

**Special rural subdivision and development,
Lot 30 Hope Valley Road, Wandri**

T and G Pintaudi

**Report and recommendations of the
Environmental Protection Authority**

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1. Background

The site is located approximately 500m east of the Hope Valley Road/Anketell Road intersection in Wandii, with Hope Valley Road forming the northern boundary and Anketell Road the southern boundary (Figure 1). Lot 30 is one of the last lots to be developed in the Town of Kwinana Special Rural Policy Area covering this site. System 6 area M97 is located directly across Hope Valley Road to the north.

The landform is characterised by a series of ridges that cross the site, generally in a north east to south west alignment and these are covered in relatively good quality native vegetation consisting predominantly of Banksia woodland. There is some disturbance, possibly from grazing in the past but no stock is run on the property at present.

There are several poultry farms to the south of the site across Anketell Road and odour emanating from these can be expected to be unpleasant at times in the course of their normal operations.

The site is over a Priority 2 Source Area as defined by the Water Authority of Western Australia (WAWA) for the protection of groundwater supplies and is also in the Jandakot Underground Water Pollution Control Area. The proposal, as Amendment No. 53 to the Town of Kwinana's Town Planning Scheme No. 1, was referred to the Environmental Protection Authority in May 1989 by the Department of Planning and Urban Development for comment. The Authority responded with comments relating to the System 6 area to the north and the number of stock allowed to be kept on lots in the development.

The subdivision was subsequently referred to the Authority for comment in February 1990. Due to the potential impacts on the groundwater resources as mentioned above, the protection of which had increased in importance, the Authority decided that formal assessment under Part IV of the Environmental Protection Act 1986 was warranted, and set the level at Consultative Environmental Review (CER).

At the present time a land-use study (Jandakot Land Use and Water Management Study) for the Jandakot Water Mound is being prepared for the WAWA and the Department of Planning and Urban Development, and an Environmental Protection Policy for the same area is also being prepared under the Environmental Protection Act 1986. Thus this and other developments over the water mound are being assessed by the Authority in the interim phase before the finalisation of these documents. It is hoped that once they are completed, they will give a better indication of the acceptability of specific types of development on this public water supply area.

Whilst the Authority is continuing to assess individual rural residential developments in this interim phase, it would expect them to conform with the principles regarding the siting of effluent disposal systems, vegetation retention and revegetation, control of stocking rates and others as discussed in this report.

2. Proposal

The proponents, T and G Pintaudi, propose to rezone, subdivide and develop Lot 30 Hope Valley Road, Wandii to create 22 "Special Rural" lots ranging in size from 2ha to 3.2ha. The site is currently zoned "Rural" under the Town of Kwinana's Town Planning Scheme No 1 with a corresponding lack of land use controls. Through the rezoning process it is intended to apply special provisions to the scheme limiting the the allowed uses and activities, and a copy of these provisions is included in this report. The proposed scheme provisions form part of the proposal as assessed and are extremely important in aiding the management of environmental impacts affecting the proposal. Consequently, if the proposal were to proceed, the proposed scheme provisions should be stringently applied by the Local Authority.

3. Public submissions

During the public review period, eight submissions on the proposal were received by the Authority, including six individual submissions and two government department submissions.

Of the eight submissions, five were opposed to the proposal, two recommended further studies be undertaken, and one gave conditional support.

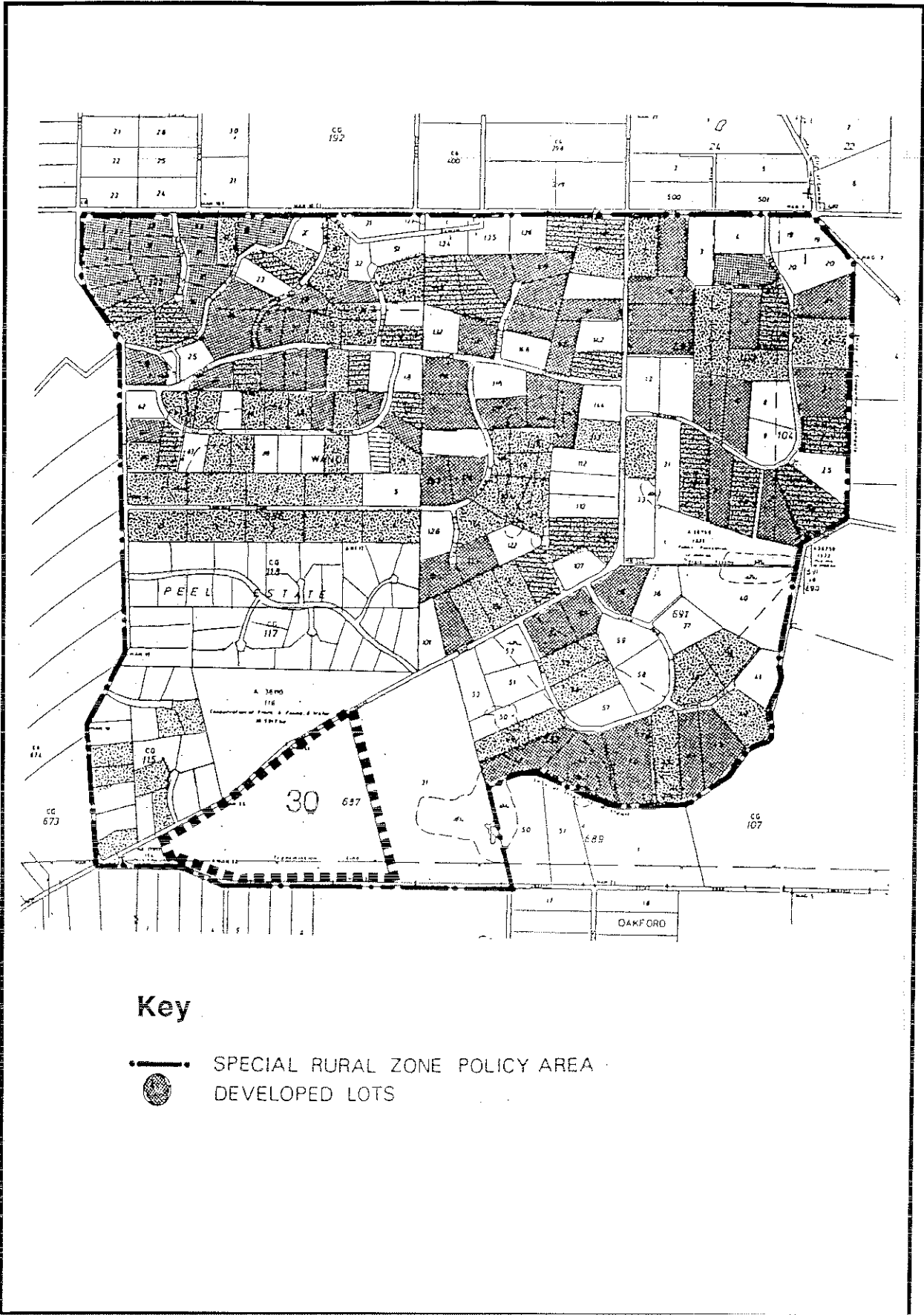


Figure 1: Location map

The information in the submissions has been divided into issue groups as follows:

Table 1: Issues raised in submissions

Issue	Number of submissions raising the issue
Environmental issues:	
Concerns for indigenous flora	3
Possibility of groundwater pollution (primarily from nutrients)	6
Wetlands on adjacent lot	1
Climatic change	1
Planning issues:	
Within proposed Jandakot Botanical Park	1
Concerns over land use planning generally	1
Electro-magnetic radiation from powerlines	1
Development should not be allowed until development guidelines agreed on	1
Large proportion of population dependant on water supplies from the Perth area	1
Other:	
Public submission period too short	1
Better co-operation is needed in government	1

As can be seen from the table, the predominant issue was that of impacts of the development on groundwater quality and to a lesser extent flora on the site. Concerns related primarily to pollution of the groundwater from activities associated with the development and the clearing of native vegetation during development.

Several planning issues were also raised and whilst the Authority agrees that they may be legitimate concerns, it does not believe it is the appropriate agency to address these issues, and that alternative avenues exist through the planning process.

One submission criticised the Authority on the small amount of time available to make a submission on the proposal. As the proposal was assessed at the CER level, it would not normally have had the community exposure it did. Thus while the public review period may have been relatively short, it did create an avenue for public involvement that would otherwise have not been available.

4. Environmental issues

With so much of Perth's domestic water supply coming from groundwater resources (particularly during the summer months), protection of existing groundwater supplies must be of paramount importance. Thus on this site, the potentially adverse environmental impacts from the development (primarily nutrient pollution from effluent disposal systems and horses) must be managed to prevent further degradation of groundwater quality and quantity.

For this particular site, the Environmental Protection Authority believes the impacts can be managed to make the project environmentally acceptable.

Recommendation 1

The Environmental Protection Authority has concluded that the proposed "Special Rural" development on Lot 30 Hope Valley Road, Wandl would be environmentally acceptable if amended in line with the Environmental Protection Authority's Recommendations in this report, and recommends that the project could proceed subject to those recommendations.

The Authority's experience is that it is common for details of a proposal to alter through the detailed design and construction phase. In many cases alterations are not environmentally significant or have a positive effect on the performance of the project. The Authority believes that such non-substantial changes, and especially those which improve environmental performance and protection, should be provided for.

The Authority has concluded that for the proposal to be environmentally acceptable, the following design constraints and management provisions must be applied. These fall into two categories: those which apply to the developer and are implemented prior to the issuing of titles for the proposed lots; and those which apply to the Local Authority and must be reflected in the Local Authority's Town Planning Scheme.

To be applied to the developer:

To protect the groundwater it is important to minimise the application of nutrients to the land above. One way of doing this is to specify larger lot sizes to reduce the intensity of septic tanks and another is to restrict any horticultural pursuit to within the building envelope in line with a normal domestic garden.

Recommendation 2

The Environmental Protection Authority recommends that lot sizes must be no less than 2 hectares, and contain a building envelope no greater than 10% of the total lot area to the satisfaction of the Environmental Protection Authority.

Retention of native vegetation and revegetation has many benefits including:

- nutrient uptake;
- wildlife habitat retention/creation;
- maintenance of groundwater levels; and
- aesthetics.

Thus the Authority believes it reasonable to recommend that existing vegetation be retained and a replanting programme undertaken where necessary.

Recommendation 3

The Environmental Protection Authority recommends that with the exception of minimal clearing necessary for the building envelopes, fences, firebreaks, access and servicing, there is to be no removal of vegetation, and areas already cleared are to be revegetated with appropriate trees and perennial shrubs either to a density of 800 stems per hectare or in accordance with a tree planting programme acceptable to the Environmental Protection Authority. The developer shall be responsible for replacing losses of plants in the first three years to the satisfaction of the Environmental Protection Authority.

In a development such as this, there are many advantages in retaining stormwater on-site including groundwater recharge, increased availability for plants and the retention of nutrients on-site.

Recommendation 4

The Environmental Protection Authority recommends that stormwater must be contained on-site to the extent that a 1 in 10 year storm event will be contained for three to four days before leaving the property to the satisfaction of the Environmental Protection Authority.

The following recommendations should be implemented through the Local Authority's Town Planning Scheme:

Recommendation 5

The Environmental Protection Authority recommends that outside the area cleared for the building envelopes, fences, firebreaks, access and servicing, the existing vegetation and the revegetation established under Recommendation 2 above shall be maintained.

Overstocking can lead to many problems including excessive nutrient loading, damage to vegetation, and as a result of this, erosion problems. This is particularly relevant on the easily eroded sands in this area, and the following recommendation is aimed at minimising potential environmental impacts.

Recommendation 6

The Environmental Protection Authority recommends that the only permissible primary land use be residential, and no more than one residence shall be permitted on each lot unless it can be demonstrated that an additional residence would not result in excessive nutrient application. Ancillary land uses may be permitted provided they do not involve excessive nutrient application or the clearing of land contrary to Recommendations 1 and 2 above (developer). Vegetation shall be protected from damage by grazing livestock. The type and numbers of livestock shall be controlled in order to prevent excessive nutrient input. Fertiliser application shall be minimised and limited to the building envelope.

To minimise the environmental impact of nutrients from on-site effluent disposal systems on the groundwater and any nearby wetlands, adequate setback distances are required.

Recommendation 7

The Environmental Protection Authority recommends that conventional on-site effluent disposal systems be located and installed such that there is at least a 2 metre vertical separation between the base of the leach drain and the highest recorded groundwater level or bedrock, and at least a 100 metre horizontal separation between the disposal system and the nearest water body.

The poultry farms to the south of the site have the potential to impact on the development. In the Authority's "Draft Code of Practice for the Poultry Industry" a 500m setback is recommended for gazetted residential areas and 200m for other homes. Whilst the development will not be a residential area, the housing density will be higher than would normally be expected in a rural community. Thus the 200m separation distance recommended in the Authority's draft Code of Practice is achievable in the proposed subdivision design, but this will not necessarily mean that, under certain meteorological conditions, odour complaints will not be received from people within the development.

The Authority is aware that there were plans for a service station in the western corner of the development, but following advice from WAWA, this part of the proposal has been withdrawn.

The Authority believes that any approval for the project based on this assessment should be limited to five years. Accordingly, if the proposal has not been substantially commenced within five years of the date of this report, then such approval should lapse. After that time, further consideration of the proposal should occur only following a new referral to the Authority.

It should be noted that the recommendations contained in this report do not prevent relevant Authorities from refusing the development on grounds other than environmental (eg planning, protection of water supplies).

It should also be noted that if the recommendations in this report are converted to Ministerial Conditions which subsequently conflict with other conditions/provisions applied through the planning process (eg scheme provisions, subdivision conditions), then the conditions as set by the Minister for the Environment take precedence.

Appendix 1

Special provisions to be applied through the Town Planning Scheme

TOWN PLANNING AND DEVELOPMENT ACT, 1928 (AS AMENDED)

TOWN OF KWINANA

TOWN PLANNING SCHEME NO. 1

AMENDMENT NO. 53

The Town of Kwinana under and by virtue of the powers conferred upon it in that behalf by the Town Planning and Development Act, 1928 (as amended) and the Metropolitan Region Town Planning Scheme Act 1959 (as amended) hereby amends the above Town Planning Scheme by:

1) Re-zoning portion of Peel Estate Lot 587 and being Lot 30 Hope Valley Road Wandí, on Diagram 58765 from "Rural" to "Special Rural";

2) Amending Clause 3.9 of the Scheme Text by inserting:

(i) in the brackets and following the words Service Stations, Hotels and Taverns the words "and Rural Service Shop/Dwelling House", and

(ii) "3.9.3 Rural Service Shop/Dwelling House.

Lot 22 on Plan of Subdivision No. 1 of Special Rural Zone No. 16, Lot 30 Hope Valley Road, Wandí shall be subject to the specific uses of Dwelling House and Rural Service Shop.

The intent of the Rural Service Shop is for the sale to the public of goods of a variety akin to that of a general store. The Rural Service Shop shall not exceed 250 square metres of retail floorspace, exclusive of storage areas, without the consent of the Council."

3) Inserting within the Second Schedule of the Scheme Text the following:

Specified Area of Locality (A)	Special Provisions to refer to (B)
Special Rural Zone No. 16 Peel Estate Lot 687 and being Lot 30 Hope Valley Road, Wandí on Diagram 58765 on Certificate of title Vol 1629 Fol 948.	<ol style="list-style-type: none"><li data-bbox="699 712 1337 873">1. Subdivision of Special Rural Zone No. 16 shall be in accordance with the Plan of Subdivision No. 1 endorsed by the Town Clerk.<li data-bbox="699 974 1337 1041">2. The Minimum lot size shall be 2 hectares.<li data-bbox="699 1164 1337 1299">3. Buildings shall only be constructed within those parts of the lots designated as building envelopes.<li data-bbox="699 1388 1337 1590">4. Council may modify the location of the building envelopes if it is of the opinion that the site conditions are such that a variation is warranted.<li data-bbox="699 1680 1337 2168">5. Clearing of flora shall only take place within those parts of the lots designated as building envelopes on the Plan of Subdivision with the following exceptions:<ol style="list-style-type: none"><li data-bbox="794 1904 1337 2004">a) To remove trees which are dead, diseased or dangerous.<li data-bbox="794 2038 1337 2168">b) For the purpose of a firebreak required by a regulation or by-law except that in order

to preserve the amenity of the area Council may at its discretion vary the position of any required firebreak to avoid destruction of vegetation or due to the physical features of the subject land.

- c) For the purpose of an access driveway for a residential dwelling as approved by Council.
6. No habitable dwelling's floor level shall be less than 2 metres above the highest known water level.
7. a) The use of Dwelling House is permitted "P" within the Special Rural Zone No. 16.
- b) The following uses are not permitted unless the Council gives its approval in writing "AA" - Home Occupation, Public Utility.
- c) Council may permit the use of Stables provided that:
- i) Council is satisfied that horse agistment, in each particular case, is appropriate;
 - ii) only one horse is kept, and
 - iii) adequate stabling and containment facilities are provided.

Except as provided for under Clause 3.9 of the Scheme, all other uses not mentioned under (a), (b) and (c) above are not permitted.

8. Minimum dwelling size:
 - a) Floor - no dwelling house shall be constructed within the area specified in column (a) with an overall floor area (including walls) of less than 90 square metres.
 - b) Roof - no roof forming effective water catchment area connected to the storage tank shall be less than 90 square metres projected plan area.

9. All public roads and public access ways within the Special Rural Zone shall be constructed to specification and satisfaction of Council and the Water Authority of Western Australia.

10. Prior to the subdivision of this Special Rural Zone it shall be drained to the satisfaction of the Council and the Water Authority of Western Australia.

11. Water Supply provisions:
 - a) The subdividing owner of the land shall make arrangements satisfactory to the Council to the effect that prospective purchasers of the lots are advised that no reticulated water supply can be provided by the Water Authority of Western Australia.
 - b) The land is subject to the provisions of the Water Authority of Western Australia by-Laws applicable to underground water supply and pollution

control. The subdividing owner shall inform all prospective purchasers in writing of the Water Authority of Western Australia's requirements mentioned in (c) and (d) below.

- c) A well licence must be obtained prior to constructing a well or bore to draw groundwater. Groundwater may be drawn from each of the lots to supplement household water supply water needs, and to supply water for irrigated development of an area of up to 0.1 hectares. The maximum amount of groundwater permitted to be drawn shall be 1500 cubic metres annually.

- d) Activities carried out on this land shall not contravene the Water Authority of Western Australia by-Laws applicable to underground water pollution control.

- e) Any increase in storm water run-off created by the development of the land shall be catered for within the site and outlet flows to the Water Authority's drainage system shall not be increased. The developer shall at the subdivisional stage provide the Water Authority with calculations and plans to demonstrate that storm water run off from the subdivision will not increase discharge to the Water Authority's drainage system.

Any improvements or additions to the existing drainage system, as a result of any development, shall be to the requirements of the Water Authority and shall be at the developers' expense.

12. The land is to be managed in such manner as to avoid the land being laid bare of vegetation resulting in loose, wind erodible conditions. For the said vegetation that has to be removed to make way for housing, fences, firebreaks, outbuildings and access ways construction, the Council's approval shall be deemed as Council's written consent to remove that vegetation.

13. The minimum standard of front boundary fencing shall be;

Posts - tanolith treated pine not less than 100-150mm diameter being not less than 750mm in the ground and 1200mm above the ground. The posts are to be installed vertically and well consolidated in positions not exceeding 2750mm apart. Corner posts and posts at changes of direction of fence alignment to be strutted to the satisfaction of the Town Engineer.

Top Rails - tanolith treated pine not less than 100-150mm diameter installed horizontally with the top edge approximately level with the top of the posts 1200mm above ground level.

Wires - ten S.W.G. high tensile galvanised (or bonded plastic equivalent to the satisfaction of the Town Engineer). The top wire to be installed by running through holes bored in posts

being 75mm below the under side of the top rails. The middle wire to be installed by running through holes bored in posts being 300mm below the middle wire. All wires to be strained to the satisfaction of the Town Engineer. As an alternative, the Council may approve wire meshing in lieu of wire. Front boundary fence shall be erected by the subdivider.

14. The developer is to erect signs in prominent positions around the site which set out clearly, permitted uses, clearing restrictions, ground-water draw requirements, management of stock and the need to seek Council's approval prior to the commencement of any development.