Horizon Power

TECHNICAL MEMORANDUM – TARGETED FLORA SURVEY AND VERIFICATION OF VEGETATION TYPES – HORIZON POWER LOT 555 ONSLOW

Background

Horizon Power is committed to supply of solar power in Onslow and therefore requires an extension to their existing solar farm which is located on Lot 555 some 15.5 kilometres south of Onslow. Clearing Permit 7253/1 (DER2016001752-1) for Lot 555 on Deposited Plan 74894, Thalandji was granted by the Department of Environment Regulation (DER) in 2016. Part of the approval for this Clearing Permit required a targeted flora survey to be conducted. This survey was conducted by GHD in January 2017 (GHD 2017) and stage one of the solar farm was completed. The area had previously been surveyed as part of the larger Wheatstone Project by Biota in 2013 (Biota 2013) and it was on this that GHD based their vegetation types.

Horizon Power commissioned Vicki Long & Associates (VLA) to conduct a reconnaissance survey, targeting Priority flora over the extended area around the existing facility on Lot 555 (the survey area). This survey was to verify vegetation types previously mapped there, locate any species of conservation significance and to update any taxa nomenclature which may have changed since 2017.

Methods

The survey was conducted in accordance with the criteria set out for a targeted survey by the EPA (2016). An aerial image was used in the field which identified the survey area boundary, along which GPS points had been marked in a grid prior to the survey. In the field, traverses were made across the relatively small area between these GPS points in order to search for species of conservation significance. Two releves were conducted within each vegetation type in order to verify previously described vegetation types. Species of conservation significance were recorded with GPS and marked on the aerial. Photos were taken.

In each vegetation releve the following was recorded:

- Vegetation description
- Vegetation condition
- All species present
- Percent cover of key species present
- Any species of conservation significance
- Any vegetation of conservation significance
- Weed species and abundance
- Photograph from north-west corner of releve.

Limitations

Conditions were dry for the survey. Below average rainfall has been recorded in the Onslow area with a total of 127.2 mm being recorded between the 1st of January and 1st of July 2023. The mean average rainfall for this period is 271.5mm (BOM 2023 Onslow Airport (station 005017). The red pindan sands found on the inland linear dunes in the survey area tend not to retain moisture but do usually have a great diversity of small annuals and ephemerals that emerge and then rapidly die off as the sands dry.

Dry conditions meant that ephemeral and many annual species may not have been present during this survey. Some were senesced but the field botanist was able to identify many of these from persistent material. Some species, too dry and sterile, could only be identified to genus level. It is estimated that 75% of potential species were identified during the survey. However, it is considered that the Priority species listed for the area would be represented if they were present.

There were no other limitations to the survey. Contextual and DBCA database information was available, the area has been surveyed and documented previously, field resources and aerial photographs were of high resolution, time in the field was adequate and field botanist, Vicki Long, has 37 years of experience in the Pilbara, particularly coastal and near coastal areas. Vicki has been working as a botanist in the Onslow area since 1987.

Results

Desktop Review

The survey area is located on the Dune Land System (Van Vreeswyk et al 2004), comprised of narrow dunes and swales depositional quaternary eolian deep red sands with no organised drainage. These generally run north-south, are up to 15 m high and 2.5 km long, and have hummocky crests. The swales are between 50 to 400 m wide. Both are vegetated with *Triodia schinzii* and/ or *Triodia epactia* with some mid height shrubs. Swales sometimes house low *Acacia stellaticeps* (Van Vreeswyk et al 2004).

Two vegetation types occur in the survey area (GHD 2017) and are described as being equivalent to that mapped by Biota (2013). Descriptions use Biota map codes.

Table 1 Vegetation and vegetation codes as descripbed by Biota (2013) and GHD (2017)

Map Code	Description	Conservation Significance
CS1	*Acacia tetragonaphylla* scattered shrubs over *Triodia epactia* hummock grassland occurring on interdunal swales	Low
ID1	*Grevillea stenobotrya* tall open shrubland over *Crotalaria cunninghamii, Trichodesma zeylanicum* var *grandiflorum* open shrubland over *Triodia epactia* open hummock grassland occurring on red sandy dunes.	High

Vegetation type ID1 has high conservation significance according to Biota (2013) due to the fact that it is dominated by *Triodia epactia* hummock grassland, where consistently, *Triodia schinzii* hummock grassland dominates other dunes in the vicinity (Validus 2008, Biota 2010a), it houses Priority species and the landform is subject to weed invasion.

A search of the DBCA's database of Threatened Ecological Communities (TECs) and Priority Ecological Communities (PECs) found no occurrences of either within or in close proximity to the survey area. The closest PEC (Priority 1) is the Peedamulla Marsh Vegetation assemblages PEC which occurs near the mouth of the Cane River some 50 km away, and no TECs or PECs were expected by the author to be found on the survey area.

The desktop information indicates that one Priority 3 species *Triumfetta echinata* occurs in the survey area (GHD 2017).

A further five Priority species are known to occur within 20 km of the survey area. These include:

- *Abutilon uncinatum* (Priority 1)
- *Carpobrotus* sp Thevenard Island (M White 050) (Priority 2)
- *Atriplex flabelliformis* (Priority 3)
- *Eremophila forrestii* subsp *viridis* (Priority 3)
- *Eleocharis papillosa* (Priority 3).

Other taxa recognised by Biota (2013) as having conservation significance include:

- *Abutilon* aff *dioicum*
- *Aenictophyton* aff *reconditum*
- *Vigna* sp Hamersley clay (AA Mtichell RPR 113)

These three species represent undescribed taxa and potentially new species.

Seven weeds species have been described in the area in the vicinity of the survey area.

Field Results

The field survey was conducted on the 3rd of July 2023, by Vicki Long. As discussed above, conditions were dry, but it is estimated that 75% of the species expected to potentially be present were recorded and the dry conditions did not impede describing of vegetation.

Vegetation

Four vegetation types were recorded by VLA as occurring in the survey area. Two of these covered the majority of the site, the other two were minor occurrences. The vegetation types reflect different micro-habitats. Running north-south along the western side of the survey area, and immediately west of the current track and infrastructure runs a simple, unbranched very narrow linear red sand dune with shrubland over *Triodia epactia* hummock grassland which has been infested by buffel grass in varying degrees adjacent to existing infrastructure. The eastern side of the survey area consists of an irregular shaped red sand swale, and a series of broken, hummocky dunes. Immediately below (south of) the south-east corner of the existing infrastructure is a low area in the swale which differs from the vegetation over the remainder of the eastern portion and has been historically semi-disturbed. There are also two small areas of **Cenchrus ciliaris* grassland resultant of previous disturbance. The vegetation types described by VLA are presented in Table 2 below and shown on Figure 1.

Table 2 Vegetation Types described on the survey area by VLA

VLA Code	Vegetation Description and Condition	Micro Habitat
GsTzgTe	*Grevillea stenobotrya* tall open shrubland over *Trichodesma zeylanicum* var. *grandiflorum, Crotalaria cunninghamii* shrubland over *Triodia epactia* hummock grassland with patchy **Cenchrus ciliaris* grassland. (Plate 1) **Vegetation Condition: Good**	Narrow linear north-south red sand dune on west side of survey area.

VLA Code	Vegetation Description and Condition	Micro Habitat
GsSsTs/Te	*Grevillea stenobotrya* tall open shrubland with *Trichodesma zeylanicum* var. *grandiflorum, Crotalaria cunninghamii,* over *Scaevola sericophylla* low shrubland with *Grevillea eriostachya* over *Triodia schinzii* hummock grassland with *Triodia epactia.* Scattered to open **Cenchrus ciliaris* associated with disturbed areas. (Plate 2) **Vegetation Condition: Very Good**	Irregular red sandy swale with broken hummocky red sand dunes, eastern side of survey area.
AsTe*Cc	*Acacia stellaticeps* shrubland over *Triodia epactia /*Cenchrus ciliaris* mixed grassland, very patchy *Triodia schinzii.* Scattered *Grevillea stenobotyra* tall shrubs. (Plate 3) **Vegetation Condition: Good**	Low swale area, probably historically disturbed.
*Cc	**Cenchrus ciliaris* tussock grassland. (Plate 4) **Vegetation Condition: Degraded**	Disturbed sand swale.

Vegetation Condition

Vegetation condition on the site was assessed using Trudgen (1988) as approved by EPA (2016) (Appendix A). Vegetation ranged from Very Good to Degraded based on percentage of buffel grass cover and old fire history. Vegetation condition is indicated in Table 2.

Vegetation Types VLA vs Biota (2013)

Vegetation type GsTzgTe was only found on the narrow linear dune west of the current facility and was distinct in having *Triodia epactia* hummock grassland with <1% *Triodia schinzii.* The *T. epactia* hummock grassland had been invaded by patchy buffel grass (**Cenchrus ciliaris)* which became less abundant further from existing disturbed areas. This vegetation type equates to that mapped by Biota (2013) as ID1.

Vegetation on the eastern side was dominated by *Triodia schinzii* hummock grassland with *Triodia epactia* and a more diverse range of component shrub species. Medium to low shrubs, including *Scaevola sericophylla, Grevillea eriostachya, Olearia dampierii* subsp *damperii, Hakea stenophylla* subsp *stenophylla* were present, particularly in the swale area. This vegetation type broadly equates to the inland sand dune vegetation type ID2 (Biota 2013)– which was mapped for the wider area but not the immediate survey area.

Vegetation types GsTzgTe and GsSsTs/Te dominate the survey area. Two smaller vegetation types were recorded.

Vegetation type AsTe*Cc in the low semi-disturbed swale area dominated by *Acacia stellaticeps* only represented a very small area within the survey area, as did two small areas of **Cenchrus ciliaris* grassland (*Cc). Vegetation type AsTe*Cc equates to Biota (2013) ID3 mapped for dune areas in the wider area but on the survey area, however, Biota did not record **Cenchrus ciliaris* in this vegetation

type in 2013. **Cenchrus ciliaris* grassland was not mapped at all by Biota (2013). Comparisons are presented in Table 3.

Table 3 Comparison VLA and Biota (2013) Vegetation Descriptions and Conservation Significance (Biota 2013)

VLA Code	VLA Vegetation Description and Conservation value at time of survey.	Biota (2013) Code	Biota (2013) Vegetation Description and Conservation value at time of survey.
GsTzgTe	*Grevillea stenobotrya* tall shrubland over *Trichodesma zeylanicum* var. *grandiflorum, Crotalaria cunninghamii* shrubland over *Triodia epactia* hummock grassland with patchy **Cenchrus ciliaris* grassland. **Conservation Significance: Moderate**	ID1	*Grevillea stenobotyra* tall open shrubland over *Crotalaria cunninghamii, Trichodesma zeylanicum* var *grandiflorum* open shrubland over *Triodia epactia* open hummock grassland. Mapped by Biota(2013) / GHD (2017) as present on the survey area. **Conservation Significance: High**
GsSsTs/Te	*Grevillea stenobotrya* tall shrubland with *Trichodesma zeylanicum* var. *grandiflorum, Crotalaria cunninghamii,* over *Scaevola sericophylla* low shrubland with *Grevillea eriostachya* over *Triodia schinzii* hummock grassland, patchy *Triodia epactia.* **Conservation Significance: High**	ID2	*Grevillea stenobotrya* tall open shrubland over *Crotalaria cunninghamii, Hibiscus brachychlaenus* open shrubland over *Triodia schinzii* (*T. epactia*) open hummock grassland. Not mapped by Biota(2013) / GHD (2017) as present on the survey area. **Conservation Significance: High**
AsTe*Cc	*Acacia stellaticeps* shrubland over *Triodia epactia/*Cenchrus ciliaris* mixed grassland, very patchy *Triodia schinzii.* Scattered *Grevillea stenobotrya* tall shrubs. **Conservation Significance: Low**	ID3	*Acacia stellaticeps* shrubland over *Triodia epactia* hummock grassland. Not mapped by Biota(2013) / GHD (2017) as present on the survey area. **Conservation Significance: Low**
*Cc	**Cenchrus ciliaris* tussock grassland. **Conservation Significance: Low**		Not mapped by Biota(2013) / GHD (2017) as being present in the wider area or on the survey area.

The vegetation type CS1, *Acacia tetragonaphylla* scattered shrubs over *Triodia epactia* hummock grassland on coastal sand plains, reported to occur on the site (GHD 2017) following the Biota vegetation mapping (2013) does not occur on the survey area.

Conservation Value of Vegetation Types on survey area

Biota (2013) ranked ID1 (GsTzgTe) and ID2 (GsSsTs/Te) as having high conservation significance based presence of *Triodia epactia* hummock grassland (where *Triodia schinzii* usually dominates), presence of several Priority species and the susceptibility of the dune landform to erosion and weed invasion. The high value of ID1 (GsTzgTe) in the immediate survey area has been reduced by the invasion of buffel grass from the existing facility and therefore ranked by VLA as being of Moderate significance. VLA rank GsSsTs/Te has having high conservation significance at present (this was also ranked as high

conservation significance by Biota 2013). However, it was noted that buffel grass was already invading from the edges of the existing facility and from the disturbed corridor leading off towards the east through the survey area.

Vegetation AsTe*Cc is of low conservation significance as it has been infested by buffel grass, however, it does house a Priority 3 species (*Abutilon* sp *Pritzelianum*). Vegetation significance is presented in Table 3.

Plate 1: Vegetation type GsTzgTe.

Plate 2: Vegetation type GsSsTs/Te

Plate 4: Vegetation type AsTeCc

Plate 4: Vegetation type *Cc

Flora

Forty-seven taxa were recorded during the field survey representing 19 familes and 35 genera. The flora recorded are all considered typical of what is expected to occur on the sandy inland dune substrate and accord with those reported in Biota (2013). Flora recorded are presented in Appendix B.

Priority Flora

Three Priority flora species were recorded by VLA. These were all located within the eastern portion of the survey area. Their locations are shown on Figure 1.

- *Triumfetta echinata* (Priority 3) c.38 off (in GsSsTs/Te)
- *Eremophila forrestii* subsp *viridis* (Priority 3) 6 off (3 x 2 locations) (in GsSsTs/Te)
- *Abutilon* sp Pritzelianum (S. van Leeuwen 5095) (Priority 3) 4 off (in AsTe*Cc)

It should be noted that all P3 *Eremophila forrestii* subsp *viridis* shrubs occurring were sterile and a determination was made only on the lack of tomentum on the leaf surface as described by Chinnock (2007). A specimen was sent to the West Australian Herbarium and they agreed that the specimen appeared to be *E. forrestii* subsp *viridis* but without flowering material it was difficult to make a positive confirmation. Both *Eremophila forrestii* subsp *hastieana* (not Priority) and *Eremophila forrestii* subsp *viridis* were recorded on the survey area. The former was found to be regenerating well in the mowed along the northern boundary of the current facility. These plants were obviously tomentose. The Priority species, not tomentose, were found in two groups of 3 each in the swale on the eastern side of the survey area.

Triumfetta echinata shrubs were found on west facing sand dune slopes on the eastern side of the survey area, usually in groups of 2-6 within a radius of 5 m.

Abutilon sp Pritzelianum (S. van Leeuwen 5095) was only found in the low semi-disturbed swale area with *Acacia stellaticeps* midway along the southern boundary.

Priority flora are shown in Plates 5-8 below.

Plate 5: *Triumfetta echinata* flower

Plate 6: *Triumfetta echinata* low shrub.

Plate 7: Hairless leaves *Eremophila forrestii* subsp *viridis*

Plate 8: *Abutilon* sp Pritzelianum (S.van Leeuwen 5095)

Weeds

The only weed recorded was **Cenchrus ciliaris* (buffel grass). It was abundant on the edges of disturbed areas, occurs occasionally along a previously cleared (now revegetating) track in GsSsTs/Te, (south-east portion or survey area) and has invaded the surrounding native vegetation on the dune systems. It was recorded in all vegetation types.

Discussion

The results of the survey indicate the survey area houses four vegetation types, two of which have minor representation only. No TECs or PECs were present but one vegetation type (GsSsTs/Te) is considered to have high conservation value. Biota (2013) ranked two of the inland dune vegetation types as having high conservation significance based partially on the fact that this vegetation/landform houses Priority flora and is highly susceptible to erosion and weed invasion. Weed invasion is exactly what has occurred, resulting in one vegetation type in the survey area (GsTzgTe / ID1), previously ranked by Biota (2013) as having high conservation value being downgraded in the VLA survey to moderate.

Two vegetation types (ID1 and CS1) were mapped as present on the survey area by Biota (2013) and reported on by GHD (2017). VLA found ID1 was present but CS1 did not occur in the survey area. The survey area is wholly located on inland sand dunes and swales and the vegetation found there is appropriate to that landform. The vegetation types described and mapped by VLA do equate to the those described by Biota (2013) as occurring on inland sand dunes in the wider area. The vegetation type CS1 (*Acacia tetragonaphylla* scattered shrubs over *Triodia epactia* hummock grassland) belongs to coastal sand plains which are not part of the survey area, and this vegetation type was not present.

Vegetation condition on the survey area varies from degraded, which is appropriate to the small area of **Cenchrus ciliaris* grassland, to good (GsTzgTe and AsTe*Cc) to very good (GsSsTs/Te). Biota (2013) had ranked the vegetation equivalent (ID1 – GsTzgTe) as being in very good condition when they conducted the survey in 2013 but subject to weed invasion. This is exactly what has occurred since 2013, demonstrating how easily this landform and vegetation is infested and the importance of the implementation of a sound weed management plan.

The flora recorded are considered typical of that expected to occur on inland red sand dunes. Conditions for the survey were relatively dry and the red sand dunes do not retain moisture. Therefore, ephemeral and some annual species would not have been present during the survey. Some annuals had senesced but the field botanist was able to identify most of them from persisting material. It is considered that 75% of the species likely to be present after good rainfall were recorded.

Three Priority flora were recorded. In their targeted survey, GHD (2017) recorded *Triumfetta echinata* which was again found this survey on the eastern side of the survey area. In addition to this, six *Eremophila forrestii* subsp *viridis* were found as small plants, three of in two locations, in more dense vegetation in a swale area in the north-eastern portion of the survey area, and four *Abutilon* sp Pritzelium were found in dense vegetation in a low area of the swale approximately midway along the southern boundary.

Triumfetta echinata and *Abutilon* sp Pritzelium (S. van Leeuwen 5095) are known by the author to be relatively widespread and abundant in the Onslow dune area. *Eremophila forrestii* subsp *viridis* is much less well known and very few collections of this species have been made. It is very similar to

Eremophila forrestii subsp *hastieana* which was also found on the site, the distinguishing factor includes the former being with very sparse hairs where the latter is quite tomentose. *Eremophila forrestii* subsp *viridis* is also easily distinguished by its brighter green colour (due to lack of hairs) (Chinnock 2007). *Eremophila forrestii* subsp *viridis* shrubs on the survey area were all sterile and as such a positive determination could not be provided by the WA Herbarium (who agreed the sterile parts of the collected specimen did match that of *E. forrestii* subsp *viridis)*. Because the non-sterile parts of the plant match the feature which distinguishes it from *E. forrestii* subsp *hastieana,* the author has chosen to report these plants as the P3 subspecies. Biota (2013) indicate two plants were recorded by them further north of Lot 555 (in Lot 524) and that a total of 117 individuals were recorded from 4 locations in the Wheatstone addendum area by Outback Ecology (2010). It is unknown if these plants were cleared for the Wheatstone project, but Biota also state the subspecies *viridis* was recorded by them seven times in the broader locality, presumably not in an intended project area This species was not ranked higher as a Priority species because it was considered at the time that it occurred in remote, generally untouched areas. The number of species recorded in the four Wheatstone locations (Outback Ecology 2010) and the 7 recorded in the broader locality by Biota indicate the subspecies *viridis* is probably more common than originally thought in the Onslow area, however it is evident that none of those specimens were lodged with the WA Herbarium and one can only assume the identification against the closely related subspecies *hastieana* is correct. The recent extensive clearing of inland dunes in the Onslow area and elsewhere could indicate this species may be at risk, but in saying this the 6 plants that will be removed for this project should not have a huge impact on the overall population.

Only one weed was recorded, buffel grass, but the fact that between 2013 and 2023, a decade, weeds have degraded a vegetation type that once was considered to have high conservation significance indicates the need for sound weed management.

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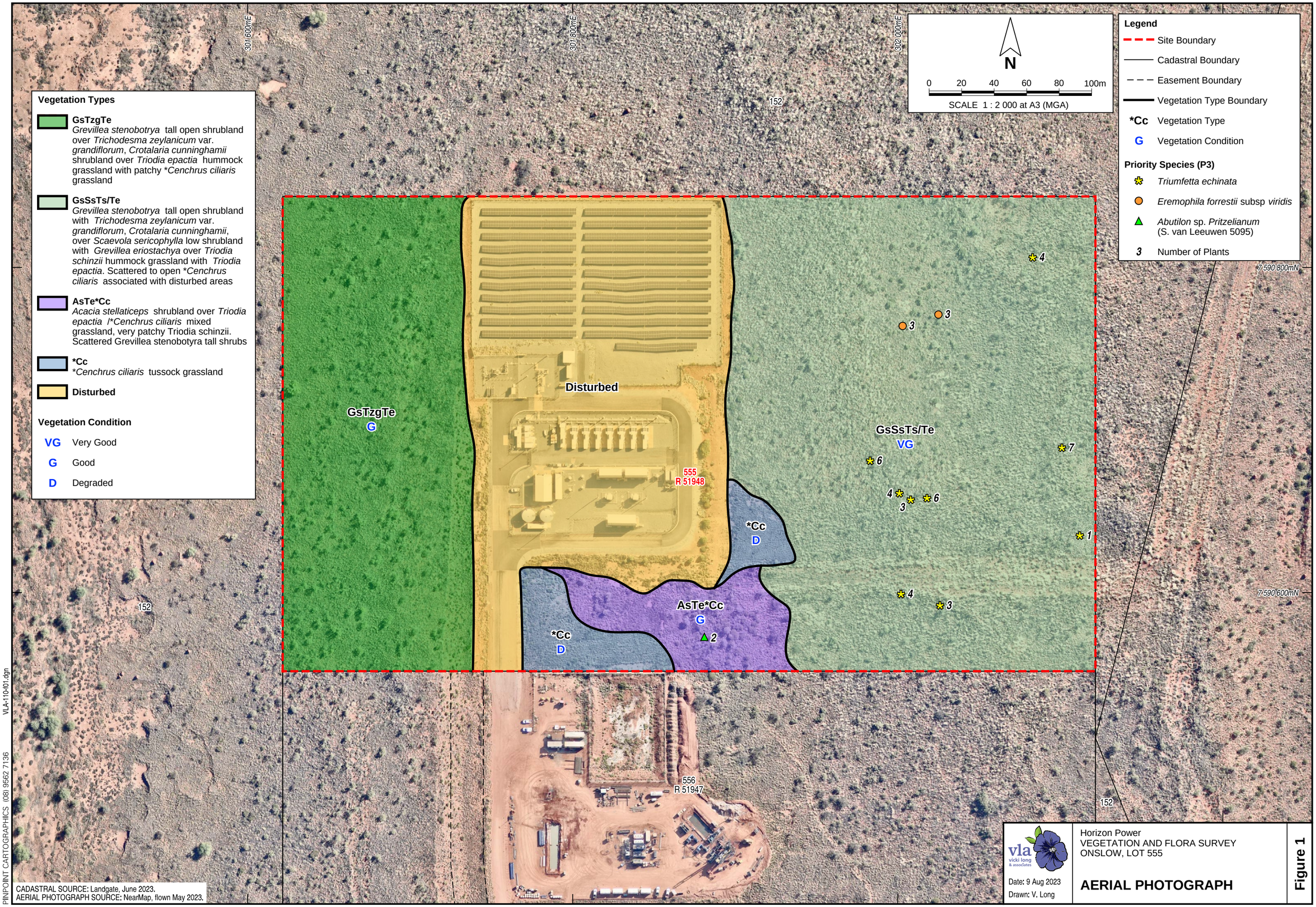
FIGURE 1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SCALE 1 : 2 000 at A3 (MGA)
Legend
Site Boundary
Cadastral Boundary
Easement Boundary
Vegetation Type Boundary
*Cc Vegetation Type
G Vegetation Condition
Priority Species (P3)
Triumfetta echinata
Eremophila forrestii subsp viridis
Abutilon sp. Pritzelianum (S. van Leeuwen 5095)
3 Number of Plants
Vegetation Types
GsTzgTe
Grevillea stenobotrya tall open shrubland over Trichodesma zeylanicum var. grandiflorum, Crotalaria cunninghamii shrubland over Triodia epactia hummock grassland with patchy *Cenchrus ciliaris grassland
GsSsTs/Te
Grevillea stenobotrya tall open shrubland with Trichodesma zeylanicum var. grandiflorum, Crotalaria cunninghamii, over Scaevola sericophylla low shrubland with Grevillea eriostachya over Triodia schinzii hummock grassland with Triodia epactia. Scattered to open *Cenchrus ciliaris associated with disturbed areas
AsTe*Cc
Acacia stellaticeps shrubland over Triodia epactia /*Cenchrus ciliaris mixed grassland, very patchy Triodia schinzii. Scattered Grevillea stenobotyra tall shrubs
*Cc
*Cenchrus ciliaris tussock grassland
Disturbed
Vegetation Condition
VG Very Good
G Good
D Degraded
Disturbed
GsTzgTe
G
GsSsTs/Te
VG
*Cc
D
AsTe*Cc
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*Cc
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152
CADASTRAL SOURCE: Landgate, June 2023.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown May 2023.
PINPOINT CARTOGRAPHICS (08) 9562 7136
VLA-110-f01.dgn
vla vicki long & assodates
Date: 9 Aug 2023
Drawn: V. Long
Horizon Power
VEGETATION AND FLORA SURVEY
ONSLOW, LOT 555
AERIAL PHOTOGRAPH
Figure 1

APPENDIX A

Appendix A
Vegetation Classification and Condition Rating Scale

Table A.1. Vegetation Condition Scale as adapted from Trudgen (1988). (Environmental Protection Authority 2016a)

Vegetation condition	Condition description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very Good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate to it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very Poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely Degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

APPENDIX B

Appendix B
Flora Species Recorded in Horizon Power Lot 555 Onslow Survey Area

Family: Aizoaceae
Trianthema pilosum

Family: Asteraceae
Olearia dampieri subsp dampieri
Streptoglossa adscendens
Streptoglossa macrocephala

Family: Boraginaceae
Trichodesma zeylanicum var grandiflorum

Family: Chenopodiaceae
Salsola australis

Family: Convolvulaceae
Bonamia rosea
Evolvulus alsinoides subsp.*decumbens*

Family: Cucurbitaceae
Cucumis variabilis

Family: Euphorbiaceae
Adriana tomentosa var *tomentosa*
Euphorbia myrtoides

Family: Fabaceae
Acacia colei var *colei*
Acacia coriacea
Acacia stellaticeps
Acacia tetragonophylla
Crotalaria cunninghamii
Cullen martinii
Indigofera boviperda subsp *boviperda*
Indigofera monophylla
Tephrosia clementii

Family: Goodeniaceae
Goodenia microptera
Scaevola sericophylla
Scaevola spinescens (broad form)

Family: Gyrostemonaceae
Gyrostemon ramulosus

Family: Hemerocallidaceae
Corynotheca pungens

Family: Lamiaceae
Quoya loxocarpa

Family: Lauraceae

Cassytha capillaris

Family: Malvaceae

Abutilon sp. Dioicum (A.A. Mitchell PRP 1618)
Abutilon sp. Pritzelianum (S. van Leeuwen 5095) (P3)
Hibiscus brachychlaenus
Hibiscus sturtii var *platychlamys*
Sida clementii
Sida aff.fibulifera
Sida rohlenae
Triumfetta echinata (P3)

Family: Poaceae

Aristida holathera var *holathera*
**Cenchrus ciliaris*
Eragrostis eriopoda
Eriachne aristidea
Triodia epactia
Triodia schinzii

Family: Proteaceae

Grevillea eriostachya
Grevillea stenobotrya
Hakea stenophylla subsp *stenophylla*

Family: Sapindaceae

Diplopeltis eriocarpa

Family: Scrophulariaceae

Eremophila forrestii subsp *haestiana*
Eremophila forrestii subsp *viridis* (P3)

Family: Solanaceae

Solanum lasiophyllum