RAC Tourism Assets Pty Ltd

Monkey Mia Dolphin Resort

Foreshore Management Plan

6 July 2020

57540-129793 (Rev2)

JBS&G Australia Pty Ltd T/A Strategen-JBS&G

www.jbsg.com.au

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1. Summary

This Foreshore Management Plan (FMP) is submitted in accordance with Ministerial Statement (MS) No.709 Condition 9 for the Monkey Mia Dolphin Resort Expansion (the Project) by RAC Tourism Assets Pty Ltd (RAC).

Table 1.1 below presents the environmental management target/s to measure achievement of the conditioned environmental objective that must be met through implementation of this Condition EMP.

Table 1.1: Environmental management targets

Required information	Response	
Title of proposal	Expansion of the Monkey Mia Dolphin Resort, Monkey Mia, Shark Bay.	
Proponent	RAC Tourism Assets Pty Ltd.	
Ministerial Statement number	709.	
Purpose of this Condition EMP	The Foreshore Management Plan is submitted to fulfil the requirements of condition 9 of the above Statement.	
EPA's environmental objective for the key environmental factor	**Environmental Factor**	**EPA environmental objective**
	Factor 1: Terrestrial Environmental Quality	To maintain the quality of land and soils so that environment values are protected.
	Factor 3: Flora and vegetation	To protect flora and vegetation so that biological diversity and ecological integrity are maintained
Management targets	**Environmental Factor**	**Management target**
	Factor 1: Terrestrial Environmental Quality	No erosion within the foreshore area adjacent to the resort (T1.1) No uncontained refuse within the project area or in the surrounding environment. (T1.3).
	Factor 3: Flora and vegetation	No loss of terrestrial vegetation within the foreshore area due to impacts from Project activities (3.1)

1.1 Corporate endorsement

I hereby certify that to the best of my knowledge, the Condition EMP provisions in within this Foreshore Management Plan are true and correct and address the legal requirements of condition 9 of Ministerial Statement No. 709.

[Signature of duly authorised proponent representative]

Name: Signed:

Designation: Date:

2. Context, scope and rationale

RAC Tourism Assets Pty Ltd (RAC) owns and manages the current Monkey Mia Dolphin Resort (the proposal; Appendix A) located within a World Heritage area on a Shire of Shark Bay reserve. Approval for the proposal under the *Environmental Protection Act 1986* (EP Act) was granted to the former proponent Monkey Mia Dolphin Resort Pty Ltd through issue of MS 709 on 28 December 2005. A section 46 extending the period for substantial commencement was granted under MS 919 on 18 December 2012 to the then proponent, Aspen.

Substantial commencement of the proposal occurred in April 2013 with construction of the wastewater treatment plant, a key element of the proposal, which satisfied the requirement of condition 4 in MS 919.

Aspen transferred ownership to RAC in December 2015. An application to change conditions and increase the extent of the proposal in MS 709 under section 45C/46 of the EP Act, was submitted in April 2017.

In June 2017, the Deputy Chairman of the Environmental Protection Authority (under delegation authority from the Minister for Environment) approved changes to MS 709 under section 45C of the EP Act. The change to the proposal included:

- An increase in the clearing area for the wastewater treatment plan
- The development and use of borrow pits requiring 3.14 ha of vegetation clearing
- Administrative changes to Schedule 1 of MS 709 to describe the Development Envelope
- Simplification of the resort expansion and removal of elements to the design that were not relevant to the environment
- Schedule 1 of MS 709 was replaced by Attachment 1 and outlines the authorised extent of the physical and operational elements of the project (Appendix A).

Commencement of earthworks for the other key elements of the proposal, the resort expansion and staff accommodation facilities, commenced in October 2017 and were completed in October 2018.

2.1 MS 1067 was subsequently issued on 14 November 2017, changing conditions 3, 4 and 5 and deleting condition 6 of MS 709.Scope

Condition 9 of MS 709 requires the proponent to prepare a Foreshore Management Plan (FMP) to ensure operation activities are managed to minimise the potential impacts upon the foreshore environment.

In implementing this FMP, RAC recognise that the foreshore (adjacent to the project) is vested in the Conservation and Parks Commission and managed by the Department of Biodiversity Conservation and Attractions (DBCA).

2.1.1 Key environmental factors

The environmental factors, EPA objectives and environmental aspects of the Project are provided in Table 2.1.

Table 2.1: Key environmental factors, objectives and Project environmental aspects

Factor	EPA objective	Environmental aspects of the Project
Factor 1 Terrestrial Environmental Quality	To maintain the quality of land and soils so that the environment values are protected.	Uncontrolled access to the foreshore area has the potential to degrade vegetation leading to erosion.
Factor 3 Flora and Vegetation	To protect flora and vegetation so that biological diversity and ecological integrity are maintained	Uncontrolled access to the foreshore area and associated erosion has the potential to damage flora and degrade vegetation

2.2 Requirements of MS 709

This FMP is submitted in accordance with condition 9 of MS 709. Table 2.2 details the requirements of condition 9 and indicates which sections of the FMP they are addressed.

Table 2.2: Requirements of condition 9 of MS 709

Condition	Requirement	Section in FMP
9-1	Prior to commencement of construction associated with the resort expansion, the proponent shall prepare a Foreshore Management Plan, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority. This plan shall address:	FMP
	1. minimising risk of dune erosion;	Table 3.1: FMP 1 – 6.
	2. formalised access points;	Table 3.1: FMP 1 and Appendix A
	3. definition of dune preservation and fencing areas;	Table 3.1: FMP 3 and Appendix A
	4. rehabilitation and restoration of foreshore areas, incorporating stabilisation;	Table 3.3: FMP M1 and FMP M2, and Table 4.1: FMP CA1 and FMP CA2.
	5. identification of species to be planted;	Appendix C
	6. education and signage;	Table 3.1: FMP 3 and Appendix A
	Note: in preparation of advice to the Minister for the Environment, the Environmental Protection Authority expects that the advice of the following agency will be obtained: Department of Conservation and Land Management.	Section 6
9-2	The proponent shall implement the Foreshore Management Plan required by condition 9-1.	Section 2 & 4
9-3	The proponent shall make the Foreshore Management Plan required by condition 9-1 publicly available.	Section 4.1

2.3 Rationale and approach

The approach for managing any potential operational impacts is to develop a comprehensive management program that identifies:

- Management risks;
- key management based targets;
- management actions;
- monitoring measures; and
- review and revision requirements.

An adaptive risk based management approach has been developed in order to create a robust management system, that prioritises and manages significant risks using the mitigation hierarchy (i.e. avoid, minimise, manage, rehabilitate and offset).

This management approach allows for flexibility, to enable the management program to adapt to any changes in the Project conditions, as well as to respond to the dynamic nature of the surrounding environment. The methodology for the risk-based approach is provided in Appendix A.

2.3.1 Rationale for choice of management targets

The management targets (Table 3.2) were selected in order to prioritise the risks identified for the Project, and are based on a review of:

- Available data for the region;
- The relationship between the project aspects and the environmental factors;

- Industry standards and legislative requirements; and
- The requirements of MS 709.

3. Foreshore management

The objective of the FMP is to identify the management provisions RAC proposes to implement to manage and minimise the potential impacts of operational activities upon the foreshore environment in order to:

- Meet the EPA's objectives for amenity and terrestrial environmental quality as described in Table 2.1; and
- Meet the requirements of MS 709 (Table 2.2).

3.1 Management actions

Risk-based management actions have been identified and prioritised in Table 3.1 based on the methodology provided in Appendix B. These management actions focus on Project operation activities that have the highest likelihood of causing environmental impact, and were specifically developed to reduce potential impacts of operation activities upon the foreshore environment.

The foreshore (adjacent to the project) is vested in the Conservation and Parks Commission and managed by DBCA. An area of foreshore directly adjacent to the DBCA regional office is excluded from RAC rehabilitation and erosion requirements due to the existing degraded nature and function of the area in relation to DBCA operations (Figure 3.1).

Figure 3.1: Foreshore rehabilitation exclusion zone (Source: Landgate)

Table 3.1: Risk-based management actions

Risk and key impacts	FMP management action reference	Management actions	Risk-based priority	Timing	Relevant management target	Status
Uncontrolled access to the foreshore area has the potential to degrade vegetation leading to erosion.	FMP 1	Provide formalised pedestrian access paths to the beach.	High	At all times	T1.1 & 3.1	Complete
	FMP 2	If required, undertake revegetation of areas disturbed by Project activities as detailed in the contingency actions in Table 4.1.	Medium	If required	T3.1	Ongoing
	FMP 3	Install signage and fencing to ensure access to the foreshore is via the designated access tracks and boardwalks.	High	At all times	T1.1	Complete
	FMP 4	If required, provide limited raised boardwalks at points of entry to the beach (only) that is constructed to specifications agreed by DPaW.	Medium	At all times	T1.1	Complete
	FMP 5	Induct all visitors to the resort of the necessity to follow only authorised and signed access routes to the beachfront.	Medium	At all times	T1.1	Ongoing
	FMP 6	Provide educational material in each accommodation unit/room providing clear details and maps showing access routes from the accommodation to the beachfront.	Medium	At all times	T1.1	Ongoing
Unregulated disposal of rubbish within the foreshore area has the potential to impact on the amenity of the area.	FMP 7	Induct all visitors to the resort of the necessity to follow resort waste disposal protocols.	Medium	At all times	T1.3	Ongoing
	FMP 8	Provide educational material in each accommodation unit/room outlining the waste disposal protocols including: all rubbish (cans, bottles, plastics, paper) to be returned to the resort for disposal no rubbish to be dumped or left on the foreshore areas.	Medium	At all times	T1.3	Ongoing
	FMP 9	Install signage at the camping ground and each access way to the beachfront informing visitors of rubbish disposal protocols. Include message about appropriate disposal of fish offal in a bin or taken away from the beach.	Medium	At all times	T1.3	Complete

3.2 Management target

Management targets have been developed to measure and report against the proposed RAC environmental objective (Table 3.2).

Table 3.2: Management targets

Environmental factor	EPA Environmental objective	Management targets (Unique identifier)
Factor 1 Terrestrial Environmental Quality	To maintain the quality of land and soils so that the environment values are protected.	No erosion within the foreshore area adjacent to the resort. (T1.1) No uncontained refuse within the project area or in the surrounding environment. (T1.3).
Factor 3 Flora and vegetation	To protect flora and vegetation so that biological diversity and ecological integrity are maintained	No loss of terrestrial vegetation within the foreshore area due to impacts from Project activities. (T3.1)

3.3 Monitoring program

The purpose of monitoring program is to inform, through the management targets, if the environmental objective is being achieved, as well as to determine if management actions need to be reviewed and revised.

Table 3.3 outlines the monitoring program proposed to be undertaken by RAC.

Table 3.3: Monitoring program to achieve management targets

FMP monitoring action number	Indicator	Parameter	Monitoring method	Frequency	Location	Relevant FMP management action reference	Relevant management target
FMP M1	No evidence of erosion within the foreshore area adjacent to the resort, including localised loss of sand or exposed plant roots.	Erosion	Resort staff are to undertake a walk within the foreshore area adjacent to the resort to identify evidence of erosion.	Annually during the peak visitor period (December to January)	Within the foreshore area adjacent to the resort.	FMP 10	T1.1
FMP M2	No loss of vegetation within the foreshore area due to impacts from Project activities	Vegetation	Resort staff are to undertake a walk within the foreshore area adjacent to the resort to identify any human caused damage to vegetation.	Bi-annually	Within the foreshore area adjacent to the resort.	FMP 11	3.1
FMP M3	The beach is free of rubbish	Littering	Resort staff are to undertake a walk along the beach within the foreshore area	Weekly	Within the foreshore area adjacent to the resort.	FMP 12	T1.3

FMP monitoring action number	Indicator	Parameter	Monitoring method	Frequency	Location	Relevant FMP management action reference	Relevant management target
			adjacent to the resort to identify any rubbish				

4. Review and revision

In the event that management targets are not met, RAC will investigate the potential cause and any potential impacts that may have resulted. If the management targets are not met, and it is deemed to be the result of the project, the corrective actions detailed in Table 4.1 will be implemented.

Table 4.1: Corrective actions

FMP corrective action number	Performance indicator	Action	Responsibility	Relevant FMP monitoring action reference	Relevant management target
FMP CA1	Erosion within the foreshore area adjacent to the resort.	Investigate cause. Implement appropriate control to reduce or rectify impact which could include: Restricting access to areas that are impacted Changing the access route and install additional fencing in consultation with DPaW Undertaking rehabilitation of the eroded area in consultation with DPaW. Continue annual monitoring. Revise and update risk assessment and management actions where applicable.	RAC	FMP M1	T1.1
FMP CA2	Loss of terrestrial vegetation within the foreshore area due to impacts from Project activities	Investigate cause. Implement appropriate control to reduce or rectify impact which could include: Restricting access to areas that are impacted Changing the access route and install additional fencing in consultation with DPaW Undertaking revegetation of the impacted area in consultation with DPaW. Rehabilitation will include replanting of species from the local area as listed in Appendix C Continue annual monitoring. Revise and update risk assessment and management actions where applicable.	RAC	FMP M2	3.1
FMP CA3	Rubbish observed in foreshore areas	Investigate cause. Clean-up and correctly dispose of the material. Review procedures for waste disposal. Revise and update risk assessment and management actions where applicable.	RAC	FMP M3	T1.3

4.1 Reporting provisions

The performance of the FMP will be assessed annually against the management targets in Table 3.2, and will be reported on as part of the Compliance Assessment Report (CAR). The FMP reporting template is presented in Table 4.2. This FMP will also be made publicly available in accordance with condition 9-3 of MS 709, via the RAC Parks and Resorts website.

4.1.1 Reporting on exceedance of the management target

In the event that management targets are not met during the reporting period, a written report will be included in the CAR detailing the corrective actions that were undertaken, and the effectiveness of the corrective actions to rectify any potential impacts.

Table 4.2: Environmental management plan reporting table

Condition environmental objective and management target set in the FMP		Reporting on the management objective and management target	Status[1]
EPA objective	**Management target**		
Factor 1 Terrestrial Environmental Quality To maintain the quality of land and soils so that the environment values are protected.	No erosion within the foreshore area adjacent to the resort. (T1.1).	No erosion within the foreshore area adjacent to the resort.	• Yes • No
	No uncontained refuse within the project area or in the surrounding environment. (T1.3).	No uncontained refuse within the project area or in the surrounding environment.	• Yes • No
Factor 3 Flora and vegetation To protect flora and vegetation so that biological diversity and ecological integrity are maintained	No loss of terrestrial vegetation within the foreshore area due to impacts from Project activities (T3.1)	No loss of terrestrial vegetation within the foreshore area due to impacts from Project activities	• Yes • No

[1]Notes: The status of achievement of the condition environmental objectives is indicated by the following symbols:

- Condition environmental objective achieved
- Condition environmental objective not achieved

5. Adaptive management

RAC will implement an adaptive management system to provide a robust management plan, which effectively meets the environmental objectives. To achieve this, the FMP will be reviewed on an annual basis to ensure that the plan takes into consideration amendments to operations, monitoring results, audits, continuous improvement and changes in regulatory and corporate requirements. If revised, a copy of the revised FMP will be provided to the Department of Water and Environmental Regulation as part of the CAR.

6. Stakeholder consultation

Consistent with the EPA's expectations for this FMP, RAC consulted with a number of stakeholders during the development of the plan.

This section provides a summary of consultation that occurred and key comments received from each stakeholder (Table 6.1).

Table 6.1: Stakeholders consulted, comments and responses

Organisation(s)	Comments	RAC response to comments/concerns
Department of Parks and Wildlife	Given that fish offal disposal has been of previous concern to both the Departments of Parks and Wildlife and Fisheries, with fish offal disposal from campers and guests increasing the potential to attract sharks where swimmers and water users are located. All waste signage particularly around the camping area and entrance to paths accessing the foreshore should also incorporate appropriate fish offal disposal messages to align with Departments of Parks and Wildlife and Fisheries policies.	Signage in the camping areas and near foreshore access will specifically refer to appropriate disposal of fish offal.

7. Limitations

Scope of services

This report ("the report") has been prepared by Strategen-JBS&G in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Strategen-JBS&G. In some circumstances, a range of factors such as time, budget, access and/or site disturbance constraints may have limited the scope of services. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

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In preparing the report, Strategen-JBS&G has relied upon data and other information provided by the Client and other individuals and organisations, most of which are referred to in the report ("the data"). Except as otherwise expressly stated in the report, Strategen-JBS&G has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. Strategen-JBS&G has also not attempted to determine whether any material matter has been omitted from the data. Strategen-JBS&G will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to Strategen-JBS&G. The making of any assumption does not imply that Strategen-JBS&G has made any enquiry to verify the correctness of that assumption.

The report is based on conditions encountered and information received at the time of preparation of this report or the time that site investigations were carried out. Strategen-JBS&G disclaims responsibility for any changes that may have occurred after this time. This report and any legal issues arising from it are governed by and construed in accordance with the law of Western Australia as at the date of this report.

Environmental conclusions

Within the limitations imposed by the scope of services, the preparation of this report has been undertaken and performed in a professional manner, in accordance with generally accepted environmental consulting practices. No other warranty, whether express or implied, is made.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

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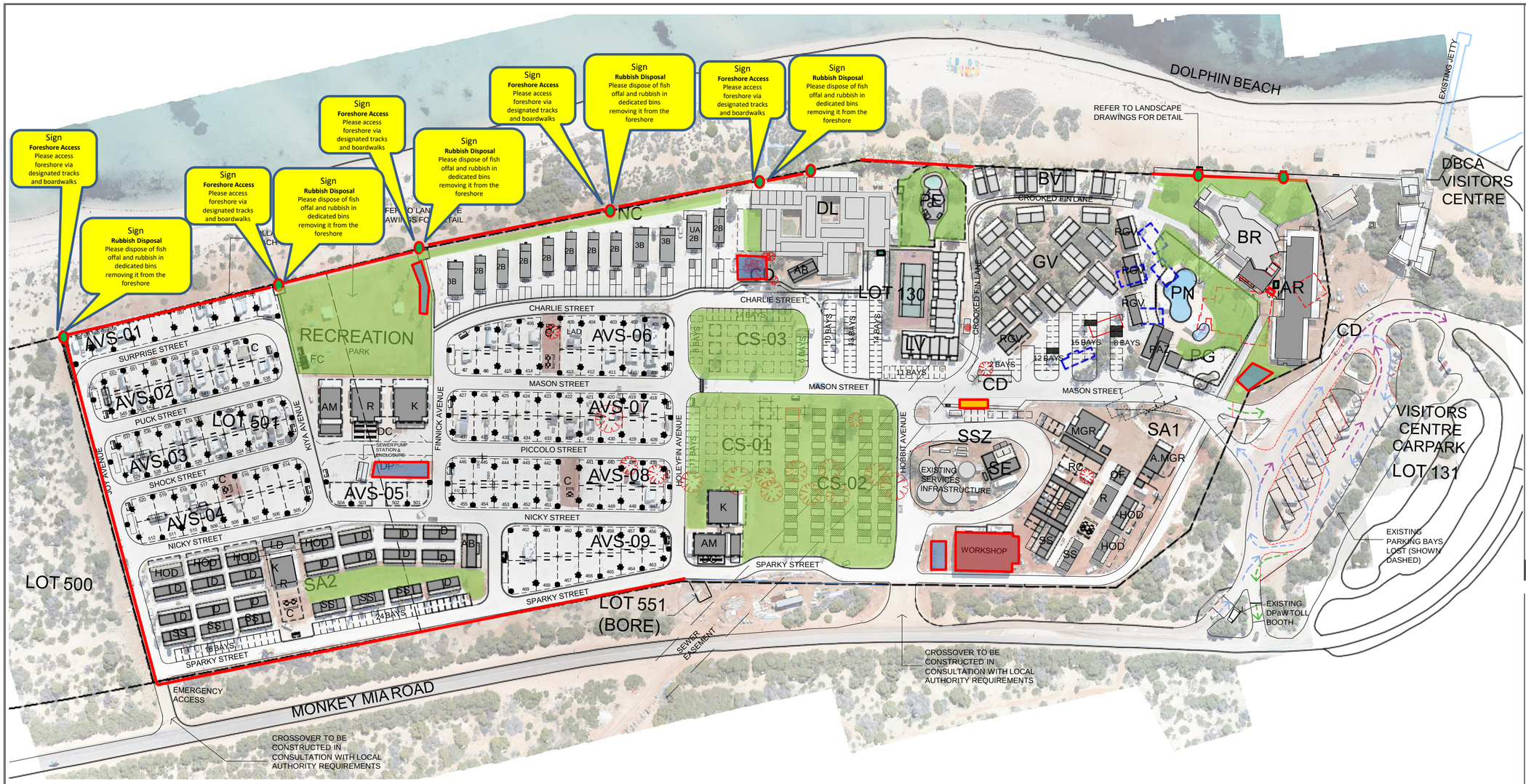
8. References

RPS Bowman Bishaw Gorham (RPS) 2004, *Expansion of Monkey Mia Dolphin Resort Public Environmental Review (EPA Assessment Number 1455),* report prepared for Monkey Mia Dolphin Resort Pty Ltd, Perth, June 2004.

Weston AS 2002, *Vegetation and Rare Flora Surveys Concept Development Plan Areas Monkey Mia Resort Shire of Shire Bay,* prepared for Bowman Bishaw Gorham Environmental Management Consultants, Perth, Western Australia, 8 February 2002.

Appendix A Overall masterplan



- Point of entry to beach
- Fencing
- Drainage Tank / Infiltration Swale
- Chemical Storage Area
- Bunded Fuel Bowser
- Grease Trap/Tank
- Grassed Area
- Sealed/ Paved Area
- Shell Grit
- Pindan

Rev	Date	Issued To
12	21.08.18	ISSUED TO CONSULTS, CLIENT & BLDR
11	10.07.18	ISSUED TO CONTRACTOR & SURVEYOR & LANDSCAPE
10	15.06.18	ISSUED TO CLIENT & BLDR
9	25.05.18	ISSUED TO CONSULTS & BLDR
9	21.05.18	ISSUED TO CONSULTS & BLDR
8	16.05.18	ISSUED TO CONSULTS & BLDR
7	20.04.18	ISSUED TO CONSULTS & BLDR
6	16.03.18	ISSUED TO BPA, DG Cons.
5	14.02.18	ISSUED TO DDM
4	11.12.17	ISSUED TO BPA, AMS, BESEEN & BLACKWELL
3	04.12.17	ISSUED TO BPA AND AMS
2	01.12.17	ISSUED TO STRATEGEN
1	23.11.17	ISSUED TO DDM

Rev	Date	Description
12	21.08.18	AERIAL PHOTO UPDATE (19.08.18)
11	10.07.18	DBCA & ARRIVALS BACKGROUNDS UPDATED
10	15.06.18	SITE MARKERS ADDED, STREET NAMES UPDATED
9	25.05.18	AERIAL PHOTO UPDATED (19.05.18)
9	21.05.18	ENTRY ROAD ADJUSTED, DB07 REPOSITIONED, 1ST AVE RE-ALIGNED, COORDS PROVIDED
8	16.05.18	ENTRY POINT & MAIN ST ROAD RE-ALIGNMENT, C'PARK LAYOUT CHANGED TO SUIT EXIST TREES
7	20.04.18	AERIAL PHOTO UPDATED, 3 BED UNIT REPOSITIONED, WADING POOL REPOSITIONED
6	16.03.18	MODIFIED FUEL TANK POSITION
5	14.02.18	SWAP CABANA WITH AVS-E SITE IN AVS-04. POOL FOOT PRINT CHANGED
4	08.12.17	INSERT PAZ FOOTPRINT
3	04.12.17	INSERT SA2 LAUNDRY AND STAFF QUARTERS SHIFTED TO SUIT 3m CLEARANCE
2	01.12.17	INSERT BUSHFIRE CLEARANCE ZONES
1	23.11.17	INITIAL ISSUE

CONTRACT DOCS

Job Title
MMDR
MONKEY MIA DOLPHIN RESORT

Sheet Title
OVERALL MASTERPLAN

Scale 1:1000
Job No. 16-131
Drawn PGA Checked PGA Date AUG 2017
DRAWING No. A01 Rev. 12

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OVERALL MASTER-PLAN
SCALE 1:1000 @ A1, 1:500 @ A3

LEGEND

EXISTING BUILDINGS

BR	BOUGHSHED RESTAURANT
LV	LIMESTONE VILLAS
GV	GARDEN VILLAS
BV	BEACH FRONT VILLAS
DL	DOLPHIN LODGE
	B1 - BEACHVIEW 1 BED
	SE - SHARED ENSUITE 2 BED
	D4 - 4 BED DORM
	D8 - 8 BED DORM
	DMA - DUTY MANGER'S ACCOMMODATION

BUILDINGS

K	CAMP KITCHEN
R	RECREATION BUILDING
C	BBQ AND SEATING CABANA
AM	AMENITY AREA
DC	DRYING COURT
FC	FISH CLEANING STATION
NC	NEW CABINS
	2B 2 BED - NEW CABINS
	3B 3 BED - NEW CABINS
	UA 2B ACCESSIBLE 2 BED - NEW CABINS
AR	ARRIVALS BUILDING
PAZ	POOL AMENITY ZONE
PE	POOL EXISTING
PN	POOL NEW
PG	PLAY GROUND

SA1	STAFF ACCOMMODATION AREA
SA2	STAFF ACCOMMODATION AREA
MGR	MANAGER'S ACCOM.
A.MGR	ASSISTANCT MANAGER'S ACCOM.
HOD	HEADS OF DEPARTMENT ACCOM.
D	DUPLEX (DOUBLES) STAFF ACCOM.
SS	SEASONAL STAFF ACCOM.
RGV	RELOCATED GARDEN VILLAS
AVS	ACCOMMODATION VEHICLE SITES
AB	RELOCATED EXISTING ABLUTION BLK
SE	SERVICES ENCLOSURE
CS-01	CAMPING SITES (MIN SIZE 25m² NOMINAL 5x5m AND MINIMUM REGULATION SEPARATION SHOWN. SITES MAY BE LARGER OR AGGREGATED FOR LARGER GROUPS AT REDUCED YIELD)
SSZ	SITE SERVICES ZONE (LAUNDRY, WORKSHOP ETC)
FB	FUEL BOWSER
FT	FUEL TANK
CD	COACH DROP OFF
DP	DUMP POINT
ST	STORE RM
RC	RELOCATED CARAVANS (EXISTING)
OF	OFFICE
SC	SEWER PUMP STATION ENCLOSURE
LD	LAUNDRY
GT	GAS TANKS

CLIENT:

RAC Monkey Mia Dolphin Resort For the better

SYMBOL LEGEND

- EXISTING BUILDINGS / INFRASTRUCTURE
- NEW BUILDINGS / REFURBISHED BUILDINGS
- PROPOSED DPAW LAND TO BE MODIFIED BUT NOT PART OF THIS DEVELOPMENT APPLICATION
- RELOCATION
- DEMOLITION
- ENSUITES
- GROUND WATER MONITORING WELL LOCATION
- MACERATOR PIT
- STAFF AREA
- EXISTING FENCE LINE
- *LAD — LOCAL AUTHORITY DISCRETION REQUIRED FOR 90m RULE (CPCGR SCHEDULE 7: DIVISION 6. cl. 19.1 - ABLUTIONS AND TOILET FACILITIES, DIVISION 8 cl. 31 - WASHING UP FACILITIES FOR CAMPERS)
- 25m NOMINAL WIDE REDUCED FIRE LOAD ZONE
- NOMINAL 4m WIDE PROPOSED BATTER
- NOMINAL 5m CLEARED ZONE - IMMEDIATELY ADJACENT TO BOUNDARY
- NOMINAL 3m CLEARED ZONE
- NOMINAL 7m ZONE OF EXISTING VEGETATION TO BE MAINTAINED

STAFF ACCOMMODATION MODULES

- 3 ROOM FULL MODULE - HEADS OF DEPARTMENT
- 2 ROOM DOUBLE MODULE - DOUBLE
- 1 ROOM SINGLE MODULE - SEASONAL STAFF
- 2 ROOM DOUBLE HALF MODULE - PERMANENT

NEW CAR BAY PROVISIONS

SA1	:7 BAYS
SA2	:40 BAYS
WORKSHOP	:10 BAYS
DOLPHIN LODGE, LIMESTONE VILLAS & CAMP SITES	:126 BAYS (INCLUDES 37 OVERFLOW BAYS)
ADMIN & PARK ENTRY	: TBA
GARDEN VILLAS	: 48 BAYS
NEW BEACH CABINS	: 19 BAYS WITH BOAT LAYDOWN BESIDE

YIELD TABLE

GUEST ACCOMMODATION

ACCOMMODATION VEHICLE SITES (ALL NEW)			*129*
AVS	POWERED STANDARD	(105)	
	POWERED STANDARD WITH ENSUITES	(14)	
AVS	POWERED STANDARD ON BEACH FRONT	(10)	
CAMPING SITES			*81*
CS	NEW UNPOWERED CAMP SITES	81	
BUILT ACCOMMODATION			*124*
DL	EXISTING DOLPHIN LODGE	52	
	B1 BEACHVIEW 1 BED	(24)	
	SE SHARED ENSUITE 2 BED PER ENSUITE	(16)	
	D8 DORMS 8 BED UNITS	(7)	
	D4 DORMS 4 BED UNITS	(5)	
LV	EXISTING LIMESTONE VILLAS	14	
BV	EXISTING BEACHFRONT VILLAS	8	
GV	EXISTING DUPLEXED GARDEN VILLAS	30	
RGV	RELOCATED DUPLEXED GARDEN VILLAS	8	
NC	NEW CABINS ON BEACHFRONT - 2 BED (INCL. 1 ACCESSIBLE UNIT)	9	
	NEW CABINS ON BEACHFRONT - 3 BED	3	
	GUEST ACCOMMODATION SUBTOTAL		***334***

STAFF & DPAW RESEARCH ACCOMMODATION (ALL NEW U.O.N)

SA1^	STAFF ACCOMMODATION		22
	MGR MGR'S RESIDENCE	(1)	
	A.MGR ASST.MGR'S RESIDENCE	(1)	
	HD HEADS OF DEPARTMENT - (FULL MODULE)	(2)	
	RC RELOCATED CARAVANS - (EXISTING)	(6)	
	SS SEASONAL STAFF - (QUARTER MODULE)	(12)	
SA1^	OFFICE		2
	OF OFFICE - (HALF MODULE - 2 ROOM)	(2)	
SA2^	STAFF ACCOMMODATION		56
	HD HEADS OF DEPARTMENT - (FULL MODULE)	(4)	
	PS PERMANENT STAFF - (HALF MODULE)	(28)	
	~~SS SEASONAL STAFF - (QUARTER MODULE)~~	~~(24)~~	
DMA	EXISTING DUTY MANGER'S RESIDENCE (DOLPHIN LODGE)		1
	STAFF & DPAW RESEARCH ACCOMMODATION SUBTOTAL		81

^ ALLOCATION OF ACCOMMODATION IS INDICATIVE ONLY

GUEST & STAFF ACCOMMODATION TOTAL ON COMPLETION 415

Appendix B Risk matrix

8.1.1.1 Risk-based priority

A risk assessment determines whether a hazard could harm the environment. The following stages are undertaken once an environmental hazard has been identified

- Stage 1: Risk identification to identify and document environmental risks and impacts associated with the organisation activities, goods and services
- Stage 2: Qualitatively ranking potential environmental impacts to establish relative significance
- Stage 3: Establishing and documenting control measures to mitigate potentially significant environmental impacts.

RAC shall control all environmental risks identified within the organisation to an extent that is practically possible (Table A 1), once they have been identified through the risk management and identification process.
Risk ranking is generally undertaken by assigning likelihood and consequence levels to each identified activity or issue and determining risk levels through the use of a risk matrix. After completing this process management measures are implemented and a residual risk is determined.

Table A 1: Qualitative risk rating matrix

	Consequences			
Likelihood	Critical (4)	Major (3)	Moderate (2)	Minor (1)
Almost Certain (A)	VH	VH	H	M
Likely (B)	VH	VH	H	M
Unlikely (C)	VH	H	M	L
Rare (D)	H	M	L	L

VH	Very High	Immediate action required. Task stopped.
H	High	Senior Management attention needed.
M	Medium	Management responsibility must be specified.
L	Low	Manage by routine procedures.

Table A 2: Likelihood Classification

Likelihood	Description
Almost Certain (A)	Event is a common or frequent occurrence and is expected to occur daily
Likely (B)	Event is expected to occur annually.
Unlikely (C)	Event may occur. If the event has occurrence in the project area it is very infrequent. It is likely to have occurred within the industry.
Rare (D)	The event is unlikely to not occur in the project area but has been known to occur infrequently within the industry. The event may occur at a frequency of more than 10 years.

Table A 3: Consequence Classification

Consequence	Definition
Critical (4)	**Environment:** Long term large scale damage to habitat or environment. **Legal:** Non-compliance having a critical financial or community profile impact. **Community:** Widespread community disruption with significant adverse economic impact.
Major (3)	**Environment:** Severe impact requiring remedial damage to environment. **Legal:** Non-compliance and having high financial or community profile impact. **Community:** Extensive community complaints extending beyond the region or adverse state level media coverage. Wider community disruption up to 7 days with adverse economic impact.
Moderate (2)	**Safety:** Moderate impact on environment. No long term or irreversible damage. **Legal:** Non-compliance having moderate financial or community profile impact. **Community:** Widespread local complaints or adverse regional media coverage. Isolated community disruption up to 3 days with limited adverse economic impact.
Minor (1)	**Environment:** Minor breach of environmental policy. Negligible impact on environment. **Legal:** Technical breach with no sanction. **Community:** Few complaints or minor adverse media coverage. Negligible impact on reputation. Isolated community disruption up to 1 day with minimal economic.

When determining risk controls, the hierarchy of risk controls, summarised in Table A 4 must be considered.

Table A 4: Hierarchy of risk controls

Option	Examples
Elimination	Stop using equipment or substance, or stop undertaking the procedure causing the risk.
Substitution	Use an alternative substance, equipment or process which poses less risk.
Isolation	Separate receivers from the source of the risk.
Engineering Controls	Reduce exposure to the risk by making physical changes to equipment, procedures or the work environment (e.g. using dust control measures on equipment).
Change work practices	Adopt work procedures which minimise exposure to the risk (e.g. wet sweeping a dusty environment rather than dry sweeping, to minimise the amount of airborne dust.

Appendix C Revegetation species list (Weston 2002

	Taxon Name	Form	Code	MonMia	CALM	Res Ext	TP Ext	Comments
	Acacia drepanophylla	Sh MT	P3, e?	x	mmia01	-	E of	e in Wannoo to Yaringa Stns
	Acacia ramulosa var. *ramulosa*	Sh MT		x	mmia01	-	x	
	Acacia sclerosperma subsp. *sclerosperma*	Sh MT	n	x	mmia02	x	x	TK: n of subsp is on Yaringa Stn
	Acacia synchronicia	Sh MT		?	mmia01	-	-	
	Acacia tetragonophylla	Sh MT		x	mmia01	-	x	
	Adriana tomentosa	Sh M		x	-	-	-	
	Alectryon oleifolius subsp. *oleifolius*	Sh MT		x	mmia01	-	x	
	Amyema preissii	Sh P		x	-	x	x	on Acacia sclerosperma & A. tetr.
	Angianthus cunninghamii	Sh S		x	-	-	-	
	Anthobolus foveolatus	Sh M	n	x	-	-	x	TK: n is in F Peron N P
	Austrostipa crinita	Gr		?	mmia01	-	-	
	Austrostipa elegantissima	Gr		?	mmia01	-	-	
	Avicennia marina	Tr VS		x	-	-	-	very few, young trees; < 0.5 m
	Brachychiton gregorii	Tr S		x	-	-	near	very few in Monkey Mia Reserve
	Brachyscome latisquamea	Vi/He	s	x	mmia01	-	x	Vi/He SM. TK: s is Tamala Stn
*	*Brassica tournefortii*	He		x	01, 02	x	x	
	Calocephalus francisii	He		x	mmia02	?	x	dead and very dry
	Carpobrotus candidus ms	He		x	-	x	-	flowers white
*	*Cenchrus ciliaris*	Gr		?	mmia01	-	-	
	Chenopodium gaudichaudianum	Sh M		?	mmia01	-	-	
	Chthonocephalus oldfieldianus	He	P1, n	?	-	-	-	nr old M Mia tip; new sp. for WHA
	Chthonocephalus tomentellus	He	P2	?	-	-	-	GJK: rd sand 3 km W of M Mia
	Commicarpus australis	Sh/Vi		x	mmia01	-	x	Sh/Vi M.
	Crassula colorata var. *colorata*	He S	n	?	mmia02	-	-	CM: n in WHA
	Dodonaea inaequifolia	Sh M		?	mmia01	-	-	
	Enchylaena tomentosa	Sh S		?	mmia01	-	-	
	Eragrostis dielsii	Gr		x	-	-	x	dead and very dry
	Eremophea aggregata	Sh S	e?	?	mmia01	-	-	TK: largely restricted to WHA
	Eremophila clarkei	Sh MT		?	mmia01	-	-	
	Eremophila maitlandii	Sh MT		x	-	-	x	
	Euphorbia drummondii	He		?	mmia01	-	-	
	Exocarpos aphyllus	Sh MT		x	01, 02	x	x	
	Frankenia pauciflora	Sh S		x	-	-	-	TK: type is from WHA
	Gnephosis arachnoidea	He		?	mmia01	-	-	

Taxon Name	Form	Code	MonMia	CALM	Res Ext	TP Ext	Comments
Grevillea eriostachya	Sh T		x	-	-	x	
Gyrostemon ramulosus	Tr S		x	-	x	-	
Halosarcia halocnemoides subsp. *tenuis*	Sh S		x	-	-	-	
Halosarcia indica subsp. *bidens*	Sh S		x	-	-	-	
Halosarcia pruinosa	Sh S		x	-	-	-	
Hibiscus sturtii var. *truncatus*	Sh S		?	mmia01	-	-	
Lechenaultia linarioides	Sh M		x	mmia02	x	x	TK: n in FPerNP; very distinct form
Lepidium biplicatum	Sh S	P2, n?	?	-	-	-	n in Yaringa Stn, PGW: 2km W MMia
Maireana tomentosa	Sh S		x	mmia01	-	x	
Marsdenia australis	Vi		x	-	-	x	= Leichardtia australis
Marsdenia graniticola	Sh S	n	?	mmia01	-	-	TK: Gymnea "granitica"; n in FPerNP
Nitraria billardierei	Sh M		x	mmia02	near	-	
Olearia occidentissima	Sh S	P2, e	?	mmia01	-	-	CM: e in WHA, widespread on P Pen
Persoonia bowgada	Sh M	n	x	-	-	x	TK:P sp(Crav.7112), n on Nanga Stn
Pimelea microcephala	Sh M		?	mmia01	-	?	
Podolepis canescens	He		?	mmia01	-	-	
Porana sericea	Vi		x	mmia01	-	x	
Ptilotus divaricatus var. *divaricatus*	Sh M		x	mmia01	-	x	
Ptilotus obovatus var. *obovatus*	Sh M		x	mmia01	-	x	
Ptilotus villosiflorus	He		?	mmia02	-	-	
Rhagodia latifolia subsp. *latifolia*	Sh M		x	mmia01	-	x	
Rhagodia preissii subsp. *obovata*	Sh SM		x	mmia02	x	x	
Rhodanthe condensata	He		?	mmia02	-	-	
Rhodanthe humboldtiana	He		?	mmia01	-	-	
Rhyncharrhena linearis	Vi		?	mmia01	-	-	
Salsola tragus	He		x	-	-	-	=Salsola kali
Santalum spicatum	Tr S		?	mmia01	-	-	TK: s of subsp nov; only on beach
Sarcocornia quinqueflora	Sh S		x	-	-	-	
Scaevola spinescens	Sh M		x	mmia01	-	x	
Scaevola tomentosa	Sh M		x	mmia01	-	x	
Scholtzia leptantha	Sh SM		x	mmia02	x	-	= S. umbellifera & Thryp. sp. in part
Sida calyxhymenia	Sh SM		?	mmia01	-	-	
Solanum lasiophyllum	Sh S		x	mmia01	-	x	
Solanum orbiculatum subsp. *orbiculatum*	Sh MS		x	01, 02	-	x	

Taxon Name	Form	Code	MonMia	CALM	Res Ext	TP Ext	Comments
Sondottia glabrata	He	P2, e	?	-	-	-	TK:e in WHA. PGW:clay 2kmW MMia
Spinifex longifolius	Gr		x	mmia02	x	-	
Sporobolus virginicus	Gr		x	-	x	-	
Stylobasium spathulatum	Sh M		x	01, 02	?	x	
Threlkeldia diffusa	Sh SM		x	mmia01	?	x	

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