



Ass # 435-2

Bull # 774

State # 411

MINISTER FOR THE ENVIRONMENT WESTERN AUSTRALIA

**STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)**

BUNBURY HARBOUR CITY DEVELOPMENT

- REZONING (MARLSTON HILL) (435-2)

LANDCORP AND THE SOUTH WEST DEVELOPMENT COMMISSION

The rezoning part of the proposal may be implemented subject to the following conditions:

1 Proponent Commitments

The proponent has made a number of environmental management commitments in order to protect the environment.

- 1-1 In implementing the rezoning part (Marlston Hill) of the proposal, the proponent shall fulfil the commitments made in the Proponent's document of July 1994 and in response to issues raised following public submissions and the consolidated commitments published in Environmental Protection Authority Bulletin 774, Appendix 4; provided that the commitments are not inconsistent with the conditions or procedures contained in this statement.

A schedule of environmental management commitments (March 1996) which will be audited by the Department of Environmental Protection is attached.

2 Implementation

Changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment.

- 2-1 Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal.
- 2-2 Where, in the course of the detailed implementation referred to in condition 2-1, the proponent seeks to change those designs, specifications, plans or other technical material submitted to the Environmental Protection Authority in any way that the Minister for the Environment determines, on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

Published on
- 4 APR 1996

3 Site Contamination and Remediation

The proponent should remediate the soil and may be required to remediate the groundwater dependent on further groundwater investigation.

- 3-1 The proponent shall carry out soil and groundwater investigation and remediation programmes in accordance with the Assessment Criteria in Table 3 in Environmental Protection Authority Bulletin 774 and/or to the requirements of the Department of Environmental Protection. (A copy of Table 3 is attached).
- 3-2 The proponent shall ensure that the groundwater beneath the site is not extracted or used for any purpose.
- 3-3 Prior to seeking clearance of survey documents, the proponent shall complete remediation of the soil and groundwater to the requirements of the Health Department of Western Australia and the Department of Environmental Protection.

4 Dust Control

Control of dust arising from ground disturbance is required.

- 4-1 The proponent shall control dust (ie. wind-blown particulate matter) to the extent necessary to ensure that there are no substantiated complaints of dust nuisance.
- 4-2 Prior to the commencement of any ground-disturbing activities, the proponent shall prepare a Dust Management Strategy to achieve the objective of condition 4-1.
- 4-3 During and after remediation of the sites, the proponent shall implement the Dust Management Strategy required by condition 4-2.

5 Proponent

These conditions legally apply to the nominated proponent.

- 5-1 No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister for the Environment has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.

6 Time Limit on Approval

The environmental approval for the proposal is limited.

- 6-1 If the proponent has not substantially commenced the project within five years of the date of this statement, then the approval to implement the rezoning part (Marlston Hill) of the proposal as granted in this statement shall lapse and be void. The Minister for the Environment shall determine any question as to whether the project has been substantially commenced.

Any application to extend the period of five years referred to in this condition shall be made before the expiration of that period to the Minister for the Environment.

Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Department of Environmental Protection that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years.

7 Compliance Auditing

To help determine environmental performance, periodic reports on progress in implementation of the proposal are required.

- 7-1 The proponent shall submit periodic Performance and Compliance Reports, in accordance with an audit programme prepared by the Department of Environmental Protection in consultation with the proponent.

Procedure

- 1 Unless otherwise specified, the Department of Environmental Protection is responsible for assessing compliance with the conditions contained in this statement and for issuing formal clearance of conditions.
- 2 Where compliance with any condition is in dispute, the matter will be determined by the Minister for the Environment.
- 3 Within twelve months of the formal authority issued to the decision-making authorities under Section 45(7) of the Environmental Protection Act 1986, the City of Bunbury will initiate planning procedures to ensure that land uses sensitive to noise (such as residences, schools, hospitals or overnight accommodation) adjoining Casuarina Drive are able to achieve an internal noise standard of 35 dB(A) *Leq* at night and an instantaneous noise level of 45 dB(A) maximum between 2200 and 0700 hours.

Should it be necessary to have the windows shut to achieve the internal noise standard, then the air quality in the rooms must meet the standards specified in Australian Standard 1668.2 - 1991, when the windows are shut.

An appropriate mechanism to achieve the above would be through an amendment to the City of Bunbury Town Planning Scheme No. 6 defining suitable zoning, density coding (if appropriate) and development conditions. Consideration should also be given to placing notices on titles for all private lots adjoining Casuarina Drive to advise prospective purchasers of the potential limitations on uses of the land.


Hon Peter Foss QC MLC
MINISTER FOR THE ENVIRONMENT

- 3 APR 1996

Schedule of environmental management commitments

which will be audited by the

Department of Environmental Protection

March 1996

BUNBURY HARBOUR CITY DEVELOPMENT

- REZONING (MARLSTON HILL) (435-2)

LANDCORP AND THE SOUTH WEST DEVELOPMENT COMMISSION

The proponents, LandCorp and South West Development Commission, undertake to abide by all commitments in the Report.

The commitments are summarised below:

Traffic Noise

- 1 The proponents commit to provide a residential setback of 25 metres from the edge of the carriageway of the proposed sub arterial road (Casuarina Drive). The setback will incorporate a dual use path, a landscape buffer and an elevation change between the road and residential blocks.
- 2 The proponents commit to provide a setback of 10 metres from the edge of the carriageway for the proposed sub arterial road (Casuarina Drive) for the commercial areas.
- 3 The proponents commit to build Casuarina Drive with a surface of dense graded asphalt.
- 4 The proponents commit to build a wall of solid construction 1.2 metres high along the residential boundary of all lots facing Casuarina Drive.

Drainage

- 5 The proponents commit to design and build drainage basins to retain stormwater drainage flows up to a 1 in 10 year, 72 hour recurrence event.

Site Contamination

(Some sites may be remediated by others.)

- 6 The proponents commit to ensure that further investigations and final remediation plans are submitted to the Pollution Prevention Division of the Department of Environmental Protection for approval on a site by site basis.
- 7 The proponents commit to ensure that all soil and groundwater on the site will be remediated to the satisfaction of the Pollution Prevention Division of Department of Environmental Protection.
- 8 The proponents commit that clearance of survey documents will not proceed until the site has been remediated to the satisfaction of the Department of Environmental Protection with advice from the Health Department of Western Australia.

BP Site

The proponent makes the following commitments in relation to the BP sites (including the off site soakage pit):

- 9 to undertake remediation of the site to ensure that petroleum hydrocarbons and lead contamination of soil and any other contamination consistent with site history, meet the criteria set out below, and/or other criteria determined by the Department of Environmental Protection with advice from the Health Department of Western Australia;

Parameter	Criteria mg/kg	Source
C ₆₋₉	100	EPA (Victoria)
C ₁₀₋₁₄	500	EPA (Victoria)
C ₁₅₋₂₈	1000	EPA (Victoria)
Benzene	0.5	Dutch B
Toluene	3	Dutch B
Ethyl benzene	5	Dutch B
Xylene	5	Dutch B
Lead	300	ANZECC Environmental Investigation Level

- 10 to undertake validation testing upon completion of the remediation to the satisfaction of the Department of Environmental Protection with the advice of the Health Department of Western Australia.

Shell Site

The proponent makes the following commitments in relation to the Shell site:

- 11 to undertake a comprehensive survey to determine the nature and extent of petroleum hydrocarbon and lead contamination and of any other contamination consistent with site history, of the soil and/or groundwater;
- 12 to undertake remediation of the site to ensure that petroleum hydrocarbons, lead and any other soil or groundwater contamination consistent with site history, meets remediation criteria to the satisfaction of the Pollution Prevention Division, Department of Environmental Protection;
- 13 to undertake validation testing upon completion of the remediation to the satisfaction of the Department of Environmental Protection with the advice of the Health Department of Western Australia.

Caltex Site

The proponent makes the following commitments in relation to the Caltex site:

- 14 to undertake a comprehensive survey to determine the nature and extent of petroleum hydrocarbon and lead soil contamination and any other contamination consistent with site history;
- 15 to undertake additional soil testing to determine the extent and severity of dieldrin and any other pesticide contamination;
- 16 to undertake remediation of the site to ensure that petroleum hydrocarbons, lead and any other soil contamination consistent with site history, meet remediation criteria to the satisfaction of the Pollution Prevention Division, Department of Environmental Protection;
- 17 to undertake to cover the site with 0.5-1 m of clean fill to the satisfaction of the Pollution Prevention Division, Department of Environmental Protection.
- 18 to undertake further remediation of the site should significantly higher concentrations of dieldrin or other organochlorine pesticides be detected. Remediation criteria and methods would be based on health and environmental risk assessments to the satisfaction of the

Department of Environmental Protection with the advice of the Health Department of Western Australia;

- 19 to undertake validation testing upon completion of the remediation to the satisfaction of the Department of Environmental Protection with the advice of the Health Department of Western Australia.

Wastewater (WAWA) Treatment Plant

The proponent makes the following commitments in relation to the wastewater treatment plant site:

- 20 to remove all remaining sewage sludge;
- 21 to undertake testing for heavy metals and any other contaminants consistent with site history in the soil below the sludge drying beds;
- 22 to remove any contaminated soil from below the sludge drying beds should remediation be deemed necessary. Remediation criteria and methods would be based on health and environmental risk assessments to the satisfaction of the Pollution Prevention Division, Department of Environmental Protection;
- 23 to undertake validation testing upon completion of remediation to the satisfaction of the Department of Environmental Protection with the advice of the Health Department of Western Australia.

Bunbury Port Authority Land

The proponent makes the following commitments in relation to land owned by the Bunbury Port Authority:

- 24 once the sites have been cleared the proponents commit to undertake testing for heavy metals and any other contamination consistent with site history, using criteria and methods to the satisfaction of the Pollution Prevention Division, Department of Environmental Protection;
- 25 to undertake additional soil testing to determine the extent and severity of dieldrin and any other pesticide contamination;
- 26 to undertake remediation of the site should significantly higher concentrations of heavy metals or other contaminants consistent with site history be detected. The proponent commits to use remediation criteria and methods based on health and environmental risk assessments to the satisfaction of the Pollution Prevention Division, Department of Environmental Protection with the advice of the Health Department of Western Australia;
- 27 to cover the site with 0.5-1 m of clean fill if required and to dispose of contaminated soil to the satisfaction of the Pollution Prevention Division, Department of Environmental Protection, with the advice of the Office of Waste Management.
- 28 if remediation is undertaken, to undertake validation testing upon completion of remediation to the satisfaction of the Pollution Prevention Division, Department of Environmental Protection with the advice of the Health Department of Western Australia.

Westrail Land

The proponent makes the following commitments in relation to land owned by the Westrail:

- 29 once the sites have been cleared, the proponents commit to undertake testing for heavy metals and any other contaminants consistent with site history, to criteria and methods to the satisfaction of the Pollution Prevention Division, Department of Environmental Protection;
- 30 to undertake remediation of the site should significantly higher concentrations of heavy metals or other contaminants be detected. Remediation criteria/ methods would be based on health and environmental risk assessments to the satisfaction of the Pollution Prevention Division, Department of Environmental Protection with the advice of the Health Department of Western Australia;
- 31 to undertake to cover the site with 0.5-1 m of clean fill if required and to dispose of contaminated fill to the satisfaction of Pollution Prevention Division, Department of Environmental Protection with the advice of the Office of Waste Management.
- 32 if remediation is undertaken, to undertake validation testing upon its completion of remediation to the satisfaction of the Department of Environmental Protection and the Health Department of Western Australia.

Groundwater Remediation

- 33 The proponents commit to undertake the installation of monitoring bores to confirm whether there is any contamination of the groundwater, and if so where it is and how much contamination there is;
- 34 the proponents commit to undertake groundwater modelling to determine the concentration of monoaromatic petroleum hydrocarbons or other likely contamination consistent with site history, reaching Koombana Bay to the satisfaction of Pollution Prevention Division, Department of Environmental Protection.
- 35 the proponents commit to present the findings of the groundwater modelling to the Department of Environmental Protection so that the Department may determine the need for remediation and the appropriate criteria;
- 36 should remediation be necessary, then the proponents commit to remediate the groundwater using criteria and technology to the satisfaction of the Pollution Prevention Division, Department of Environmental Protection ;
- 37 if remediation is undertaken, the proponents commit to undertake validation testing upon completion of remediation to the satisfaction of the Department of Environmental Protection with the advice of the Health Department of Western Australia.

Management Plans

- 38 The proponents will ensure that the development proposal will assume an integrated approach consistent with existing Management Plans for the area, eg Bunbury Coastal Plan; Koombana Parks Reserves Management Plan.

Table 3 - Summary of Assessment Criteria (Sinclair Knight Merz p 24-25)

	Soil Criteria				Groundwater Criteria			
	A (mg/kg)	B (mg/kg)	C (mg/kg)	Document Source	A (µg/l)	B (µg/l)	C (µg/l)	Document Source
Total Petroleum Hydrocarbons								
- C6-C9			100	3	-		500	3
- C10-C14			500	3	-		500	3
- C15-C28			1000	3	-		-	
- C29-C36			-		-		-	
Monoaromatic Hydrocarbons								
- Benzene	0.01	1	5	1,2	0.2	1	5	2
- Toluene	0.05	3	30	1,2	0.5	15	50	2
- Ethyl benzene	0.05	5	50	2	0.5	20	60	2
- Xylenes	0.05	5	50	1	0.5	20	60	2
Metals								
- Arsenic	0.2-30	20	50	1,2	10	30	100	2
- Cadmium	0.04-2	3	20	1,2	1	2.5	10	2
- Chromium	0.5-110	50	800	1,2	20	50	200	2
- Copper	1-190	60	500	1,2	20	50	200	2
- Mercury	0.001-0.1	1	10	1,2	0.2	0.5	2	2
- Nickel	2-400	60	500	1,2	20	50	200	2
- Manganese		500	5000	1,5	-	-	-	-
- Lead	<2-200	300	600	1,2	20	50	200	2
- Zinc	2-180	200	3000	1,2	50	200	800	2
Phenols								
- Total Phenols	0.03-0.5	1	10	2	0.5	15	50	2
Organochlorine Pesticides								
- Aldrin	0.001-0.05	1	5	1,2	0.1	0.5	2	2
- Dieldrin	0.005-0.05	0.2	5	1,2	0.1	0.5	2	2
- DDT	0.001-0.97	1	5	1,2	0.1	0.5	2	2
Polychlorinated Biphenyls								
- Total	0.02-0.1	1	10	1,2	-	-	-	-
Polycyclic Aromatic Hydrocarbons								
- Napthalene	0.1	5	50	2	0.2	7	30	
- Acenaphthylene		-	-			-	-	
- Acenaphthene		-	-			-	-	
- Fluorene		-	-			-	-	
- Phenanthrene		10	100	2		2	10	2
- Anthracene	0.1	10	100	2	0.1	2	10	2
- Fluoranthene	0.1	10	100	2	0.002	1	5	2
- Pyrene	0.1	10	100	2	0.002	1	5	2
- Benzo (a) anthracene		1	10	4		0.5	2	4
- Chrysene		5	50	4		1	5	4

- Benzo (b) fluoranthene		-	-			-	-	
- Benzo (k) fluoranthene		-	-			-	-	
- Benzo (a) pyrene	0.1	1	10	2	0.01	0.2	1	2
- Dibenzo (a,h) anthracene		1	10	4		0.2	1	4
- Benzo (gh) perylene		-	-			-	-	
- Indeno (1, 2, 3-cd) pyrene		1	10	4		10	5	4

Document Source

1 = ANZEC + NHMRC (1992). Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites.

2 = Dutch Criteria. Assink, J.W. and Van den Brink, W.M. (1986). Contaminated soils, First International TNO Conference on Contaminated Soil 11-15 November 1985. Mattinus Nijhoff Publishers, The Netherlands.

3 = Victorian EPA (1990). Acceptance Criteria in the Clean - up Notice for the Bayside Site, Port Melbourne.

4 = Canadian Criteria
Ministry of Environment, Quebec (1986). Ground Water and Soil Contamination Indicators.

5 = French Criteria
Environment Ontario (1989). Guidelines for Decommissioning and Clean Up of Sites in Ontario.

MEMO TO: Chief Executive Officer
FROM: Gary Williams, Land Use Developments Branch
SUBJECT: Proposed Change to Proposal
DATE: 24 April 1997

Project Title: **Bunbury Harbour City - Marlston Hill development**
Proponent: **Landcorp and the South West Development Commission**

Statement No: 411
Assessment No: 435 - 2
Bulletin: 660/774
DEP File: 27/95 Vol 3

Manager Land Use Branch: H.G. Martin date 23/4/97
Manager Audit Branch: John Treloar date 23/4/97
Director: R. J. Dwyer date 27/4/97

1. BACKGROUND

The Bunbury Harbour City development involves the construction of a marina and the redevelopment of vacant industrial land for residential purposes. The site is located immediately north of the Bunbury central business district (refer to Attachment 1).

The proposal was originally assessed by the Environmental Protection Authority (EPA) (Bulletin 660) and approved by the Minister for the Environment in 1992 with environmental conditions being set in 1993. The conditions specifically excluded the residential component of the development on the grounds that there was insufficient information provided to assess site contamination and the environmental acceptability of developing the former industrial sites for residential purposes. It was recommended by the EPA that the proponent seek approval to change the environmental conditions, under Section 46 of the Environmental Protection Act, to allow residential development to occur once this information was available.

In March 1995 the EPA reported to the Minister on proposed changes to conditions to facilitate the residential component of the Bunbury Harbour City development (Bulletin 774). Approval was issued by the Minister for the Environment on 4 April 1996 (refer to Attachment 2). This report only relates to the residential component of the development.

2. PROPOSED CHANGES

The Minister's approval in April 1996 included a number specific commitments made by the proponent relating to the design of the residential subdivision. These commitments were intended to provide a buffer that would reduce the level of truck noise in the Marlston Hill residential area from Casuarina Drive. The proponents have requested that these commitments be amended to allow for the subdivision design to be modified on the understanding that the same levels of noise reduction must be achieved.

In summary the existing commitments require that the subdivision be designed in the following manner to reduce the impact of truck noise from Casuarina Drive on the residential area (the original subdivision design is shown in Attachments 3 & 4):

- provide a residential setback of 25 metres from the edge of Casuarina Road to the boundary of the residential lots;
- provide a 10 metre setback from Casuarina Road to the boundary of commercial lots;
- commit to build Casuarina Drive with a surface of dense grade asphalt; and

- commit to build a wall of solid construction 1.2 metres high along the residential boundary of all lots facing Casuarina Drive.

The proponent proposes to redesign the residential subdivision near Casuarina Drive in the following ways (the modified subdivision design is shown in Attachment 5 & 6):

- create a slip road in the required 25 metre setback area along Casuarina Drive to allow houses to face the water rather than back onto the main road;
- increase the setback from the edge of Casuarina Drive to residential buildings from 25 metres to 31 metres; and
- replace the 1.2 metre wall along the residential boundary with a 0.9 metre wall 1.5 metres from the edge of Casuarina Drive.

The proponent has submitted a report demonstrating that the existing commitments and the proposed changes both achieve an 8db(A) noise reduction between Casuarina Drive and the Marlston Hill residential area.

3. KEY OBJECTIVE(S), STANDARD(S) AND ISSUE(S)

The main environmental issue associated with the proposed modification of the commitments is whether these changes will result in an increase in truck noise levels within the proposed residential areas abutting Casuarina Drive.

It has been calculated that the current commitments result in an 8dB(A) reduction in noise levels between Casuarina Drive and the nearest residential dwellings. The objective is to achieve the same reduction in noise levels in the modified design.

4. DEP REQUIREMENTS AND STATUS OF CONDITION

The proposed modification to the subdivision design will require amending the requirements of Commitments 1, 2, 3 and 4.

5. AGENCIES CONSULTED

The DEP does not consider it necessary to consult with any other agencies to determine the difference in the noise attenuation levels achieved by the original commitments and the proposed changes to these commitments. It is considered that this issues can be adequately assessed by the DEP's Pollution Prevention Division.

6. ASSESSMENT

The proponent has submitted a report entitled "*Traffic Acoustic Assessment*" by Herring Storer Acoustics. This report concludes that the 8dB(A) noise attenuation achieved by the original commitments between Casuarina Drive and the residential area will be maintained by the proposed modified subdivision design.

The modified design involves lowering the height of the barrier wall by 30 centimetres and increasing the setback distance by 6 metres (refer to Attachments 4 & 6). Lowering the height of the wall will reduce noise attenuation by 2dB(A) and increasing the width of the setback will increase noise attenuation by 2dB(A). Overall, noise attenuation will be maintained at 8dB(A) between Casuarina Drive and the nearest residential dwelling in the Marlston Hill subdivision.

The Pollution Prevention Division has assessed the proposed changes and has concluded that the proposed modified subdivision design will have the same noise attenuation levels as the original design which means that the residential dwellings abutting Casuarina Drive will receive the same noise levels under the modified design.

7. CONCLUSION AND RECOMMENDATIONS

I consider that the proposed changes and modifications to the subdivision design will not increase the level of truck noise, in the Marlston Hill residential area, from Casuarina Drive, or alter any other objectives outlined in EPA Bulletin 774.

I recommend that the DEP advise the Minister that the proposed modifications constitute a non-substantial change to the proponent's Commitments 1, 2, 3 and 4. Under Condition 2-2, the Minister can advise the proponent that it may proceed with the changes.

Please find attached a letter to the Minister for the Environment for your endorsement should this advice be accepted.



MINISTER FOR THE ENVIRONMENT;
EMPLOYMENT AND TRAINING

Our Ref: 27/95

Chief Executive Officer
Landcorp
PO Box 520
WANNEROO WA 6065

Dear Sir

**BUNBURY HARBOUR CITY - MARLSTON HILL DEVELOPMENT
(STATEMENT 411)**

I refer to your correspondence of 7 January 1997, requesting approval to make changes to the above proposal.

The Department of Environmental Protection has provided advice to me regarding the environmental significance of the proposed modifications to the design of the Marlston Hill residential subdivision as documented in the correspondence referred to above.

Accordingly, under Condition 2-2, I consider that the proposed modifications constitute a non-substantial change to the proposal and may be implemented as part of the Bunbury Harbour City - Marlston Hill development.

It should be noted that the above information refers to environmental issues in the Statement. This does not remove the necessity to obtain approvals which may be required by other agencies.

Yours faithfully

CHERYL EDWARDES (Mrs) MLA
MINISTER FOR THE ENVIRONMENT

16. May. 97.



MINISTER FOR THE ENVIRONMENT;
EMPLOYMENT AND TRAINING

Our Ref: 27/95

Director
South West Development Commission
PO Box 2000
BUNBURY WA 6230

Dear Sir

**BUNBURY HARBOUR CITY - MARLSTON HILL DEVELOPMENT
(STATEMENT 411)**

I refer to your correspondence of 7 January 1997, requesting approval to make changes to the above proposal.

The Department of Environmental Protection has provided advice to me regarding the environmental significance of the proposed modifications to the design of the Marlston Hill residential subdivision as documented in the correspondence referred to above.

Accordingly, under Condition 2-2, I consider that the proposed modifications constitute a non-substantial change to the proposal and may be implemented as part of the Bunbury Harbour City - Marlston Hill development.

It should be noted that the above information refers to environmental issues in the Statement. This does not remove the necessity to obtain approvals which may be required by other agencies.

Yours faithfully

CHERYL EDWARDES (Mrs) MLA
MINISTER FOR THE ENVIRONMENT

6. May. 97