

**PROPOSED REGIONAL DISTRIBUTION CENTRE
RINKER AUSTRALIA PTY LTD
ROOTY HILL NSW
ENVIRONMENTAL ASSESSMENT REPORT**

Table of Contents

	Page No.
SECTION 1 INTRODUCTION	1-1
1.1 THE PROPONENT	1-1
1.2 KEY ELEMENTS OF THE PROPOSAL	1-1
1.2.1 Project Overview	1-1
1.2.2 The Site	1-2
1.2.3 Site History	1-3
1.2.4 Development Programme	1-4
1.3 APPROVAL REQUIREMENTS	1-4
1.4 RELATIONSHIP WITH OTHER PLANNING POLICIES	1-5
1.4.1 State Environmental Planning Policies	1-5
1.4.2 Regional Environmental Plans	1-7
1.4.3 Local Environmental Plans	1-9
1.4.4 Development Control Plan	1-10
1.4.5 Other Instruments	1-11
1.5 REGULATORY REQUIREMENTS	1-12
1.5.1 Australian Government Legislation	1-12
1.5.2 NSW Acts and Regulations	1-12
1.6 DEVELOPMENT APPROVAL AND CONSENT PROCESS	1-13
1.6.1 Australian Government	1-13
1.6.2 New South Wales	1-14
1.6.3 Purpose of the Environmental Assessment Report	1-14
1.7 CONSULTATION	1-15
1.7.1 Government Agencies	1-15
1.7.2 Community Consultation Program	1-15
1.8 STRUCTURE OF THE ENVIRONMENTAL ASSESSMENT REPORT	1-20
1.9 HOW TO READ THIS ENVIRONMENTAL ASSESSMENT REPORT	1-22
SECTION 2 NEED FOR THE PROPOSED DEVELOPMENT AND ALTERNATIVES	2-1
2.1 PROJECT OBJECTIVE	2-1
2.2 NEED FOR THE PROPOSED DEVELOPMENT	2-1
2.3 TRANSPORT ALTERNATIVES	2-2
2.4 SITE SELECTION CRITERIA	2-4
2.5 SITE ALTERNATIVES	2-4
2.6 SUPPLY ALTERNATIVES	2-5
2.7 PREFERRED SITE	2-6
2.8 SITE LAYOUT ALTERNATIVES	2-6
2.9 SUITABILITY OF THE SITE FOR DEVELOPMENT	2-8
SECTION 3 LOCATION AND SITE DESCRIPTION	3-1
3.1 DEVELOPMENT SITE DESCRIPTION	3-1
3.2 SURROUNDING LAND USE	3-1

SECTION 4	ISSUES IDENTIFICATION AND PRIORITISATION	4-1
4.1	CONSULTATION.....	4-1
4.2	IDENTIFIED ISSUES.....	4-1
4.2.1	Transport Impacts and Traffic Generation	4-1
4.2.2	Increase in Train Movements near Rooty Hill and Doonside Stations	4-2
4.2.3	Surface Water Runoff and Stormwater Impacts.....	4-2
4.2.4	Flooding and Floodway Issues.....	4-3
4.2.5	Stormwater Management.....	4-3
4.2.6	Air Quality.....	4-3
4.2.7	Environmental Planning Importance	4-4
4.2.8	Noise impacts.....	4-4
4.2.9	Landuse Conflicts.....	4-4
4.2.10	Impacts on Flora and Fauna	4-5
4.2.11	Cumulative Impacts.....	4-6
4.2.12	Potential Hazards and Risks	4-6
4.2.13	Potential Contamination of the Site.....	4-6
4.2.14	Visual Impacts	4-6
4.2.15	Environmental Performance of the Proposed RDC.....	4-7
4.2.16	Relationship to Previous Concrete Batching Plant Approval.....	4-7
4.2.17	Economic Benefits	4-7
SECTION 5	PROJECT DESCRIPTION	5-1
5.1	THE PROPOSED DEVELOPMENT	5-1
5.2	RAIL SIDING AND UNLOADING STATION.....	5-3
5.2.1	General Layout.....	5-3
5.2.2	Rail Operations within the Readymix Complex	5-5
5.2.3	Proposed Additions to the RailCorp Network.....	5-6
5.2.4	Proposed Rail Routes and Pathing	5-6
5.2.5	Rail Safety	5-7
5.2.6	Emergency Transport.....	5-7
5.3	AGGREGATE STORAGE AND OUTLOAD FACILITIES	5-7
5.3.1	Transfer Conveyors to Storage Bins	5-7
5.3.2	Radial Stacker.....	5-8
5.3.3	Reclaim Hopper	5-8
5.3.4	Main Storage Bins.....	5-8
5.3.5	Construction Materials Load Out.....	5-9
5.3.6	Blending Plant/Pug Mill	5-10
5.3.7	On Ground Storage	5-10
5.3.8	Workshop and Store	5-11
5.3.9	RDC Control Room and Office	5-11
5.4	OTHER FACILITIES ASSOCIATED WITH THE RDC.....	5-12
5.4.1	Truck Wash Bay	5-12
5.4.2	Truck Refuelling Area	5-12
5.4.3	Truck Parking	5-12
5.4.4	Main Car Park	5-12
5.4.5	Driver Amenities/Lunch Room/Site Training Room and Transport Area Office	5-12
5.4.6	Regional Office And Laboratory	5-13
5.5	OPERATIONAL TRAFFIC MOVEMENTS	5-14
5.6	CONCRETE BATCHING PLANT	5-15
5.6.1	The Process	5-15
5.6.2	Water Management.....	5-16

5.7	CREEK CROSSINGS.....	5-18
5.7.1	Internal Site Access Road Crossing.....	5-18
5.7.2	Rail and North Parade Crossing	5-18
5.8	REALIGNMENT OF NORTH PARADE	5-19
5.9	WATER MANAGEMENT	5-19
5.10	WASTE MANAGEMENT	5-20
5.11	EMPLOYMENT.....	5-21
5.12	INFRASTRUCTURE.....	5-21
5.13	CONSTRUCTION.....	5-22

SECTION 6 ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURES..... 6-1

6.1	INTRODUCTION	6-1
6.2	READYMIX ENVIRONMENTAL MANAGEMENT SYSTEM.....	6-1
6.3	RDC ENVIRONMENTAL MANAGEMENT PLAN	6-1
6.4	MANAGEMENT ZONES.....	6-2
6.5	ENVIRONMENTAL ISSUES.....	6-2
6.5.1	Air Quality	6-3
6.5.2	Noise.....	6-4
6.5.3	Water	6-5
6.5.4	Visual amenity	6-7
6.5.5	Waste.....	6-8
6.5.6	Traffic.....	6-9
6.5.7	Flora and Fauna	6-10
6.5.8	Cultural Heritage.....	6-12
6.5.9	Site Security.....	6-12
6.6	COMMUNITY CONSULTATION AND COMPLAINT MANAGEMENT	6-12
6.7	ENVIRONMENTAL INCIDENTS	6-13
6.8	ENVIRONMENTAL MONITORING	6-15
6.9	STAFFING AND TRAINING REQUIREMENTS	6-16

SECTION 7 ENVIRONMENTAL ASSESSMENT..... 7-1

7.1	TOPOGRAPHY, GEOLOGY AND SOILS	7-1
7.1.1	Existing Site Conditions	7-1
7.1.2	Impact Assessment.....	7-4
7.2	SURFACE WATER.....	7-6
7.2.1	Regional Description.....	7-6
7.2.2	Surface Hydrology	7-6
7.2.3	Flooding	7-8
7.2.4	Water Quality	7-10
7.3	GROUNDWATER	7-17
7.3.1	Existing Site Conditions	7-17
7.3.2	Impact Assessment.....	7-17
7.4	BIOLOGY	7-18
7.4.1	Flora.....	7-18
7.4.2	Fauna	7-22
7.4.3	Impact Assessment and Management.....	7-27
7.5	AQUATIC ECOLOGY	7-29
7.5.1	Aquatic Habitats	7-30
7.5.2	Fish	7-30
7.5.3	Macroinvertebrates	7-31
7.5.4	Significant Fauna	7-31
7.5.5	Impact Assessment and Management.....	7-31

7.6	AIR QUALITY	7-33
7.6.1	Introduction	7-33
7.6.2	Local Climatic Conditions.....	7-33
7.6.3	Existing Air Quality and Air Quality Goals	7-33
7.6.4	Dispersion Modelling.....	7-36
7.6.5	Estimated Dust Emissions	7-36
7.6.6	Proposed Mitigation Measures.....	7-36
7.6.7	Impact assessment	7-37
7.6.8	Conclusion	7-41
7.7	NOISE	7-41
7.7.1	Introduction	7-41
7.7.2	Existing Noise Environment.....	7-42
7.7.3	Noise Criteria	7-43
7.7.4	Mitigation.....	7-46
7.7.5	Impacts	7-47
7.7.6	Conclusion	7-53
7.8	ENERGY ISSUES	7-53
7.9	VISUAL ANALYSIS	7-53
7.9.1	Existing Visual Environment	7-54
7.9.2	View Catchments	7-54
7.9.3	Visual Elements Of Proposal	7-55
7.9.4	Mitigation Measures.....	7-55
7.9.5	Impacts	7-56
7.9.6	Landscape Master Plan	7-57
7.9.7	Conclusion	7-58
7.10	TRAFFIC AND TRANSPORT	7-59
7.10.1	Existing Traffic Conditions	7-59
7.10.2	RDC Movements.....	7-62
7.10.3	Predicted Impacts	7-63
7.10.4	Recommendations	7-67
7.10.5	Conclusions	7-67
7.11	SOCIO-ECONOMICS	7-68
7.11.1	Regional Setting.....	7-68
7.11.2	Demographics.....	7-68
7.11.3	Employment.....	7-68
7.11.4	Economic Base Employment Multiplier and Location Quotient	7-68
7.11.5	Employment Multiplier.....	7-69
7.11.6	Expenditure Multiplier	7-69
7.11.7	Social and Community Impacts	7-69
7.11.8	Cost Benefit Analysis	7-70
7.12	HERITAGE	7-71
7.12.1	Indigenous Heritage	7-71
7.12.2	Non-Indigenous Heritage	7-72
7.12.3	Impact Assessment.....	7-72
7.13	POTENTIAL HAZARDS.....	7-72
7.14	CUMULATIVE IMPACTS.....	7-74

SECTION 8 ECOLOGICALLY SUSTAINABLE DEVELOPMENT 8-1

8.1	BACKGROUND	8-1
8.2	PRECAUTIONARY PRINCIPLE	8-1
8.3	INTER-GENERATIONAL EQUITY	8-2
8.4	CONSERVATION OF BIOLOGICAL DIVERSITY AND ECOLOGICAL INTEGRITY.....	8-2
8.5	IMPROVED VALUATION, PRICING AND INCENTIVE MECHANISMS	8-3

SECTION 9 MATTERS FOR CONSIDERATION.....	9-1
SECTION 10 JUSTIFICATION FOR THE PROPOSED DEVELOPMENT	10-1
10.1 THE SUPPLY OF CONSTRUCTION MATERIALS	10-1
10.2 NEED FOR THE PROPOSED RDC	10-1
10.3 SUITABILITY OF THE SITE	10-2
10.4 ECONOMIC JUSTIFICATION	10-2
10.5 CONCLUSION.....	10-3
SECTION 11 REFERENCES	11-1

APPENDICES

- Appendix A Environmental Assessment Report Requirements
- Appendix B Consultation Programme Documentation
- Appendix C Species Lists – Flora and Fauna

TECHNICAL REPORTS

- Technical Report No 1 Geological and Groundwater Assessment
- Technical Report No 2 Water - Flooding and Drainage
- Technical Report No 3 Flora and Fauna
- Technical Report No 4 Aquatic Ecology
- Technical Report No 5 Air Quality and Health
- Technical Report No 6 Noise
- Technical Report No 7 Visual
- Technical Report No 8 Traffic
- Technical Report No 9 Economics
- Technical Report No 10 Archaeology

FIGURES

Figure 1.1	Location of Readymix's Sydney Operations	1-1
Figure 1.2	Site Location	1-1
Figure 1.3	Site Development Plan	1-2
Figure 1.4	Development Application Area	1-2
Figure 3.1	Zoning	3-1
Figure 3.2	Site Context	3-2
Figure 5.1	Site Layout	5-2
Figure 5.2	Rail Siding & North Parade Layout	5-3
Figure 5.3	Rail Unloading Station Elevation	5-3
Figure 5.4	Typical Operating Diagram	5-5
Figure 5.5	Process Flow Diagram	5-7
Figure 5.6	Select Conveyor Elevations	5-7
Figure 5.7	Radial Stacker and Reclaim Hopper	5-8
Figure 5.8	Main Storage Silos	5-8
Figure 5.9	Truck Loading Station and Pug Mill Elevations	5-9
Figure 5.10	Truck Wash Slab	5-12
Figure 5.11	Truck Refuelling Area	5-12
Figure 5.12	Office and Laboratory Concept	5-13
Figure 5.13	Office and Laboratory Sections	5-13
Figure 5.14	Proposed Site Traffic Flow	5-14
Figure 5.15	Concrete Batching Plant	5-15
Figure 5.16	Concrete Batching Plant Elevations	5-15
Figure 5.17	Concrete Batching Plant Drainage System	5-16
Figure 5.18	Road and Conveyor Bridge	5-18
Figure 5.19	Angus Creek Rail/Road Bridge	5-18
Figure 5.20	Stormwater Management System Layout	5-19
Figure 5.21	Site Drainage Sub-Catchments	5-20
Figure 5.22	Waste Storage Areas	5-20
Figure 5.23	Site Infrastructure and Services	5-22
Figure 7.1	Current Site Landform	7-1
Figure 7.2	Angus Creek 100 Year ARI Flood Regime	7-8
Figure 7.3	Angus Creek 100 Year ARI Flood Regime Detailed Figure	7-8
Figure 7.4	Impact of Project on Angus Creek 100 Year ARI Flood Levels	7-8
Figure 7.5	Angus Creek PMF Regime	7-9
Figure 7.6	Site Vegetation	7-19
Figure 7.7	Predicted Maximum 24-hour Average PM ₁₀ Concentrations due to Rooty Hill RDC - $\mu\text{g}/\text{m}^3$	7-38
Figure 7.8	Predicted Annual Average PM ₁₀ Concentrations due to Rooty Hill RDC - $\mu\text{g}/\text{m}^3$	7-38
Figure 7.9	Predicted Annual Average TSP Concentrations due to Rooty Hill RDC - $\mu\text{g}/\text{m}^3$	7-38
Figure 7.10	Predicted Annual Average Dust Deposition due to Rooty Hill RDC - $\text{g}/\text{m}^2/\text{month}$	7-38
Figure 7.11	Predicted maximum 12-hour average PM ₁₀ concentrations during daytime hours due to Rooty Hill RDC - $\mu\text{g}/\text{m}^3$	7-38
Figure 7.12	Noise Contours – Calm Day	7-47
Figure 7.13	Noise Contours – Easterly Wind Evening	7-47
Figure 7.14	Noise Contours – Inversion Night	7-47
Figure 7.15	Noise Contours – SSW Wind Evening and Night	7-47
Figure 7.16	Existing Site Character	7-54
Figure 7.17	View Catchment Analysis	7-55

Figure 7.18	Photo Documentation	7-55
Figure 7.19	Landscape Principles.....	7-55
Figure 7.20	Proposed View from Rooty Hill Reserve.....	7-56
Figure 7.21	Proposed View from North Parade	7-57
Figure 7.22	Proposed View from Nurragingy Reserve	7-57
Figure 7.23	Proposed View from Blacktown Olympic Park.....	7-57
Figure 7.24	Landscape Masterplan	7-57
Figure 7.25	Landscape Masterplan	7-57
Figure 7.26	Road Network	7-59

TABLES

Table 3.1	Site Development Property Details	3-1
Table 5.1	Approximate Quantities of Materials Stored in the Workshop and Store.....	5-11
Table 5.2	Estimated RDC Water Consumption	5-20
Table 5.3	Approximate RDC Employment.....	5-21
Table 7.1	Site Runoff Flow and Volume	7-7
Table 7.2	Baseline Water Quality Results for Sampling Site S1.....	7-13
Table 7.3	Baseline Water Quality Results for Sampling Site S2.....	7-15
Table 7.4	Habitat Assessment of Flora Species that occur within a 10 km Radius of the Site	7-20
Table 7.5	Habitat Assessment of Fauna Species that occur within a 10 km Radius of the Site	7-24
Table 7.6	Air Quality Assessment Criteria for Particulate Matter Concentrations.....	7-34
Table 7.7	NSW DEC Criteria for Dust Fallout.....	7-34
Table 7.8	DEC Monitoring Data for the Area.....	7-35
Table 7.9	Greenhouse Emission Statistics	7-40
Table 7.10	Proposed RDC Project Specific Noise Criteria	7-43
Table 7.11	Sleep Disturbance Noise Goals.....	7-44
Table 7.12	Rail Traffic Noise Goals	7-44
Table 7.13	Road Traffic Noise Design Criteria	7-45
Table 7.14	Construction Noise Goals – Residential Areas.....	7-45
Table 7.15	Predicted Noise Levels – Without Radial Stacker	7-47
Table 7.16	Predicted Noise Levels – With Radial Stacker	7-48
Table 7.17	Estimated Existing Rail Traffic Movements.....	7-50
Table 7.18	Rail Traffic Noise Predictions.....	7-50
Table 7.19	Road Traffic Noise Predictions	7-51
Table 7.20	Expected Construction Traffic Generation for the Site	7-62
Table 7.21	Traffic Generation at the Site (Average Daily) – During Maximum Operating Capacity	7-63
Table 7.22	Traffic Generation at the Site (AM Peak Hour) – Maximum Output.....	7-65

ABBREVIATIONS

ABS	Australian Bureau of Statistics
AADT	Annual Average Daily Traffic
AHD	Australian Height Datum
ANZECC	Australia and New Zealand Guidelines for Fresh and Marine Water Quality (2000).
ARI	Average Recurrence Interval
BCC	Blacktown City Council
CBD	Central Business District
CPW	Cumberland Plain Woodland
cm	Centimetres
DA	Development Application
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage
DIPNR	Department of Infrastructure Planning and Natural Resources
DLALC	Deerubbin Local Aboriginal Land Council
DLWC	Department of Land and Water Conservation
DMR	Department of Mineral Resources
DNR	Department of Natural Resources
DO	Dissolved Oxygen
DOP	Department of Planning
DPI	Department of Primary Industries
EAR	Environmental Assessment Report
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	Environmental Planning and Assessment Regulation 2000

EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental Planning Instrument
ERP	Emergency Response Plan
ESD	Ecologically Sustainable Development
FEL	Front End Loader
>	Greater Than
ha	Hectare
HPP	Habitat Protection Plan
km	Kilometre
km/h	Kilometres per hour
INP	Industrial Noise Policy
<	Less Than
L	Litres
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
LQ	Location Quotient
m	Metre
$\mu\text{g}/\text{m}^3$	Micrograms per cubic metre
mm	Millimetres
mg/L	Milligrams per litre
m^3	Metres cubed
MSDS	Material Safety Data Sheets
Mtpa	Million Tonnes Per Annum
NECS	National Environmental Consulting Services Pty Ltd
NSW	New South Wales
NSW NPWS	New South Wales National Parks and Wildlife Service

NSW EPA	New South Wales Environment Protection Authority
OCP	Organochlorine Pesticides
%	Percent
PAH	Polycyclic Aromatic Hydrocarbons
PFM	Planning Focus Meeting
PHA	Preliminary Hazard Analysis
PLDC	Penrith Lakes Development Corporation
POEO Act	Protection of the Environment Operations Act 1997
Pty Ltd	Proprietary Limited
RDC	Regional Distribution Centre
REPs	Regional Environmental Plans
RMC	Ready Mixed Concrete
RTA	Roads and Traffic Authority
SCRFF	Sydney Coastal River-flat Forest
SEE	Statement of Environmental Effects
SEPP	State Environmental Planning Policies
SIS	Species Impact Statement
STP	Sewerage Treatment Plants
t	Tonnes
t/ha	Tonnes per hectare
TEOM	Tapered Element Oscillating Microbalance
TPH	Total petroleum hydrocarbons
TSC Act	<i>Threatened Species Conservation Act 1995</i>
TSP	Total Suspended Particulate Matter
US	United States
VMP	Vegetation Management Plan

WHO	World Health Organisation
WMP	Waste Management Plan
WSO	Western Sydney Orbital Road