

PROJECT NAME

WATERLOO RESERVE NO.2

ADDRESS

85 Waterloo Road, Hornby, Christchurch 8042

CLIENT

Christchurch City Council

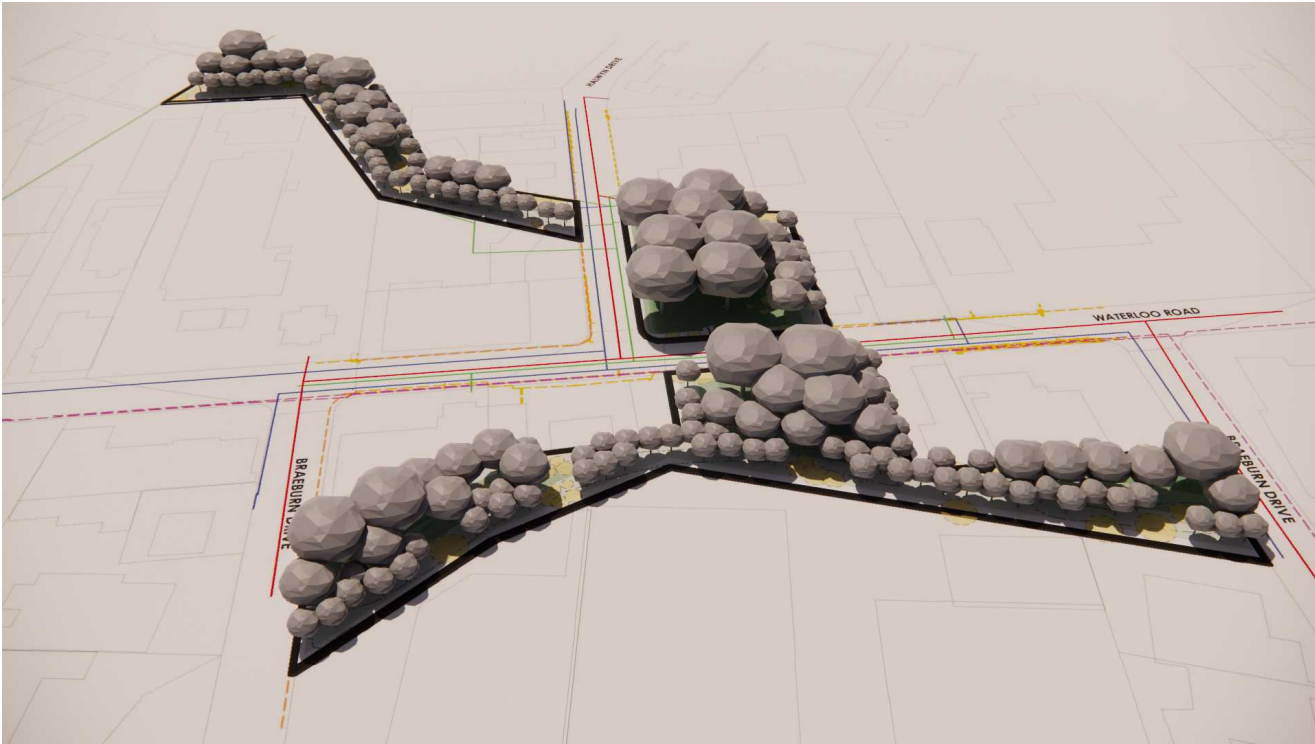
COMMUNITY PARK TREE PLANTING STUDY

Issued date

19/02/2025



SHEET NO.	SHEET TITLE
P 00	Community Park Tree Planting Study
P 01	Existing Planting
P 02	Tree Planting Zones
P 03	Tree Planting Zones - Lot Boundary Cross Sections
P 04	Shade Study - Winter Solstice - 8 am
P 05	Shade Study - Winter Solstice - 10 am
P 06	Shade Study - Winter Solstice - 12 noon
P 07	Shade Study - Winter Solstice - 2 pm
P 08	Shade Study - Winter Solstice - 4 pm
P 09	Shade Study - Winter Solstice - 6 pm
P 10	Shade Study - Summer Solstice - 8 am
P 11	Shade Study - Summer Solstice - 10 am
P 12	Shade Study - Summer Solstice - 12 noon
P 13	Shade Study - Summer Solstice - 2 pm
P 14	Shade Study - Summer Solstice - 4 pm
P 15	Shade Study - Summer Solstice - 6 pm
P 16	Tree Planting Plan
P 17	Tree Planting Guidelines



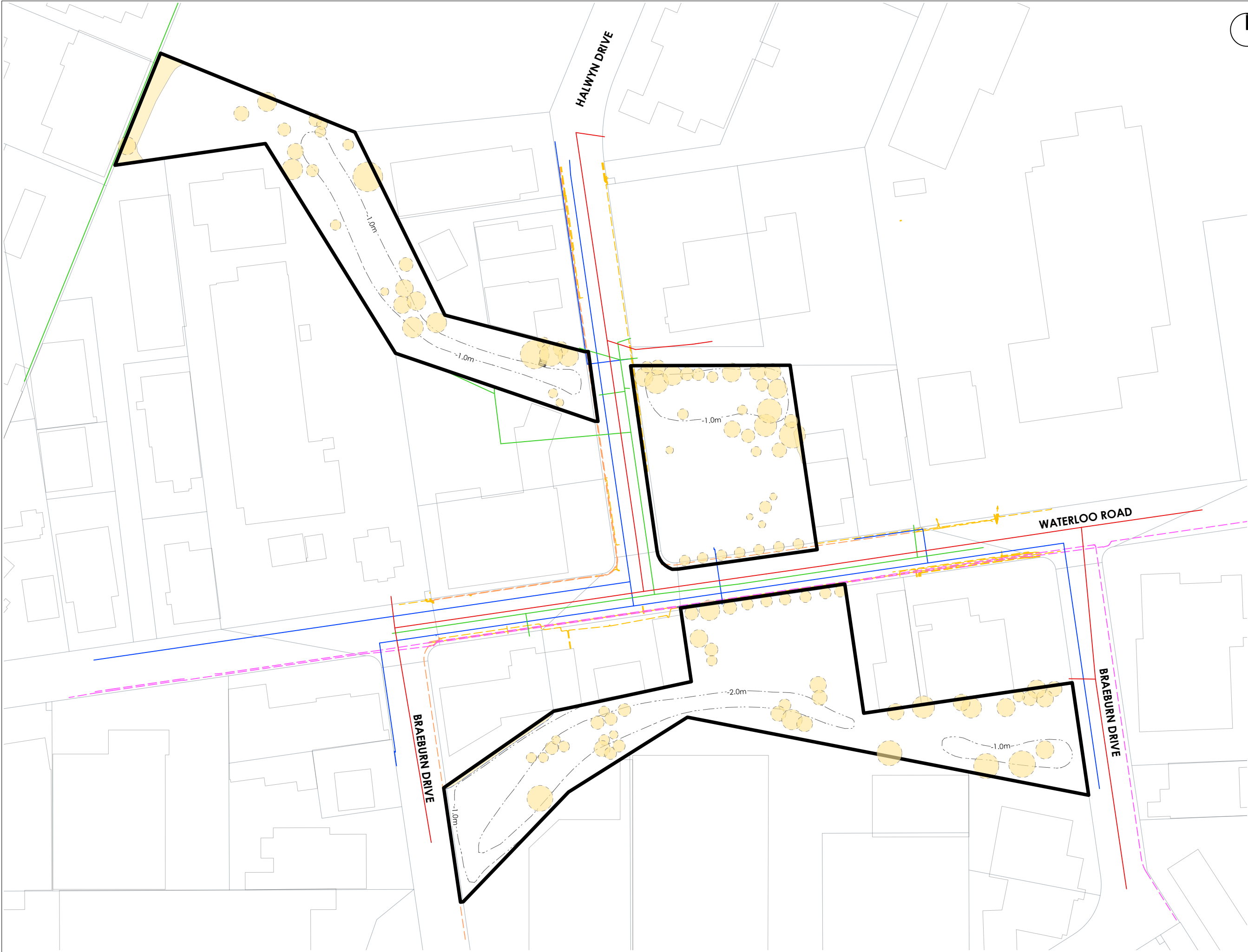
PREPARED BY



Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300
T. 03 366 8181 E. admin@kamommarsh.co.nz W. kamommarsh.co.nz

REFERENCE NO.

5519



WATERLOO RESERVE NO.2

Community Park Tree Planting

ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

Existing Planting

LEGEND



Existing Tree/
Vegetation



Existing
Mound/Contour

Existing Services



Stormwater



Water supply



Wastewater



Enable Fibre



Power (LV)



Power (11KV)



Power (33KV)

A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design AP/JG **Date** 19/02/2025
Drawn AP **Scale** 1:1500@A3
Check TS

REF. NO. 5519 **PAGE** P 01
REVISION A



WATERLOO RESERVE NO.2

Community Park Tree Planting

ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

Tree Planting Zones

LEGEND

-  Existing Tree/
Vegetation
-  Existing
Mound/Contour

Existing Services

-  Stormwater
-  Water supply
-  Wastewater
-  Enable Fibre
-  Power (LV)
-  Power (11KV)
-  Power (33KV)

Potential Tree Planting Areas

-  5m - 10m
Trees Height Zone
-  10m - 15m
Trees Height Zone
-  15m - 20m
Trees Height Zone
-  20m+
Trees Height Zone

A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE

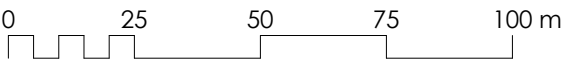


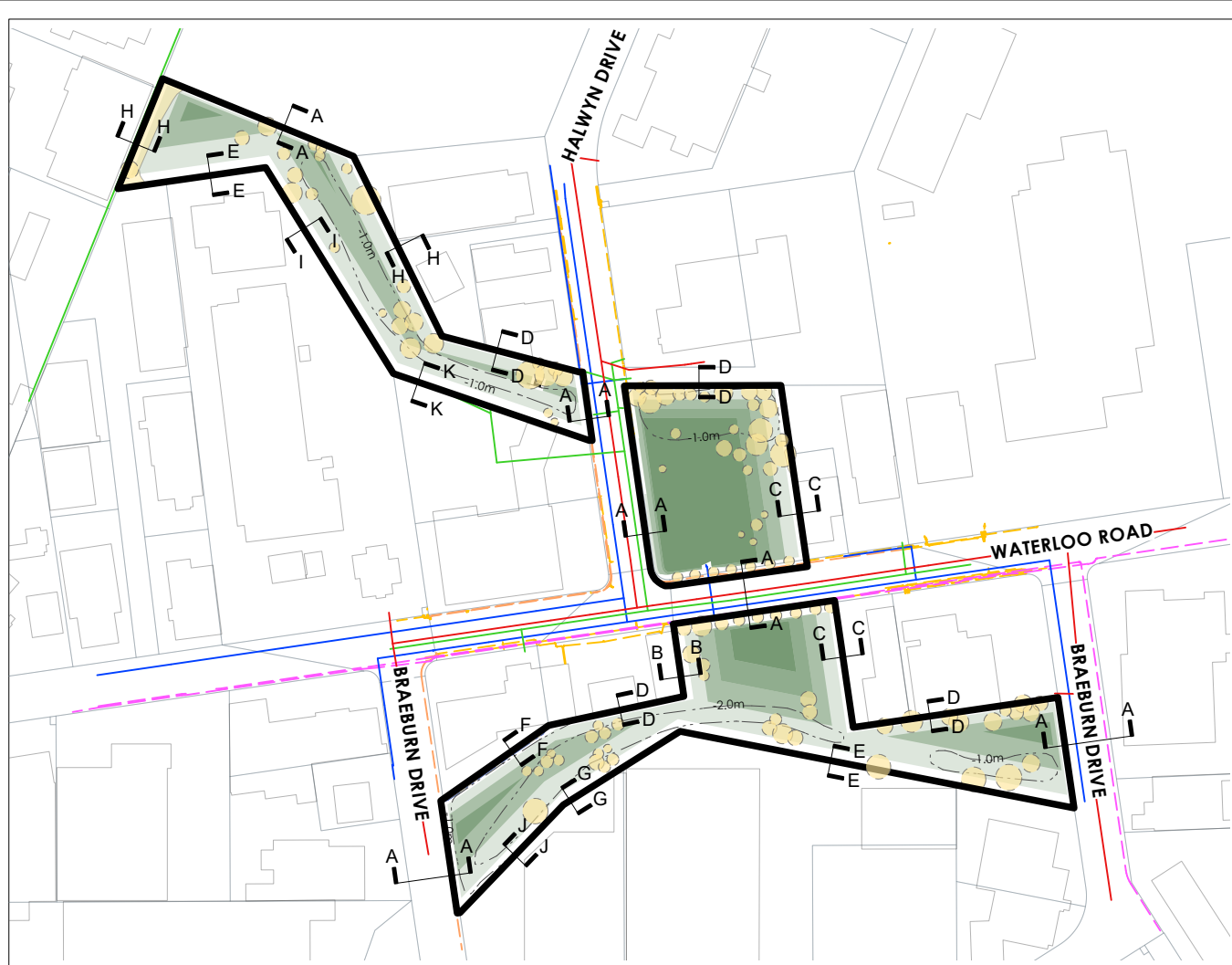
Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design AP/JG Date 19/02/2025
Drawn AP Scale 1:1500@A3
Check TS

REF. NO. 5519 PAGE REVISION P 02 A





Location Plan @ 1:3000



WATERLOO RESERVE NO.2

Community Park Tree Planting

ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

**Tree Planting Zones -
Lot Boundary Cross Sections**

LEGEND

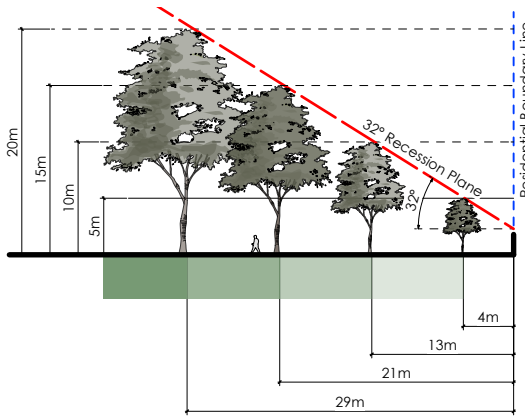
- Existing Tree/
Vegetation
- Existing
Mound/Contour

Existing Services

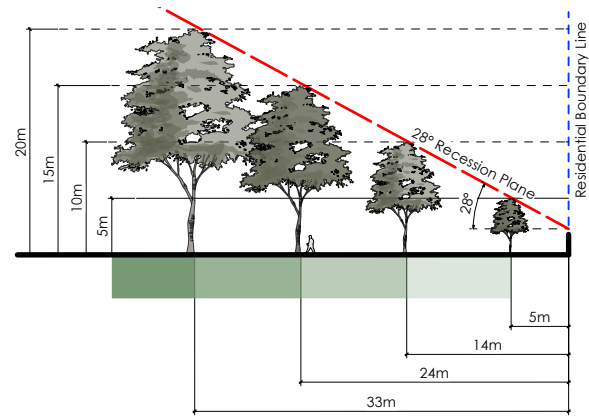
- Stormwater
- Water supply
- Wastewater
- Enable Fibre
- Power (LV)
- Power (11KV)
- Power (33KV)

Potential Tree Planting Areas

- 5m - 10m
Trees Height Zone
- 10m - 15m
Trees Height Zone
- 15m - 20m
Trees Height Zone
- 20m+
Trees Height Zone

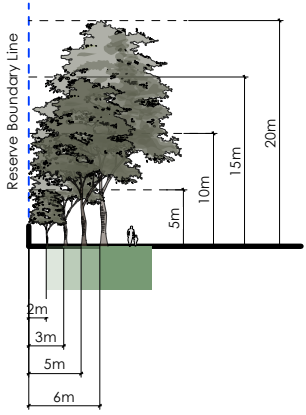


Cross Section J-J

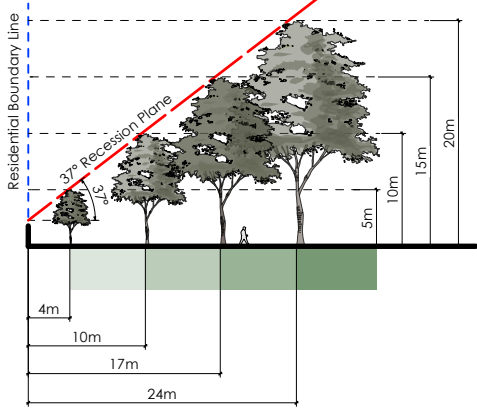


Cross Section K-K

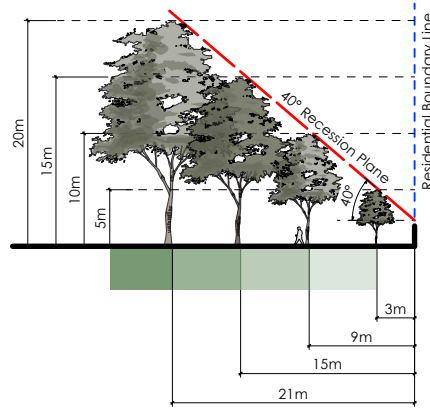
INDICATIVE CROSS SECTION THROUGH THE BOUNDARIES



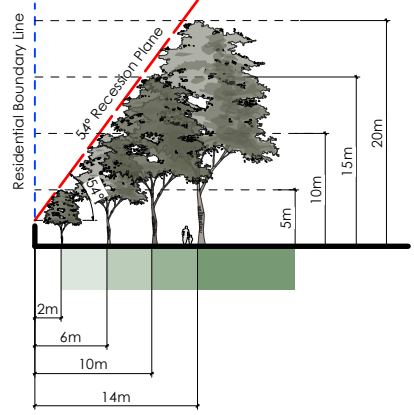
Cross Section A-A



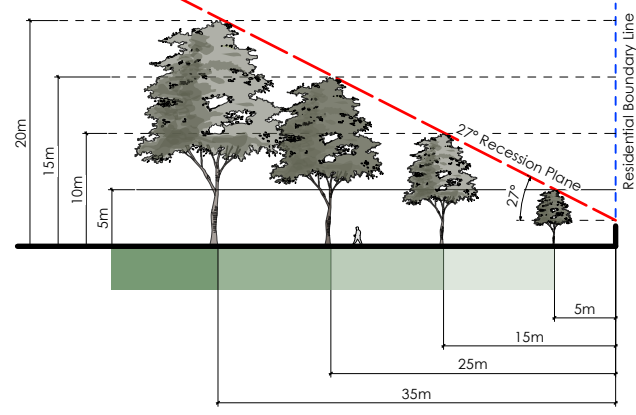
Cross Section B-B



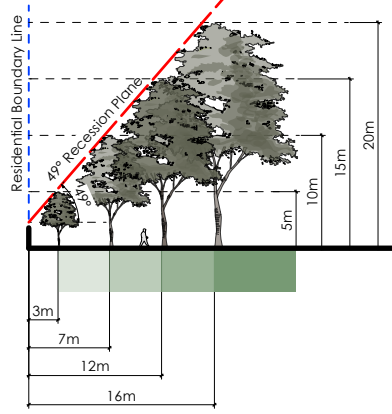
Cross Section C-C



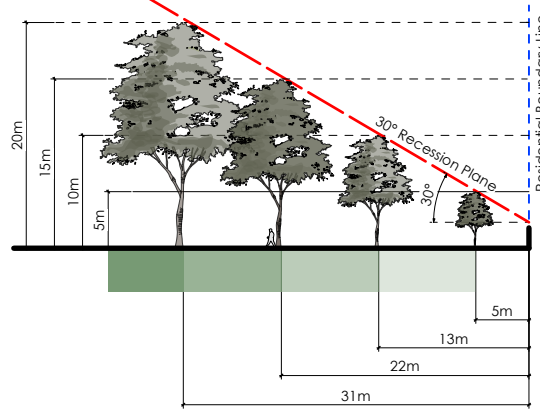
Cross Section D-D



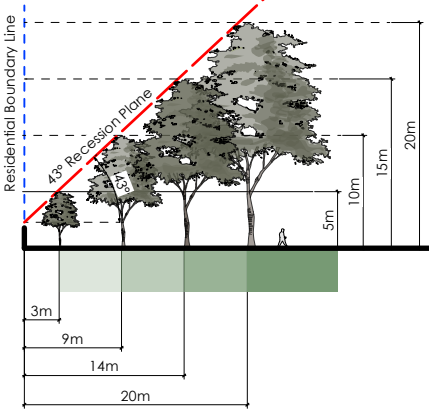
Cross Section E-E



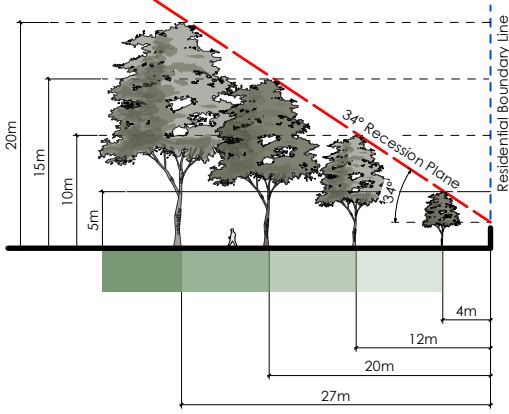
Cross Section F-F



Cross Section G-G



Cross Section H-H



Cross Section I-I

A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T: 03 3668 181
E: admin@kamommarsh.co.nz
W: kamommarsh.co.nz

Design AP/JG
Drawn AP
Check TS
Date 19/02/2025
Scale Not to Scale

REF. NO. 5519
PAGE REVISION P 03
A

Winter Solstice
Date: 22nd June

8 am



WATERLOO RESERVE NO.2

Community Park Tree Planting

ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

Shade Study - Winter Solstice -
8 am

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design AP/JG Date 19/02/2025
Drawn AP Scale Not to Scale
Check TS

REF. NO. P 04
5519 REVISION A

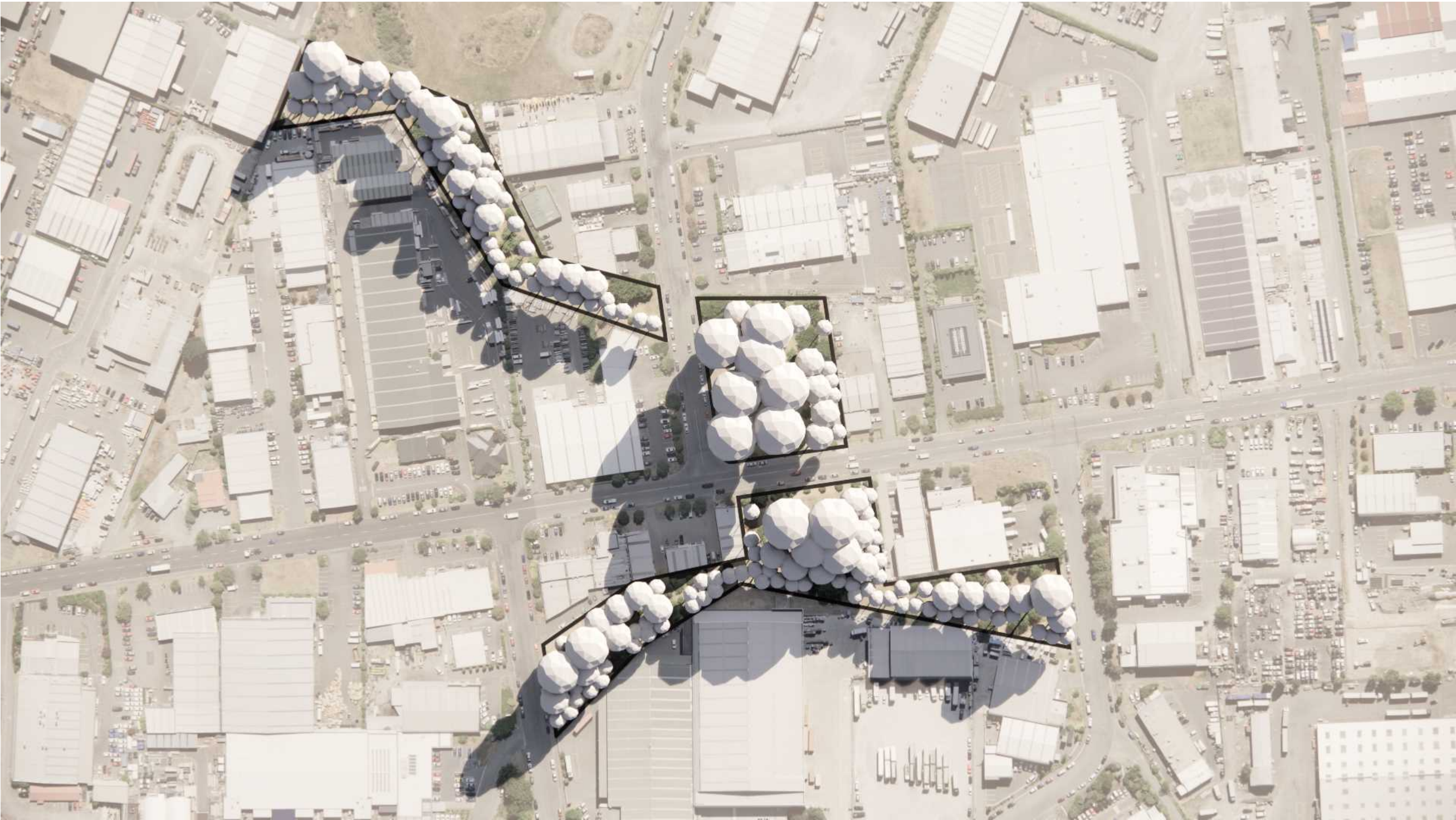


Community Park Tree Planting
ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042
CLIENT
Christchurch City Council

Shade Study - Winter Solstice -
10 am

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

10 am



A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Kamo Marsh

Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design	AP/JG	Date	19/02/2025
Drawn	AP	Scale	Not to Scale
Check	TS		

REF. NO.	PAGE	P 05
5519	REVISION	A

Winter Solstice
Date: 22nd June

12 noon



WATERLOO RESERVE NO.2

Community Park Tree Planting

ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

Shade Study - Winter Solstice -
12 noon

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design AP/JG Date 19/02/2025
Drawn AP Scale Not to Scale
Check TS

REF. NO. 5519 PAGE REVISION P 06 A



Community Park Tree Planting
ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042
CLIENT
Christchurch City Council

Shade Study - Winter Solstice -
2 pm

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

2 pm



A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Kamo Marsh

Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design	AP/JG	Date	19/02/2025
Drawn	AP	Scale	Not to Scale
Check	TS		

REF. NO.	PAGE	P 07
5519	REVISION	A



Community Park Tree Planting
ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042
CLIENT
Christchurch City Council

Shade Study - Winter Solstice -
4 pm

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

4 pm



A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE

 **Kamo Marsh**

Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design	AP/JG	Date	19/02/2025
Drawn	AP	Scale	Not to Scale
Check	TS		

REF. NO.	PAGE	P 08
5519	REVISION	A



Community Park Tree Planting
ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

Shade Study - Winter Solstice -
6 pm

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

6 pm



A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Kamo Marsh

Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design	AP/JG	Date	19/02/2025
Drawn	AP	Scale	Not to Scale
Check	TS		

REF. NO.	PAGE	P 09
5519	REVISION	A



Community Park Tree Planting
ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

Shade Study - Summer Solstice -
8 am

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

8 am



A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300
T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design AP/JG Date 19/02/2025
Drawn AP Scale Not to Scale
Check TS

REF. NO. P 10
5519 REVISION A



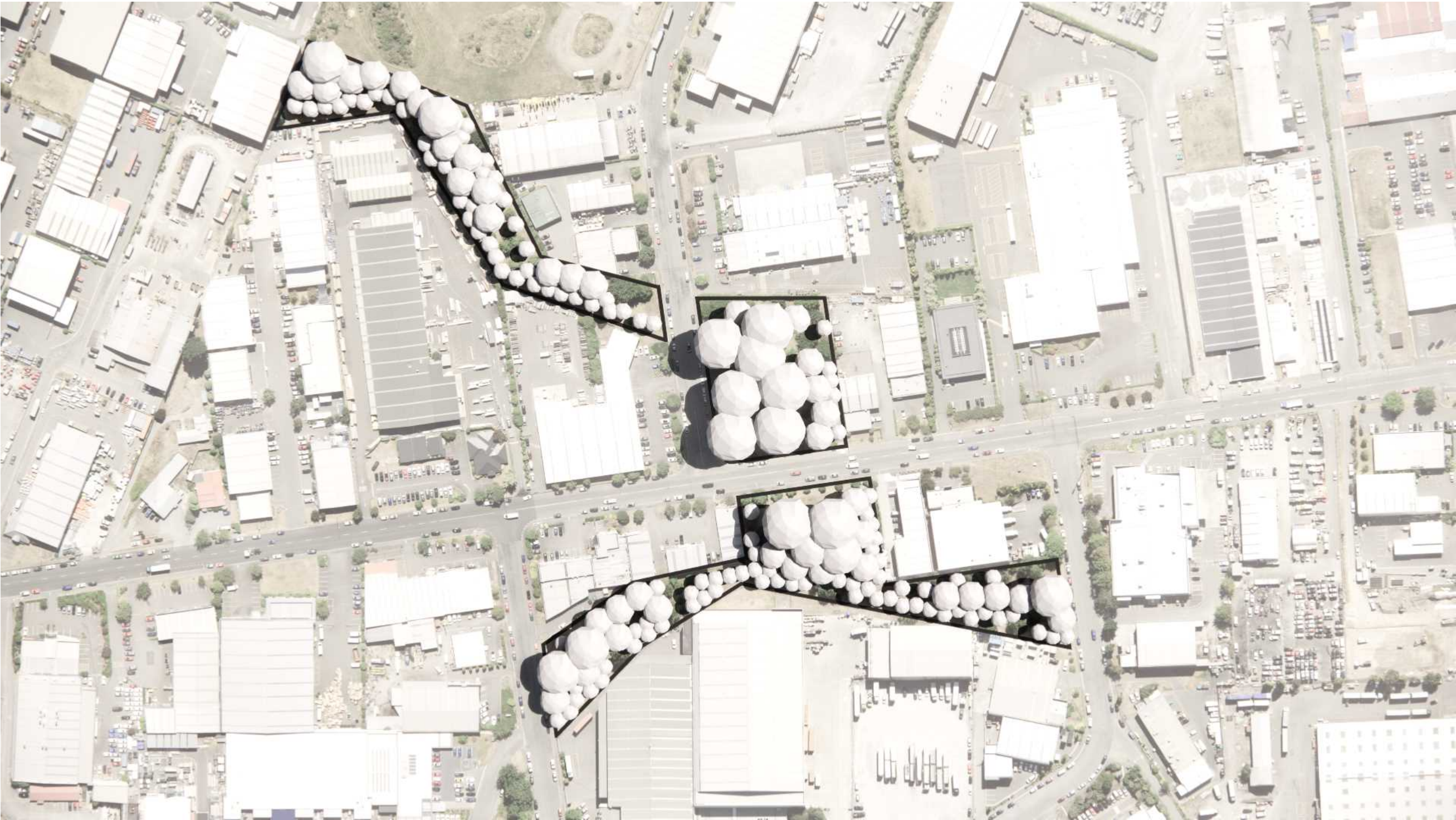
Community Park Tree Planting
ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

Shade Study - Summer Solstice -
10 am

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

10 am



A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300
T: 03 3668 181
E: admin@kamommarsh.co.nz
W: kamommarsh.co.nz

Design AP/JG Date 19/02/2025
Drawn AP Scale Not to Scale
Check TS

REF. NO. 5519 PAGE REVISION P 11 A



Community Park Tree Planting
ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

Shade Study - Summer Solstice -
12 noon

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

12 noon



A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300
T: 03 3668 181
E: admin@kamomash.co.nz
W: kamomash.co.nz

Design AP/JG Date 19/02/2025
Drawn AP Scale Not to Scale
Check TS

REF. NO. 5519 PAGE REVISION P 12 A



Community Park Tree Planting
ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

Shade Study - Summer Solstice -
2 pm

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

2 pm



A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300
T: 03 3668 181
E: admin@kamomash.co.nz
W: kamomash.co.nz

Design AP/JG Date 19/02/2025
Drawn AP Scale Not to Scale
Check TS

REF. NO. 5519 PAGE REVISION P 13 A



Community Park Tree Planting
ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042
CLIENT
Christchurch City Council

Shade Study - Summer Solstice -
4 pm

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

4 pm



A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Kamo Marsh

Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design	AP/JG	Date	19/02/2025
Drawn	AP	Scale	Not to Scale
Check	TS		

REF. NO.	PAGE	P 14
5519	REVISION	A



Community Park Tree Planting
ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

Shade Study - Summer Solstice -
6 pm

Note:
Trees in the model are shown
at 10m, 15m, 20m, 25m height

6 pm



A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE

 **Kamo Marsh**

Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design	AP/JG	Date	19/02/2025
Drawn	AP	Scale	Not to Scale
Check	TS		

REF. NO.	PAGE	P 15
5519	REVISION	A



PLANT SCHEDULE - WATERLOO RESERVE NO.2			
ID	Qty	Tree Category	Tree Height
TREE HEIGHT 5-10M			
Small	104	Small Tree	5-10m Height
TREE HEIGHT 11-15M			
Medium	38	Medium Tree	11-15m Height
TREE HEIGHT 16-20M			
Large	7	Large Tree	16-20m Height
TREE HEIGHT 20M+			
Very Large	9	Very Large Tree	20+m Height

WATERLOO RESERVE NO.2

Community Park Tree Planting

ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

CLIENT
Christchurch City Council

Tree Planting Plan

LEGEND

- Existing Tree/
Vegetation
- Existing
Mound/Contour

Existing Services

- Stormwater
- Water supply
- Wastewater
- Enable Fibre
- Power (LV)
- Power (11KV)
- Power (33KV)

Potential Tree Planting Areas

- 5m - 10m
Trees Height Zone
- 10m - 15m
Trees Height Zone
- 15m - 20m
Trees Height Zone
- 20m+
Trees Height Zone

Note:
Contractor to confirm service
and irrigation locations using
on site service locators prior to
commencing work.

A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design AP/JG
Drawn AP
Check TS

REF. NO. 5519
PAGE REVISION P 16
A

WATERLOO RESERVE NO.2		
Park Canopy Cover Summary		
Existing number of trees		109
Existing canopy cover	approx.	15%
Proposed number of new trees		158
Proposed net canopy cover(existing vegetation and proposed)	approx.	78%

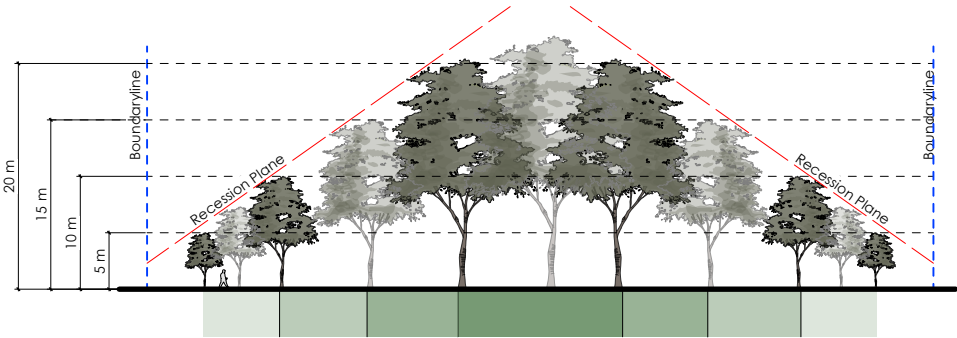
Guideline Summary

- Tree planting to Special Character Parks will continue the established theme.
- Trees will be positioned appropriately to allow for debris management.
- Tree species shall be well suited to the local conditions.
- Planting along waterways will be predominantly native species.
- CCC will aim for 40-60% of new tree plantings as natives.

Tree Setbacks & Spacings

- No tree shall intrude through the recession plane.
- No tree shall be planted closer than 3.0m from a pathway.
- No tree shall be planted closer than 5.0m from a sports field and no tree canopy drip line shall extend above a sports field.
- Tree spacings shall be a minimum of 5.0m apart to allow for easy lawn mowing.
- Min. 2.0m offset for low voltage power
- Min. 3.0m offset for 11kv power
- Min. 5.0m offset for 33-66kv
- Min. 2.0m offset for all other services not mentioned above.
- Min. 1.5m offset for all hard paving not mentioned above.

Typical tree planting pattern



WATERLOO RESERVE NO.2

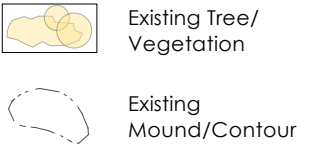
Community Park Tree Planting

ADDRESS
85 Waterloo Road, Hornby,
Christchurch 8042

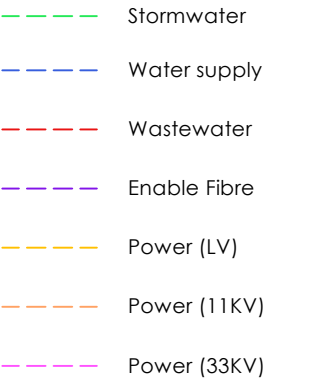
CLIENT
Christchurch City Council

Tree Planting Guidelines

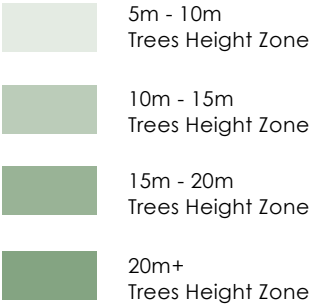
LEGEND



Existing Services



Potential Tree Planting Areas



A	19.02.25	JG	PRELIMINARY
REV	DATE	BY	ISSUE



Te Uruti Building, 48 Hereford St, PO Box 2833, Christchurch 8140
Mountaineer Building, 32 Rees St, Queenstown 9300

T. 03 3668 181
E. admin@kamommarsh.co.nz
W. kamommarsh.co.nz

Design AP/JG Date 19/02/2025
Drawn AP Scale Not to Scale
Check TS

REF. NO. 5519 PAGE P 17
REVISION A