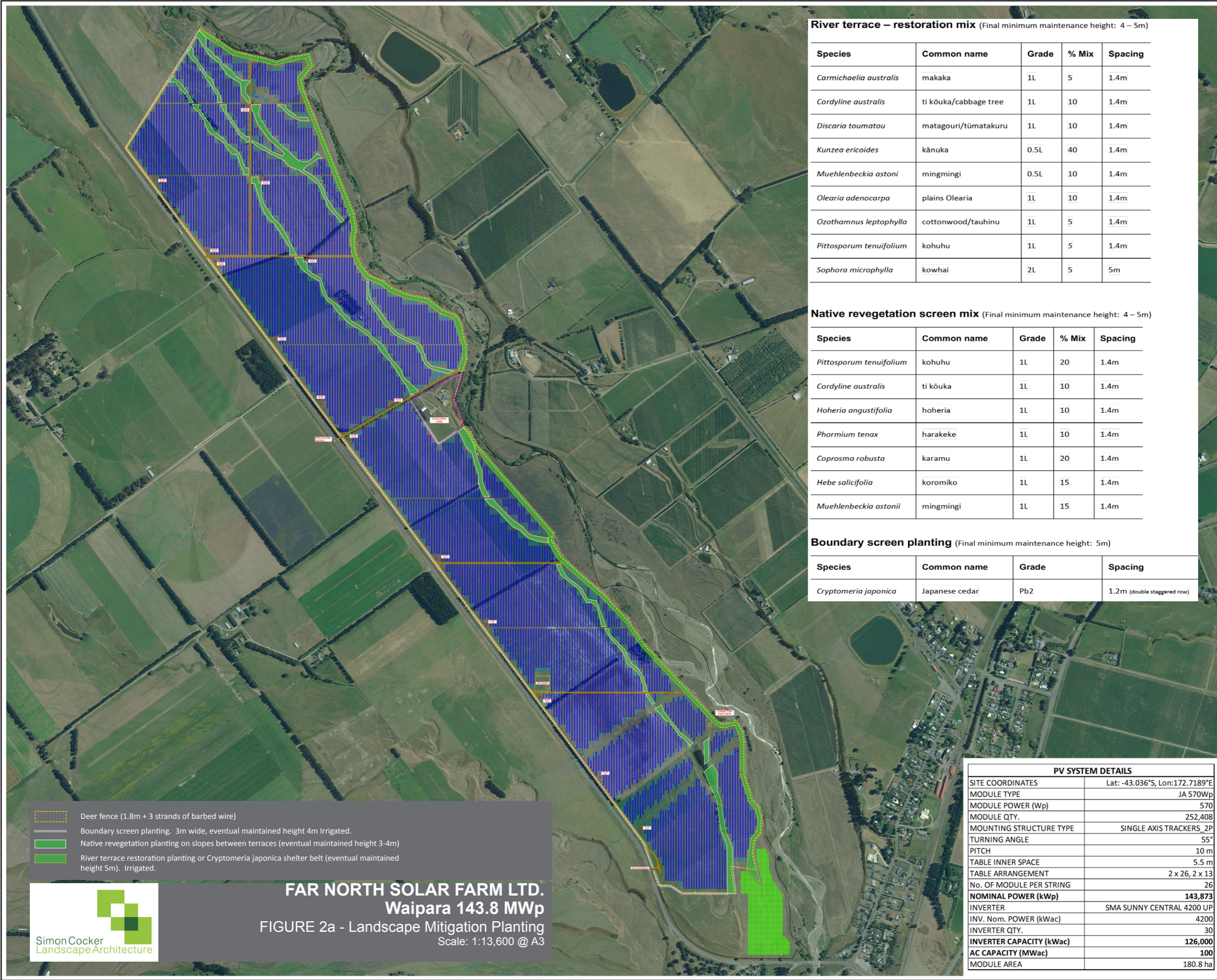


Appendix D: Landscape Mitigation Plan



- Deer fence (1.8m + 3 strands of barbed wire)
- Boundary screen planting. 3m wide, eventual maintained height 4m Irrigated.
- Native revegetation planting on slopes between terraces (eventual maintained height 3-4m)
- River terrace restoration planting or Cryptomeria japonica shelter belt (eventual maintained height 5m). Irrigated.



FAR NORTH SOLAR FARM LTD.
Waipara 143.8 MWp
 FIGURE 2a - Landscape Mitigation Planting
 Scale: 1:13,600 @ A3

River terrace – restoration mix (Final minimum maintenance height: 4 – 5m)

Species	Common name	Grade	% Mix	Spacing
<i>Carmichaelia australis</i>	makaka	1L	5	1.4m
<i>Cordyline australis</i>	ti kōuka/cabbage tree	1L	10	1.4m
<i>Discaria toumatou</i>	matagouri/tūmatakurū	1L	10	1.4m
<i>Kunzea ericoides</i>	kānuka	0.5L	40	1.4m
<i>Muehlenbeckia astoni</i>	mingmingi	0.5L	10	1.4m
<i>Olearia adenocarpa</i>	plains Olearia	1L	10	1.4m
<i>Ozothamnus leptophylla</i>	cottonwood/tauhinu	1L	5	1.4m
<i>Pittosporum tenuifolium</i>	kohuhu	1L	5	1.4m
<i>Sophora microphylla</i>	kowhai	2L	5	5m

Native revegetation screen mix (Final minimum maintenance height: 4 – 5m)

Species	Common name	Grade	% Mix	Spacing
<i>Pittosporum tenuifolium</i>	kohuhu	1L	20	1.4m
<i>Cordyline australis</i>	ti kōuka	1L	10	1.4m
<i>Hoheria angustifolia</i>	hoheria	1L	10	1.4m
<i>Phormium tenax</i>	harakeke	1L	10	1.4m
<i>Coprosma robusta</i>	karamu	1L	20	1.4m
<i>Hebe salicifolia</i>	koromiko	1L	15	1.4m
<i>Muehlenbeckia astonii</i>	mingmingi	1L	15	1.4m

Boundary screen planting (Final minimum maintenance height: 5m)

Species	Common name	Grade	Spacing
<i>Cryptomeria japonica</i>	Japanese cedar	Pb2	1.2m (double staggered row)

PV SYSTEM DETAILS	
SITE COORDINATES	Lat: -43.036°S, Lon:172.7189°E
MODULE TYPE	JA 570Wp
MODULE POWER (Wp)	570
MODULE QTY.	252,408
MOUNTING STRUCTURE TYPE	SINGLE AXIS TRACKERS_2P
TURNING ANGLE	55°
PITCH	10 m
TABLE INNER SPACE	5.5 m
TABLE ARRANGEMENT	2 x 26, 2 x 13
No. OF MODULE PER STRING	26
NOMINAL POWER (kWp)	143,873
INVERTER	SMA SUNNY CENTRAL 4200 UP
INV. Nom. POWER (kWac)	4200
INVERTER QTY.	30
INVERTER CAPACITY (kWac)	126,000
AC CAPACITY (MWac)	100
MODULE AREA	180.8 ha

PRELIMINARY DESIGN



GENERAL NOTES

- ALL DIMENSIONS ARE IN METER UNLESS OTHERWISE SPECIFIED.
- FINAL LAYOUT WILL BE DETERMINED AFTER SITE SURVEY.

2P TRACKER OPTION

LEGEND

- PV MODULE BOUNDARY LINE
- 2 x 26 PV TRACKER MODULE (JA 570Wp)
- 2 x 13 PV TRACKER MODULE (JA 570Wp)
- GRAPE VINES
- TRANSMISSION LINE
- FENCE LINE
- PLANT INTERNAL ROAD (4m WIDTH)
- INVERTER STATION
- SLOPES LINE
- GRAPE VINES FOR WINERY

REFERENCE DRAWINGS

No.	DRAWING TITLE	DRAWING No.
G	19-09-2023 DRAFT-UPDATED WITH TOPO, LAND PARCEL & TREES.	
F	15-09-2023 DRAFT-UPDATED WITH TOPO & LAND PARCEL	
E	24-08-2023 DRAFT-WINE TREE ADDED.	
D	03-07-2023 DRAFT-REMOVED PANELS AT EXTENDED LAND AREA	
C	24-05-2023 DRAFT-UPDATED 1P TRACKER WITH 135MWp	
B	30-03-2023 DRAFT-UPDATED 1P TRACKER & EXTEND LAND	
A	23-02-2023 DRAFT	

PROJECT NAME :

**WAIPARA 143.8MWp
NEW ZEALAND**

OWNER'S ENGINEER :

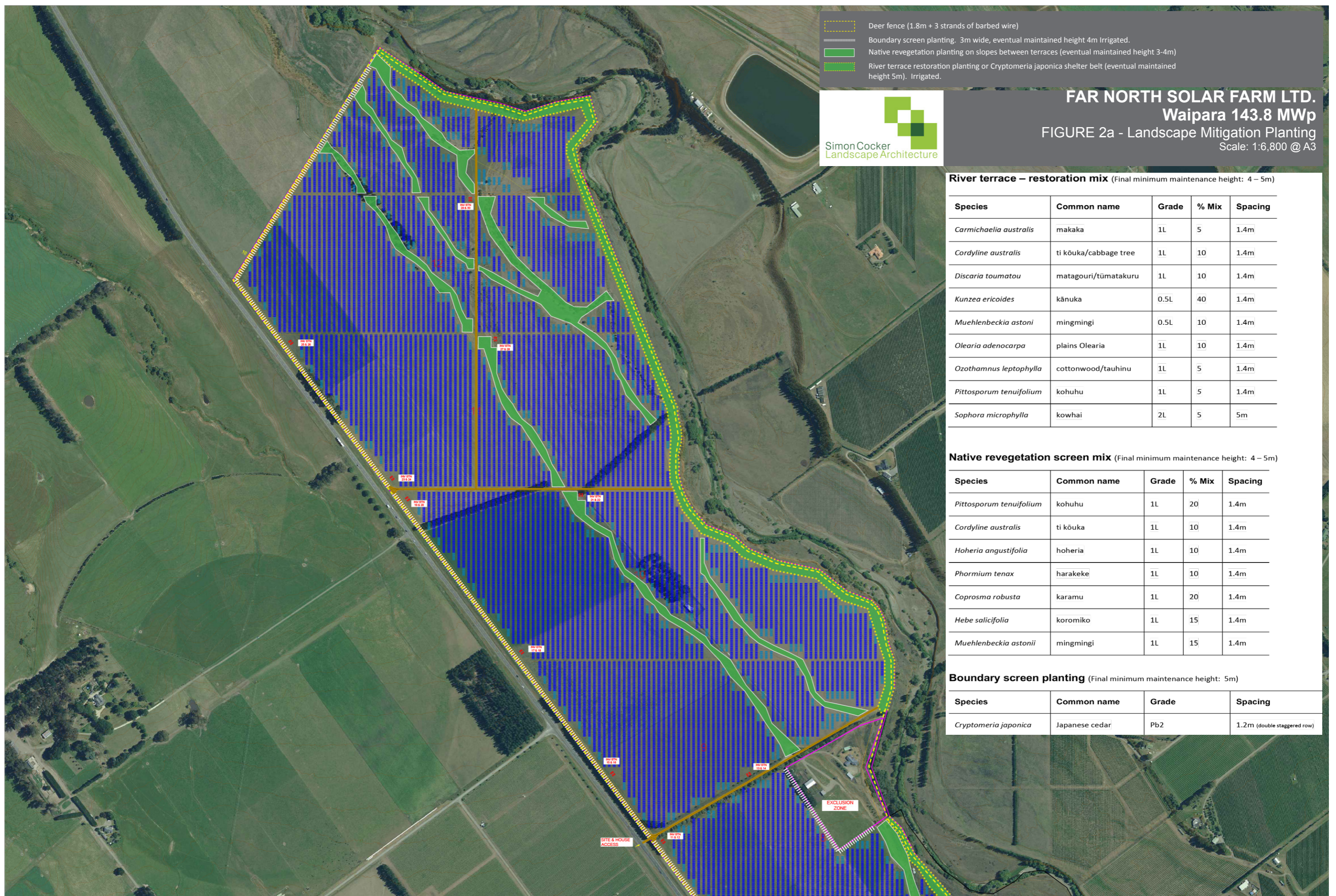
GENERAL CONTRACTOR :

AQUILA CAPITAL GENERATING ESSENTIAL INVESTMENTS
 Aquila Capital Renewables Asia Pte. Ltd.
 138 Market Street #09-04 CapitaGreen
 Singapore 048946. www.aquila-capital.com

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DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE	SIGN	TITLE
HARI	19-09-2023	ARUL	19-09-2023	TIMO	19-09-2023	H.S	MODULE GENERAL ARRANGEMENT LAYOUT

SHEET SIZE	SHEET	SCALE	REV
A1	1 OF 1	1:6800	G



- Deer fence (1.8m + 3 strands of barbed wire)
- Boundary screen planting. 3m wide, eventual maintained height 4m Irrigated.
- Native revegetation planting on slopes between terraces (eventual maintained height 3-4m)
- River terrace restoration planting or *Cryptomeria japonica* shelter belt (eventual maintained height 5m). Irrigated.



FAR NORTH SOLAR FARM LTD.
Waipara 143.8 MWp
FIGURE 2a - Landscape Mitigation Planting
 Scale: 1:6,800 @ A3

River terrace – restoration mix (Final minimum maintenance height: 4 – 5m)

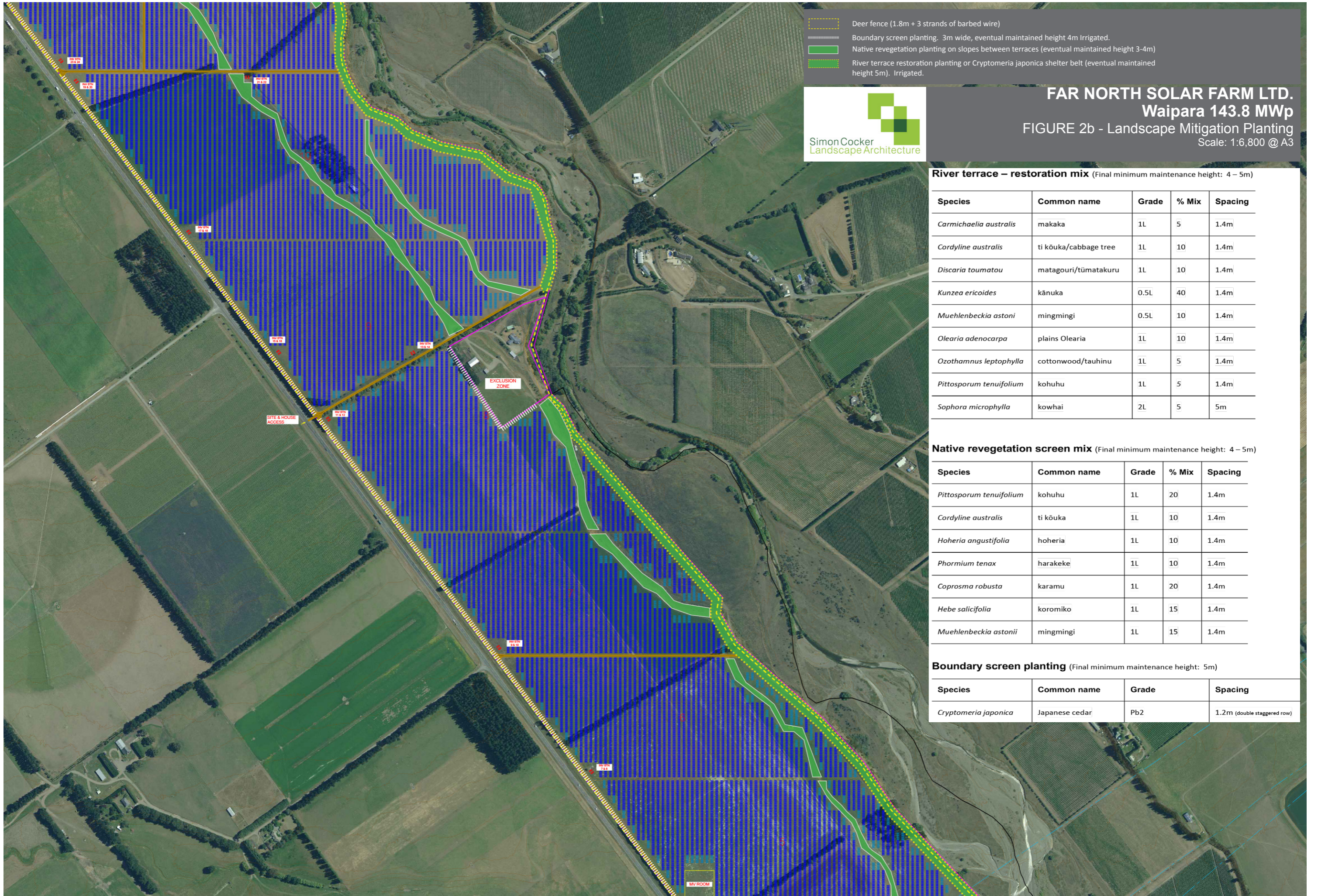
Species	Common name	Grade	% Mix	Spacing
<i>Carmichaelia australis</i>	makaka	1L	5	1.4m
<i>Cordyline australis</i>	ti kōuka/cabbage tree	1L	10	1.4m
<i>Discaria toumatou</i>	matagouri/tūmatakurū	1L	10	1.4m
<i>Kunzea ericoides</i>	kānuka	0.5L	40	1.4m
<i>Muehlenbeckia astoni</i>	mingmingi	0.5L	10	1.4m
<i>Olearia adenocarpa</i>	plains Olearia	1L	10	1.4m
<i>Ozothamnus leptophylla</i>	cottonwood/tauhinu	1L	5	1.4m
<i>Pittosporum tenuifolium</i>	kohuhu	1L	5	1.4m
<i>Sophora microphylla</i>	kowhai	2L	5	5m

Native revegetation screen mix (Final minimum maintenance height: 4 – 5m)

Species	Common name	Grade	% Mix	Spacing
<i>Pittosporum tenuifolium</i>	kohuhu	1L	20	1.4m
<i>Cordyline australis</i>	ti kōuka	1L	10	1.4m
<i>Hoheria angustifolia</i>	hoheria	1L	10	1.4m
<i>Phormium tenax</i>	harakeke	1L	10	1.4m
<i>Coprosma robusta</i>	karamu	1L	20	1.4m
<i>Hebe salicifolia</i>	koromiko	1L	15	1.4m
<i>Muehlenbeckia astonii</i>	mingmingi	1L	15	1.4m

Boundary screen planting (Final minimum maintenance height: 5m)

Species	Common name	Grade	Spacing
<i>Cryptomeria japonica</i>	Japanese cedar	Pb2	1.2m (double staggered row)



- Deer fence (1.8m + 3 strands of barbed wire)
- Boundary screen planting. 3m wide, eventual maintained height 4m Irrigated.
- Native revegetation planting on slopes between terraces (eventual maintained height 3-4m)
- River terrace restoration planting or Cryptomeria japonica shelter belt (eventual maintained height 5m). Irrigated.



FAR NORTH SOLAR FARM LTD.
Waipara 143.8 MWp
FIGURE 2b - Landscape Mitigation Planting
 Scale: 1:6,800 @ A3

River terrace – restoration mix (Final minimum maintenance height: 4 – 5m)





Species	Common name	Grade	% Mix	Spacing
<i>Carmichaelia australis</i>	makaka	1L	5	1.4m
<i>Cordyline australis</i>	ti kōuka/cabbage tree	1L	10	1.4m
<i>Discaria toumatou</i>	matagouri/tūmatakuru	1L	10	1.4m
<i>Kunzea ericoides</i>	kānuka	0.5L	40	1.4m
<i>Muehlenbeckia astoni</i>	mingmingi	0.5L	10	1.4m
<i>Olearia adenocarpa</i>	plains Olearia	1L	10	1.4m
<i>Ozothamnus leptophylla</i>	cottonwood/tauhinu	1L	5	1.4m
<i>Pittosporum tenuifolium</i>	kohuhu	1L	5	1.4m
<i>Sophora microphylla</i>	kowhai	2L	5	5m

Native revegetation screen mix (Final minimum maintenance height: 4 – 5m)

Species	Common name	Grade	% Mix	Spacing
<i>Pittosporum tenuifolium</i>	kohuhu	1L	20	1.4m
<i>Cordyline australis</i>	ti kōuka	1L	10	1.4m
<i>Hoheria angustifolia</i>	hoheria	1L	10	1.4m
<i>Phormium tenax</i>	harakeke	1L	10	1.4m
<i>Coprosma robusta</i>	karamu	1L	20	1.4m
<i>Hebe salicifolia</i>	koromiko	1L	15	1.4m
<i>Muehlenbeckia astonii</i>	mingmingi	1L	15	1.4m

Boundary screen planting (Final minimum maintenance height: 5m)

Species	Common name	Grade	Spacing
<i>Cryptomeria japonica</i>	Japanese cedar	Pb2	1.2m (double staggered row)

-  Deer fence (1.8m + 3 strands of barbed wire)
-  Boundary screen planting. 3m wide, eventual maintained height 4m Irrigated.
-  Native revegetation planting on slopes between terraces (eventual maintained height 3-4m)
-  River terrace restoration planting or Cryptomeria japonica shelter belt (eventual maintained height 5m). Irrigated.



FAR NORTH SOLAR FARM LTD.
Waipara 143.8 MWp
 FIGURE 2c - Landscape Mitigation Planting
 Scale: 1:6,800 @ A3

River terrace – restoration mix (Final minimum maintenance height: 4 – 5m)

Species	Common name	Grade	% Mix	Spacing
<i>Carmichaelia australis</i>	makaka	1L	5	1.4m
<i>Cordyline australis</i>	ti kōuka/cabbage tree	1L	10	1.4m
<i>Discaria toumatou</i>	matagouri/tūmatakuru	1L	10	1.4m
<i>Kunzea ericoides</i>	kānuka	0.5L	40	1.4m
<i>Muehlenbeckia astoni</i>	mingmingi	0.5L	10	1.4m
<i>Olearia adenocarpa</i>	plains Olearia	1L	10	1.4m
<i>Ozothamnus leptophylla</i>	cottonwood/tauhinu	1L	5	1.4m
<i>Pittosporum tenuifolium</i>	kohuhu	1L	5	1.4m
<i>Sophora microphylla</i>	kowhai	2L	5	5m

Native revegetation screen mix (Final minimum maintenance height: 4 – 5m)

Species	Common name	Grade	% Mix	Spacing
<i>Pittosporum tenuifolium</i>	kohuhu	1L	20	1.4m
<i>Cordyline australis</i>	ti kōuka	1L	10	1.4m
<i>Hoheria angustifolia</i>	hoheria	1L	10	1.4m
<i>Phormium tenax</i>	harakeke	1L	10	1.4m
<i>Coprosma robusta</i>	karamu	1L	20	1.4m
<i>Hebe salicifolia</i>	koromiko	1L	15	1.4m
<i>Muehlenbeckia astonii</i>	mingmingi	1L	15	1.4m

Boundary screen planting (Final minimum maintenance height: 5m)

Species	Common name	Grade	Spacing
<i>Cryptomeria japonica</i>	Japanese cedar	Pb2	1.2m (double staggered row)

