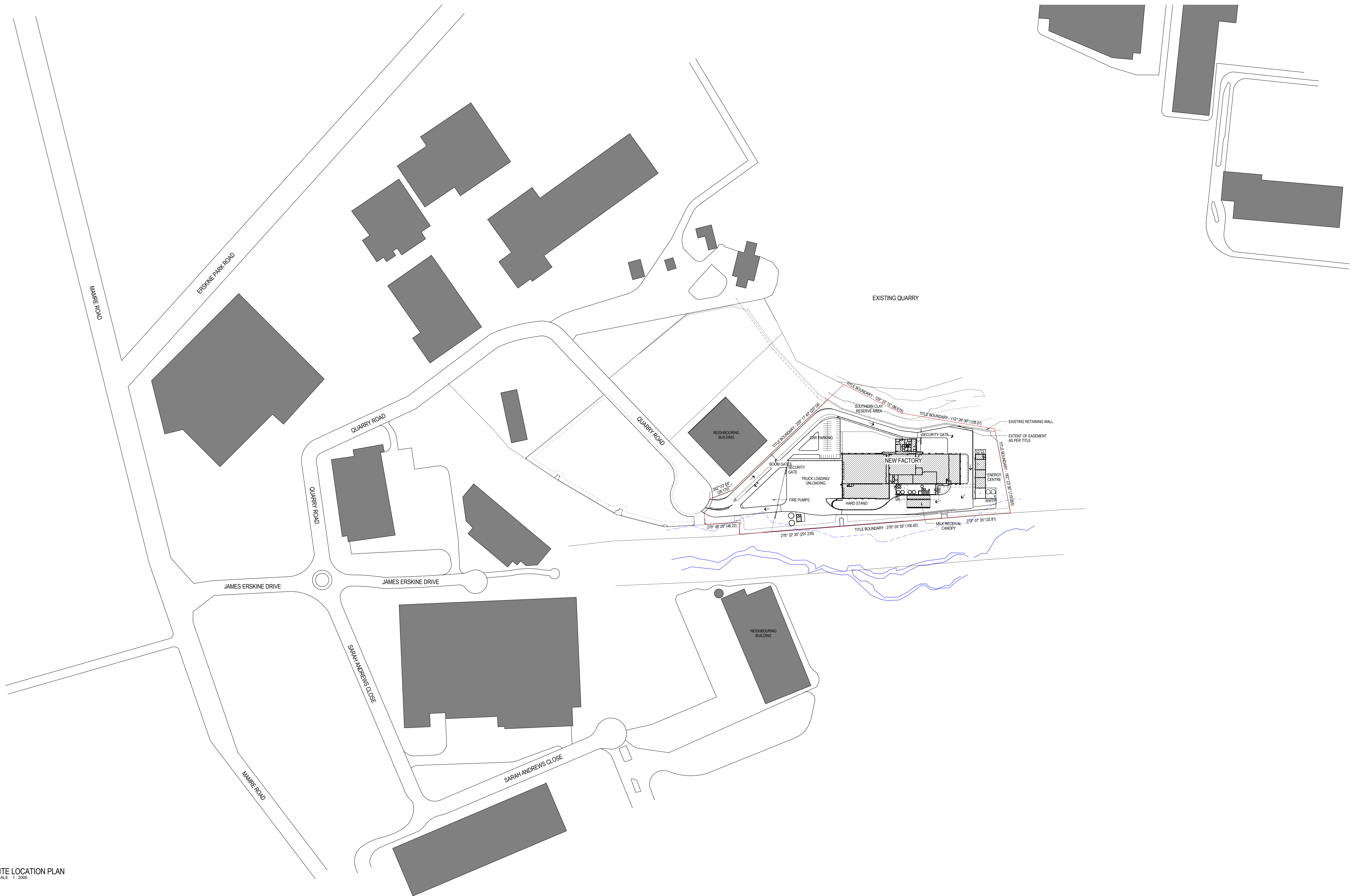


Schedule of Development Application Drawings (Blomquist and Wark)

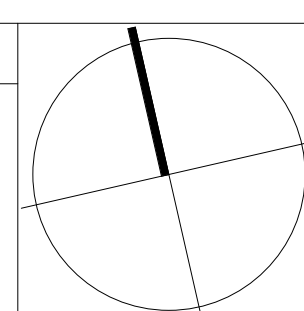
Drawing No.	Drawing Title	Earl Works DA DA 13/0695	PEA Submission 27-Jun-13	Draft SSD Submission 13-Aug-13	SSD Submission 20-Aug-13
1325-DA01	Site Location Plan		Rev P2	Rev P3	Rev P4
1325-DA02	Site Layout Plan		Rev P5	Rev P8	Rev P9
1325-DA03	Floor Plan		Rev P2	Rev P3	Rev P4
1325-DA04	Elevations		Rev P3	Rev P4	Rev P5
1325-DA05	Factory Sections		Rev P2	Rev P3	Rev P4
1325-DA06	Energy Centre and Milk Receivals		Rev P2	Rev P3	Rev P4
1325-DA07	Piling Layout Plan - Early Works	Rev P1	Rev P3	Rev P4	Rev P5
1325-DA08	Operational Waste Management Plan			Rev -	Rev P1



3 SITE LOCATION PLAN
SCALE 1:2000

Date	No.	Revision Description	By	Date	No.	Revision Description	By	Date	No.	Revision Description	By
14.06.13	P1	PRELIMINARY FOR DISCUSSION	JW								
27.06.13	P2	PEA ISSUE	JW								
18.08.13	P3	PRELIMINARY SSD ISSUE	BG								
20.08.13	P4	SSD ISSUE	BG								

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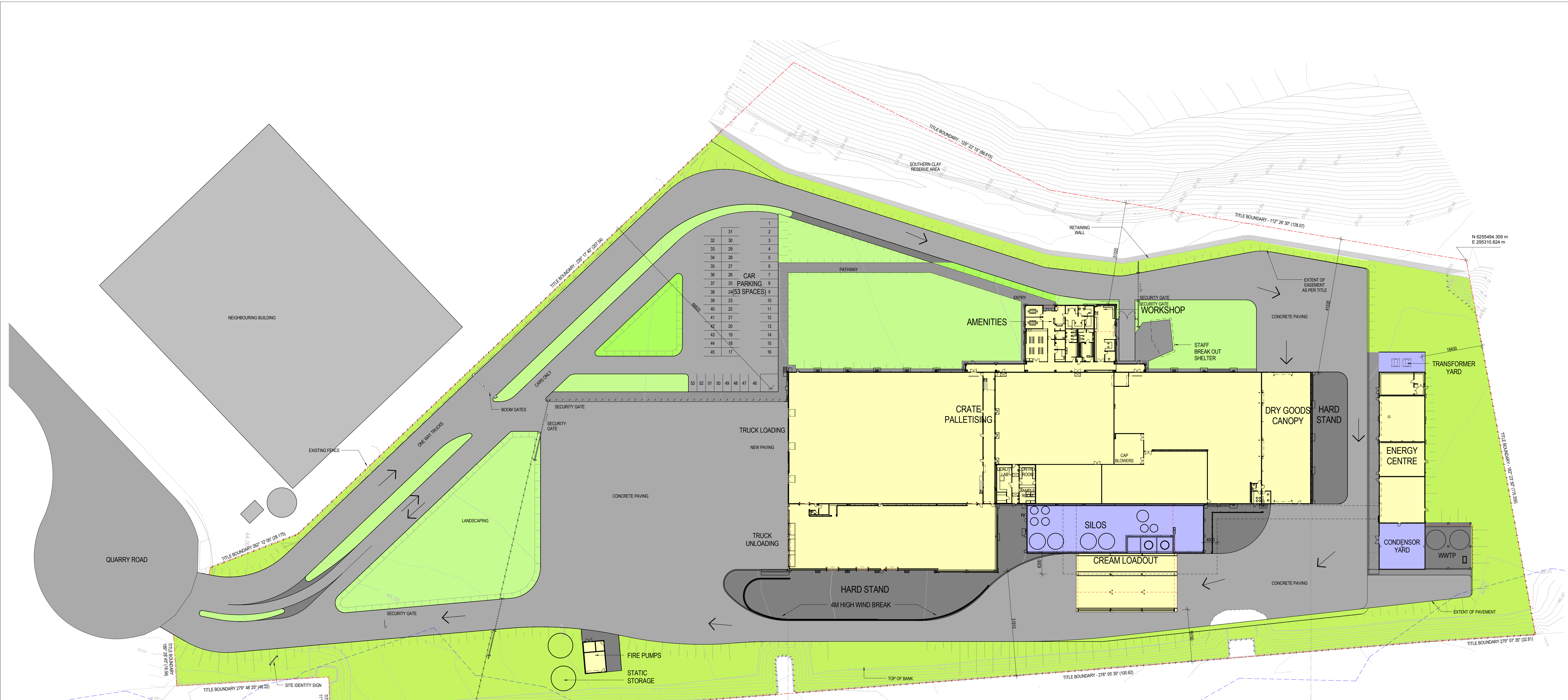
Blomquist + Wark Architects
Blomquist + Wark Pty Ltd
300 Burnwood Road
Hawthorn, Victoria, 3122
Ph: (03) 9818 3555
Fax: (03) 9818 3979

Project
PROJECT INVERLOCH (NSW) - LOT 1022, QUARRY ROAD,
ERSKINE PARK
NSW
MURRAY GOULBURN CO-OPERATIVE CO. LTD

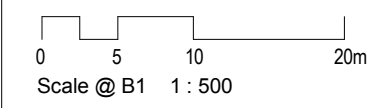
Drawing Title
SITE LOCATION PLAN

Date
JUNE 2013
Drawn By
JW
Scale @ B1
1:2000

Job No.
1325
Drawing No.
DA01
Rev.
P4



AREA SCHEDULE	
SITE AREA - 50,770 m ²	
FACTORY -	6,331 m ²
AMENITIES & WORKSHOP -	624 m ²
CRATE RETURN/ WASH CANOPY -	1,285 m ²
PLANT ROOM (L1) -	553 m ²
ENERGY CENTRE -	642 m ²
MILK RECEIVAL CANOPY -	513 m ²
FIRE PUMP HOUSE -	63 m ²
TOTAL GROSS FLOOR AREA -	10,012 m²
OVERALL SITE COVERAGE -	19.7%
ROADWAYS & HARDSTAND AREA INCLUDING TANK FARM -	20,616 m ² (41%)



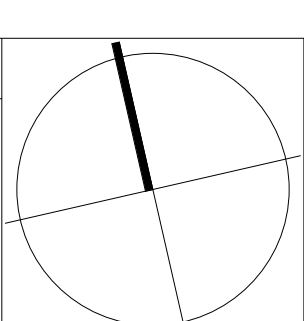
Date	No.	Revision Description
03.06.13	P1	PRELIMINARY FOR DISCUSSION
07.06.13	P2	PRELIMINARY FOR DISCUSSION
14.06.13	P3	PRELIMINARY FOR DISCUSSION
20.06.13	P4	PRELIMINARY FOR DISCUSSION
24.06.13	P5	PRELIMINARY FOR DISCUSSION
27.06.13	P6	PEA ISSUE
10.07.13	P7	PEA ISSUE
08.08.13	P8	PRELIMINARY SSD ISSUE
20.08.13	P9	SSD ISSUE

By	Date	No.	Revision Description

By	Date	No.	Revision Description

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Blomquist + Wark Architects

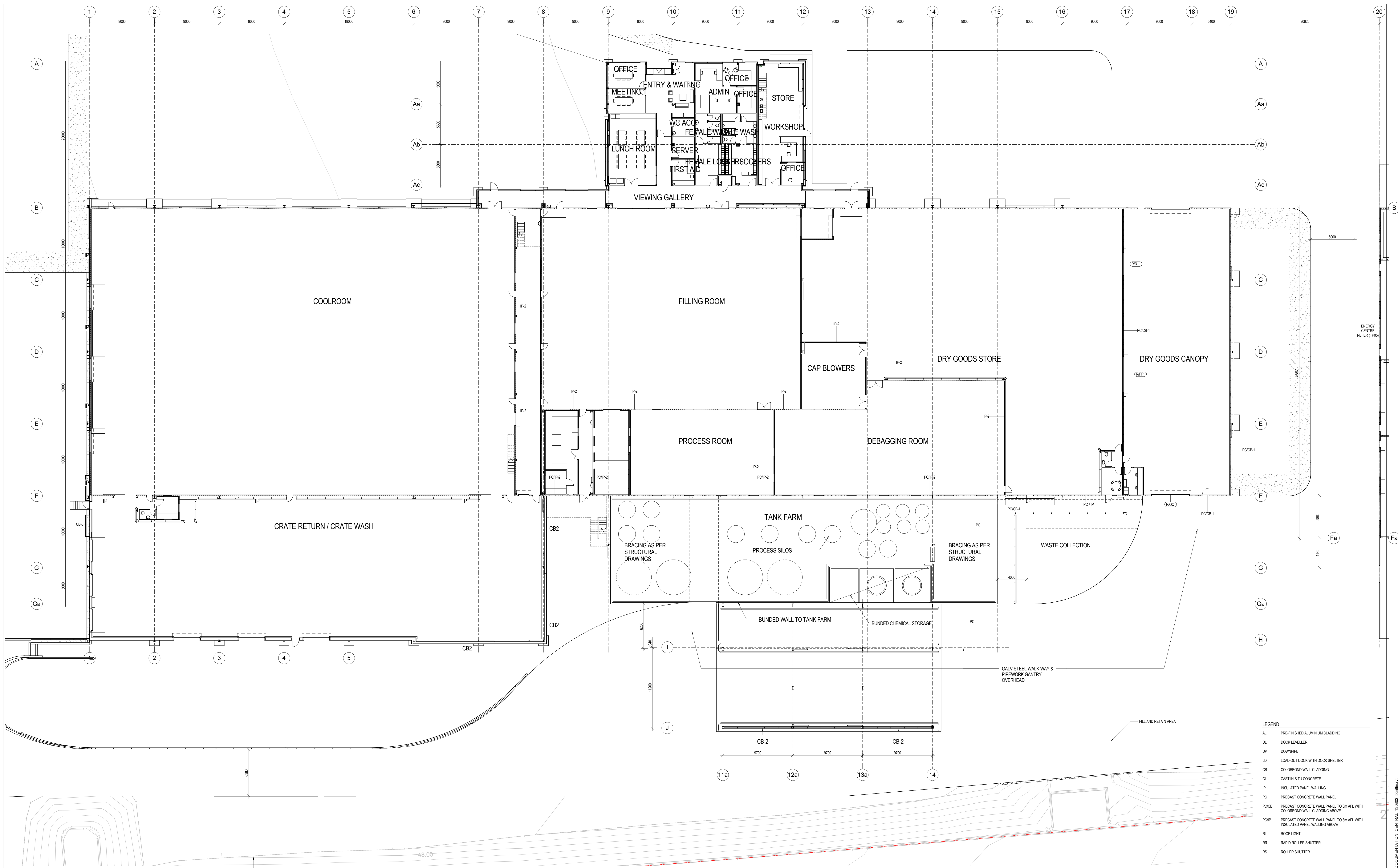
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390 Burnwood Road
Hawthorn, Victoria, 3122
Ph: (03) 9818 3555
Fax: (03) 9818 3979

Project
PROJECT INVERLOCH (NSW) - LOT 1022, QUARRY ROAD,
ERSKINE PARK
NSW

MURRAY GOULBURN CO-OPERATIVE CO. LTD

Drawing Title
SITE LAYOUT PLAN

Date JUNE 2013	Job No. 1325
Drawn By JW	Drawing No. DA02
Scale @ B1 1:500	Rev P9



Date	No.	Revision Description	By	Date	No.	Revision Description	By	Date	No.	Revision Description	By	Date	No.	Revision Description
13.06.13	P1	PRELIMINARY FOR DISCUSSION	JW											
27.06.13	P2	PEA ISSUE	JW											
18.08.13	P3	PRELIMINARY SSD ISSUE	BC											
20.08.13	P4	SSD ISSUE	BC											

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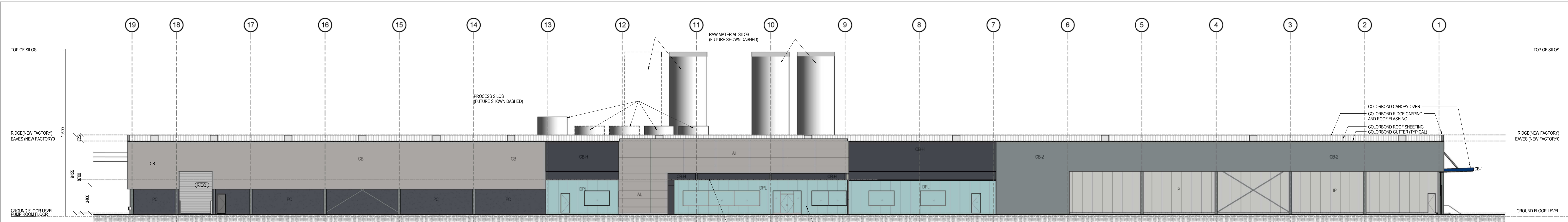
Blomquist + Wark Architects
 Blomquist + Wark Pty Ltd
 390 Burnwood Road
 Hawthorn, Victoria, 3122
 Ph: (03) 9818 3555
 Fax: (03) 9818 3979

Project: PROJECT INVERLOCH (NSW) - LOT 1022, QUARRY ROAD, ERSKINE PARK NSW
 MURRAY GOULBURN CO-OPERATIVE CO. LTD

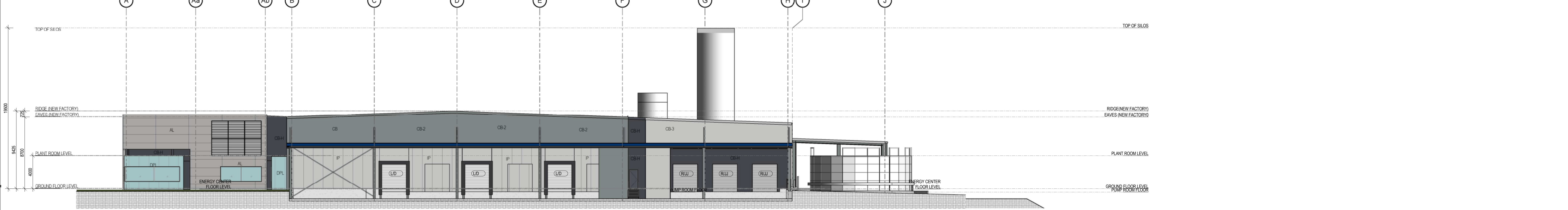
Drawing Title: FLOOR PLAN

Date: JUNE 2013
 Job No.: 1325
 Drawing No.: DA03
 Rev.: P4
 Scale: @ B1 1:200

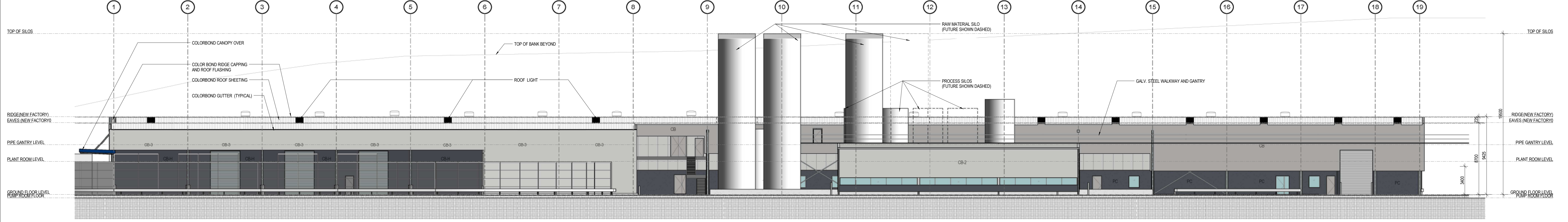
- LEGEND**
- AL PRE-FINISHED ALUMINIUM CLADDING
 - DL DOCK LEVELLER
 - DP DOWNPIPE
 - LD LOAD OUT DOCK WITH DOCK SHELTER
 - CB COLORBOND WALL CLADDING
 - CI CAST IN-SITU CONCRETE
 - IP INSULATED PANEL WALLING
 - PC PRECAST CONCRETE WALL PANEL
 - PC/CB PRECAST CONCRETE WALL PANEL TO 3m AFL WITH COLORBOND WALL CLADDING ABOVE
 - PC/IP PRECAST CONCRETE WALL PANEL TO 3m AFL WITH INSULATED PANEL WALLING ABOVE
 - RR ROLLER SHUTTER
 - RS ROLLER SHUTTER



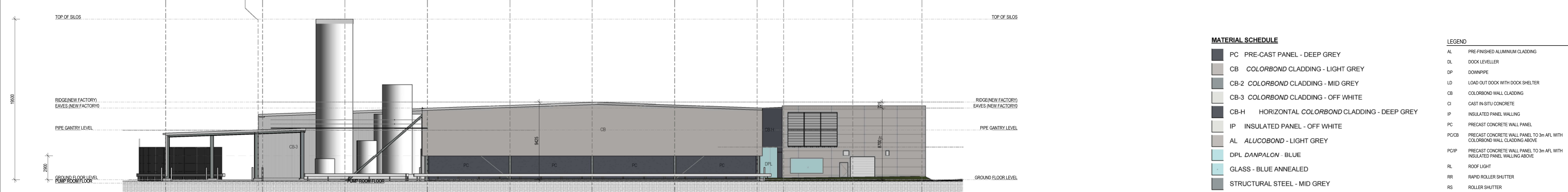
1 NEW FACTORY NORTH ELEVATION
SCALE 1:200



2 NEW FACTORY WEST ELEVATION
SCALE 1:200



4 NEW FACTORY SOUTH ELEVATION
SCALE 1:200

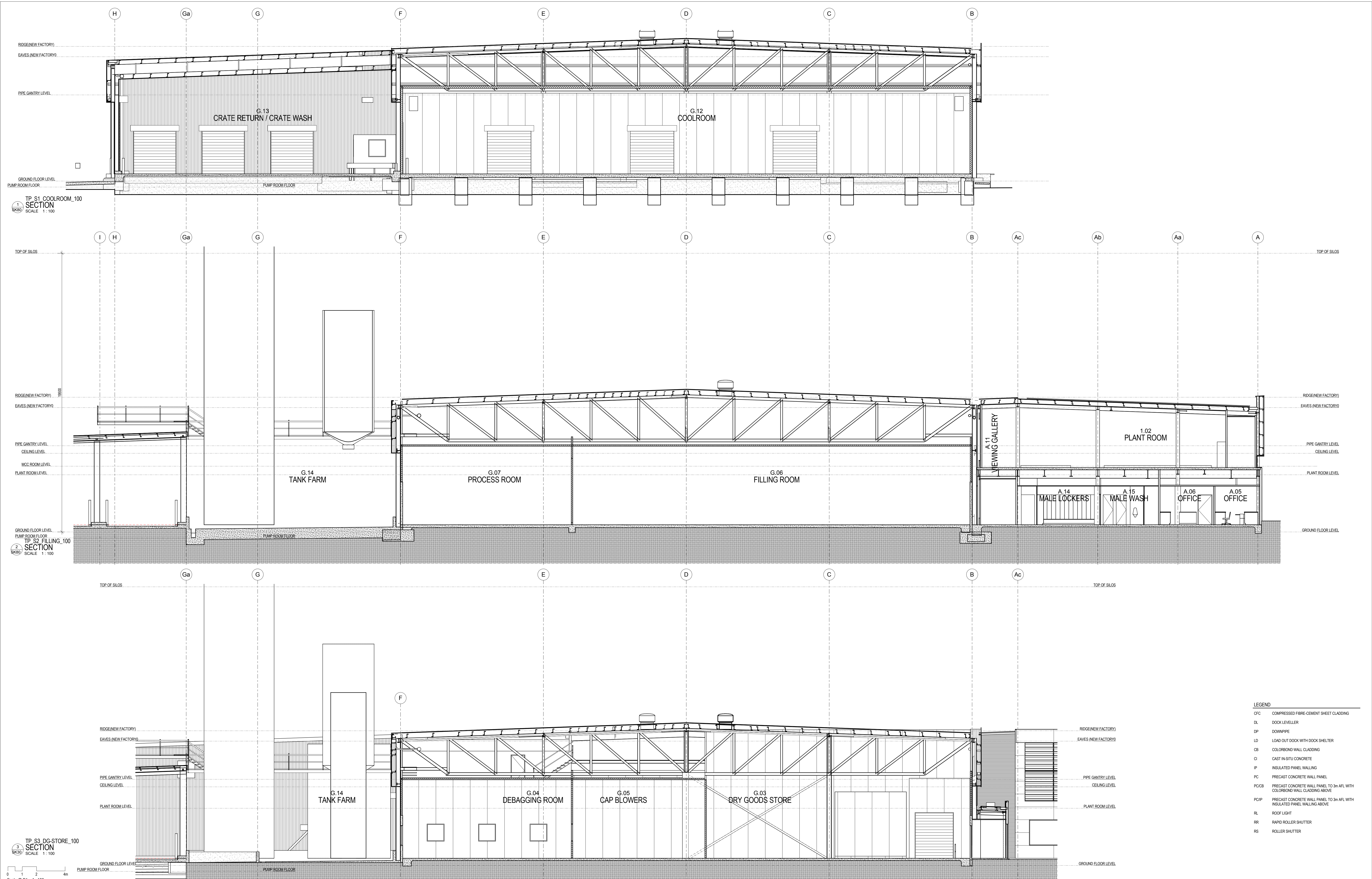


3 NEW FACTORY EAST ELEVATION
SCALE 1:200

MATERIAL SCHEDULE		LEGEND	
PC	PRE-CAST PANEL - DEEP GREY	AL	PRE-FINISHED ALUMINIUM CLADDING
CB	COLORBOND CLADDING - LIGHT GREY	DL	DOCK LEVELLER
CB-2	COLORBOND CLADDING - MID GREY	DP	DOWNPIPE
CB-3	COLORBOND CLADDING - OFF WHITE	LD	LOAD OUT DOCK WITH DOCK SHELTER
CB-H	HORIZONTAL COLORBOND CLADDING - DEEP GREY	CB	COLORBOND WALL CLADDING
IP	INSULATED PANEL - OFF WHITE	CI	CAST IN-SITU CONCRETE
AL	ALUCOBOND - LIGHT GREY	IP	INSULATED PANEL WALLING
DPL	DANPALON - BLUE	PC	PRECAST CONCRETE WALL PANEL
GLASS	GLASS - BLUE ANNEALED	PC/CB	PRECAST CONCRETE WALL PANEL TO 3m AFL WITH COLORBOND WALL CLADDING ABOVE
STRUCTURAL STEEL	STRUCTURAL STEEL - MID GREY	PO/PC	PRECAST CONCRETE WALL PANEL TO 3m AFL WITH INSULATED PANEL WALLING ABOVE
CANOPY	CANOPY - BLUE	RL	ROOF LIGHT
		RR	RAPID ROLLER SHUTTER
		RS	ROLLER SHUTTER

<p>Date No. Revision Description</p> <p>03.06.13 P1 PRELIMINARY FOR DISCUSSION</p> <p>14.06.13 P2 PRELIMINARY FOR DISCUSSION</p> <p>27.06.13 P3 PCA ISSUE</p> <p>08.08.13 P4 PRELIMINARY SSD ISSUE</p> <p>20.08.13 P5 SSD ISSUE</p>		<p>By Date No. Revision Description</p> <p>JW JWB</p> <p>BC BCB</p> <p>BS BSB</p> <p>BS BSB</p>		<p>By Date No. Revision Description</p> <p>Contractors must verify all dimensions on site prior to commencing any work or making any shop drawings</p> <p>This document is and shall remain the property of Blomquist + Wark Pty Ltd. This document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use of this document is prohibited.</p>		<p>Blomquist + Wark Architects</p> <p>Blomquist + Wark Pty Ltd 300 Burnwood Road Hawthorn, Victoria, 3122 Ph: (03) 9818 3555 Fax: (03) 9818 3979</p>		<p>Project PROJECT INVERLOCH (NSW) - LOT 1022, QUARRY ROAD, ERSKINE PARK NSW</p> <p>MURRAY GOULBURN CO-OPERATIVE CO. LTD</p>		<p>Drawing Title ELEVATIONS</p>		<p>Date JUNE 2013</p> <p>Job No. 1325</p> <p>Drawn By JW</p> <p>Scale @ B1 1:200</p> <p>Drawing No. DA04</p> <p>Rev. P5</p>	
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C:\Users\jwark\Documents\1325_1325_DOCUMENTATION_CENTRAL_132502.dwg



TP S1 COOLROOM_100 SECTION
SCALE 1:100

TP S2 FILLING_100 SECTION
SCALE 1:100

TP S3 DG-STORE_100 SECTION
SCALE 1:100

- LEGEND**
- CFC COMPRESSED FIBRE-CEMENT SHEET CLADDING
 - DL DOCK LEVELLER
 - DP DOWNPIPE
 - LD LOAD OUT DOCK WITH DOCK SHELTER
 - CB COLORBOND WALL CLADDING
 - CI CAST-IN-SITU CONCRETE
 - IP INSULATED PANEL WALLING
 - PC PRECAST CONCRETE WALL PANEL
 - PCIB PRECAST CONCRETE WALL PANEL TO 3m AFL WITH COLORBOND WALL CLADDING ABOVE
 - PCIP PRECAST CONCRETE WALL PANEL TO 3m AFL WITH INSULATED PANEL WALLING ABOVE
 - RL ROOF LIGHT
 - RR RAPID ROLLER SHUTTER
 - RS ROLLER SHUTTER

Date	No.	Revision Description	By	Date	No.	Revision Description	By
03.06.13	P1	PRELIMINARY FOR DISCUSSION	JW				
27.06.13	P2	PEA ISSUE	BG				
18.08.13	P3	PRELIMINARY SSD ISSUE	BG				
20.08.13	P4	SSD ISSUE	BG				

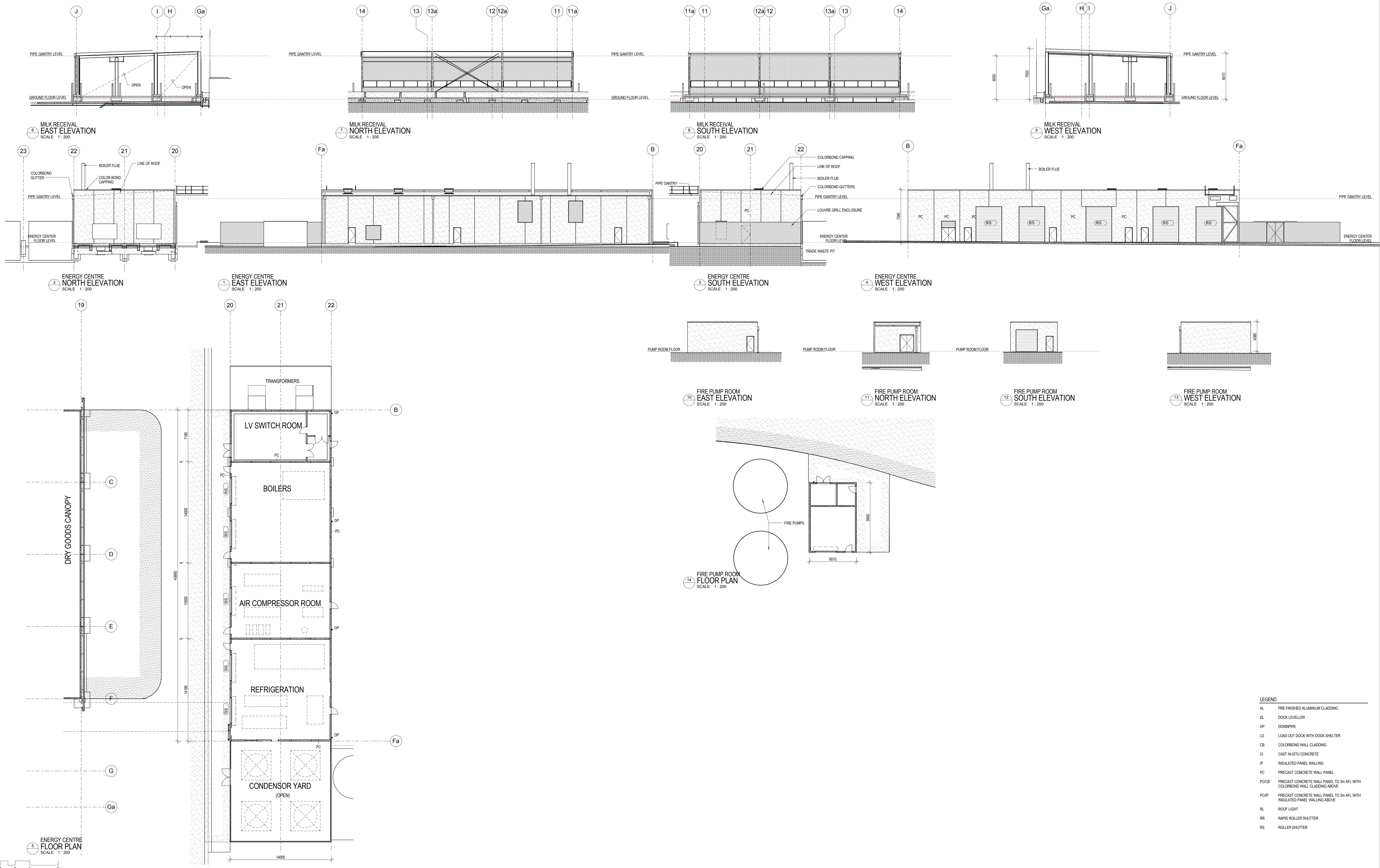
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Project
PROJECT INVERLOCH (NSW) - LOT 1022, QUARRY ROAD,
ERSKINE PARK
NSW
MURRAY GOULBURN CO-OPERATIVE CO. LTD

Drawing Title
FACTORY SECTIONS

Date JUNE 2013	Job No. 1325
Drawn By JW	Drawing No. DA05
Scale @ B1 1:100	Rev. P4



Date	No.	Revision Description	By	Date	No.	Revision Description	By
14.06.13	P1	PRELIMINARY FOR DISCUSSION	JW				
27.06.13	P2	PEA ISSUE	JW				
18.08.13	P3	PRELIMINARY SSD ISSUE	BC				
20.08.13	P4	SSD ISSUE	BC				

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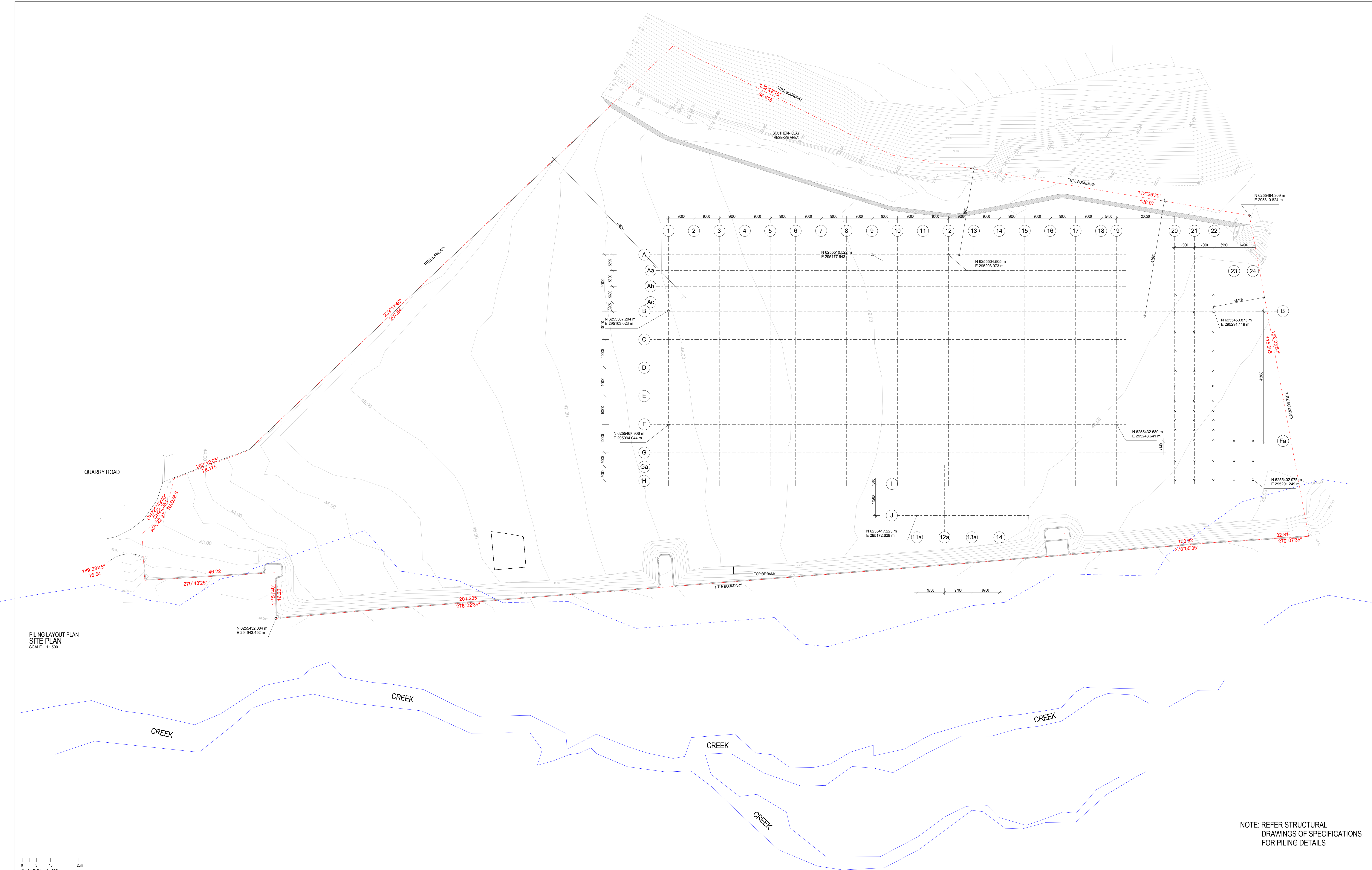
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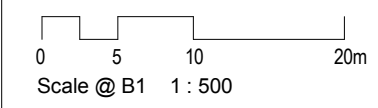
Project
PROJECT INVERLOCH (NSW) - LOT 1022, QUARRY ROAD,
ERSKINE PARK
NSW

MURRAY GOULBURN CO-OPERATIVE CO. LTD

Drawing Title ENERGY CENTRE & MILK RECEIVALS		Date JUNE 2013	Job No. 1325
Drawn By JW	Scale @ B1 1:200	Drawing No. DA06	Rev. P4



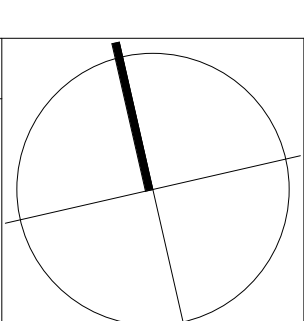
PILING LAYOUT PLAN
SITE PLAN
SCALE 1:500



NOTE: REFER STRUCTURAL DRAWINGS OF SPECIFICATIONS FOR PILING DETAILS

Date	No.	Revision Description	By	Date	No.	Revision Description	By
14.06.13	P1	PRELIMINARY FOR DISCUSSION	JW				
20.06.13	P2	PRELIMINARY FOR DISCUSSION	JW				
27.06.13	P3	PCA ISSUE	JW				
08.08.13	P4	PRELIMINARY SSD ISSUE	BG				
20.06.13	P5	SSD ISSUE	BG				

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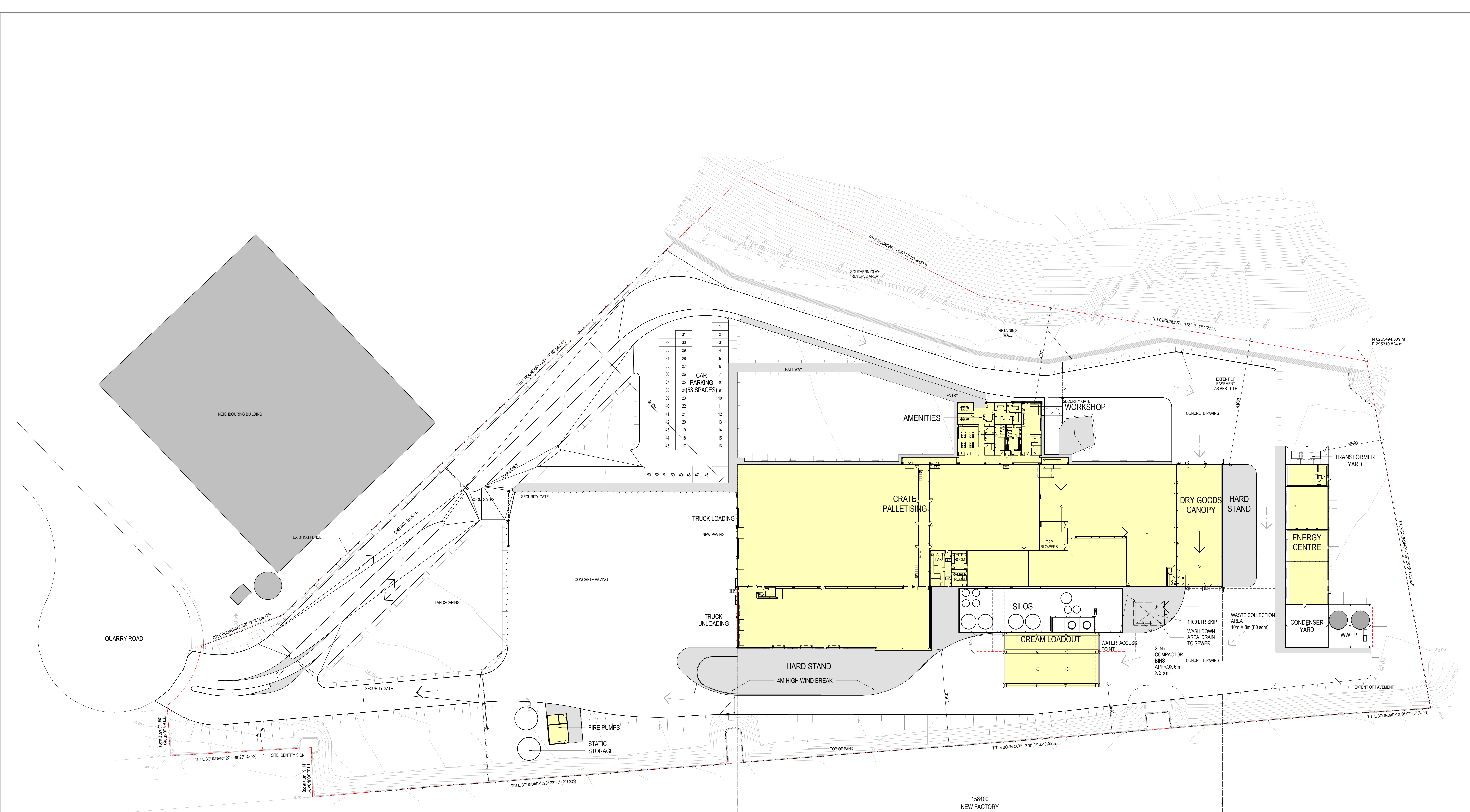


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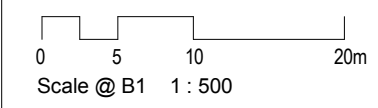
Project
PROJECT INVERLOCH (NSW) - LOT 1022, QUARRY ROAD,
ERSKINE PARK
NSW
MURRAY GOULBURN CO-OPERATIVE CO. LTD

Drawing Title
PILING LAYOUT PLAN - EARLY WORKS

Date JUNE 2013	Job No. 1325
Drawn By JW	Drawing No. DA07
Scale @ B1 1:500	Rev. P5



TP_SP_PROP_OPWASTE MAN PLAN_500
 DETAIL ELEVATION
 SCALE 1:500



Date	No.	Revision Description
08.08.13	P1	PRELIMINARY SSD ISSUE
20.08.13		SSD ISSUE

By	Date	No.	Revision Description
BG	BG		

By	Date	No.	Revision Description

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Project
 PROJECT INVERLOCH (NSW) - LOT 1022, QUARRY ROAD,
 ERSKINE PARK
 NSW

MURRAY GOULBURN CO-OPERATIVE CO. LTD

Drawing Title
**OPERATIONAL WASTE MANAGEMENT
 PLAN**

Date
 JUNE 2013

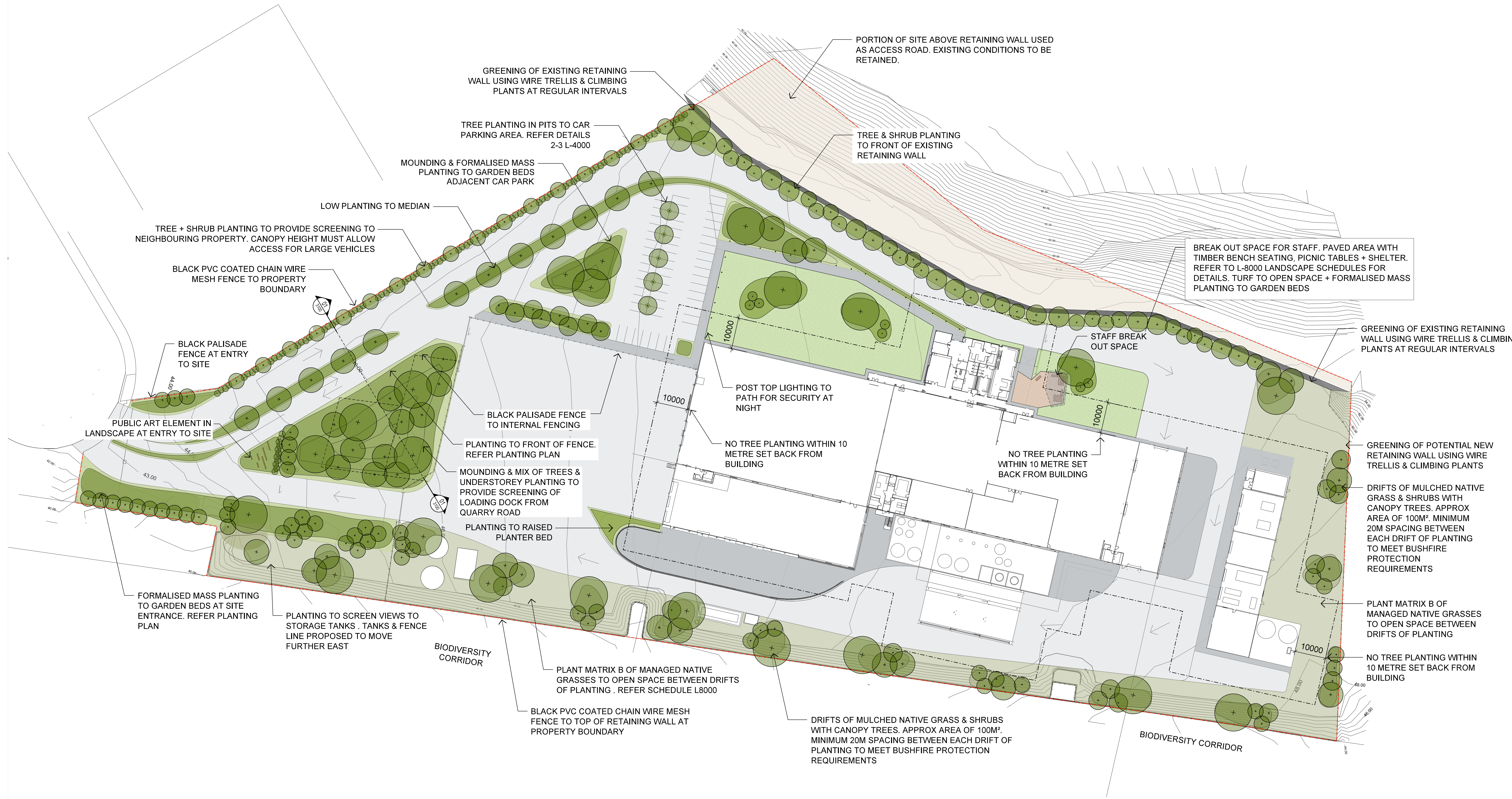
Drawn By
 Author

Scale @ B1
 1:500

Job No.
1325

Drawing No.
DA08

Rev.
P1



Amendments		Amendments	
Issue	Description	Date	Date
01	For review	11/07/2013	
02	For review	15/07/2013	
03	For review	17/07/2013	
04	For review	18/07/2013	
05	For review	14/08/2013	

Project co-ordination
 Space2Develop
 Architecture
 Blomquist + Wark
 Civil Engineering
 Pitt & Sherry
 Environmental Management
 KMH
 Urban Planning
 Urban Concepts

Urban design
 GM Urban Design and Architecture
 Geo-tech, contamination & salinity
 Environmental Earth Sciences
 Traffic & parking assessment
 Traffic & Transportation Planners
 Bushfire Hazard Assessment & Ecology
 Travers Environmental Group
 Quantity surveyor
 WT Partnership

Client
 Murray Goulburn Co-operative
 Southbank VIC





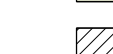





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 Australia 2011 www.groupgsa.com
 T +612 9361 4144 F +612 9332 3458
 architecture interior design urban design landscape
 nom architect M. Shelton 3990

Project Title
**Milk Processing Facility
 Erskine Park**
 Drawing Title
Landscape plan

Plotted and checked by			
Verified	SH	Approved	SH
Creation Date	11/07/13	By	AB
File	Lnd 100.dgn	Plot Date	14/08/2013
Scale	Job No	Drawing No	Issue
1:500@B1	13-183	L-1100	05

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LEGEND

-  CONCRETE FOOTPATH
-  BRICK PAVING
-  PLANT MATRIX A
-  PLANT MATRIX B
-  PLANTING TO GARDEN BEDS
-  TREE PLANTING
-  TURF
-  TIMBER FURNITURE
-  FENCE
-  SITE BOUNDARY



DRAWING CONTINUES L1101

DRAWING CONTINUES L1105

DRAWING CONTINUES L1103

Issue	Description	Date	Issue	Description	Date
01	For review	17/07/2013			
02	For review	18/07/2013			
03	For review	14/08/2013			

Project co-ordination
 Space2Develop
 Architecture
 Blomquist + Wark
 Civil Engineering
 Pitt & Sherry
 Environmental Management
 KMH
 Urban Planning
 Urban Concepts

Urban design
 GM Urban Design and Architecture
 Geo-tech, contamination & salinity
 Environmental Earth Sciences
 Traffic & parking assessment
 Traffix Traffic & Transportation Planners
 Bushfire Hazard Assessment & Ecology
 Travers Environmental Group
 Quantity surveyor
 WT Partnership

Client
 Murray Goulburn Co-operative
 Southbank VIC













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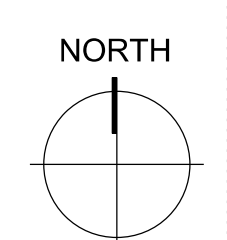
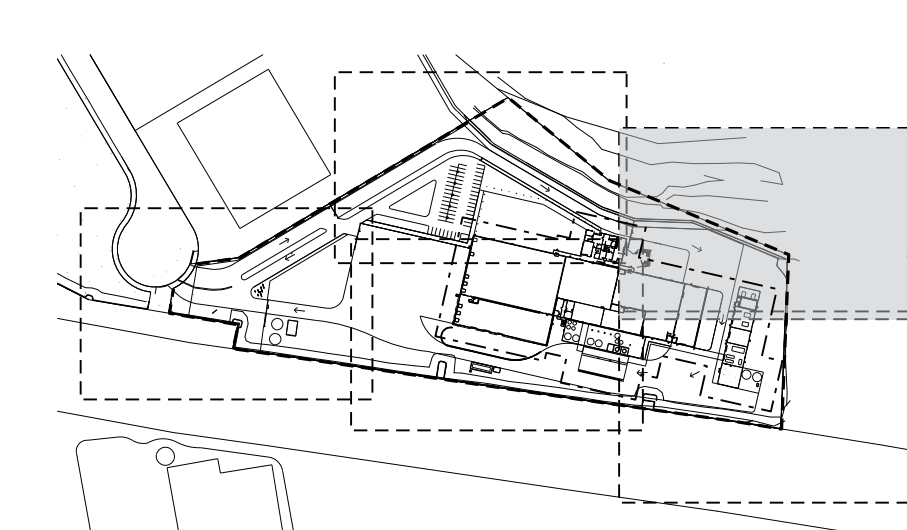
Project Title
 Milk Processing Facility
 Erskine Park
 Drawing Title
 Landscape- detail plan 02

Plotted and checked by			
Verified	SH	Approved	SH
Creation Date	11/07/13	By	AB
File	Lnd 100-105.dwg	Plot Date	14/09/13
Scale	Job No	Drawing No	Issue
1:200@B1	13-183	L-1102	03

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LEGEND

-  CONCRETE FOOTPATH
-  BRICK PAVING
-  PLANT MATRIX A
-  PLANT MATRIX B
-  PLANTING TO GARDEN BEDS
-  TREE PLANTING
-  TURF
-  TIMBER FURNITURE
-  FENCE
-  SITE BOUNDARY



Amendments		Amendments	
Issue	Description	Date	Issue Description
01	For review	17/07/2013	
02	For review	18/07/2013	
03	For review	14/08/2013	

Project co-ordination
 Space2Develop
 Architecture
 Blomquist + Wark
 Civil Engineering
 Pitt & Sherry
 Environmental Management
 KMH
 Urban Planning
 Urban Concepts

Urban design
 GM Urban Design and Architecture
 Geo-tech, contamination & salinity
 Environmental Earth Sciences
 Traffic & parking assessment
 Traffix Traffic & Transportation Planners
 Bushfire Hazard Assessment & Ecology
 Travers Environmental Group
 Quantity surveyor
 WT Partnership

Client
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 Southbank VIC

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 architecture interior design urban design landscape
 nom architect M. Shelton 3990

Project Title
**Milk Processing Facility
 Erskine Park**
 Drawing Title
Landscape- detail plan 03
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Plotted and checked by			
Verified	SH	Approved	SH
Creation Date	11/07/13	By	AB
File	Lnd 100-105.dgn	Plot Date	14/09/2013
Scale	Job No	Drawing No	Issue
1:200@B1	13-183	L-1103	03

Albellea Francis Mason @ 0.6m ctrs
 Grevillea juniperina Molonglo @ 0.8m ctrs
 Convolvulus cneorum @ 0.5m ctrs
 Grevillea rosmarinifolia @ 0.8m ctrs
 Nandina domestica 'Gulf Stream' @ 0.5m ctrs
 Westringia fruticosa 'Jervis Gem' @ 0.5m ctrs

No tree or shrub planting
 within 10m set back from
 building

DRAWING CONTINUES L1102

LEGEND

- CONCRETE FOOTPATH
- BRICK PAVING
- PLANT MATRIX A
- PLANT MATRIX B
- PLANTING TO GARDEN BEDS
- TREE PLANTING
- TURF
- TIMBER FURNITURE
- FENCE
- SITE BOUNDARY

47.00

DRAWING CONTINUES L1101

DRAWING CONTINUES L1103

Native grass mix to raised planter bed
 40% CA at 0.5m ctrs
 40% PLE at 0.4m ctrs
 20% AM at 0.4m ctrs

No tree or shrub planting
 within 10m set back from
 building

1 x Eucalyptus tereticornis

100m² Plant matrix A to planter bed
 Refer schedule L8000

2 x Tristaniopsis laurina

1 x Corymbia maculata

46.00

1 x Acacia parramattensis

100m² Plant matrix A to planter bed
 Refer schedule L8000

3 x Eleocharis reticulatus

1 x Corymbia maculata

100m² Plant matrix A to planter bed
 Refer schedule L8000

1 x Acacia parramattensis

2 x Tristaniopsis laurina

SITE BOUNDARY

BIODIVERSITY CORRIDOR

1 x Acacia parramattensis

Plant matrix B to landscaping areas
 to boundary. Refer schedule L8000

1 x Acacia parramattensis

100m² Plant matrix A to planter bed
 Refer schedule L8000

1 x Acmena smithii

2 x Eleocharis reticulatus

1 x Acacia parramattensis

100m² Plant matrix A to planter bed
 Refer schedule L8000

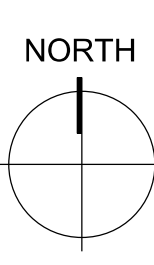
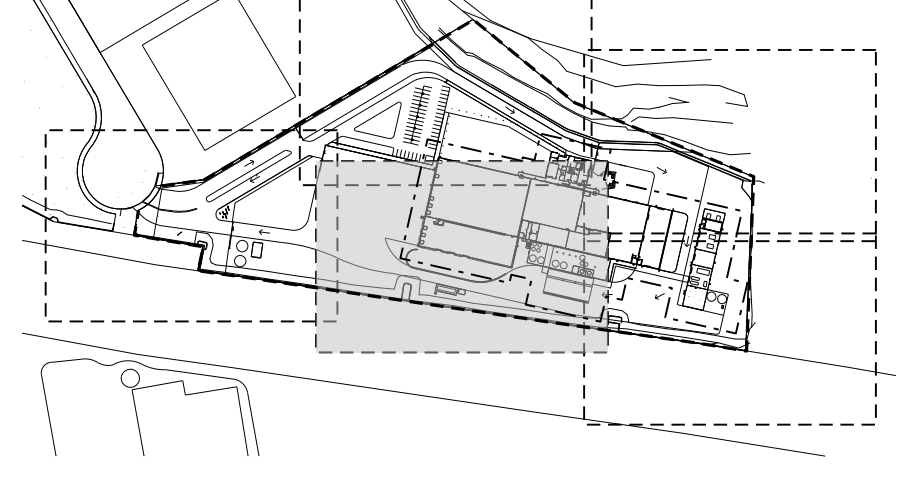
2 x Tristaniopsis laurina

1 x Corymbia maculata

Plant matrix B to landscaping areas
 to boundary. I

3 x Eleocharis reticulatus

DRAWING CONTINUES L1104



Amendments		Amendments	
Issue	Description	Date	Issue Description
01	For review	17/07/2013	
02	For review	18/07/2013	
03	For review	14/08/2013	

Project co-ordination	Space2Develop	Urban design	GM Urban Design and Architecture
Architecture	Blomquist + Wark	Geo-tech, contamination & salinity	Environmental Earth Sciences
Civil Engineering	Pitt & Sherry	Traffic & parking assessment	Traffic Traffic & Transportation Planners
Environmental Management	KMH	Bushfire Hazard Assessment & Ecology	Travers Environmental Group
Urban Planning	Urban Concepts	Quantity surveyor	WT Partnership

Client
 Murray Goulburn Co-operative
 Southbank VIC



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 architecture interior design urban design landscape
 nom architect M. Shelton 3990

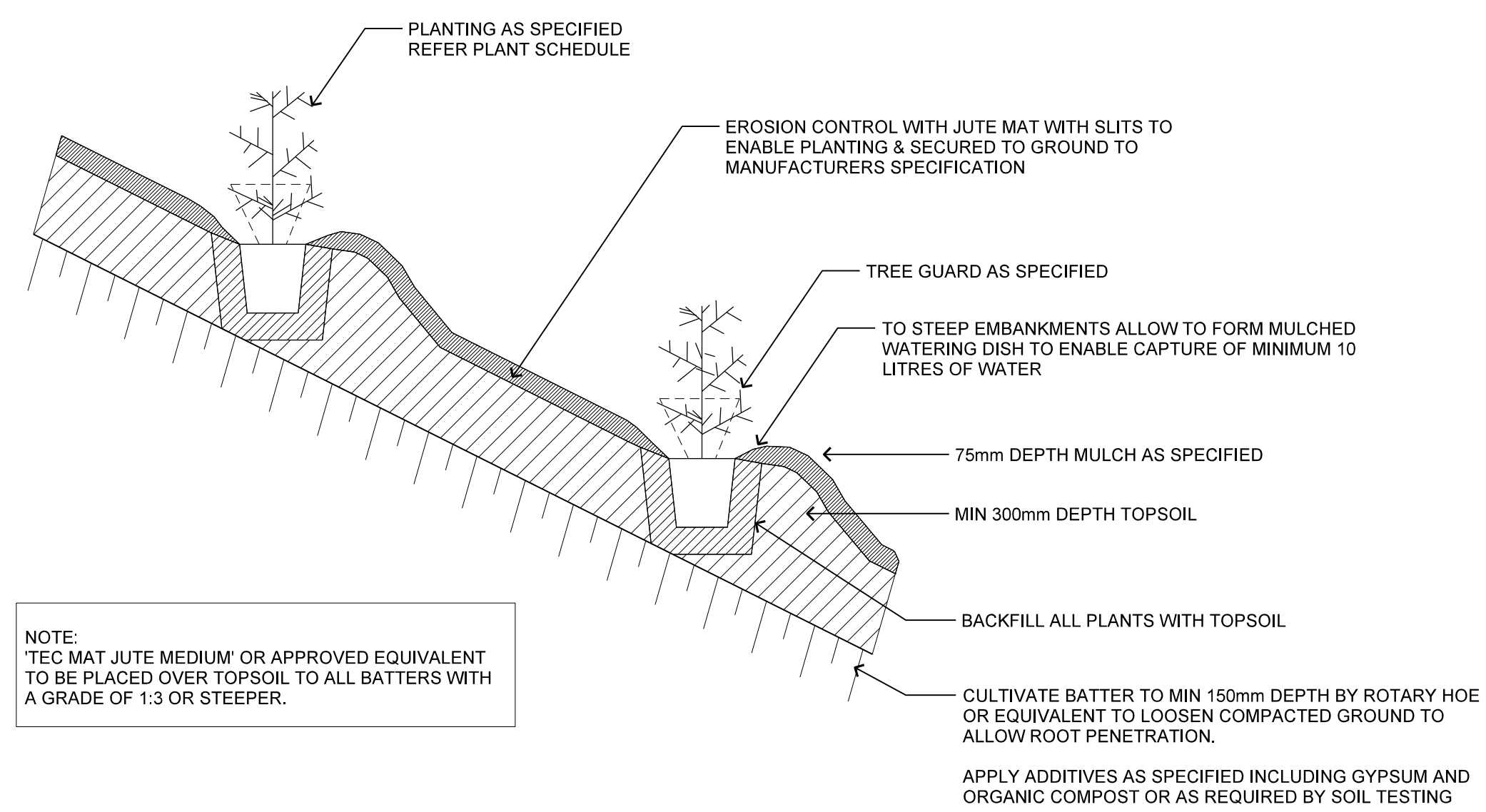
Project Title
 Milk Processing Facility
 Erskine Park
 Drawing Title
 Landscape- detail plan 05

Plotted and checked by			
Verified	SH	Approved	SH
Creation Date	11/07/13	By	AB
File	Lnd 100-105.dgn	Plot Date	14/08/2013
Scale	1:200@B1	Job No	13-183
Drawing No	L-1105	Issue	03

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01 ROAD SECTION
SCALE 1:100



02 PLANTING TO EMBANKMENTS - TYPICAL SECTION
SCALE 1:20

Amendments		Amendments	
Issue	Description	Date	Date
01	For review	15/07/2013	
02	For review	17/07/2013	

Project co-ordination
Space2Develop
Architecture
Blomquist + Wark
Civil Engineering
Pitt & Sherry
Environmental Management
KMH
Urban Planning
Urban Concepts

Urban design
GM Urban Design and Architecture
Geo-tech, contamination & salinity
Environmental Earth Sciences
Traffic & parking assessment
Traffic Traffic & Transportation Planners
Bushfire Hazard Assessment & Ecology
Travers Environmental Group
Quantity surveyor
WT Partnership

Client
Murray Goulburn Co-operative
Southbank VIC

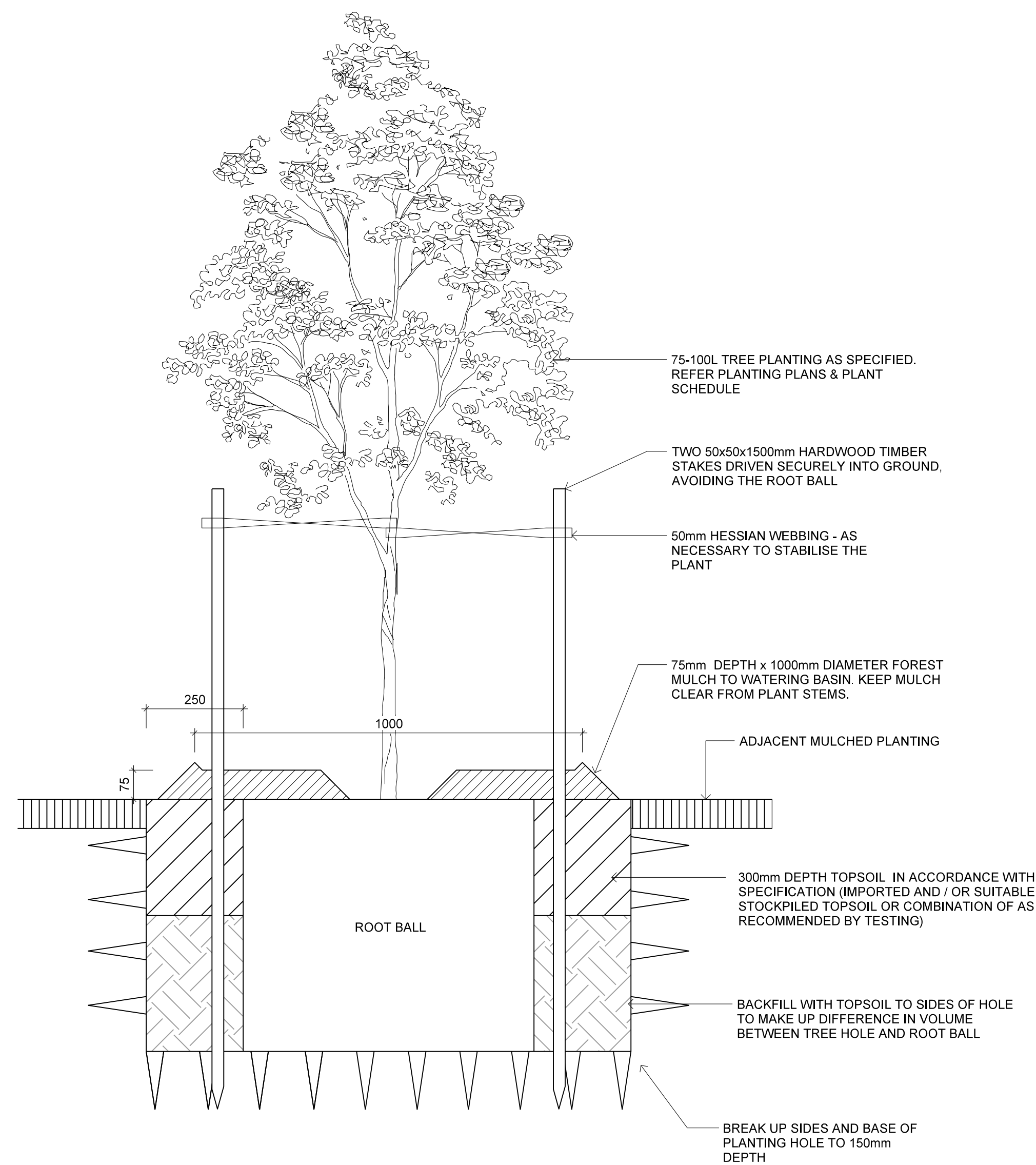
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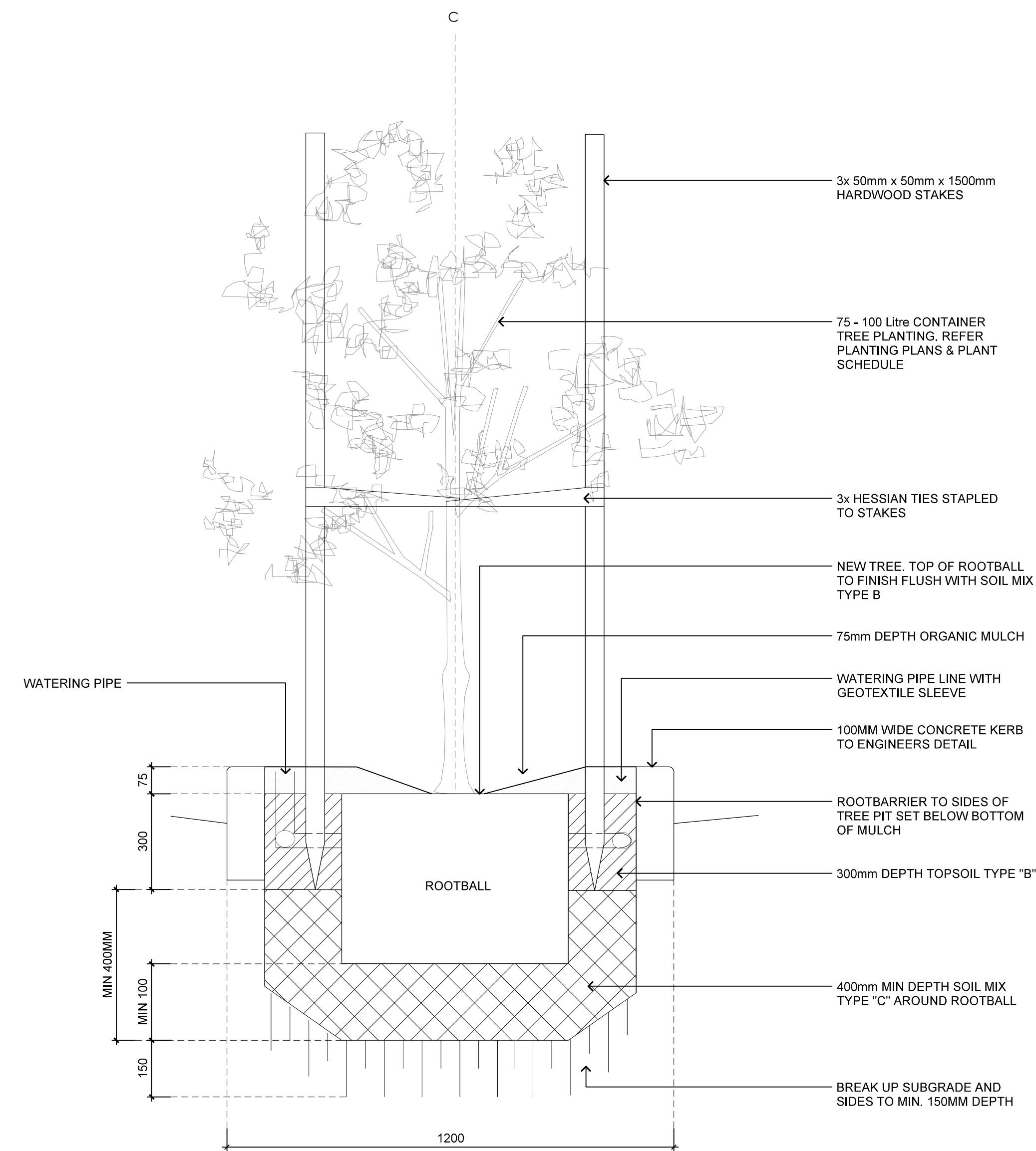
Project Title
Milk Processing Facility
Erskine Park
Drawing Title
Landscape- sections

Plotted and checked by			
Verified	SH	Approved	SH
Creation Date	11/07/13	By	AB
File	Lnd 2005.dgn	Plot Date	10/02/03
Scale	Job No	Drawing No	Issue
AS SHOWN	13-183	L-3100	02

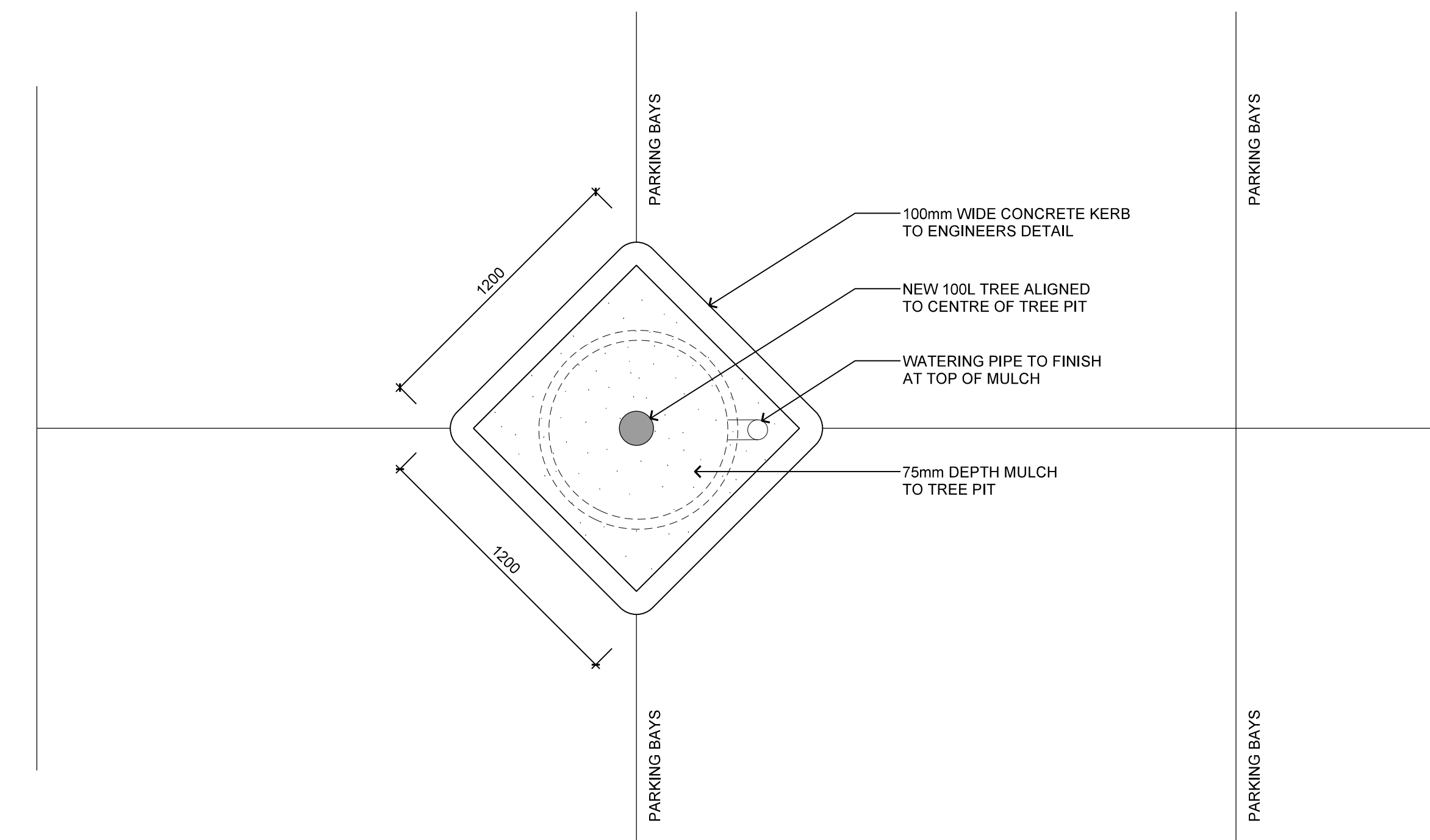
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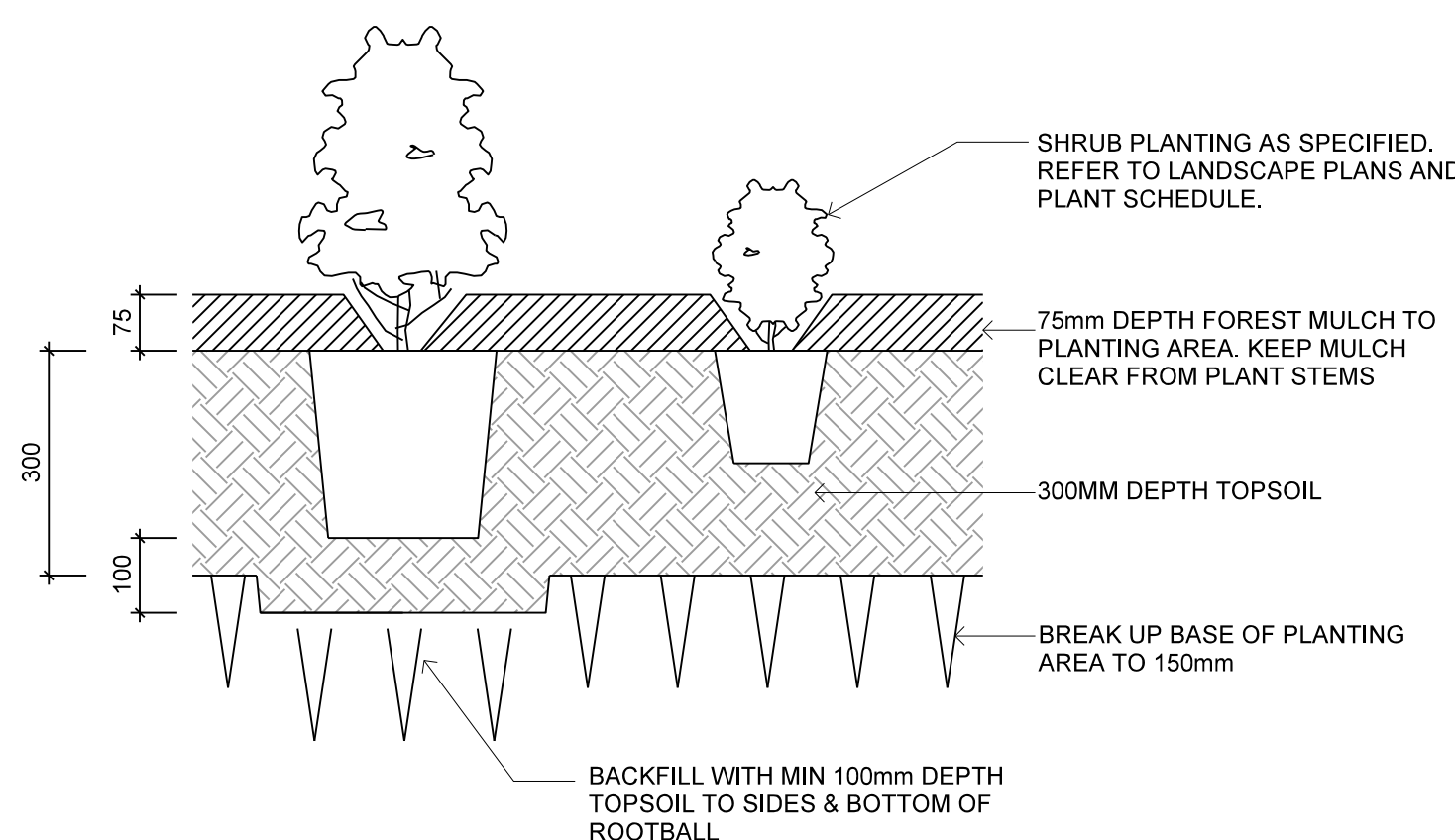
01 TREE PLANTING IN TURF/ GARDEN BEDS - TYPICAL SECTION
SCALE 1:10



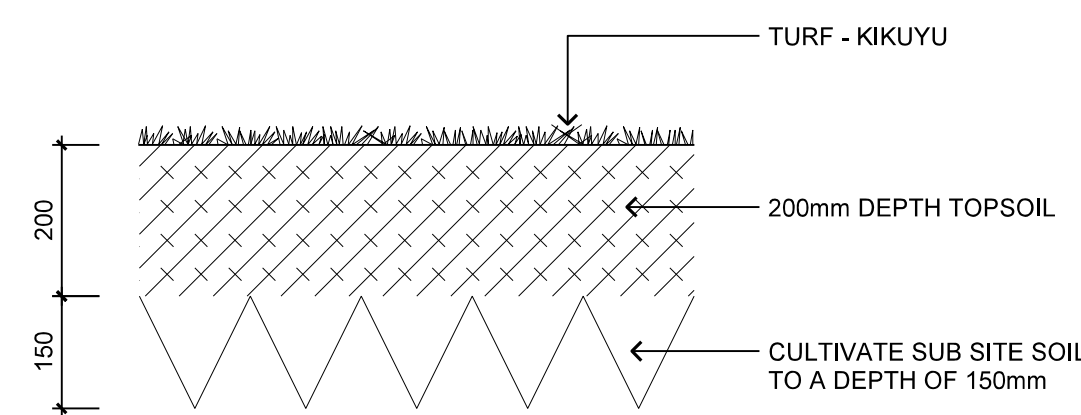
02 TREE PIT TO CAR PARK - TYPICAL SECTION
SCALE 1:10



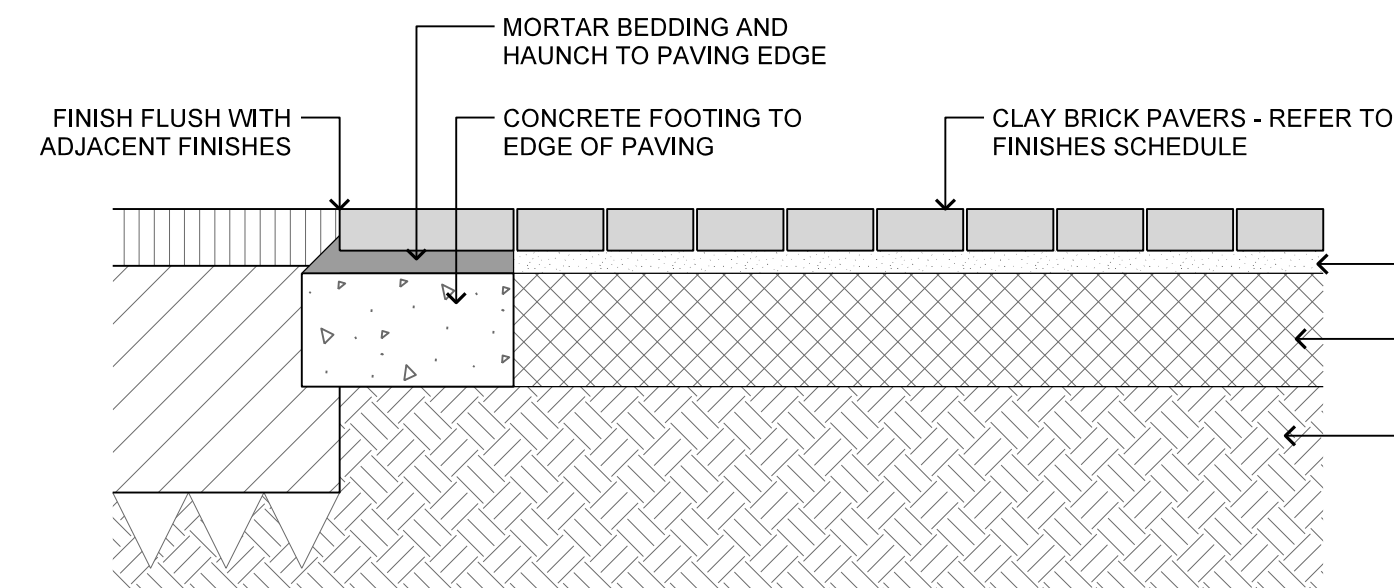
03 TREE PIT TO CAR PARK - TYPICAL PLAN
SCALE 1:20



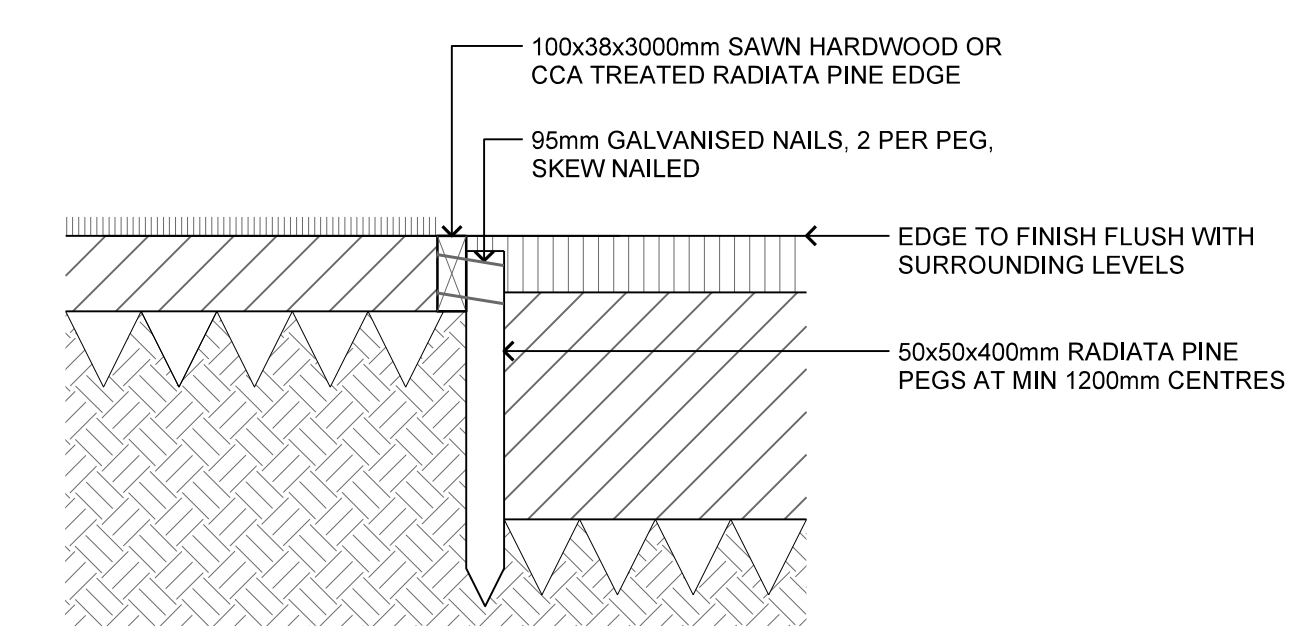
04 SHRUB PLANTING IN GARDEN BEDS - TYPICAL SECTION
SCALE 1:10



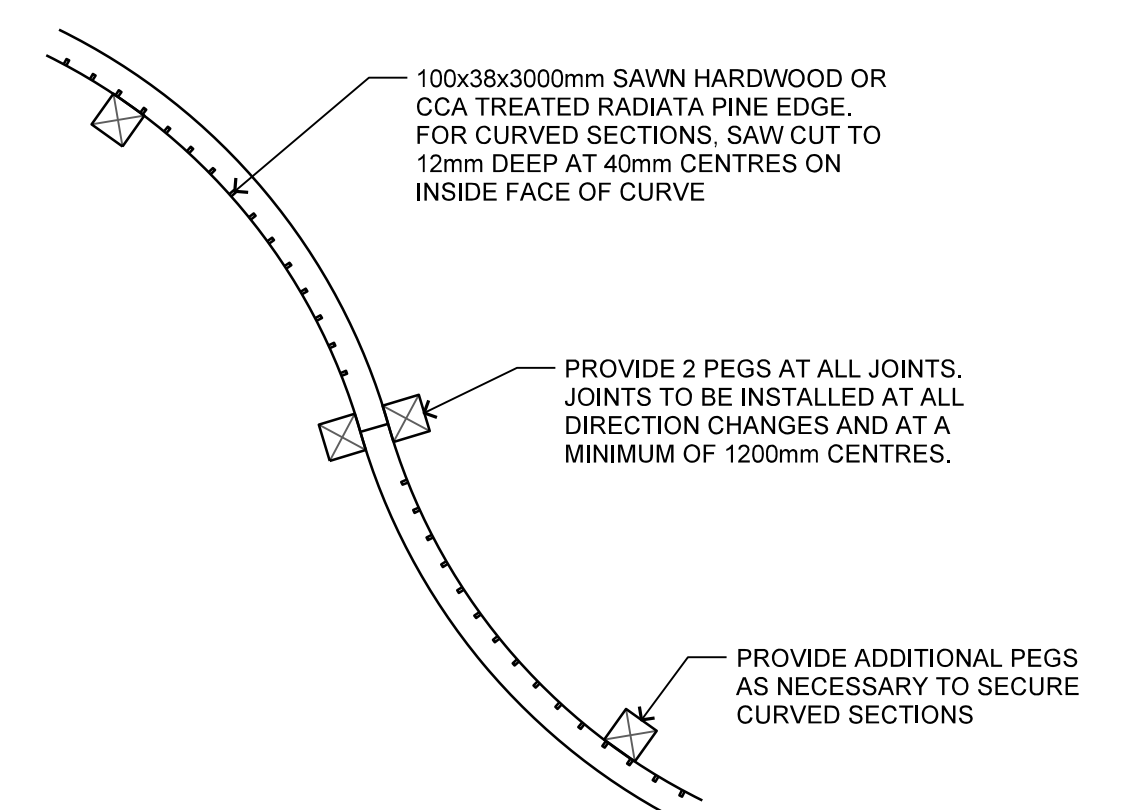
05 TURF - TYPICAL SECTION
SCALE 1:10



06 BRICK PAVING - TYPICAL SECTION
SCALE 1:10



07 TIMBER EDGE - TYPICAL SECTION
SCALE 1:10



08 TIMBER EDGE - TYPICAL PLAN
SCALE 1:10

Amendments		Amendments	
Issue	Description	Date	Issue Description
01	For review	11	
02	For review	15/07/2013	

Project co-ordination
Space2Develop
Architecture
Blomquist + Wark
Civil Engineering
Pitt & Sherry
Environmental Management
KMH
Urban Planning
Urban Concepts

Urban design
GM Urban Design and Architecture
Geo-tech, contamination & salinity
Environmental Earth Sciences
Traffic & parking assessment
Trafix Traffic & Transportation Planners
Bushfire Hazard Assessment & Ecology
Travers Environmental Group
Quantity surveyor
WT Partnership

Client
Murray Goulburn Co-operative
Southbank VIC

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Project Title
Milk Processing Facility
Erskine Park
Drawing Title
Landscape- details

Plotted and checked by
Verified SH Approved SH
Creation Date 11/07/13 By AB
File Lnd 4003.dgn Plot Date 15/07/2013
Scale Job No Drawing No Issue
as shown 13-183 L-4000 02

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PLANT IMAGES



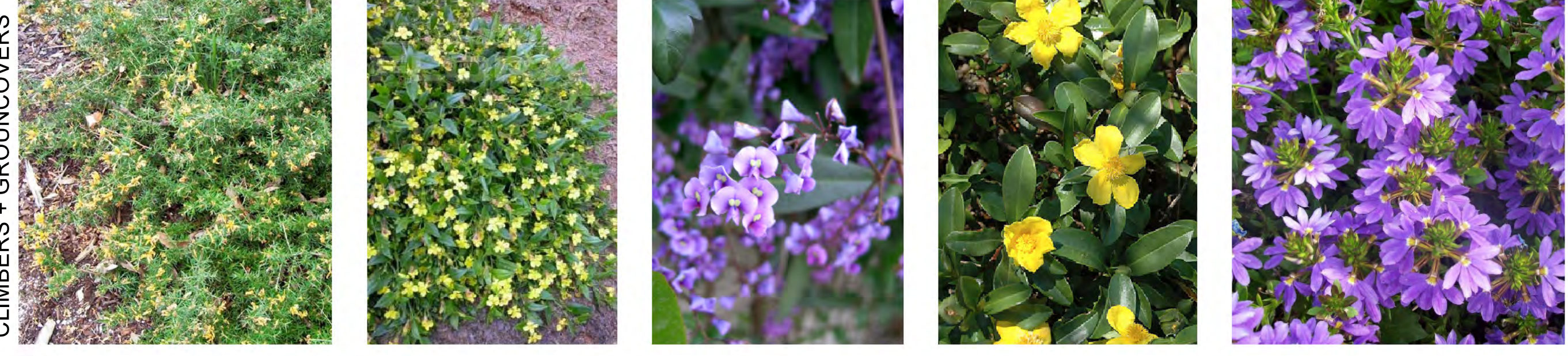
Acacia parramattensis
Acacia decurrens
Angophora floribunda
Eucalyptus crebra
Eucalyptus tereticornis
Melaleuca linariifolia
Eucalyptus moluccana
Robinia pseudoacacia



Abelia Francis Mason
Callistemon citrinus
Convolvulus cneorum
Grevillea 'Honey Gem'
Grevillea rosmarinifolia
Nandina domestica
Photinia fraseri
Westringia fruticosa



Anigozanthos 'Bush Ranger'
Arthropodium milleflorum
Carex apressa
Dianella revoluta
Poa labillardieri
Themeda australis



Grevillea juniperina
Goodenia ovata
Hardenbergia violacea
Hibbertia scandens
Scaevola aemula

MATERIALS & FINISHES



Brick paving to staff break out spaces
Timber bollards to garden beds at entrance
1800mm high black palisade fencing at entrance
1800mm high black PVC coated chain wire mesh fencing with black posts to property boundary
Wire trellis with climbing plants to existing retaining wall



Picnic tables & seating to staff break out area
Seating to staff break out area
Shelters to staff break out areas

INDICATIVE PLANT SCHEDULE

Code	Botanic Name	Common Name	Mature height x width (m)	Planting density	Pot size	Plant numbers
TREES						
AP	Acacia parramattensis	Paramatta Green Wattle	10 x 6	as shown	75L	TBC
AS	Acmena smithii	Lilly Pilly	12 x 6	as shown	75L	TBC
AF	Angophora floribunda	Rough-barked Apple	20 x 8	3m ctrs	100L	TBC
CM	Corymbia maculata	Spotted Gum	30 x 8	as shown	100L	TBC
ER	Eleocarpus reticulatus	Blueberry Ash	12 x 5	4m ctrs	100L	TBC
ESB	Eucalyptus Summer Beauty	Flowering Gum	5 x 3	4m ctrs	75L	TBC
ET	Eucalyptus tereticornis	Forest Red Gum	40 x 10	as shown	75L	TBC
RPF	Robinia pseudoacacia 'Frisia'	Yellow Locust	10 x 7	12m ctrs	75L	TBC
TL	Tristanopsis laurina	Water Gum	10 x 8	as shown	75L	TBC
SHRUBS						
AF	Abelia Francis Mason	Golden Abelia	1.5 x 1.5	0.6m ctrs	200mm	TBC
CC	Callistemon 'Captain Cook'	Dwarf Bottlebrush	1.5 x 1.5	0.5m ctrs	200mm	TBC
CWA	Callistemon citrinus 'White Anzac'	White Anzac Bottlebrush	1 x 2	0.8m ctrs	200mm	TBC
CON	Convolvulus cneorum	Silver Bush	0.6 x 0.9	0.5m ctrs	150mm	TBC
GH	Grevillea Honey Gem	Honey Gem Grevillea	4 x 3	2m ctrs	300mm	TBC
GR	Grevillea rosmarinifolia	Rosemary Grevillea	2 x 2	0.8m ctrs	200mm	TBC
GS	Grevillea 'Superb'	Superb Grevillea	1.5 x 2	1m ctrs	200mm	TBC
ND	Nandina domestica 'Gulf Stream'	Dwarf Nandina	0.75 x 0.5	0.5m ctrs	200mm	TBC
PIA	Phormium tenax Atropurpurea	Red New Zealand Flax	2 x 1.5	1m ctrs	300mm	TBC
PRR	Photinia fraseri 'Red Robin'	Red Robin	3 x 2	0.75m ctrs	300mm	TBC
PL	Pimelea liliifolia	Slender Rice Flower	0.6 x 0.5	0.5m ctrs	150mm	TBC
WF	Westringia fruticosa 'Jervis Gem'	Native Rosemary	1 x 1	0.5m ctrs	200mm	TBC
GRASSES						
ABR	Anigozanthos Bush Ranger	Kangaroo Paw	0.5 x 0.2	0.25m ctrs	140mm	TBC
AM	Arthropodium milleflorum	Pale Vanilla Lily	0.3 x 0.3	0.4m ctrs	140mm	TBC
CA	Carex apressa	Tall Sedge	0.8 x 0.6	0.5m ctrs	150mm	TBC
DC	Dianella caerulea	Paroo Lily	0.6 x 0.6	0.5m ctrs	150mm	TBC
LL	Lomandra longifolia 'Tanika'	Lomandra Tanika	0.6 x 0.6	0.5m ctrs	150mm	TBC
PLE	Poa labillardieri Eskdale	Large Tussock Grass	0.8 x 0.4	0.4m ctrs	150mm	TBC
TA	Themeda australis	Kangaroo Grass	1 x 0.5	0.5m ctrs	150mm	TBC
GROUNDCOVERS						
GJ	Grevillea juniperina Molonglo	Yellow Prickly Spider Flower	0.5 x 2m	0.8m ctrs	140mm	TBC
GO	Goodenia ovata 'Gold Cover'	Gold Cover Goodenia	0.1 x 2	0.6m ctrs	140mm	TBC
HV	Hardenbergia violacea 'Happy Wanderer'	Native Sarsparilla	spreading to 2m	1m ctrs	140mm	TBC
HS	Hibbertia scandens	Snake Vine	climber	0.6m ctrs	140mm	TBC
SA	Scaevola aemula	Fairy Fan Flower	0.3 x 0.6	0.3m ctrs	150mm	TBC

INDICATIVE PLANT MATRIX A

Code	Botanic Name	Common Name	Mature height x width (m)	Plants per 10m²	Planting density	Pot size	Plant numbers
SHRUBS							
	Callistemon 'Captain Cook'	Dwarf Bottlebrush	1.5 x 1.5	6	0.5m ctrs	200mm	TBC
	Callistemon citrinus 'White Anzac'	White Anzac Bottlebrush	1 x 2	3	0.8m ctrs	200mm	TBC
	Grevillea rosmarinifolia	Rosemary Grevillea	2 x 2	4	0.8m ctrs	200mm	TBC
	Pimelea liliifolia	Slender Rice Flower	0.6 x 0.5	20	0.5m ctrs	140mm	TBC
GRASSES							
	Arthropodium milleflorum	Pale Vanilla Lily	0.3 x 0.3	30	0.4m ctrs	140mm	TBC
	Carex apressa	Tall Sedge	0.8 x 0.6	30	0.5m ctrs	150mm	TBC
	Dianella revoluta	Black Anther Flax Lily	0.8 x 0.8	30	0.5m ctrs	150mm	TBC
	Themeda australis	Kangaroo Grass	1 x 0.5	30	0.5m ctrs	150mm	TBC
GROUNDCOVERS							
	Grevillea juniperina Molonglo	Yellow Prickly Spider Flower	0.5 x 2m	12	0.8m ctrs	140mm	TBC
	Goodenia ovata 'Gold Cover'	Gold Cover Goodenia	0.1 x 2	12	0.8m ctrs	140mm	TBC
	Hardenbergia violacea	Happy Wanderer	spreading to 2m	6	1m ctrs	140mm	TBC

INDICATIVE PLANT MATRIX B

Code	Botanic Name	Common Name	Mature height x width (m)	Plants per 10m²	Planting density	Pot size	Plant numbers
GRASSES							
	Arthropodium milleflorum	Pale Vanilla Lily	0.3 x 0.3	50	0.4m ctrs	tubestock	TBC
	Carex apressa	Tall Sedge	0.8 x 0.6	50	0.5m ctrs	tubestock	TBC
	Dianella caerulea	Paroo Lily	0.6 x 0.6	35	0.5m ctrs	tubestock	TBC
	Mitralaena stipoides	Weeping Meadow Grass	1 x 0.2	40	0.5m ctrs	tubestock	TBC
	Themeda australis	Kangaroo Grass	1 x 0.5	50	0.5m ctrs	tubestock	TBC

Issue	Description	Date	Issue	Description	Date
01	For review	11/07/2013			
02	For review	15/07/2013			
03	For review	17/07/2013			
04	For review	14/08/2013			

Project co-ordination	Urban design	Client
Space2Develop	GM Urban Design and Architecture	Murray Goulburn Co-operative
Architecture	Geo-tech, contamination & salinity	Southbank VIC
Blomquist + Wark	Environmental Earth Sciences	
Civil Engineering	Traffic & parking assessment	
Pitt & Sherry	Traffic Traffic & Transportation Planners	
Environmental Management	Bushfire Hazard Assessment & Ecology	
KMH	Travers Environmental Group	
Urban Planning	Quantity surveyor	
Urban Concepts	WT Partnership	



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architecture interior design urban design landscape
nom architect M. Shelton 3990

Project Title
**Milk Processing Facility
Erskine Park**
Drawing Title
Landscape- schedules

Scale	Job No	Drawing No	Issue
NA	13-183	L-8000	04

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1. GENERAL

All landscape works under this contract are to be carried out by a reputable Landscape Contractor who is a member of LCA, including specialist sub-contractors required to complete the scope of works.

The contractor is to employ skilled and experienced staff to undertake planting and soft landscape works, including preparation works.

2. PAVEMENTS, FALLS & LEVELS

GRADING: Grade paving to even falls to drain away from buildings to drainage outlets without ponding. Minimum fall for drainage 1:100. Where falls are not required, lay level.

FINISHED LEVELS: Maintain the same finished level across junctions between different finishes.

TOLERANCES:

Pavement thickness: + unspecified, -0.

Surface level: 25mm from the specified level, 10mm from a 3mm straight edge in areas of uniform grade.

Maximum deviations across junctions between adjacent paving surfaces: 2mm

3. TOPSOIL

TOPSOIL TO PLANTING ON-GRADE:

Topsoil to be used in all on-grade planting can be made up of suitable stockpiled topsoil, imported topsoil or a combination of both. As described in the specifications, all topsoil is to meet the requirement of AS 4419.

Stockpiled topsoil to be tested and additives incorporated to ensure compliance with relevant Soil Test Criteria. A combination of imported topsoil with stockpiled topsoil to be thoroughly mixed prior to spreading. Any soil or other humus material obtained from site or sources external to the site shall be subject to certification by an Independent Testing Authority and also approved by the Superintendent in writing prior to delivery to the site.

Each load of soil mix delivered to site must be accompanied by the suppliers delivery docket, which identifies the load, batch and confirms the volume and weight, and certifies that the soil mix complies with the specification. Submit all dockets prior to unloading of the soil mix.

Imported topsoil shall be comply with AS 4419-1996 "Soils for Landscaping and Garden Use" and have the following characteristics:

- friable, fertile, sandy loam material free of clay;
- coarse (light) to medium texture, capable of handling when moist, but lacking cohesion so that it will fall apart easily;
- shall not set hard or become difficult to work with as a result of drying out
- Slightly acidic to neutral with a pH value of 5.5 to 7.5;
- Salinity should not exceed 600ppm;
- Stone content to be less than 5% by dry weight; and
- free of all unwanted matter.

All topsoil to be used shall be clean, best quality material, free from materials toxic to human health or plants and be free of roots greater than 12mm diameter, clay lumps and stones greater than 10mm and other material foreign to the normal composition of soil.

TRANSPORT AND PLACEMENT:

Ensure that the material remains moist at all times during transport and placement. If drying or particle segregation occurs the material must be remoistened and mixed prior to placement to achieve a homogenous blend of all components.

SURPLUS TOPSOIL: Dispose of surplus topsoil to designated areas on site, if any; otherwise, dispose off site.

SOIL TYPES	
TYPE	DESCRIPTION
A	Min. depth 200mm soil underlay for new turf 80% - 2mm washed sand & 20% premium alluvial topsoil
B	Min. depth 300mm topsoil to all planting on grade Organic soil, loamy sand
C	Min. depth 400mm sub-soil blend to new tree planting 80% - 2mm washed sand & 20% premium alluvial topsoil

4. SOIL TEST

All testing shall be undertaken by a reputable facility.

Pay the cost of all tests, including transport of samples to the laboratory. Test results must provide advice on the horticultural properties of the soil samples and amelioration recommendations to achieve the specified soil properties in each specified soil type.

SAMPLING: As recommended in AS 4419 (Int) Appendix A.

ADDITIVES: Incorporate additives as necessary to raise site subgrade, site topsoil and soil mixes to the required standard in accordance with the soil test results.

Additives are to be mixed thoroughly to full soil depths. Re-test and repeat amelioration procedures as necessary to achieve the specified properties. Apply to subgrade as per soil test recommendations.

5. FERTILISER

REQUIREMENT: For all planting areas 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. Use in accordance with the manufacturer's recommendations.

NOMINATED FERTILISER: Osmocote 13:6:11 60gm native and ornamental trees and shrubs (4-5 months) or approved equivalent.

6. MULCH

GENERALLY: Use mulch to AS 4454 which is free of deleterious and extraneous matter such as soil, weeds, sticks and stones.

PLACING MULCH: Place mulch to the required depth, clear of plant stems, and rake to an even surface flush with the surrounding finished levels. Spread mulch so that after settling, or after rolling, it is:

- smooth and evenly graded between design surface levels;
- flush with adjacent finished levels;
- of the required depths; and
- sloped towards the base of plant stems in plantation beds, but not in contact with the stem.

MULCH SCHEDULE:

*Check local nursery supply for availability, a high quality product is to be used

7. WETTING AGENT

Use TerraCottem® or approved similar.

Extent: Add wetting agent to all planting areas to improved site soil and imported topsoil.

Placement:

- For mass planted areas add 150 grams/m² of TerraCottem® and dig through the top 200mm of soil
- For topsoil to tree planting, mix TerraCottem® with the soil taken from the hole to be used as backfill under and around plant rootballs.
- For 50L container holes use 750 grams/m² of TerraCottem®
- For 100L container holes use 1.5 kg/m² of TerraCottem®
- Place some TerraCottem® soil mix at the bottom of the hole dug to the specified depth, place plant in hole and fill hole with remaining TerraCottem® soil mixture.

8. PLANTS

GENERALLY: All plants to be pre-ordered and paid for by the landscape contractor, including the cost of delivery of all plants to the site, or as directed in writing by the superintendent.

CONTRACTOR TO PROVIDE REPRESENTATIVE PHOTOS OF PLANT STOCK FOR SUPERINTENDENTS APPROVAL PRIOR TO ORDERING & DELIVERY

Within 14 days of the date of acceptance of tender, furnish proof of ordering the required materials, and advise immediately if any supply difficulties are encountered. Proof of ordering shall be furnished when requested.

Supply plants which:

- have large healthy root systems, with no evidence of root curl, restriction or damage;
- are true to type;
- have foliage size, texture and colour consistent with that shown in healthy specimens of the species;
- have pests and disease to < 10% of the foliage, such that potential for long term success of the trees is not affected;
- other than tubestock shrubs or small trees are self-supporting unstaked;
- comply with the recommendations of AS 4373;
- are vigorous, well established, free from disease and pests, of good form consistent with the species or variety; and
- are hardened off, not soft or forced, and suitable for planting in the natural climatic conditions prevailing at the site unless required to be multi-stemmed, are trees with a single leading shoot.

PLANT MATERIALS REQUIREMENTS:

- Plant heights to be measured from top of rootball to top of foliage.
- Calliper to be measured 200mm above base of rootball top, adjacent to and perpendicular to bole.
- Supply trees with extension growth consistent with that shown in vigorous specimens of the species.
- Maximum variation in crown bulk on opposite sides of stem axis: ≤20%.
- Supply trees which have a defined central leader and intact apical bud.

ORDERING: Plants to be ordered early enough to ensure that specified plants are available for planting at the correct times. No extension of time will be granted because of late ordering.

SUBSTITUTIONS: Make no substitutions. Should plant material specified be unavailable then the Contractor shall inform the Superintendent in writing with available substitutions for approval.

REPLACEMENTS: Order sufficient quantities to allow for plant failures. Using plants of the same type, quality and size, replace any plants which are damaged whilst being transported to the site or during the work under the Contract, or which fail or are rejected.

SUPPLIERS: Submit statements from suppliers of plants and other materials, giving the following where applicable:

- Particulars of the supplier's experience in the required type of work;
- Production capacity for material of the required type, size and quantity; and
- Lead times for delivery of the material to the site.

Submit supplier's data including:

- Certificate identifying seed species, purity, age and germination viability;
- Material source of supply

STORAGE: Deliver plant material to the site on a day to day basis, and plant immediately after delivery. If this is not possible, keep the plants in good condition on the site, adequately protected from frost, wind, sun and vermin by appropriate storage methods, including an on-site nursery of sufficient size, with provision for watering the stock. Before proceeding, submit a site storage proposal. Do not store plants on site unless authorised.

POTTING-ON: Do not carry out potting-on unless authorised.

PLANT CONTAINERS: Supply plants in weed-free containers of the required size. Where appropriate to the species, variety, size, and time of year for planting, trees may be supplied as open rooted stock. If this is intended, submit proposal prior to supply.

PLANT SIZE DEFINITIONS: Nominated plant heights are indicative only and are subject to variation in accordance with the natural growth habit of each species.

- 100 Litre: Shall be in container sizes minimum 100 litre (pot or equivalent plastic bag) and shall have a well developed straight stem, minimum calliper 50mm with an approximate height of 3-3.5m.
- 50 Litre: Shall be in container sizes minimum 50 litre (pot or equivalent plastic bag) and shall have a well developed straight stem, minimum calliper 25mm with an approximate height of 2m.
- 150mm - 200mm: Shall have a strong primary shoot with developing secondary shoots.

LOCATIONS: Do not vary the plant locations from those required. If it appears necessary to vary the locations and spacings to avoid service lines, or to cover the area uniformly, or for other reasons, apply for directions.

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.

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. Prior to planting ensure all weeds and pest plants have been eradicated.

Manual: Regularly remove by hand, rubbish and weed growth throughout planted and mulched areas. Continue eradication throughout the course of the works and during the planting establishment period.

CULTIVATION: Prior to topsoiling of excavated areas of cultivated sub-grade to 150mm depth, incorporate selected additives (as determined by testing) as well as wetting agent. Allow to shape the sub-soil to fall to sub-soil drains where applicable.

Where proposed planting beds have minimum topsoil depth of 300mm, allow to spread compost and soil additives (as determined by testing) and thoroughly cultivate, mixing insitu topsoil, additives, compost and sub-soil to form topsoil to 300mm depth or greater.

Test for conformance with Type A and Type B topsoil mixture properties. Cultivate existing topsoil to 75mm depth with selected additives (as determined by testing), fertiliser and wetting agent.

Application: After ripping or cultivation, apply additives in accordance with the soil Test results and recommendations and incorporate into the upper 100mm layer of the sub-soil.

ROOT BARRIERS:

Manufacturer: Nylex General Products or approved equivalent.

Proprietary Item: Nylex Root Barrier or equal approved

Material: Flexible UV stabilised 2-4mm thick medium density plastic

Depth: min 600mm

Extent: All tree planting pits where paths or services are within 1500mm of trees

Installation: In accordance with the manufacturer's recommendations.

Ensure root barrier extends to a depth such that all adjacent services are protected by at least 400mm above and below the affected service.

PLANTINGS: Excavate planting hole twice the diameter of the plant root ball and at least 100 mm deeper than the root ball. Break up the base of the hole to a further depth of 150 mm, and loosen compacted sides of the hole to prevent confinement of root growth.

WATERING: Thoroughly water the plants before planting, immediately after planting, and as required to maintain growth rates free of stress.

PLACING: When the hole is of correct size, and not before, 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: In planting beds and individual plantings, place fertiliser pellets around the plants at the time of planting, at the rate recommended by the manufacturer.

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.

9. TURF

TURF: Obtain turf rolls from a specialist grower of cultivated turf. Use turf roll of even thickness, free from weeds and other foreign matter.

SUPPLY: Deliver turf sods from the supplier within 24 hours of cutting, and lay it within 36 hours of cutting. Prevent it from drying out between cutting and laying. If it is not laid within 36 hours roll it out on a flat surface with the grass up, and water as necessary to maintain a good condition.

FERTILISING: As per manufacturers instructions.

LAYING: Lay the turf:

- in "stretcher" pattern with the joints staggered and close butted;

- to finish flush, after tamping, with adjacent finished surfaces of ground and edging.

TAMPING: Lightly tamp to an even surface immediately after laying. Do not use a roller.

WATERING: Water immediately after laying. Moisten topsoil to its full depth. Continue watering as necessary to maintain moisture to this depth. Keep the grass in a healthy condition.

FERTILISING: Apply lawn fertiliser as the completion of the first and last mowings, and at other times as required to maintain healthy grass cover.

TOP DRESSING: Top dress the turf 1 week after laying to fill joints between rolls and smooth irregularities.

MAKING GOOD: Lift failed turf and relay with new turf to give a good even layer whilst still revealing grass shoots.

Amendments		Amendments			
Issue	Description	Date	Issue	Description	Date
01	For review	18/07/2013			

Project co-ordination	
Space2Develop	Architecture
Blomquist + Wark	Civil Engineering
Pitt & Sherry	Environmental Management
KMH	Urban Planning
Urban Concepts	

Urban design	
GM Urban Design and Architecture	Geo-tech, contamination & salinity
Environmental Earth Sciences	Traffic & parking assessment
Traffix Traffic & Transportation Planners	Bushfire Hazard Assessment & Ecology
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Client	
Murray Goulburn Co-operative	Southbank VIC

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Project Title			
Milk Processing Facility Erskine Park			
Drawing Title			

Landscape- specifications

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Plotted and checked by			
Verified	SH	Approved	SH
Creation Date	11/07/13	By	AB
File	Land 8703.dgn	Plot Date	16/02/03
Scale	Job No	Drawing No	Issue
N/A	13-183	L-8100	01

10. ESTABLISHMENT

GENERALLY: Establishment of all works executed under this contract shall include the following items as a minimum. The contractor shall maintain the contract areas for a set period after the date of Practical Completion, with any maintenance of the works prior to the date of Practical Completion not to be included as part of this period.

PRACTICAL COMPLETION: Practical Completion of all works shall include, but not be limited to the establishment of and replacement of plants which have failed and/or died, been damaged or been stolen during the Contract.

PLANTING ESTABLISHMENT PERIOD: 52 weeks

RECURRENT WORKS: Throughout the Planting Establishment Period, continue to carry out recurrent works of a maintenance nature including, but not limited to, watering, weeding, rubbish removal, fertilising, pest and disease control, staking and tying, replanting, cultivating, pruning, clipping, and keeping the site neat and tidy.

INSECT AND DISEASE CONTROL: The Contractor shall be responsible for the control of any pest or disease which may affect the plants. Once the problem has been correctly identified, then a suitable form of treatment should be engaged until the problem has been eliminated. If the use of chemical spray is required, strict adherence to the manufacturer's recommended rates and handling is essential. Proper care should be taken to protect both the user and persons likely to be affected or come in contact with the spray. Allowance should be made to carry out such work outside of normal working hours if necessary.

STAKES AND TIES: Adjust stakes and ties where necessary. Where plants are robust with well-developed systems and are strong enough to no longer require support, stakes and ties shall be removed. Where plants are unable to be self-supported or where stakes are damaged, plants shall be staked or restaked. Remove those not required at the end of the Plant Establishment Period.

WEEDING AND CLEARING: Remove all weed growth and re-occurring weed growth by hand or spray with approved herbicide unless otherwise specified throughout all planted and mulched areas.

MULCHED SURFACES: Generally a minimum depth of 75mm cover should be maintained to ensure adequate weed suppression and quality finish. Special care when re-mulching should be given to maintaining original ground levels around the base of plants.

11. MAINTENANCE

GENERALLY: The landscape works shall be as per the areas indicated on the Landscape Plan - A1200.

Regular maintenance of all areas is required to ensure a satisfactory presentation, minimise safety risks and maximise environmental outcomes.

The works in this scope comprises, but is not limited to safety, supervision, labour, materials, transport, plant and equipment necessary for the maintenance of landscape areas and related items as indicated on the drawings and in accordance with the contract conditions and to the satisfaction of statutory authorities and relevant standards

PERIOD: The contractor is to undertake on-going landscape maintenance works from the final date of the maintenance and defects liability period related to the construction contract.

SCOPE OF WORKS: The scope of works includes but shall not be limited to:

- Open space
- Public paths
- Turf maintenance
- Horticultural maintenance
- Tree care
- Litter control
- Irrigation works
- Maintenance of structures, furniture and surfaces
- Watering of landscape areas
- Rubbish removal
- Monthly reporting to Building Manager

REGULATIONS: The contractor shall comply with all relevant acts, regulations, and by-laws including but not limited to: - OHS Act and Regulations

- Work Cover Authority procedures
- EPA requirements
- Federal Dangerous Goods Act Regulations

LICENSE PERMITS AND APPROVALS: The contractor will ensure that all relevant licenses (local, state and national) required for the legal execution of works are complied with. Evidence of these licenses will be required prior to the commencement of the Maintenance Contract. These licenses will include but are not limited to:

- Current commercial vehicle drivers license
- Various equipment operator certificates, chain saw, skid steer equipment
- Commercial pesticide and chemical application licenses.

SOFTWARES

GENERALLY: It is the intent that the landscape areas are to possess the following characteristics at all times:

- Healthy growth
- Vibrant colour (foliage & floral display appropriate to the season and location)
- Cleanliness

SOIL TESTING: Soil testing is to be carried out a minimum of once per year and additionally where plant material does not meet the general characteristics listed above. The fertilisation program shall be based on the soil testing results. Generally an all-purpose fertiliser should be applied at recommended rates.

PEST AND DISEASE CONTROL: All control measures will be carried out with current Queensland registered insecticides and fungicides.

USE OF PESTICIDES AND FUNGICIDES CAN BE HARMFUL TO PEOPLE AND THE ENVIRONMENT. THEY SHOULD BE APPLIED ONLY BY PERSONNEL WITH A COMMERCIAL OPERATORS LICENSE.

WEED CONTROL: Remove weeds including Bindii, Fireweed, Chickweed, exotic grass species and other undesirable vegetation from all areas of bare ground, grass, and all mulched areas. Submit a proposed methods for approval. Avoid damage to existing plantings from herbicide application and other maintenance activities.

USE OF HERBICIDES CAN BE HARMFUL TO PEOPLE AND THE ENVIRONMENT. THEY SHOULD ONLY BE APPLIED BY PERSONNEL WITH A COMMERCIAL OPERATORS LICENSE.

PROTECTION OF HARD LANDSCAPE ELEMENTS: Undertake works by procedures that ensure no damage to existing hard landscape structures and fixtures including pavements, walls, fencing and furnishings.

WASTE REMOVAL: The contractor will be required to manage all waste and by-products generated by the maintenance works. All waster material must be removed from site and transported to an approved dumping site.

TURF CARE

TURF FINISHES: Quality standards to be achieved:

- Turf to be maintained as a quality lawn of uniform green colour and appearance
- Minimum fortnightly mowing in winter, once a week in summer, spring and autumn - clippings removed, cross cutting. Each mowing to be undertaken within two days of the week end - with all clippings removed
- Mechanical edging of all garden edges, lawn / hard surface interfaces and tree surrounds to maintain sharp definition of lawn edges
- Control of all weeds
- Minimum top dressing twice yearly
- All paths are to be kept clean of clippings
- Levels flush with adjacent surfaces
- Uniform levels and grades
- 100% grass cover
- <1% surface area affected by weeds, pests or diseases
- Damage to be repaired within 2 days of reporting
- Min. 40 mows per year to achieve grass height range specified
- Grass height range is to be 35-40mm

TURF MAINTENANCE GENERALLY: Maintain grass areas to produce a dense, continuous sward of healthy grass over the entire area, evenly green and of consistent height. Do not remove more than one third of the grass height at any one time.

Mowing patterns must be altered where practical to avoid wheel cuts or grain patterns. Trim all areas that are not accessible to mower. All vegetation around posts, poles, and structures in lawn area will be trimmed at the same frequency and height as the mowing.

No mowing is to take place on days hotter than 35 degrees, and wet days to avoid grass clippings lumps.

Maintenance of lawn edges using herbicide is not acceptable. Lawn edges are to remain flush with surrounding hard surface levels at all times. They are not to creep back from the hard surface edge due to incorrect edging practices.

FERTILISING: Fertilise grass areas as required to maintain healthy, growing grass. Fertilising will be with granulated or liquid fertiliser. The fertiliser shall not be applied to wet grass and shall be evenly spread over the entire area and thoroughly watered in after application.

Fertilisers used onsite should be quality controlled release granular fertilisers with a minimum N:P:K of the following:
- Summer applications: - 15 + 0 + 20 + 2.4Mg
- Autumn applications: - 22 + 2.2 + 8.3

REINSTATEMENT OF LAWNS: From time to time due to sinkage and/or other reasons, areas of turf may require lifting and filling to re-establish correct levels. Replace or repair grass areas in failed sections or where bare patched occur.

Obtain turf from a specialist grower of cultivated turf. Provide turf of even thickness, free from weeds and other foreign matter. Turf is to match existing turf on site.

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. Mix 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.

GARDEN HORTICULTURAL CARE

FINISHES: Garden areas are intended to act as key presentation / display for the project at all times. For this reason all areas are to reflect the level of maintenance specified, including:

- Maintenance detail, to the best industry standard of horticultural practice
- Complete low phosphorus fertiliser program using approved fertiliser as per manufacturers instructions
- Pruning and shaping to best horticultural practices
- Ongoing weed and pest control to maintain weed and pest free environment
- Uniform and vigorous plant growth
- Mulch levels maintained at 75mm depth - will full cover of irrigation pipes at all times
- Damage repaired within 2 days of reporting

PRUNING: All pruning work to be undertaken in accordance with AS4373 - 1996 Pruning and Amenity of Trees and to best horticultural practices. The contractor shall prune plants to encourage the plants natural form or design intent. Prune shrubs and grasses to remove dead and diseased foliage and to maintain clear access and visibility along paths and for signage. Trim groundcover species off paths and fence lines to maintain a neat and clear edge at all times.

As trees and shrubs grow, they may obscure light fixtures and prevent the desired intensity of light. Plants should be pruned to remain clear of the light emitting part of the fixture and allowed to grow around them ensuring adequate lighting is still achieved.

FERTILISING: Fertilising of the gardens will be carried out with a quality complete fertiliser in granular or liquid form. Recommended controlled release fertilisers should have minimum N:P:K as follows:
- Summer applications: 21 + 1 + 9
- Autumn applications: 12 + 5.2 + 14.1 + trace elements

Any application of fertiliser must be tailored to the individual plant requirements and any relevant soil test results. Granular fertilisers are to be spread evenly over the garden area. Fertiliser is not to be applied just around the base of the plants.

WEED CONTROL: Control and remove any plant material that is not designed to be in the garden area. Weeds can be controlled by mulching, physical removal, and / or herbicides. Weeds are to be removed by hand unless the infestation deems this impractical.

Weed cover must not exceed 5% and the height of the weeds must not exceed 100mm. Weeds must be treated or removed before seeding occurs.

PEST AND DISEASE CONTROL: Pests and diseases must be controlled in the least environmentally harmful manner when their population affects the healthy state of the intended planting. The contractor will accurately identify pests and diseases and take controlled measures when their population begins to affect the health or appearance of plants. Biological control is recommended as the first approach. Only use chemicals when other methods have been unsuccessful.

MULCHING: Mulch is required to be maintained to a depth of 75mm to all garden beds and planted areas. Topping up of mulch will be an ongoing process. Provide mulch which is free of deleterious and extraneous matter such as soil, weeds and sticks. Mulch to AS 4454.

REPLACEMENT PLANT MATERIAL: 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 prevailing at the site
- Trees: all trees to be supplied by the contractor
- Provide trees which, unless required to be multi-stemmed, have a single leading shoot
- Supply plants in weed-free containers of the required size
- Open rooted stock: If trees are to be supplied as open rooted stock, ensure this is appropriate to the species, variety, size and time of year for planting

Deliver plant material to the site on a day to day basis, and plant immediately after delivery. If plant material needs to be stored on site then plants must be kept in good conditions, adequately protected from frost, wind, sun and vermin by appropriate storage methods.

TREE WORKS

GENERALLY: All existing trees shall be maintained in a healthy, vigorous condition to the best Australian Arboricultural industry standards. They will be maintained true to form. All sucker growth will be removed immediately.

Planted tree care:

- Pruning to encourage the development of a stable trunk and canopy structure
- Tree surrounds to be kept weed and litter free
- Treatment of any damage or vandalism, mowers, brush cutters and the like
- Removal of dead wood
- Fertilise once per year as per manufacturers instructions

CONDITION CHECK: A condition check is making a scheduled observation of the conditions of the trees on site. All plant materials will be visually checked whenever maintenance is being performed in an area after high winds and storms. In addition to this visual check, a detailed annual condition check will also be required.

DISEASE AND PEST CONTROL: The contractor shall be responsible for the control of any pest or disease which may affect trees. Report any incidence of insect attack or evidence of disease amongst plant material.

PRUNING TREES: All pruning work to be undertaken in accordance with AS4373 - 1996 Pruning of Amenity Trees and to the highest Arboricultural industry standards. Trees shall be pruned for the following reasons:
- To encourage a well-structured growth habit, natural to the character of the tree
- Maintain clear visibility on footpaths
- Maintain height clearance for footpaths and car parking areas
- The removal of dead or diseased branches / leaves etc.

Prune trees up to a height of 3m as required (branches to 100mm) to eliminate diseased or damaged growth and provide safe clearance for pedestrians and vehicles.

Chip pruned material for mulch or composting.

TREE REMOVAL: Trees which become damaged due to whatever reason to a state where repair is considered impractical or the tree will die, shall be carefully felled in a series of small sections to alleviate damage to all surrounding areas and adjacent trees.

The surface roots will be dug out and the stump ground down to 200mm minimum below the soil level. Allow to make good all stump holes and ensure that surrounding surfaces are reinstated. Remove all prunings etc from site.

FERTILISING TREES: Fertilise trees under 5 years old only. Generally fertilising will only be required once per year prior to topping up mulch. Fertiliser types will be the same as those used for garden areas.

Amendments		Amendments			
Issue	Description	Date	Issue	Description	Date
01	For review	18/07/2013			

Project co-ordination	Space2Develop
Architecture	Blomquist + Wark
Civil Engineering	Pitt & Sherry
Environmental Management	KMH
Urban Planning	Urban Concepts
Urban Concepts	

Urban design	GM Urban Design and Architecture
Geo-tech, contamination & salinity	Environmental Earth Sciences
Traffic & parking assessment	Traffic Traffic & Transportation Planners
Bushfire Hazard Assessment & Ecology	Travers Environmental Group
Quantity surveyor	WT Partnership

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Project Title	Milk Processing Facility
	Erskine Park
Drawing Title	Landscape- specifications

Scale Job No Drawing No Issue

Verified	SH	Approved	SH
Creation Date	11/07/13	By	AB
File	Land 810.dgn	Plot Date	16/02/03
Scale	N/A	Job No	13-183
Drawing No	L-8101	Issue	01

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IRRIGATION AND WATERING

GENERAL: The contractor will be responsible for the programming and maintenance of all irrigation systems. Reprogramming of irrigation systems will be required to suit special events or changed activities.

The contractor must vary the watering program and adjust individual sprinkler heads if directed. In urgent cases the Property Manager reserves the right to turn off irrigation systems. In these instances the contractor will be notified.

Automatic irrigation system with controller:

- Controller is to be programmed by horticultural staff to ensure effective watering
- All faults are to be reported to the Property Manager

REPAIR, REPLACEMENT & ADDITIONAL WORKS

Other than emergency repairs to irrigation systems, any repairs, replacement (including plant replacement), or additional work beyond the scope of services will only be performed by the contractor upon receipt of a notice of variation.

LITTER COLLECTION

GENERAL: Maintain all open spaces free from all kinds of rubbish. Rubbish includes all debris, litter, trash, dumped items, fallen limbs and the like.

Performance standards:

- Rubbish removed on a regular basis
- No rubbish apparent
- Recycle materials where possible
- Compost suitable vegetative waste
- Sort waste streams

Undertake additional activities if directed by the Property Manager including the removal of any dumped rubbish including whitegoods, builders materials and the like.

GRAFFITI / ACTS OF VANDALISM

Acts of vandalism and graffiti that affect the amenity or safety of the structures and or property will be reported to the Property Manager within 24 hours of detection. If the area is not suitable for its intended purpose and / or is in an unsafe state, it must be barricaded as soon as detected. The contractor must supply an electronic copy of photos of the graffiti and / or vandalism with the sub-contractors invoice, before payment of this work.

STRUCTURES AND FINISHES

GENERAL REQUIREMENTS: Maintain hard landscape elements in a clean and tidy condition to ensure safety, maximise presentation and prolong the life of each element. Elements include:

- Paths, stairs and pedestrain pavements
- Walls and piers
- Fixtures and furnishings including signs and bollards
- Fences, gates, balustrades and handrails

Inspect all hard landscape elements regularly and report any defects which may affect safety or longevity, and damage, including vandalism and graffiti. Carry out inspections to determine if remedial action by a specialist contractor is required. Typical issues to be addressed include:

- Trip factors
- Unsecured and loose fixings
- Slip factors
- Damage or defacement
- Loose elements, cracking or subsidence in wall structures

Clean elements regularly as required to remove debris, dirt, dust, grease, food spills and the like and to maintain legibility and appearance.

Sweep all paths, stairs and pedestrain pavements as required to maintain clear of soil, mulch, debris and litter. Remove all soil, debris, litter and weeds from sealed surfaces.

Notify the Property Manager of the need for repairs.

12. TIMBER EDGE

Supply and install timber edge strip to garden beds adjacent turf areas. Refer to drawings for details.

13. IRRIGATION

GENERALLY: This section of specification titled IRRIGATION is to be read as performance criteria only with the Contractor to allow for all outstanding items, parts and labour necessary to provide the required operational system to all planting and turf areas.

REQUIREMENT: Automatic spray and drip irrigation system to all planting and turf areas. The installed Irrigation System shall be compatible to the type and extent of plant material and, the appropriate rates of water required and, where appropriate adjustable and fully serviceable.

The irrigation water system shall incorporate:

- Automatic timers to each water supply point and all associated fittings.
- Spray jets to external ground level planting areas and all associated fittings.

The layout of the entire irrigation is to ensure that each individual plant receives the required amount of water and avoids shadowing of plant by surrounding plant material to maintain healthy and vigorous growth. In addition, each 'larger' plant species to have two 4L/hr drip emitters.

Supply and installation of the permanent irrigation system, including:

- Supply and installation of all piping and fittings beyond the water supply points.
- Supply and installation of automatic controllers to water supply point and all associated fittings.
- Supply and installation of pop-up and drip irrigation to all planters.

In order to provide a minimum standard for the irrigation system and control the quality and performance of the irrigation, the design criteria and standard items of equipment and materials are specified. If the specified items are not available for any reason the tenderer may offer alternative items of equipment of a standard "equal to" those listed within the intent of the specification. Approval for changes to the materials, equipment or design criteria during the contract period must be obtained from the Superintendent. Where alternate equipment, materials or variations to the design are approved prices will be adjusted accordingly.

All costing for this contract is to include supply and installation of the equipment and all pipes, fittings, connections, brackets, bases, plinths, foundations, excavation, making good, supports, backfilling and any other materials or work required such as penetrations, scaffolding and hoisting, as applicable, whether or not shown or specified, in order to form a complete working and operation system within the intent described in the specification, and/or on the drawings and include all labour, delivery charges, site costs, fees, overheads and profit.

SHOP DRAWINGS:

GENERALLY: The Contractor is to prepare detailed Shop Drawings and a full performance program for the required irrigation system. A transparency of all shop drawings is to be submitted to the Superintendent for review and approval prior to supply and installation of the Works.

EQUIPMENT:

GENERALLY: All reticulation irrigation equipment, spray jets, adapters, bends, couples, risers, filters shall be PVC of appropriate diameters to suit the design flow area.

JET TYPE: Hunter Industries Multi-Stream Bubbler Nozzle MSBN-20F or equivalent

WORKMANSHIP:

REQUIREMENTS: The contractor shall check the existing pressure available. All pipes shall be buried 100mm below finished level of topsoil. The spray jets must be able to operate at pressures which will prevent misting. Jets shall be available in half and full circle configuration. Pipe sizing shall be such that it does not decrease the working pressure at the end of the line by less than 5%.

For the purposes of tendering the landscape sub-contractor shall allow the following density of spray jets per planting type. Generally jet selection shall be determined on the basis that a minimum of 90% of each mature plant's In line filters shall be supplied one to each connection in conjunction for the filter action of the pipe work. Each shall be fixed by approved clamps and shall be installed to allow ease of access of maintenance, flushing out the replacement. Drip selection should be based on delivery of 4L/hr for each dripper.

TESTING:

REQUIREMENT: When the system has been installed to the satisfaction of the Client, the installation shall be tested. Acceptance of the installed plant and equipment shall be subject to these being satisfied and should any defect develop or the capacity or efficiency fall below the guaranteed or should the discharge or pressure be inadequate or should defects develop in the system, reasonable time shall be allowed to remedy such defects, but such work shall be carried out without cost.

The time of the tests shall be sufficient duration to permit the performance of all equipment, pipelines and drippers to be checked and measured if required. All burst or defective pipes, joints or fittings shall be replaced and defects made good or the item replaced without costs. The contractor shall supply all necessary gauges, tools and other things required to carry out such tests. The tests shall be carried out for such periods as are necessary to show that the installation has been made correctly and all equipment is operating satisfactorily in accordance with the requirements of the Specification. The area covered by the works shall be left clean and tidy and all surplus material and debris shall be removed or otherwise disposed of as directed.

MANUALS:

INSTRUCTION MANUAL: Provide two sets containing written instructions for the operation and maintenance of the manual watering system.

OPERATIONAL MANUAL: Seven (7) days prior to the date of Practical Completion, the contractor shall supply four (4) copies of a comprehensive operation and maintenance manual to the Superintendent. The manual shall be A4 size with A3 size reductions of the "as built" drawings appended. They shall be bound with a hard cover to the satisfaction of the Superintendent. A draft shall be submitted to the Superintendent for approval before binding.

The manual shall contain the following details for the system:

complete operating instructions for the system, complete programming and operating instructions for the control system and irrigation controllers, full details of all equipment used in the system, full maintenance and servicing instructions and maintenance programme, any requirements of relevant authorities in relation to regular maintenance, inspections and records that are to be kept, copies of all approvals from relevant authorities, provide a section to allow inclusion of the irrigation schedules; PERFORMANCE AND OPERATION: Demonstrate the satisfactory operation of the watering service and controls.

Amendments		Amendments	
Issue	Description	Date	Date
01	For review	18/07/2013	

Project co-ordination	
Space2Develop	Architecture
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Project Title				Plotted and checked by			
Verified	SH	Approved	SH	Creation Date	11/07/13	By	AB
Drawing Title		File	Land 0102.dgn	Plot Date	16/02/2013		
Scale	Job No	Drawing No	Issue				

NA	13-183	L-8102	01				
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Landscape- specifications