RIVERLANDS FORESHORE WALK

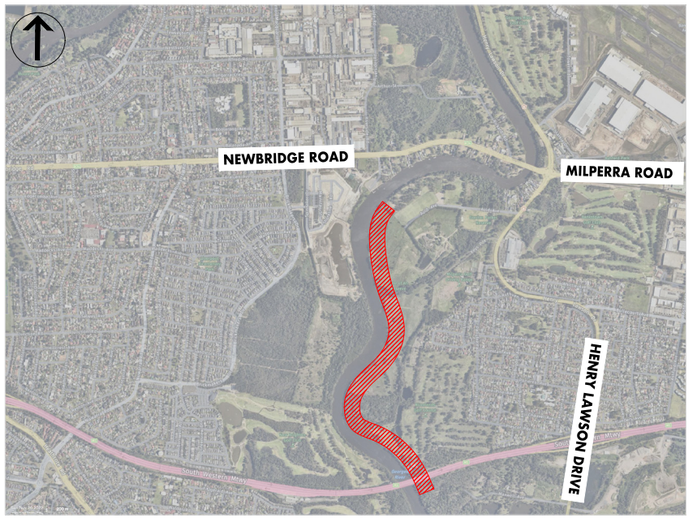
RIVERLANDS, MILPERRA. NSW

LANDSCAPE PLANS

Landscape Drawing List

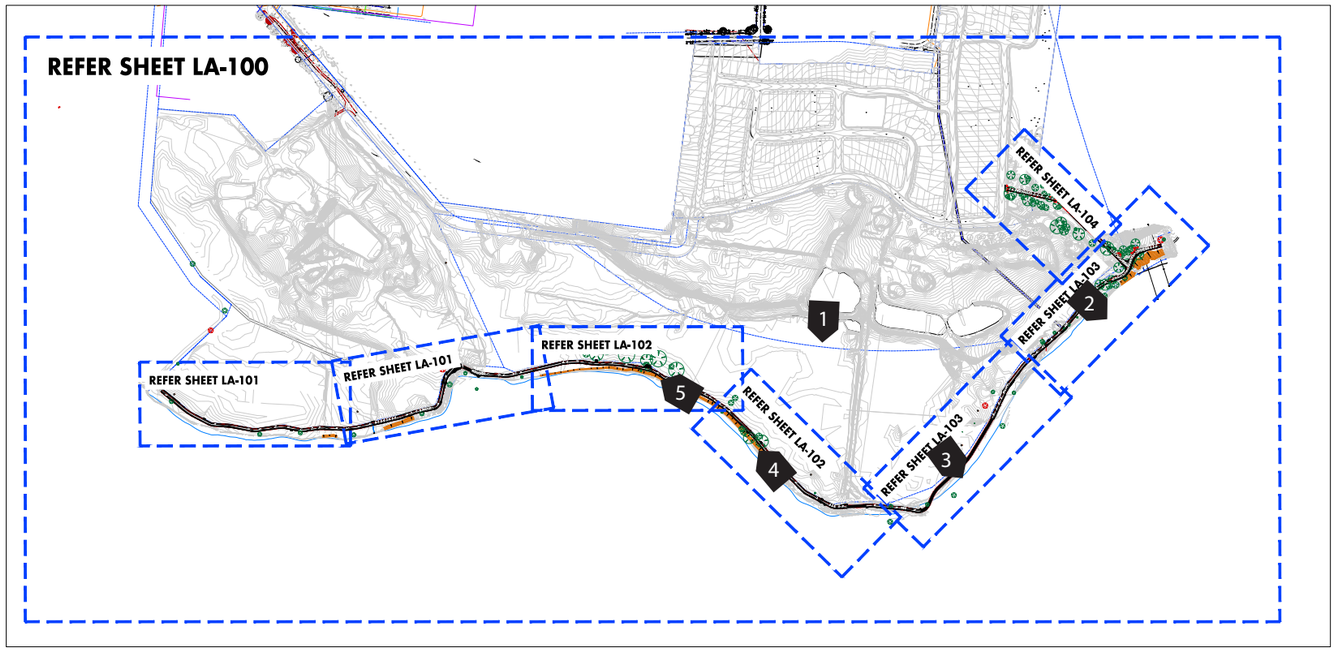
Drawing No.	Title
LA-000	COVER SHEET AND REFERENCE PLAN
LA-001	MASTERPLAN
LA-100	PRECEDENTS AND MATERIAL PALETTE
LA-101	LANDSCAPE PLANS
LA-102	LANDSCAPE PLANS
LA-103	LANDSCAPE PLANS
LA-104	LANDSCAPE PLANS
LA-105	LANDSCAPE DETAIL PLANS
LA-106	LANDSCAPE DETAIL PLANS
LA-300	PLANTING SCHEDULE
LA-400	LANDSCAPE DETAILS
LA-401	LANDSCAPE DETAILS
LA-SPEC	LANDSCAPE SPECIFICATIONS

Site Location Plan



NOTE: Landscape Plans must be read in conjunction with Calibre's Drawings

NOTE: Plans are designed to be read and printed in colour



REFERENCE PLAN
Not To Scale

SITE VISIT 26.04.23

NOTE: All planting specified from 'Riverlands Site – Georges River and Northern Creekline VMP' (Cumberland Ecology 2022)

Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

ENGINEER

calibre

LEGEND

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT

mirvac

PROJECT

RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE

COVER SHEET AND REFERENCE PLAN

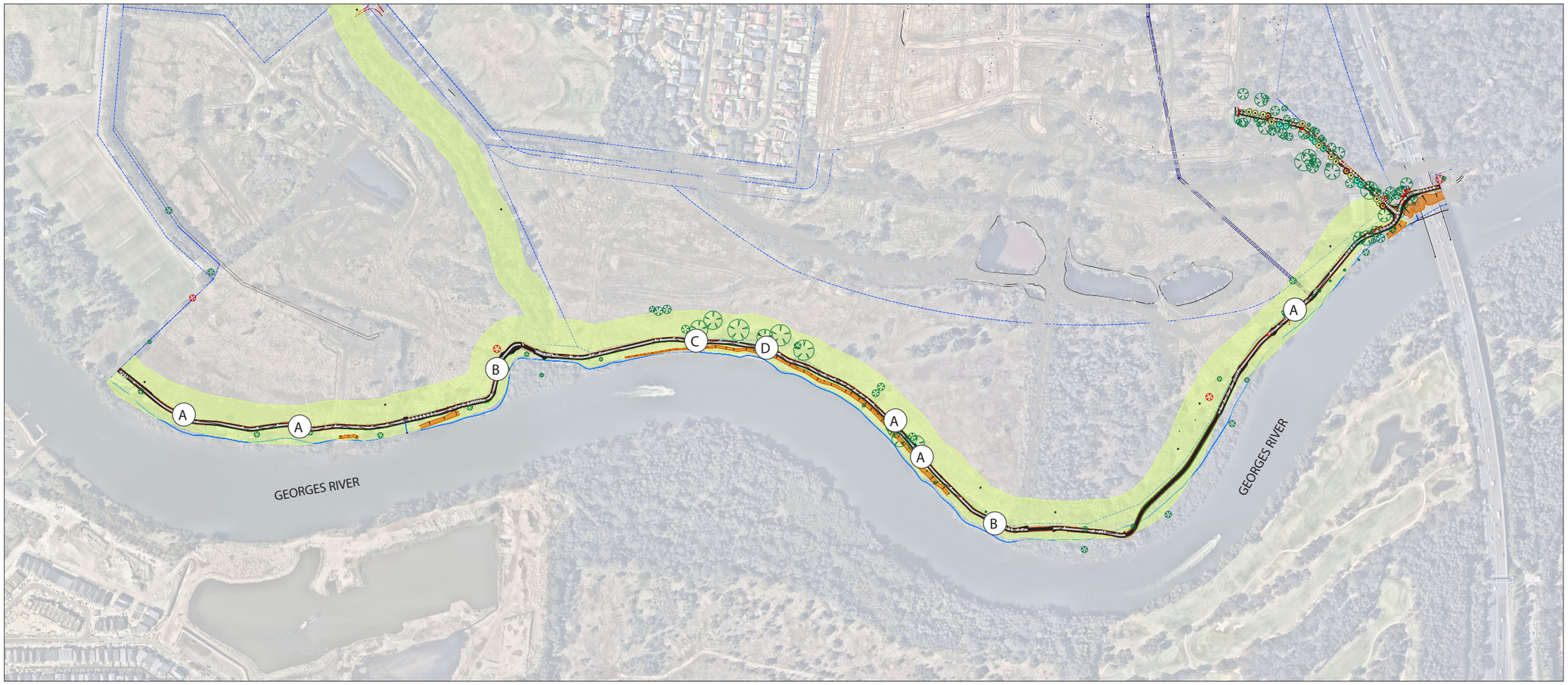
DESIGNED:	DRAWN: ET	CHECK: GP
APPROVAL:	Garth Paterson	BLA (CANB) MLAUD (HARV) FAILA • Registered Landscape Architect: 716
SIGNED:		DATE: 13.11.23

ISSUE	PROJECT NO.
DA ISSUE	-

SCALE

NOT TO SCALE

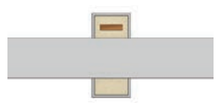
DRAWING NO.	REVISION
LA-000	B



MASTERPLAN

A

SINGLE SEATING NODE

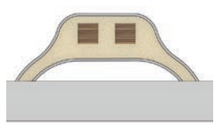


B

SEATING/VIEWING NODE

C

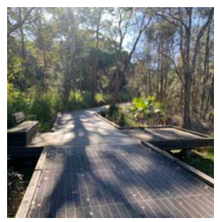
MULTIPLE SEATING NODE



D

PICNIC AREA





SEATING NODE TYPOLOGY

Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

Use figured dimensions only. All dimensions to be verified on site before commencing work. All dimensions are in mm unless otherwise stated. The drawings are to be read in conjunction with the specification and any other written instructions issued.
Any discrepancies shall be referred to the Superintendent for a written decision prior to ordering/ supply/ installation/ construction.

ENGINEER

calibre

LEGEND

- EXTENT OF WORKS
- RIVER EDGE
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- Ang flo *Angophora floribunda* PER DETAILS AND SCHEDULE
- Cas gla *Casuarina glauca* PER DETAILS AND SCHEDULE
- Euc cre *Eucalyptus crebra* PER DETAILS AND SCHEDULE
- Euc mol *Eucalyptus moluccana* PER DETAILS AND SCHEDULE
- Euc ter *Eucalyptus tereticornis* PER DETAILS AND SCHEDULE
- Mel sty *Melaleuca stypheloides* PER DETAILS AND SCHEDULE
- VPA RIPARIAN CORRIDOR SEEDED REVEGETATION REFER FUTURE DA
- SWAMP OAK FLOODPLAIN FOREST REVEGETATION HIKO TUBE REFER DETAILS AND SCHEDULE
- RIVER FLAT EUCALYPT FOREST REVEGETATION HIKO TUBE PER DETAILS AND SCHEDULE
- MANGROVE REVEGETATION HIKO TUBE PER DETAILS AND SCHEDULE
- CUMBERLAND PLAIN WOODLAND REVEGETATION HIKO TUBE PER DETAILS AND SCHEDULE
- CONCRETE SHARED PATH REFER CIVIL DETAILS
- SANDSTONE ROCK RIP RAP REFER CIVIL DETAIL
- ELEVATED SHARED PATH REFER CIVIL DETAILS

** GGBF HABITAT SWALE & SEATING NODE LOCATIONS INDICATIVE. FURTHER INFIELD ANALYSIS REQUIRED.

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT

mirvac

PROJECT

RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE

MASTERPLAN

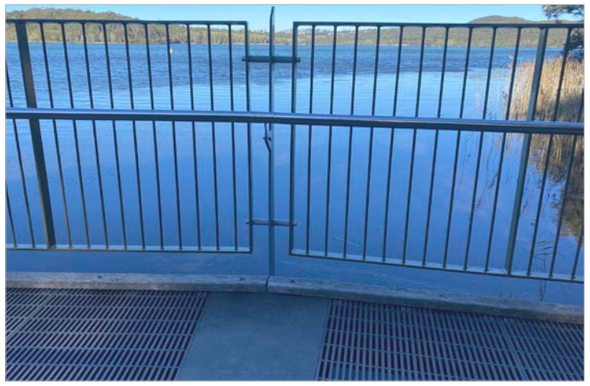
DESIGNED:	DRAWN: ET	CHECK: GP
APPROVAL:	Garth Paterson	BLA (CANB) MLAUD (HARV) FAILA • Registered Landscape Architect: 716
SIGNED:		DATE: 13.11.23

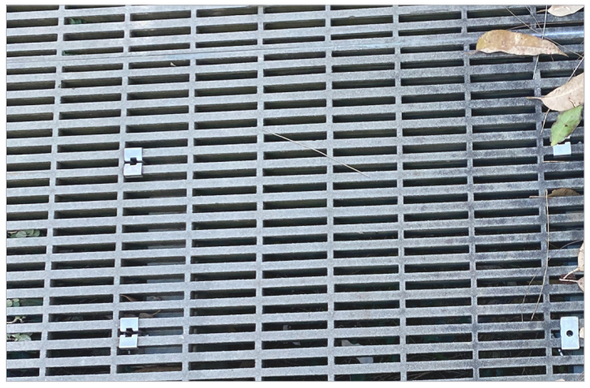
ISSUE	PROJECT NO.
DA ISSUE	-

SCALE
1:3000 @ A1 1:6000 @ A3
0 20 40 60 80 100 120m

N

DRAWING NO.	REVISION
LA-001	B





street furniture australia

aria dda table

Class: Tables | Family: Aria

July 2023

WHEELCHAIR ACCESS:

DDA tables specified with end-access (one end or both ends) must be fixed to the ground - surface fixed, subsurface fixed or core drilled.

- ☐ Side access
- ☐ Access from 1 end
- ☐ Access from both ends (only for 2100mm)

COMPATIBLE SEATING:

Benches are 485mm high to suit a taller DDA table. Refer to separate technical sheet.

- ☐ Aria Seat with Pedestal for DDA setting leg (CMA114)
- ☐ Aria Bench with Pedestal for DDA setting leg (CMA414)

CHESS BOARD:

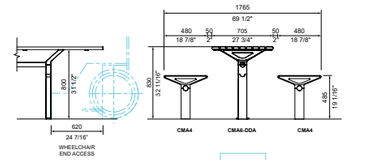
- ☐ None
- ☐ Anodised Aluminium Chess Board 405mm x 405mm | 15 15/16" x 15 15/16"

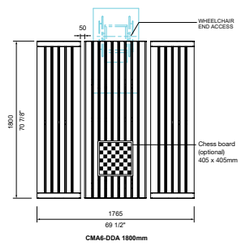
Some options incur additional fees and lead time.

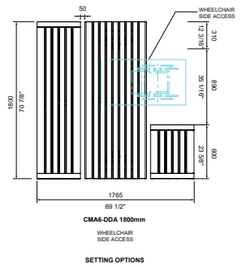
Need more information?

For a brochure, image gallery, CAD downloads, installation and maintenance guides, go to:
streetfurniture.com/au/product/aria-dda-table/

Quick links:
streetfurniture.com/au/colour-chart/
streetfurniture.com/au/warranty/
streetfurniture.com/au/parts-promise/







SETTING OPTIONS

DESIGN PRECEDENTS

1 Viewing Platforms
Platforms overlooking the river immerse visitors in the surrounding landscape. Image - Narrabeen Lagoon

2 Shaded Seating
3 Seating placed **strategically near existing canopy, making use of dappled shade.** Image - Narrabeen Lagoon

MATERIAL PALETTE

4 Seating Node Materiality
Cement stabilised **crushed sandstone gravel, with 200mm wide reinforced concrete edge.**

5 Elevated Path With Balustrade
FRP grate deck with non slip surface and stainless steel balustrade.

6 FRP Pattern
Rectangular pattern on FRP grate.

7 Seating Materiality
500x500x2000mm timber billets, on 30mm feet.

8 Picnic Seating
Street Furniture Australia Aria dda table with seating.
2 x CMA6-DDA 1800mm, wheelchair end access.
Material/Colour: PEFC Spotted Gum oiled

Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

ENGINEER

calibre

LEGEND

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT

mirvac

PROJECT

RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE

LANDSCAPE PRECEDENTS AND MATERIAL PALETTE

DESIGNED:	DRAWN: ET	CHECK: GP
APPROVAL:	Garth Paterson	BLA (CANB) MLAUD (HARV) FAILA • Registered Landscape Architect: 716
SIGNED:		DATE: 13.11.23

ISSUE	PROJECT NO.
DA ISSUE	-

SCALE

DRAWING NO.	REVISION
LA-100	B

Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

ENGINEER

calibre

LEGEND

- EXTENT OF WORKS
- RIVER EDGE
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- Ang flo *Angophora floribunda* PER DETAILS AND SCHEDULE
- Cas gla *Casuarina glauca* PER DETAILS AND SCHEDULE
- Euc cre *Eucalyptus crebra* PER DETAILS AND SCHEDULE
- Euc mol *Eucalyptus moluccana* PER DETAILS AND SCHEDULE
- Euc ter *Eucalyptus tereticornis* PER DETAILS AND SCHEDULE
- Mel sty *Melaleuca stypheloides* PER DETAILS AND SCHEDULE
- VPA RIPARIAN CORRIDOR SEEDED REVEGETATION REFER FUTURE DA
- SWAMP OAK FLOODPLAIN FOREST REVEGETATION HIKO TUBE REFER DETAILS AND SCHEDULE
- RIVER FLAT EUCALYPT FOREST REVEGETATION HIKO TUBE PER DETAILS AND SCHEDULE
- MANGROVE REVEGETATION HIKO TUBE PER DETAILS AND SCHEDULE
- CUMBERLAND PLAIN WOODLAND REVEGETATION HIKO TUBE PER DETAILS AND SCHEDULE
- CONCRETE SHARED PATH REFER CIVIL DETAILS
- SANDSTONE ROCK RIP RAP REFER CIVIL DETAIL
- ELEVATED SHARED PATH REFER CIVIL DETAILS

** SEATING NODE LOCATIONS INDICATIVE. FURTHER INFIELD ANALYSIS REQUIRED.

** VPA RIPARIAN CORRIDOR INCLUDES GGBF HABITAT SWALES - REFER FUTURE DA.

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT

mirvac

PROJECT

RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE

LANDSCAPE PLAN

DESIGNED:	DRAWN: ET	CHECK: GP
APPROVAL: Garth Patterson		BLA (CANB) MLAUD (HARV) FAILA • Registered Landscape Architect: 716
SIGNED:		DATE: 13.11.23

ISSUE: DA ISSUE

PROJECT NO.: -

SCALE: 1:500 @ A1 1:1000 @ A3

0 5 10 15 20 25[m]

DRAWING NO.: LA-101

REVISION: B

Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

ENGINEER

calibre

LEGEND

- EXTENT OF WORKS
- RIVER EDGE
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- Ang flo *Angophora floribunda* PER DETAILS AND SCHEDULE
- Cas gla *Casuarina glauca* PER DETAILS AND SCHEDULE
- Euc cre *Eucalyptus crebra* PER DETAILS AND SCHEDULE
- Euc mol *Eucalyptus moluccana* PER DETAILS AND SCHEDULE
- Euc ter *Eucalyptus tereticornis* PER DETAILS AND SCHEDULE
- Mel sty *Melaleuca stypheloides* PER DETAILS AND SCHEDULE
- VPA RIPARIAN CORRIDOR SEEDED REVEGETATION REFER FUTURE DA
- SWAMP OAK FLOODPLAIN FOREST REVEGETATION HIKO TUBE REFER DETAILS AND SCHEDULE
- RIVER FLAT EUCALYPT FOREST REVEGETATION HIKO TUBE PER DETAILS AND SCHEDULE
- MANGROVE RIVE REVEGETATION HIKO TUBE PER DETAILS AND SCHEDULE
- CUMBERLAND PLAIN WOODLAND REVEGETATION HIKO TUBE PER DETAILS AND SCHEDULE
- CONCRETE SHARED PATH REFER CIVIL DETAILS
- SANDSTONE ROCK RIP RAP REFER CIVIL DETAIL
- ELEVATED SHARED PATH REFER CIVIL DETAILS

** SEATING NODE LOCATIONS INDICATIVE. FURTHER INFIELD ANALYSIS REQUIRED.

** VPA RIPARIAN CORRIDOR INCLUDES GGBF HABITAT SWALES - REFER FUTURE DA.

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT

mirvac

PROJECT

RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE

LANDSCAPE PLAN

DESIGNED:	DRAWN: ET	CHECK: GP
APPROVAL: Garth Paterson		BLA (CANB) MLAUD (HARV) FAILA • Registered Landscape Architect: 716
SIGNED:		DATE: 13.11.23

ISSUE: DA ISSUE

PROJECT NO.: -

SCALE: 1:500 @ A1 1:1000 @ A3

0 5 10 15 20 25[m]

DRAWING NO.: LA-102

REVISION: B

ADJOINS LA-102

ADJOINS BELOW

A

A

REFER LA-200

N

ADJOINS LA-104

ENLARGEMENT

REFER SHEET LA-106

ADJOINS ABOVE

N

Paterson Design Studio

Landscape Architects / Urban Designers

Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.

T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

ENGINEER

calibre

LEGEND

- EXTENT OF WORKS
- RIVER EDGE
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- Ang flo *Angophora floribunda* PER DETAILS AND SCHEDULE
- Cas gla *Casuarina glauca* PER DETAILS AND SCHEDULE
- Euc cre *Eucalyptus crebra* PER DETAILS AND SCHEDULE
- Euc mol *Eucalyptus moluccana* PER DETAILS AND SCHEDULE
- Euc ter *Eucalyptus tereticornis* PER DETAILS AND SCHEDULE
- Mel lin *Melaleuca styphelioides* PER DETAILS AND SCHEDULE
- VPA RIPARIAN CORRIDOR SEEDED REVEGETATION REFER FUTURE DA
- SWAMP OAK FLOODPLAIN FOREST REVEGETATION HHD TUBE REFER DETAILS AND SCHEDULE
- RIVER FLAT EUCALYPT FOREST REVEGETATION HHD TUBE PER DETAILS AND SCHEDULE
- MANGROVE REVEGETATION HHD TUBE PER DETAILS AND SCHEDULE
- CUMBERLAND PLAIN WOODLAND REVEGETATION HHD TUBE PER DETAILS AND SCHEDULE
- CONCRETE SHARED PATH REFER CIVIL DETAILS
- SANDSTONE ROCK RIP RAP REFER CIVIL DETAIL
- ELEVATED SHARED PATH REFER CIVIL DETAILS

** SEATING NODE LOCATIONS INDICATIVE. FURTHER INFIELD ANALYSIS REQUIRED.

** VPA RIPARIAN CORRIDOR INCLUDES GGBF HABITAT SWALES - REFER FUTURE DA.

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT

mirvac

PROJECT

RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE

LANDSCAPE DETAIL PLAN

DESIGNED:		DRAWN: ET	CHECK: GP
APPROVAL:	Garth Paterson	BLA (CANB) MLAUD (HARV) FAILA - Registered Landscape Architect: 716	
SIGNED:		DATE: 13.11.23	

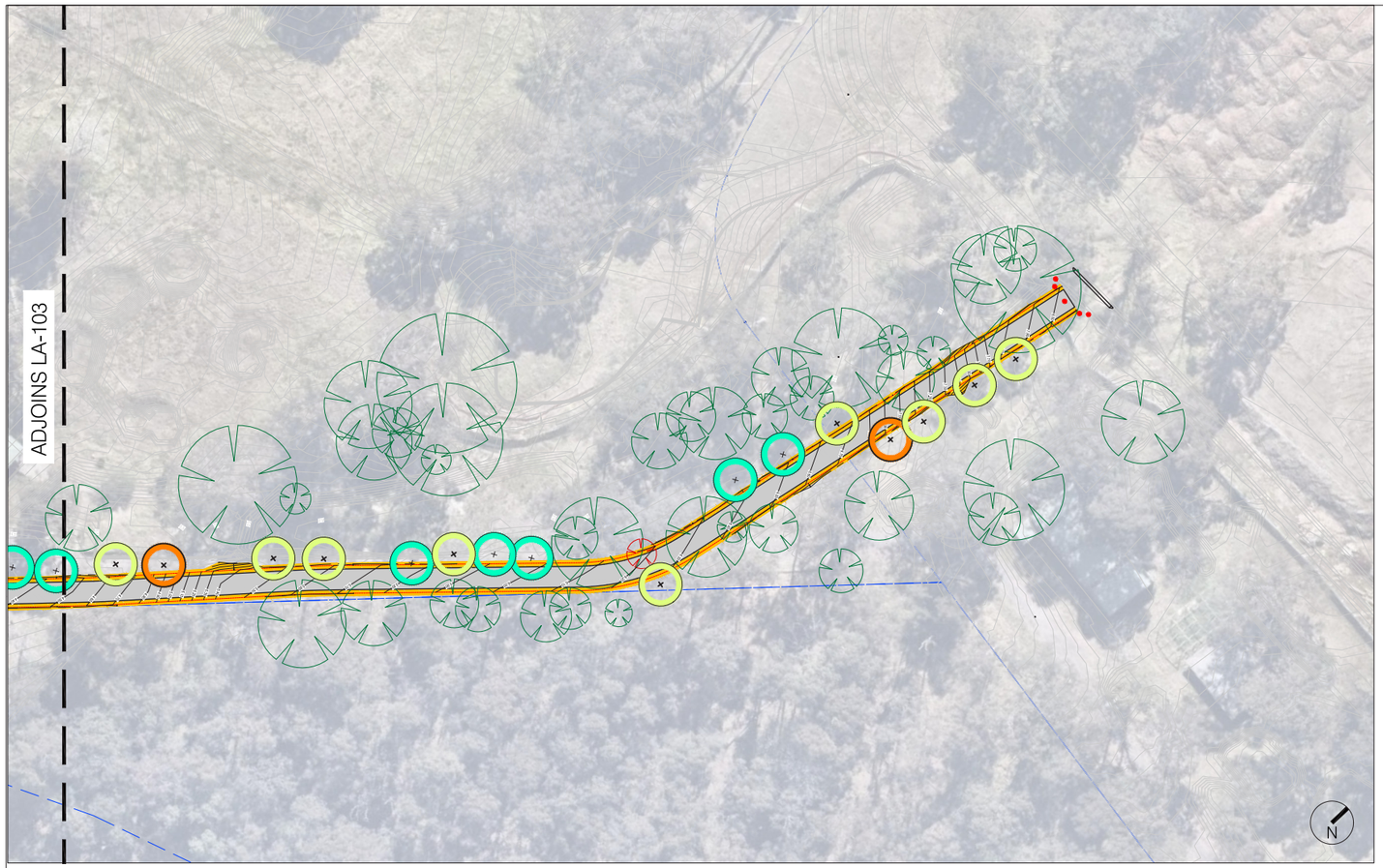
ISSUE	PROJECT NO.
DA ISSUE	-

SCALE

1:500 @ A1 1:1000 @ A3

0 5 10 15 20 25[m]

DRAWING NO.	REVISION
LA-103	B



Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

Use figured dimensions only. All dimensions to be verified on site before commencing work. All dimensions are in mm unless otherwise stated. The drawings are to be read in conjunction with the specification and any other written instructions issued.
Any discrepancies shall be referred to the Superintendent for a written decision prior to ordering/ supply/ installation/ construction.

ENGINEER

calibre

LEGEND

- EXTENT OF WORKS
- RIVER EDGE
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- Ang flo *Angophora floribunda* PER DETAILS AND SCHEDULE
- Cas gla *Casuarina glauca* PER DETAILS AND SCHEDULE
- Euc cre *Eucalyptus crebra* PER DETAILS AND SCHEDULE
- Euc mol *Eucalyptus moluccana* PER DETAILS AND SCHEDULE
- Euc ter *Eucalyptus tereticornis* PER DETAILS AND SCHEDULE
- Mel ley *Melaleuca styphelioides* PER DETAILS AND SCHEDULE
- VPA RIPARIAN CORRIDOR SEEDED REVEGETATION REFER FUTURE DA
- SWAMP OAK FLOODPLAIN FOREST REVEGETATION HHD TUBE REFER DETAILS AND SCHEDULE
- RIVER FLAT EUCALYPT FOREST REVEGETATION HHD TUBE PER DETAILS AND SCHEDULE
- MANGROVE REVEGETATION HHD TUBE PER DETAILS AND SCHEDULE
- CUMBERLAND PLAIN WOODLAND REVEGETATION HHD TUBE PER DETAILS AND SCHEDULE
- CONCRETE SHARED PATH REFER CIVIL DETAILS
- SANDSTONE ROCK RIP RAP REFER CIVIL DETAIL
- ELEVATED SHARED PATH REFER CIVIL DETAILS

** SEATING NODE LOCATIONS INDICATIVE. FURTHER INFIELD ANALYSIS REQUIRED.

** VPA RIPARIAN CORRIDOR INCLUDES GGBF HABITAT SWALES - REFER FUTURE DA.

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13,11,23
A	01	DEVELOPMENT APPLICATION	CA	GP	03,10,23

CLIENT

mirvac

PROJECT

RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE

LANDSCAPE DETAIL PLAN

DESIGNED:	DRAWN: ET	CHECK: GP
APPROVAL:	Garth Paterson	BLA (CANB) MLAUD (HARV) FAILA • Registered Landscape Architect: 716
SIGNED:		DATE: 13.11.23

ISSUE: DA ISSUE

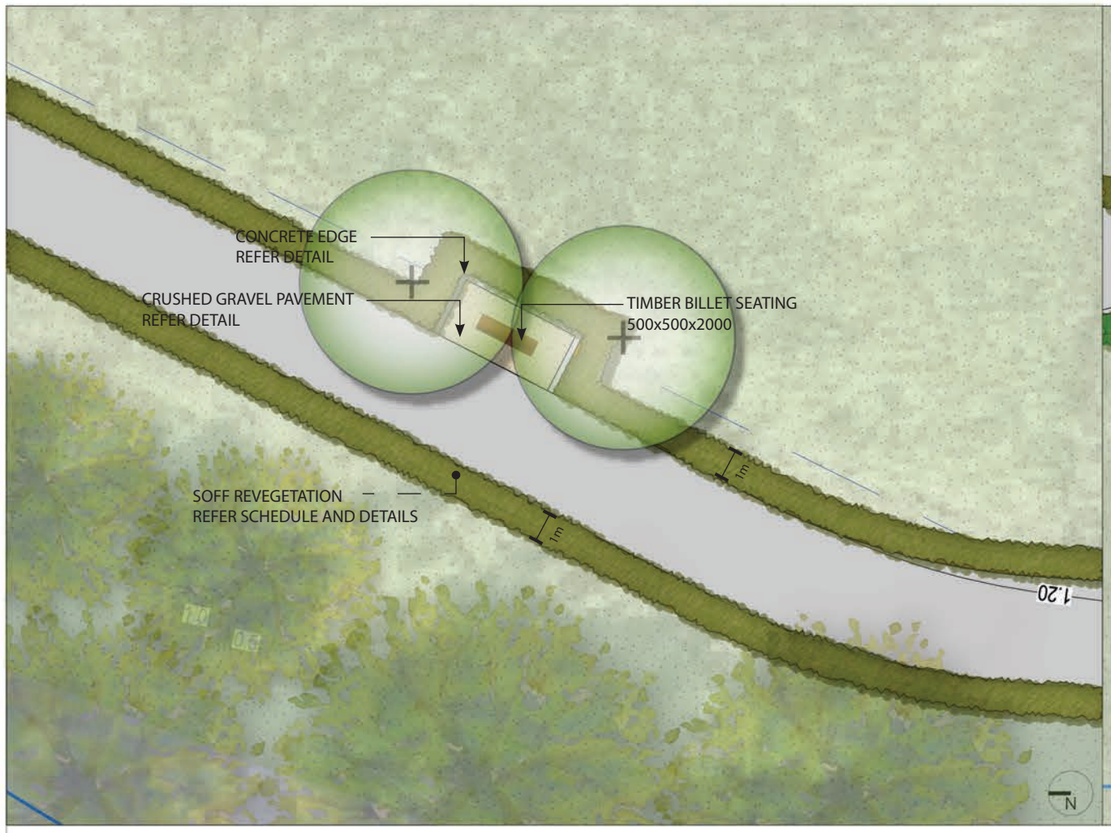
PROJECT NO.: -

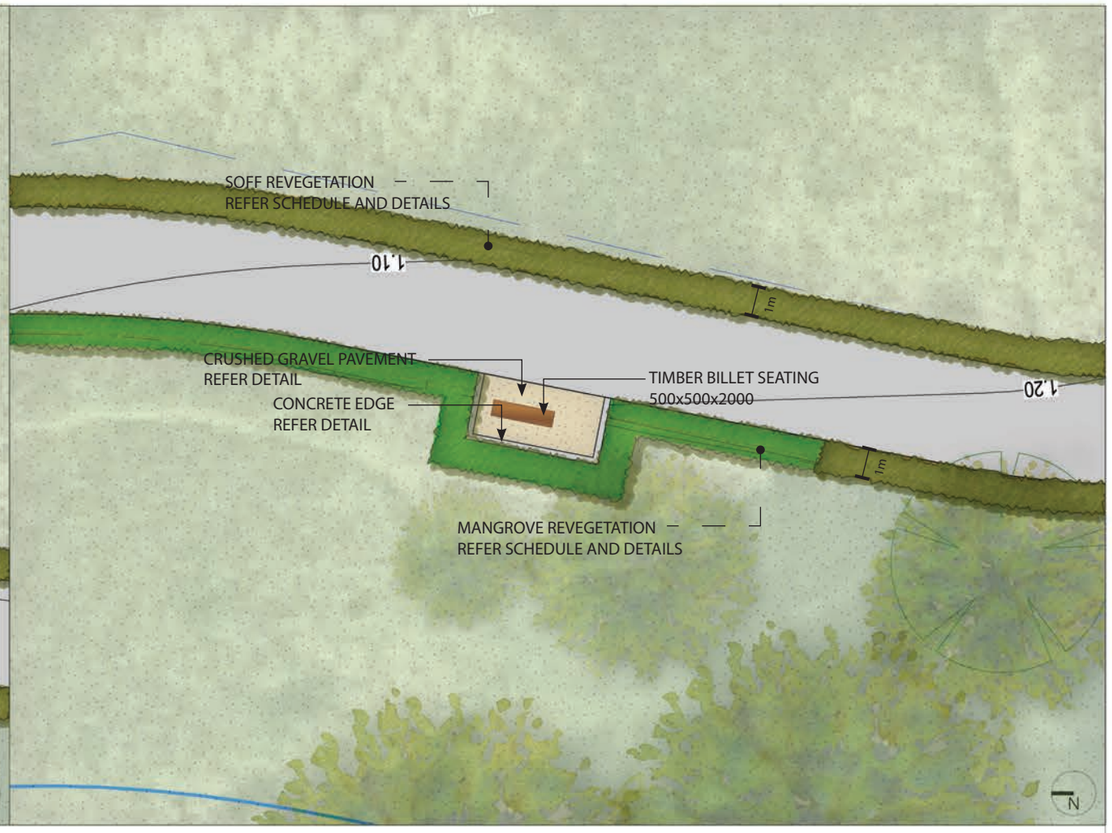
SCALE: 1:500 @ A1 1:1000 @ A3

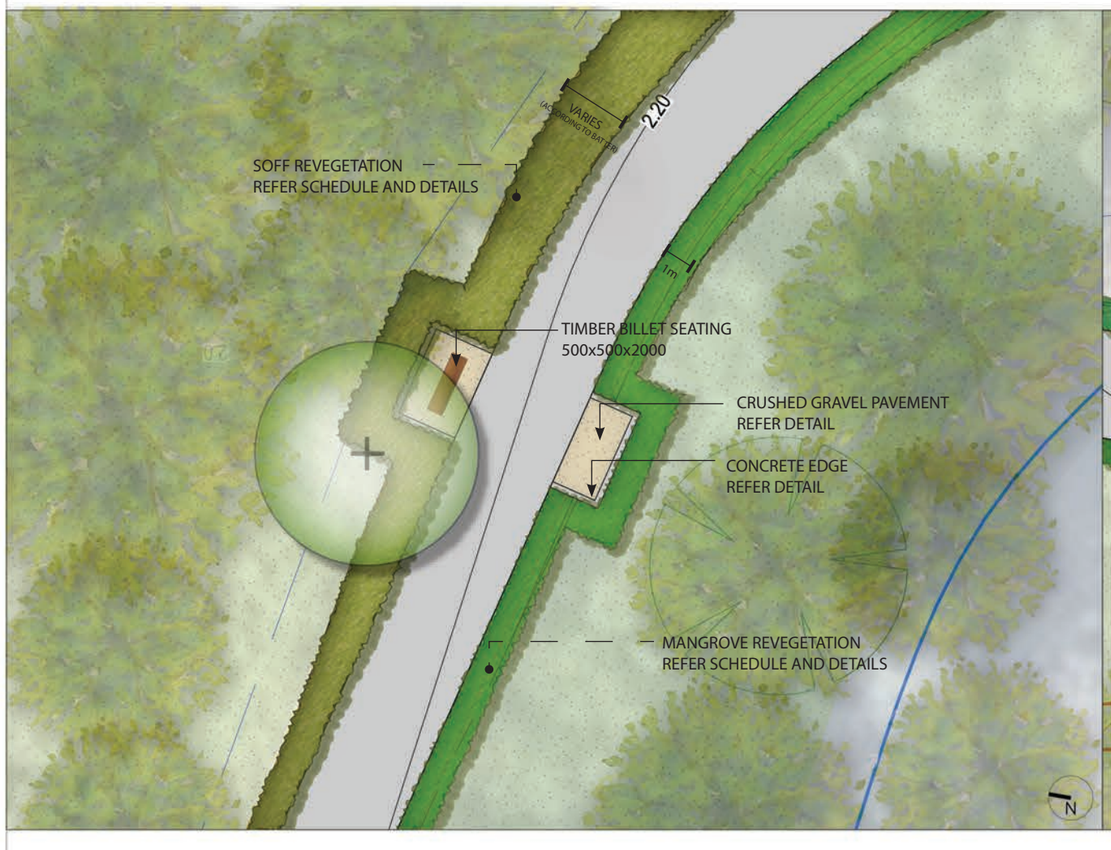
0 5 10 15 20 25[m]

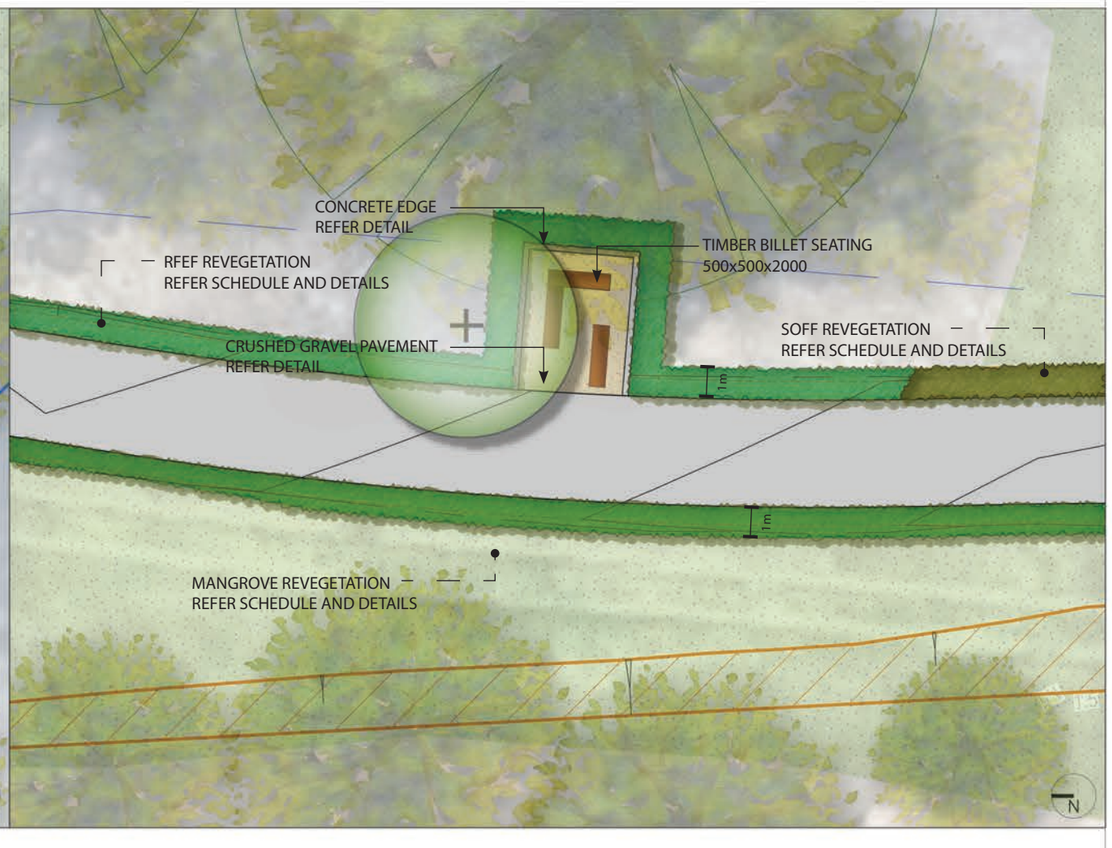
DRAWING NO.: LA-104

REVISION: B









Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

ENGINEER
calibre

LEGEND

- EXTENT OF WORKS
- RIVER EDGE
- LOT BOUNDARY
- EXISTING TREE/VEGETATION TO BE RETAINED
- PROPOSED TREE REFER LANDSCAPE PLANS
- VPA RIPARIAN CORRIDOR SEEDED REVEGETATION REFER FUTURE DA
- SWAMP OAK FLOODPLAIN FOREST REVEGETATION HIKO TUBE REFER DETAILS AND SCHEDULE
- RIVER FLAT EUCALYPT FOREST REVEGETATION HIKO TUBE REFER DETAILS AND SCHEDULE
- MANGROVE REVEGETATION HIKO TUBE REFER DETAILS AND SCHEDULE
- CONCRETE SHARED PATH REFER CIVIL DETAILS
- SANDSTONE ROCK RIP RAP REFER CIVIL DETAILS
- ELEVATED SHARED PATH REFER CIVIL DETAILS
- CRUSHED GRAVEL PAVEMENT ** REFER DETAIL
- 200mm CONCRETE EDGE ** REFER DETAIL
- TIMBER BILLET SEATING ** 500x500x2000mm

** SEATING NODE LOCATIONS INDICATIVE. FURTHER INFIELD ANALYSIS REQUIRED.

** VPA RIPARIAN CORRIDOR INCLUDES GGBF HABITAT SWALES - REFER FUTURE DA.

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT
mirvac

PROJECT
RIVERLANDS FORSHORE WALK, MILPERRA

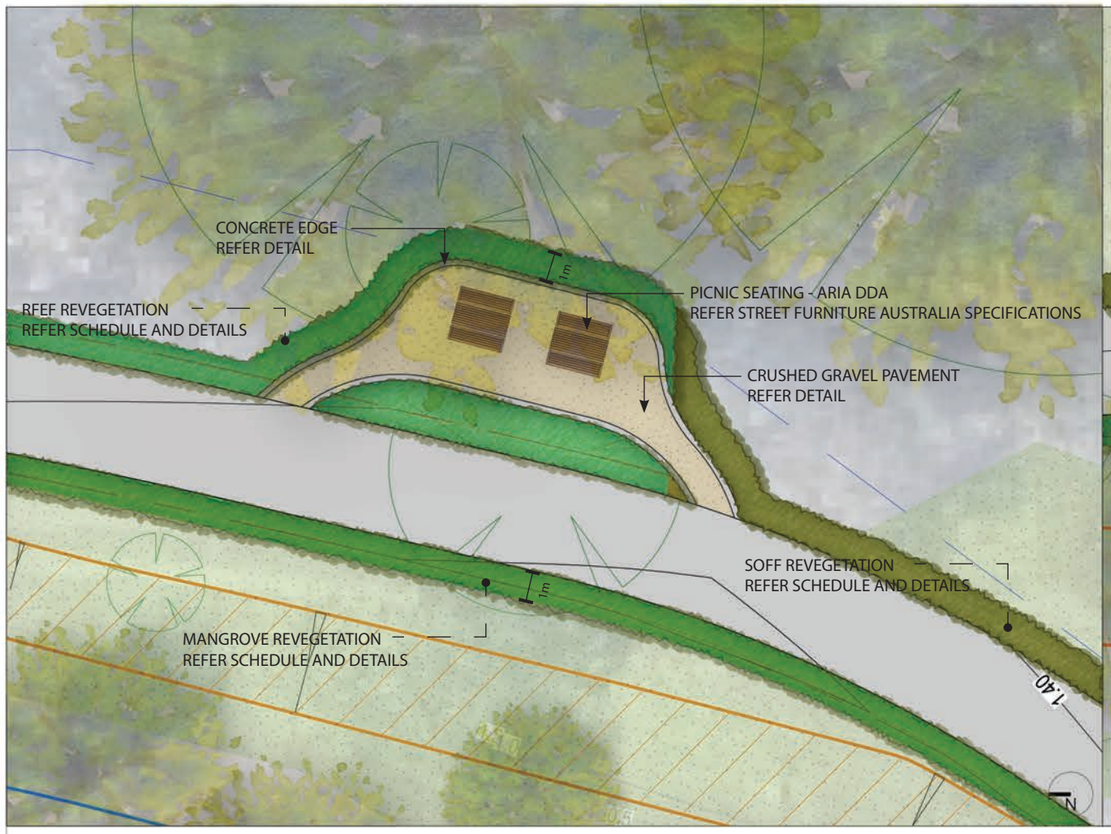
DRAWING TITLE
LANDSCAPE DETAIL PLAN

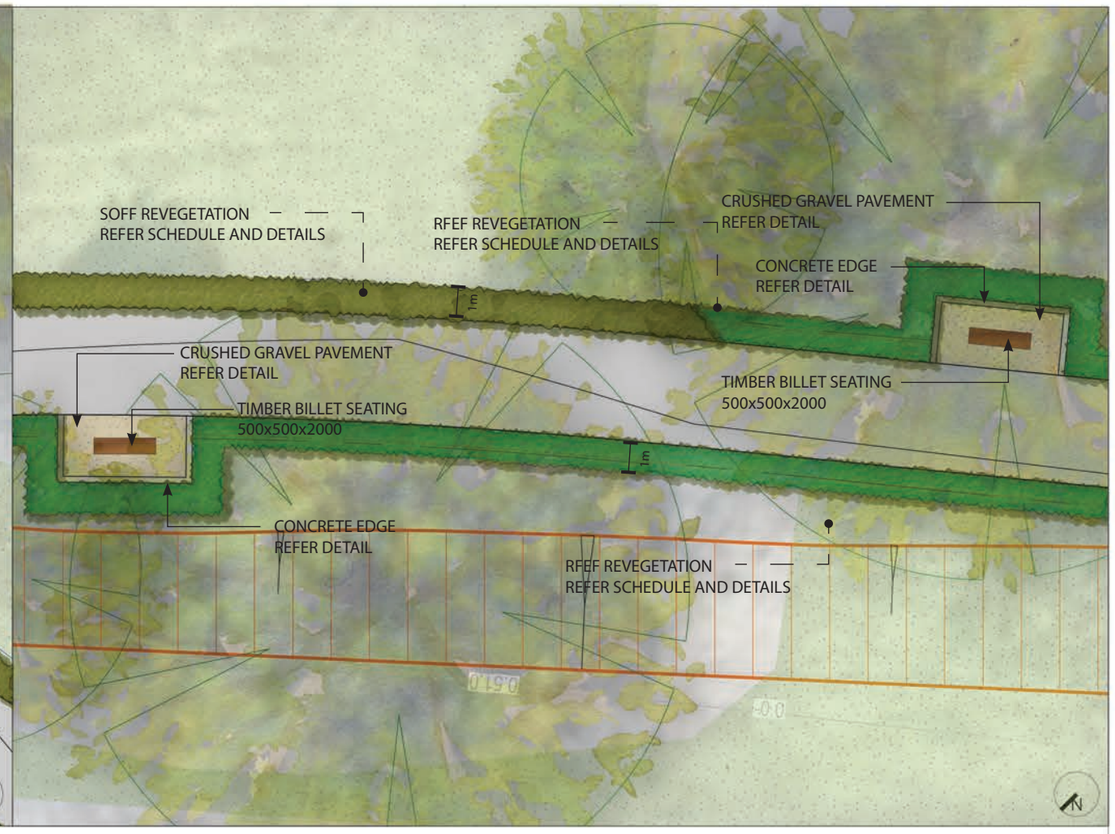
DESIGNED:	DRAWN: ET	CHECK: GP
APPROVAL:	Garth Paterson	BLA (CANB) MLAUD (HARV) FAILA - Registered Landscape Architect: 716
SIGNED:		DATE: 13.11.23

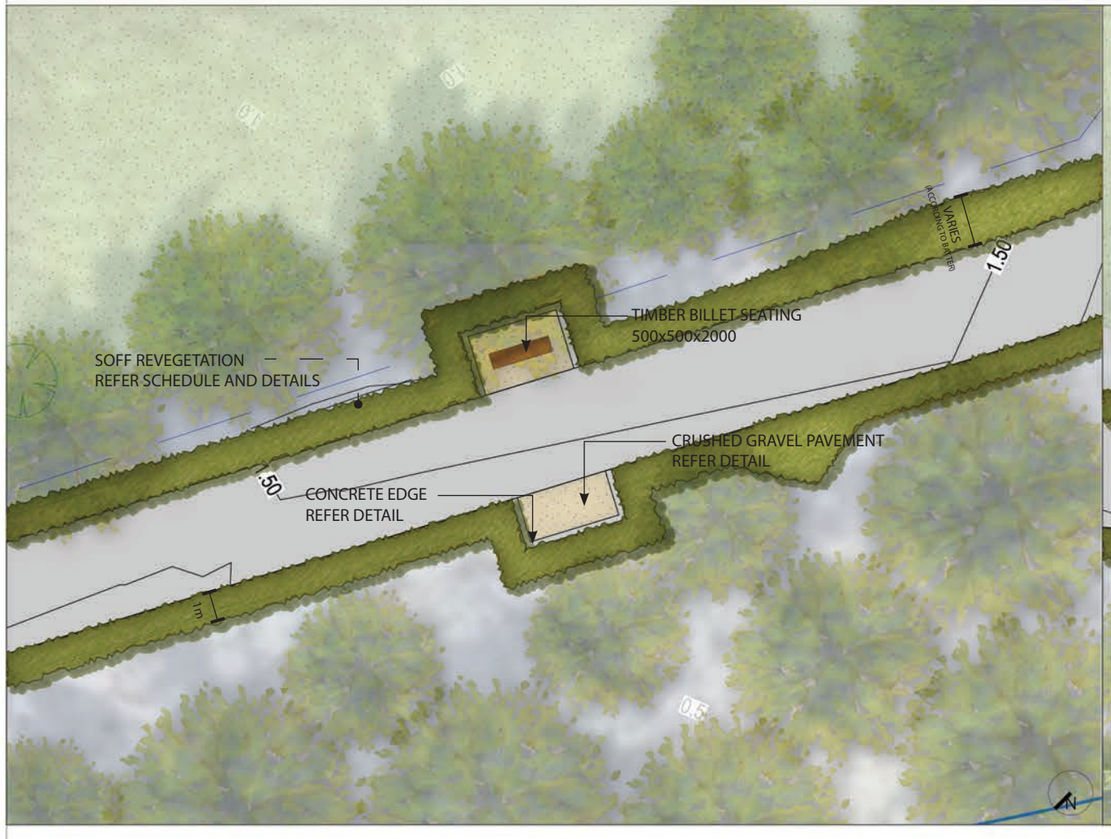
ISSUE	PROJECT NO.
DA ISSUE	-

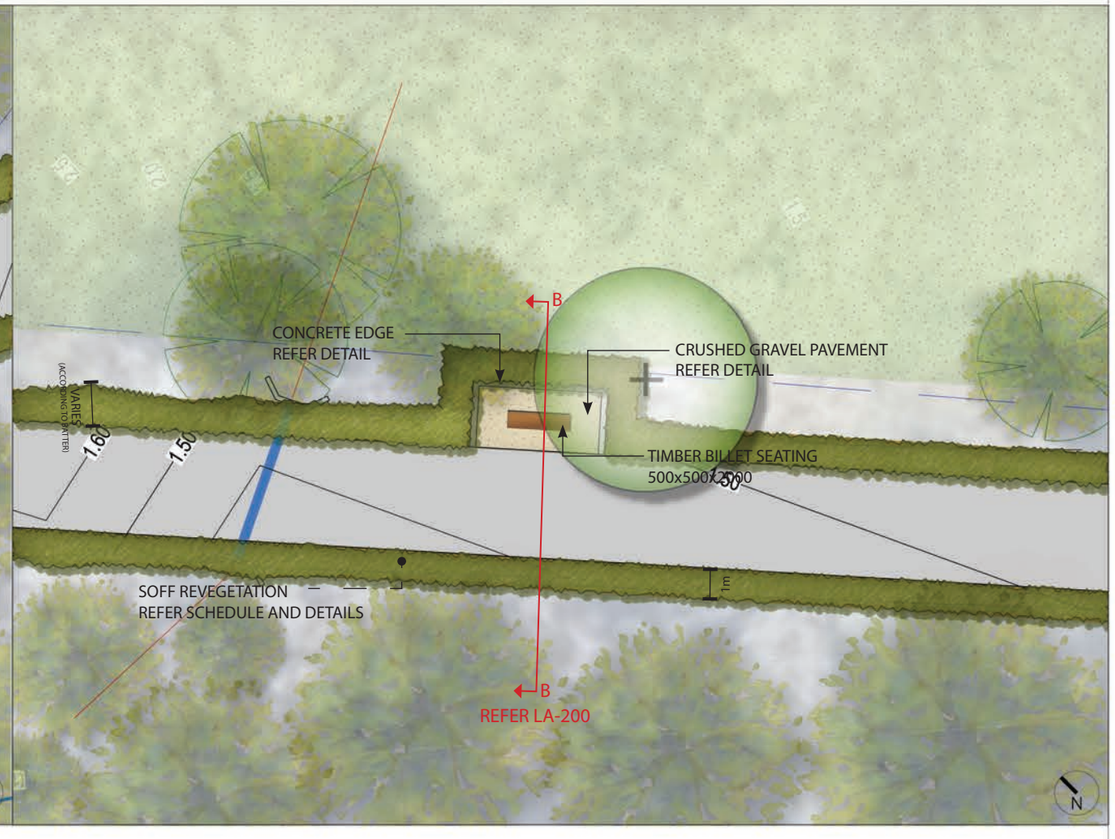
SCALE
1:100 @ A1 1:200 @ A3
0 1 2 3 4 5 6[m]

DRAWING NO.	REVISION
LA-105	B









Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

ENGINEER
calibre

LEGEND

- EXTENT OF WORKS
- RIVER EDGE
- LOT BOUNDARY
- EXISTING TREE/VEGETATION TO BE RETAINED
- PROPOSED TREE REFER LANDSCAPE PLANS
- VPA RIPARIAN CORRIDOR SEEDED REVEGETATION REFER FUTURE DA
- SWAMP OAK FLOODPLAIN FOREST REVEGETATION HIKO TUBE REFER DETAILS AND SCHEDULE
- RIVER FLAT EUCALYPT FOREST REVEGETATION HIKO TUBE REFER DETAILS AND SCHEDULE
- MANGROVE REVEGETATION HIKO TUBE REFER DETAILS AND SCHEDULE
- CONCRETE SHARED PATH REFER CIVIL DETAILS
- SANDSTONE ROCK RIP RAP REFER CIVIL DETAILS
- ELEVATED SHARED PATH REFER CIVIL DETAILS
- CRUSHED GRAVEL PAVEMENT ** REFER DETAIL
- 200mm CONCRETE EDGE ** REFER DETAIL
- TIMBER BILLET SEATING ** 500x500x2000mm

** SEATING NODE LOCATIONS INDICATIVE. FURTHER INFIELD ANALYSIS REQUIRED.

** VPA RIPARIAN CORRIDOR INCLUDES GGBF HABITAT SWALES - REFER FUTURE DA.

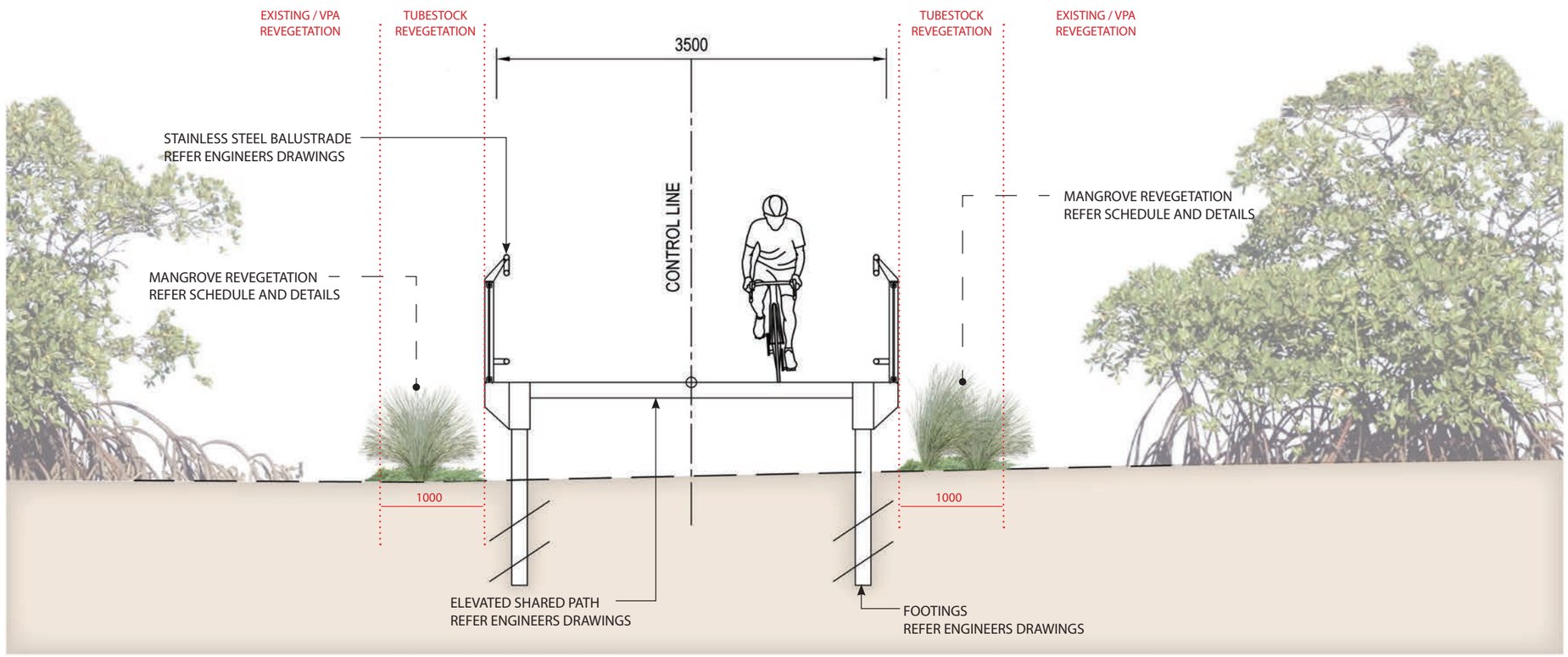
REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT
mirvac

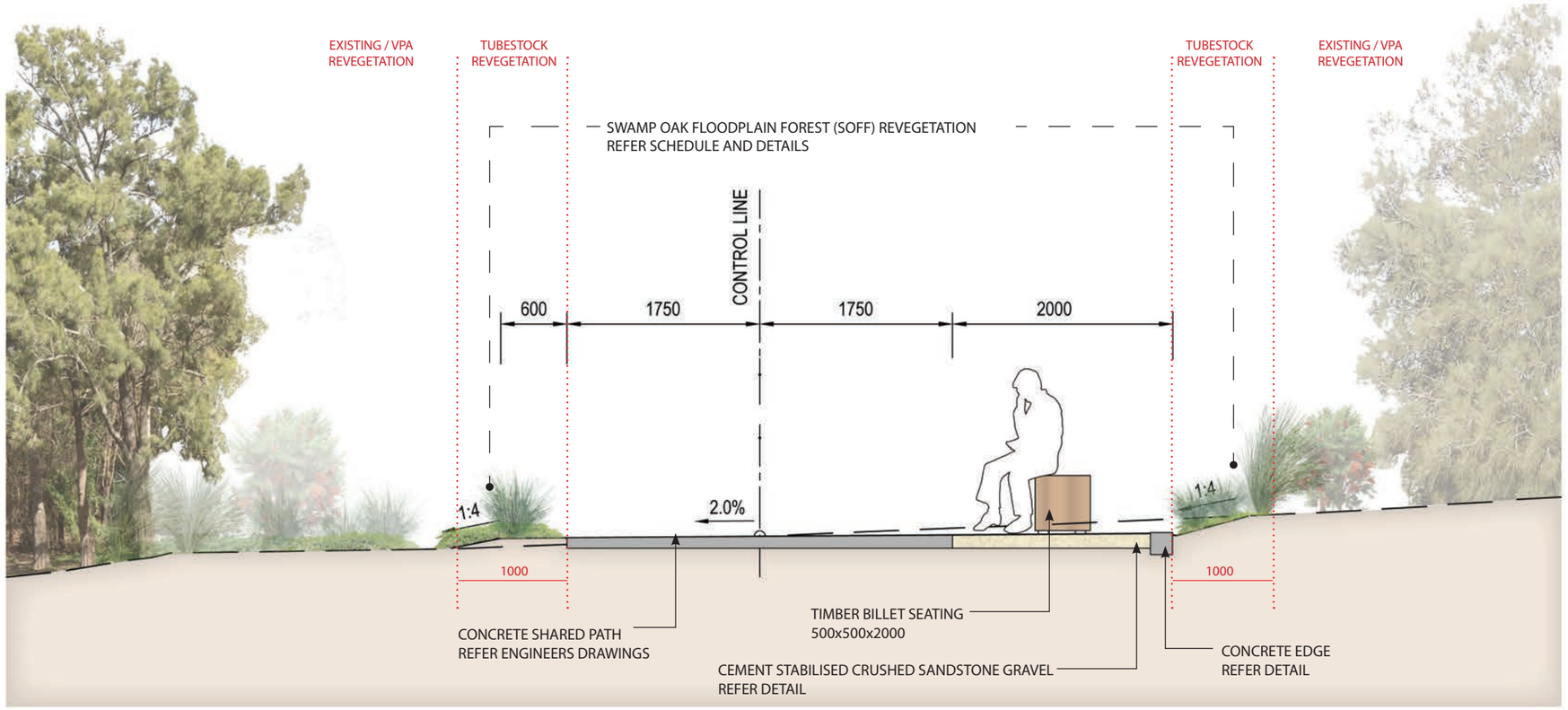
PROJECT
RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE
LANDSCAPE DETAIL PLAN

DESIGNED:		DRAWN:	ET
CHECK:	GP	APPROVAL:	Garth Paterson
BLA (CANB) MLAUD (HAR) FAILA - Registered Landscape Architect: 716		SIGNED:	DATE: 13.11.23
ISSUE	DA ISSUE	PROJECT NO.	-
SCALE	1:100 @ A1 1:200 @ A3	0 1 2 3 4 5 6[m]	
DRAWING NO.	LA-106	REVISION	B



SECTION AA



SECTION BB

Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

ENGINEER

calibre

LEGEND

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT

mirvac

PROJECT

RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE

LANDSCAPE SECTIONS

DESIGNED:		DRAWN:	ET	CHECK:	GP
APPROVAL:	Garth Paterson	BLA (CANB) MLAUD (HARV) FAILA - Registered Landscape Architect: 716			
SIGNED:		DATE: 13.11.23			

ISSUE	PROJECT NO.
DA ISSUE	-

SCALE
1:25 @ A1 1:50 @ A3
0 0,5 1,0 1,5 2,0 2,5[m]

DRAWING NO.	REVISION
LA-200	B

MASTER PLANTING LIST TREES

Code	Botanical Name	Pot Size	Density	HEIGHT @ PLANTING	CALIPER	STAKING	TOTAL
			45L TREE				
Ang flo	*Angophora floribunda*	100L	as shown	2.5m	40mm	2x 50x50x1800mm KDHW posts	1
Cas gla	*Casuarina glauca*	100L	as shown	2.5m	40mm	2x 50x50x1800mm KDHW posts	1
Euc cre	*Eucalyptus crebra*	100L	as shown	2.5m	40mm	2x 50x50x1800mm KDHW posts	7
Euc mol	*Eucalyptus moluccana*	100L	as shown	2.5m	40mm	2x 50x50x1800mm KDHW posts	11
Euc ter	*Eucalyptus tereticornis*	100L	as shown	2.5m	40mm	2x 50x50x1800mm KDHW posts	3
Mel sty	*Melaleuca stypheloides*	100L	as shown	2.5m	40mm	2x 50x50x1800mm KDHW posts	3
			HIKO/TUBE TREE				
Ang flo	*Angophora floribunda*	HIKO Tube	refer mix table	NA	NA	NA	12
Cas gla	*Casuarina glauca*	HIKO Tube	refer mix table	NA	NA	NA	280
Euc bau	*Eucalyptus baueriana*	HIKO Tube	refer mix table	NA	NA	NA	12
Euc cre	*Eucalyptus crebra*	HIKO Tube	refer mix table	NA	NA	NA	16
Euc mol	*Eucalyptus moluccana*	HIKO Tube	refer mix table	NA	NA	NA	16
Glo fer	*Glochidion ferdinandi*	HIKO Tube	refer mix table	NA	NA	NA	280

MASTER PLANTING LIST SHRUBS & GRASSES

Code	Botanical Name	Pot Size	Density	HEIGHT @ PLANTING	CALIPER	STAKING	TOTAL
			SHRUBS				
Bre obl	*Breynia oblongifolia*	HIKO Tube	refer mix table	NA	NA	NA	156
Bur spi	*Bursaria spinosa*	HIKO Tube	refer mix table	NA	NA	NA	32
Cal sal	*Callistemon salignus*	HIKO Tube	refer mix table	NA	NA	NA	280
Ind aus	*Indigophora australis*	HIKO Tube	refer mix table	NA	NA	NA	32
Myo acu	*Myoporum acuminatum*	HIKO Tube	refer mix table	NA	NA	NA	280
Ozo dio	*Ozothamnus diosmifolius*	HIKO Tube	refer mix table	NA	NA	NA	130
Ple par	*Plectranthus parviflorus*	HIKO Tube	refer mix table	NA	NA	NA	130
			GRASSES				
Aus ram	*Austrostipa ramosissima*	HIKO Tube	refer mix table	NA	NA	NA	391
Bau jun	*Baumea juncea*	HIKO Tube	refer mix table	NA	NA	NA	764
Car app	*Carex appressa*	HIKO Tube	refer mix table	NA	NA	NA	1399
Gah cla	*Gahnia clarkei*	HIKO Tube	refer mix table	NA	NA	NA	1399
Jun kra	*Juncus krassii subsp. Australiensis*	HIKO Tube	refer mix table	NA	NA	NA	3562
Lom mul	*Lomandra multiflora*	HIKO Tube	refer mix table	NA	NA	NA	316
Lom fil	*Lomandra filiformis*	HIKO Tube	refer mix table	NA	NA	NA	391
Mic sti	*Microlaena stipoides*	HIKO Tube	refer mix table	NA	NA	NA	632
Spo vir	*Sporobulus virginicus*	HIKO Tube	refer mix table	NA	NA	NA	1527
The tri	*Themeda triandra*	HIKO Tube	refer mix table	NA	NA	NA	707
			GROUNDCOVERS				
Aju aus	*Ajuga australis*	HIKO Tube	refer mix table	NA	NA	NA	316
Dic rep	*Dichondra repens*	HIKO Tube	refer mix table	NA	NA	NA	316
Doo asp	*Doodia aspera*	HIKO Tube	refer mix table	NA	NA	NA	587
Gly tab	*Glycine tabacina*	HIKO Tube	refer mix table	NA	NA	NA	316
Sar qui	*Sarcocornia quinqueflora*	HIKO Tube	refer mix table	NA	NA	NA	1527
Sel rad	*Selliera radicans*	HIKO Tube	refer mix table	NA	NA	NA	2798
Tet tet	*Tetragonia tetragonioides*	HIKO Tube	refer mix table	NA	NA	NA	4325
Vio hed	*Viola hederacea*	HIKO Tube	refer mix table	NA	NA	NA	587
Wah gra	*Wahlenbergia gracilis*	HIKO Tube	refer mix table	NA	NA	NA	316

PLANTING MIXES

SOFF REVEGETATION

Zone 1b		TA= 2798m2	
	Plants	Plants/m2	Density (per VMP)
GC	*Tetragonia tetragonioides*	1	4 per 1m2
	Selliera radicans	1	
GRASSES	*Carex apressa*	0.5	
	Gahnia clarkei	0.5	
	Juncus kraussii subsp. Australiensis	1	
SHRUBS	Callistemon salignus	0.1	1 per 5m2
	Myoporum acuminatum	0.1	
TREES	*Casuarina glauca*	0.1	2 per 10m2
	Glochidion ferdinandi	0.1	

RFEF REVEGETATION

Zone 2b		TA= 391m2	
	Plants	Plants/m2	Density (per VMP)
GC	*Viola hederacea*	1.5	6 per 1m2
	Doodia aspera	1.5	
GRASSES	*Austrostipa ramosissima*	1	
	Lomandra 'filiformis	1	
	Themeda triandra	1	
SHRUBS	*Plectranthus parviflorus*	0.3	1 per 3m2
	Ozothamnus diosmifolius	0.3	
	Breynia oblongifolia	0.4	
TREES	*Angophora floribunda*	0.03	1 per 16m2
	Eucalyptus baueriana	0.03	

MANGROVE REVEGETATION

Zone 3b		TA= 1527m2	
	Plants	Plants/m2	Density (per VMP)
GC	*Sarcocornia quinqueflora*	1	4 per 1m2
	Tetragonia tetragonioides	1	
GRASSES	*Baumea juncea*	0.5	
	Juncus kraussii Subsp. Australiensis	0.5	
	Sporobulus virginicus	1	

CPW REVEGETATION

Zone 4b		TA= 632m2	
	Plants	Plants/m2	Density (per VMP)
GC	*Ajuga australis*	0.5	4 per 1m2
	Dichondra repens	0.5	
	Glycine tabacina	0.5	
	Wahlenbergia gracilis	0.5	
GRASSES	*Lomandra multiflora*	0.5	
	Microlaena stipoides	1	
	Themeda triandra	0.5	
SHRUBS	*Bursaria spinosa*	0.05	1 per 10m2
	Indigophora australis	0.05	
TREES	*Eucalyptus crebra*	0.025	1 per 20m2
	Eucalyptus moluccana	0.025	

Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

ENGINEER

calibre

LEGEND

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT

mirvac

PROJECT

RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE

PLANTING SCHEDULE

DESIGNED:	DRAWN: ET	CHECK: GP
APPROVAL:	Garth Paterson	BLA (CANB) MLAUD (HARV) FAILA • Registered Landscape Architect: 716
SIGNED:	DATE: 13.11.23	

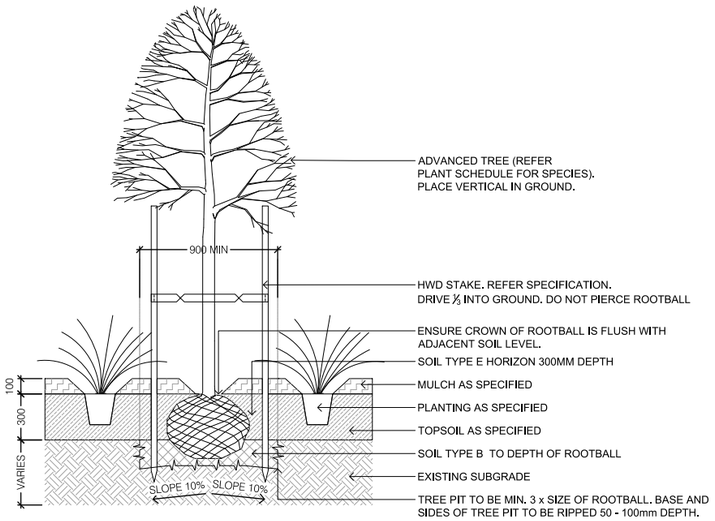
ISSUE: DA ISSUE

PROJECT NO.: -

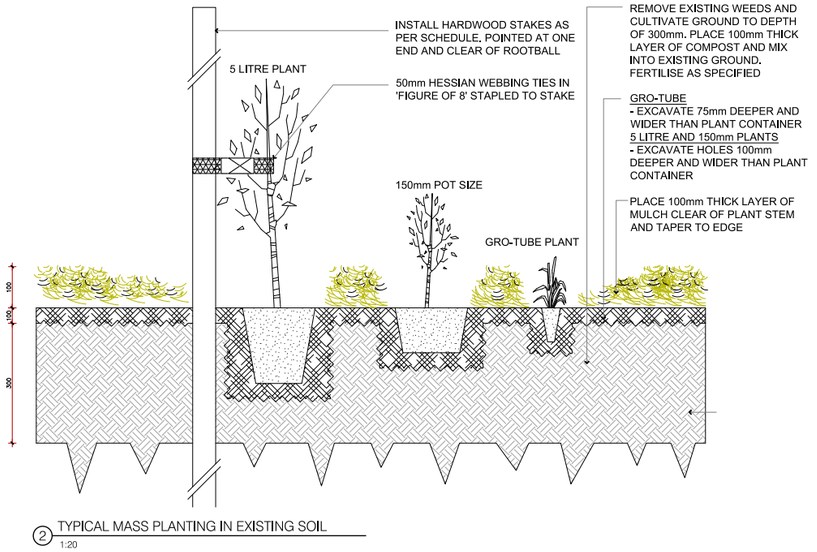
SCALE

DRAWING NO.: LA-300

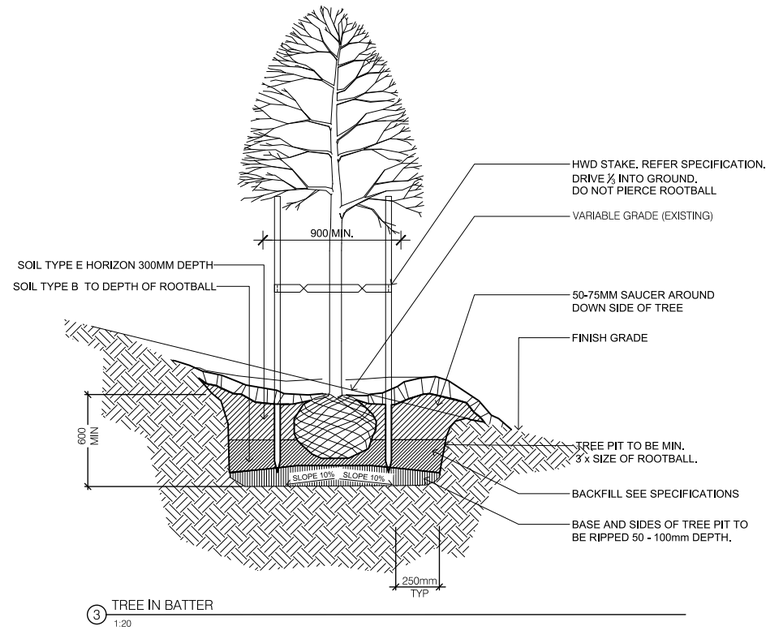
REVISION: B



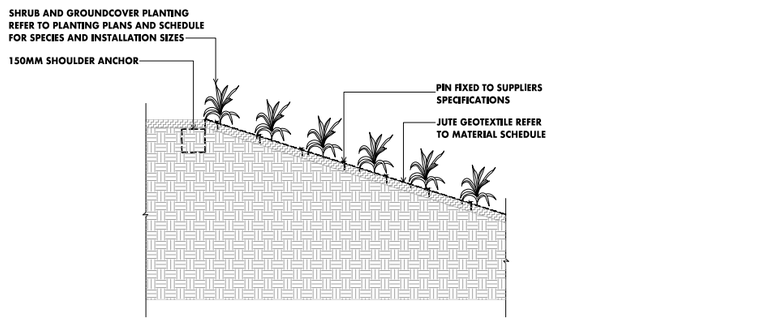
1 TREE IN MASSPLANTING
1:20



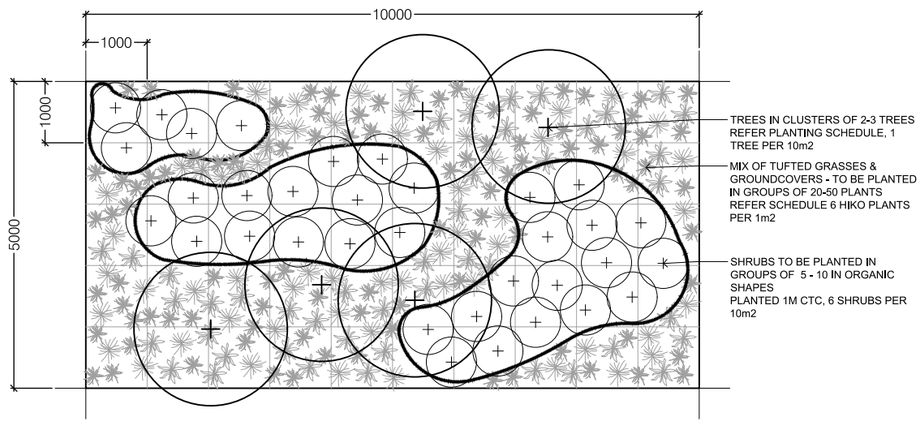
2 TYPICAL MASS PLANTING IN EXISTING SOIL
1:20



3 TREE IN BATTER
1:20



4 ON GRADE SLOPE PLANTING
1:20



5 INDICATIVE TUBESTOCK PLANTING LAYOUT 50m2
1:50

Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

ENGINEER

calibre

LEGEND

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13,11,23
A	01	DEVELOPMENT APPLICATION	CA	GP	03,10,23

CLIENT

mirvac

PROJECT

RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE

LANDSCAPE DETAILS

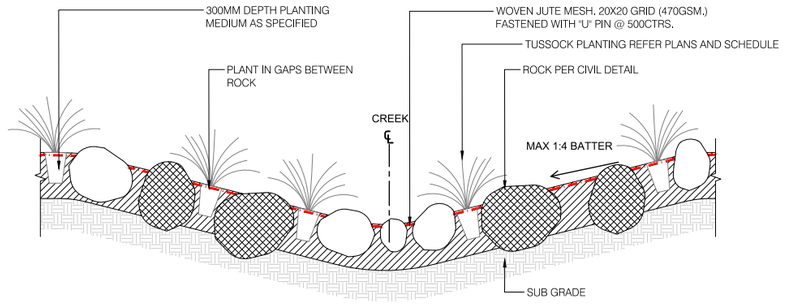
DESIGNED:	DRAWN: ET	CHECK: GP
APPROVAL:	Garth Paterson	BLA (CANB) MLAUD (HARV) FAILA • Registered Landscape Architect: 716
SIGNED:		DATE: 13.11.23

ISSUE	PROJECT NO.
DA ISSUE	-

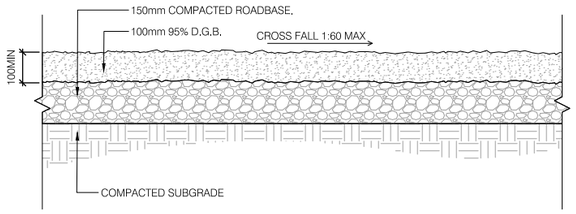
SCALE

SCALE AS SHOWN

DRAWING NO.	REVISION
LA-400	B



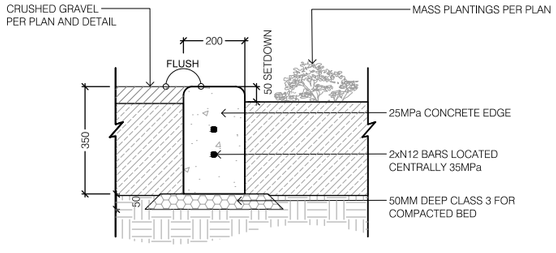
6 FROG HABITAT PLANTING IN CREEK INVERT
1:20



NOTES
1) MIX 20:1 SELECTED NATURAL TONE SANDSTONE GRAVEL:CEMENT. CEMENT: TYPE GP TP AS 3972.
2) GRAVEL GRADING: MAXIMUM PARTICLE IZE 10mm, 30 - 40% PASSING 5mm SIEVE, OF UNIFORM COLOUR AND LOW PLASTICITY.
3) GRAVEL SOURCE AND COLOUR: BUFF AS SUPPLIED BY ANL R APPROVED EQUIVALENT.
4) COMPACTION; COMPACT TO ACHIEVE A DRY DENSITY RATIO OF 95% WHEN TESTED TO AS 1289.5.4.1 (STANDARD COMPACTION).

7 CRUSHED GRANITIC SANDSTONE / GRAVEL PAVEMENT
1:10

NOTE: PROVIDE TOOLED JOINT AT 1M CENTRES TO 5mm DEPTH, EDGES CHAMFERED CONCRETE COLOUR TO MATCH ADJACENT PATHWAYS.



8 CONCRETE EDGER
1:10

Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

ENGINEER
calibre

LEGEND

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT
mirvac

PROJECT
RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE
LANDSCAPE DETAILS

DESIGNED:	DRAWN: ET	CHECK: GP
APPROVAL:	Garth Paterson	BLA (CANB) MLAUD (HARV) FAILA • Registered Landscape Architect: 716
SIGNED:		DATE: 13.11.23

ISSUE	PROJECT NO.
DA ISSUE	-

SCALE
SCALE AS SHOWN

DRAWING NO.	REVISION
LA-301	B

TECHNICAL SPECIFICATION: LANDSCAPE WORKS

Siteworks, including soil preparation;
Planting including plant and other materials, planting works, and planting establishment;
Building works associated with landscaping

1.2 STANDARDS
REFERENCED DOCUMENTS: The following standards are referred to in this project specification.
- AS 4419 (2003) Soils for landscaping and garden use
- AS 4454 (1997) Composts, soil conditioners and mulches

1.3 ORDERING
Within 12 days of the date of acceptance of tender, furnish proof of ordering the required materials, and advise immediately if any supply difficulties are encountered. No extension of time will be granted if any material or product is not available because of late ordering.

1.4 INTERPRETATION
Definitions
Site topsoil: Soil excavated from the site which has the following characteristics:
Contains organic matter.
Supports plant life.
Free from unwanted matter.
Unwanted matter (in topsoil):
Large rocks, concrete and brick.
Stones over 25 mm diameter.
Clay lumps.
Weeds and tree roots.
Sticks and rubbish.
Material toxic to plants.
Imported Topsoil:
Medium: Sandy loam, fine sandy loam.
Imported Topsoil mixture: Sandy topsoil 35-40%, recycled green waste 35-40%and ash 20%.
Site Topsoil mixture: Three parts by volume of improved topsoil and one part of recycled greenwaste compost as specified in COMPOST AND FERTILISER, thoroughly mixed before placing.

2 QUALITY

2.1 INSPECTION
Witness points
Give sufficient notice so that inspection may be made at the following stages:
Subgrades cultivated or prepared for placing topsoil.
Grassing bed prepared before turfing, seeding, or temporary grassing.
75-100 litres trees available for inspection prior to planting
75-100 litre tree holes excavated, prepared for and planting.
Playground setout
Completion of planting establishment work.

2.2 TESTS
Soil Tests
Sampling : As recommended in AS 4419 Appendix A

2.3 SAMPLES
General
General: Submit representative samples of each material, packed to prevent contamination and labelled to indicate source and content.
Samples schedule

Item	Quantity
Imported topsoils/ mixes	5kg
Compost types	5kg
Mulch types	5kg

2.4 SUBMISSIONS
Materials
Compost: Submit a certificate of proof of compost pH value.
Site Topsoil: Submit soil test results
Execution: Submit a programme of work in the form of a bar chart for the landscape works.
Maintenance programme: Submit a proposed planting maintenance program.
Certifications: Submit playground equipment and softfall certifications.

3 SITE MANAGEMENT

3.1 WORK NEAR TREES
Work under trees
Tree Protection Zone is a radius of 12 x trunk diameter at 1.4m above ground, as defined in AS 4970-2009. TPZ also applies to canopy.
Protect all existing trees from damage by the works within the TPZ, unless otherwise noted on the drawing. Take the necessary precautions including the following :
Protective Fence: Protect existing trees outside the riparian zone with a protective fence.
Protective fence shall be a star picket and wire fence (pickets max 2400 centres with 3 strands fencing wire, 900 high) installed minimum 3m from trunk in any direction.
General: Do not remove topsoil from, or add topsoil to, the area within the Tree Protection Zone (TPZ) of the trees.
Excavation: If excavation is required within 3m of trees to be retained, give notice and obtain instructions. Where it is necessary to excavate within the TPZ, use hand methods such that the root systems are preserved intact and undamaged. Open up excavations under tree canopies for as short a time as possible.
Hand methods: Use hand methods to locate, expose and cleanly remove the roots on the line of excavation. If it is necessary to excavate within the TPZ, use hand methods such that root systems are preserved intact and undamaged.
Harmful materials: Do not store, stockpile, dump or otherwise place within the TPZ of retained trees, bulk materials and
harmful materials including oil, paint, waste concrete, clearings, boulders and the like. No concrete wash shall enter the tree protection zone. No site sheds or amenities are to be placed in the TPZ. Do not place spoil from excavations against tree trunks, even for short periods. Prevent wind blown materials such as cement from harming trees and plants.
Damage:
Prevent damage to tree bark and canopy. Do not attach stays, guys and the like to trees. Damage shall be treated by a qualified arborist as soon as possible after damage occurs.

Roots:
Where it is necessary to cut tree roots use a chain saw or similar means such that the cutting does not unduly disturb or rock the remaining root system. Any major structural roots shall be pruned by a qualified arborist.
Maintain Trees:
Regualrly water and maintain all disturbed areas within the TPZ.

3.2 EXISTING SERVICES
Marking
Before commencing earthworks, locate and mark existing underground services in the areas which will be affected by the works including clearing, excavating and trenching.
Excavation
Do not excavate by machine within 1 m of existing underground services.

3.3 SEDIMENT AND EROSION CONTROL
Comply with and install sediment and erosion control measures prior to or in conjunction with all sections of earthworks. Refer to Civil Engineers drawings for Sediment and Erosion Control measures.

4 SITE AND SOIL

4.1 PREPARATION
Weed eradication
Herbicide: Eradicate weeds using environmentally acceptable methods, such as a non-residual glyphosate herbicide in any of its registered formulae, at the recommended maximum rate.
Manual: Regularly remove, by hand, rubbish and weed growth throughout grassed, planted and mulched areas. Remove weed growth from an area 750 mm diameter around the base of the trees in grassed areas. Continue eradication throughout the course of the works and during the planting establishment period.
Vegetative spoil
Remove vegetative spoil from site. Do not burn.

4.2 SUBSOIL
Cultivation
Minimum depth: 100 mm.
Cultivation depths (mm):
- Grassed areas: as shown on the drawings.
- Planting areas: as shown on the drawings

Services and roots: Do not disturb services or tree roots; if necessary cultivate these areas by hand.
Cultivation: Thoroughly mix in materials required to be incorporated into the subsoil. Cultivate manually within 100 mm of paths or structures. Remove stones concrete and bricks exceeding 25 mm, clods of earth exceeding 50 mm, and weeds, rubbish or other deleterious material brought to the surface during cultivation. Trim the surface to design levels after cultivation.
Deep ripping
Notify Superintendent where soil is compacted and needs ripping. Map any additional areas to be ripped within riparian zone and seek permission from Blacktown City Council. Any insitu soil areas proposed to be ripped should have regard to Aboriginal relics.
Additives
General: Apply additives as recommended from the soil test results after ripping, and incorporate into the upper 100 mm layer of the subsoil.
Subsoil: Where imported topsoil is to be installed, rip subsoil and incorporate additives into the top 100mm layer of subsoil.
Topsoil: Where topsoil is insitu or to be installed, apply additives to the topsoil and cultivate in.

4.3 TOPSOIL
Source
General: No contaminated site soil is to be used within the site. Topsoil is insitu, or to be stockpiled site topsoil spread to disturbed areas. Refer to Civil Engineers Drawings.

SOIL TYPES

Soil Type A: Turf Areas

Apply 300mm depth over treated sub grade. Then apply: 400 g/m2 of agricultural lime, 100 g/m2 of gypsum, 50 g/m2 of general purpose NPK fertiliser approx 10:4:8 NPK 30mm depth of green waste derived compost fines (30L/m2) Rotary how to 100mm to incorporate, then smooth the surface. Turf as specified.

Soil Type E Mass Planting and Top Profile of Tree Pit.

Apply 300mm depth over treated sub grade.
Then apply:
400 g/m2 of agricultural lime
50 g/m2 of gypsum
50 g/m2 of general purpose NPK fertiliser approx 10:4:8 NPK
50mm depth of green waste derived compost fines (15L/m2) Rotary how to 100mm to incorporate, then plant and mulch as specified.

Soil Type B – Advanced tree and vault backfill/subsoils

As this is to be an imported mix, a full specification (rather than specifications for amelioration) is provided.

'Fit-for-purpose' performance description
A sandy, well drained medium with low organic matter for backfilling below 300mm from the surface in larger potted specimens over 45L or 400mm depth of root ball, semi-advanced, advanced and super-advanced tree planting. The specification may use a small proportion of site won topsoil or subsoil, provided the organic matter upper limit is not exceeded. Above 300mm, use Soil type E.

Topsoil Testing
Site topsoil for use in grassing and cultivated planting beds is to be tested by an approved NATA registered testing Authority. Site topsoil must be raised to an acceptable standard for the relevant uses as recommended by the soil test results. Geotechnical investigation shall be carried out by the Contractor of stockpiled site soil to determine contaminants, nutrient levels, organic matter content and dispersion in accordance with AS 1289. Do not proceed with works that impact upon the site soils unless tests are satisfactorily completed and approval of the Superintendent has been given. Should site top soils be found to contain contaminants, have an unbalanced nutrient ratio or to be dispersive, notify the Superintendent and await instruction of site topsoil additive and/or removal works.

Placing topsoil
General: Spread the topsoil on the prepared subsoil and grade evenly, making the necessary allowances to permit the following:
Required finished levels and contours may be achieved after light compaction.
Grassed areas shall be finished flush with adjacent hard surfaces such as kerbs, paths and mowing strips.
Contamination: Where diesel oil, cement or other phytotoxic material has been spilt on the subsoil or topsoil, excavate the contaminated soil, dispose of it off the site, and replace it with site soil or imported topsoil to restore design levels.
Spreading: On steep batters, if using a chain drag, ensure there is no danger of batter disturbance.

Finishing: Feather edges into adjoining undisturbed ground.
Consolidation
Compact lightly and uniformly in 150 mm layers. Avoid differential subsidence and excess compaction and produce a finished topsoil surface which has the following characteristics:
- Smooth and free from stones or lumps of soil.
- Graded to drain freely, without ponding, to catchment points.
- Graded evenly into adjoining ground surfaces.
- Ready for planting.

Topsoil types and depths
Spread topsoil types to the following typical depths:

4.4 COMPOST AND FERTILISER
Compost
General: Provide well rotted vegetative material or animal manure, free from harmful chemicals, grass and weed growth.
Standard: To AS 4454.
Fertiliser
Provide proprietary fertilisers, delivered to the site in sealed bags marked to show manufacturer or vendor, weight, fertiliser type, N:P:K ratio, recommended uses and application rates.
Fertiliser schedule

Location	N:P:K Ratio	Application Rate	Proprietary Item
All exotic trees and shrubs	10.5:3.5:3.5	30/40 gm/m2	Patons No. 20
Location	N:P:K Ratio	Application Rate	Proprietary Item
All turf areas	9,1:40:17.8	50gm/m2	No.17 Lawn Food
Native trees and shrubs	17.9:0.8:7.3	Osmocote Native Controlled Release	

5 GRASS

5.1 TURFING
Turf
Obtain turf from a specialist grower of cultivated turf. Provide turf of even thickness, free from weeds and other foreign matter. Provide Common Couch to open space areas between roads and creek. Provide Common Couch Grass for street verges.
Supply
Deliver the turf within 24 hours of cutting, and lay it within 36 hours of cutting. Prevent it from drying out between cutting and laying.
Fertilising
Mix the fertiliser thoroughly into the topsoil before placing the turf. Apply lawn fertiliser at the completion of the first and last mowings, and at other times as required to maintain healthy grass cover.
Laying
General: Lay the turf in the following manner:
- in a stretcher pattern with the joints staggered and close butted.
- parallel with the long sides of a level area and with the contours on slopes.
- To finish flush, after rolling, with adjacent finished surfaces of ground, paving or edging.

Rolling
Lightly roll to an even surface immediately after laying.
Pegging
On steep slopes peg the turf to prevent down slope movement. Remove the pegs when the turf is established.
Watering
Water immediately after laying until the topsoil is moistened to its full depth. Continue watering to maintain moisture to this depth. Keep the grass in a healthy condition.
Mowing
Mow to maintain the grass height within the required range. Do not remove more than one third of the grass height at any one time. Carry out the last mowing within 7 days before the end of the planting establishment period. Remove grass clippings from the site after each mowing.
Turfing schedule

Species or variety	Minimum thickness (mm)	Mowing height (mm)
Common Couch Grass	30mm	50mm min.

Maintenance
General: Maintain turfed areas until the attainment of a dense continuous sward of healthy grass over the whole turfed area, evenly green and of a consistent height.
Failed turf: Lift failed turf and relay with new turf.
Levels: Where levels have deviated from the design levels after placing and watering, lift turf and regrade topsoil to achieve design levels.
Top dressing
When the turf is established mow, remove cuttings and lightly top dress to a depth of 10 mm with 80%:20% sandy loam. Rub the dressing well into the joints and correct any unevenness in the turf surface.

6 PLANTS AND PLANTING

6.1 PLANT
Plants
General: Provide plants with the following characteristics:
- Large healthy root systems, with no evidence of root curl, restriction or damage.
- Vigorous, well established, free from disease and pests, of good form, consistent with the species or variety.
- Hardened off, not soft or forced, and suitable for planting in the natural climatic conditions of the site.

Tubes and Cells: To be vigorous, disease and weed free, showing emergence of root laterals at edges, in a free draining potting medium. Tubes to be "forestry" / " hiko"tube 50x120mm, cells (bio-basin plants) to be „super-cells sized 50mm x 70mm.
Trees: For the purpose of this specification, trees are advanced plants in containers greater than 45 litres. Provide trees which, unless required to be multi-stemmed, have a single leading shoot and a balanced crown.
Labelling
Label at least one plant of each species or variety in a batch with a durable, readable tag.

Storage
Deliver plant material to the site on a day to day basis, and plant immediately after delivery.
Upon delivery, adequately store and maintain trees prior to planting in designated areas.
- Ensure sufficient watering is carried out at all times.
- Trees are stored such that canopies are not restricted.
- Temporary supports are to be provided where necessary.

Superintendent may reject tree stock at any time if it is found to be damaged.
Replacement: Replace damaged or failed plants with plants of the same type and size.

6.2 PLANT INSPECTIONS
Give sufficient notice so that the trees may be inspected by the Superintendent before delivery to site.

6.3 PLANTING GENERAL
Qualifications
All vegetation clearing, planting and rehabilitation tasks within the riparian zone are to be carried out by a suitably qualified horticulturalist or a bush regenerator/contractor.
Planting conditions
Do not plant in unsuitable weather conditions such as extreme heat, cold, wind or rain. In other than sandy soils, suspend excavation when the soil is wet, or during frost periods.
Watering
Thoroughly water the plants before planting, immediately after planting, and as required to maintain growth rates free of stress.
Placing
Remove the plant from the container with minimum disturbance to the root ball, ensure that the root ball is moist and place it in its final position, in the centre of the hole and plumb, and with the top soil level of the plant root ball level with the finished surface of the surrounding soil.
Fertilising
Pellets: In planting beds and individual plantings, place fertiliser pellets around the plants at the time of planting.
Backfilling
Backfill with topsoil mixture. Lightly tamp and water to eliminate air pockets. Ensure that topsoil is not placed over the top of the root ball, so that the plant stem remains the same height above ground as it was in the container.

6.4 CULTIVATED PLANTING BED
Spread a 50mm layer of organic compost over topsoil (insitu or respread,) and thoroughly cultivate into the top 150mm of the topsoil. Plant as for PLANTING GENERALLY.

6.5 STREET TREE PLANTING
Excavate a hole to twice the diameter of the root ball and to the depth of the root ball. Break up the base of the hole to a further depth of 100 mm, and loosen compacted sides of the hole to prevent confinement of root growth. Install root barrier against the back of street kerbs to a depth of 600mm and to a 6m length, 3m either side of tree. Plant as specified in PLANTING
GENERALLY. Add fertiliser and backfill with imported topsoil:compost mix. Mulch. Install tree guard where required.

6.6 INDIVIDUAL TREES IN GRASS
Excavate a hole to twice the diameter of the root ball and at least 100 mm deeper than the root ball. Break up the base of the hole to a further depth of 100 mm, and loosen compacted sides of the hole to prevent confinement of root growth.

Watering basins for trees in grass
Except in normally moist areas, construct a watering basin around the base of each individual plant, consisting of a raised ring of soil capable of holding at least 10 L.

6.9 MULCHING
Mulch
General: Provide mulch which is free of deleterious and extraneous matter such as soil, weeds, stones and sticks.
Standard: To AS 4454.
Mulch material: Material not permitted: Leaf litter and tree loppings from privet, camphor laurel, coral tree, poplar, willow, wild olives and noxious weeds.
Site mulch: Mulch to contain no more than 5% fines by volume, with no bark. The average size of woodchip to be 30mmx 20mm x 5mm and the maximum length to be not exceed 50mm.

Mulch Schedule:

Location	Type	Description
Street tree Surrounds	ANL Eucy Mulch	15mm fine graded bark
Trees in Grass	ANL Leaf Litter	20-40mm chipped tree loppings
Cultivated beds	ANL Leaf Litter	20-40mm chipped tree loppings
Riparian Zone	Site won mulch or locally sourced	ANL Leaf Litter equivalent
Rehabilitation Area	As riparian	

Placing mulch
General: Place mulch to the required depth, clear of plant stems, and rake to an even surface flush with the surrounding finished levels.
In broad scale areas: Place after the preparation of the planting bed but before planting and other work.
In smaller areas : Place after the preparation of the planting bed, planting and other work.
Application: Place mulch clear of plant stems, and rake to an even surface flush with the surrounding finished levels.
Extent: To surrounds of plants in grass areas, provide mulch watering basin to min 1m diameter, or as detailed.
Depths: Spread mulch to a depth of 75 -100mm.

6.10 STAKES AND TIES
As per detail 1/LA-09

6.12 ROOT BARRIER
Install a root barrier against back of kerb to all street trees where tree is planted within 2m of kerb. Root barrier to be equivalent to be a minimum 1mm thick flexible high density polythene membrane, as available from All Stake Supply, Riverstone. Overlap and join with butyl tape where necessary. Depth to be min 500mm from top of kerb.
6.13 WATERING
Water all plant material within 24 hours of planting then once daily for 1 week, followed by once daily every 2 days for 3 weeks. If planting occurs during extreme temperatures, the watering regime should be adjusted as required to accommodate the water requirements of plant life.
Continue watering to maintain healthy growth throughout maintenance period.

7 REHABILITATION AREA

7.2 STAGING
Complete the rehabilitation and regeneration process in the following stages:
Stage 1 – Primary weeding
Initial weed clearance, thorough hand weeding and the use of herbicides for woody vines, woody weeds and annual weeds.
Stage 2 – Secondary and Follow up weeding
Reworking of sites which have already received primary weeding, control of weed grasses, control herbaceous weeds and start regeneration of areas of natural resilience.
Stage 3 – Mulching
Spread mulch over areas of no natural resilience
Stage 4 – Maintenance weeding and Revegetation
Monitoring and removal of weed re-growth and care of native plant seedlings (naturally occurring and planted), and revegetation –use of locally indigenous species to restore an area via tube-stock planting, direct seeding, transplanting and/or bush matting.
Stage 5 – Maintenance
Maintenance, monitoring, removal of weed re-growth and care of native plant seedlings (both naturally occurring and planted). Maintain plantings by watering.

In areas where degradation has been serious enough to severely deplete or extinguish native regenerative capacity, it may be necessary to reconstruct a plant community. This will involve weeding, soil remediation, planting and on-going site maintenance as specified for Planting works in the Riparian Zone. Small scale earthworks, soil stabilisation and remedial drainage works may be required.

9 COMPLETION
9,1 PLANTING ESTABLISHMENT
Period
Commencement: The planting establishment period commences at the date of Completion.
Required period: 104 weeks for Stage One, 260 weeks (5 years) for Creek and Riparian Zone
Existing planting and grass
Where existing grass or planting is within the landscape contract area, maintain it as for the corresponding classifications of new grass or planting.
Check Visits
Regardless of the weather the Contractor shall make a visit at least once every two weeks to check on any works needed and shall perform such works within forty eight (48) hours of checking.
Log Book
The contractor shall keep a log book to record:
- times of attendance on site
- problems noted
- instructions received
- actions taken
- materials used
- the response to actions
- any other matters of importance

The log book is to be left on site with recommendations for work to be carried out after completion.

Mowing Plan
Submit a mowing plan to the Superintendent, showing the areas and cutting frequency of grass to be adopted during the establishment period.
Maintenance Program

Within 21 days from the date of Completion, submit a program schedule of works for the planting establishment period. Specify the frequency and timing for all tasks described as part of the establishment requirements.
Recurrent works
Throughout the planting establishment period, carry out maintenance and establishment work.
Establishment work shall include the items listed and any additional items deemed necessary to maintain the areas in good order.

- Generally watering, mowing, weeding, rubbish removal, fertilising, pest and disease control, returfing, staking and tying, replanting, cultivating, pruning, hedge clipping, aerating, reinstatement of mulch, renovating, top dressing, and keeping the site neat and tidy.
- Plant replacement: Continue to replace failed, damaged or stolen plants as specified; substitutions shall only be made with the approval of the Superintendent where a species is considered to be responding poorly to site conditions.
- Stake adjustment ; adjust as necessary to avoid damage to plant stems; replace if damaged; remove at the end of the contract if so directed.
- Grass: Commence grass maintenance works at the completion of turfing. Maintain healthy weed-free growth. Mow at a height consistent with the growth habit of the grass. Generally (except during under wet conditions) mowing is to be carried out on a weekly basis during the mowing season (November to March) and bi-weekly during April to October. Rake the lawn with a flexible rake before mowing at least once a month during
the mowing season. At the same time as mowing, trim lawn edges. Remove clippings from site.
- Topdressing: After initial topdressing as specified in GRASS, topdress the lawn only where directed to smooth out irregularities or depressions in the lawn.
- Mulching : maintain mulch in a clean, tidy and weed free state; remulch as necessary during the establishment period to maintain the specified 75mm depths.
- Removal of Rubbish: regularly remove rubbish, debris, litter, etc, irrespective of how, when, or by whom it may have been brought to the site.
- Leaf Litter: Leaf litter shall be removed from all path and lawn areas and spread evenly over the mulched areas, composted on site, or removed from site. Remove leaf litter at least bi-weekly during deciduous tree leaf drop period.
- Watering: water as required to maintain the best possible conditions for the health and growth of plants and turf; the minimum acceptable watering requirement shall equal 20mm natural rainfall during any period of one (1) week.
- Fertilising: Fertilise all turf and planting areas with at least one application prior to completion of establishment period using a slow release fertiliser For plants use equivalent to Nutricote (for plants) at manufacturer-s recommended rates, and according to seasonal growth requirements.
- Pruning: remove dead, broken, damaged or diseased parts as they appear; shrubs shall be allowed to grow to a natural form; any plant that restricts access along a designated path shall be trimmed back by the removal of whole branches and shall not be hedged; all prunings shall be chilled and mulched for use on site, or collected and removed.
- Disease and pest control: The Contractor shall be responsible for the control of any pest or disease in plants or turf. Record any evidence of insect attack or disease immediately it appears on plant material; spray or dust strictly in accordance with the manufacturers recommendations and to comply with statutory requirements until the problem has been eliminated. Proper care should be taken to protect the user and persons who may come in contact with the spray. Spray outside normal working hours if necessary.
- Plastic sleeve tree guards: Remove after 12 months.
- Riparian and Rehabilitation Zone: All continuing weed removal, revegetation and maintenance as specified in Vegetation Management Plan. Plant material failing throughout the 5 year period is to be replaced with same species and size, or larger.Where tree species fail, the pot size minimum requirement will be increased to match growth size of remaining tree species.

9.2 DEFECTS LIABILITY PERIOD

The Contractor shall be liable for defects for all works undertaken during this contract for a period of 3 years, to run after the date of Practical Completion and concurrent with the Plant Establishment Period.

9.3 COMPLETION

Product warranty
Submit the supplier's written statement certifying that plants are true to the required species and type, and are free from diseases, pests and weeds.
Cleaning
Stakes and ties: Remove those no longer required at the end of the planting establishment ball.

End specification

Paterson Design Studio
Landscape Architects / Urban Designers
Paterson Design Studio PTY. LTD
16a/1-15 Tramore Place
Killarney Heights, NSW 2087.
T +61 2 9452 4911
admin@pdsdesign.com.au
www.pdsdesign.com.au

Use figured dimensions only. All dimensions to be verified on site before commencing work. All dimensions are in mm unless otherwise stated. The drawings are to be read in conjunction with the specification and any other written instructions issued.
Any discrepancies shall be referred to the Superintendent for a written decision prior to ordering/ supply/ installation/ construction.

ENGINEER
calibre

LEGEND

REV	NO	DESCRIPTION	DWN	CHK	DATE
B	02	DEVELOPMENT APPLICATION	CA	GP	13.11.23
A	01	DEVELOPMENT APPLICATION	CA	GP	03.10.23

CLIENT
mirvac

PROJECT
RIVERLANDS FORSHORE WALK, MILPERRA

DRAWING TITLE
LANDSCAPE SPECIFICATION

DESIGNED:	DRAWN: ET	CHECK: GP
APPROVAL:	Garth Paterson	BLA (CANB) MLAUD (HARV) FAILA - Registered Landscape Architect: 716
SIGNED:		DATE: 13.11.23

ISSUE	PROJECT NO.
DA ISSUE	-

SCALE
NOT TO SCALE

DRAWING NO.	REVISION
LA-SPEC	B