MINISTER FOR THE ENVIRONMENT;
LABOUR RELATIONS

Statement No.

000539

STATEMENT TO AMEND CONDITIONS APPLYING TO A PROPOSAL (PURSUANT TO THE PROVISIONS OF SECTION 46 OF THE ENVIRONMENTAL PROTECTION ACT 1986)

INDUSTRIAL DEVELOPMENT,
TONKIN INDUSTRIAL PARK, BASSENDEAN (STAGES 1 & 2)

Proposal: Remediation of wastes, as documented in schedule 1 of this statement to allow redevelopment of 42 hectares of land adjacent to Collier Road, Bassendean for industrial purposes.

Proponent: Centurion North West Pty Ltd

Proponent Address: 245 Collier Road, Bayswater, Western Australia 6053

Assessment Number: 1201

Previous Assessment Numbers: 126, 126-1

Previous Statement Numbers: Statement No. 82 (published on 25 October 1989)
Statement No. 224 (published on 27 February 1992)

Report of the Environmental Protection Authority: Bulletin 960

Previous Reports of the Environmental Protection Authority: Bulletin 397
Bulletin 588

The implementation of the proposal to which the above reports of the Environmental Protection Authority relate is now subject to the following conditions and procedures which replace all previous conditions and procedures:

1 Implementation

1-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 of this statement.

1-2 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.

1-3 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

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2 Proponent Commitments

2-1 The proponent shall implement the consolidated environmental management commitments documented in schedule 2 of this statement.

3 Remediation of Stage 2 Site

3-1 Prior to the commencement of any development of the Stage 2 site (see figure 1), the proponent shall complete remediation of the Stage 2 site by employing one or a combination of the following remediation methods to manage the pyritic cinders wastes and other wastes (including rubble) located on the Stage 2 site:

- containment on-site;
- disposal at a landfill site,

to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

3-2 Prior to the commencement of any development of the Stage 2 site, the proponent shall carry out site validation tests to demonstrate that contaminants at the Stage 2 site do not exceed the Dutch 'C' criteria recommended for industrial land use and specified in Schedule 3, to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

4 Water Quality Management Plan

4-1 Within three months following the formal authority issued to the decision-making authorities under section 45(7) of the Environmental Protection Act 1986, or within such further period as the Environmental Protection Authority may by notice in writing to the proponent specify, the proponent shall prepare a Water Quality Management Plan to achieve the following objectives:

- to maintain and improve groundwater quality for existing and future beneficial uses, and

- to ensure that the water quality of groundwater discharging to the Swan River via open drains meets the Australian and New Zealand Environment and Conservation Council water quality guidelines established for the protection of aquatic ecosystems.

The Water Quality Management Plan shall be prepared to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Water and Rivers Commission and the Swan River Trust, and shall address the following:

1 sample type,
2 details of bore construction,
3 sample locations,
4 monitoring frequency,
5 analytical protocols,
6 parameters; and
7 reporting of monitoring results.

4-2 Within 14 days following the issuing of the formal written advice by the Chief Executive Officer of the Department of Environmental Protection that the requirements of condition 4-1 have been met, or within such further period as the Environmental Protection Authority may by notice in writing to the proponent specify, the proponent shall ensure that the water quality of surface and ground water is monitored to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Water and Rivers Commission and the Swan River Trust.

4-3 The proponent shall monitor water quality every three months for the first two years, and thereafter at a frequency of monitoring determined by the Environmental Protection Authority on advice of the Department of Environmental Protection, the Water and Rivers Commission and the Swan River Trust.

Note: Water samples to be analysed by a laboratory registered by the National Association of Testing.Authorities and to include the following parameters:

- pH, fluoride, iron, total phosphorus, mercury, zinc, copper, arsenic, lead, cadmium and chromium,

and heavy metals to be reported as "total metal (unfiltered)" concentrations.

4-4 The proponent shall report to the Environmental Protection Authority all water quality monitoring data collected on a three monthly basis, with significant results and trends clearly indicated during the initial two year monitoring period.

4-5 The proponent shall implement the Water Quality Management Plan required by condition 4-1 to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Water and Rivers Commission and the Swan River Trust.

5 Environmental Management Programme

5-1 Prior to commencement of remediation of the Stage 2 site, the proponent shall prepare an Environmental Management Programme to achieve the following objectives:

- to protect the groundwater, the ecosystem and the amenity of the public during and after clean-up operations,

to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Water and Rivers Commission and the Health Department of Western Australia.

This Programme shall address the following:

Waste Management

1. extent of contamination, volume and quantity of waste material to be contained in the cell and/or removed to landfill;
2. details of on-site and/or off-site treatment methods;
3. contingency plan in the event of additional contaminated material being located on the site which may require off-site disposal;

Cell Design

4. final design details of cell, including base and vertical barriers;
5. capping material selection and placement;

6. separation distance between seasonal high water table and base of cell;
7. separation distance between cap and hardstand;
8. leachate collection and treatment system;
9. leachate monitoring and treatment facility; and
10. stormwater drainage;

Cell Construction

11. construction timeframes;
12. procedures to protect the integrity of the cell cap during and after construction;
13. independent auditing of construction of cell and capping;

Dust and Noise Management

14. dust management and monitoring procedures to minimise dust generation during site remediation operations;
15. noise and vibration management and monitoring during site remediation operations;

Contingency Plan /Leachate Management

16. leachate management and monitoring procedures to ensure that any leachate generated from the waste does not adversely affect groundwater, addressing:
    - sample collection frequency, analytical protocol, parameters
    - estimation of leachate generation
    - reporting of monitoring results, and
    - contingency plans in the event of unacceptable generation of leachate;

Transport Management

17. transport management plan for off-site disposal, addressing:
    - types of waste material
    - excavation and loading methods
    - dust control
    - types of vehicles
    - haul routes
    - disposal sites
    - documentation and records of wastes departure and destination, and
    - emergency response plan.

5-2 The proponent shall make the Environmental Management Programme available for comment by local catchment groups and the local government authority for a period of two weeks.

5-3 Prior to the commencement of any remediation of the Stage 2 site, the proponent shall implement the Environmental Management Programme required by condition 5-1, to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection and the Water and Rivers Commission.

6 Containment Cell Management

6-1 In the event that the proponent remediates Stage 2 of the site wholly or partly by containment on site (see condition 3-1), the proponent shall ensure that any waste is stored in a containment cell designed to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Water and Rivers Commission and the Swan River Trust.

Note: The Department of Environmental Protection will have regard to "Guidelines for Cell Design and Construction" in schedule 4 (attached) when considering the acceptability of the design of the containment cell.

6-2 The proponent shall monitor the performance of the containment cell to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Water and Rivers Commission and the Swan River Trust.

6-3 The proponent shall monitor the quality of any leachate derived from the cell to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Water and Rivers Commission and the Swan River Trust.

6-4 The proponent shall ensure that there is no unacceptable release of contaminants to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Water and Rivers Commission and the Swan River Trust.

6-5 Within two years following the commencement of filling of the cell, the proponent shall complete the construction of a cell cap to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Water and Rivers Commission and the Swan River Trust.

6-6 Following completion of the construction of the cell cap, the proponent shall ensure that the integrity of the cell cap is not disturbed, and shall develop a protocol for site disturbance and a contingency plan for cap restoration following disturbance.

6-7 The proponent shall maintain, at all times, the integrity of the surface area above the containment cell, to the requirements of the Department of Environmental Protection.

6-8 Unless the proponent obtains the prior written permission of the Environmental Protection Authority, the proponent shall ensure that where development or the installation of services occurs above any containment cell, there is a minimum vertical clearance distance of one metre between the top of the cell cap and the lowest point of any service, drain, road or other infrastructure.

6-9 Prior to any development, the proponent shall make provision for the placement of memorials in conjunction with the Minister for Lands and the Department of Environmental Protection on the titles of lots over the containment cell, advising of the presence and details of the cell and its contents. Such memorials shall be to the requirements of the Minister for the Environment.

7 Proponent

7-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the Environmental Protection Act 1986 is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person in respect of the proposal.

7-2 Any request for the exercise of that power of the Minister referred to in condition 7-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.

7-3 The proponent shall notify the Department of Environmental Protection of any change of proponent contact name and address within 30 days of such change.

8 Commencement of Stage 2 Site Remediation

8-1 If the proponent does not substantially commence remediation of the Stage 2 site within three years following the date of publication of this statement, or within such further period as the Environmental Protection Authority may by notice in writing to the proponent specify, then the approval as granted in statement no. 82 published on 25 October 1989 shall lapse and no further implementation of the proposal shall be authorised.

The Minister for the Environment will determine any question as to whether the Stage 2 site remediation has been substantially commenced.

8-2 The proponent shall make application to the Minister for the Environment for any extension of approval for the substantial commencement of the Stage 2 site remediation beyond three years at least six months prior to the expiration of the three year period referred to in condition 8-1.

9 Compliance Auditing

9-1 The proponent shall submit periodic Compliance Reports, in accordance with an audit program prepared in consultation between the proponent and the Department of Environmental Protection.

9-2 Unless otherwise specified, the Chief Executive Officer of the Department of Environmental Protection is responsible for assessing compliance with the conditions, procedures and commitments contained in this statement and for issuing formal, written advice that the requirements have been met.

9-3 Where compliance with any condition, procedure or commitment is in dispute, the matter will be determined by the Minister for the Environment.

CHERYL EDWARDES (Mrs) MLA
MINISTER FOR THE ENVIRONMENT

24 FEB 2000

Schedule 1

The proposal (1201)

Redevelopment of 42 hectares of land adjacent to Collier Road, Bassendean for industrial purposes and remediation of surface wastes in two stages.

The site is bounded by Collier Road to the north and east, Alice Street to the west, and a drain reserve and Railway Parade to the south. It also includes a 2.3 hectare wedge of land to the north of Collier Road bounded by Scadden and Iolanthe Streets.

The key characteristics of the proposal are described in table 1 below.

Table 1 - Key Proposal Characteristics

Element	Description
SITE IDENTIFICATION	The development site has an area of 42 hectares and is bounded by Collier Road to the north and east, Alice Street to the west, and a drain reserve and Railway Parade to the south. It also includes a 2.3 hectare wedge of land to the north of Collier Road bounded by Scadden and Iolanthe Streets. Tonkin Park Stage 1 is located in the eastern half of the site, with the addition of Lots 107 and 108 in the north-west corner of the site. Tonkin Park Stage 2 is located in the remaining western portion.
PROPERTY AREA	Stage 1 - 25 hectares Stage 2 - 17 hectares
QUANTITY OF WASTES ON SITE	300 000 to 500 000 tonnes (or 150 000 to 250 000 cubic metres)

Figures

Figure 1 Location of Tonkin Industrial Park
Figure 2 Location of Tonkin Park Stages 1 and 2 development sites, including lots 107 and 108.

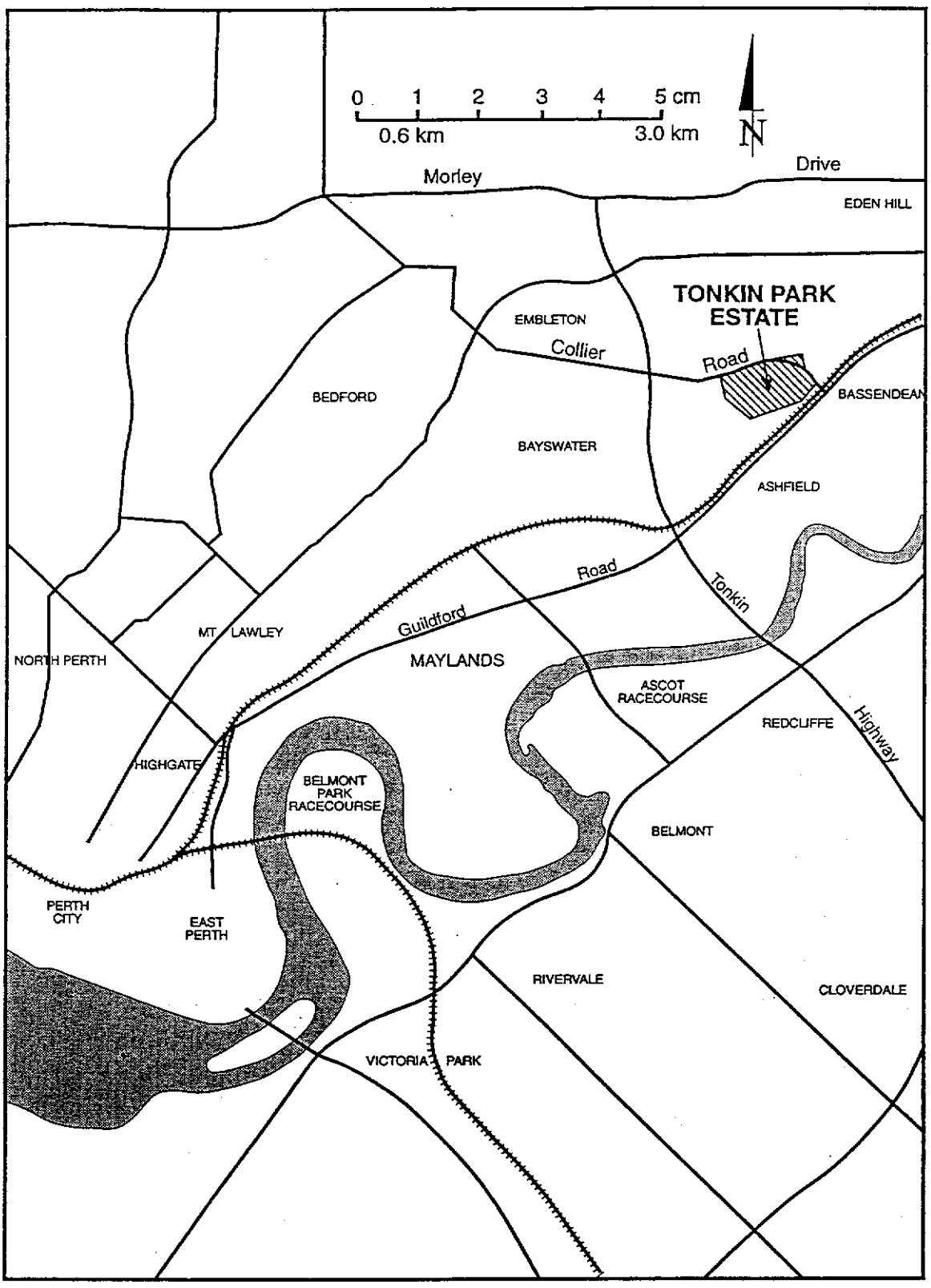

Figure 1. Location of Tonkin Park Industrial Estate.

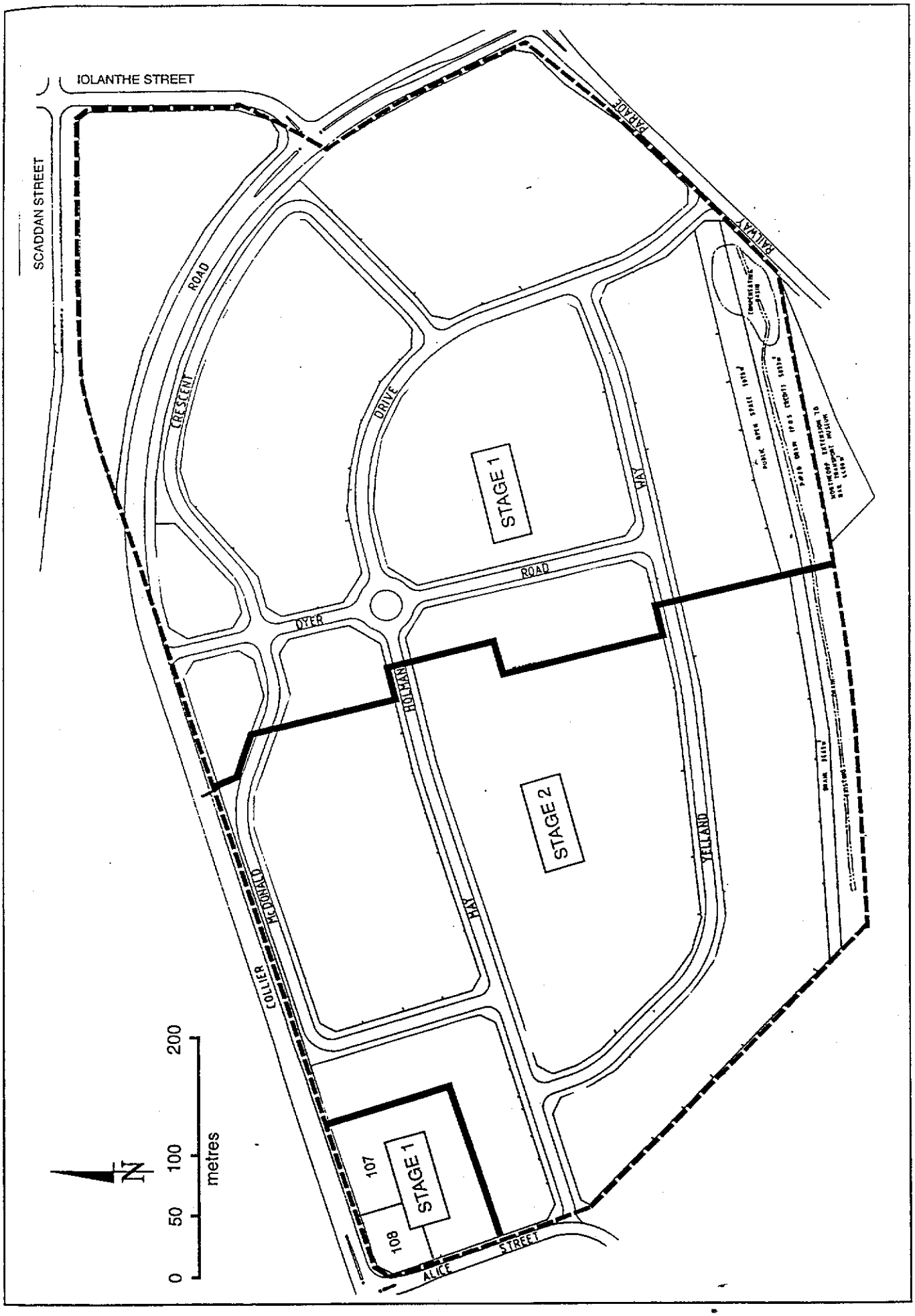

Figure 2. Location of Tonkin Park Stage I and II development sites.

Schedule 2

Proponent's Consolidated Environmental Management Commitments

20 November 1999

Note: This list of commitments consolidates, updates and replaces the 1989 commitments.

INDUSTRIAL DEVELOPMENT, TONKIN INDUSTRIAL PARK, BASSENDEAN (STAGES 1 & 2)

CENTURION NORTH WEST PTY LTD

Proponent's Environmental Management Commitments (1201)

Topic	No.	Action	Timing	Objective	Advice	Satisfy
Environmental Management Plan	1	The proponent will carry out additional site investigation and assessment through grid sampling	before construction commences	to accurately estimate the quantity of waste to be stored on-site in a containment cell and/or be removed from site, and thus assure government departments that the cell size and design, and the proposed split between on- and off-site waste management, is reasonable.	WRC, DEP, Health Dept	EPA
Environmental Management Plan	2	The proponent will prepare a cell construction plan	before construction commences	to ensure that the on-site cell is constructed for the long term containment of waste.	WRC, DEP, Health Dept.	EPA
Rehabilitation	3	The proponent will ensure that any activity pertaining to the clean-up undertaken on site will comply with legislation requirements	during clean-up and construction of the cell	to ensure the site is rehabilitated to the Dutch 'C' criteria and to a standard compatible with the intended land use.	WRC, Health Dept	EPA
Rehabilitation	4	The proponent will complete remediation of the site	within 3 years of the publication of the EPA bulletin	to ensure the site is rehabilitated to the Dutch 'C' criteria and to a standard compatible with the intended land use.	WRC, Health Dept, DEP	EPA, Health Dept
Rehabilitation	5	The proponent will ensure that the site clean-up will be supervised by professionals in the environmental and engineering fields using quality control and quality assurance procedures	during clean-up and construction of the cell	to ensure the site is rehabilitated to an acceptable standard that is compatible with the intended land use, consistent with appropriate criteria.	WRC, Health Dept, DEP	EPA, Health Dept.

Proponent's Environmental Management Commitments (1201)

Topic	No.	Action	Timing	Objective	Advice	Satisfy
Rehabilitation	6	The proponent will remediate the site using one or a combination of remediation options; including, but not necessarily limited to, on-site containment, on-site and/or off-site treatment, disposal to an off-site landfill, or relocation to a suitable off-site minerals processing facility	within 3 years of the publication of the EPA bulletin	to ensure the site is rehabilitated to an acceptable standard that is compatible with the intended land use, consistent with appropriate criteria.	WRC, Health Dept, DEP	EPA, Health Dept.
Cell construction	7	The proponent will construct the containment cell in the southern portion of the Tonkin Park Stage II site	within 3 years of the publication of the EPA bulletin	to ensure the site is rehabilitated to an acceptable standard that is compatible with the intended land use, consistent with appropriate criteria.	WRC, DEP	EPA, Health Dept.
Cell construction	8	The proponent will construct the containment cell so as to ensure that all excavated waste is separated by a minimum of 2 metres vertical distance from the seasonal high water table	within 3 years of the publication of the EPA bulletin.	to minimise the possible risk of groundwater quality impacts.	WRC, SRT	EPA
Cell construction	9	The proponent will construct the containment cell	during clean-up and construction of the cell	to ensure that the cell is constructed to the requirements of the EPA.	WRC, DEP, SRT, Health Dept	EPA, Health Dept
Development	10	The proponent will use 100% of the proceeds from any sale of Stage II land exclusively to help pay for site remediation costs on a progress payment basis	prior to project completion and final government signoff	to ensure that the site is rehabilitated to an acceptable standard that is compatible with the intended land use, consistent with appropriate criteria.	WRC, Health Dept, DEP	EPA, Health Dept

Proponent's Environmental Management Commitments (1201)

Topic	No.	Action	Timing	Objective	Advice	Satisfy
Development	11	The proponent will carry out a site validation	throughout the course of the project and prior to development	to ensure that the site is rehabilitated to an acceptable standard that is compatible with the intended land use, consistent with appropriate criteria.	Health Dept, WRC, DEP	EPA, Health Dept.
Development	12	The proponent agrees to place memorials on the titles of any lots sub-divided over the containment cell	in the future, if (before) development of the surface above the containment cell was to occur	to ensure that the site is maintained at an acceptable standard that is compatible with the intended land use, consistent with appropriate criteria.	Health Dept, WRC, DEP	EPA, Health Dept.
Monitoring Cell performance	13	The proponent will monitor the quality of leachate flowing from the cell	during and after cell construction	to ensure that cell performance is acceptable and that any leachate generated is managed.	WRC, DEP	EPA, WRC
Monitoring Cell performance	14	The proponent will prepare and implement a leachate management plan	during operation and maintenance	to ensure that loss of leachate from the cell does not adversely affect groundwater and the environment.	WRC, DEP	EPA
Monitoring Water Quality	15	The proponent will monitor the quality of rain water flowing from the containment cell's bitumen surface to the Chapman Street drain	during and after clean-up	to ensure that surface water discharged to the Swan River meets the water quality criteria established for maintenance of the fresh water ecosystem.	WRC, SRT	EPA

Proponent's Environmental Management Commitments (1201)

Topic	No.	Action	Timing	Objective	Advice	Satisfy
Monitoring Water Quality	16	Surface and groundwater discharged from the site into the Chapman Street drain during construction will, if necessary, be treated	during and after clean-up	to ensure that all surface water directed to the Swan River meets the water quality criteria established for maintenance of the fresh water ecosystem.	WRC, SRT	EPA
Monitoring Water Quality	17	The proponent will monitor the quality of groundwater leaving the site on the south side (in the direction of top aquifer groundwater flow)	during and after clean-up	to monitor and verify gradual improvements in the groundwater quality leaving the site, and flowing towards the Swan river, though other properties.	WRC, SRT	EPA
Monitoring Water Quality	18	The proponent will ensure that appropriate design and treatment measures are implemented by using professional consultants	before, during and after clean-up	to ensure that drainage water to the Swan River meets the water quality criteria established for maintenance of the fresh water ecosystem.	WRC, SRT	EPA
Dust control	19	(a) The proponent will prepare a dust control plan	before clean-up commences	to minimise the impact of dust on workers and the community.	DEP, Health Dept.	EPA

Proponent's Environmental Management Commitments (1201)

Topic	No.	Action	Timing	Objective	Advice	Satisfy
Dust control	20	(a) The proponent will ensure that trucks are covered after loading before any off-site transport of wastes. All off-site transport will comply with all relevant health and transport regulations. All off-site transport will be carried out by under the supervision of a professional consultant, appointed by the proponent	prior to and during off-site transport	to minimise dust emission.	DEP, Health Dept	DEP
		(b) The proponent will monitor dust levels	during remediation	to ensure that dust discharges during implementation of the project do not pose a risk to human health or cause loss of amenity.		
Dust control	21	The site cleanup work will be undertaken as far as practicable during winter months, consistent with the need to avoid handling wastes when groundwater levels are high (ie at the end of winter). Water sprays will also be used to spray dust, unless the soil is moist. Excavation and dust control will be carried out by the selected contractor to the direction, and under the supervision, of Centurion North West Pty Ltd's consultants	during on-site excavation and construction work	to minimise dust emission.	DEP, Health Dept	EPA
Noise & vibration	22	The proponent will ensure that noise and vibration from the site will be controlled	during on-site excavation and construction work	to meet regulations and standards.	DEP, Health WA	EPA

Proponent's Environmental Management Commitments (1201)

Topic	No.	Action	Timing	Objective	Advice	Satisfy
Noise & dust	23	The proponent will conduct a survey if the DEP receives ongoing complaints relating to noise or dust emissions from the site	following complaints, in the event of complaints	to determine management options to reduce the impact.	DEP, Health WA	EPA
Public health & safety	24	The proponent will ensure that all areas of remedial works will be surrounded with appropriate fencing to exclude public access. Vehicle entry and exit points will have a gate that will be locked during non-working hours. Appropriate signs will be displayed along the perimeter fencing to inform the public of the nature and purpose of the remedial works, and to prohibit public access to the site	before, during and after remediation	to ensure that that workers on the site are not subjected to undue risk as result of the contaminated nature of the site.	DEP, Health Dept, Worksafe	EPA
Public health & safety	25	The proponent will liaise with Worksafe and implement safe working conditions on the site. Procedures to ensure this commitment is met will be incorporated into contract conditions for the work and supervised by the proponent's consultants	during site remediation	to ensure that that workers on the site are not subjected to undue risk as result of the contaminated nature of the site.	DEP, Health Dept, Worksafe	EPA
Public health & safety	26	The proponent will liaise with Worksafe	during site remediation	to ensure that that workers on the site are not subjected to undue risk as result of the contaminated nature of the site.	Worksafe	EPA

Proponent's Environmental Management Commitments (1201)

Topic	No.	Action	Timing	Objective	Advice	Satisfy
Risk Communi-cation	27	The proponent will brief Town of Bassendean representatives and members of the public at Town of Bassendean Council meetings, to the extent that Council members desire such updates from the proponent	before, during and after remediation	to ensure that Town of Bassendean representatives and members of the public are kept informed of the remediation and development project's status.	Town of Bassendean, DEP	EPA
Risk Communi-cation	28	The proponent will also prepare 1-page monthly project progress updates, to the extent that Council members desire such updates from the proponent	before, during and after remediation	to ensure that Town of Bassendean representatives and members of the public are kept informed of the remediation and development project's status.	Town of Bassendean, DEP	EPA

Abbreviations:

DEP = Department of Environmental Protection
EPA = Environmental Protection Authority
SRT = Swan River Trust
WRC = Water and Rivers Commission

Schedule 3

Dutch Criteria for Soil contamination

A Reference value
B Indicative value for further investigation
C Indicative value for cleaning-up

Soil mg/kg dry weight			
	A	B	C
Metals			
Lead (Pb)	50	150	600
Arsenic (As)	20	30	50
Copper (Cu)	50	100	500
Zinc (Zn)	200	500	3000
Mercury (Hg)	0.5	2	10

Source: Assink, JW and Van den Brink, WM (1986), "Dutch Criteria" *from Contaminated Soils, First International TNO Conference on Contaminated Soil*, 11-15 November 1985.

Schedule 4

Requirements for Cell Design and Construction

14 July 1999

1. minimum distance of two metres between the cell base and the seasonal high water table;
2. backfill to be clean sand;
3. cell base to be low permeability material and have a hydraulic conductivity (k) of 1 x 10^{-9} m/s or better;
4. clay when used as a cell base to have a minimum thickness of 50 centimetres;
5. cell cap to be of low permeability material and have a hydraulic conductivity (k) of $1x10^{-9}$ m/s or better;
6. vertical or side barriers of cell to be a minimum thickness of 50 centimetres;
7. cell to include a graded base for leachate collection, treatment and monitoring facility; and
8. final surface above cell cap to be graded for adequate drainage away from cell;