Metropolitan beaches to the residents of Perth. This overall planning aspect which was emphasised in the "Plan for the Metropolitan Region, Perth and Fremantle" (Stephenson and Hepburn, 1955 pages 95-97) has become even more important with the adoption of the Corridor Plan as a basis for Perth's expansion.

3. The fragility of the Whitford Nodes area from both sea and wind erosion is well shown in evidence considered by the EPA. Attachment 1 which is a report by the Soil Conservation Service on the Whitford Nodes indicates the potential fragility of the area to soil erosion, particularly in terms of the type of land use that may take place. Attachment 2 is a series of overlays taken from aerial photography dating back to 1942. They show that significant fluctuations have taken place in the coast, suggesting that recessions of up to 50 metres in the beachline have occurred. The vicinity of the sandy Pinaroo Point appears to be particularly vulnerable. Indeed, part of the erosion that has taken place can be attributed to the rather limited use of the area by visitors and squatters over the years covered by the aerial photography.

The EPA would be most concerned if the situation should occur at Whitford (as has occurred elsewhere in WA) where the State was forced to pay for expensive restoration works to combat erosion threatening private properties. Ultimate costs of such work in current terms are estimated to be of the order of $250 to $350 per metre length of shore, with a minimum length of about 1 kilometre needing to be stabilised at a time. To wilfully allow in the Whitford area the type of erosion which has led to such costly reclamation as at Ormsby Terrace Mandurah would be, we believe, irresponsible.

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In summary we believe that return of the land west of West Coast Highway from Sorrento to Mullaloo fully to public ownership not only can be justified from the viewpoint of community interests but it can even be economically justified. We therefore recommend to the Government that the necessary steps be taken to return the Whitford Nodes to the ownership of the public where it properly belongs.

Brian J. O'Brien
CHAIRMAN

2 March 1976

c.c. Shire Clerk
Wanneroo Shire Council

Hon Minister for Conservation
and Environment

ATTACHMENT 1

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CHAIRMAN
ENVIRONMENTAL PROTECTION AUTHORITY

Your Ref: 61/73
Our Ref: 148/73
Enquiries Mr. Spencer
November 25, 1975

WHITFORD NODES

Your memo of October 17, 1975 is acknowledged. In answer to your request for comments on the fragility of the area I enclose a report on the subject prepared as a result of inspection of the land of concern together with general knowledge of coastal sand dune erosion in W.A.

The report is confined to the coastal sand dunes only, although it is agreed that there may also be effects on the beach and offshore zone. I believe that it may be more appropriate for officers of the P.W.D. to provide comments on this aspect.

G.W. Spencer

(G.W. Spencer)
COMMISSIONER OF SOIL CONSERVATION

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REPORT ON
THE WHITFORD NODES
SOIL EROSION POTENTIAL

The Whitford nodes comprise the land between West Coast Highway and the sea from Sorrento to Mullaloo in the Shire of Wanneroo.

The land is part of the Quindalup dune system. As described by Bettenay et al (1960), the soils are creamy-white calcareous sands, generally low in organic matter except in a few small hollows and of low inherent fertility.

The landform is sand dunes and swales with a fairly complex topographical pattern, particularly in the southern node.

Along the shore from Sorrento to Whitford Point there is a low, fairly well vegetated foredune backing the beach, with numerous small gaps through it but no actual blowouts and sand drifts.

From Whitford Point to Mullaloo the foredune is lower, more sparsely vegetated and extensively broken, being almost completely removed along a 600m section just north of the point. Although this section is bare and sandy there are no large sand drifts at present and there is a strip of vegetation between the bare sand and the highway.

The entire beach is sandy. North of the point it is low, wide and fairly flat. Southwards it becomes gradually narrower and very slightly more sloping towards Sorrento.

The vegetation on all the land discussed belongs to the low dune scrub described by Smith (1973). The vegetation on the undisturbed parts of the northern and central nodes is fairly dense and vigorous and is protecting the dunes from wind effects very well. On the southern node the vegetation is generally sparser and less dense, even where apparently undisturbed, but is still protecting the dunes from wind action.

One common effect of human activity in coastal dunes is to damage the vegetation that holds the sand from drifting. On a sandy coast such as at this particular locality, sand drift follows eventually when the vegetation is completely destroyed. In the present state of knowledge of coastal management the most effective way of preventing this is to restrict or eliminate this activity.

Much of the land in the Whitford nodes is affected by human activity, mainly in the form of numerous tracks and roads through the dunes and by levelling for car parking. The earthmoving associated with this latter activity has already resulted in some sand drift at the Sorrento end of the southern node and a blowout situation could develop at this site. Very little increase in present types of activity north of the point, at the section where the vegetation is sparse and the foredune almost non existent, could result in sand drift starting there also.

The importance to the shore sand cycle of retaining a reservoir of sand in the foredune system of a sandy point such as Whitfords is assumed in all the discussion in this report.

The forms of development which could take place in the Whitford nodes can be ranked in order of the likelihood of their resulting

* Least likely to cause erosion needing rehabilitation would be use of the area as a nature, scientific or conservation reserve with complete exclusion of people. Logically this use would be preceded by a foredune rebuilding exercise where necessary, particularly north of the point. Complete exclusion would necessitate fencing and policing.

* Use of the area for passive forms of recreation, with rebuilding of the foredune system and exclusion of people from it and from the higher peaks and ridges would be next in order. Limited car parking together with access paths from car parks through the foredune system and between hollows is all the development that would be needed for this use. Soil erosion problems could be expected to be less than at present and could be easily overcome.

* Other forms of coastal recreation use could take place in the Whitford nodes without causing massive erosion problems if some fairly simple coastal management precautions were taken. Basically, these are procedures which have been found necessary by authorities having responsibility for sandy coastal land all over the world.

They comprise

(i) restricting people to defined access ways through the foredune system

(ii) protecting the vegetation stabilizing both the foredune and vulnerable ridges and peaks from damage

(iii) siting facilities such as car parks, public amenities, etc. in sheltered hollows behind the foredune system and between vegetated dunes, hills and ridges

(iv) deliberate establishment of intensive use sites such as barbecue and picnic facilities in sheltered locations

(v) provision for continuous monitoring and the carrying out of maintenance work as and when necessary

(vi) recognition at the planning stage of the importance of the effects of wind in the design of individual items, for example the orientation of a beach access path, a change room or a launching ramp.

* The form of development most likely to result in erosion and difficulties with rehabilitation would be use for residential or commercial purposes. This type of development would result in massive soil erosion problems unless the same coastal management procedures detailed previously were followed together with procedures designed to prevent soil erosion during and after the extra construction work involved.

Success of the management procedures under these more intense uses of the site would be expected to be more difficult to achieve, since people pressure on the site must increase with each increase in intensity of use. Prevention of erosion on coastal construction sites has proved difficult, is always expensive and has not always been successful.

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