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ENSR Australia Pty Ltd ABN 34 060 204 702
PO Box 3263 NORTH MACKAY QLD 4740
T+61 7 4953 0866 F+61 7 4953 0868 www.hlaensr aecom.com

3 November 2008

Mr Hans Dillewaard
Principal Botanist
Queensland Herbarium
Brisbane Botanic Gardens
Mt Coot-tha Road, Toowong. Qld 4066

Dear Hans,

**Re: Requests for Assessment of Regional Ecosystem Mapping on
Lot 6 / SP171809 Mangrove Road, Paluma**

Please find enclosed application for assessment of Regional Ecosystem mapping. The subject area is described as L6 on SP171809 Mangrove Road, Paluma. It is located approximately 4 km west of Cannonvale Queensland.

The application for regional ecosystem assessment for Lot 6 is requesting determinations based on crown cover, landzones and species. It contains Queensland Herbarium sheets A, B, D and G with the areas shown on aerial images. Included are site photos taken at each transect location and during site traverses.

If you have any questions regarding this application, please contact on: (07)

Yours sincerely,

ENSR Australia Pty Ltd

Senior Environmental Scientist

Principal Environmental Scientist

Enclosures: RE Map Assessment Request Application
cc:

Request for Assessment of Regional Ecosystem Map - DRAFT

B3051901 Securcorp QH Application - SHEET A

Insert "y" or "n" in each of the boxes

Remnant/non-remnant

Y

height N

cover Y

species N

Regional ecosystem

Y

land zone Y

species Y

- Desktop assessment only
- Field traverse and desktop assessment
- Compliance issues over lot/plan(s)

N

Y

N

Request details

Sender/agency/location	Client:	ENSR Australia Pty Ltd
	Postal address	PO Box 3263 North Mackay Q 4740
Date:	11 January 2008	'Phone no. (07) 4953 0866
Lot/Plan: Lot 6 on SP171809 Paluma Road, Paluma Qld	Owner:	Securcorp Ltd
	Postal address	PO Box 209 Surfers Paradise Qld 4217
	'Phone no.	(07) 5538 6688
	Email	<input type="text"/> @securcorp.com.au

Mapsheets Name. (1:100 000)	Proserpine	Veg Clearing Application?	No
Mapsheets No.	N8657	Application Reference No:	
Local Govt. Area	Whitsunday	Date Application Accepted:	
		eLVAS Reference No:	

Note: An aerial photograph or satellite image showing:-
the parcel(s) of land involved; AND the area(s) of interest clearly delineated; **must** accompany this request.

Aerial photography

Mapsheets Name/Number	Film No.	Date	Run	Frame	Scale	Colour
Proserpine 8657		2004	10	200	1:37,000	Yes

Satellite images (indicate the series of images used, for example: 1988, 1991, 2003)

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Notes (include a summary of proposed changes)

- RE mapping shows approximately 21 ha of RE 8.12.26, 9 ha of RE 8.3.5 and 13 ha of non-remnant within Lot 6 (Figure 1);
- It is proposed to reduce the extent of RE 8.12.26 in the north of Lot 6 to approximately 1.5 ha (as per Polygon A in Figure 3);
- Change the RE 8.3.5 in the centre of Lot 6 to 8.3.1 (as per Polygon B in Figure 3);
- Reduce the extent of RE 8.12.26 in the south of Lot 6 to 2.6 ha (as per Polygon C in Figure 3);
- Change the balance of Lot 6 to non-remnant as per Figure 3.

Request for Assessment of Regional Ecosystem Map - DRAFT

Survey methodology

On 17 and 18 October 2007, the site was traversed, observations were recorded and photos taken at **Plates P1 to P5** (locations shown on **Figure 2**).

Four randomly-selected 100 m transects were surveyed in the area mapped as RE 8.12.26. Transect locations are shown on **Figure 2**. Site transects were surveyed to Tertiary level (Neldner *et al.*, 2005). Information collected within each transect included location (using a handheld GPS), landform, slope, soil, woody stem density (Bitterlich count), identity and height of dominant species within canopy mid and ground strata and measured crown cover. This information was recorded on QH Sheet D – Sites 2 to 5 forms (attached).

Two 50 m transects were surveyed as above in the 3 ha remnant area adjacent to the southeast boundary of Lot 6 to be used as 'reference sites' for RE 8.12.26. This information was recorded on QH Sheet G – Sites 1 and 6 forms (attached).

Photos were taken of the vegetation along the transects (**Plates P7 to P12**).

References

HLA ENSR, 2007, *Ecological Assessment of Lot 6 on SP171809 Mangrove Road, Paluma*. Report B3045701_RPTFinal_26Nov07.doc by HLA ENSR Pty Limited to LPI Whitsundays Pty Ltd, 26 November 2007.

Hardy, S. 2007, *Vegetation appraisal and urban suitability assessment of Lot 6 on SP171809 Mangrove Road, Paluma*. Whitsunday Shire Council, Proserpine.

Neldner, V.J., Wilson, B.A., Thompson, E.J. and Dillewaard, H.A. 2005. *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland, Version 3.1*. Environmental Protection Agency, Brisbane.

Request for Assessment of Regional Ecosystem Map - DRAFT

SHEET G - Reference site/transect form

Location B3051901

Site No. T1 Recorder: Day/Date: 18/10/07
 Regional ecosystem: Mapped as non-remnant. Assessed as 8.12.26 RE collect
 Adjacent to SE boundary of Lot 6/SP171809, Paluma Rd, Q / 4
 Locality: (inc. distance/direction to nearest town) km west of Cannonvale

Vegetation structure

Median height of the EDL is to be measured
 Cover density is to be estimated

Stratum	Median height	Height interval	Est. cover density (D,M,S,V)
E		-	
T1	18	15-21	M
T2	7	5-10	M
T3		-	
S1	2	2-3	V
S2		-	
G	1	0.5-1.5	D

Structural formation: (including height)
 Open forest

Ecologically dominant layer: T1

Notes:

Basal area density mid-transect = 26 m²/ha
 (Bitterlich Stick)

Plant species

Record relative (numerical) dominance for each stratum;
 d - dominant; c - codominant; s - subdominant; a - associated.

Str.	Rel. dom.	Scientific Name
T1	a	<i>Eucalyptus tereticornis</i>
T1	d	<i>Corymbia tessellaris</i>
T1	s	<i>Eucalyptus platyphylla</i>
T1	a	<i>Corymbia clarksoniana</i>
T2	a	<i>Mallotus philippensis</i>
T2	a	<i>Pouteria sericea</i>
T2	a	<i>Jagera pseudorhus</i>
T2	a	<i>Cupanopsis anarcardioides</i>
T2	d	<i>Planchonia careya</i>
T2	a	<i>Terminalia sericocarpa</i>
T2	a	<i>Ficus opposita</i>
T2	a	<i>Alphitonia excelsa</i>
T2	a	<i>Drypetes deplanchei</i>
S1	a	<i>Clerodendrum floribundum</i>
S1	a	<i>Lantana camara</i>
G	d	<i>Panicum maximum</i>

Geology, landform, soils

Geology map/scale/year:

Geology code and rock types:

Land system:

Landform: Lower hill slope 10% to SE

Soils: Dark-brown clay

Field observation and notes:

Landzone: 12

Request for Assessment of Regional Ecosystem Map - DRAFT

8 17.10.07

SHEET D - Site/transect form Vegetation structure - crown cover measured

Location B3051901

Site No. T2	Recorder: 	Day/Date: Thurs 18/10/07
Purpose Remnant / non-remnant	Photo 10:48 - 120° Photo 11:30 - 300°	
Locality: (inc. distance/direction to nearest town) Lot 6/SP171809, Paluma Rd, Q / 4 km west of Cannonvale		

Vegetation structure

Median height of EDL is to be measured
Cover density is to be estimated

Stratum	Median height	Height Interval	Est. cover density (D,M,S,V)
E		-	
T1	16	14-18	V
T2	5	4-6	V
T3		-	
S1	1.5	1-2	V
S2		-	
G	0.7	0.3-1	D

Structural formation including height: (estimated)
Grassy Open Woodland 16 m

Ecologically dominant layer: T1

Plant species

Record relative (numerical) dominance for each stratum;
d - dominant; c - codominant; s - subdominant; a - associated.

Str.	Rel. dom.	Scientific Name
T1	d	<i>Corymbia tessellaris</i>
T2	d	<i>Planchonia sareya</i>
S1	d	<i>Melia azedarach</i>
S1	a	<i>Alphitonia excelsa</i>
S1	a	<i>Hibiscus heterophylla</i>
G	d	<i>Panicum maximum</i>
G	s	<i>Centrocema pubescens</i>
G	a	<i>Melia azedarach</i> (seedling)

Transect - crown cover measured (transect intercept method)

GPS coordinates: Datum: WGS84 Transect length: 100m Brg 120°

Start point Zone 55 E 0674443 N 7756947

End point Zone 55 E 0674506 N 7756871

Interval (metres)	Intercept	Str.	Height
0-1	1m	T2	5
33-38	5m	T1	16
42-46	4m	T1	16
81-83	2m	T1	15
96-100	4m	T1	14

Summary:

Minimum height of plants included in the transect table:	T1=12m	T2=4m
Intercept of EDL 0 - 50m:	9 10m	
Intercept of EDL 50 -100m:	6m	
Measured crown cover % of EDL 0 -100m:	15 16%	
Structural formation	Open Woodland	

Conclusions/notes:

Slope 10% Bearing 120°

Regular piles of dead timber; degraded by fire, selective clearing and weeds.

Bitterlich count mid T = 4 (10 mm @ 0.5 m)

END

Handwritten notes: 2/18/07, 10:48, 11:30, 120°, 300°, 15, 16%, 4, 10mm @ 0.5m

Request for Assessment of Regional Ecosystem Map - DRAFT

SHEET D - Site/transect form Vegetation structure - crown cover measured

26.12.07

Location B3051901

Site No. T3	Recorder: 	Day/Date: Thurs 18/10/07
Purpose Remnant / non-remnant	Photo 12:06 - 140°, Photo 12:37 - 320°	
Locality: (inc. distance/direction to nearest town) Lot 6/SP171809, Paluma Rd, Q / 4 km west of Connonvale		

Vegetation structure

Median height of EDL is to be measured
Cover density is to be estimated

Stratum	Median height	Height interval	Est. cover density (D,M,S,V)
E		-	
T1	15	12-18	S
T2	6	4-8	S
T3			
S1			
S2			
G	1.2	0.3-2.0	D

Structural formation including height: (estimated)
Grassy woodland 15 m

Ecologically dominant layer: T1

Plant species

Record relative (numerical) dominance for each stratum;
d - dominant; c - codominant; s - subdominant; a - associated.

Str.	Rel. dom.	Scientific Name
T1	d	<i>Corymbia tessellaris</i>
T1	a	<i>Corymbia intermedia</i>
T2	d	<i>Planchonia careya</i>
T2	a	<i>Corymbia tessellaris</i>
S1	c	<i>Hibiscus heterophylla</i>
S1	c	<i>Jagera pseudorhus</i>
G	d	<i>Panicum maximum</i>
G	s	<i>Centrocema pubescens</i>
T1	a	<i>Eucalyptus crebra</i>
T1	a	<i>Eucalyptus platyphylla</i>

Transect - crown cover measured (transect intercept method)

GPS coordinates:	Datum: WGS84	Transect length: 100 m	Brg 140°
Start point	Zone 55 E	0674320	N 7756849
End point	Zone 55	0674385	7756772

Interval (metres)	Intercept	Str.	Height
0-1	1 m	T1	12
23-42	19 m	T1	18
94-100	6	T1	15

Summary:	
Minimum height of plants included in the transect table:	12 m
Intercept of EDL 0 - 50m:	20 m
Intercept of EDL 50 - 100m:	6 m
Measured crown cover % of EDL 0 - 100m:	26%
Structural formation	Woodland
Conclusions/notes:	
Slope 15% Bearing 140°	
Bitterlich count mid-transect = 11	

END

Request for Assessment of Regional Ecosystem Map - DRAFT

8/10/07

SHEET D - Site/transect form Vegetation structure - crown cover measured

Location B3051901

Site No. T4	Recorder: 	Day/Date: Thurs 18/10/07
Purpose Remnant / non-remnant	Photo 13:39 - 300°, Photo 14:09 -120°	
Locality: (inc. distance/direction to nearest town) Lot 6/SP171809, Paluma Rd, Q / 4 km west of Cannonvale		

Vegetation structure

Median height of EDL is to be measured
Cover density is to be estimated

Stratum	Median height	Height Interval	Est. cover density (D,M,S,V)
E			
T1	16	12-20	S
T2	8	5-10	S
T3			
S1	2.5	2-3	S
S2			
G	1.2	0.3-2	D

Structural formation including height: (estimated)
Grassy Open Woodland

Ecologically dominant layer: T1

Plant species

Record relative (numerical) dominance for each stratum;
d - dominant; c - codominant; s - subdominant; a - associated.

Str.	Rel. dom.	Scientific Name
T1	d	<i>Corymbia tessellaris</i>
T2	c	<i>Mallotus philippensis</i>
T1	a	<i>Eucalyptus crebra</i>
T1	a	<i>Corymbia intermedia</i>
T2	c	<i>Planchonia careya</i>
G	d	<i>Panicum maximum</i>
G	s	<i>Centrosema pubescens</i>
S1	c	<i>Hibiscus heterophylla</i>
S1	c	<i>Melia azedarach</i>
T2	a	<i>Alphitonia excelsa</i>

Transect - crown cover measured (transect intercept method)

GPS coordinates:	Datum: WGS84	Transect length: 100m	Brg 300°
Start point	Zone 55 E 0674271	N 7756949	
End point	Zone 55 E 0674189	N 7756999	

Interval (metres)	Intercept	Str.	Height
0-2	2 m	T1	12
5-7	2 m	T2	10
16-24	8 m	T1	17
45-50	5 m	T1	18
50-53.5	3.5 m	T1	18

Summary:	
Minimum height of plants included in the transect table:	10 m
Intercept of EDL 0 - 50m:	15 m
Intercept of EDL 50 -100m:	3.5 m
Measured crown cover % of EDL 0 -100m:	18.5%
Structural formation	Open Woodland
Conclusions/notes:	
Surface rock beneath grass mat	
Slope 15 % Bearing 300°	
Many dead T1 trees, drought / fire	
Bitterlich count mid-transect = 10	

END

What do you need from the...

Request for Assessment of Regional Ecosystem Map - DRAFT

12/2/07

SHEET D - Site/transect form Vegetation structure - crown cover measured

Location B3051901

Site No. T5 Recorder: Day/Date: Thurs 18/10/07
 Purpose Remnant / non-remnant Photo 14:48 - 330° ; Photo 15:21 - 150°
 Locality: (inc. distance/direction to nearest town) Lot 6/SP171809, Paluma Rd, Q / 4 km west of Cannonvale

Vegetation structure

Median height of EDL is to be measured
 Cover density is to be estimated

Stratum	Median height	Height interval	Est. cover density (D,M,S,V)
E			
T1	18	15-20	S
T2	9	6-12	S
T3			
S1	3	2-4	S
S2			
G	1	0-2	D

Structural formation including height: (estimated)
 Grassy Woodland 18 m

Ecologically dominant layer: T1

Plant species

Record relative (numerical) dominance for each stratum;
 d - dominant; c - codominant; s - subdominant, a - associated.

Str.	Rel. dom.	Scientific Name
T1	d	<i>Corymbia tessellaris</i>
T1	a	<i>Eucalyptus crebra</i>
T1	a	<i>Corymbia clarksoniana</i>
T2	a	<i>Eucalyptus crebra</i>
T2	d	<i>Planchonia careya</i>
T2	a	<i>Corymbia clarksoniana</i>
S1	d	<i>Melia azedarach</i>
S1	s	<i>Hibiscus heterophylla</i>
G	d	<i>Panicum maximum</i>
G	s	<i>Centrosema pubescens</i>

Transect - crown cover measured (transect intercept method)

GPS coordinates: Datum: WGS84 Transect length: 100m Brg 330°
 Start point Zone 5 5 E 0 6 7 4 2 9 5 N 7 7 5 6 9 8 7
 End point Zone 5 5 E 0 6 7 4 2 1 8 N 7 7 5 7 0 5 6

Interval (metres)	Intercept	Str.	Height
0-1	1 m	T2	10
11-19	8 m	T1	17
60-63	3 m	T1	18
85-91	6 m	T1	15
95-99	4 m	T1	18

Summary:

Minimum height of plants included in the transect table:	10 m
Intercept of EDL 0 - 50m:	8 m
Intercept of EDL 50 - 100m:	13 m
Measured crown cover % of EDL 0 - 100m:	21%
Structural formation	Woodland

Conclusions/notes:
 Slope 17%
 Several dead T1 trees (drought / fire)
 Bitterlich count mid-transect = 12

END

Request for Assessment of Regional Ecosystem Map - DRAFT

SHEET G - Reference site/transect form

Location B3051901

Site No. **T6** Recorder: Day/Date: 18/10/07 16:00
 Regional ecosystem: Mapped as non-remnant. Assessed as 8 12.26 Photo 16:05 - 180°
 Locality: (Inc. distance/direction to nearest town) Adjacent to SE boundary of Lot 6/SP171809, Paluma Rd, Q / 4 km west of Cannonvale

Vegetation structure

Median height of the EDL is to be measured
 Cover density is to be estimated

Stratum	Median height	Height interval	Est. cover density (O,M,S,V)
E			
T1	17	15-20	M
T2	8	5-10	M
T3			
S1	3	2-4	V
S2			
G	1	0.5-1.5	D

Structural formation: (including height)
 Open Forest 17 m

Ecologically dominant layer:

Notes:
 Bitterlich count mid-transect = 24
 (10 mm @ 0.5 m)

Plant species

Record relative (numerical) dominance for each stratum;
 d - dominant; c - codominant; s - subdominant, a - associated.

Str.	Rel. dom.	Scientific Name
T1	d	<i>Corymbia tessellaris</i>
T1	s	<i>Eucalyptus platyphylla</i>
T1	c	<i>Corymbia intermedia</i>
T1	a	<i>Corymbia clarksoniana</i>
T2	a	<i>Pouteria servicea</i>
T2	a	<i>Alphitonia excelsa</i>
T2	c	<i>Ficus opposita</i>
T2	a	<i>Drypetes deplanchei</i>
T2	a	<i>Jagera pseudorhus</i>
T2	d	<i>Planchonia careya</i>
S1	a	<i>Clerodendrum floribundum</i>
T2	a	<i>Cupaniopsis anacardioides</i>
G	d	<i>Panicum maximum</i>
T2	a	<i>Mallotus philippensis</i>

Geology, landform, soils

Geology map/scale/year: _____
 Geology code and rock types: _____
 Land system: _____
 Landform: Lower hill slope 10% at bearing 150°
 Soils: Dark-brown clay
 Field observation and notes: _____
 Landzone: 12

Request for Assessment of Regional Ecosystem Map - DRAFT

SHEET G - Reference site/transect Form (continued)

Transect - crown cover measured (transect intercept method)

GPS coordinates:		Datum: WGS84		Transect length: 50m		Brg 190°													
Start point	Zone	5	5	E	0	6	7	4	5	7	6	N	7	7	5	6	6	8	7
End point	Zone	5	5	E	0	6	7	4	5	5	7	N	7	7	5	6	6	3	3

All heights in the "Str./height" column are to be measured

Interval (metres)	Intercept	Str./height	Summary:
0-12	12 m	T1/18	Minimum height of plants included in the transect table: T1-15 m T2-4 m
16-22	6 m	T1/17	Intercept of EDL 0 - 50m: 31 m
23-26		T2/	Intercept of EDL 50 - 100m:
26-33	7 m	T1/19	Measured crown cover % of EDL 0 - 100m: 62%
34-35		T2	Structural formation: Open Forest
35-39	4 m	T1/15	Conclusions/notes:
39-43		T2	
48-50	2 m	T1/16	

DRAFT

Prepared for:
Securcorp Limited

Regional Ecosystem Map Assessment of Lot 6 on SP171809 Mangrove Road, Paluma

Plates and Figures

ENSR Australia Pty Ltd
27 October 2008

Document No.: B3051901_QH_Application_PlatesandFigures_27Oct08.doc

Plates

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Plate P1: Looking WNW along watercourse with fringing notophyll rainforest species. RE mapping shows as RE 8.3.5 *Corymbia clarksoniana* open forest to woodland

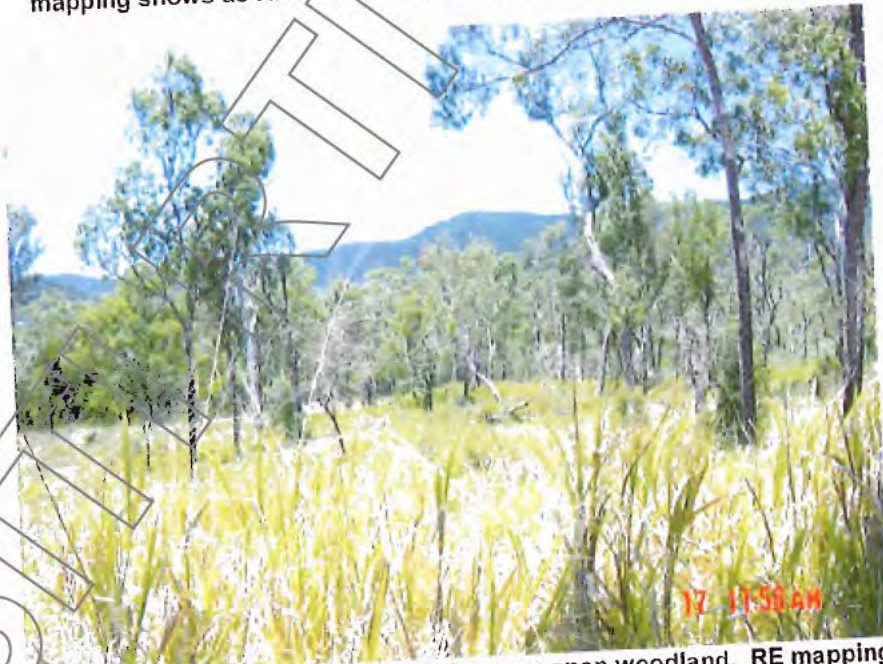


Plate P2: Looking east through semi-cleared grassy open woodland. RE mapping shows as RE 8.12.26 *Corymbia tessellaris* / *Eucalyptus tereticomis* open forest with vine thicket understorey

✓ Photo taken
1/11/08

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November 2008

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on SP17 1809 Mangrove Road Paluma
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Plate P3: Looking west through semi-cleared grassy open woodland. RE mapping shows as RE 8.12.26 *Corymbia tessellaris* | *Eucalyptus tereticornis* open forest with vine thicket understorey



Plate P4: Looking east across cleared area with Guinea grass. RE mapping shows RE 8.3.5 *Corymbia clarksoniana* open forest to woodland

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Plate P5: Looking west across cleared area with Guinea grass. RE mapping shows RE 8.3.5 *Corymbia clarksoniana* open forest to woodland.



Plate P6: Looking north-east across cleared area with Guinea grass. RE mapping shows RE 8.12.26 *Corymbia tessellaris* / *Eucalyptus tereticornis* open forest with vine thicket understorey

*on photo
17/11/08*

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Regional Ecosystem Map Assessment of Lot 6
on SP171809 Mangrove Road, Paluma

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Plate P7: View of vegetation along transect T1



Plate P8: View of vegetation along transect T6

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Plate P9: View of vegetation along transect T2



Plate P10: View of vegetation along transect T3

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Plate P11: View of vegetation along transect T4



Plate P12: View of vegetation along transect T5

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on SP171809 Mangrove Road, Paluma
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November 2008

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Figure 1 - EPA Regional Ecosystem Mapping

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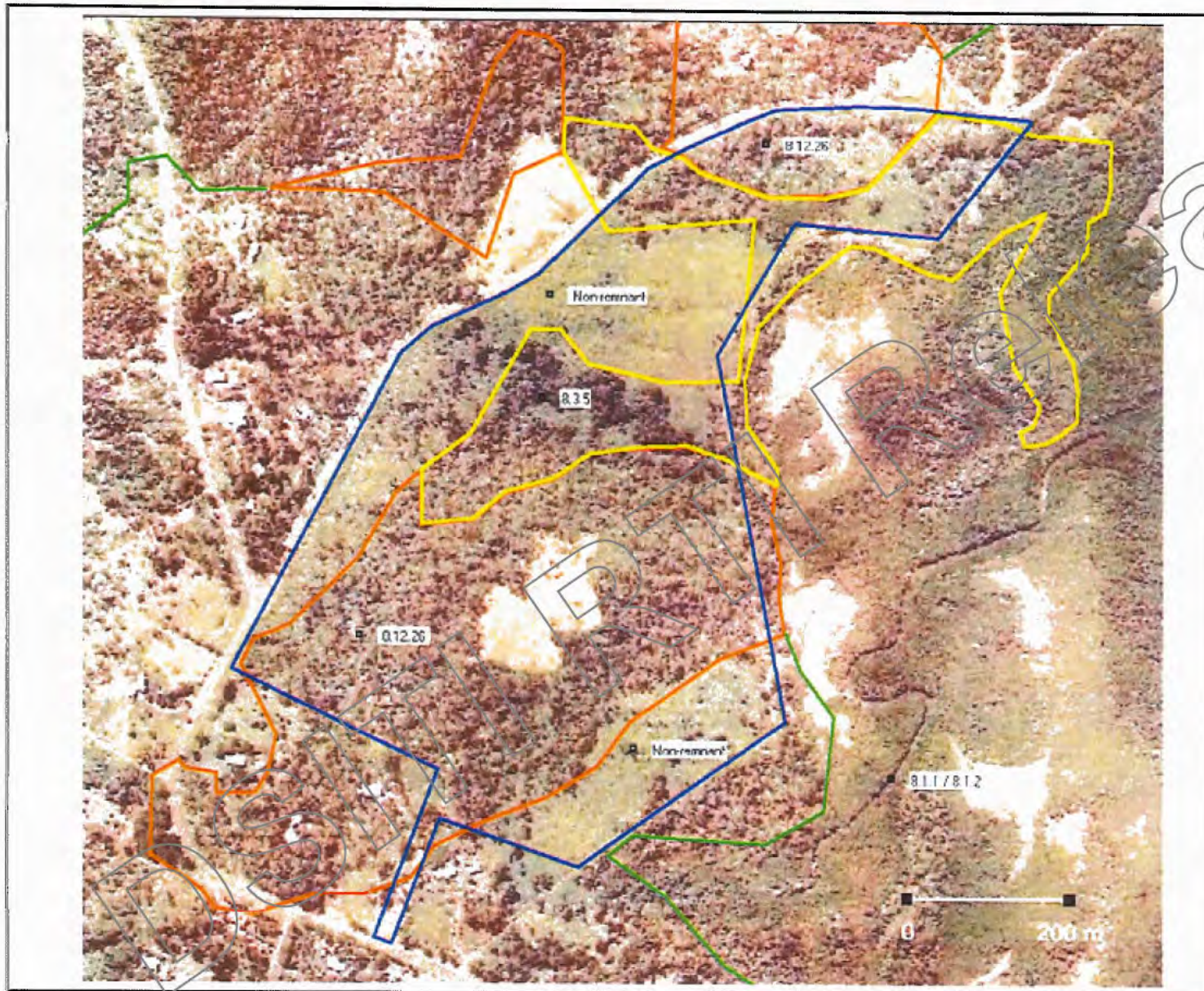
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Regional Ecosystem Map Assessment of Lot 6
on SP171809 Mangrove Road, Paluma

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B3051901

Figure 1. Aerial photo of the Site with overlay of current EPA RE mapping.

Legend

- Boundary of Lot 6/SP171809
- 2003 EPA RE Mapping
- 2003 EPA RE Mapping
- 2003 EPA RE Mapping

Drawn: GC
 Date: 27 October 2008
 Source: Based on DNRW 2004 aerial photography – Proserpine 8657, Run 10, Frame 200, 1:37,500

FIGURE

1

ENSR AECOM

Figure 2 - Field Survey Sites

DSIT RTI Release

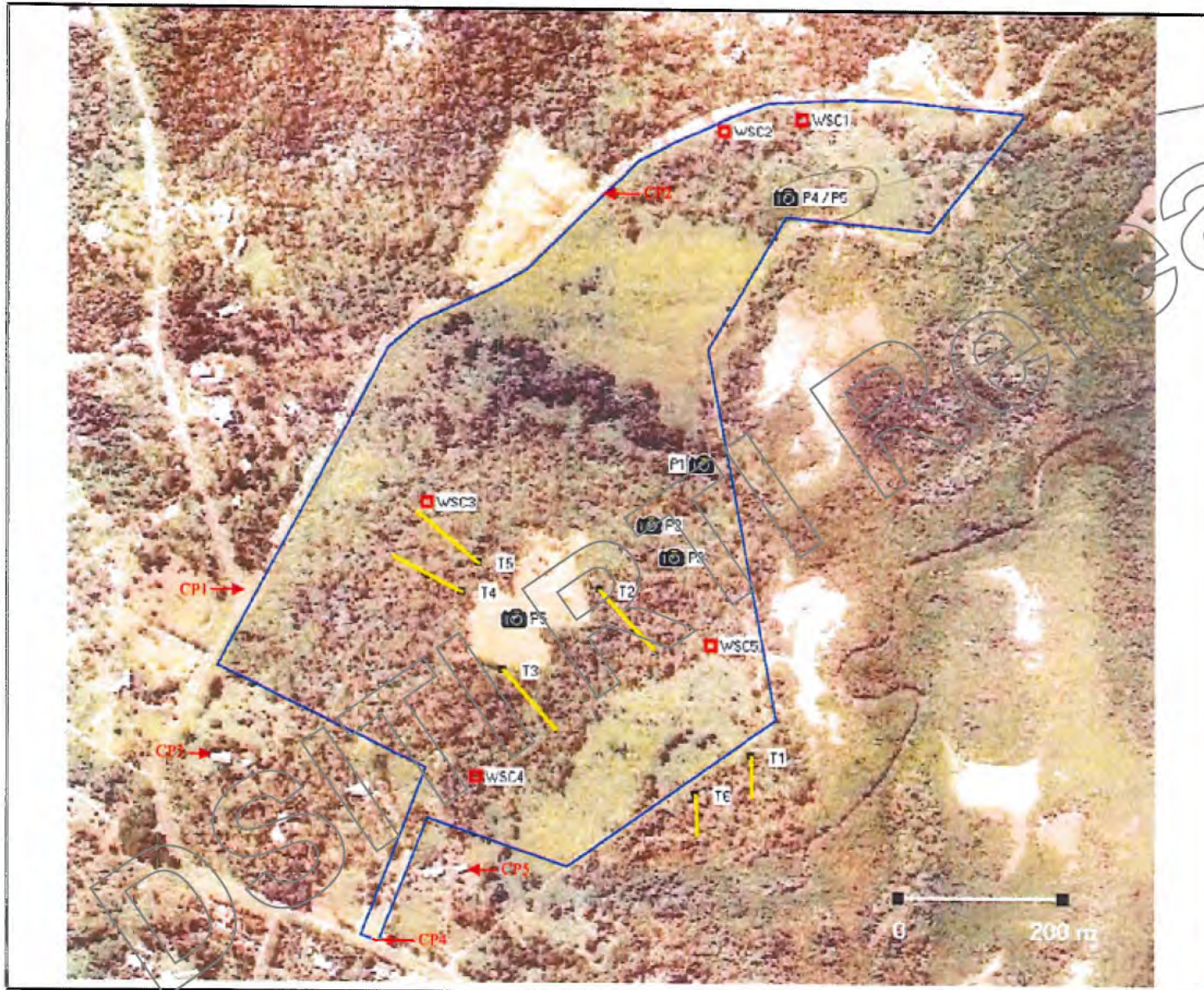
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7/16
monte alamy

North

B3051901

Figure 2. Aerial photo of the Site indicating locations of photo points, survey transects, WSC survey sites and control points

Legend

- Photo point
- Survey transects
- WSC survey site
- Control point

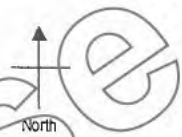
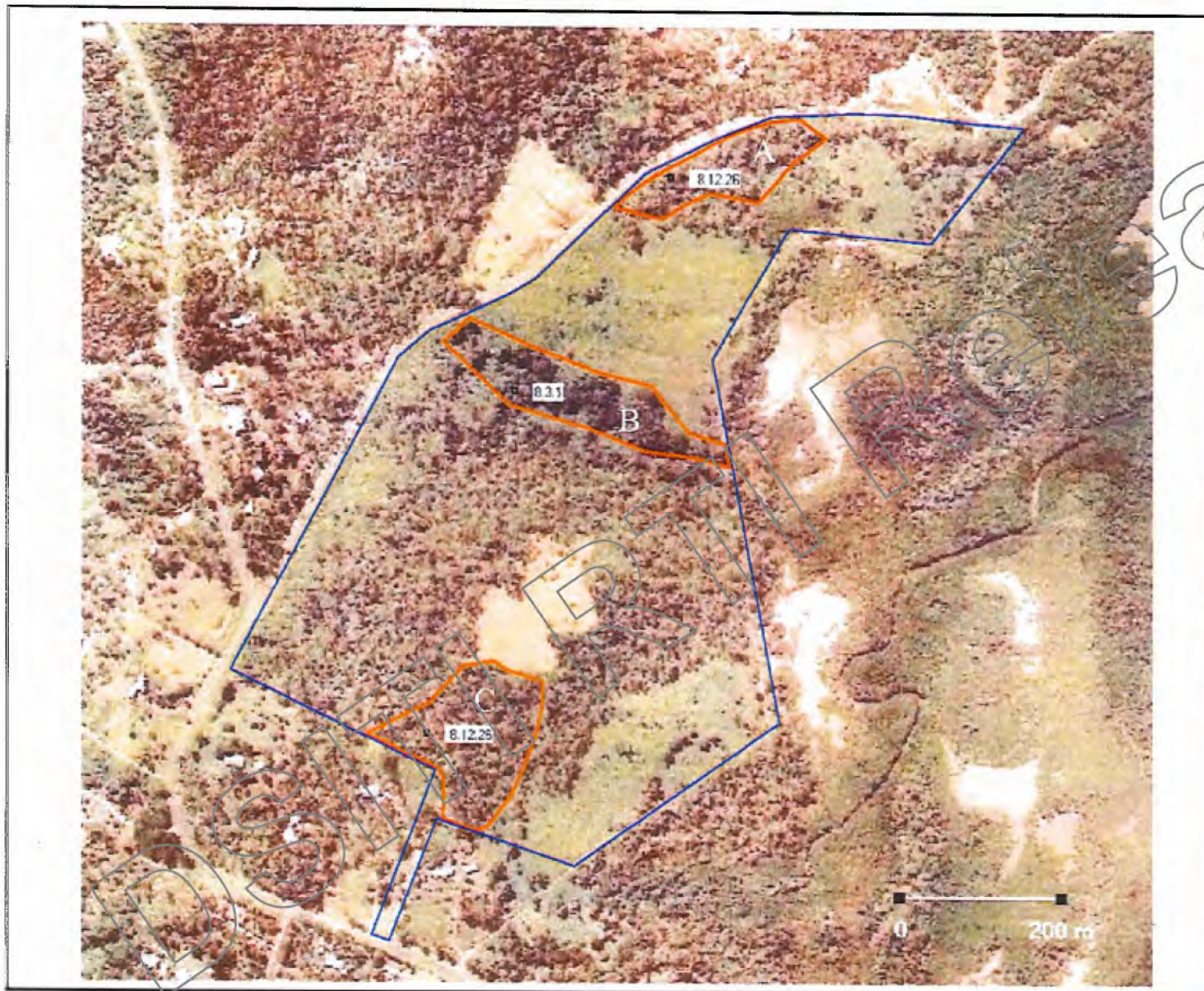
Drawn: GC
Date: 27 October 2008
Source: Based on DNRW 2004 aerial photography - Proserpine 8657, Run 10, Frame 200, 1:37,500

FIGURE
2

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Figure 3 - Proposed Remnant Mapping

DSIT RTI Release



B3051901

Figure 3. Aerial photo of the Site with proposed remnant mapping as per ENSR's QH RE map assessment request

Legend

- Lot 6 / SP171809
- Proposed remnant polygon

Drawn: GC

Date: 27 October 2008

Source: Based on DNRW 2004 aerial photography - Proserpine 8657, Run 10, Frame 200, 1:37,500

FIGURE
3

ENSR | AECOM

Joy Brushe

From: [redacted]@wsgroup.com.au]
Sent: Wednesday, 4 February 2009 4:18 PM
To: Joy Brushe
Cc: [redacted]
Subject: RE: Paluma Road, Airlie Beach

Joy,

Further to our discussions.

The weather conditions here at the moment render a site visit unlikely next week. The area will already be waterlogged and watercourses flowing and the forecast is for an increase in rain again tomorrow or Friday and possibly over the weekend. I confirm that we are tentatively booking in the 19th or 20th for the site visit. We will have a four wheel drive available.

As explained I will be [redacted] from 13 February to 21 February and I have arranged one of [redacted] to be available if weather permits the site inspection to go ahead as planned. [redacted] is fairly familiar with the area and the site.

I will get [redacted] to touch base with you by email or phone on 12 or 13 February to finalise the actual date and time for the inspection.

Regards

[redacted]
Director
WS GROUP
Proserpine
Ph: (07) 4945 1722
Fx: (07) 4945 1375
Em: [redacted]@wsgroup.com.au
Mobile: [redacted]
www.wsgroup.com.au

From: Joy Brushe [mailto:Joy.Brushe@epa.qld.gov.au]
Sent: Wednesday, 4 February 2009 3:03 PM
To: [redacted]
Subject: RE: Paluma Road, Airlie Beach

Hi [redacted]

Regarding dates for proposed site visit, the earliest I will be available is Thursday 12 February, but I would actually prefer it to be the following Thursday (19th) or Friday (20th) if possible. I can make it on the Thursday 12th or Friday 13th if the 19th and 20th are not suitable.

Regards
Joy Brushe

Joy Brushe
Senior Botanist
(Regional Ecosystem Assessment & Training)
Queensland Herbarium
Environmental Sciences Division
Environmental Protection Agency

4/02/2009

PO Box 5065
GLADSTONE QLD 4680
Phone: (07) 4971 6520
Mobile
Fax: (07) 4972 1993
<mailto:Joy.Brushe@epa.qld.gov.au>
www.epa.qld.gov.au/nature_conservation/plants/queensland_herbarium

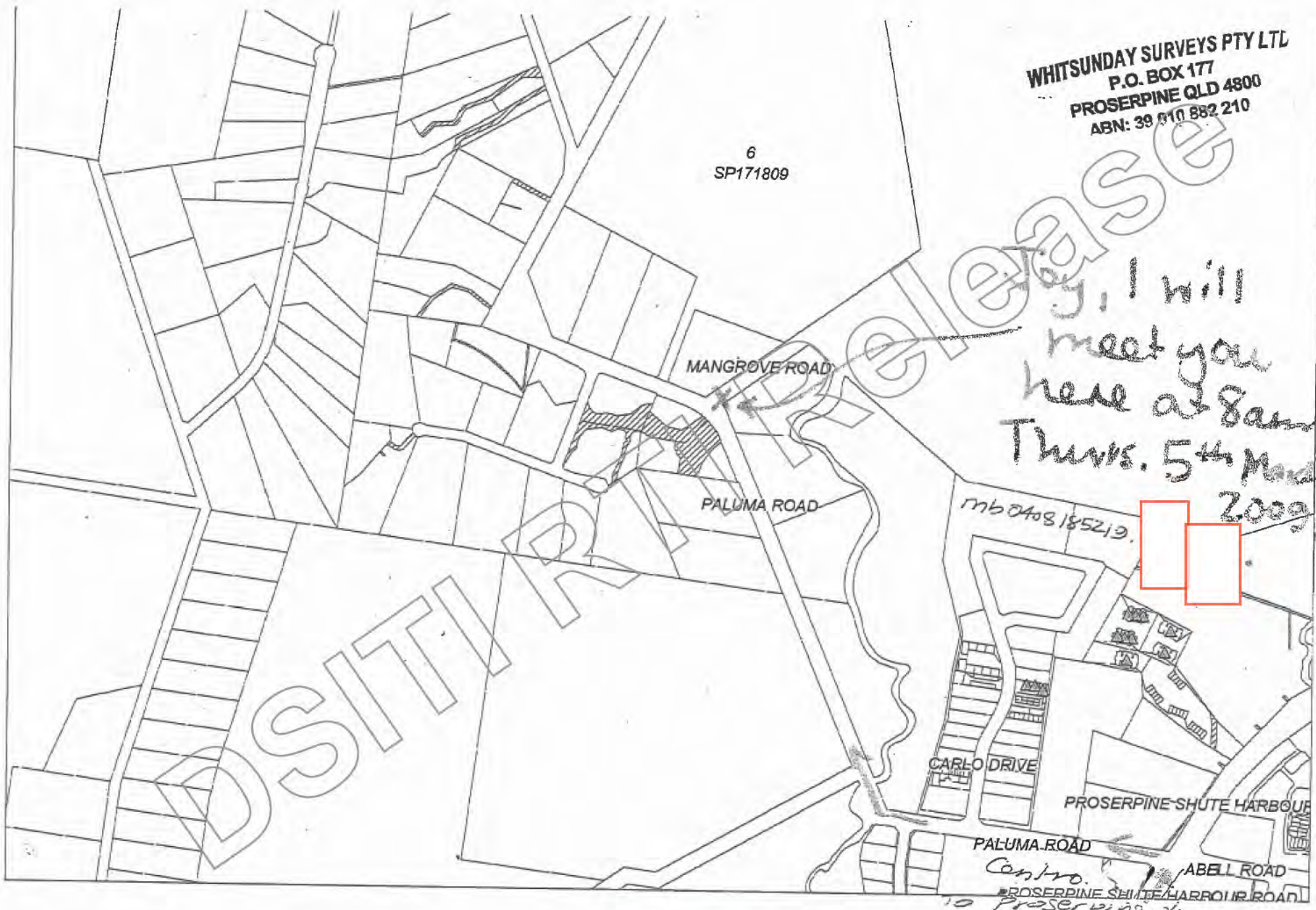
DS/TT RTI Released

4/02/2009

WHITSUNDAY SURVEYS PTY LTD
P.O. BOX 177
PROSERPINE QLD 4800
ABN: 39 010 882 210

6
SP171809

By, I will
meet you
here at 8am
Thurs. 5th Nov
2009



3305

Title	Scale	Date of Flying
8657 PROSERPINE 2013 (AIRLIE BEACH) 10CM DIGITAL AERIAL PHOTOGRAPHY	1:6000	14/09/2013
8657 ST LAWRENCE - TOWNSVILLE 50CM DIGITAL AERIAL PHOTOGRAPHY	1:30000	15/10/2009
8657 PROSERPINE 2009 50CM WHOLE OF GOVERNMENT DIGITAL AERIAL PHOTOGRAPHY	1:30000	16/06/2009
8657 ST LAWRENCE - TOWNSVILLE 2009 24CM DIGITAL AERIAL PHOTOGRAPHY	1:12000	12/06/2009
8657 PROSERPINE 2004 PROGRAM AERIAL PHOTOGRAPHY	1:37500	05/08/2004
8657 ST LAWRENCE-TOWNSVILLE 2002 PROJECT AERIAL PHOTOGRAPHY	1:50000	08/08/2003
8657 ST LAWRENCE-TOWNSVILLE 2002 PROJECT AERIAL PHOTOGRAPHY	1:12000	17/10/2002
8657 ST LAWRENCE-TOWNSVILLE 97 PROJECT AERIAL PHOTOGRAPHY	1:12000	03/11/1997
8657 PROSERPINE-WHITSUNDAY 96 PROJECT AERIAL PHOTOGRAPHY	1:10000	26/11/1996
8657 PROSERPINE-WHITSUNDAY 96 PROJECT AERIAL PHOTOGRAPHY	1:22500	26/11/1996
8657 PROSERPINE 95 PROGRAM AERIAL PHOTOGRAPHY	1:40000	24/07/1995
8657 ST LAWRENCE-TOWNSVILLE 93 PROJECT AERIAL PHOTOGRAPHY	1:12000	22/06/1993
8657 ST LAWRENCE-TOWNSVILLE 93 PROJECT AERIAL PHOTOGRAPHY	1:50000	09/06/1993
8657 ST LAWRENCE-TOWNSVILLE 91 PROJECT AERIAL PHOTOGRAPHY	1:12000	01/01/1991
8657 ST LAWRENCE-TOWNSVILLE 90 PROJECT AERIAL PHOTOGRAPHY	1:50000	29/06/1990
8657 PROSERPINE SHIRE ORTHO 88 PROJECT AERIAL PHOTOGRAPHY	1:9400	01/01/1988
8657 PROSERPINE 88 PROGRAM AERIAL PHOTOGRAPHY	1:25000	01/01/1988
8657 PROSERPINE SHIRE 88 PROJECT AERIAL PHOTOGRAPHY	1:25000	01/01/1988
8657 ST LAWRENCE-TOWNSVILLE 85 PROJECT AERIAL PHOTOGRAPHY	1:12000	01/01/1985
8657 ST LAWRENCE-TOWNSVILLE 85 PROJECT AERIAL PHOTOGRAPHY	1:50000	01/01/1985
8657 PROSERPINE 83 PROGRAM AERIAL PHOTOGRAPHY	1:25000	01/01/1983
8657 ST LAWRENCE-TOWNSVILLE 81 PROJECT AERIAL PHOTOGRAPHY	1:12000	01/01/1981
8657 PROSERPINE-SHUTE HARBOUR 79 PROJECT AERIAL PHOTOGRAPHY	1:19700	01/01/1979
8657 ST LAWRENCE-TOWNSVILLE 77 PROJECT AERIAL PHOTOGRAPHY	1:12000	01/01/1978
8657 PROSERPINE 75 PROGRAM AERIAL PHOTOGRAPHY	1:30000	01/08/1975
8657 ST LAWRENCE-TOWNSVILLE 74 PROJECT AERIAL PHOTOGRAPHY	1:12000	01/06/1974
8657 MACKAY REGIONAL STUDY 70 PROJECT AERIAL PHOTOGRAPHY	1:23900	01/01/1970
8657 PROSERPINE 60 PROGRAM AERIAL PHOTOGRAPHY	1:21800	01/01/1960
16-5 8657 PROSERPINE-LINDEMAN ISLANDS 45 PROJECT AERIAL PHOTOGRAPHY 2/5022	1:33700	01/01/1945
Total: 29		

Orthophoto Projects

Project Name	Date	Provider	Licence
Proserpine_2004_60cm_3_865 7	05/08/2004		

Satellite Projects

Project Name	Date	Provider	Licence
CENTRAL QUEENSLAND COASTAL 2013	20/08/2013	AAM Pty Ltd	UNRESTRICTED (SISP FUNDED)
BOWEN BASIN 70CM 2012	20/07/2012	FUGRO SPATIAL SOLUTIONS PTY LTD	UNRESTRICTED (SISP FUNDED)
LANDSAT 2010	07/02/2010	ACRES	DNRM INTERNAL
AIRLIE BEACH 2009	16/06/2009	AAM HATCH	INTERNAL USE ONLY (ALL SISP MEMBERS)
SPOTMAPS	01/06/2009	SPOT IMAGE	WHOLE OF GOVERNMENT
LANDSAT 2009	30/04/2009	ACRES	DNRM INTERNAL
LANDSAT 2008	01/01/2008	ACRES	DNRM INTERNAL
LANDSAT 2007	01/01/2007	ACRES	DNRM INTERNAL
LANDSAT 2006	01/01/2006	ACRES	DNRM INTERNAL
BURDEKIN SPOT	14/05/2005	RAYTHEON	WHOLE OF GOVERNMENT
LANDSAT 2005	01/01/2005	ACRES	DNRM INTERNAL
LANDSAT 2004	01/01/2004	ACRES	DNRM INTERNAL
LANDSAT 2003	01/01/2003	ACRES	DNRM INTERNAL
LANDSAT 2002	01/01/2002	ACRES	DNRM INTERNAL
LANDSAT 2001	01/01/2001	ACRES	DNRM INTERNAL
LANDSAT 2000	01/01/2000	ACRES	DNRM INTERNAL
LANDSAT 1999	01/01/1999	ACRES	DNRM INTERNAL
LANDSAT 1998	01/01/1998	ACRES	DNRM INTERNAL
LANDSAT 1997	01/01/1997	ACRES	DNRM INTERNAL
LANDSAT 1996	01/01/1996	ACRES	DNRM INTERNAL
LANDSAT 1995	01/01/1995	ACRES	DNRM INTERNAL
LANDSAT 1994	01/01/1994	ACRES	DNRM INTERNAL
LANDSAT 1993	01/01/1993	ACRES	DNRM INTERNAL
LANDSAT 1992	01/01/1992	ACRES	DNRM INTERNAL
LANDSAT 1991	01/01/1991	ACRES	DNRM INTERNAL
LANDSAT 1990	01/01/1990	ACRES	DNRM INTERNAL
LANDSAT 1989	26/04/1989	ACRES	DNRM INTERNAL
LANDSAT 1988	06/04/1988	ACRES	DNRM INTERNAL
LANDSAT 1987	12/07/1987	ACRES	DNRM INTERNAL
Total: 30			

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Aerial Photography Frames Listing - 5 Records

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Film	Frame	Negative	Scale	Date of Flying	Resolution (dpi)	Imaged
QAP2872	94	Colour	1:12000	01/06/1974	0	No
QAP2872	95	Colour	1:12000	01/06/1974	0	No
QAP2872	96	Colour	1:12000	01/06/1974	0	No
QAP2879	56	Colour	1:12000	01/06/1974	0	No
QAP2879	57	Colour	1:12000	01/06/1974	0	No

Aerial Photography Frame Details

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[Email Enquiry](#)

Aerial Photograph Information

Photo Title	8657 ST LAWRENCE-TOWNSVILLE 74 PROJECT AERIAL PHOTOGRAPHY		
Film No	QAP2879		
Frame No	56	Run No	44
Key Diagram	8657J2	Storage	E-6
Resolution	0dpi	Scale	1:12000
Negative	Colour	Format	
Flying Height	8000ft	Datum Height	0ft
Date of Flying	01/06/1974	Focal Length	152mm

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Film	Frame	Negative	Scale	Date of Flying	Resolution (dpi)	Imaged
QAP4470	176	Colour	1:12000	01/06/1985	0	No
QAP4470	177	Colour	1:12000	01/06/1985	0	No
QAP4470	179	Colour	1:12000	01/06/1985	0	No
QAP4470	180	Colour	1:12000	01/06/1985	0	No
QAP4470	181	Colour	1:12000	01/06/1985	0	No

Aerial Photography Frame Details

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Aerial Photograph Information

Photo Title	8657 ST LAWRENCE-TOWNSVILLE 85 PROJECT AERIAL PHOTOGRAPHY		
Film No	QAP4470		
Frame No	180	Run No	45
Key Diagram	8657J7	Storage	52-5
Resolution	0dpi	Scale	1:12000
Negative	Colour	Format	
Flying Height	1830m	Datum Height	0m
Date of Flying	01/06/1985	Focal Length	152mm

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Aerial Photography Frames Listing - 8 Records

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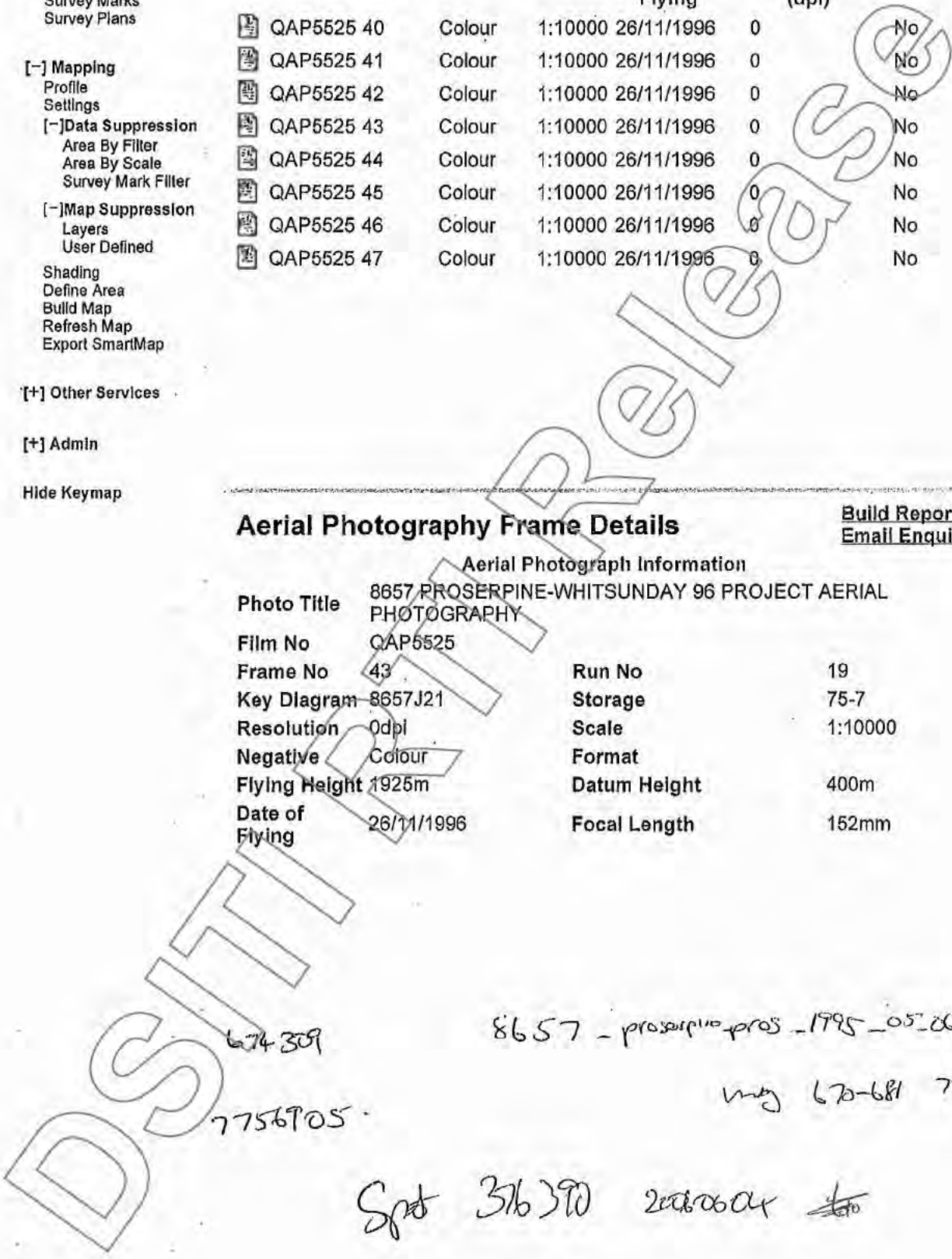
Film	Frame	Negative	Scale	Date of Flying	Resolution (dpi)	Imaged
QAP5525 40	40	Colour	1:10000	26/11/1996	0	No
QAP5525 41	41	Colour	1:10000	26/11/1996	0	No
QAP5525 42	42	Colour	1:10000	26/11/1996	0	No
QAP5525 43	43	Colour	1:10000	26/11/1996	0	No
QAP5525 44	44	Colour	1:10000	26/11/1996	0	No
QAP5525 45	45	Colour	1:10000	26/11/1996	0	No
QAP5525 46	46	Colour	1:10000	26/11/1996	0	No
QAP5525 47	47	Colour	1:10000	26/11/1996	0	No

Aerial Photography Frame Details

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Aerial Photograph Information

Photo Title	8657 PROSERPINE-WHITSUNDAY 96 PROJECT AERIAL PHOTOGRAPHY		
Film No	QAP5525		
Frame No	43	Run No	19
Key Diagram	8657J21	Storage	75-7
Resolution	0dpi	Scale	1:10000
Negative	Colour	Format	
Flying Height	1925m	Datum Height	400m
Date of Flying	26/11/1996	Focal Length	152mm



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8657 - proserpine - pros - 1995 - 05 - 05

7756705

img 670-681 7756-777

Spt 316390 20080604

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Aerial Photography Frames Listing - 7 Records

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Film	Frame	Negative	Scale	Date of Flying	Resolution (dpi)	Imaged
QAP5617	261	Colour	1:12000	09/06/1998	300	Yes
QAP5617	261	Colour	1:12000	09/06/1998	75	Yes
QAP5617	262	Colour	1:12000	09/06/1998	0	No
QAP5612	154	Colour	1:12000	22/05/1998	0	No
QAP5612	155	Colour	1:12000	22/05/1998	75	Yes
QAP5612	155	Colour	1:12000	22/05/1998	300	Yes
QAP5612	156	Colour	1:12000	22/05/1998	0	No

Aerial Photography Frame Details

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Aerial Photograph Information

Photo Title	8657 ST LAWRENCE-TOWNSVILLE 97 PROJECT AERIAL PHOTOGRAPHY		
Film No	QAP5612	Run No	44
Frame No	155	Storage	64-4
Key Diagram	8657J23	Scale	1:12000
Resolution	75dpi	Format	JPG
Negative	Colour	Datum Height	0m
Flying Height	1830m	Focal Length	152mm
Date of Flying	22/05/1998		

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LONGITUDE: 148.66912
LATITUDE: -20.27773
SEARCH RADIUS: 1 km

25k	8657-31_cannonvale_2004.img	670-683,7746-7770,MGA55
5k	8657-3141_2004.jpg	673-676,7756-7760,MGA55
5k	8657-3142_2004.jpg	673-676,7753-7757,MGA55
8657_proserpine	pros_1995_05_065.img	670-681,7756-7767,MGA55
spot	376390_20060604.img	610-683,7750-7822,MGA55

5k 8657-3141_2004.jpg 673-676,7756-7760,MGA55 (16 Mbyte)
WORLDFILE

5k 8657-3142_2004.jpg 673-676,7753-7757,MGA55 (16 Mbyte)
WORLDFILE

8657_proserpine pros_1995_05_065.img 670-681,7756-7767,MGA55 (21 Mbyte)

IMAGERY SEARCH HOME PAGE

MAP MODIFICATION REQUEST ASSESSMENT NOTES

Map Modification Job No. _____

Officer: Joy Brushe _____

Satellite imagery										Spot 04-06
84	88	91	95	97	99	00	01	03	04	05

Cleared prior to 1974

(08) (07)

Aerial photography - refer to photocopies & overlays

air photos do not show evidence of clearing at T₁, T₂ & T₃, T₄

CORVEG Sites

Quaternary sites

Geology

Land systems & soils

- Rv - LZ12
- Dn - alluvial quaternary beachplains of Marine sediments.
- Mo - Land zone 12
- Et - Faceted LZ12.
- Mg = Mangroves

m = Mountain LZ12

RE mapping

- 8.12.26 - Tassalor E forest ± RF spp understory
- 8.3.5 - C. Clark. ± (L. Smao, E. platy, C. Dallas, B. deep, Livest decors, malaroid) S = Pl orange, Alph exes, Glac lobes, Acac lepta
- 8.3.1 - RF
- 8.12.18 - RF palmif
- 8.12.19 - fringing. Mals / Casuarina
- 8.3.3a
- 8.12.11a - hoop pine rf

Mapping has been updated since 2003 release

Property visit - Refer to field notes

Additional info

Reference sites:

CORVEG	Pres 168	area = 97.4 ha	ht = 16-20m (ao = 18m)
Other site data	Pres 175	area = 78 ha	ht = 5-7m Non REM
Air photo	Pres 183	area = 84.4 ha	ht = 8-26m (ao 20)
Regrowth spreadsheet	Pres 206	area = 144 ha	ht = 15-22m (ao 20)

GPS ID	VEGETATION & NOTES
37	Hill slope E platy, coryt85 E test Pennata Hill slope
38	Rem of in gullies
39	Rem of - much of this area is remnant
40	disturb. human's basic infrastructure on largest blocks
41	non rem on both side ~ 200m here.
42	dist. tow (no rem) E test E test E platy Hill slope
43	not allow. on Rd. & h.w. Many low allow further off
44	Rem of to N. closed to S (Botanica estab)
45	tow narrow remnant E test Coryt85 E test spp + pinnae
46	Hill slope (all along Rd) E test E test E platy
47	erectile at road slope
48	not allowed as noted.
49	- Some grass 3m tall closed area
50	Some rock on surface - 3m tall
51	greenous
52	edge of cleared area E test dom
53	edge of cleared area
54	H
55	H
56	H212 here Herb to SW is rippling - part of
57	tree dead grassy area here or not
58	tree dead more severe here - ? drought responsible
59	No sub-sustainable ref sites due to disturbance
60	+ dead
61	Some of photo taken locally 3 to adjacent site. ^{Sequoa} taken SE to SW

Look ran from here

Case transect data 3305

Request for Assessment of Regional Ecosystem Map - DRAFT

SHEET D - Site/transect form Vegetation structure - crown cover measured

Location

Site No. 3305 Recorder: Jay Bruste Day/Date: 5/3/09
 Purpose Parramatta Shire - IFA No 3305
 Locality: (Inc. distance/direction to nearest town) _____

Vegetation structure

Median height of EDL is to be measured
 Cover density is to be estimated

Plant species

Record relative (numerical) dominance for each stratum;
 d - dominant; c - codominant; s - subdominant; a - associated.

Stratum	Median height	Height interval	Est. cover density (D,M,S,V)	Str.	Rel. dom.	Scientific Name
E		-		T ₁	D	Cory ass.
T1	15-20	15 - 25	VS			Eucalyptus
T2	5	3 - 6	VS			Eucalyptus
T3		-				Cory clark.
S1		-				Eucalyptus
S2		-		T ₂	D	Rf species
G	2-5	2 - 3	D	S	S	Plum corey
Structural formation including height: (estimated) <u>Open Woodland,</u>						
Ecologically dominant layer: <u>T₁</u>						
G D Guinea Grass (Megastylis) other weeds also present.						

Transect - crown cover measured (transect intercept method)

GPS coordinates: _____ Datum: _____ Transect length: _____

Start point	Zone	E	0				N			
	Zone	E	0				N			
End point	Zone	E	0				N			
	Zone	E	0				N			

See overlaid number on transects measured.

Summary:	
Minimum height of plants included in the transect table:	
Intercept of EDL 0-50m:	Reference covers = <u>35.4</u> , <u>27.4</u> m Average = <u>31.4</u>
Intercept of EDL 50-100m:	
Intercept of EDL 100-150m:	
Intercept of EDL 150-200m:	average = <u>27.3</u>
Measured crown cover % of EDL 0-100m (each 50m) =	<u>0</u> , <u>39.6</u> , <u>31.0</u> , <u>25.2</u> , <u>11.4</u> , <u>4.2</u> , <u>31.4</u>
Structural formation	<u>15.6</u> , <u>37.8</u> , <u>30.6</u> , <u>42.8</u> , <u>21.2</u>
Conclusions/notes:	<u>Hill slopes on LZ12</u> <u>quite a lot of dead trees present. Most immature Eucalyptus were dead.</u>

Overall average from assessment areas = 27.3%
 20. ref area = 31.4%

Request for Assessment of Regional Ecosystem Map - DRAFT

TRANSECT 3				
	Interval (metres)	Intercept	Str.	Height
Site 59 = 0m	15.9 - 23.7	7.8 m	T ₁	5.6
	<u>38.7m</u>	m	T ₁	<u>5.1</u>
Site 60 = 50m	16.4 - 17.9	1.5 m	T ₁	
	26.0 - 36.4	10.4 m	T ₁ x 2	37.8
	39.3 - 46.3	7.0 m	T ₁	
Site 61 = 100m	11.1 - 16.7	5.6 m	T ₁	30.6
	32.9 - 42.6	9.7 m	T ₁	
	<u>4.8m</u>	m	T ₁	<u>dead</u>
Site 62 = 150m		m		
	<u>20.8 - 2.1</u>	m		
TRANSECT 4				
Site 65 = 0m	11.7 - 16.8	5.1 m	T ₁	
	26.9 - 35.7	8.8 m	T ₁	42.8
	38.5 - 46.0	7.5 m	T ₁	
Site 66 = 50m	9.6 - 15.0	5.4 m	T ₁	21.2
	22.4 - 32.6	5.2 m	T ₁	
Site 67 = 100m		m		
	<u>32.1</u>	m		
TRANSECT 5 - Reference				
Site 73 = 0m	0 - 2.8	2.8 m	T ₁	
	8.1	m	T ₁	<u>dead</u>
	<u>9.1</u>	m		<u>dead</u>
	21.5 - 34.0	12.5 m		
	45.6 - 48.0	2.4 m		
Site 74 = 50m		m		
Site 75 = 0m	11.4 - 25.1	13.7 m		4.6
	<u>12.0</u>	m		
	<u>28.0</u>	m		<u>dead</u>
	<u>31.4</u>	m	T ₁	
	<u>4.0</u>	m	T ₁	

TRANSECT 1				
	Interval (metres)	Intercept	Str.	Height
Site 50 = 0m		m	No trees	T ₁
Site 51 = 50m		m	leaves	5.50m
Site 52 = 100m	1.0 - 12.0	12.4m	T ₁ x 2	39.1
	23.8 - 32.6	8.8 m	T ₁	
Site 53 = 150m		m		
	12.4 - 20.3	7.9 m	T ₁	
	34.0 - 38.6	4.6 m	T ₁	31.5
	47.0 - 50.0	3.0 m	T ₁	
		m		
	0 - 3.2	3.2m	T ₁	<u>6.1</u>
	<u>5.0</u>	m	T ₁	<u>dead</u>
	<u>7.0</u>	m	T ₁	<u>dead</u>
	10.3 - 13.7	3.4m		25.2
	33.7 - 39.7	6.0m		24.1
		m		
TRANSECT 2				
Site 58 = 0m		m		
	<u>6.0</u>	m	T ₁	<u>dead</u>
	30.6 - 36.3	5.7 m	T ₁	11.4
	<u>47.0</u>	m	T ₁	<u>dead</u>
		m		
	6.6 - 15.9	9.3m	T ₁ x 2	
	32.9 - 44.2	11.3 m	T ₁	41.2
		m		
Site 56 = 50m	2.2 - 8.8	6.6m	T ₁	
	8.9 - 12.6	3.7m	T ₁	31.4
	<u>16.0</u>	m	T ₁	<u>dead</u>
	22.0 - 27.4	5.4 m		
	<u>32.0</u>	m	T ₁	<u>dead</u>
	<u>40.8</u>	m	T ₁	<u>dead</u>
Site 55 = 150m		m		
		m		
		m		
		m		
		m		
		m		
		m		
		m		

END

Site 56 - photos taken of queue grass as well as transect photos

Dead trees - ? dead for quite a long time
 - No evidence of recent hot fire

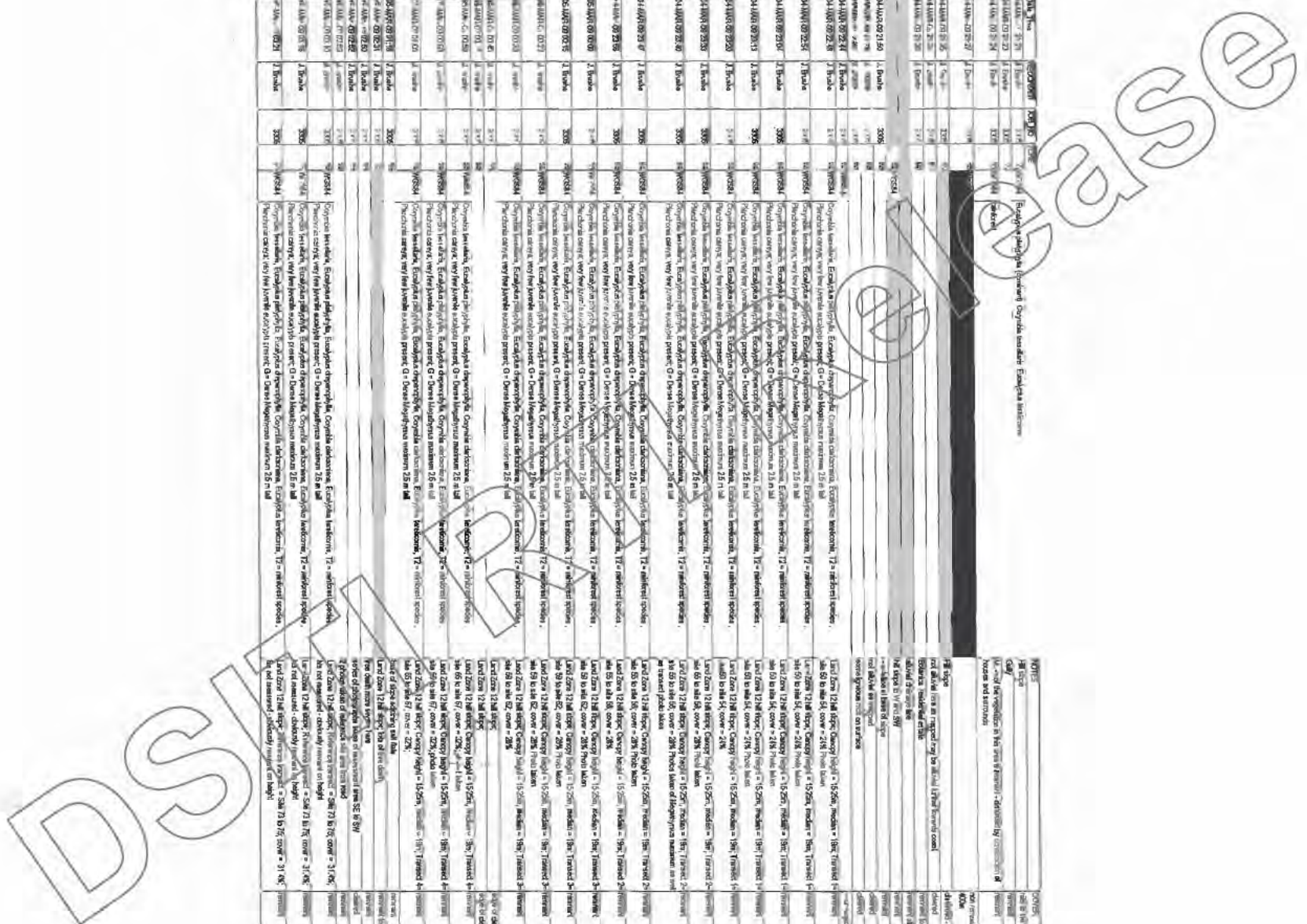
Very few juvenile eucalypts - ? young grass present

very dense + much covers ground

EPA - Queensland Herbarium
 Request for assessment of RE map - ver.

RTI page No. 40

Sl. No.	Year	Particulars	Amount	Balance	Remarks
1	1951	...	...	...	...
2	1952	...	...	...	...
3	1953	...	...	...	...
4	1954	...	...	...	...
5	1955	...	...	...	...
6	1956	...	...	...	...
7	1957	...	...	...	...
8	1958	...	...	...	...
9	1959	...	...	...	...
10	1960	...	...	...	...
11	1961	...	...	...	...
12	1962	...	...	...	...
13	1963	...	...	...	...
14	1964	...	...	...	...
15	1965	...	...	...	...
16	1966	...	...	...	...
17	1967	...	...	...	...
18	1968	...	...	...	...
19	1969	...	...	...	...
20	1970	...	...	...	...
21	1971	...	...	...	...
22	1972	...	...	...	...
23	1973	...	...	...	...
24	1974	...	...	...	...
25	1975	...	...	...	...
26	1976	...	...	...	...
27	1977	...	...	...	...
28	1978	...	...	...	...
29	1979	...	...	...	...
30	1980	...	...	...	...
31	1981	...	...	...	...
32	1982	...	...	...	...
33	1983	...	...	...	...
34	1984	...	...	...	...
35	1985	...	...	...	...
36	1986	...	...	...	...
37	1987	...	...	...	...
38	1988	...	...	...	...
39	1989	...	...	...	...
40	1990	...	...	...	...
41	1991	...	...	...	...
42	1992	...	...	...	...
43	1993	...	...	...	...
44	1994	...	...	...	...
45	1995	...	...	...	...
46	1996	...	...	...	...
47	1997	...	...	...	...
48	1998	...	...	...	...
49	1999	...	...	...	...
50	2000	...	...	...	...
51	2001	...	...	...	...
52	2002	...	...	...	...
53	2003	...	...	...	...
54	2004	...	...	...	...
55	2005	...	...	...	...
56	2006	...	...	...	...
57	2007	...	...	...	...
58	2008	...	...	...	...
59	2009	...	...	...	...
60	2010	...	...	...	...
61	2011	...	...	...	...
62	2012	...	...	...	...
63	2013	...	...	...	...
64	2014	...	...	...	...
65	2015	...	...	...	...
66	2016	...	...	...	...
67	2017	...	...	...	...
68	2018	...	...	...	...
69	2019	...	...	...	...
70	2020	...	...	...	...
71	2021	...	...	...	...
72	2022	...	...	...	...
73	2023	...	...	...	...
74	2024	...	...	...	...
75	2025	...	...	...	...
76	2026	...	...	...	...
77	2027	...	...	...	...
78	2028	...	...	...	...
79	2029	...	...	...	...
80	2030	...	...	...	...





Remnant 2003 Regional Ecosystems

Lot/plan: 6 SP171809
Plotted: 05-NOV-2008

Job Number: 3305



Queensland Government

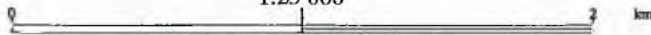
- DCDB (Approximation) CORVEG Site
- Selected DCDB (Approximation)
- Quaternary Site

Reference point

 X = 674464.4
 Y = 7757038.3

Compiled by the Queensland Herbarium,
EPA at a scale of 1:100,000

1:25 000

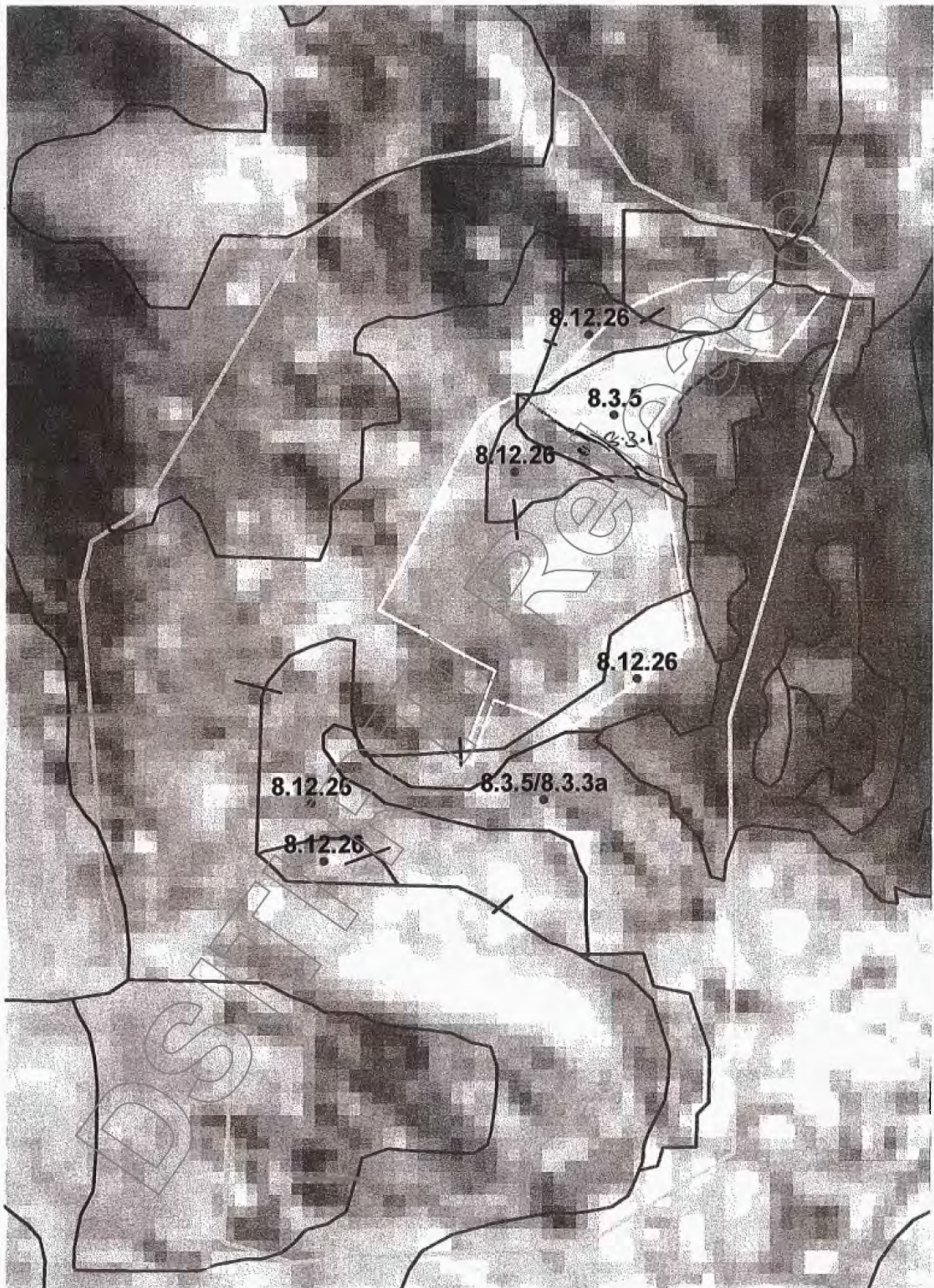


Projection: UTM Zone 55 - Horizontal Datum: GDA94





Remnant
edits 3305



3305 Preclear changes

DSIT

QASCPHOTO

5.00" ANGL

31442

3144

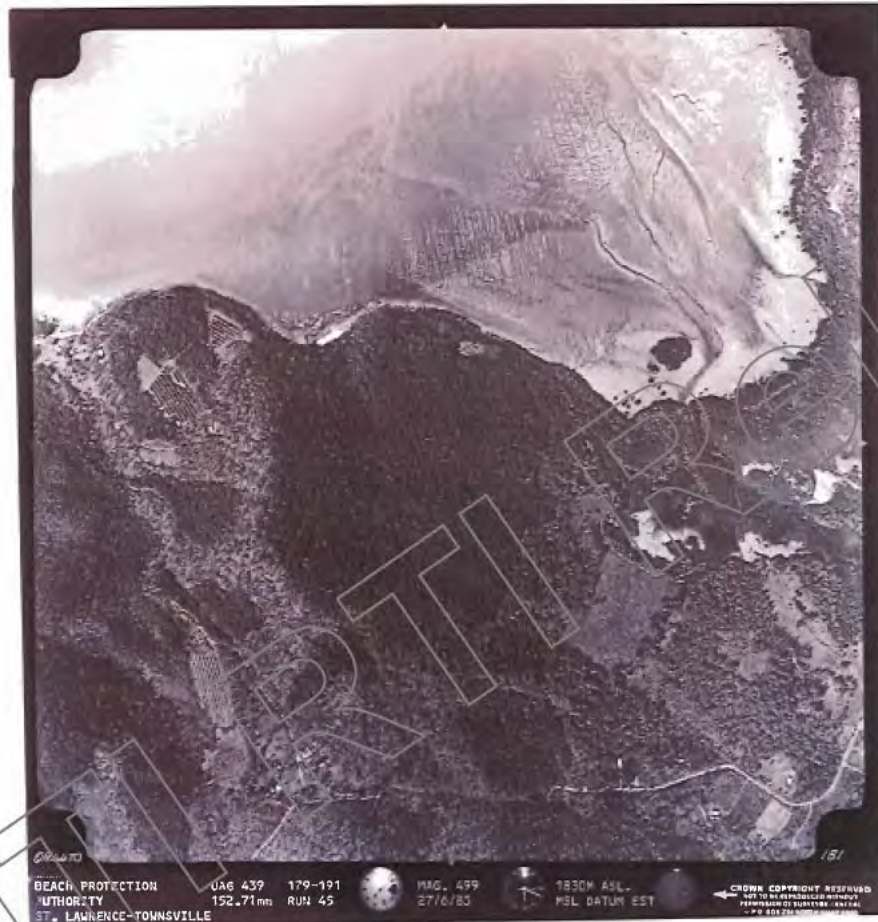
ST. LAURENCE-TWINSVILLE

RUR. 44

U.T.

QASCPHOTO





BEACH PROTECTION UAG 439 179-191 MAG. 499 1850M ASL.
AUTHORITY 152.71m RUN 45 27/6/80 MSL DATUM EST
ST. LAWRENCE-TONNSVILLE

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ES&S

DSIT

REGALGASSE





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SEE BACK

Reference to Traverses and Road Section.

254' 10"

Line	Survey	Dist
1	1000	1000
2	7-45	500
3	1220	1220
4	381	381
5	1100	1100
6	300	300
7	2100	2100
8	705	705
9	780	780
10	210	210
11	758	758
12	1000	1000
13	351	351
14	421	421
15	880	880
16	1320	1320
17	2135	2135
18	320	320
19	641	641
20	900	900
21	680	680
22	700	700
23	1801	1801
24	641	641
25	661	661
26	631	631
27	244	244

Area	Acres	Owner	Notes
13v	11.35	H. W. Walker	L.O.R. 11604
15v	11.35	H. W. Walker	L.O.R. 11604

Date of Instructions 19th Feb 1903
 Date of execution of plan 2nd May 1903
 Original and Certified Copies
 Under 18744 Passed for payment (L.S. 1874)
 Sales Register 1910 Vol. 57 Page 15
 Scale 10 Chains to an Inch.

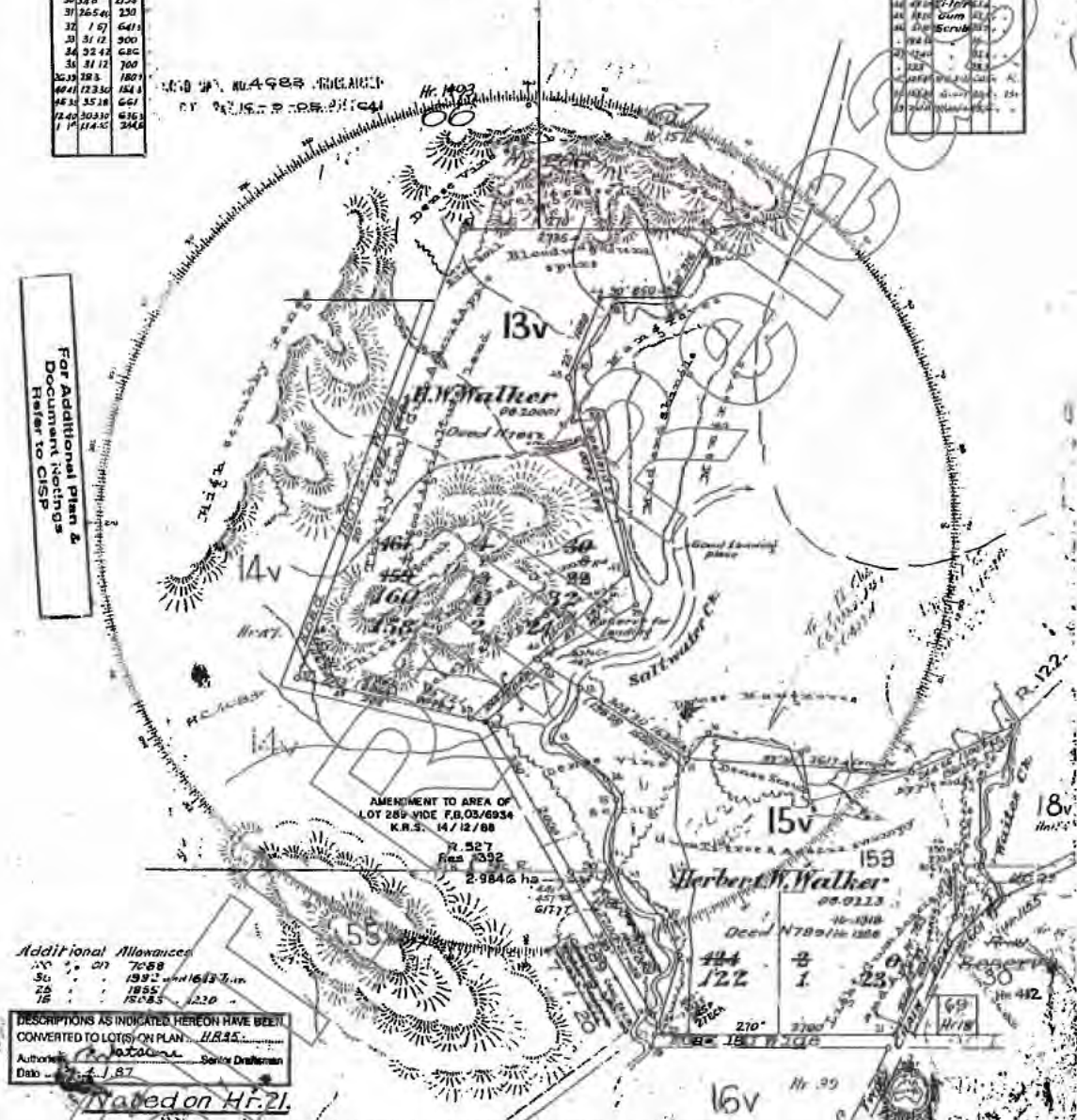
Reference to Corners.

Line	Survey	Dist
1	1000	1000
2	7-45	500
3	1220	1220
4	381	381
5	1100	1100
6	300	300
7	2100	2100
8	705	705
9	780	780
10	210	210
11	758	758
12	1000	1000
13	351	351
14	421	421
15	880	880
16	1320	1320
17	2135	2135
18	320	320
19	641	641
20	900	900
21	680	680
22	700	700
23	1801	1801
24	641	641
25	661	661
26	631	631
27	244	244



Bearing from ORI to Sta. 41, given as N4°50' by Gurr G.R. Shield, vide 55-3994 P.D.

For Additional Plans & Document Notings Refer to CISP



Additional Allowances

1/2"	271	7088
3/4"	159	1643
1"	185	1220

DESCRIPTIONS AS INDICATED HEREON HAVE BEEN CONVERTED TO LOTS ON PLAN H.R. 35.
 Author: [Signature] Surveyor
 Date: [Date] 187

Noted on H.R. 21

For Exam^r Survey of Lots See OA 11502 D.S.
 For amendment of 13v 15v Vide 05.1647 L.S.W.

Meridian Observations

Station	Time	Angle	Remarks
1	207 16 10		
2	207 17 10		
3	207 18 10		
4	207 19 10		
5	207 20 10		

NOTE: Stationing shown on lines is a triangle on road.
 Arbitrary Meridian

PLAN OF
 PLOT No 13v and 15v
 PARISH of Dryander
 County of Herbert
 Land Agent BOWEN
 District of Cat. No. 35

HR 35

Reference to Traverses and Road Sections

Traverse	From	To
15v	114.20	204.1
16	110.30	221.8
18	131	207
19	148.30	234.5
20	170	267.1
21	193	284
22	217	308
23	241	332
24	265	356
25	289	380
26	313	404
27	337	428
28	361	452
29	385	476
30	409	500
31	433	524
32	457	548
33	481	572
34	505	596
35	529	620

Particulars

No.	Description	Amount	Remarks
-----	-------------	--------	---------

ROAD PLAN No. 3975

NO. CAT. No. HR 23 PROCLAIMED
BY BAZIS 7-94... PARC

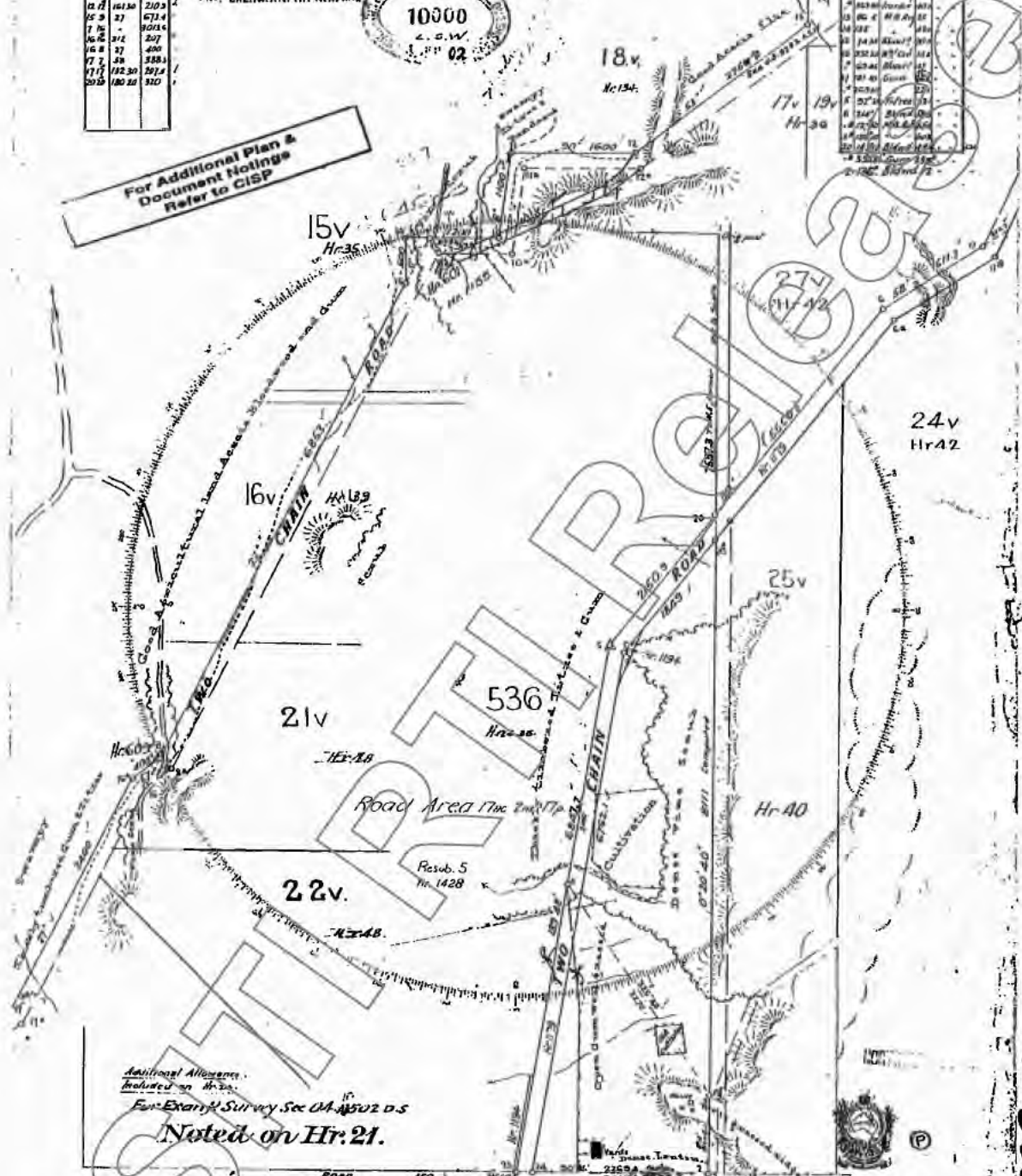


Date of Instructions 14th March 1963
Date of transmission of plan 14th April 1963
Final and complete 14th April 1963
Number of footings for payment 10000
Sales Register Vol. 10000
Scale 1/10 Chains to an Inch.

Reference to Corners

Corner	From	To
1	114.20	204.1
2	110.30	221.8
3	131	207
4	148.30	234.5
5	170	267.1
6	193	284
7	217	308
8	241	332
9	265	356
10	289	380
11	313	404
12	337	428
13	361	452
14	385	476
15	409	500
16	433	524
17	457	548
18	481	572
19	505	596
20	529	620

For Additional Plan & Document Notings Refer to CISP



Additional Allowances included on Hr. 21
For Example Survey Sec. 04-A502 D.S
Noted on Hr. 21.

I hereby certify that this plan is a true and correct copy of the original plan as shown to me and that the survey has been completed in accordance with the existing regulations of the Survey-General Department.
Fred. D. Dwyer
Road Plan 535 noted on H. 124.35.

659 Meters This Plan

No.	Description	Amount	Remarks
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
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24
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34
35

PLAN OF ROAD
Portions No. 3v to 36v (Dist. 21)
PARISH of Dryander
County of Herbert
Land of Bowen
District of Bowen
Cal. No. Hr. 23

Arbitrary Meridian

HR23

Queensland Herbarium

Brisbane Botanic Gardens Mt Coot-tha, Mt Coot-tha Road, Toowong 4066, Queensland, Australia
Telephone +61 7 3896 9326 Facsimile +61 7 3896 9624
E-mail Queensland.Herbarium@epa.qld.gov.au • www.epa.qld.gov.au

Enquiries Joy Brushe
Telephone 0749716520
Your reference Lot 6 on Plan SP171809
Our reference BR1 800146/3305

Peter Burton
Department of Natural Resources and Water
Mineral House, GPO Box 2454
BRISBANE QLD 4001

Dear Peter,

200⁶ Amendment to Proserpine RE 8657 Regional Ecosystem Map.

Queensland Herbarium staff have assessed a Regional Ecosystem Map Assessment Request submitted by Gerry Callahan of ENSR Australia Pty Ltd (PO Box 3263 North Mackay, Qld 4740). This assessment resulted in an amendment to the regional ecosystems and remnant extent on Lot 6 on Plan SP171809.

The request was to change the remnant status of most of the above property from remnant 8.12.26 to non-remnant and also to change the regional ecosystem code of the alluvial streamline in the centre of the property from 8.3.5 to 8.3.1.

1974, 1985, 1996, 1998 and 2002 aerial photographs and satellite imagery from 1984 to 2007 were examined for any evidence of clearing or significant thinning of the vegetation in the area currently mapped as remnant. As there was no conclusive evidence of thinning or clearing on the aerial photographs or imagery, a property visit was undertaken to determine the remnant status of this area.

The assessment area is located on low hilly terrain. The canopy cover of the vegetation appeared quite sparse and dead standing trees were frequent in the canopy layer. No axe marks or other evidence of selective thinning were observed on the dead standing trees. Very little eucalypt regeneration was apparent. The ground stratum was dominated by a very dense cover of *Megathyrus maximus*, 2 to 2.5 m tall.

Canopy cover was measured along 600m of transects, situated in 4 different locations within the area in question. The average canopy cover along these transects was 27.3%. The canopy cover along a 100m transect on a nearby property used as a reference site was 31.4%. The reference area also exhibited the same canopy sparseness, dead standing trees, reduced eucalypt regeneration and dense *Megathyrus maximus* infestation as did all of the areas mapped as remnant 8.12.26 in the vicinity. The reference site used by 578E was not considered to be a suitable reference site in terms of similar fire and hydrological history as it was situated on a flatter area at the base of the hill and located on the seaward side of a cleared vehicle track, adjoining mangrove and rainforest dominated vegetation.

The sparse canopy cover throughout this area is considered to be the combined result of the effects of the exotic grass and the climate and fire history of the area. Therefore the vegetation was determined as remnant and only minor changes were made to the

Centre for botanical research and information on the Queensland flora

ETHAB

29/3/09

Sent

24-3-09

remnant/non-remnant boundaries. The remnant /non-remnant boundaries were also edited beyond the property boundaries to improve the accuracy of the regional ecosystem mapping in the immediate vicinity.

Temporal variations in climatic and fire regimes can result in dynamic spatial variation in the relative extent of rainforest vs. sclerophyll dominated vegetation in the Whitsunday subregion. However, as the vegetation in the creek line in question, appeared to be dominated by rainforest species from the earliest available photographs, the regional ecosystem code of this vegetation was changed from 8.3.5 to 8.3.1 as requested. Some additional changes were made to the regional ecosystem boundaries within and in the immediate vicinity of the above property based on soils mapping, stereo-aerial photograph interpretation and field observations.

Attached are copies of the original and the updated remnant maps. The updated information will be incorporated into the next release version of the Queensland Herbarium regional ecosystem mapping. The data surrounding the certified area is 2003 mapping. The area within the certified area is 2005 mapping.

After this amendment to regional ecosystems shown on this map, the current certified regional ecosystem mapping does not change the conservation status of any regional ecosystem regulated under the *Vegetation Management Act 1999*.

I request that you certify the attached amendments to the Proserpine RE 8657 regional ecosystem map. Please forward a copy of the certified map to ENSR, and other interested parties.

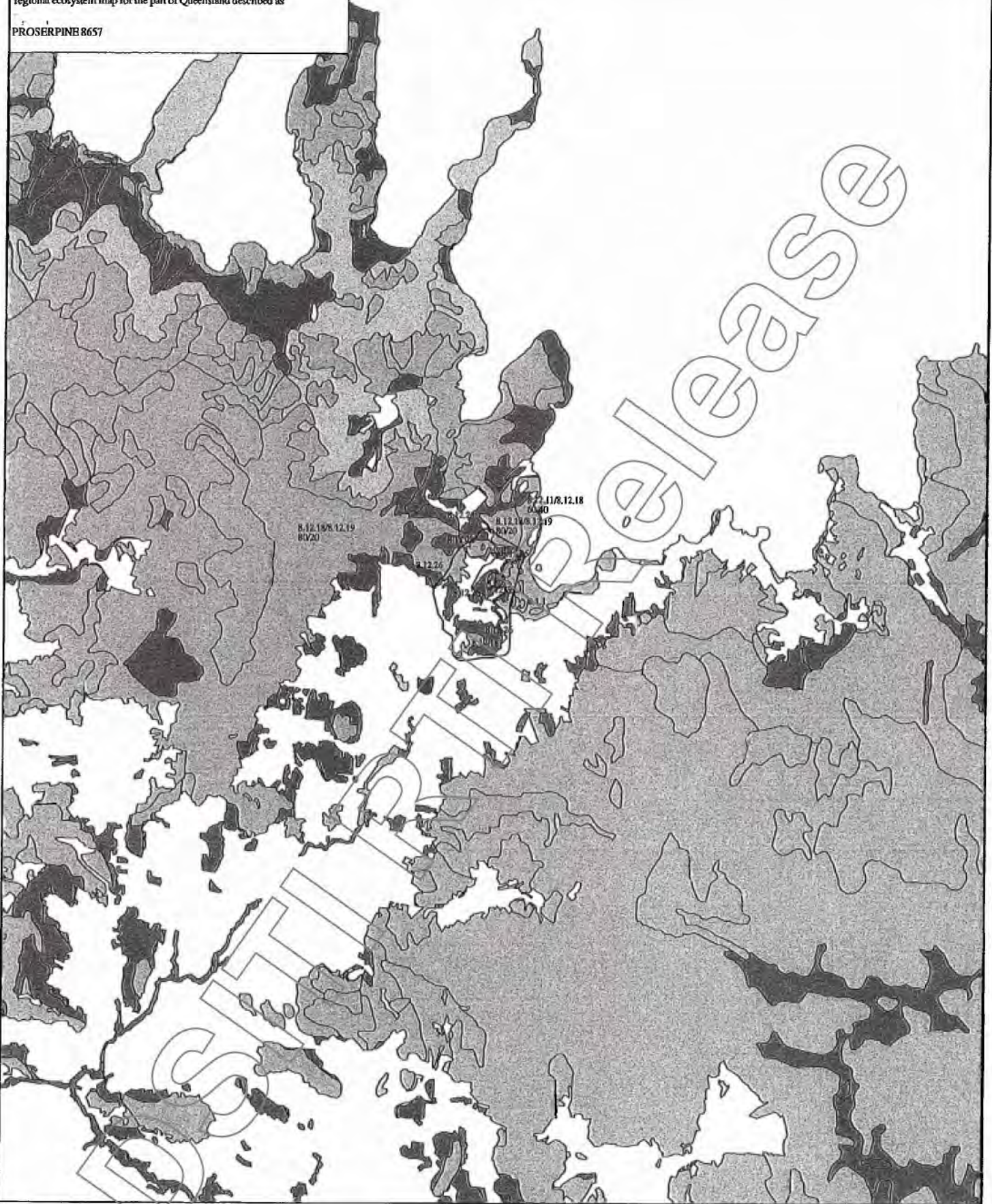
Yours sincerely

[Redacted]
[Redacted]
G.P. Guymer
Director Biodiversity Sciences
Director Queensland Herbarium

20/7/05

I, Peter Burton, the duly delegated officer of the Chief Executive of the Department of Natural Resources and Water, hereby certify that this is an amendment to the certified regional ecosystem map for the part of Queensland described as

PROSERPINB 8657



Updated Remnant 2006 Regional Ecosystems

Lot/plan: 6 SP171809
Plotted: 10-MAR-2009

Job Number: 3305

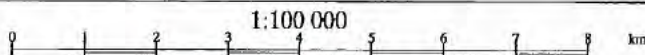


Queensland Government

- | | | | |
|---------------------------------------|---------------------------------------|---|--|
| Remnant endangered regional ecosystem | Remnant of concern regional ecosystem | Remnant not of concern regional ecosystem | Selected DCDB (Approximation) |
| Dominant | Dominant | Remnant Vegetation | Area of certified amendment Updated remnant 2006 regional ecosystem coverage |
| Sub-dominant | Sub-dominant | Water | |

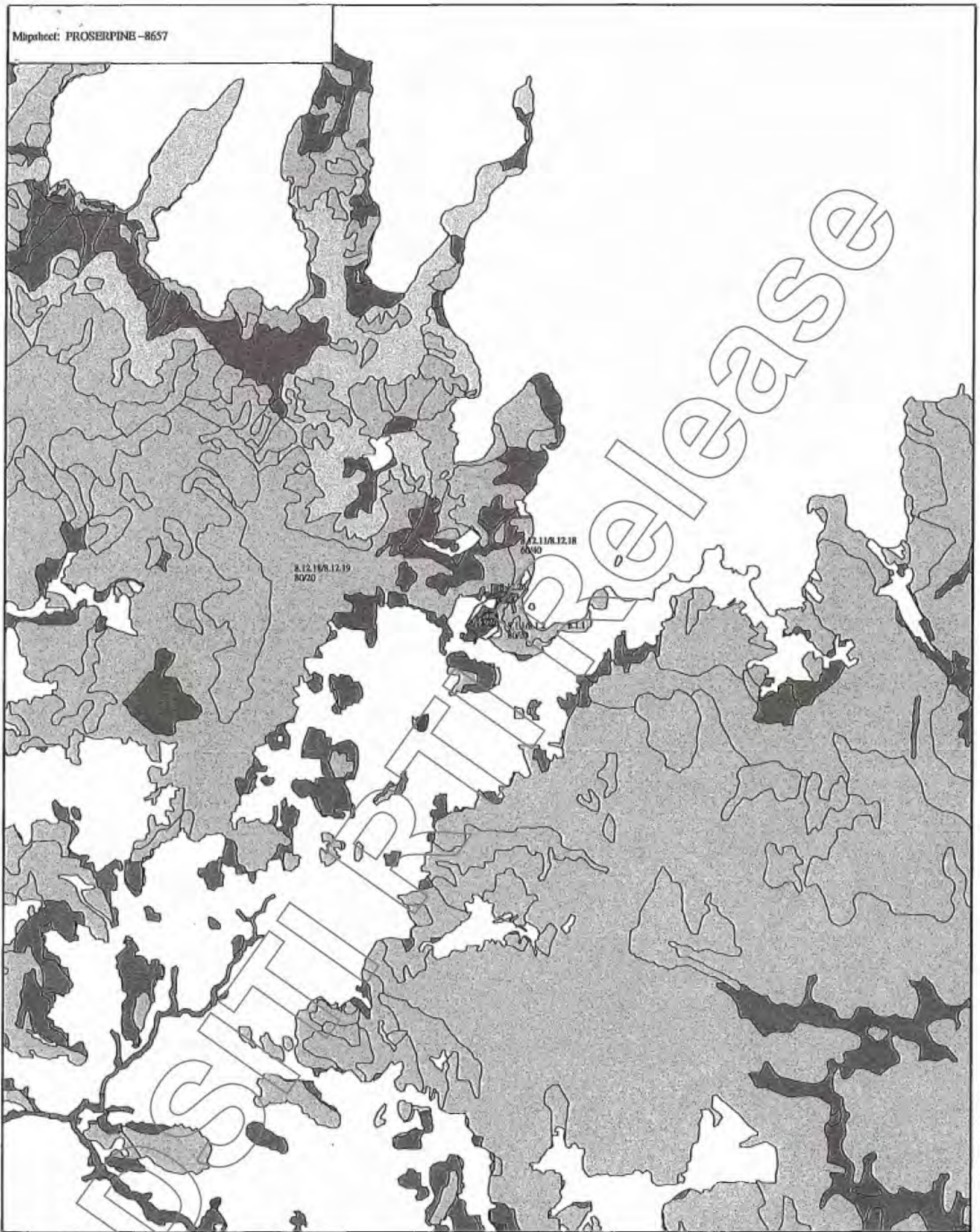
Reference point
⊕
X = 674464.4
Y = 7757038.3

Compiled by the Queensland Herbarium, EPA at a scale of 1:100,000



Projection: UTM Zone 55 - Horizontal Datum: GDA94





Remnant 2003 Regional Ecosystems

Lot/plan: 6 SP171809
Plotted: 19-MAR-2009

Job Number: 3305

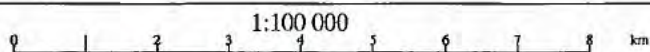


Queensland
Government

- | | | | |
|---------------------------------------|---------------------------------------|---|-------------------------------|
| Remnant endangered regional ecosystem | Remnant of concern regional ecosystem | Remnant not of concern regional ecosystem | Selected DCDB (Approximation) |
| Dominant | Dominant | Remnant Vegetation | |
| Sub-dominant | Sub-dominant | Water | |

Reference point
⊕
X = 674464.4
Y = 7757038.3

Compiled by the Queensland Herbarium,
EPA at a scale of 1:100,000

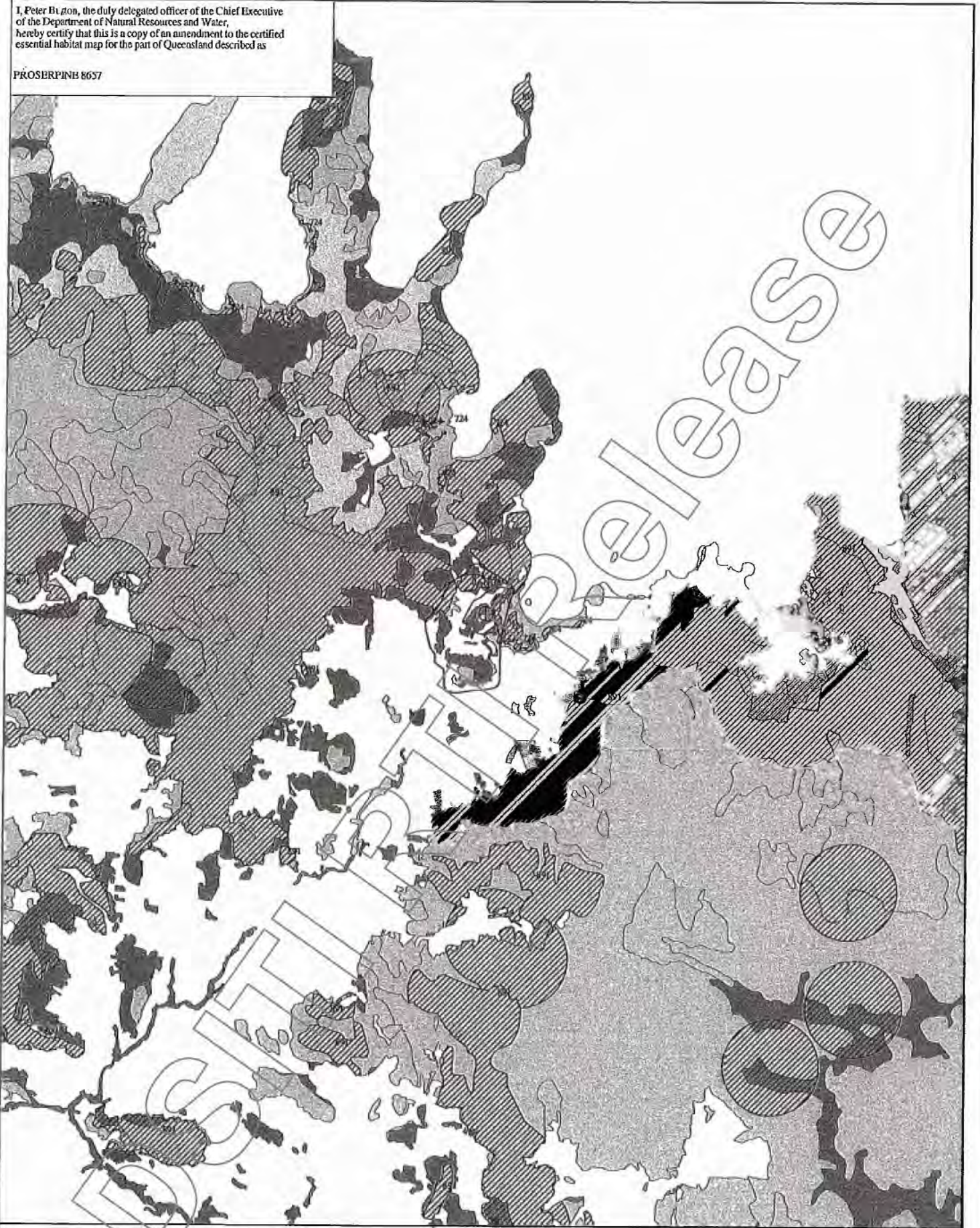


Projection: UTM Zone 55 - Horizontal Datum: GDA94



I, Peter Blanton, the duly delegated officer of the Chief Executive of the Department of Natural Resources and Water, hereby certify that this is a copy of an amendment to the certified essential habitat map for the part of Queensland described as

PROSERPINE 8657



Updated Essential Habitat Map

Lot/plan: 6 SP171809

Plotted: 23-MAR-2006

Job Number: 3305



Queensland Government

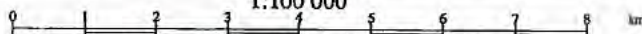
Resistant endangered regional ecosystem	Remnant of concern regional ecosystem	Remnant not of concern regional ecosystem	Essential Habitat
Dominant	Dominant	Remnant Vegetation	Selected DCDB (Approximation)
Sub-dominant	Sub-dominant	Water	Area of certified amendment Updated remnant 2006 regional ecosystem coverage

Reference point

X = 674464.4
Y = 7157038.3

Compiled by the Queensland Herbarium, EPA at a scale of 1:100,000

1:100 000



Projection: UTM Zone 55 - Horizontal Datum: GDA94



3305

Hans Dillewaard

From: Gordon Guymer
Sent: Wednesday, 8 April 2015 12:16 PM
To: MADIGAN Kathryn
Cc: Hans Dillewaard; Don Butler
Subject: RE: Request for Herbarium data

Dear Kathryn

The information and documents that the Queensland Herbarium provided to NRM (DNRW associated with the RE Map Assessment of Lot 6 on SP171809 (our reference 3302) in 2009 can be forwarded to Botanica Drive Estate.

Note that the aerial photography and satellite imagery was accessed via the Lands Centre NRM. The survey and mapping methodology used is available from the Qld Government website <https://www.qld.gov.au/environment/assets/documents/plants-animals/herbarium/herbarium-mapping-methodology.pdf>

as is the technical description for RE 8.12.26 <https://publications.qld.gov.au/storage/f/2014-09-18T23%3A46%3A33.762Z/re-cqc-landzones-part2.pdf>

Regards

Gordon

Dr Gordon Guymer
Director
Queensland Herbarium
Department of Science, IT and Innovation
Brisbane Botanic Gardens Mt Coot-tha
Mt Coot-tha Road
TOOWONG QLD 4066
Australia

Ph: 07 3896 9325 Mobile:

From: MADIGAN Kathryn [mailto:Kathryn.Madigan@dnrm.qld.gov.au]
Sent: Wednesday, 1 April 2015 2:31 PM
To: Gordon Guymer
Cc: COUNTRYMAN Jason; ALTY Lana; RIETHMULLER Jason
Subject: Request for Herbarium data

Good afternoon

Please find attached a request from our client, Botanica Drive Estate, that includes the release of records concerning the 2009 RE Map Assessment of Lot 6 on SP171809, Cannonvale.

Botanica Drive Estate are currently negotiating a Property Map of Assessable Vegetation (PMAV) with DNRW that challenges the Regulated Vegetation Management Map and findings of the 2009 Map Assessment.

I understand that this type of request normally occurs only when the matter is brought before QCAT, however in this instance my manager has instructed me to pursue the information now as requested by our client.

If you have any questions please do not hesitate to contact me.

Kind regards

Kathryn Madigan

Senior Natural Resource Management Officer
Natural Resource Assessment (Vegetation Management) – Central Region
T: 07 4837 3467 (21467) M: F: 07 4837 3448
E: kathryn.madigan@dnrm.qld.gov.au W: www.dnrm.qld.gov.au

Department of Natural Resources and Mines
Level 1, 209 Bolsover Street, Rockhampton QLD 4700
PO Box 1762, Rockhampton QLD 4700

I work part-time (unavailable Tuesdays)

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Don Butler

From: Hans Dillewaard
Sent: Wednesday, 18 March 2015 8:57 AM
To: Don Butler
Subject: FW: Botanica Drive Application - Lot 6 SP171809 - Herbarium
Attachments: img-3171408-0001.pdf

Hi Don,

When you have some time, could we discuss this request particularly the consultants letter?

Regards

Hans Dillewaard

Queensland Herbarium

Department of Science, Information Technology and Innovation
Brisbane Botanic Gardens Mt Coot-tha
Mt Coot-tha Road
TOOWONG Q 4066

Phone: (07) 3406 6048 | **Email:** Hans.Dillewaard@dsitla.qld.gov.au

Web: www.qld.gov.au/dsitla

Customers first | Ideas into action | Unleash potential | Be courageous | Empower people

From: COUNTRYMAN Jason [mailto:Jason.Countryman@dnrm.qld.gov.au]
Sent: Tuesday, 17 March 2015 2:56 PM
To: Hans Dillewaard
Cc: MADIGAN Kathryn
Subject: FW: Botanica Drive Application - Lot 6 SP171809 - Herbarium

Hi Hans

With regard to the Lot 6 SP171809 Regional Ecosystem assessment, the applicant has requested for all of the information that we used in our assessment. Although unusual at this stage and I haven't got my supervisors agreement as to how to respond, would you be able to provide me with all evidence used for the herbariums 2009 RE Map assessment and would you give me permission to pass this on to the applicant?

Kind Regards

Jason Countryman

Natural Resource Management Officer (Working Monday, Tuesday and Friday)

Natural Resource Assessment (Vegetation Management – Central Region)

Telephone: (07) 4837 3411 **Facsimile:** (07) 4837 3448

Email: Jason.countryman@dnrm.qld.gov.au

www.dnrm.qld.gov.au

Department of Natural Resources and Mines
209 Bolsover Street, PO Box 1762 Rockhampton QLD 4700

From: [redacted]@homeloanspecialists.com.au]
Sent: Tuesday, 17 March 2015 2:39 PM
To: MADIGAN Kathryn
Cc: [redacted]@visionsurveysqld.com.au; [redacted]@raywhite.com; COUNTRYMAN Jason; [redacted] at Earth
Subject: RE: Botanica Drive Application - Lot 6 SP171809 - Herbarium

Dear Kathryn

Thanks you for your letter dates 11 March 2015, unfortunately we are not in a position to accept this plan as supplied.

Please find attached letter requesting information from DNRM to allow us to fully assess your response and reply accordingly.

Please feel free to call to discuss our preferred outcome.

Regards

[redacted]



Botanica Drive ESTATE

Ph (07) 4948 1288
Fx. (07) 4948 1277
MR [redacted]

[redacted]@homeloanspecialists.com.au
Suite 9 / 121 Business Centre
Shute Harbour Rd
P.O. Box 755
Cannonvale QLD 4802

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Botanica Drive Estate Pty Ltd
P.O. Box 755
Cannonvale QLD 4802

Department of Natural Resources and Mines
P.O. Box 1762
Rockhampton QLD 4700

Dear Kathryn

RE: PMAV on Lot 60 SP271522

With reference to your email from Jason Countryman dated 2 March 2015, and the subsequent notification received 13 March 2015, we request that your office provide us with all materials used in your assessment of this area.

Specifically we will require:-

- copies of all aerial photography and satellite imagery;
- the methodology used to compare aerial photography over time and how vegetation type, structure and height was determined including any software used
- assumptions and historic evidence for why/how selective clearing was dismissed for the area post settlement pre 1945 aerial;
- research associated with the assumption that Guinea Grass was responsible for the reduced canopy cover on the site rather than the reduced canopy cover being a result of selective clearing and the subsequent use of fire as a management tool to keep the area open/cleared;
- explanation and assumptions used for why 3 of the 5 transects (14%, 18% and 21%) from the site which are below 50% cover compared to the Herbarium's lowest figure for the canopy range (44%) of RE 8.12.26 have been dismissed
- assumptions that place the site in the lower end of the Herbarium canopy cover range (44%-97%) i.e. lower quartile (44% to 57.5%), thereby excluding the other 2 transects (23% and 26%);
- Qld Herbarium records of remnant RE 8.12.26 canopy cover within a 10 kilometre radius of the site;
- Qld Herbarium field notes, reports and other material associated with the 2009 RE Map Assessment;
- all material relating to the previous PMAV 2010/009018.

Hans Dillewaard

From: John Neldner
Sent: Friday, 10 June 2016 9:48 AM
To: earth@mackay.net.au
Cc: Lana.Aly@dnrm.qld.gov.au; Hans Dillewaard
Subject: CORVEG sites for 8.12.26
Attachments: Site data 8_12_26.xlsx; Species data 8_12_26.xlsx; Strata data 8_12_26.xlsx

Hi John,
As requested, I have attached the 4 representative and checked CORVEG sites for 8.12.26 in three excel files.

Please refer to Neldner, V.J., Wilson, B.A., Thompson, E.J. and Dillewaard H.A. (2012) *Methodology for Survey And Mapping of Regional Ecosystems and Vegetation Communities in Queensland*. Version 3.2. Updated August 2012. Queensland Herbarium, Queensland Department of Science, Information Technology, Innovation and the Arts, Brisbane for explanation of the data fields and how the data were collected.

Regards,

John



Queensland
Government

Dr John Neldner
Science Leader
Queensland Herbarium
Department of Science, Information Technology and Innovation
P 3896 9322 M [REDACTED]
Mt Coot-tha Road
Toowong Q 4066

Customers first | Ideas into action | Unleash potential | Be courageous | Empower people

SITE_ID	VR_NUM	PROJECT	SITE_NUMBER	SITE_DATE	ENTRY_DATE
35384		CQC_SCLER	PROS168	24/04/2004	15/09/2009
35706		CQC_SCLER	PROS175	04/04/2006	16/09/2009
19479		CQC_SCLER	PROS183	10/07/2006	29/04/2010
31007		CQC_SCLER	PROS206	15/08/2006	24/02/2012

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DESCRIPTION	LITTER_PERCENT	ROCK_PERCENT	BARE_PERCENT
Corymbia tessellaris with rainforest understorey. Taller trees, but disturbed ground stratum. Old tract	50.8	0	3.4
	39.6	0	0.6
Site done in grassy gap in otherwise heavily Lantana invaded community. Very rocky uneven surface t	11.8	0	0
	59.2	9.6	5.6

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CRYPTO_PERCENT	SAMPLE_LEVEL	SAMPLE_TYPE	SAMPLE_FLORISTICS	SAMPLE_AREA	HAS_PHOTO	CHECKED
0 D	C	A		500	1	1
0 D	C	A		500	1	1
0 D	C	A		500	1	1
0 D	C	A		500	1	1

DSIT RTI Release

RECORDERS	EXTERNAL_RECORDERS	LOCATION_ID	LOCATION_DERIVATION	MAP_NAME
Rosemary Lovatt		34199 A		Mackay
Rosemary Lovatt, Jeanette Kemp, Andrew Dinwoodie		34400 A		Carmila
Jeanette Kemp, Kerensa McCallie		19380 A		Proserpine
Jeanette Kemp, Janie White		30993 A		Lindeman Island

DSIT RTI Release

MAP_NUMBER	MAP_SCALE	PASTORAL_DISTRICT	LOCALITY
8755	100000		ESE slope of Mt. Bassett, North Mackay.
8754	100000		~1.5km S of the most northerly point of Cape Palmerston, Cape Palmerston National Park.
8657	100000	North Kennedy	~ 400m SE of "Lamond Hill", Molle Islands National Park, South Molle Island.
8757	100000		~850m E of Thumb Point, Lindeman Islands National Park, Lindeman Island.

DSIT RTI Release

LOCATION_PRECISION	LOCATION_ZONE	MGA_EASTING	MGA_NORTHING	GDA94_LATITUDE	GDA94_LONGITUDE	BIOREGION_ID
25	55	730327	7663178	-21.11807625	149.2175359	3
10	55	757292	7615445	-21.54535682	149.4842214	3
5	55	691117	7758372	-20.26286887	148.8298501	3
5	55	712174	7738179	-20.44300404	149.0337565	3

MGA_CALCULATED	SITE_ID	VEG_UNIT	UVEG_NUMBER	RE
0	35384	pm78	pm78	8.12.26
0	35706	pm78	pm78	8.12.26
	19479	pm78	pm78	8.12.26
0	31007	pm78	pm78	8.12.26

DSIT RTI Release

COMMUNITY_CONTEXT

Corymbia tessellaris open forest over dense secondary layer of vine thicket species.

Corymbia tessellaris and Melaleuca viridiflora low open forest on low rise.

Corymbia tessellaris open forest over Sorghum nitidum forma aristatum and Imperata cylindrica on hiF

Eucalyptus tereticornis woodland with occasional Corymbia intermedia over secondary tree layer of Lophostemon confertus, and a low layer of rair

COMMUNITYEXTENT

COMMUNITYAREA

C

C

E

DSIT RTI Release

REPRESENTATIVE	MAPPED	SITE_ID	GEOLOGY_SOURCE	GEOLOGY_RELIABILITY	GEOLOGY_TYPECODE	UNIT	GEOLOGY_ADDITIONAL
1	1	35384	O	L		Kw	0
1	0	35706	I	L		DCvc	0
1	1	19479	O	L	T	Kw	0
1	1	31007	O	M	T	Kw	0

GEOLOGY_NOTES

Many rocks at surface (under litter and grass). Geology unit: Whitsunday volcanics.
Whitsunday volcanics.

SITE_ID	SOIL_SOURCE	SOIL_RELIABILITY	SOIL_TYPECODE
35384	S	L	H
35706	S	L	H
19479	S	L	H
31007	S	L	H

DSIT RTI Release

SOIL_TOPSOILCOLOUR	SOIL_TOPSOILTEXTURE	TS_PH	SOIL_ADDITIONAL	SOIL_NOTES
F	B			0 Leaf litter ~2-6cm deep. Sounds a bit sandy.
F	K			0 Top soil colour = dark brown. Sharp angled pebbles in surface layer.
J	B			0 Colour: Very dark grey (blackish).
F	B			0 Top soil colour = greyish-brown, Top soil texture = gravelly clay-loam.

SITE_ID	SF_CLASSIFICATION	STRUCTURAL_FORM	BA_FACTOR	BASAL_AREA_PER_HA	STEM_DENSITY_PER_HA	SITE_ID	RF_COMPLEXITY
35384	S	CF		0.5			
35706	S	LOF		0.5			
19479	S	OF		0.5			
31007	S	W		0.5			

DSIT RTI Release

RF_LEAFSIZE	RF_FLORISTIC	RF_INDICATOR	GROWTHFORM	RF_LEAF_CHAR	SITE_ID	LANDSITUATION	LANDELEMENT	PATTERN	EROSIONPATTERN
					35384	F	HSL	RIS	RL
					35706	F	HSL	RIS	GR
					19479	F	HSL	LOW	SL
					31007	F	HSL	LOW	RL

DSIT RTI Release

SLOPETYPE	SLOPE_ANGLE	SLOPE_ERROR	ASPECT_ANGLE	ASPECT_ERROR	ALTITUDE	ALTITUDE_ERROR
M	12		145		20	
M	5		145		10	
M	24		270		80	
U	30		315		80	

DSIT RTI Release

SITE_ID	STRATA	COVER_MEASURE	COVER_METHOD	CROWN_CLASS	STEM_PLOT_SIZE	HEIGHT_AVG	HEIGHT_MIN	HEIGHT_MAX	COVER	COVER_MIN	COVER_MAX	NOTES
19479	T1	C	I		500	20	8	24	84.4			
19479	T2	C	I		500	6	2	8	16.4			
19479	S1	C	V		500	1.6	1.4	2	4			
19479	G	P	V		500	0.8	0.01	1.4	88.2			
31007	T1	C	I		250	20	15	22	44			
31007	T2	C	I		250	14	8	15	68			
31007	T3	C	I		250	4	1.5	8	62			
31007	G	P	V		250	0.8	0.6	1.5	25.8			
35384	T1	C	I		150	18	16	20	97.4			
35384	T2	C	I		150		8	14	92.2			Average height(m) not recorded.
35384	T3	C	I		150		3	6	11.6			Average height(m) not recorded.
35384	S1	C	V		150		0.5	2.5	57			Average height(m) not recorded.
35384	G	P	V		150	0.3	0.1	0.4	45.8			
35706	T1	C	I		500		5	7	78			
35706	S1	C	V		500	2.5	1	4	31			
35706	G	P	V		500	0.4	0.1	1	59.8			Inflorescence 1-1.8m.