Riverside at Tea Gardens
Concept Plan and Project Application

Environmental Assessment Report
Volume 2

for Crighton Properties Pty Ltd

January 2009

0043707 - Final

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Riverside at Tea Gardens
Concept Plan and Project Application

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Volume 2

for
Crighton Properties Pty Ltd

January 2009

0043707 - Final

Principal Consultant:	*Steve O'Connor*
Date:	*January 2009*

Environmental Resources Management Australia Pty Ltd Quality System

This report has been prepared in accordance with the scope of services described in the contract or agreement between Environmental Resources Management Australia Pty Ltd ABN 12 002 773 248 (ERM) and the Client. The report relies upon data, surveys, measurements and results taken at or under the particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the Client. Furthermore, the report has been prepared solely for use by the Client and ERM accepts no responsibility for its use by other parties.

Volume 2:

Riverside Concept Plan and Project Plan Application

Riverside Estate Concept and Project Plan (Engineering Drawings)

Volume 2: Riverside Concept Plan
and Project Plan Application

Riverside Concept Plan And Project Application

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Riverside
Tea Gardens Australia

DRAWING TITLE
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APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
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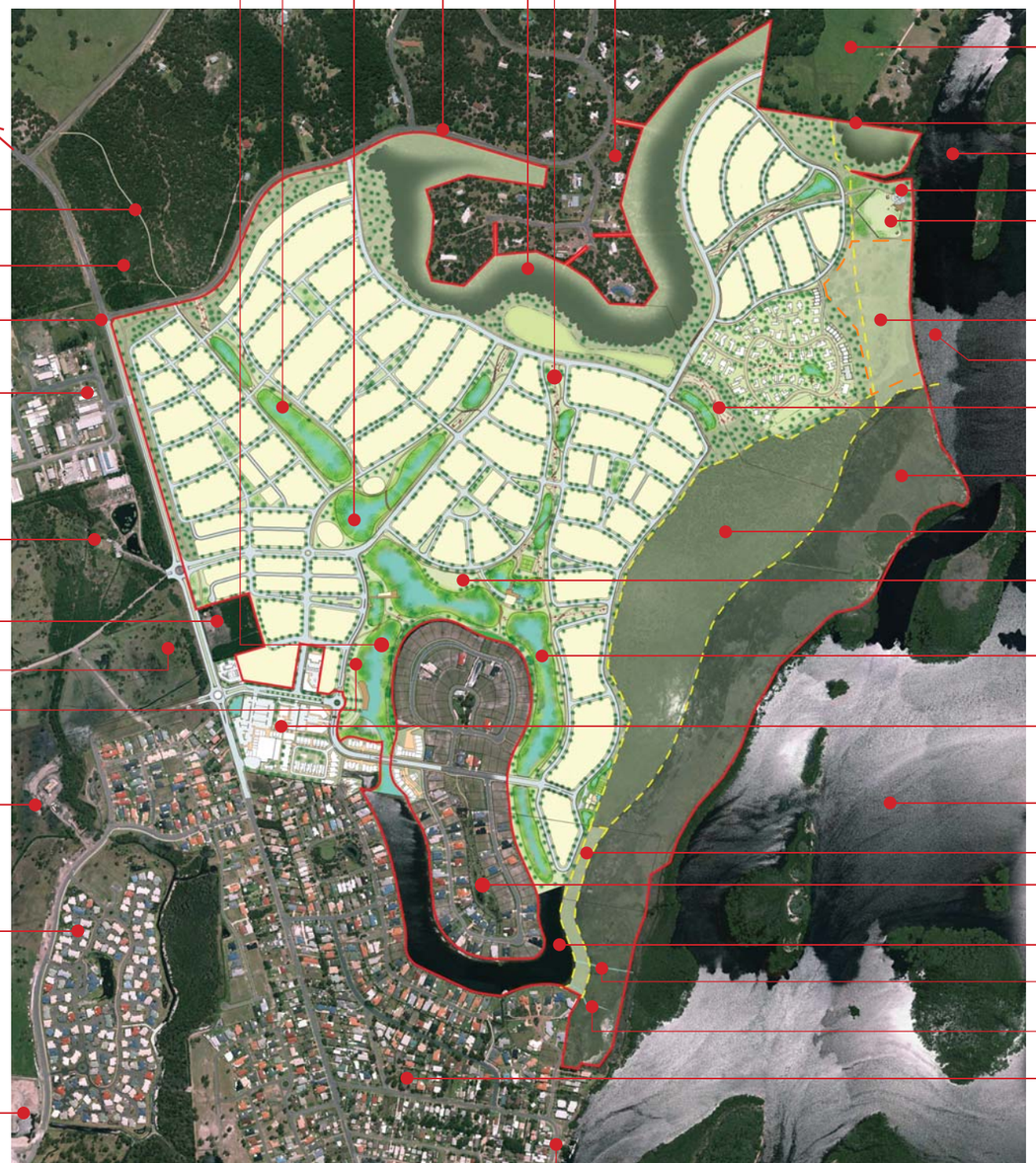
CRIGHTON PROPERTIES

Distance to:	
Pacific Hwy	12 km
Karuah	24 km
Bulahdelah	39 km
Raymond Terrace	51 km
Newcastle	76 km
Sydney	215 km



Water detention & treatment basin.

Wildlife movement & water management corridor

Water management & open space corridors.

Extended lake in this location

Toonang Drive

Existing rural residential estate - 'Shearwater'

To Pacific Hwy

Cycleway link to lookout (part of VPA Cycleways)

Council owned reserve

Myall Street (Main approach to Tea Gardens from Pacific Hwy.)

Existing light industrial estate Approx. 13 Ha in size

Myall River Downs quarry, source of sand fill

Likely future expansion of light industrial estate approx 6.5 Ha

Site currently owned by council not part of this application

Likely location of future sports field & playing fields approx 6.4 Ha

Public Reserve Areas to Lake frontage

Myall River Downs development site. Likely future development of 1500 residential lots

Retirement village "Tea Gardens Grange" 190 homes

Retirement village "Hermitage", 280 homes under construction

Hawks Nest 4.5 km

Adjacent housing proposal owned by others

Northern extent of site holding

Myall River

7(b) zoned buffer

Foreshore parks to abut Myall River frontage

Future development site

Navigable channel close to site at this point

Wildlife movement & water management corridor to link through site

Existing 7(a) zone wetland

Existing 7(b) wetland buffer zone

Community park incorporating cycle / walkway, BBQs & children's play areas

New freshwater, water quality treatment & detention ponds

Existing development. Commercial precinct including shopping centre, medical centre & town square

Myall River

DCP Buffer

Existing residential development (part of Myall Quays community title)

Existing detention & water quality lake

Proposed extension of existing drain to service existing lake system

Existing drain outlet to Myall River

Established residential development

Marine Drive Foreshore Precinct - Contains shops restaurants and other commercial premises

Riverside
Tea Gardens Australia

DRAWING TITLE
CONTEXT PLAN

0m 500m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
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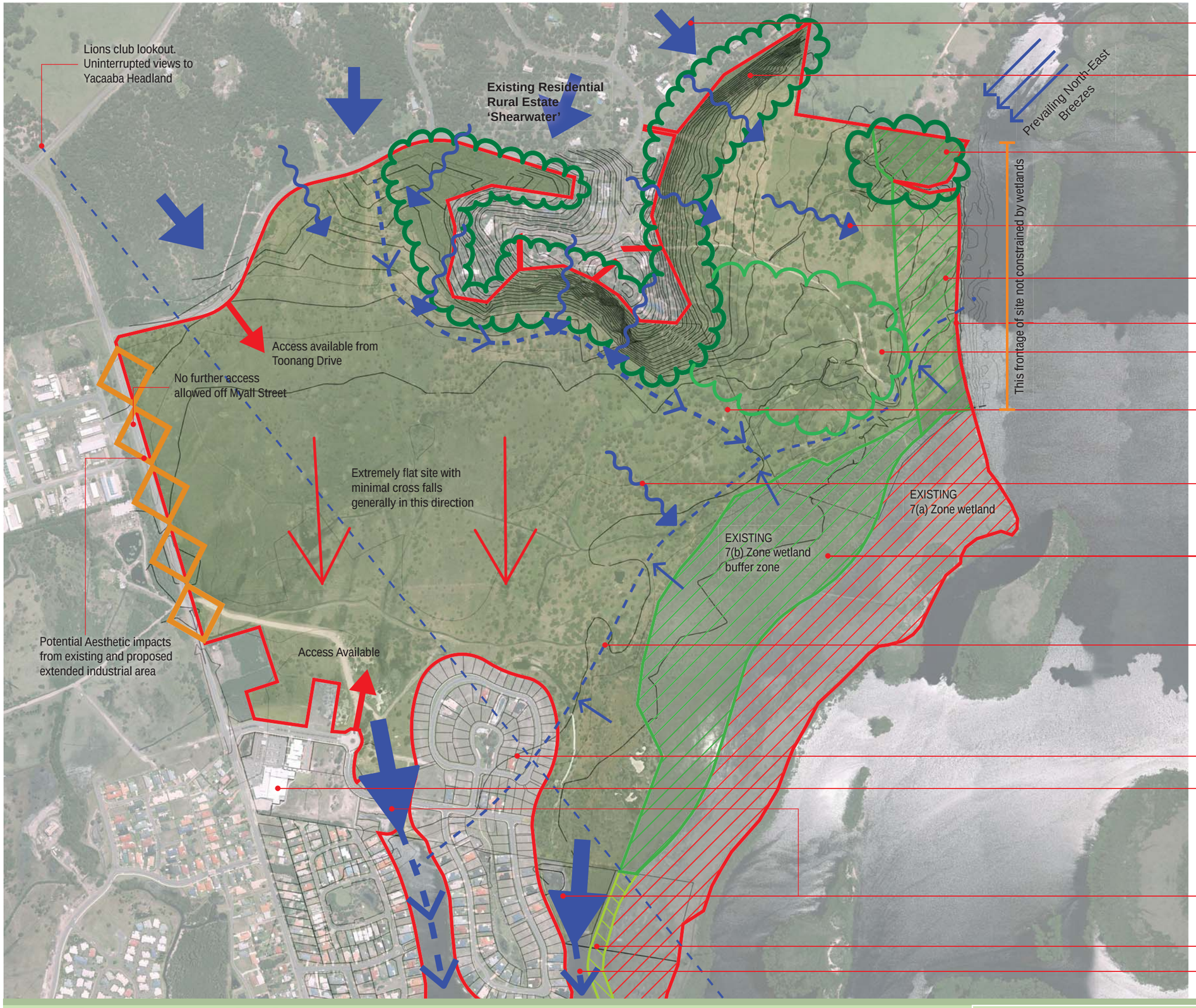
CRIGHTON PROPERTIES



Rainfall runoff catchment extends well beyond site

Steeper slopes and established tree growth in this area not particularly suited to development - existing vegetation worthy of preserving

Vegetation worthy of preservation

Considerable base run off to be addressed from upper catchment beyond the boundaries of the site

7B buffer zone with allowance in DCP for marine activities

Extent of concept plan area

Scattered vegetation worthy of inclusion in final design outcome

Requirement for wildlife movement corridor to be retained in this area approximately

Considerable base run off to be addressed from upper catchment beyond the boundaries of the site

Wetland buffer zone established at the time of rezoning of site in 2000 to protect adjacent wetland. Limited development to occur in this area

Approximate line of flood affectation on undeveloped site. Filling and/or specific building controls may be required east of this line

Existing residential development

Existing commercial precinct including shopping village, medical centre and town square

Only available connection points to existing detention/water quality lake and subsequent drain

DCP Buffer

Existing detention & water quality lake

Riverside
Tea Gardens Australia

DRAWING TITLE
SITE ANALYSIS PLAN

0m 500m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:4000 @ A1	R.C. -02	H

CRIGHTON PROPERTIES

Item	Description
1	Extent of concept plan area 'Riverside' at Tea Gardens.
2	Existing 7(a) wetland zone.
3	Existing 7(b) buffer zone.
4	Wildlife movement corridor.
5	Water management & open space corridors.
6	Community parks incorporating walking/cycle ways, BBQs, children's play area equipment.
7	Community pocket parks.
8	Myall foreshore park including structured and unstructured open space.
9	Extended lake area for water detention & water quality management (2.0 Ha).
10	Existing detention and water quality lake.
11	New fresh water water quality management & detention ponds.
12	Existing residential development.
13	Precinct community facilities.
14	Future precinct community facilities.
15	Site area currently owned by Great Lakes Council.
16	Super Lots for future development.
17	Tourist lodgings precinct.
18	Conference & community facilities, associated low rise town house accommodation.
19	Proposed residential lot development to be developed under community title.
20	Future development site.
21	Existing house.
22	DCP buffer.
23	Location of known midden & buffer.
24	Existing drain outlet to Myall River.
25	Existing drain to Myall River to be extended to connect with existing lake.

Land Use Legend

Total Site	Ha	%
Open Space		
- Wetlands (zoned 7a)	28.4	12.4
- Buffer Zones (zoned 7b)	20.6	9.0
- Additional Conservation Buffer	1.4	0.6
- Wildlife Corridors	27.3	11.9
- Myall Foreshore Park	5.6	2.4
- Drainage Corridors, Ponds & Large Parks	35.1	15.4
- Pocket Parks	2.6	1.1
- Existing detention & water quality lake	6.7	2.9
Total	**127.7 Ha**	**55.7%**
Built Upon Area		
- Residential (including roads & community facilities)	83.6	36.5
- Tourist/Residential (Lodgings)	8.4	3.7
- Future Development Site	5.0	2.2
- Commercial/Retail	4.3	1.9
Total	**101.3 Ha**	**44.3%**
Total	229.0 Ha	**100%**

Riverside
Tea Gardens Australia

DRAWING TITLE
CONCEPT PLAN

0m 500m

APPLICATION
Part 3a Submission to N.S.W. D.O.P.

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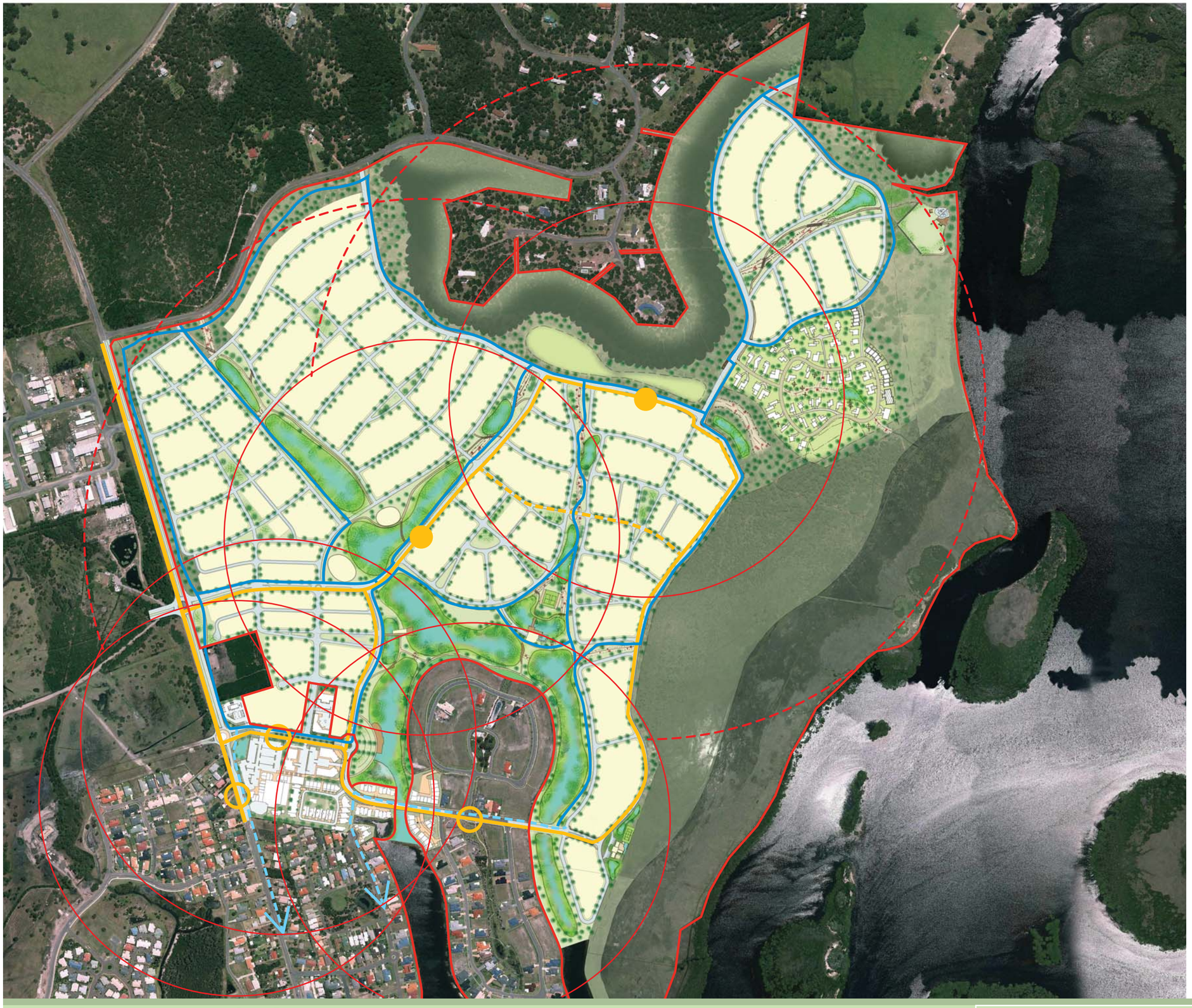
January 09	**1:4000 @ A1**	**R.C. -03**	**H**

CRIGHTON PROPERTIES



ACCESS	DETAILS
	Proposed Bus Route
	Temporary Bus Route
	Proposed Bus Stop
	Existing Bus Stop
	Proposed dedicated on site network. Primary cycleway / pedestrian (does not include standard road side foot ways)
	Off site existing (and proposed to be augmented under the VPA) Cycleway / Pedestrian Network
	400m walking radius around bus stop
	700m walking radius around bus stop (for information)

Riverside
Tea Gardens Australia

DRAWING TITLE
TRANSPORT & ACCESS PLAN
PEDESTRIAN / CYCLEWAY / PUBLIC TRANSPORT

0m — 500m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
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CRIGHTON PROPERTIES

ROAD TYPES	DETAILS
Arterial #1	Road 18m, 5m median, green space & development
Arterial #2	Road 14m, 5m median, green space & development
Connector	Road 17m, 5m median, development both sides
Secondary Arterial #1	Road 13m, 1.5m centre bay, development both sides
Secondary Arterial #2	Road 13m, 1.5m centre bay, green space & development
Secondary Arterial #3	Road 13m, 1.5m centre bay, green space & development
Linkroad Commercial	Road 13m, commercial
Linkroad #1	Road 11m, development both sides
Link Road #2	Road 11m, green space & development
Street #1	Road 7.5m, development both sides
Street #2	Road 7.5m, green space & development
One Way	Road 5m, development both sides
Access Way	Lane 7.5m reserve, 3.5m road
Lane Way	Lane 8m reserve, 5.5m road
Bush Fire Trail	4m wide access (no permanent vehicular access)
Existing Roads	Existing NA
Intersection 1	Intersection to be upgraded to roundabout as required by development of Myall River Downs
Intersection 2	Roundabout to be provided at intersection as required by development of Myall River Downs

Riverside
Tea Gardens Australia

DRAWING TITLE
STREET HIERARCHY PLAN

0m 500m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:4000 @ A1	R.C. -05	H

CRIGHTON PROPERTIES

Item	Description
1	Extent of concept plan area 'Riverside' at Tea Gardens.
2	Existing 7(a) wetland zone, no active management.
3	Existing 7(b) wetland buffer zone. No active management. All required APZ's clear of this zone.
4	Wildlife movement corridor. To be augmented & managed in accordance with vegetation management plan.
5	Water management & open space corridors. To be managed in accordance with vegetation management plan. Will provide publicly accessible open space in addition to drainage functions.
6	Environmentally friendly tourist/residential precinct, consisting of buildings scattered within a managed bush land setting. To supplement wildlife movement corridor & increase fauna permeability across the site. Note: all open space areas (including existing & extended lake + water quality ponds) to be owned & managed under existing community title structure.
7	Community parks incorporating walking/cycle ways, BBQs, children's play area equipment.
8	Community pocket parks.
9	Myall foreshore park.
10	Extended lake area for water detention & water quality management (2.0 Ha).
11	Existing detention and water quality lake.
12	New fresh water water quality management/ detention ponds.
13	Precinct community facilities.
14	Future Development Site.

Riverside
Tea Gardens Australia

DRAWING TITLE
OPEN SPACE NETWORK
- CONCEPT PLAN

0m 500m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
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CRIGHTON PROPERTIES

PROJECT YIELD TABLE

Project Application		
Lot Size Range	No. of Dwellings	% of Total
Multiple Dwellings <450m²/DW	61	16.0%
<450m²/DW	17	4.5%
450-550m²/DW	74	19.4%
550-650m²/DW	150	39.4%
>650m²/DW	79	20.7%
Super Lots for future development	-	-
Total	**381**	**100%**
Yield	**381/ 29.3 Ha**	13 DW/Ha

Concept Plan		
Lot Size Range	Approx No. Dwellings	% of Total
Multiple Dwellings <450m²/DW	96 approx.	16%
<450m²/DW	27 approx.	4.5%
450-550m²/DW	113 approx.	18.9%
550-650m²/DW	239 approx.	39.9%
>650m²/DW	124 approx.	20.7%
Total lots	**599**	**100%**
Tourist lodges	**50**	**NA**
Town houses	**15**	**NA**
+Project Application	**381**	
OVERALL TOTAL	**980/65**	
YIELD	980/75.4 Ha	13 DW/Ha

Note: *yield not inclusive of tourist lodges or town houses*

Riverside
Tea Gardens Australia

DRAWING TITLE
URBAN DEVELOPMENT
STRUCTURE & YIELD

0m 500m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
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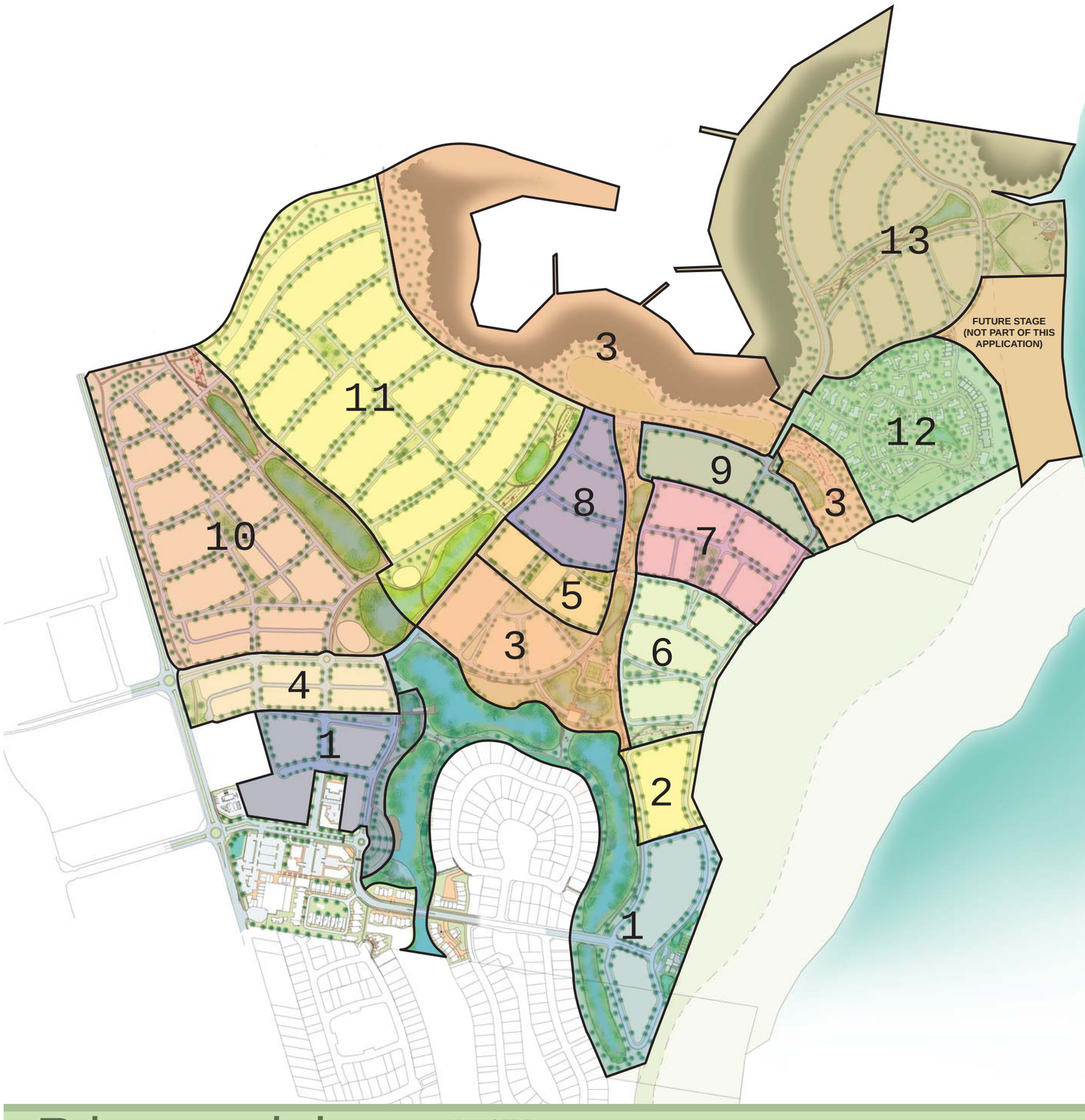
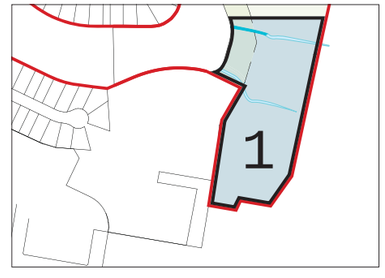
CRIGHTON PROPERTIES



STAGING DETAILS (INDICATIVE)

Stage	No. of Dwellings	Details other Inclusions	Approx. Registration Date (Year)
1	48	Stage 1 to include establishment & partial embellishment of primary community water management ponds & commercial centre infrastructure. Northern drain to Myall River to be extended .	2009
2	23		2010
3	44	Includes completion of embellishment of community park, wildlife movement corridor. Includes provision of second community facility. Second access to Riverside.	2010
4	37		2010
5	28		2011
6	53		2011
7	62		2012
8	45		2012
9	41		2013
10	166 (Approx)	Includes new access to Toonang Drive & 4th community facility.	2014
11	293 (Approx)	Includes final access to Toonang Drive & finalisation of water management structures.	2016
12	65 (Approx) Lodge/ Townhouse		2017
13	140 (Approx)		2018
Total	**1045**		



INSET 1 - DRAIN OUTLETS TO MYALL RIVER

Note: Plan illustrates staging of land release areas only. For detailed construction sequencing refer to engineering drawing no. 67 for further detail.

Riverside
Tea Gardens Australia

DRAWING TITLE
STAGING PLAN

0m 500m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
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CRIGHTON PROPERTIES

Legend

- Extent of Myall Quays Community Title Scheme
- Extent of land under existing precinct & neighbourhood schemes
- Existing community assets
- Community land to be protected under Myall Quays community scheme
- Extent of Myall Quays community overall assets
- Medium Density/Commercial Precinct. Seperate Community Title
- Proposed future Precinct 1
- Proposed Precinct 1 community assets
- Proposed future Precinct 2
- Proposed Precinct 2 community assets
- Proposed future Precinct 3
- Proposed Precinct 3 community assets
- Proposed future Precinct 4
- Proposed Precinct 4 community assets
- Proposed future common title scheme incorporating precincts 5 & 6

Riverside
Tea Gardens Australia

DRAWING TITLE
COMMUNITY TITLE STRUCTURE

0m 500m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
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CRIGHTON PROPERTIES

PRECINCT 3
refer to R.C. -13

PRECINCT 2
refer to R.C. -12

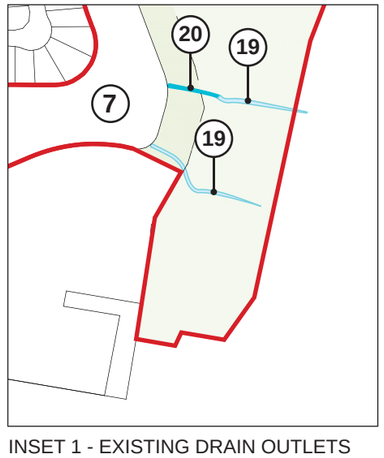
PRECINCT 1
refer to R.C. -11

PROJECT APPLICATION YIELD TABLE

Lot Size Range	No. of Dwellings	% of Total
Multiple Dwellings <450m²	61	16.0%
<450m²	17	4.5%
450-550m²	74	19.4%
550-650m²	150	39.4%
>650m²	79	20.7%
Total	381	100%

Note: *Total Area 29.3 Ha @ 13 Dwellings per Ha*

Item	Description
1	Existing 7(a) wetland zone (to be further protected as community land).
2	Existing 7(b) wetland buffer zone (to be further protected as community land).
3	Water management & open space corridors.
4	Community parks incorporating walking/cycle ways, BBQs, children's play area equipment.
5	Community pocket parks.
6	Extended lake area for water detention & water quality management (2.0 Ha).
7	Existing detention and water quality lake.
8	New fresh water quality management & detention ponds.
9	Precinct community facilities. Refer to R.C. -31, R.C. -32 , R.C. -33, & R.C. -34
10	Future precinct community facilities.
11	Site area currently owned by Great Lakes Council.
12	Super Lots for future development.
13	Proposed residential lot development to be developed under community title.
14	Extent of project application.
15	Establishment of upper catchment. Dry & wet basins, as well as swales.
16	Augmentation & management of wildlife movement corridor.
17	Temporary works required in these areas to establish drainage & diversions (refer to engineering drawings).
18	Existing residential development
19	Existing drain outlet to Myall River
20	Existing drain to Myall River to be extended to connect with existing lake



INSET 1 - EXISTING DRAIN OUTLETS

Riverside
Tea Gardens Australia

DRAWING TITLE
PROJECT APPLICATION

0m 300m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
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CRIGHTON PROPERTIES

Edges of proposed water body

New foreshore reserve to edge of existing residential development with public pedestrian access

Link to existing foot way network

New fresh water water management ponds

Existing residential development

Generally, larger lots in this precinct to accommodate inclusion of home based businesses (allows for additional off street car parking & establishment of home offices)

Culvert road crossing to allow for pond overflow

Edges of proposed water body

Combined pedestrian cycleway

Drainage corridor

Off street pedestrian access way

Wetland buffer zone 7(b) to be further protected as community association land

Duplex lots (located on corners to allow dual access)

Perimeter road & swale to provide required APZ, clear of conservation area

Infiltration swale

Water quality treatment basins to pretreat storm water runoff prior to discharge

Medium density housing site - 6 houses each in townhouse or cluster form

Community facility to be shared by precinct owners, refer to R.C. -32, R.C. -33 , R.C. -34, & R.C. -35 for further details. Specific home based business support facilities proposed

Junction with existing lake

Lot Size Range	No. of Dwellings	% of Total
Multiple Dwellings <450m²	17	23.9
<450m²	0	0
450-550m²	7	9.9
550-650m²	26	36.6
>650m²	21	29.6
Total	71	100%

Note: *Total Area 5.45 Ha @ 13 Dwellings per Ha*

Seating & rubbish bin locations: X

0m 100m

Riverside
Tea Gardens Australia

DRAWING TITLE
PRECINCT 1 PLAN

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DATE	SCALE	DRAWING No.	REVISION
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CRIGHTON PROPERTIES

Larger lots fronting primary access roads to allow greater front set backs & reduce number of accessways

Barbeques, seating & rubbish bins

Variety of lot sizes to cater for varying family units

Drainage corridors completer with ponds, swales, walkway/cycleways, BBQ facilities & children's play equipment

Small lots with rear lane access & front green spaces

Pocket park with children's play equipment

Visitor parking for community facilities

Visitor car parking

Barbeques, seating and rubbish bins

Active recreation area - mown grass

Lot Size Range	No. of Dwellings	% of Total
Multiple Dwellings <450m²	44	16.1%
<450m²	17	6.2%
450-550m²	49	17.9%
550-650m²	108	39.6%
>650m²	55	20.2%
Total	273	100%

Note: *Total Area 21 Ha @ 13 Dwellings per Ha*

Seating & rubbish bin locations: X

Wildlife movement corridor

Duplex lots (located on corners to allow dual access)

Combined pedestrian cycleway

Pocket park with children's play equipment

Dry rock lined drainage swales

Small lots with rear lane access adjacent parks for greater amenity & surveillance

Perimeter road & swale to provide required APZ, clear of conservation area

Water quality treatment pond

Combined pedestrian cycleway

Community tennis courts & open space + BBQs

Water quality treatment pond

Proposed future community facilities building to future detail

Drainage corridor

Walkway/cycleway around ponds

Riverside
Tea Gardens Australia

DRAWING TITLE
PRECINCT 2 PLAN

0m 100m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
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CRIGHTON PROPERTIES

Barbeques, seating and rubbish bins

Fresh water water quality basins

Temporary sales office to future design - possible final use as restaurant/coffee shop

Proposed home based business lots with rear lane access and on street parking. Two storey construction encouraged

Proposed feature landscaping at entry to future detail

Visitor car parking

Approved 66 place child care centre

Existing service station

Approved 2 storey commercial building

Existing medical centre

Existing town square

Existing 3,600^{m2} shopping centre including coves supermarket & 15 specialty shops

Lot Size Range	No. of Dwellings	% of Total
Multiple Dwellings <450m^2	0	0
<450m^2	0	0
450-550m^2	18	48.6%
550-650m^2	16	43.2%
>650m^2	3	8.2%
Super Lots for future development.	-	-
Total	37	100%

Note: *Total Area 2.85 Ha @ 13 Dwellings per Ha*

Seating & rubbish bin locations: X

2 Ha extension of existing lake

Active recreation space (lawn)

Extent of project application

Existing residential development

Formal foreshore parks & deck

Water quality basin

Approved medium density developments

Total site area (exclusive of roads) available for commercial retail expansion = 40 000m^2

Riverside
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DRAWING TITLE
PRECINCT 3 PLAN

0m 100m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
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CRIGHTON PROPERTIES

Screen planting to perimeter of site

These houses (shown beige) for permanent residency only (not tourist accommodation)

Secondary entrance and alternative emergency access

Unit accommodation (permanent residential & tourist) x 15

Area set aside for future development

7B zone boundary

Individual lodge houses. Permanent residential & tourist

Water management & wild life movement corridor

Existing house to be used as communal amenity building / function centre

Known hollow bearing trees to be retained

Water quality management pond to engineering detail

Line of APZ (20m) to residential development

Line of APZ (60m) to residential development

This area (outside of midden) to be managed as VPA

Known archeological midden & buffer shown hatched. Area to be managed in accordance with archaeological recommendations

7B zone boundary

7A zone boundary

20m wide APZ

TABLE OF ACCOMMODATION	
	10 Permanent Residential
	40 Tourist / Perm
	15 Units

Riverside
Tea Gardens Australia

DRAWING TITLE
TOURIST LODGINGS PRECINCT CONCEPT PLAN

APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09	1:1000 @ A1	R.C. -14	H

CRIGHTON PROPERTIES

Various treatments of water management & open space corridors.

Informal seating throughout open space corridors

This area to be revegetated in accordance with environmental site management plan.

Temporary works only proposed in this area at project application stage. Refer to engineering documentation for further detail

Various edge treatments to water detention ponds

Formal park areas

Item	Description
– –	Project Boundary
1	Water management & open space corridors.
2	Community parks incorporating walking/cycle ways, BBQs, children's play area equipment.
3	Community pocket parks.
4	Extended lake area for water detention & water quality management (2.0 Ha).
5	Existing detention and water quality lake.
6	New fresh water water management ponds.
7	Precinct community facilities.
8	Barbeques, seating and rubbish bins
X	Seating & rubbish bins

Various treatments of pocket parks throughout site

Pedestrian and cycleways linked throughout site

Riverside
Tea Gardens Australia

DRAWING TITLE
OPEN SPACE NETWORK
- PROJECT APPLICATION

0m 300m

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:3000 @ A1	R.C. -15	H

CRIGHTON PROPERTIES

Seating and rubbish bins

Children's play equipment with sunshade and soft fall

Manicured turf play areas

Seating and rubbish bins

Picket fence

Car parking for clubhouse, amenities & park. 20 spaces

BBQ facilities & seating. Refer to R.C. -24

Active recreation area - mown grass

Visitor car parking

Macrophyte planting to edge of basin

Future clubhouse development

Water quality treatment pond

Seating and rubbish bins

Dry rock lined drainage swales

Community tennis courts & open space + BBQs

Children's play equipment with soft fall surface & sunshade

Walkway/cycleway

Seating and rubbish bins

Car parking for clubhouse, amenities & park. 20 spaces

LANDSCAPE KEY	
	FEATURE TREES
	LARGE TREES
	STREET TREES (REFER TO STREET TYPES FOR FURTHER DETAIL)
	MEDIUM TREES
	SMALL SHRUB TYPES
	SCREEN PLANTING
	GROUND COVERS
	GRASS
	MACROPHYTES
	TIMBER BOARDWALK
	FOOTPATH (1.5m MIN. VARIOUS TEXTURES)
	CYCLEWAY (2.4m MIN. WIDE CONCRETE)
	DRY ROCK LINED DRAINAGE SWALES
	HAND RAIL
	PICKET FENCE
	CHILDREN'S PLAY EQUIPMENT
	SOFT FALL RUBBER SAFETY SURFACES
	PLAYGROUND SHADE STRUCTURE
	SEATING AND RUBBISH BINS

**Refer to Landscaping Schedule for Species List*

Riverside
Tea Gardens Australia

DRAWING TITLE
LANDSCAPE DETAIL - LOWER NORTHERN BRANCH

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:1000 @ A1	R.C. -16	H

CRIGHTON PROPERTIES

Dry rock lined drainage swales

Walkway/cycleway around ponds

BBQ facilities & seating. Refer to R.C. -24

Macrophyte planting to edge of Basin

Seating and Rubbish Bins

Manicured turf play areas

Seating and rubbish bins

Water quality treatment pond

Picket fence

Children's play equipment & sunshade

LANDSCAPE KEY	
	FEATURE TREES
	LARGE TREES
	STREET TREES (REFER TO STREET TYPES FOR FURTHER DETAIL)
	MEDIUM TREES
	SMALL SHRUB TYPES
	SCREEN PLANTING
	GROUND COVERS
	GRASS
	MACROPHYTES
	TIMBER BOARDWALK
	FOOTPATH (1.5m MIN. VARIOUS TEXTURES)
	CYCLEWAY (2.4m MIN. WIDE CONCRETE)
	DRY ROCK LINED DRAINAGE SWALES
	HAND RAIL
	PICKET FENCE
	CHILDREN'S PLAY EQUIPMENT
	SOFT FALL RUBBER SAFETY SURFACES
	PLAYGROUND SHADE STRUCTURE
	SEATING AND RUBBISH BINS

**Refer to Landscaping Schedule for Species List*

Riverside
Tea Gardens Australia

DRAWING TITLE
LANDSCAPE DETAIL - UPPER NORTHERN BRANCH

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:1000 @ A1	R.C. -17	H

CRIGHTON PROPERTIES

LANDSCAPE KEY	
	LARGE TREES
	MEDIUM TREES
	SMALL SHRUB TYPES
	SCREEN PLANTING
	GROUND COVERS
	GRASS
	MACROPHYTES
	TIMBER BOARDWALK
	FOOTPATH (1.5m MIN. VARIOUS TEXTURES)
	CYCLEWAY (2.4m MIN. WIDE CONCRETE)
	DRY ROCK LINED DRAINAGE SWALES
	HANDRAIL
	SEATING AND RUBBISH BINS

Refer to Landscaping Schedule for Species List

Riverside
Tea Gardens Australia

DRAWING TITLE
LANDSCAPE DETAIL - LAND BRIDGE

APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09	1:250 @ A1	R.C. -18	H

CRIGHTON PROPERTIES

Non-slip concrete type A. 3 metres wide (typical). Kerb edges.

Timber deck with shade structure

Seating & bin enclosures

Timber poles accentuate line of decking and provides focal point

Timber deck

Proposed deciduous tree avenue (eg. *Lagerstroemia indica*)

Existing magnolia

Honed concrete type B

Seating

Sandstone Boulder Wall

Turfed terraces represent mini amphitheatre

Seating & bin enclosures

Macrophyte planting

LANDSCAPE KEY	
	LARGE TREES
	MEDIUM TREES
	SMALL SHRUB TYPES
	SCREEN PLANTING
	GROUND COVERS
	GRASS
	MACROPHYTES
	TIMBER BOARDWALK
	FOOTPATH (1.5m MIN. VARIOUS TEXTURES)
	CYCLEWAY (2.4m MIN. WIDE CONCRETE)
	DRY ROCK LINED DRAINAGE SWALES
	SEATING & BIN ENCLOSURE

**Refer to Landscaping Schedule for Species List*

Riverside
Tea Gardens Australia

DRAWING TITLE
LANDSCAPE DETAIL - TOWN CENTRE SPACE

APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09	1:250 @ A1	R.C. -19	H

CRIGHTON PROPERTIES

Seating and rubbish bin enclosures

Drop off/ loading bay to service sales office/ restaurant

Terraced garden beds of stone wall

Low flow drainage channel (in character of rock lined dry creek bed)

Concrete footpath

Grass land bridge between basins

Elevated timber boardwalk to allow for overland flow of storm water below during peak events

Seating and rubbish bin enclosures

Concrete cycleway

Seating area

Sales office/ future coffee shop to future detail (not part of application)

Macrophyte planting to edge of basin

LANDSCAPE KEY	
	LARGE TREES
	MEDIUM TREES
	SMALL SHRUB TYPES
	SCREEN PLANTING
	GROUND COVERS
	GRASS
	MACROPHYTES
	TIMBER BOARDWALK
	FOOTPATH (1.5m MIN. VARIOUS TEXTURES)
	CYCLEWAY (2.4m MIN. WIDE CONCRETE)
	DRY ROCK LINED DRAINAGE SWALES
	HANDRAIL
	SEATING AND RUBBISH BIN ENCLOSURES

**Refer to Landscaping Schedule for Species List*

Riverside
Tea Gardens Australia

DRAWING TITLE
LANDSCAPE DETAIL - SALES SUITE

APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09	1:250 @ A1	R.C. -20	H

CRIGHTON PROPERTIES

	BOTANICAL NAME	COMMON NAME
	LARGE TREES (15-25m high, 8-12m wide)	
	Acmena smithii	Lilly Pilly
	Allocasuarina torulosa	Forest Oak
	Archontophoenix cunninghamiana	Bangalow Palm
	Casuarina glauca	Swamp Oak
	MEDIUM TREES (8-12m high, 5-8m wide)	
	Melaleuca quinquenervia	*Broad Leaved Paperbark*
	Podocarpus elatus	*Plum Pine*
	Allocasuarina torulosa	*Forest Oak*
	Casuarina glauca	*Swamp Oak*
	Glochidion ferdinandi	*Cheese Tree*
	Waterhousia floribunda	*Weeping Lillypilly*
	Cupaniopsis anacardioides	*Tuckeroo*
	Banksia serrata	*Old Man Banksia*
	Livistona australis	*Cabbage Tree Palm*
	SMALL TREES (3-5m high, 2-5m wide)	
	Callistemon salignus	Willow Bottlebrush
	Leptospermum laevigatum	Coastal Teatree
	Melaleuca ericifolia	Swamp Paperbark
	Melaluca nodosa	Ball Honey Myrtle
	Melaluvca thymifolia	Thyme Honey Myrtle
	Melaleuca linariifolia	Snow in Summer
	Banksia robur	Swamp Banksia
	Lagerstroemia indica	Crepe Myrtle
	Polyscias murrayi	Pencil Cedar

	BOTANICAL NAME	COMMON NAME
	SCREEN PLANTING (1.5-2.5m high)	
	Syzygium "Aussie Boomer"	Lillypilly
	Austromyrtus inophloia "Blushing Beauty"	Thready-Barked Myrtle
	Westringia fruticosa	Coastal Rosemary
	MASS PLANTING (0.6-1.2m high)	
	Dianella caerulea	Blue Flax Lilly
	Dianella "Breeze"	Flax Lilly
	Dianella "Cassa Blue"	Flax Lilly
	Lomandra Longifolia	Mat Rush
	Poa labillardieri "Eskdale"	
	Pennisetum alopecuroides "Nafray"	
	Themida australis	Kangaroo Grass
	Hardenbergia violacea	Violet Wanderer
	Hibbertia scandens	Golden Guinea Flower
	MACROPHYTES	
	Baumea articulata	Jointed Tivig Rush
	Eleocharis acuta	Common Spike Rush
	Gahnia sieberana	Red Fruited Saw Sedge
	Isolepsis nodosa	Knobby Club rush
	Juncus usitatus	Common Rush
	Schoenoplectus validus	River Club Sedge

	PATHS, FENCES & BOARDWALK DETAILS
	Concrete Cycleway (2.4m min. concrete)
	Concrete Footway (1.5m min. various textures)
	Timber Boardwalk (width varies) refer to Typical Boardwalk section R.C. -23
	Handrails refer to Typical Boardwalk Section R.C. -23
	Picket fences - painted treated pine 1.2m high

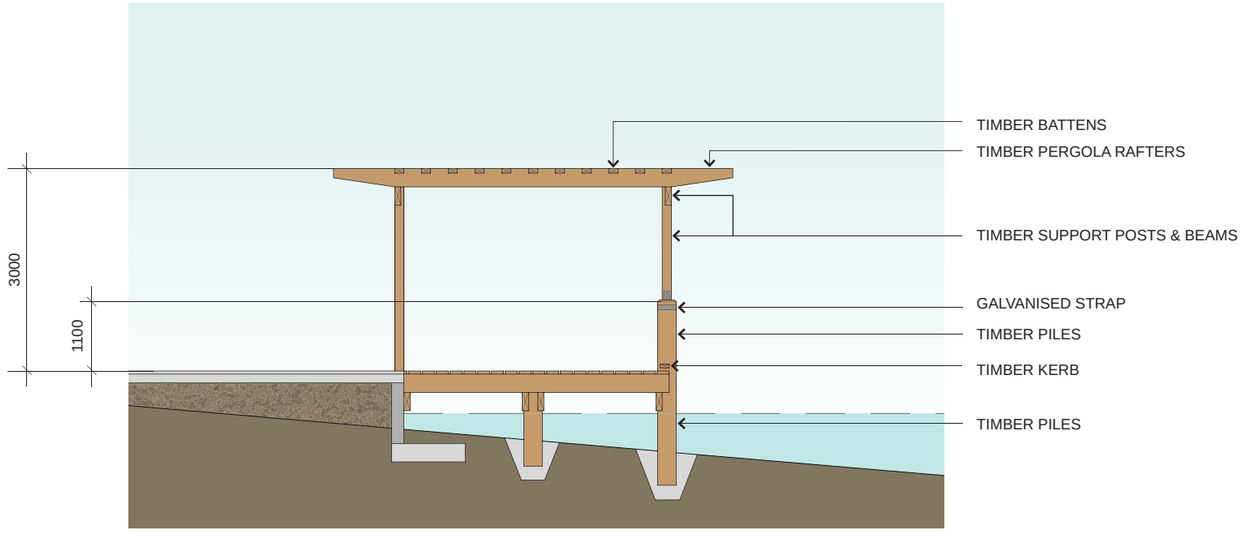
	AMENITIES	BRAND	
	Children's play equipment	Omnitech Play System, "Corro". To AS 4685.1-2004	
	Soft fall rubber safety surfaces	Aero Super Saver. To AS 4685.1-2004	
	Playground shade structure	Shade 'N Net metal framed shade structure	
	Seating & rubbish bins		
	Barbeque area	Custom	Refer to R.C. -24 for further detail.

Riverside
Tea Gardens Australia

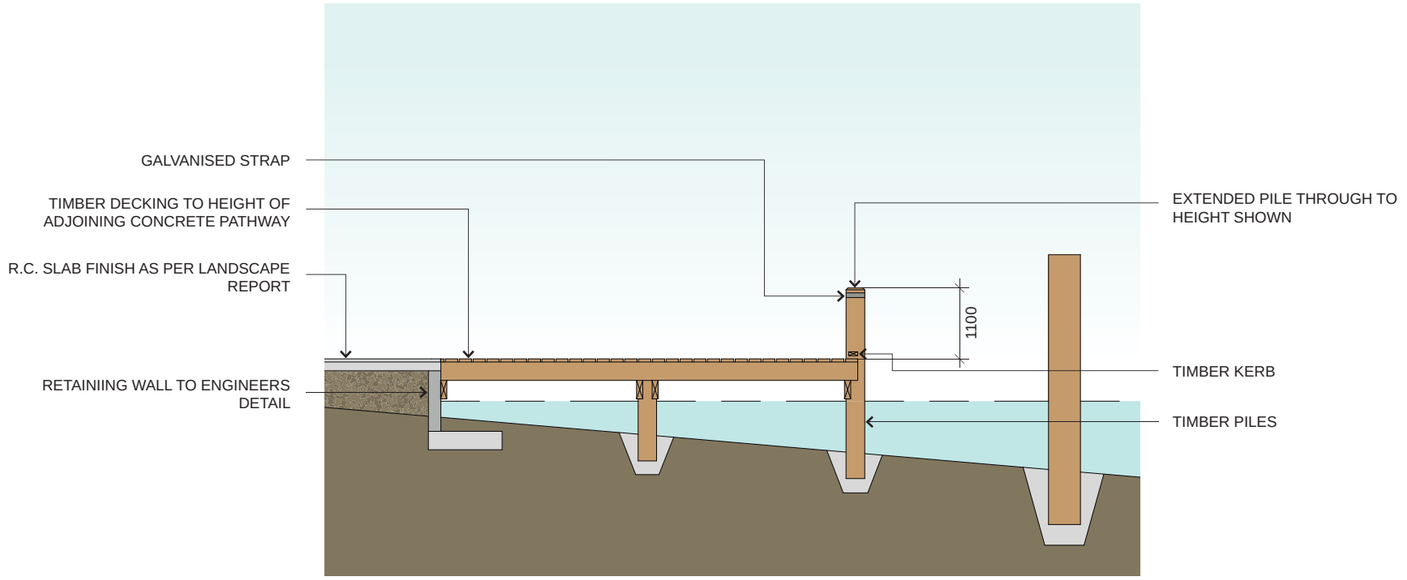
DRAWING TITLE
LANDSCAPE SCHEDULE

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	N/A	R.C. -21	H

CRIGHTON PROPERTIES



SECTION A1



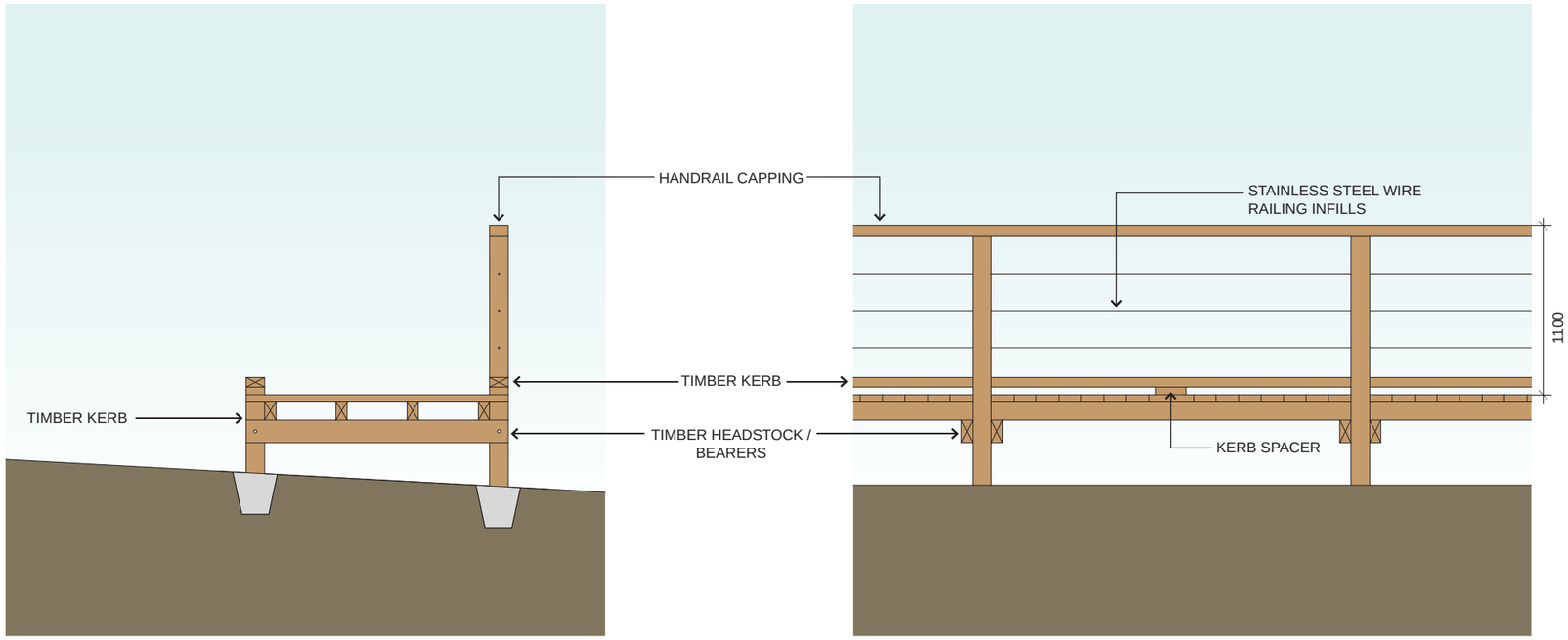
SECTION B1

Riverside
Tea Gardens Australia

DRAWING TITLE
VIEWING PLATFORMS - SECTIONS A1 & B1

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:50 @ A1	R.C. -22	H

CRIGHTON PROPERTIES



ELEVATION 1

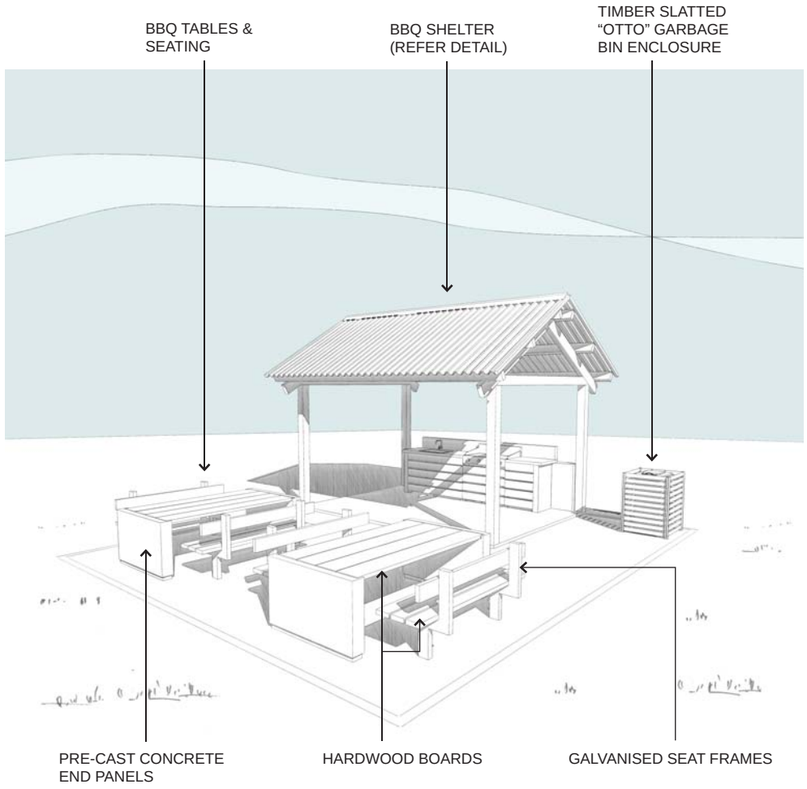
ELEVATION 2

Riverside
Tea Gardens Australia

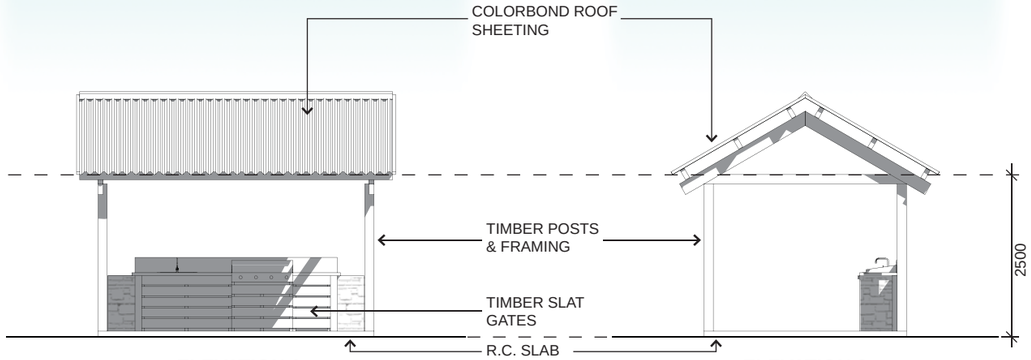
DRAWING TITLE
TYPICAL BOARDWALK

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:20 @ A1	R.C. -23	H

CRIGHTON PROPERTIES

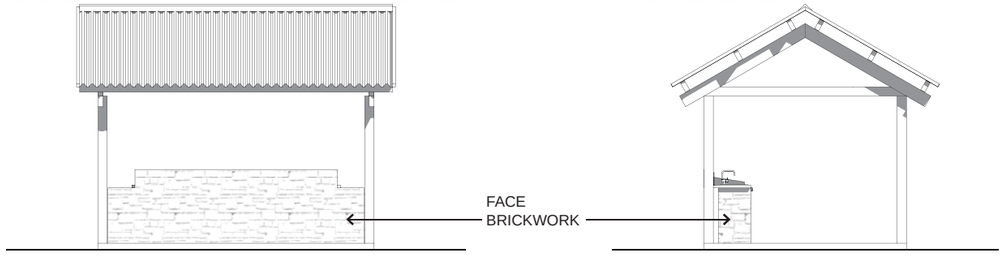


PERSPECTIVE



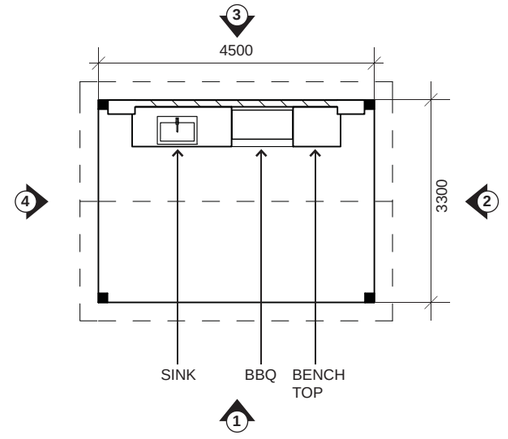
ELEVATION 1

ELEVATION 2



ELEVATION 3

ELEVATION 4



FLOOR PLAN

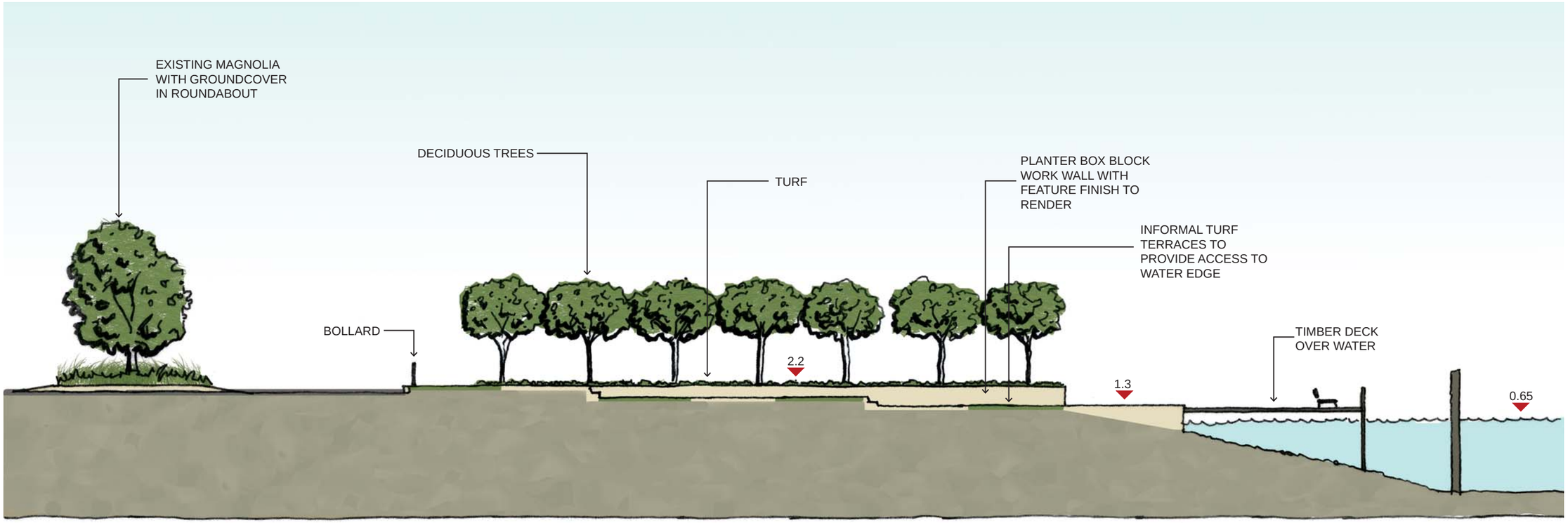
TYPICAL BBQ SHELTER

Riverside
Tea Gardens Australia

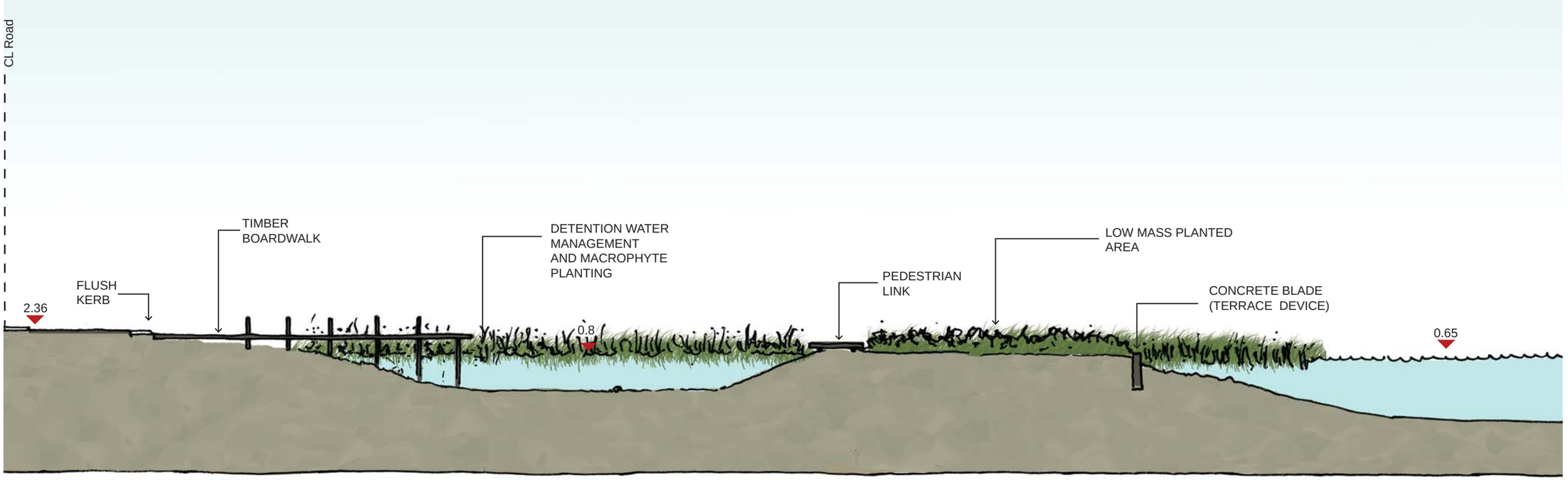
DRAWING TITLE
TYPICAL BBQ SHELTER

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:50 @ A1	R.C. -24	H

CRIGHTON PROPERTIES



SECTION A (FROM RC-15)



SECTION B (FROM RC-15)

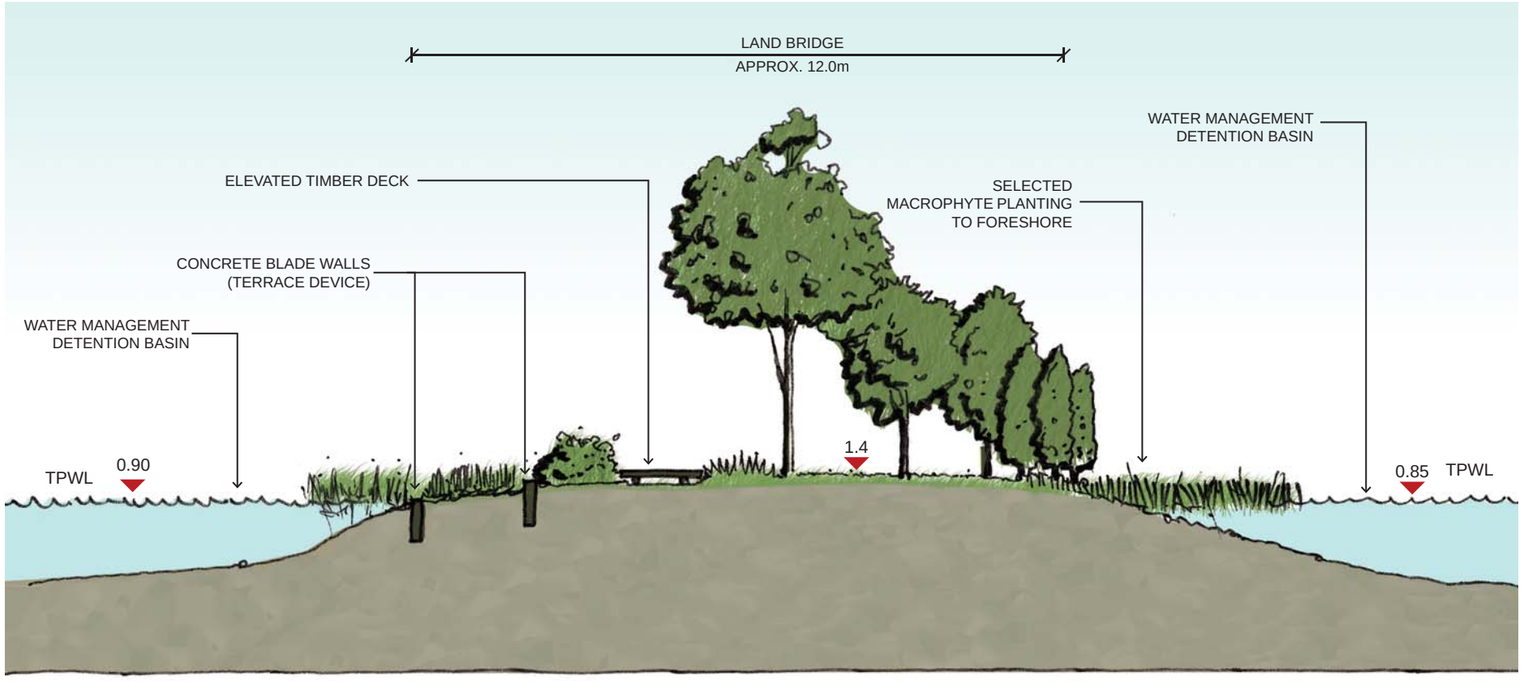
Riverside
Tea Gardens Australia

DRAWING TITLE

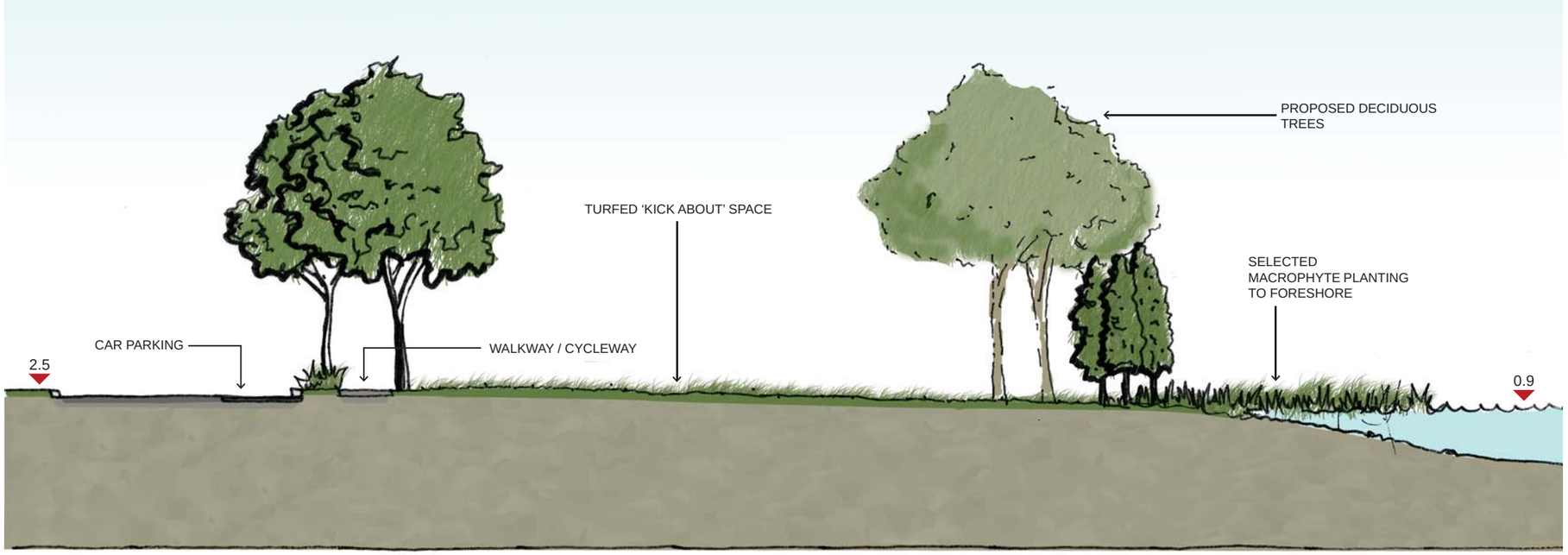
OPEN SPACE SECTIONAL DETAILS -
SECTION A & SECTION B

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:125 @ A1	R.C. -25	H

CRIGHTON PROPERTIES



SECTION C (FROM RC-15)



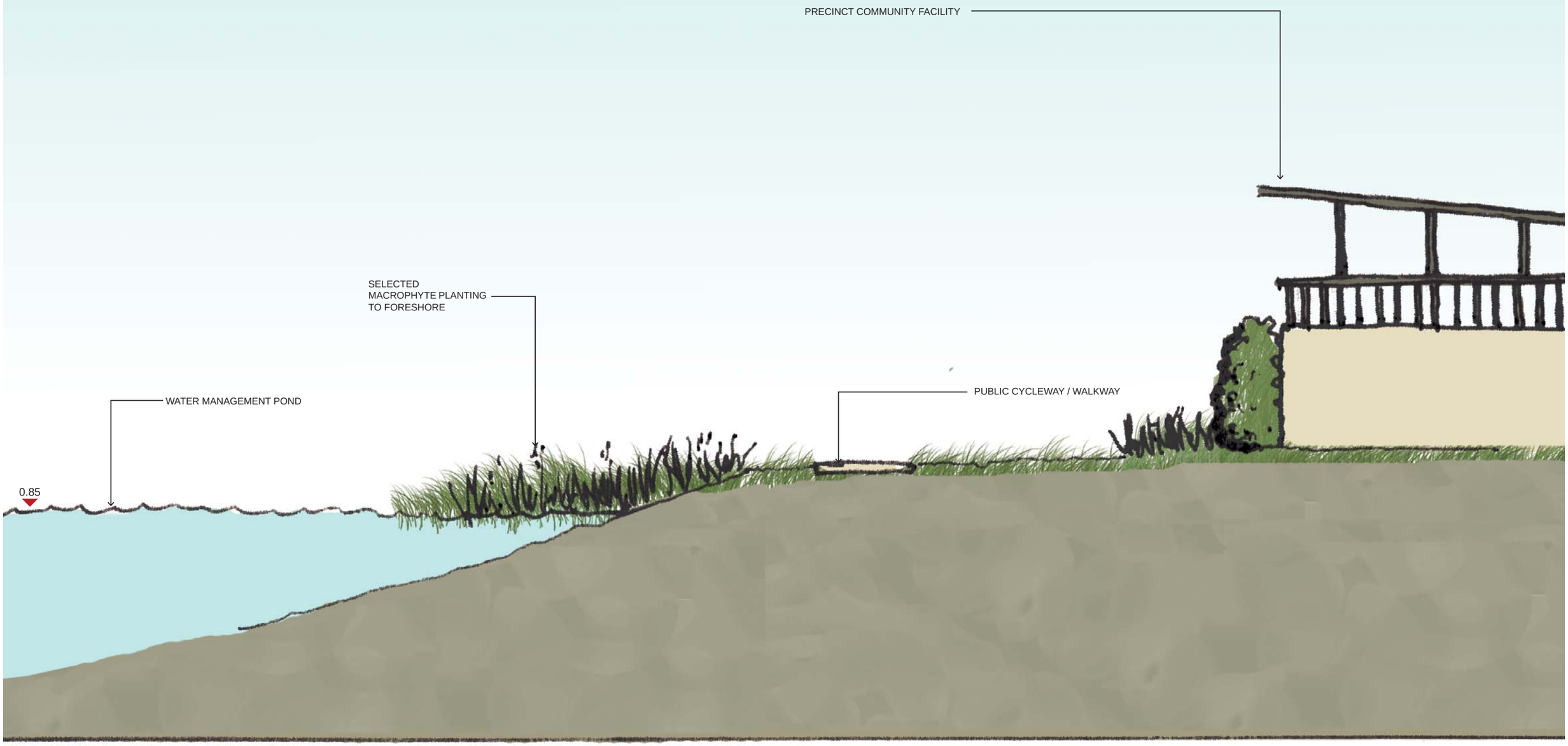
SECTION D (FROM RC-15)

Riverside
Tea Gardens Australia

DRAWING TITLE
OPEN SPACE SECTIONAL DETAILS -
SECTION C & SECTION D

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:125 @ A1	R.C. -26	H

CRIGHTON PROPERTIES



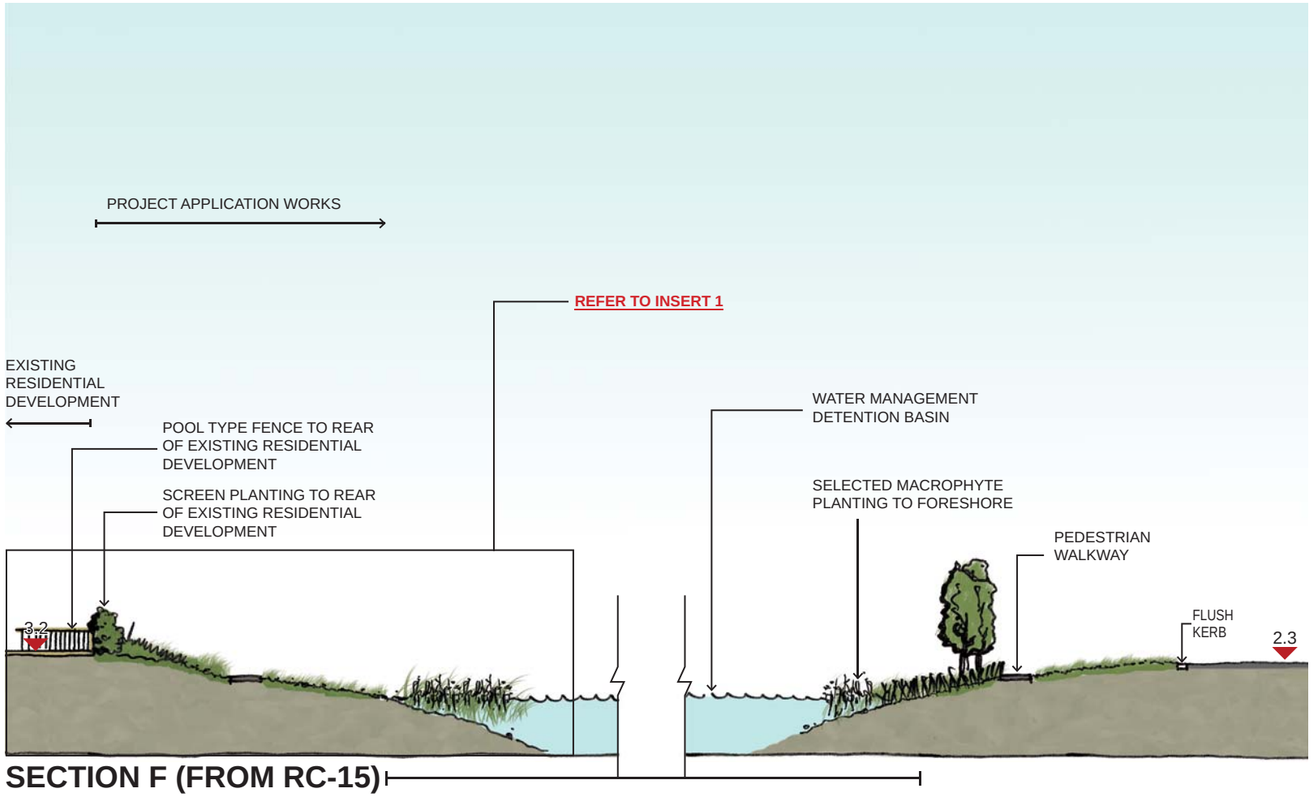
SECTION E (FROM RC-15)

Riverside
Tea Gardens Australia

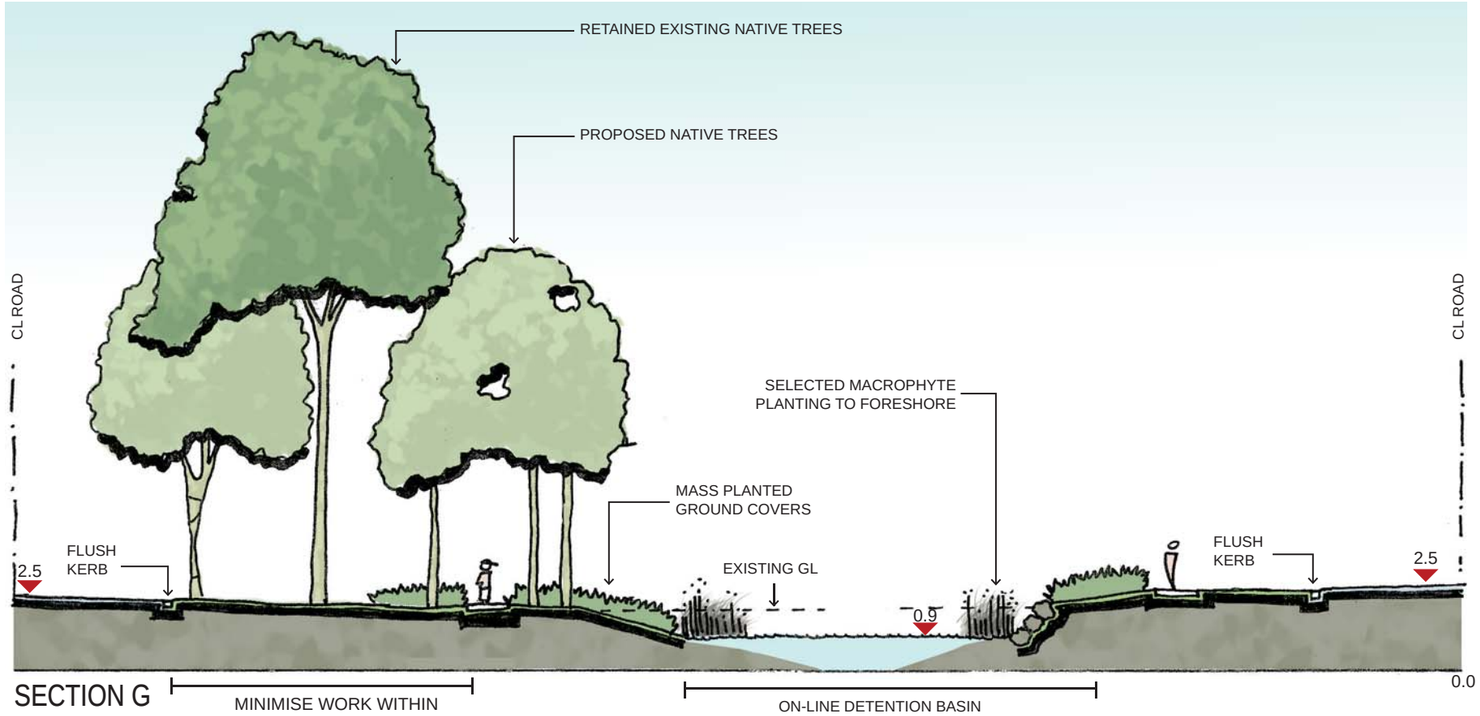
DRAWING TITLE
OPEN SPACE SECTIONAL DETAILS - SECTION E

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:50 @ A1	R.C. -27	H

CRIGHTON PROPERTIES



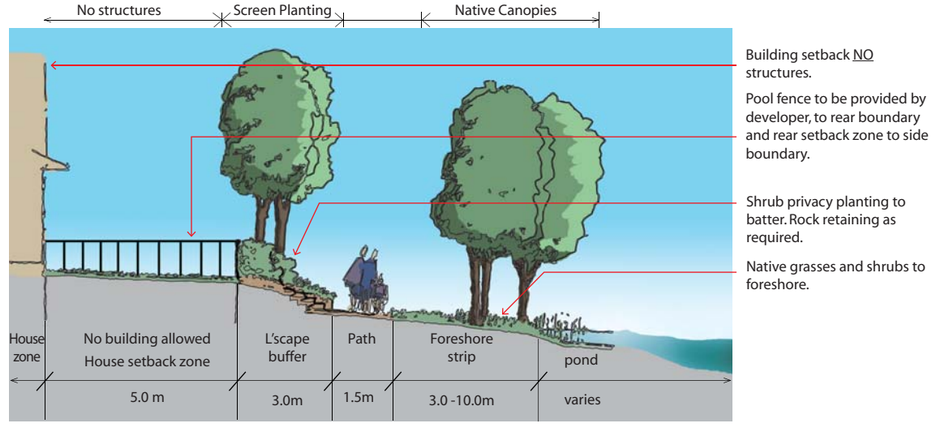
SECTION F (FROM RC-15)

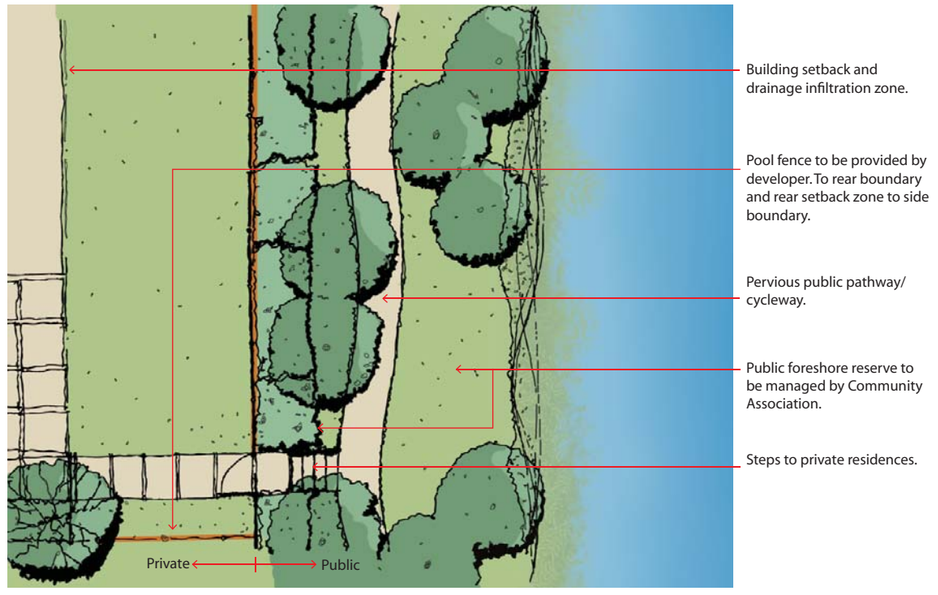


SECTION G
(FROM RC-15)

MINIMISE WORK WITHIN DRIP LINE OF TREES TO BE RETAINED

ON-LINE DETENTION BASIN





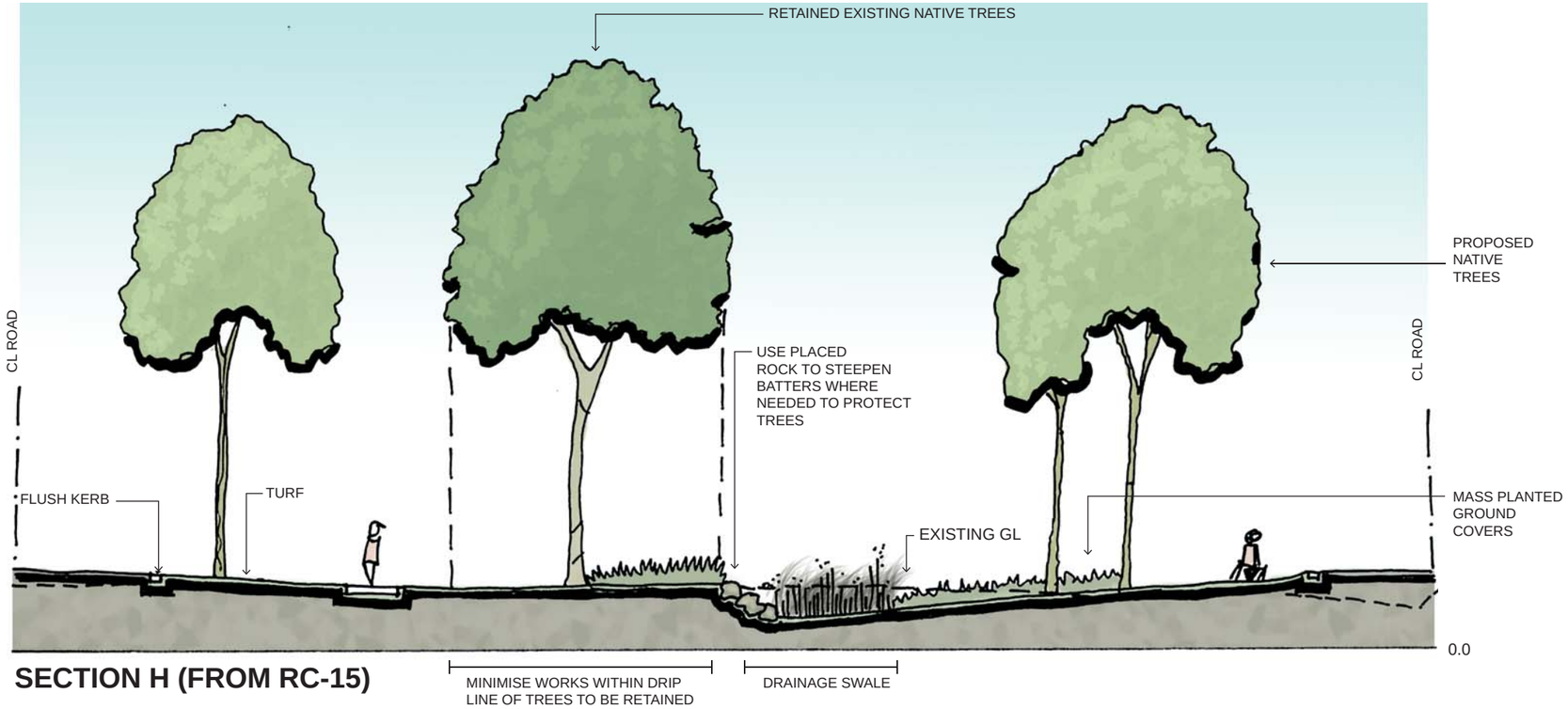
INSERT 1

Riverside
Tea Gardens Australia

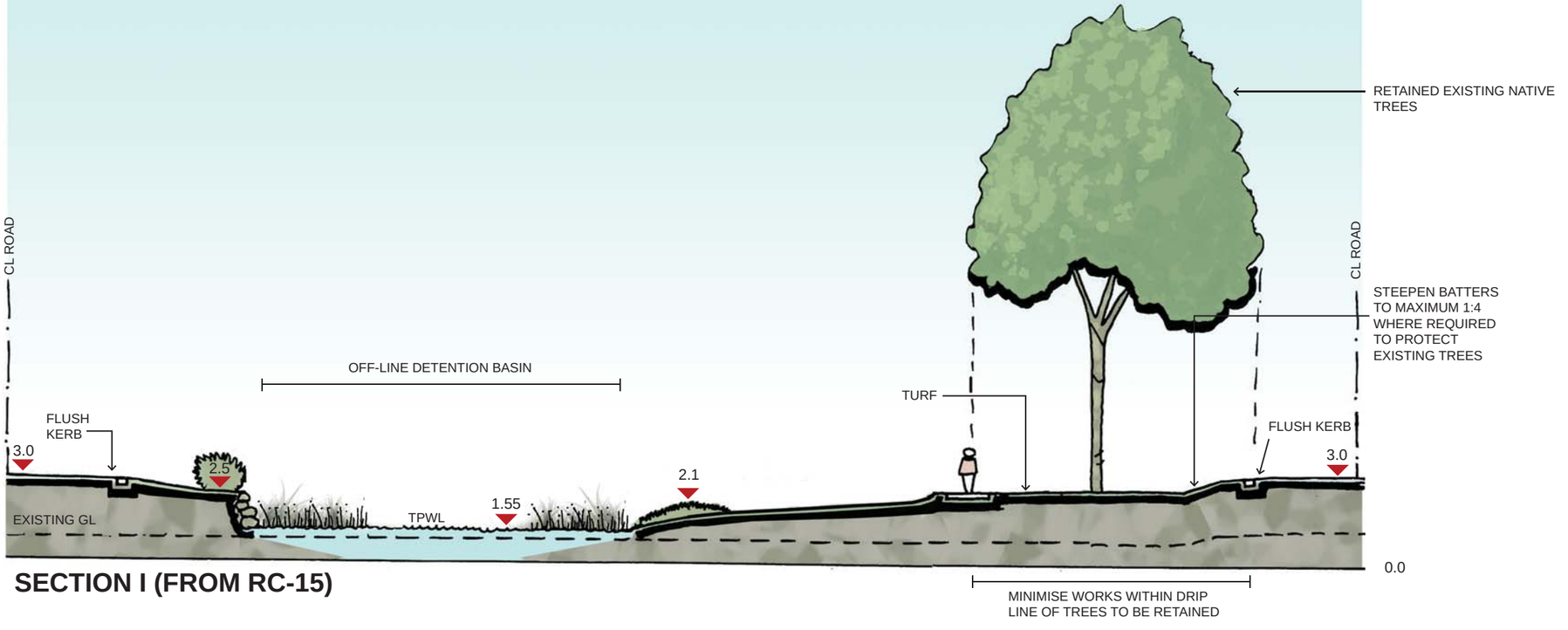
DRAWING TITLE
OPEN SPACE SECTIONAL DETAILS - SECTION F & SECTION G

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:125 @ A1	R.C. -28	H

CRIGHTON PROPERTIES



SECTION H (FROM RC-15)



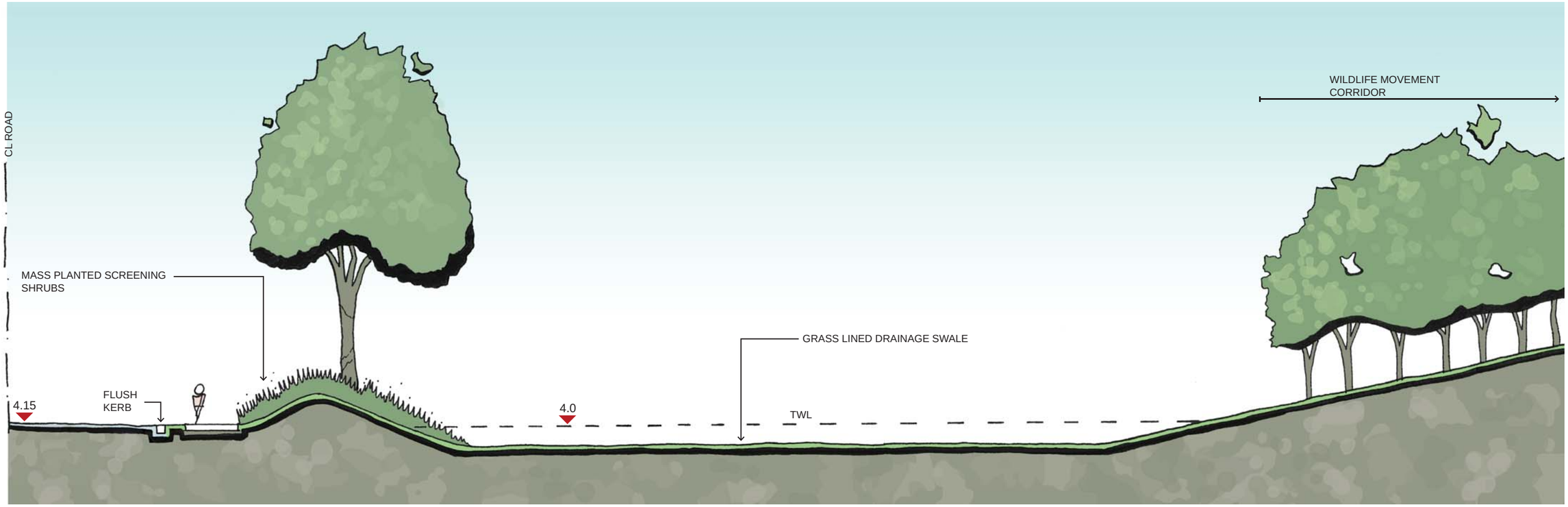
SECTION I (FROM RC-15)

Riverside
Tea Gardens Australia

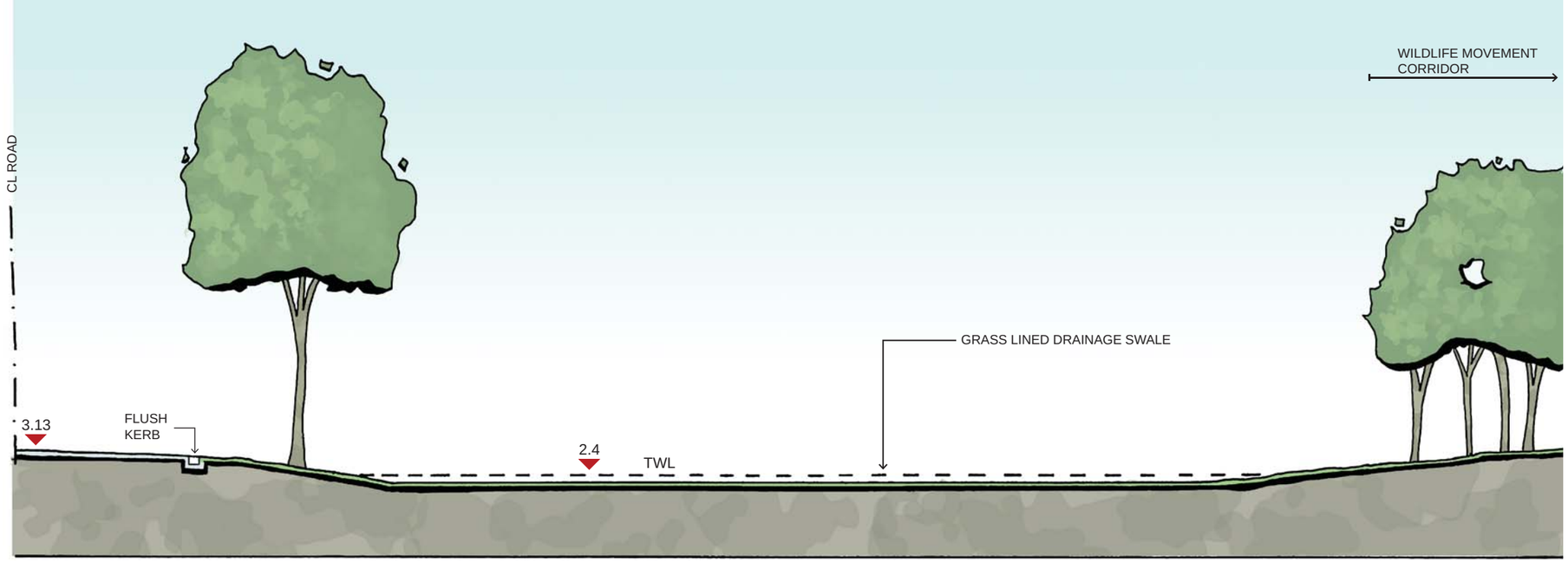
DRAWING TITLE
OPEN SPACE SECTIONAL DETAILS - SECTION H & SECTION I

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:125 @ A1	R.C. -29	H

CRIGHTON PROPERTIES



SECTION J (FROM RC-15)



SECTION K (FROM RC-15)

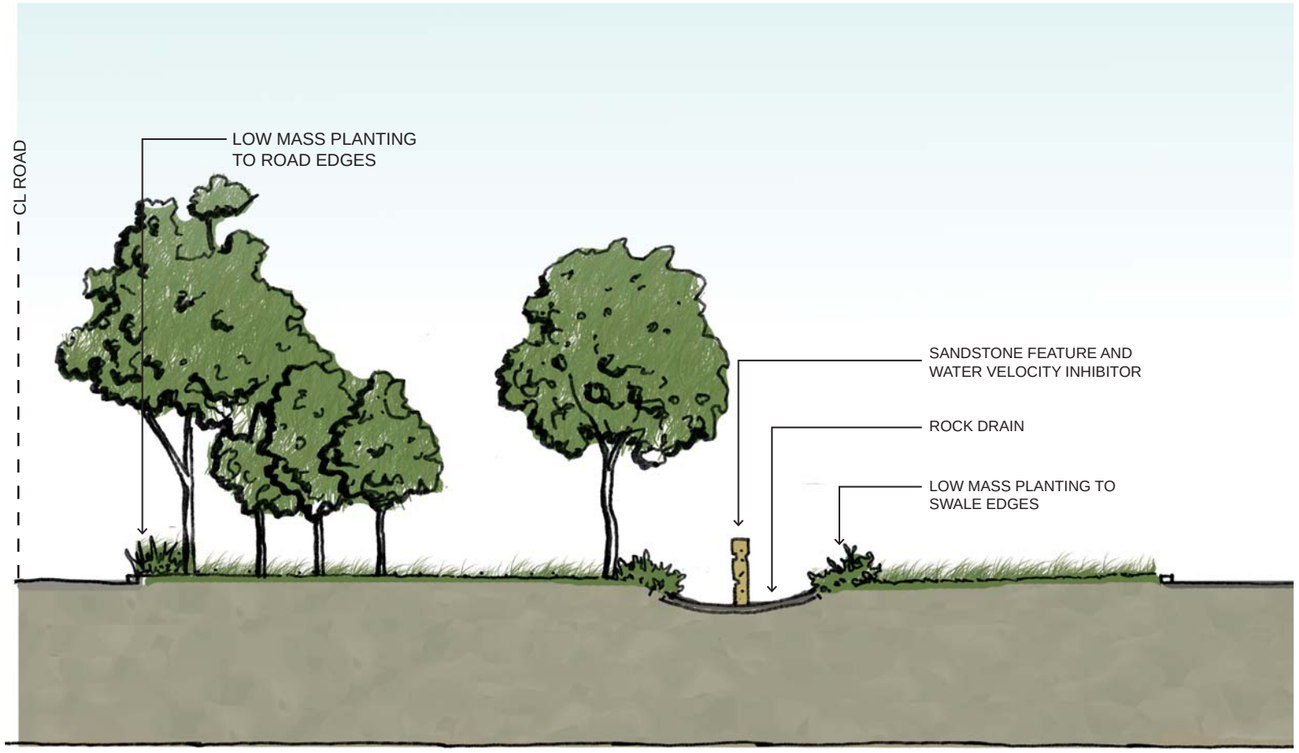
0.00

Riverside
Tea Gardens Australia

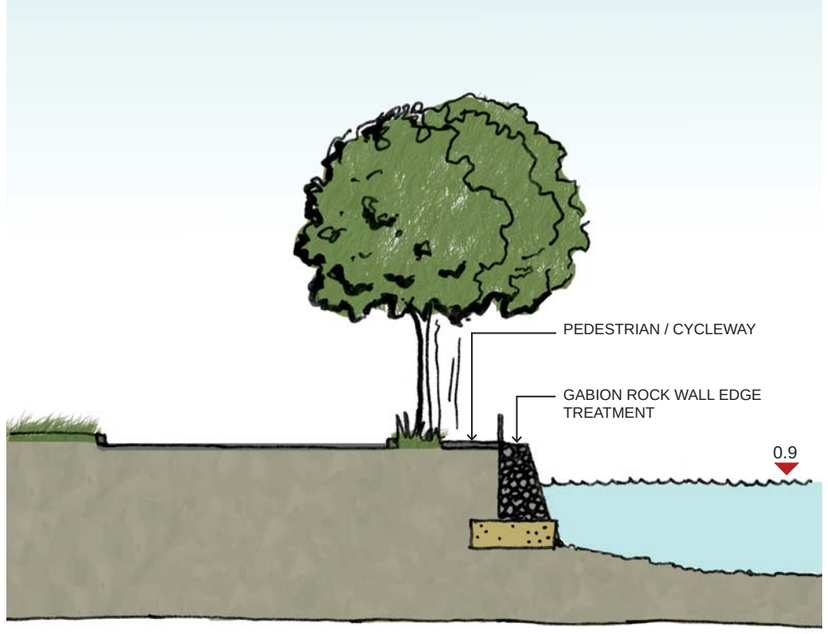
DRAWING TITLE
OPEN SPACE SECTIONAL DETAILS -
SECTION J & SECTION K

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:125 @ A1	R.C. -30	H

CRIGHTON PROPERTIES



SECTION L (FROM RC-15)



SECTION M (FROM RC-15)

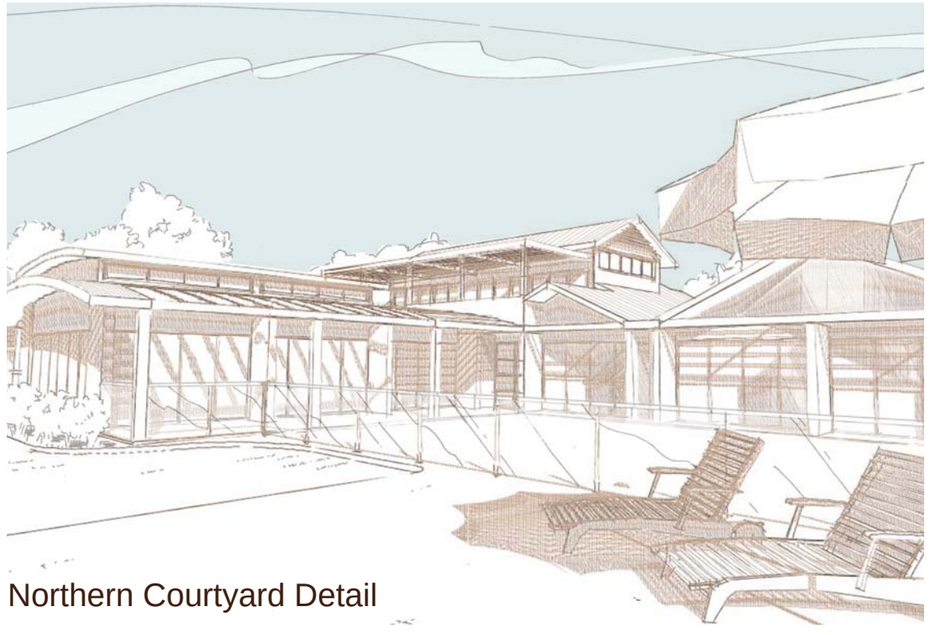
Riverside
Tea Gardens Australia

DRAWING TITLE
OPEN SPACE SECTIONAL DETAILS -
SECTION L & SECTION M

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:125 @ A1	R.C. -31	H

CRIGHTON PROPERTIES

Western Facade



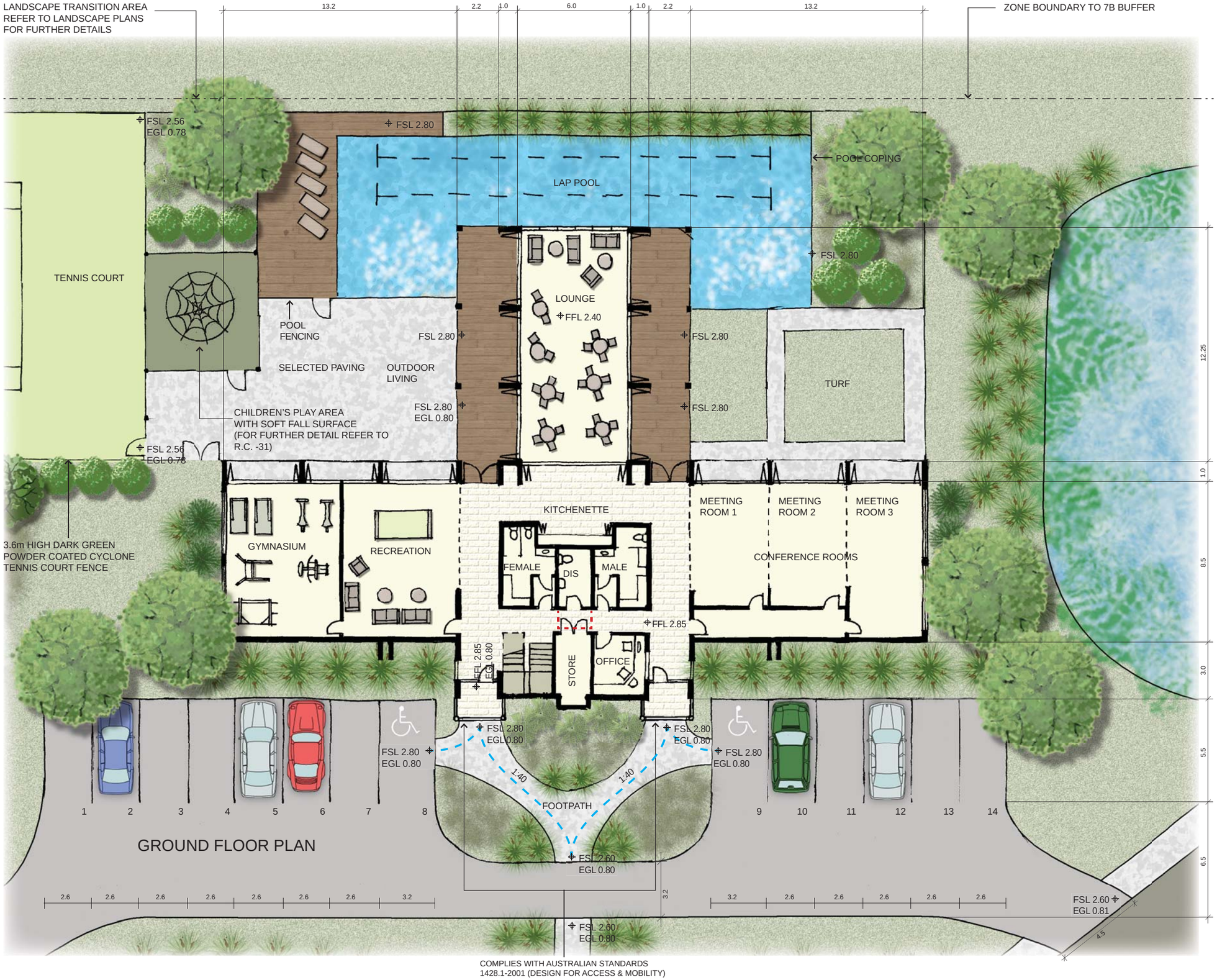
Northern Courtyard Detail

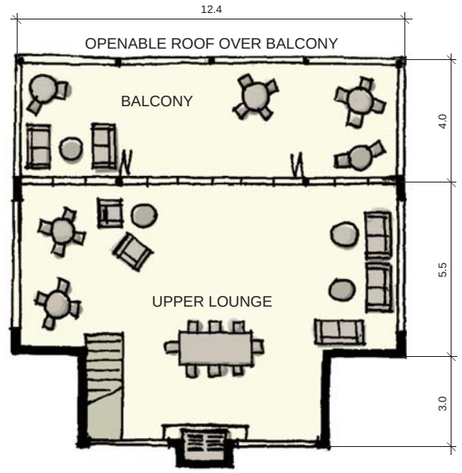
Riverside
Tea Gardens Australia

DRAWING TITLE
PRECINCT 1 CLUBHOUSE - PERSPECTIVES

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	N.T.S	R.C. -32	H

CRIGHTON PROPERTIES





UPPER FLOOR PLAN

Schedule of Area	
Gross Floor Area	
Ground Floor	453m²
Upper Floor	94m²
Total	**547m²**
Upper Balcony	50m²

Levels	
FFL	FINISHED FLOOR LEVEL
FSL	FINISHED SURFACE LEVEL
EGL	EXISTING GROUND LEVEL

PRECINCT 1 CLUBHOUSES COMPLIES WITH AUSTRALIAN STANDARDS 1428.1-2001 (DESIGN FOR ACCESS & MOBILITY)

PLAY EQUIPMENT TO COMPLY WITH THE GENERAL REQUIREMENT OF AS 1924.1 (1981) FOR PLAY EQUIPMENT, AS/NZS 4486.1 (1997) FOR PLAY EQUIPMENT DEVELOPMENT, INSTALLATION, INSPECTION, MAINTENANCE AND OPERATION AND AS 4685.1 TO AS 4685.6 (2004)

RUBBER SOFTFALL

- MUST BE MAINTAINED REGULARLY IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS
- SUPPLY A CERTIFICATE OF COMPLIANCE WITH AUSTRALIAN STANDARDS

Riverside
Tea Gardens Australia

DRAWING TITLE
PRECINCT 1 CLUBHOUSE - FLOOR PLANS

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	**1:100 @ A1**	**R.C. -33**	**H**

CRIGHTON PROPERTIES

DULUX ‘STONE BEIGE’

M RENDERED MASONRY

DULUX ‘SANDSHOE’

L1 LIGHTWEIGHT CLADDING

DULUX ‘PRIMROSE’

L2 LIGHTWEIGHT CLADDING

COLORBOND ‘DUNE’

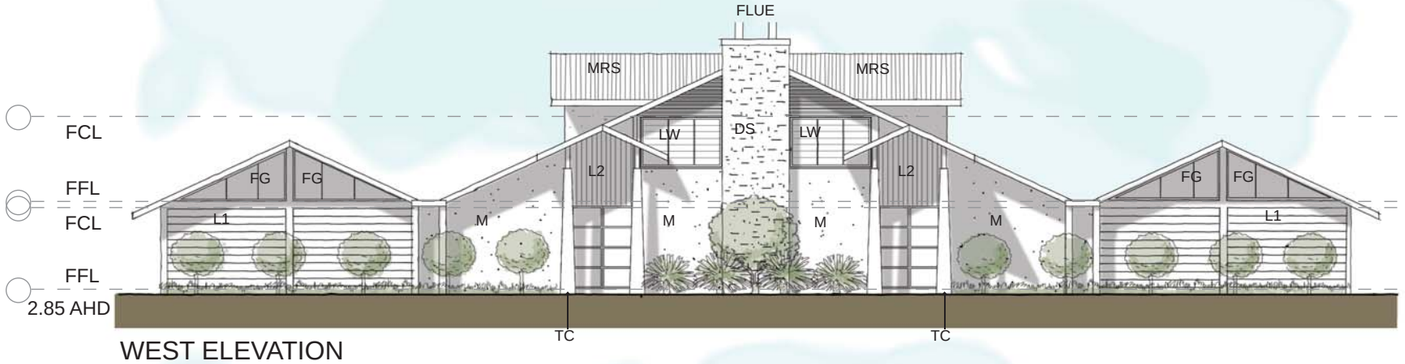
MRS METAL ROOF SHEETING

STACKED STONE

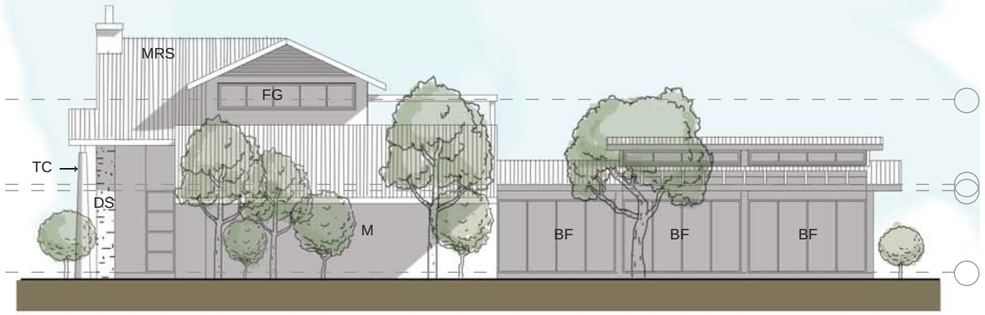
DS DECORATIVE STONEWORK

DULUX ‘CLAYPOT’

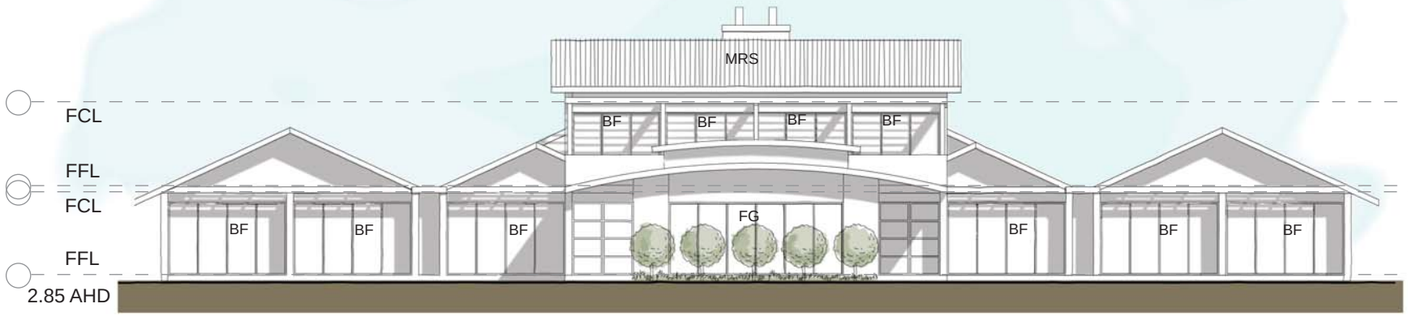
TC TEXTURED CONCRETE FINISH



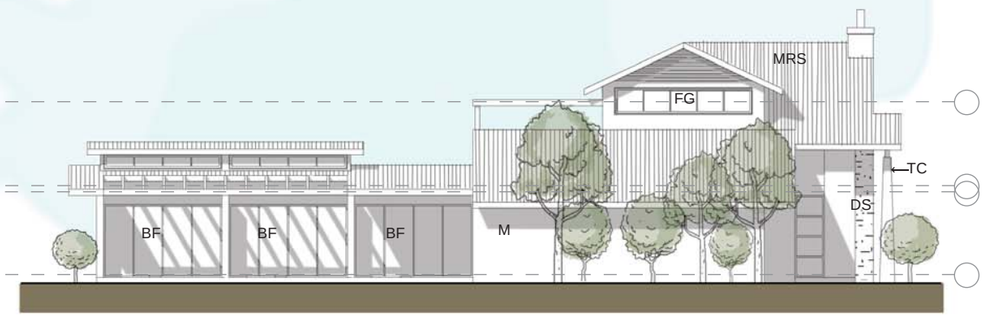
WEST ELEVATION



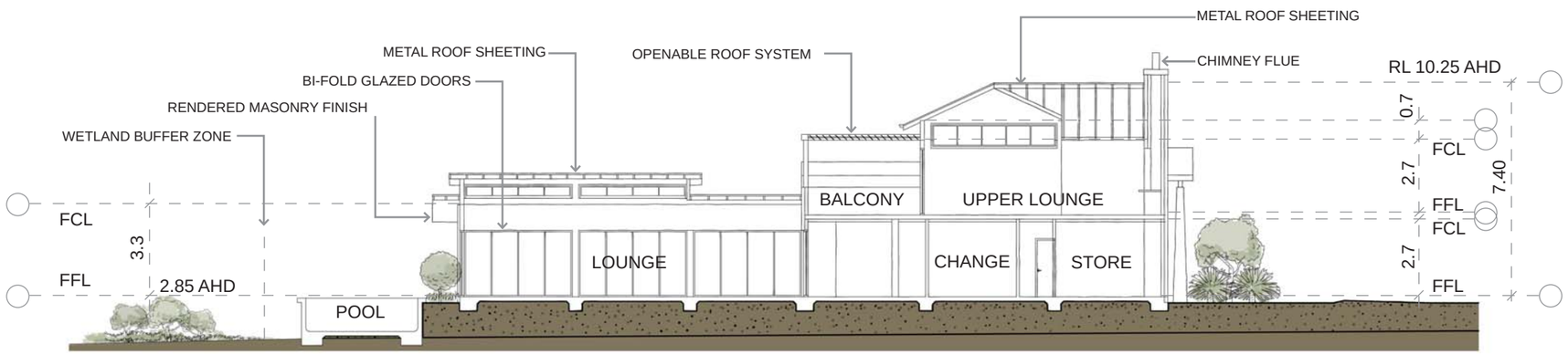
SOUTH ELEVATION



EAST ELEVATION



NORTH ELEVATION



SECTION

LEGEND

RL	RIDGE LEVEL
M	RENDERED MASONRY
L1	LIGHTWEIGHT CLADDING #1
L2	LIGHTWEIGHT CLADDING #2
LW	LOUVERED WINDOWS
FG	FIXED GLASS
BF	BI-FOLD GLAZED DOORS
MRS	METAL ROOF SHEETING
FLUE	CHIMNEY FLUE
DS	DECORATIVE STONEWORK
TC	TEXTURED CONCRETE FINISH

Riverside
Tea Gardens Australia

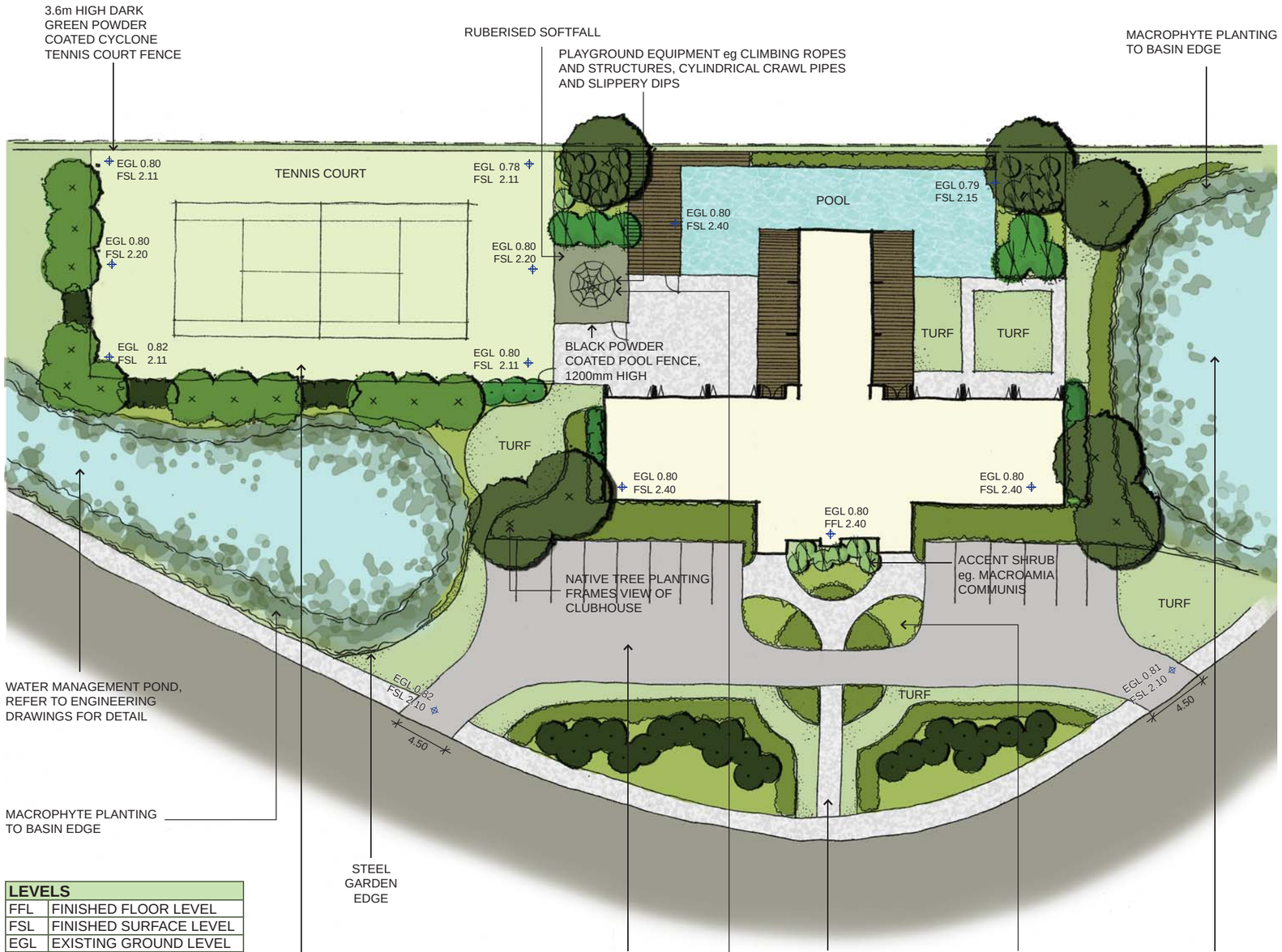
DRAWING TITLE

PRECINCT 1 CLUBHOUSE - ELEVATIONS

APPLICATION: **Part 3a Submission to N.S.W. D.O.P.**

DATE	SCALE	DRAWING No.	REVISION
January 09	**1:100 @ A1**	**R.C. -34**	**H**

CRIGHTON PROPERTIES



LEVELS	
FFL	FINISHED FLOOR LEVEL
FSL	FINISHED SURFACE LEVEL
EGL	EXISTING GROUND LEVEL

“CORRO” OMNITECH PLAY SYSTEM

“AERO SUPERSAVER” SOFT FALL RUBBER SAFETY SURFACE

SHADE ‘N NET METAL FRAMED SHADE STRUCTURE

PLANTING SCHEDULE

	BOTANICAL NAME	COMMON NAME
	LARGE TREES (15-25m high, 8-12m wide)	
	Acmena smithii	Lilly Pilly
	Allocasuarina torulosa	Forest Oak
	Archontophoenix cunninghamiana	Bangalow Palm
	Casuarina glauca	Swamp Oak
	MEDIUM TREES (8-12m high, 5-8m wide)	
	Cupaniopsis anacardiodes	Tuckeroo
	Eucalyptus robusta	Swamp Mahogany
	SMALL TREES (3-5m high, 2-5m wide)	
	Livistona australis	Cabbage Tree Palm
	Syzygium paniculatum	Magenta Lilly Pilly
	SHRUBS (1.5-2.5m high)	
	Cordyline australis	Cabbage Tree
	Cordyline rubra	Red Cordyline
	Crinium penduculatum	Swamp Lily
	Doryanthes excelsa	Gymea Lilly
	Macrozamia communis	Burrawang
	SCREEN PLANTING (1.5-2.5m high)	
	Westringia fruticosa	Coastal Rosemary
	GRASSES/GROUNDCOVERS	
	Dianella sp.	Blue Flax Lilly
	Hardenbergia violacea	False sarsaparilla
	Hibbertia scandens	Guinea Flower
	Lomandra longifolia	Mat Rush
	Themeda australis	Kangaroo Grass
	MACROPHYTES	
	Baumea articulata	Jointed Twig Rush
	Eleocharis acuta	Common Spike
	Gahnia sieberana	Red fruited saw Sedge
	Isolepsis nodosa	Knobby Club Rush
	Juncus usitatus	Common Rush
	Schoenoplectus validus	River Club Sedge

PLAY EQUIPMENT TO COMPLY WITH THE GENERAL REQUIREMENT OF AS 1924.1 (1981) FOR PLAY EQUIPMENT, AS/NZS 4486.1 (1997) FOR PLAY EQUIPMENT DEVELOPMENT, INSTALLATION, INSPECTION, MAINTENANCE AND OPERATION AND AS 4685.1 TO AS 4685.6 (2004)

RUBBER SOFTFALL

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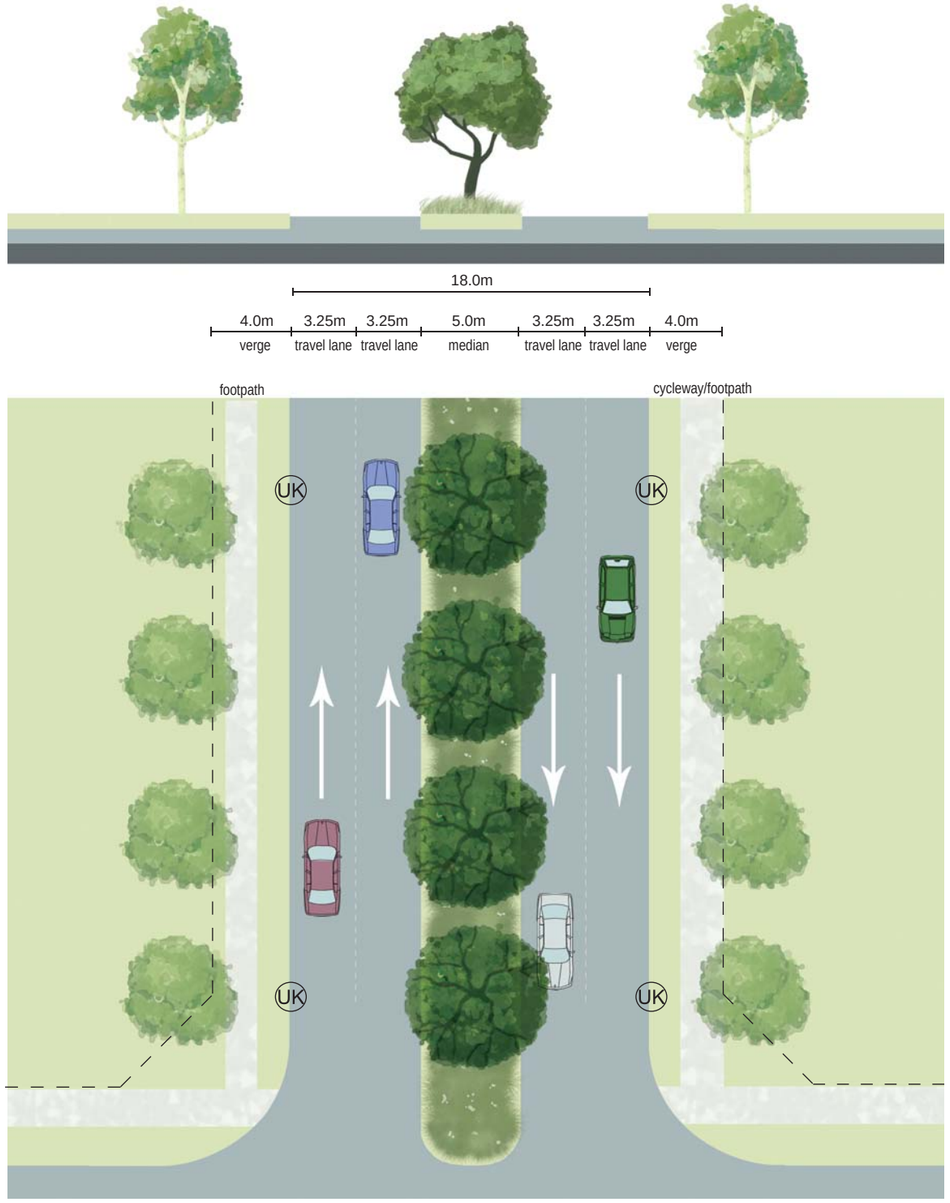
Riverside
Tea Gardens Australia

DRAWING TITLE
PRECINCT 1 CLUBHOUSE - LANDSCAPE PLANS

APPLICATION: Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09	1:200 @ A1	R.C. -35	H

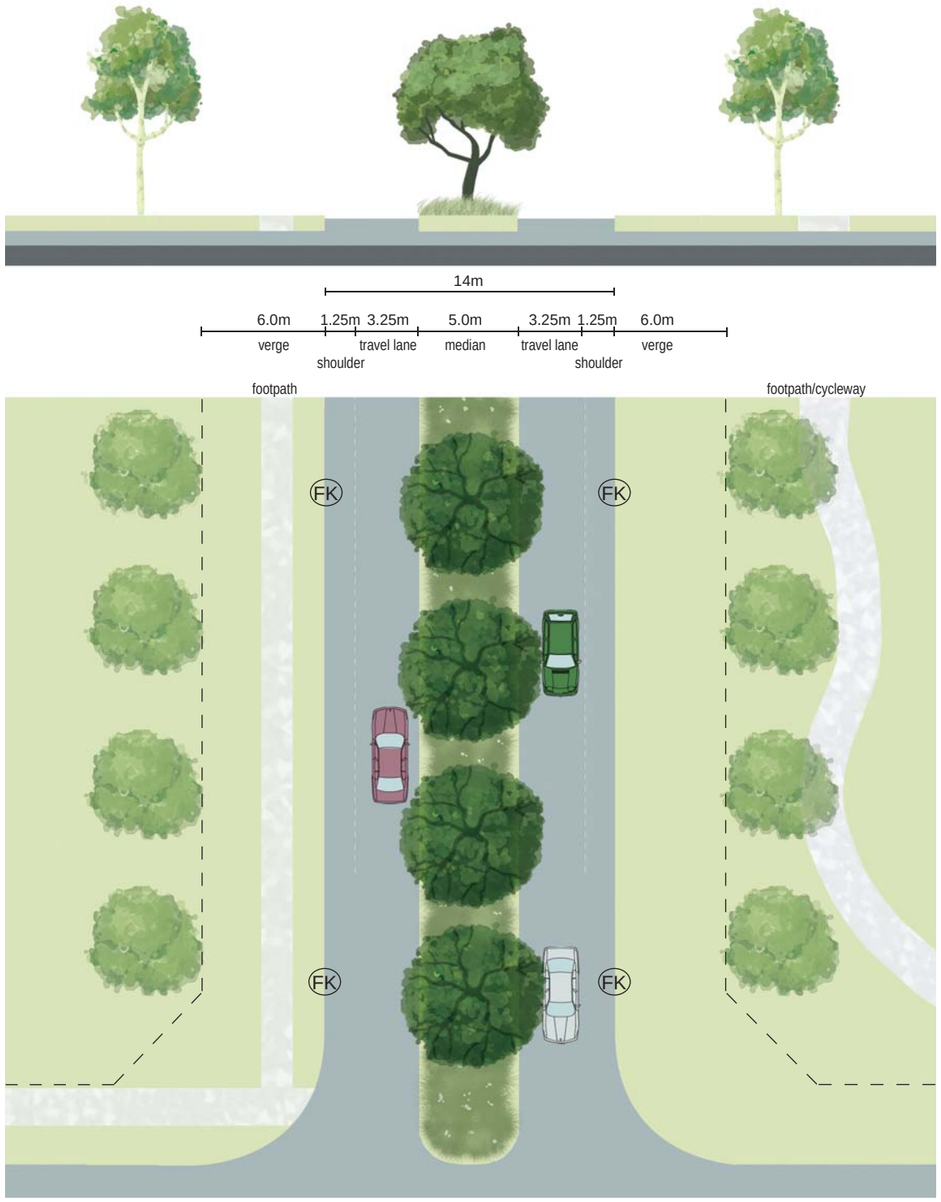
CRIGHTON PROPERTIES



ARTERIAL #1	ARTERIAL #1
Type	Arterial #1
Traffic Lanes	2 Lanes @ 3.25m
Cycle Lanes	shared with vehicle lanes/2.5m in Verge
Median	5.0m
Kerb Radius	8.0m
Kerb Type	Refer Schedule
Verge Width	4.0m
Footpath Width	1.5m
Footpath/Cycleway Width	2.5m
Landscape Type	Refer Schedule
Building Setback	3.0m

LANDSCAPE SCHEDULE

	Species	Mature size
	Bauhinia pupurea (Orchid tree)	7h x 5w
	Podcarpus elatus (Plum pine)	10h x 6w
	Lophostemon confertus (Brush Box)	15h x 12w
	Dianella 'Breeze' (Blue Flax Lilly)	
	Grevillea x Gaudi-chaudi (Grevillea)	
	Juniperus conferta (Shore Juniper)	
UK	Upright kerb	
FK	Flush Kerb	



ARTERIAL #2	ARTERIAL #2
Type	Arterial #2
Traffic Lanes	1 Lanes @ 3.25m
Shoulder	2 Lanes @ 1.25m
Cycle Lanes	shared with vehicle lanes
Median	5m
Kerb Radius	
Kerb Type	Refer Schedule
Verge Width	6.0m
Footpath Width	1.5m
Footpath/Cycleway Width	2.5m
Landscape Type	Refer Schedule

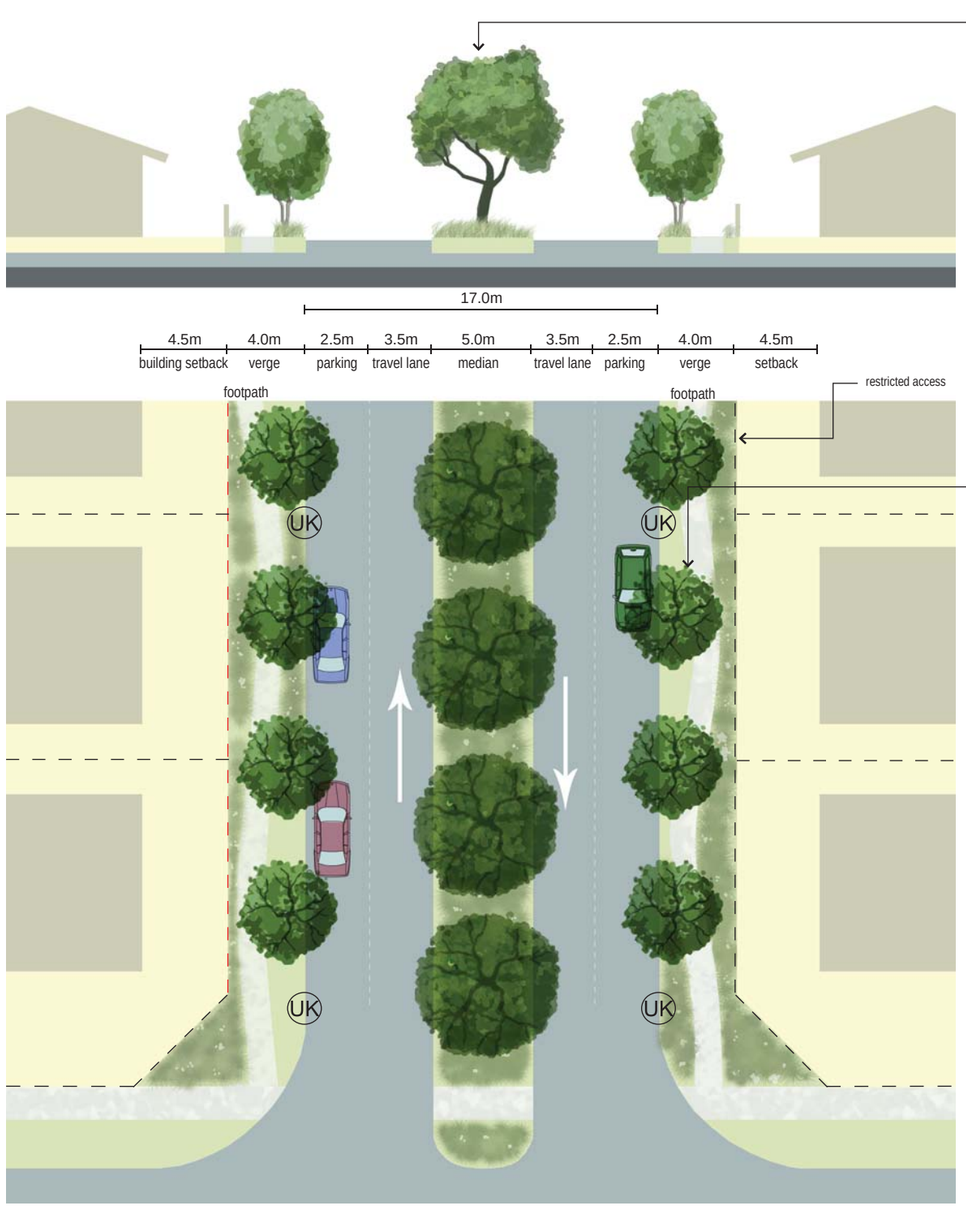
Riverside
Tea Gardens Australia

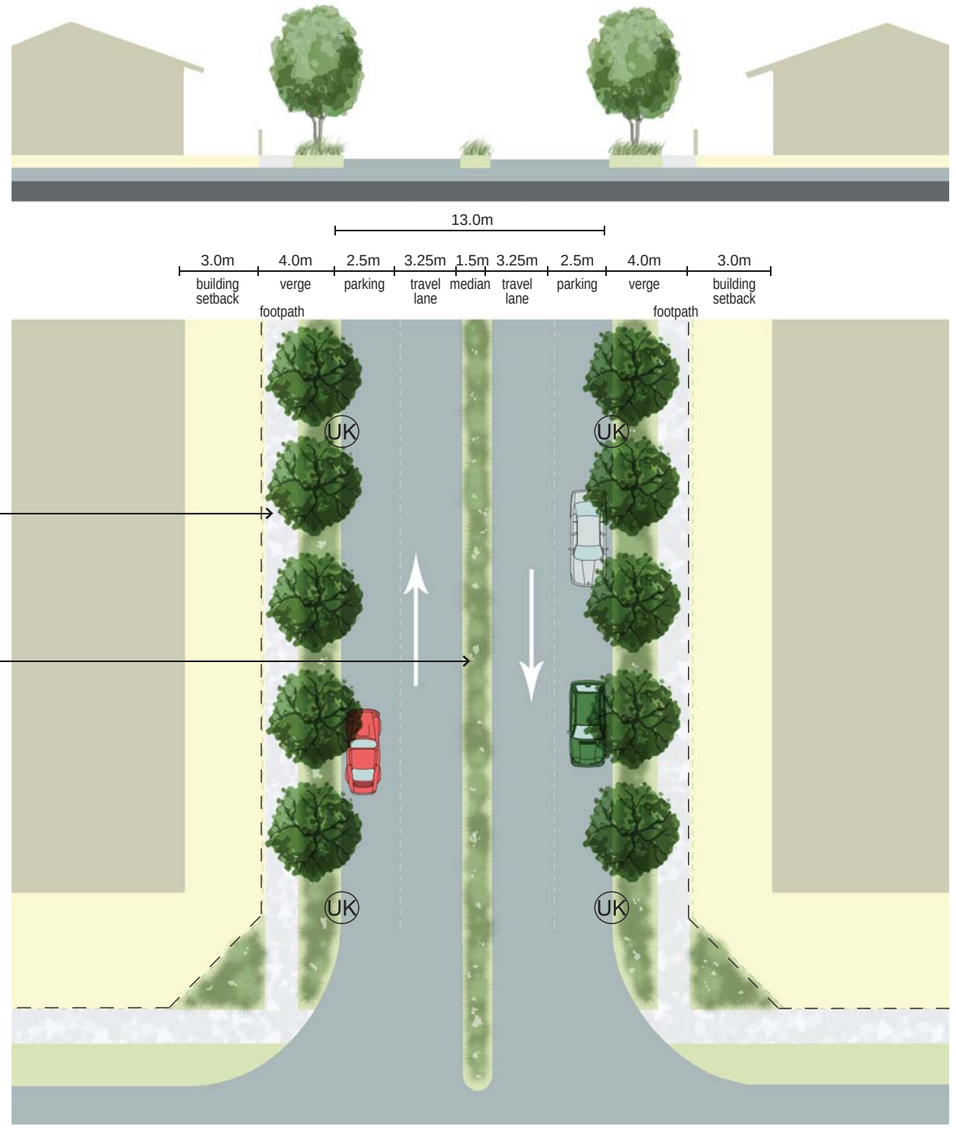
DRAWING TITLE
STREET TYPES - ARTERIAL #1 & #2

APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09		**R.C. -36**	**H**

CRIGHTON PROPERTIES





CONNECTOR	CONNECTOR
Type	Connector
Traffic Lanes	2 Lanes @ 3.5m
Parking Lanes	2 Lanes @2.5
Cycle Lanes	Shared with vehicle lanes
Median	5.0m
Kerb Radius	8.0m
Kerb Type	Refer Schedule
Verge Width	4.0m
Footpath Width	1.5m
Landscape Type	Refer Schedule
Building Setback	4.5m

LANDSCAPE SCHEDULE

	Species	Mature size
	Cupaniopsis anacardiodes (Tukeroo)	8h x 5w
	Waterhousia floribunda (Weeping Lilly Pilly)	8h x 5w
	Bauhinia pupurea (Orchid tree)	7h x 5w
	Podcarpus elatus (Plum pine)	10h x 6w
	Dianella 'Breeze' (Blue Flax Lilly)	
	Grevillea x gaudichaudi (Grevillea)	
UK	Upright kerb	

SECONDARY ARTERIAL #1	SECONDARY ARTERIAL #1
Type	Secondary Arterial #1
Traffic Lanes	2 Lanes @ 3.5m
Parking Lanes	2 Lanes @ 2.5m
Cycle Lanes	shared with vehicle lanes
Median	1.55m
Kerb Radius	8.0m
Kerb Type	Refer Schedule
Verge Width	4.0m
Footpath Width	1.5m
Landscape Type	Refer Schedule
Building Setback	3.0m

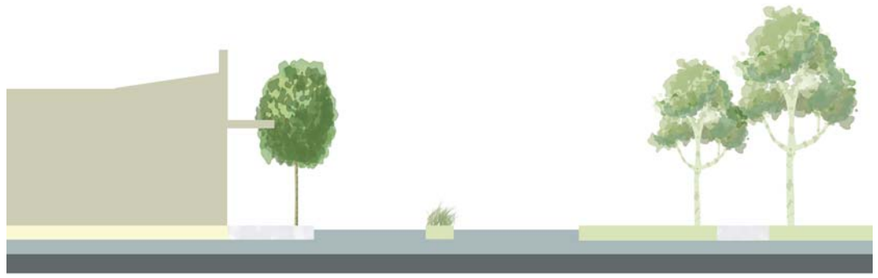
Riverside
Tea Gardens Australia

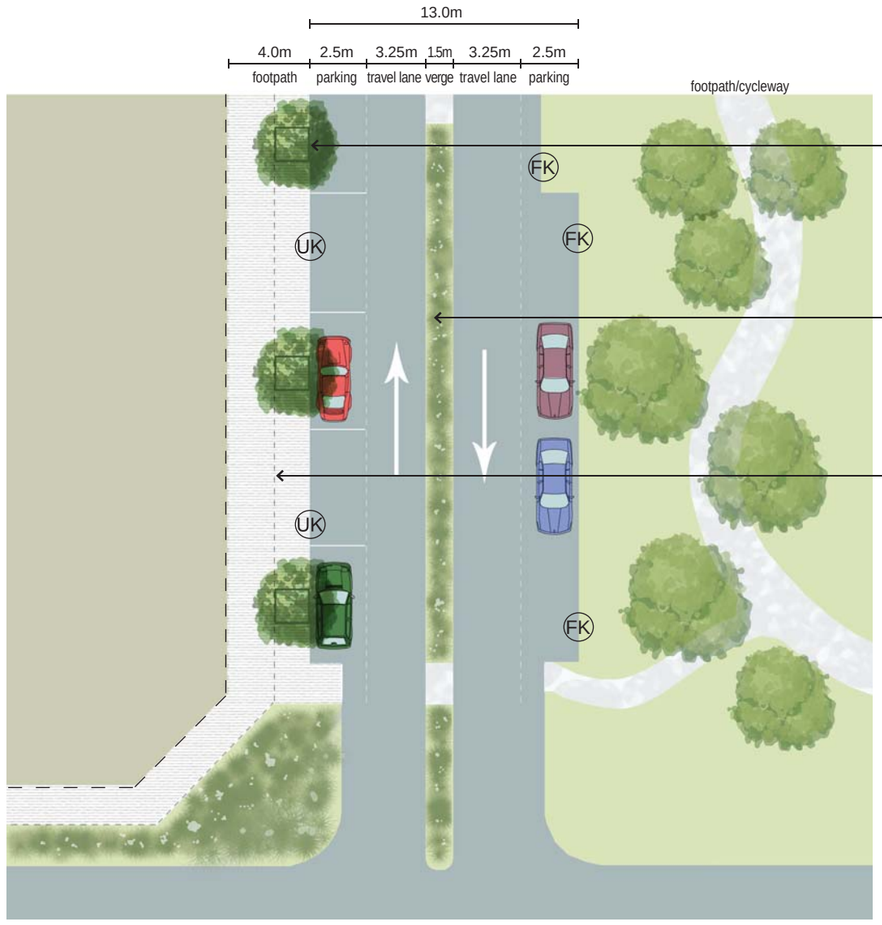
DRAWING TITLE
STREET TYPES - CONNECTOR, SECONDARY ARTERIAL #1

APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09		**R.C. -37**	**H**

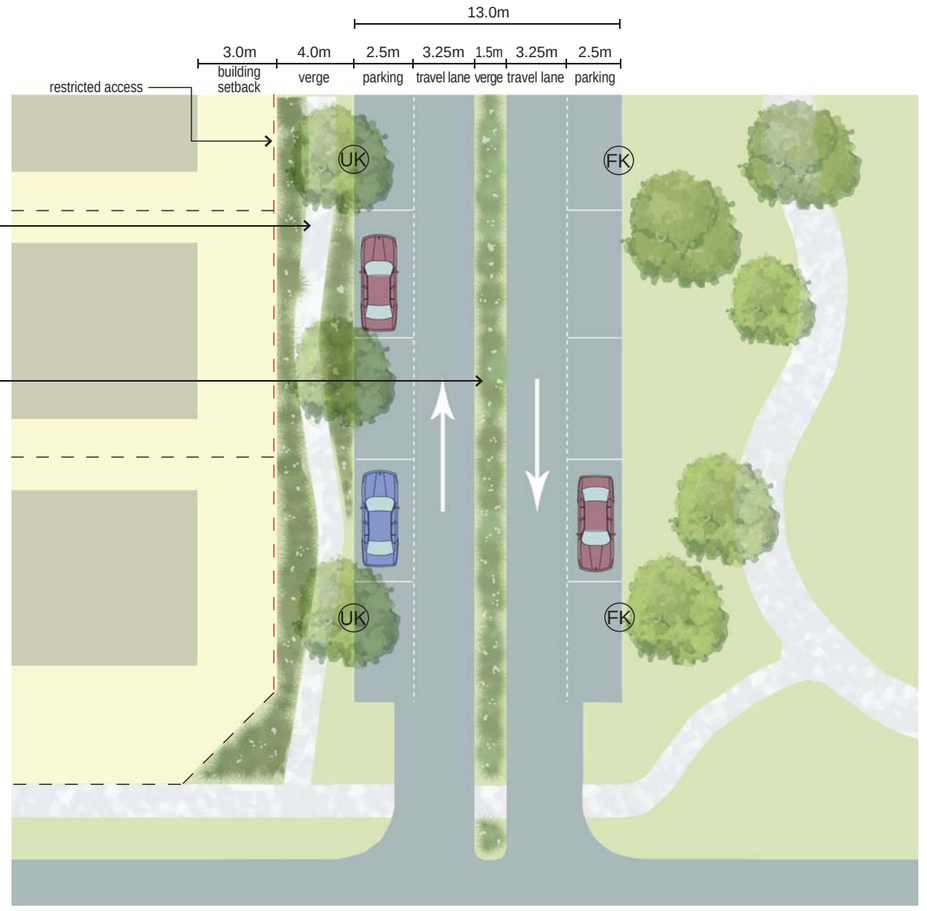
CRIGHTON PROPERTIES





SECONDARY ARTERIAL #2	SECONDARY ARTERIAL #2
Type	Secondary Arterial #2
Traffic Lanes	2 Lanes @ 3.25m
Parking Lanes	2 Lanes @ 2.5m
Cycle Lanes	shared with vehicle lanes
Median	1.55m
Kerb Radius	4.5m
Kerb Type	Refer Schedule
Verge Width	4.0m
Footpath Width	4.0m
Footpath/Cycleway Width	2.5m
Landscape Type	Refer Schedule
Building Setback	0m

LANDSCAPE SCHEDULE		
	Species	**Mature size**
	Cupaniopsis anacardiodes (Tukeroo)	8h x 5w
	Lophostemon confertus (Brush Box)	15h x 12w
	Dianella 'Breeze' (Blue Flax Lilly)	
	Grevillea x gaudichaudi (Grevillea)	
	Juniperus conferta (Shore Juniper)	
UK	Upright kerb	
FK	Flush kerb	



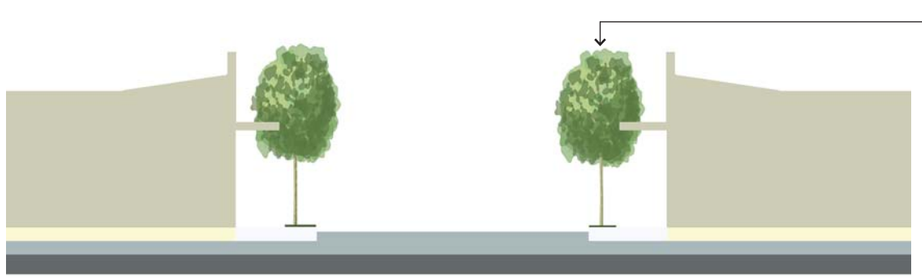
SECONDARY ARTERIAL #3	SECONDARY ARTERIAL #3
Type	Secondary Arterial
Traffic Lanes	2 Lanes @ 3.25m
Parking Lanes	2 Lanes @ 2.5m
Cycle Lanes	Shared with vehicle lanes
Median	1.55m
Kerb Radius	4.5m
Kerb Type	Refer Schedule
Verge Width	4.0m
Footpath Width	1.5m
Footpath/Cycleway Width	2.5m
Landscape Type	Refer Schedule
Building Setback	3.0m

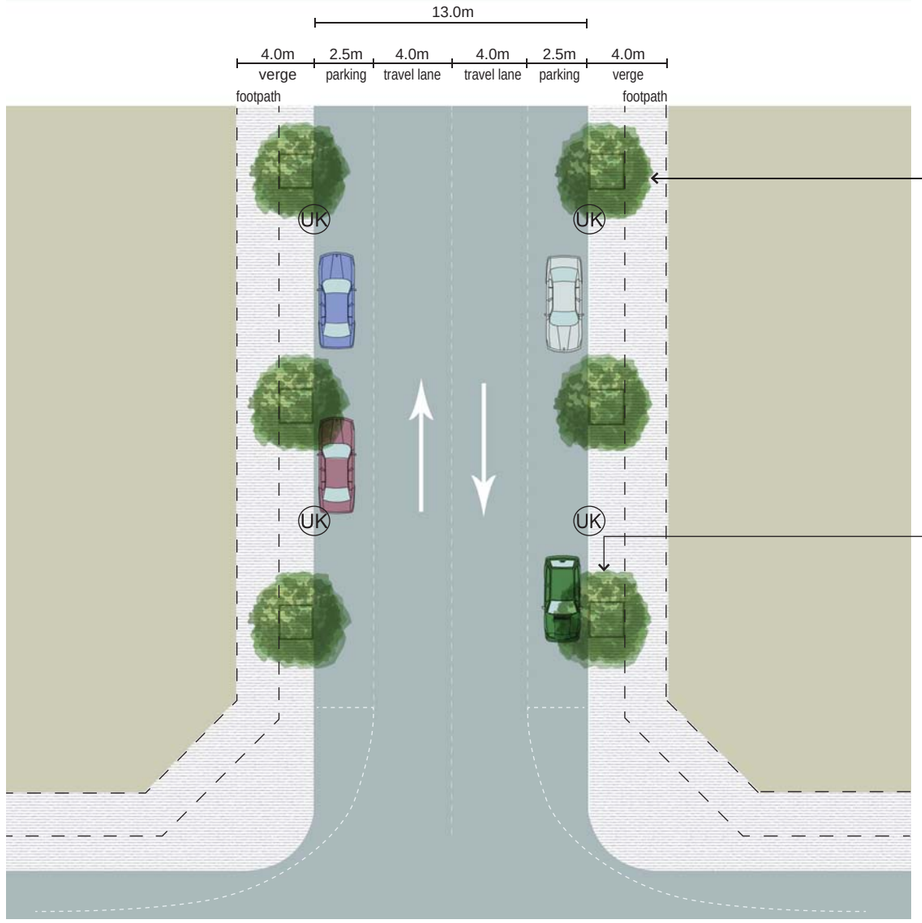
Riverside
Tea Gardens Australia

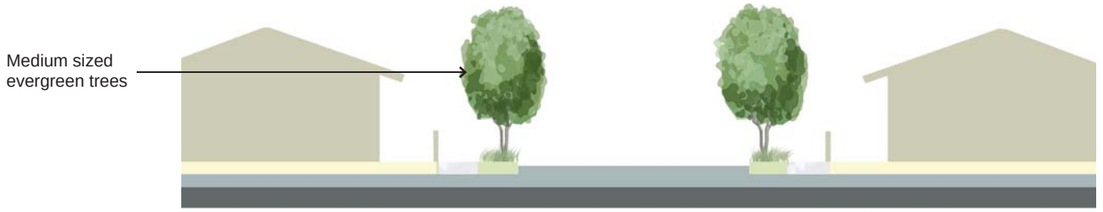
DRAWING TITLE
STREET TYPES -
SECONDARY ARTERIAL #2 & #3

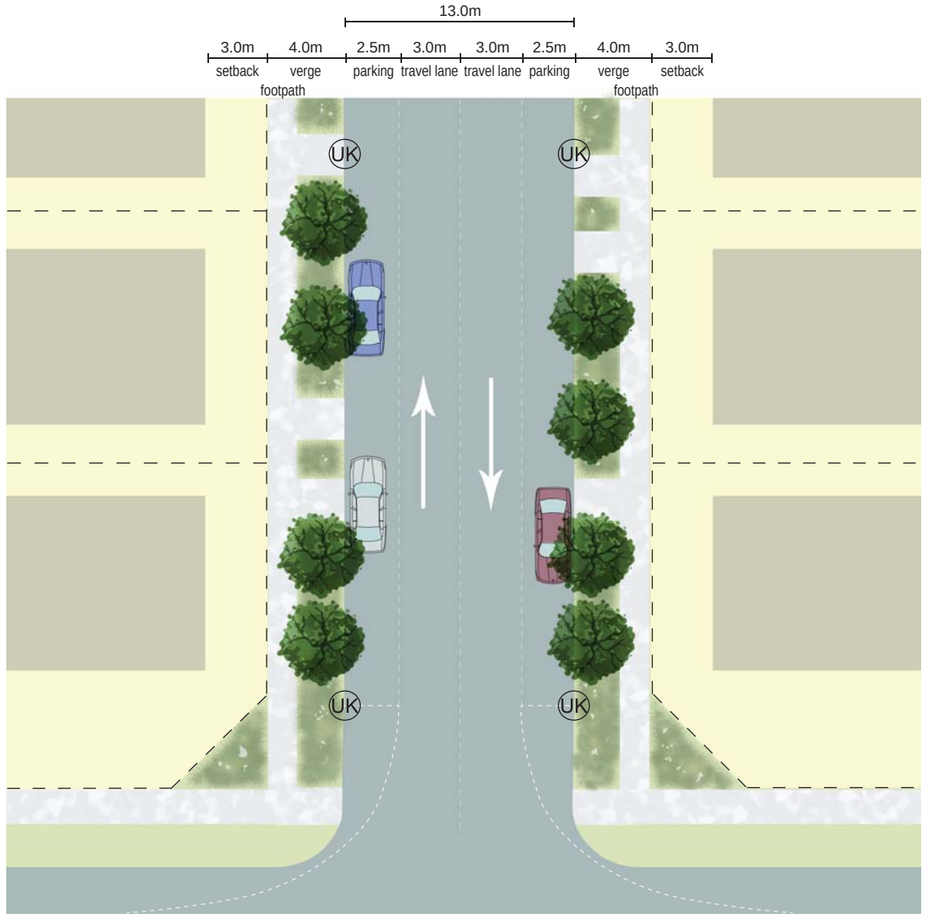
APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09		**R.C. -38**	**H**

CRIGHTON PROPERTIES



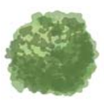






LINK ROAD COMMERCIAL	LINK ROAD COMMERCIAL
Type	Link Road Commercial
Traffic Lanes	2 Lanes @ 4.0m
Parking Lanes	2 Lanes @ 2.5m
Cycle Lanes	shared with vehicle lanes
Median	NA
Kerb Radius	3.0m
Kerb Type	Refer Schedule
Verge Width	4.0m
Footpath Width	4.0m
Landscape Type	Refer Schedule
Building Setback	0.0m

LANDSCAPE SCHEDULE

	Species	Mature size
	Cupaniopsis anacardiodes (Tukeroo)	6h x 4w
	Waterhousia floridunda (Weeping Lilly Pilly)	8h x 5w
	*Cupaniopsis anacardiodes* (Tukeroo)	8h x 5w
	Lophostemon confertus (Brush Box)	15h x 12w
	Dianella 'Breeze' (Blue Flax Lilly)	
	Grevillea x gaudichaudi (Grevillea)	
UK	Upright kerb	

LINK ROAD #1	LINK ROAD #1
Type	Link Road
Traffic Lanes	2 Lanes @ 3.0m
Parking Lanes	2 Lanes @ 2.5m
Cycle Lanes	shared within vehicle lanes
Median	NA
Kerb Radius	3.0m
Kerb Type	Refer Schedule
Verge Width	4.0m
Footpath Width	1.5m
Landscape Type	Refer Schedule
Building Setback	3.0m

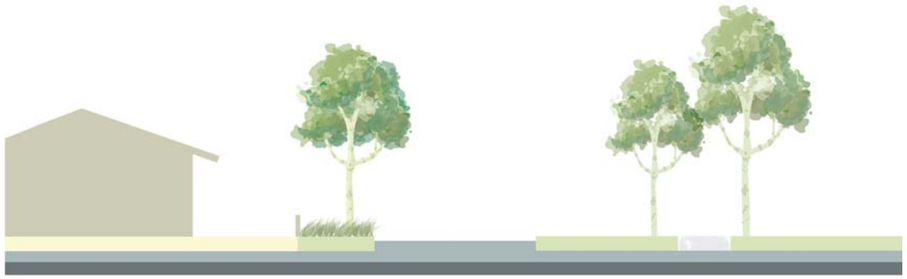
Riverside
Tea Gardens Australia

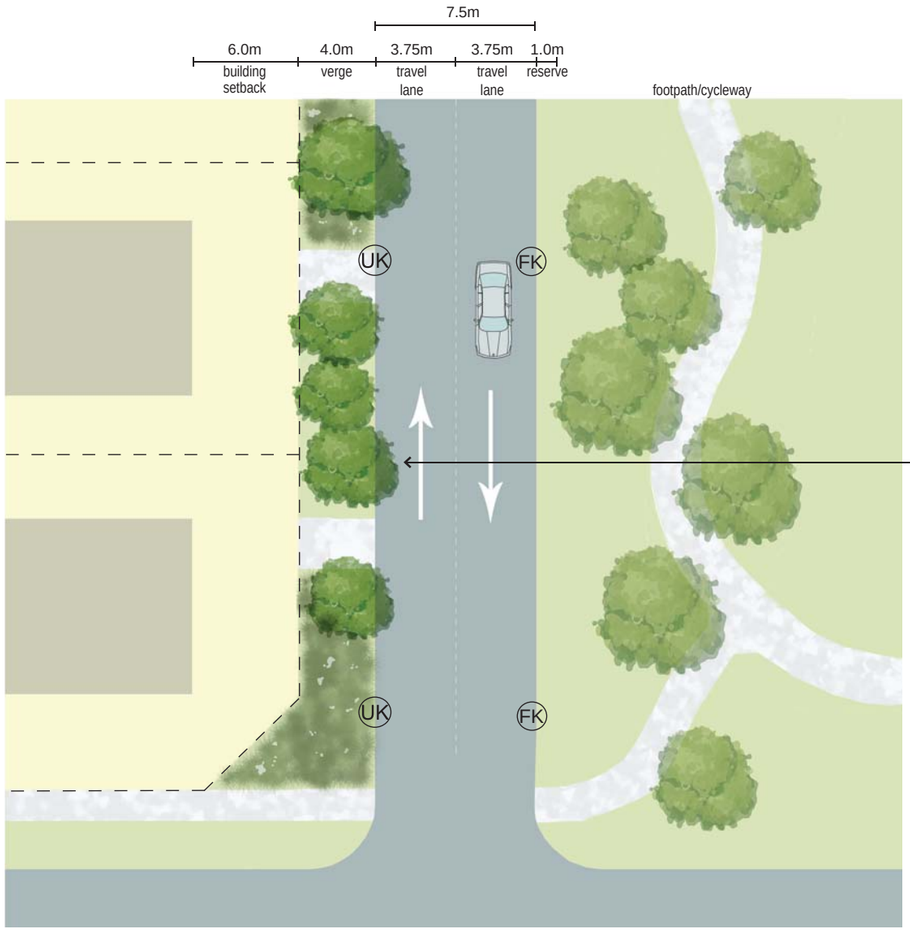
DRAWING TITLE
STREET TYPES -
LINK ROAD COMMERCIAL, LINK ROAD #1

APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09		**R.C. -39**	**H**

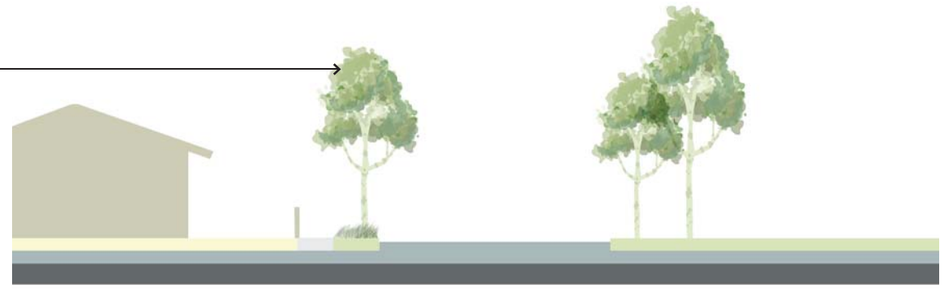
CRIGHTON PROPERTIES



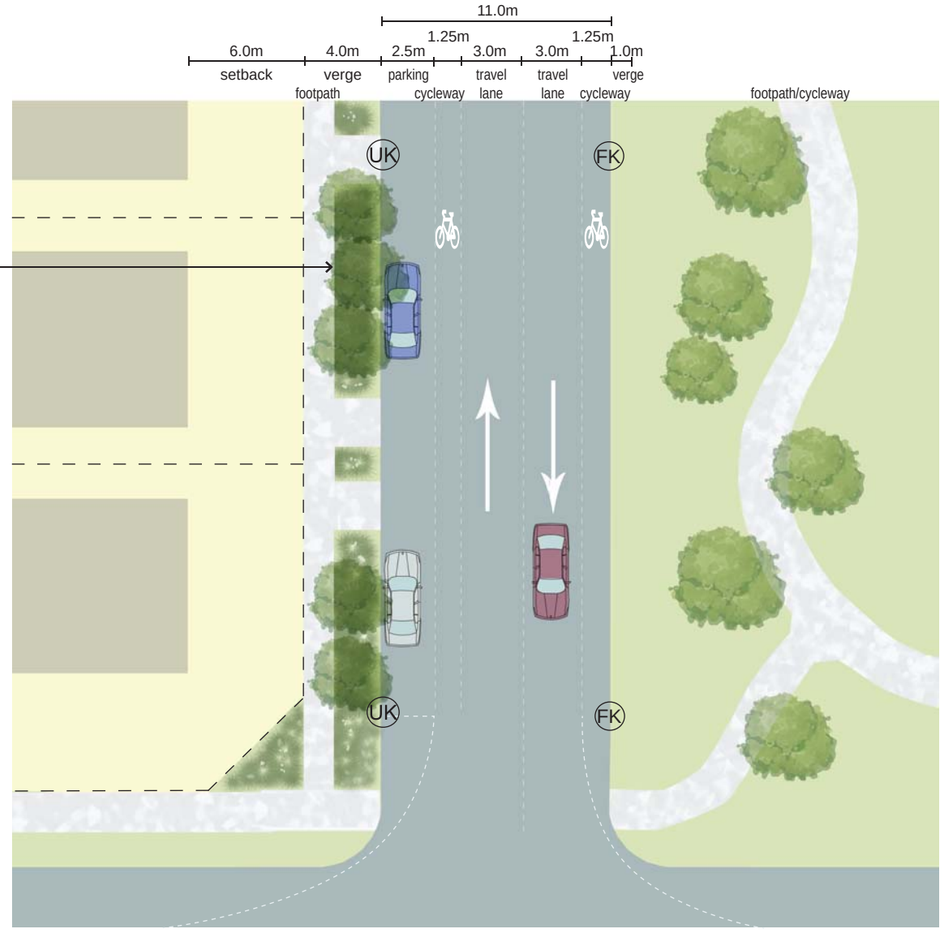


Informal native tree planting as an extension to the adjoining open space

Tall native Eucalypts to compliment open space areas



Streets adjoining open space may be considered an extension of the parkland to reflect the informal tree planting pattern



LANDSCAPE SCHEDULE		
	Species	**Mature size**
	Eucalyptus robusta (Swamp Mahogany)	15h x 8w
	Corymbia macula (Spotted Gum)	15h x 8w
	Melaleuca quinquenervia (Broad Leafed Paperbark)	8h x 5w
	Lophostemon confertus (Brush Box)	15h x 12w
	Dianella 'Breeze' (Blue Flax Lilly)	
	Grevillea x gaudichaudi (Grevillea)	
UK	Upright kerb	
FK	Flush kerb	

STREET #2	STREET #2
Type	Street #2
Traffic Lanes	2 Lanes @ 3.75m
Parking Lanes	
Cycle Lanes	Shared Within Vehicle Lanes / Off road
Median	NA
Kerb Radius	3.0m
Kerb Type	Refer Schedule
Verge Width	4.0m
Footpath/Cycleway Width	2.5m
Landscape Type	Refer Schedule
Building Setback	6.0m

LINK ROAD #2	LINK ROAD #2
Type	Link Road #2
Traffic Lanes	2 Lanes @ 3.0m
Parking Lanes	2 Lanes @ 2.5m
Cycle Lanes	1.25 shared within vehicle lanes / Off road
Kerb Radius	3.0m
Kerb Type	Refer Schedule
Verge Width	4.0m
Footpath Width	1.5m
Footpath/Cycleway Width	2.5m
Landscape Type	Refer Schedule
Building Setback	3.0m

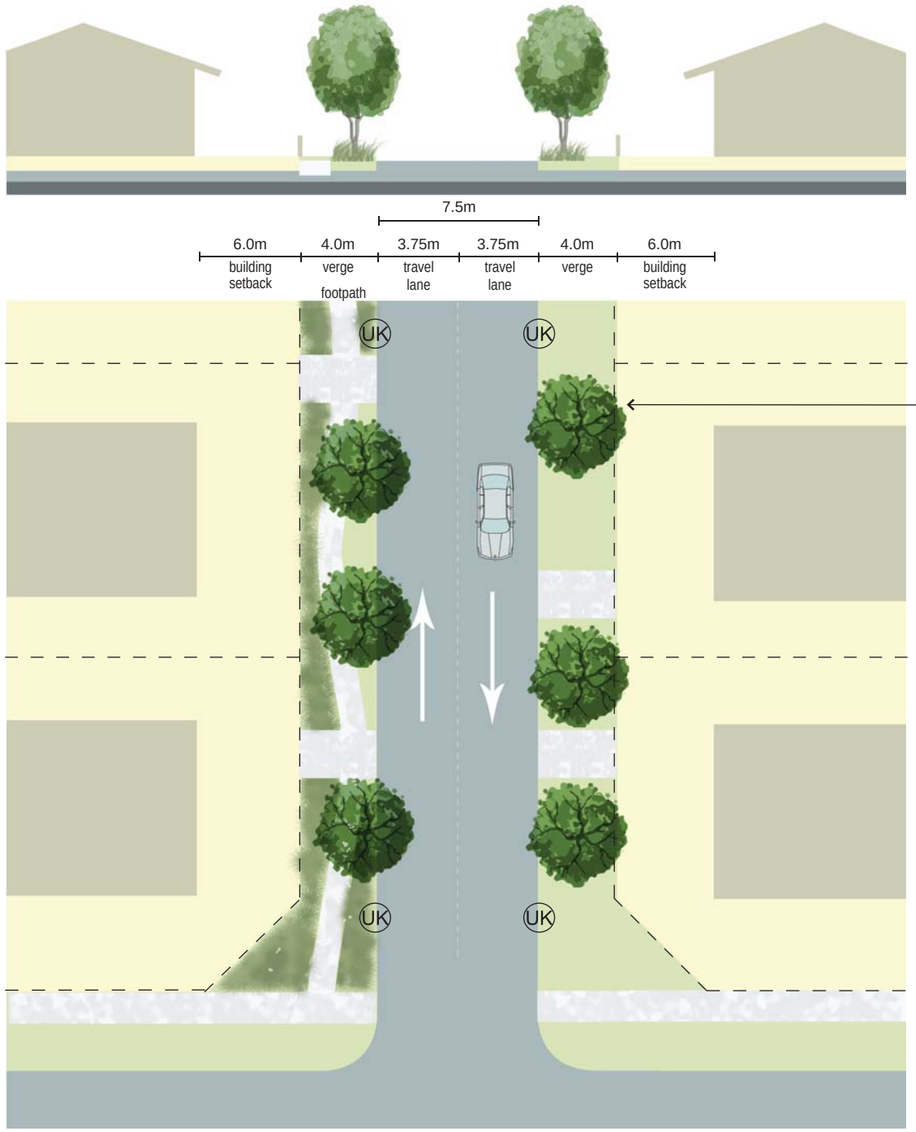
Riverside
Tea Gardens Australia

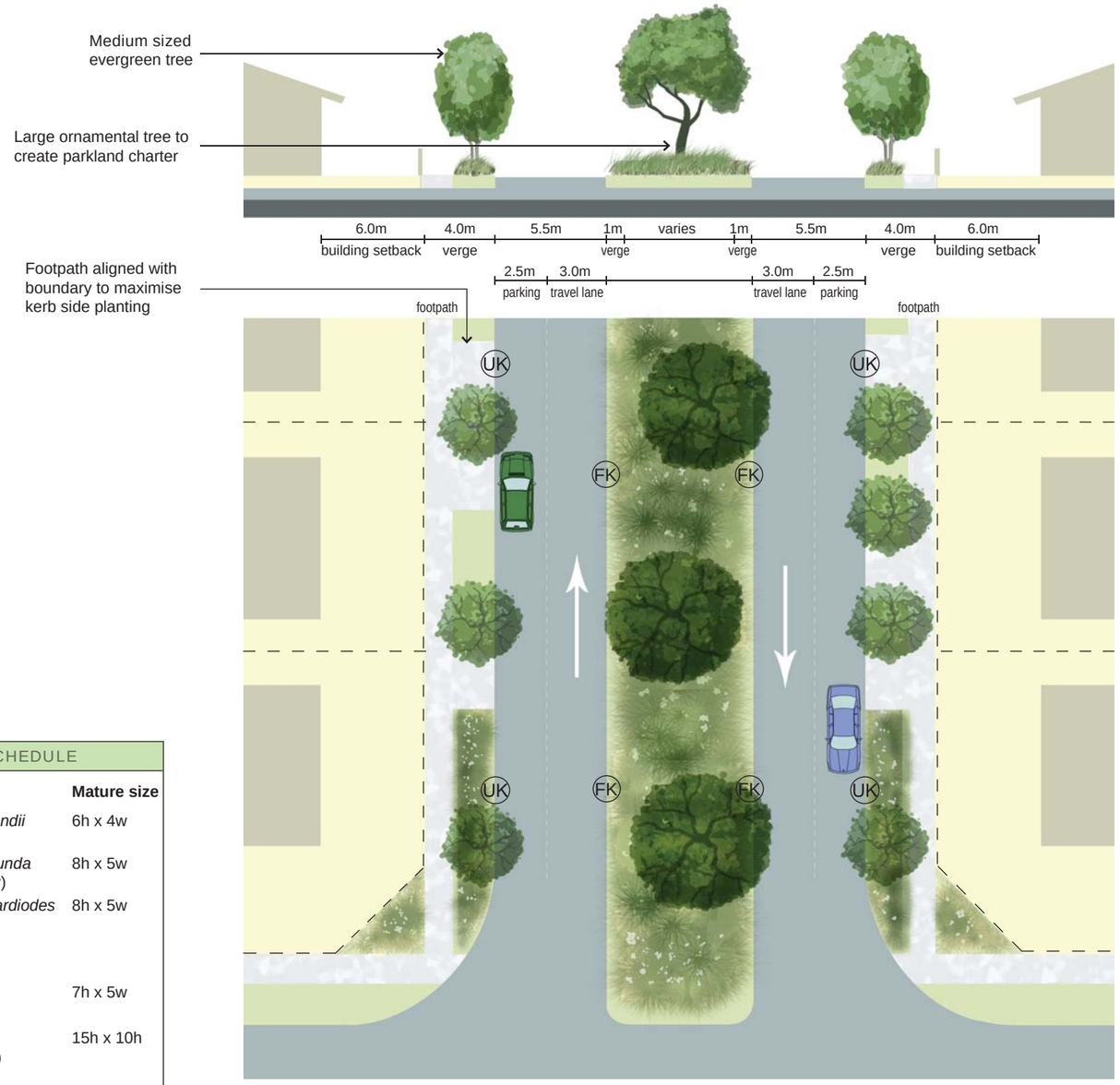
DRAWING TITLE
STREET #2, LINK ROAD #2

APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09		**R.C. -40**	**H**

CRIGHTON PROPERTIES





STREET #1	STREET #1
Type	Street
Traffic Lanes	2 Lanes @ 3.75m
Parking Lanes	
Cycle Lanes	Shared Within Vehicle Lanes
Median	NA
Kerb Radius	3.0m
Kerb Type	Refer Schedule
Verge Width	4.0m
Footpath Width	1.5m
Landscape Type	Refer Schedule
Building Setback	6.0m

LANDSCAPE SCHEDULE

Species	Mature size
Elaeocarpus eumundii (Quandong)	6h x 4w
Waterhousia floridunda (Weeping Lilly Pilly)	8h x 5w
Cupaniopsis anacardiodes (Tuckeroo)	8h x 5w
Bauhinia pupurea (Orchid Tree)	7h x 5w
Ficus microcarpa (Hills Weeping Fig)	15h x 10h
Dianella 'Breeze' (Blue Flax Lilly) *Grevillea x gaudichaudi* (Grevillea)	
UK	Upright Kerb
FK	Flush Kerb

ONE WAY	ONE WAY
Type	One Way
Traffic Lanes	2 Lanes @ 3.0m
Parking Lanes	2 Lanes @ 2.5m
Cycle Lanes	shared with vehicle lanes
Median	NA
Kerb Radius	8.0m
Kerb Type	Refer Schedule
Verge Width	4.0m
Footpath Width	1.5m
Landscape Type	Refer Schedule
Building Setback	6.0m

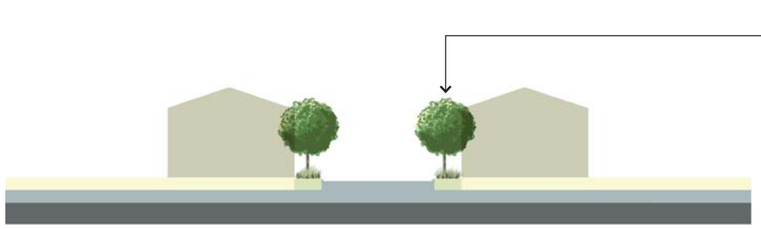
Riverside
Tea Gardens Australia

DRAWING TITLE
STREET #1, ONE WAY

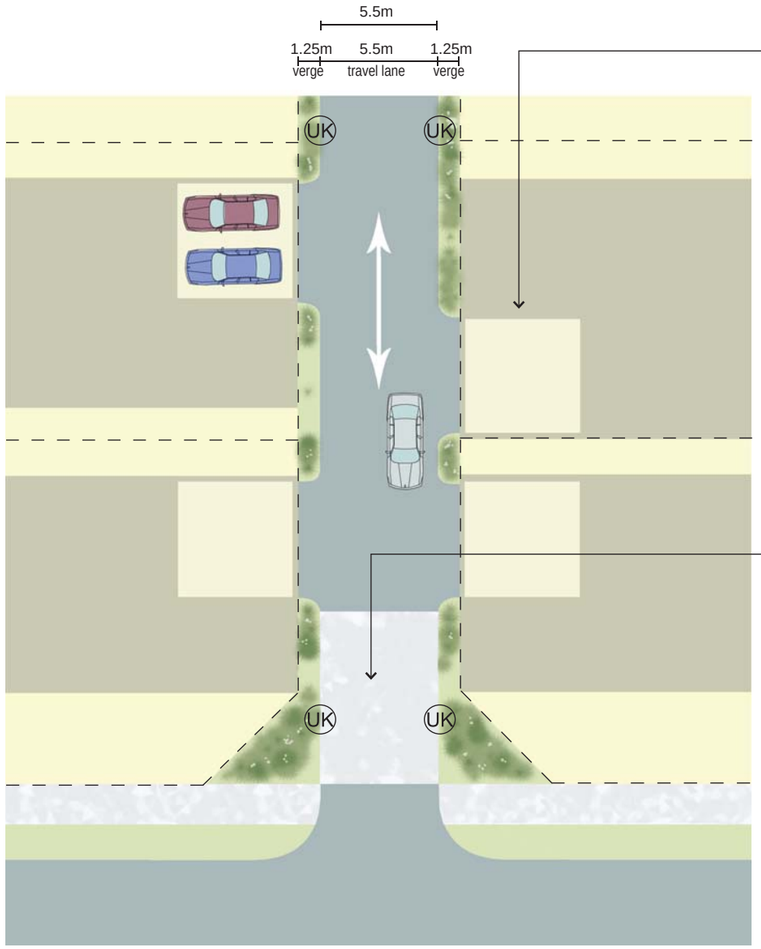
APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09		**R.C. -41**	**H**

CRIGHTON PROPERTIES



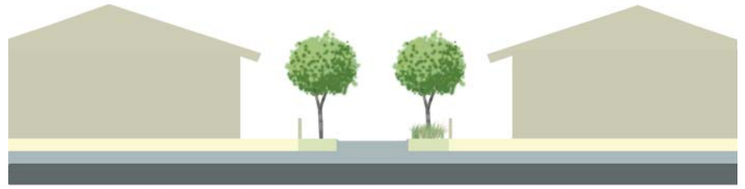
Small deciduous trees for use in predominantly east/west orientated roads to maximise sunlight to rear yards

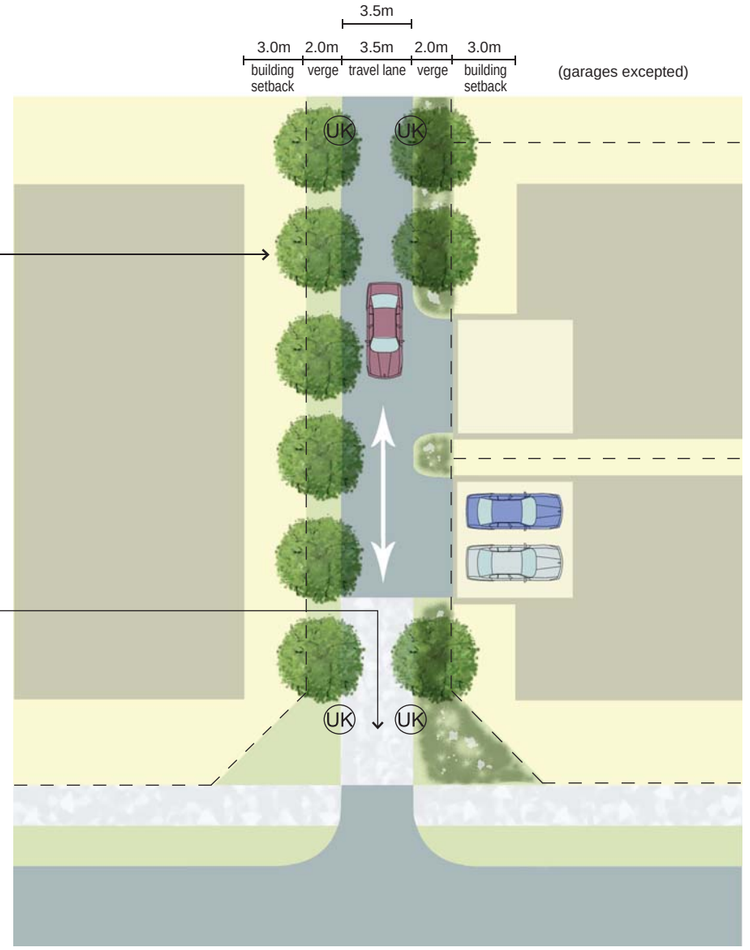


Trees to be kept 3m from garages

Threshold treatments may be considered to identify a change in road conditions

LANEWAY	LANEWAY
Type	Laneway
Traffic Lanes	1 Lanes @ 5.5m
Parking Lanes	NA
Cycle Lanes	NA
Median	NA
Kerb Radius	4.5m
Kerb Type	
Verge Width	
Footpath Width	0m
Landscape Type	Refer Schedule
Building Setback	0m





Small evergreen trees to provide shade and soften visual impact of garages

Threshold treatments may be considered to identify a change in road conditions

ACCESSWAY	ACCESSWAY
Type	Accessway
Traffic Lanes	1 Lanes @ 3.5m
Parking Lanes	NA
Cycle Lanes	NA
Median	NA
Kerb Radius	4.5m
Kerb Type	
Verge Width	2.0m
Footpath Width	0m
Landscape Type	Refer Schedule
Building Setback	0m Garages, 3.0m Dwellings

LANDSCAPE SCHEDULE

Species	Mature size
Elaeocarpus eumundii (Quandong)	6h x 4w
Lagerstroemia indica (Crepe Myrtle)	6h x 5w
Pyrus calleryana (Flowering Pear)	10h x 6w
Sapium sebiferum (Chinese Tallowood)	8h x 6w
Dianella 'Breeze' (Blue Flax Lilly)	
Grevillea x gaudichaudi (Grevillea)	
UK	Upright Kerb

Riverside
Tea Gardens Australia

DRAWING TITLE
STREET TYPES -
LANEWAY, ACCESSWAY

APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09		**R.C. -42**	**H**

CRIGHTON PROPERTIES

MULTIPLE DWELLING
Alternative #1

MULTIPLE DWELLING
Alternative #2

LANDSCAPE SCHEDULE

	Species	Mature size
	Cupaniopsis anacardiodes (Tuckeroo)	8h x 5w
	Elaeocarpus eumundii (Quandong)	6h x 4w
	Lophostemon conferus (Brush Box)	15h x 12w
	Corymbia macula (Spotted Gum)	15h x 8w
	Dianella 'Breeze' (Blue Flax Lilly)	
	Grevillea x gaudichaudi (Grevillea)	

LEGEND

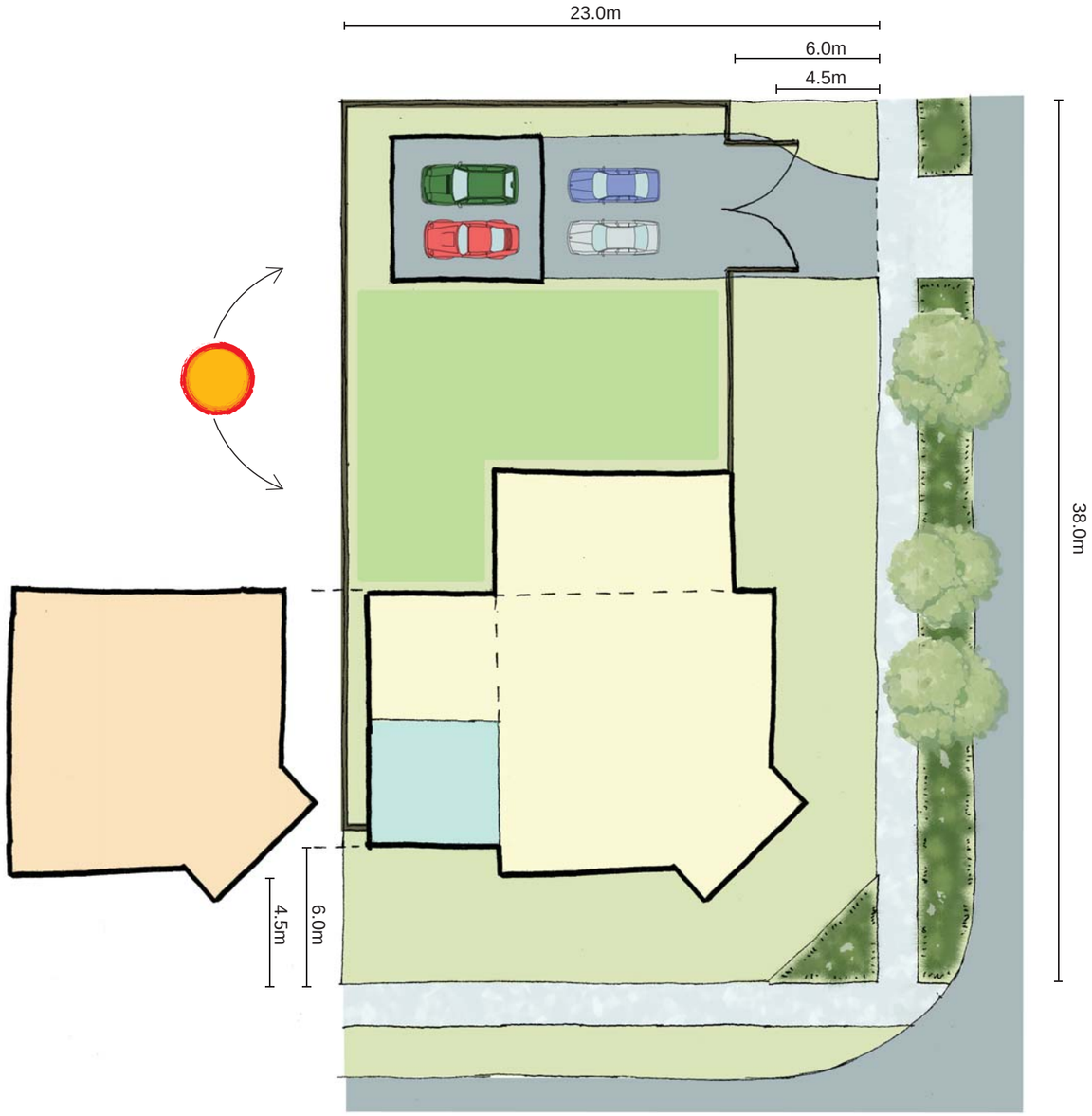
- Possible Home Office
- Vehicle Storage
- Primary House Footprint
- Secondary House Footprint (Large House)
- Primary Private Open Space

Riverside
Tea Gardens Australia

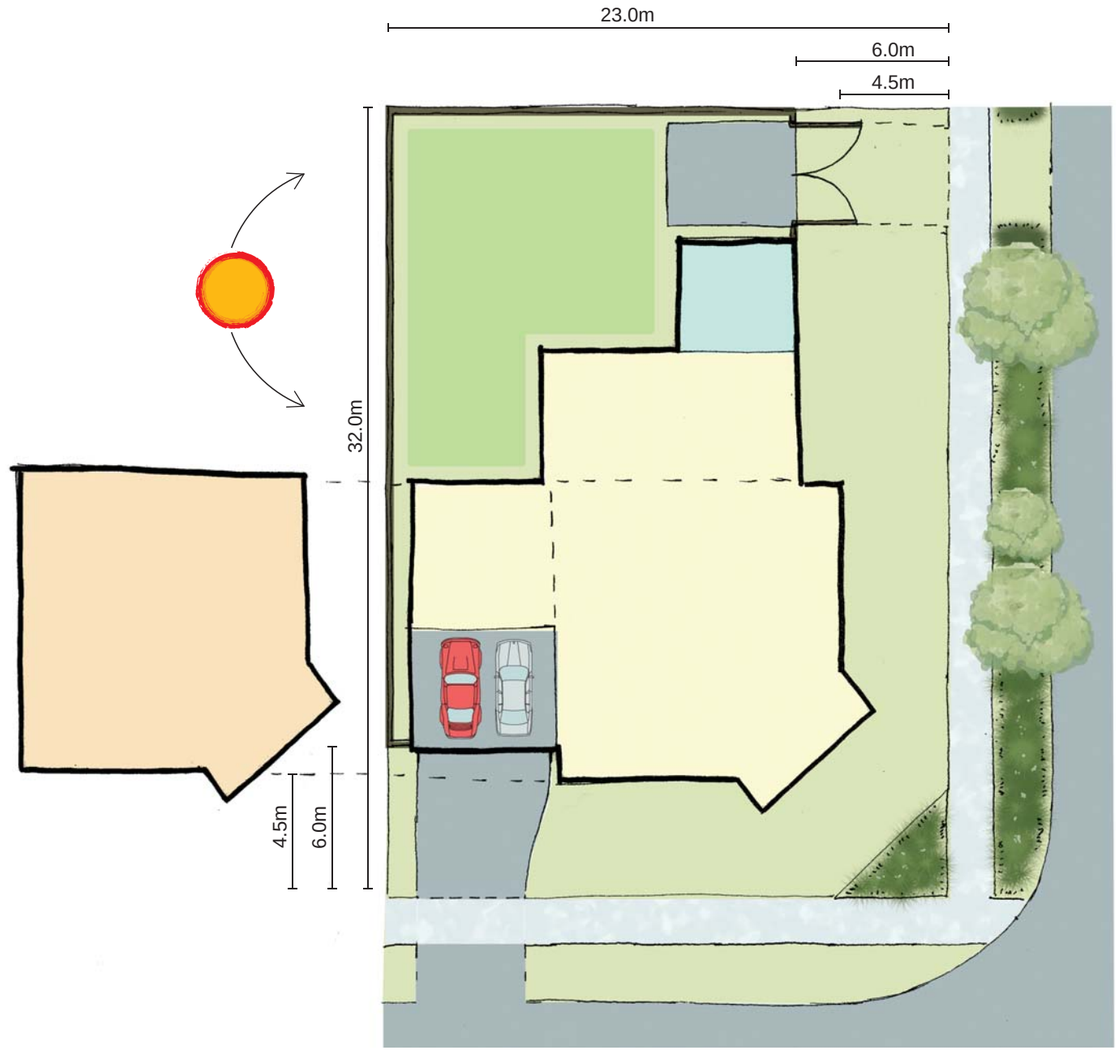
DRAWING TITLE
LOT & HOUSE TYPES -
MULTIPLE DWELLING (ALTERNATIVE #1 & #2)

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:250 @ A1	R.C. -43	H

CRIGHTON PROPERTIES



CORNER LOT
Alternative #1



CORNER LOT
Alternative #2

LANDSCAPE SCHEDULE

	Species	Mature size
	Lophostemon conferus (Brush Box)	6h x 5w
	Corymbia macula (Spotted Gum)	10h X 6w
	Melalueca quinqenervia (Broad Leafed Paperbark)	8h x 5w
	Dianella 'Breeze' (Blue Flax Lilly)	
	Grevillea x gaudichaudi (Grevillea)	

LEGEND

- Possible Home Office
- Vehicle Storage
- Primary House Footprint
- Secondary House Footprint (Large House)
- Primary Private Open Space

Riverside
Tea Gardens Australia

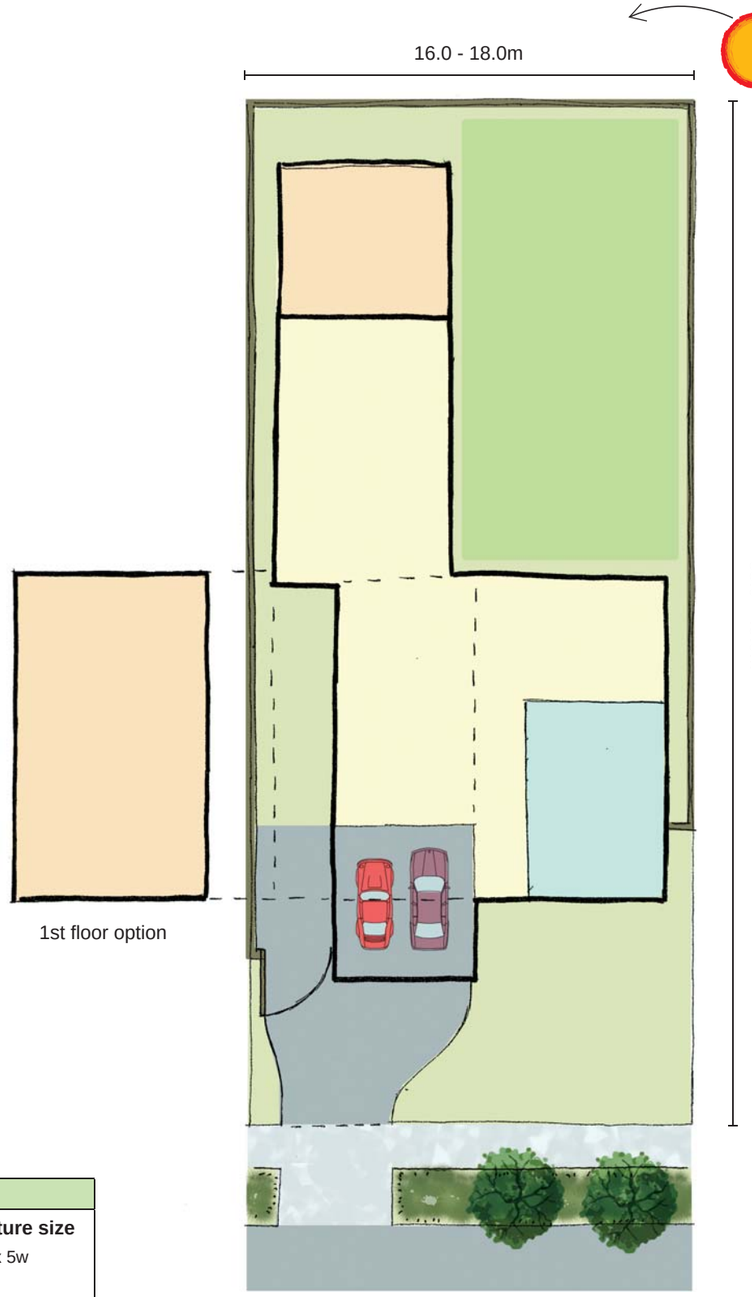
DRAWING TITLE
LOT & HOUSE -
CORNER LOTS (ALTERNATIVE #1 & #2)

APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09	**1:250 @ A1**	**R.C. -44**	**H**

CRIGHTON PROPERTIES

650m - 800m LOT
Alternative #1



1st floor option

650m - 800m LOT
Alternative #2

LANDSCAPE SCHEDULE		
	Species	**Mature size**
	Waterhousia floridunda (Weeping Lilly Pilly)	8h x 5w
	Elaeocarpus eumundii (Quandong)	6h x 4w
	Cupaniopsis anacardiodes (Tuckeroo)	8h x 5w
	Dianella 'Breeze' (Blue Flax Lilly)	
	Grevillea x gaudichaudi (Grevillea)	

LEGEND

- Possible Home Office
- Vehicle Storage
- Primary House Footprint
- Secondary House Footprint (Large House)
- Primary Private Open Space

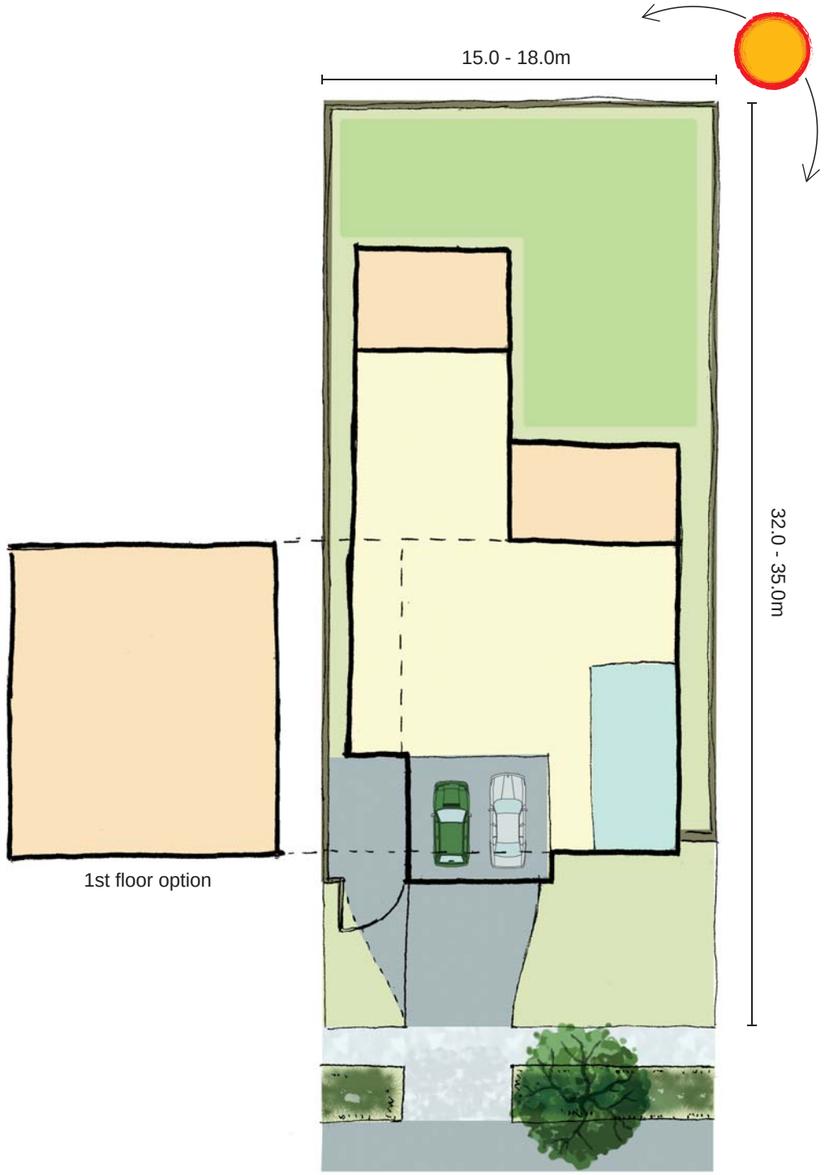
Riverside
Tea Gardens Australia

DRAWING TITLE
LOT & HOUSE TYPES -
650m2 - 800m2 (ALTERNATIVE #1 & #2)

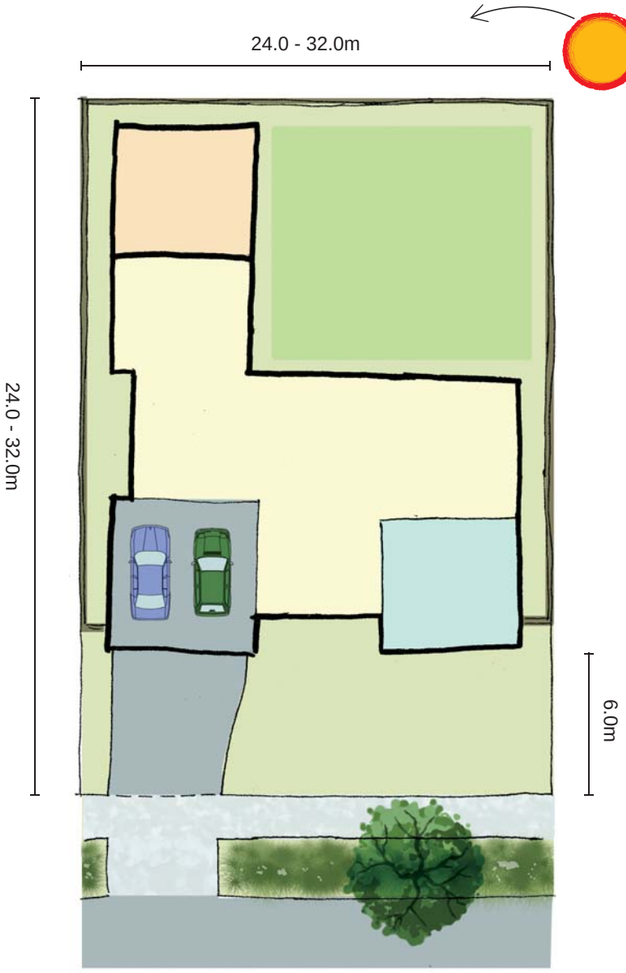
APPLICATION
Part 3a Submission to N.S.W. D.O.P.

DATE	SCALE	DRAWING No.	REVISION
January 09	**1:250 @ A1**	**R.C. -45**	**H**

CRIGHTON PROPERTIES



550 - 650m LOT



450m - 550m LOT
Alternative #1

LANDSCAPE SCHEDULE		
	Species	**Mature size**
	Elaeocarpus eumundii (Quandong)	6h x 4w
	Cupaniopsis anacardiodes (Tuckeroo)	8h x 5w
	Dianella 'Breeze' (Blue Flax Lilly)	
	Grevillea x gaudichaudi (Grevillea)	

LEGEND

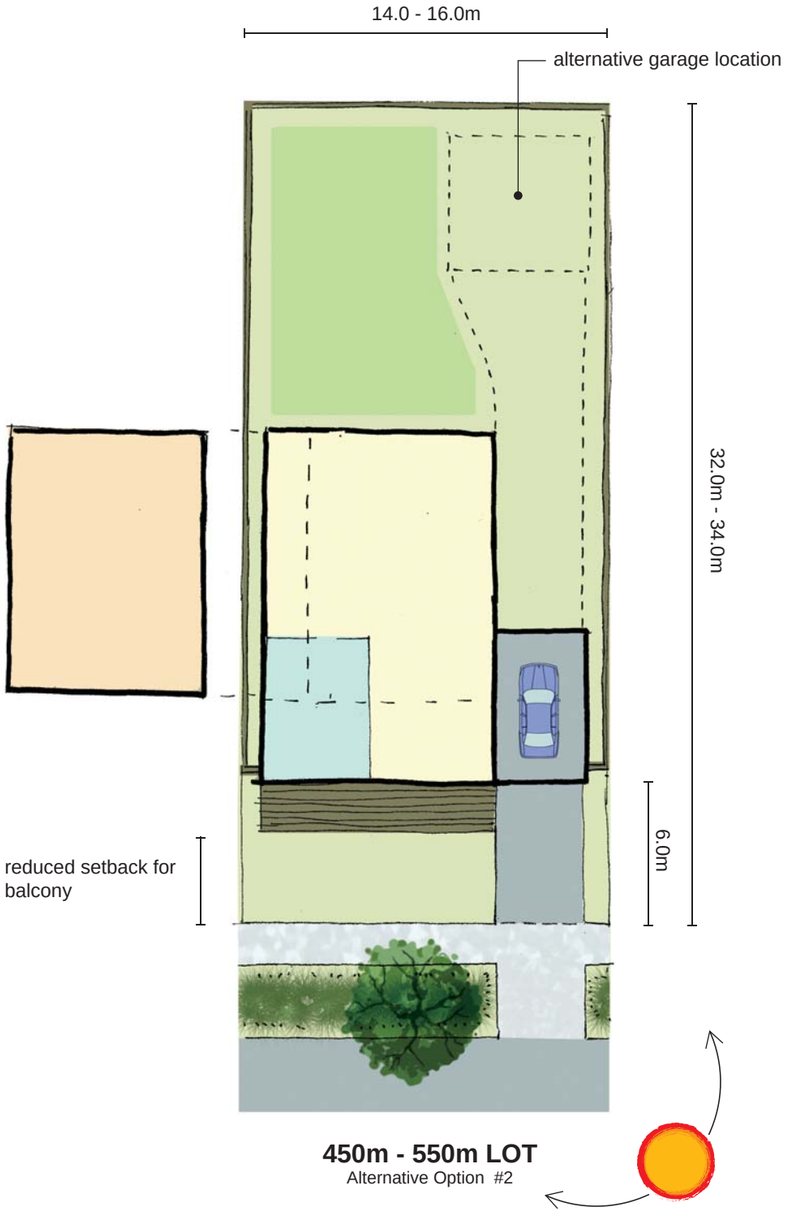
- Possible Home Office
- Vehicle Storage
- Primary House Footprint
- Secondary House Footprint (Large House)
- Primary Private Open Space

Riverside
Tea Gardens Australia

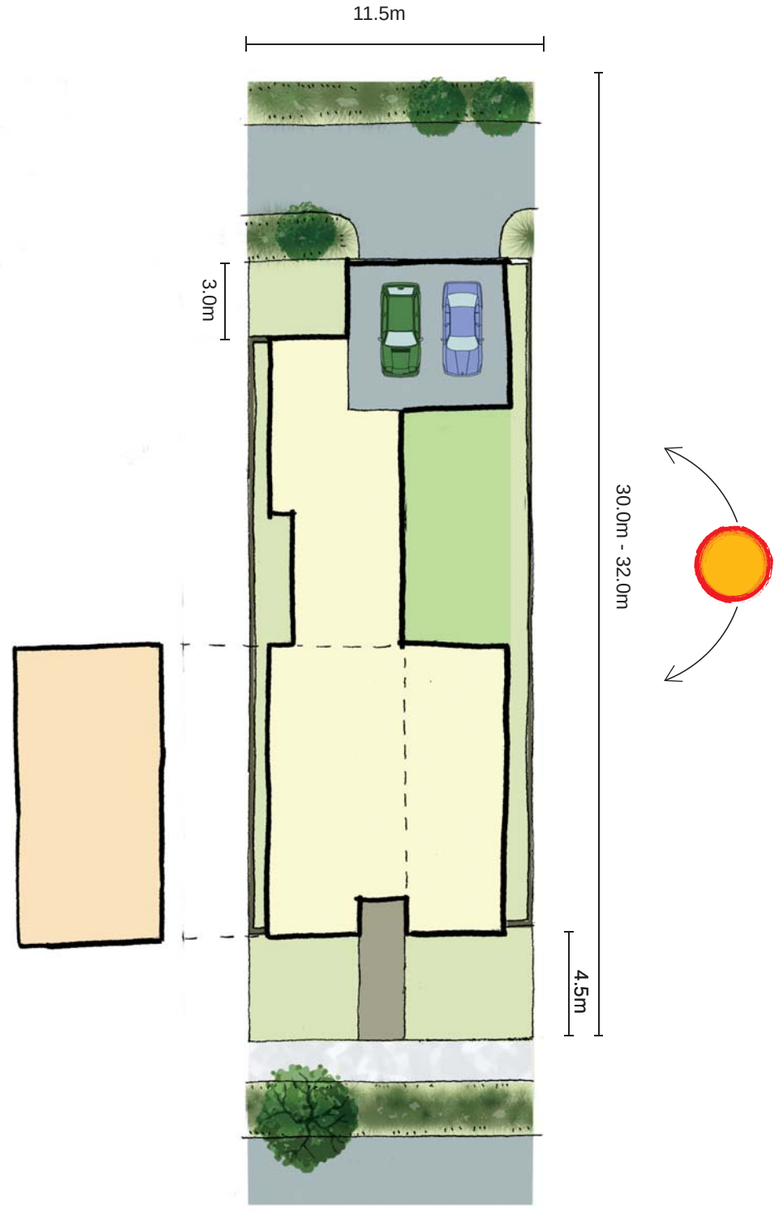
DRAWING TITLE
LOT & HOUSE TYPES -
550m2 - 650m2, 450m2 - 550m2 (ALTERNATIVE #1)

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	**1:250 @ A1**	**R.C. -46**	**H**

CRIGHTON PROPERTIES



450m - 550m LOT
Alternative Option #2



ACCESSWAY LOT
no office in this scheme

LANDSCAPE SCHEDULE

Species	Mature size
Elaeocarpus eumundii (Quandong)	6h x 4w
Waterhousia floridunda (Weeping Lilly Pilly)	8h x 5w
Lagerstroemia indica (Crepe Myrtle)	10h x 6w
Pyrus calleryana (Flowering Pear)	10h x 6w
Sapium sebiferum (Chinese Tallowood)	8h x 6w
Dianella 'Breeze' (Blue Flax Lilly)	
Grevillea x gaudichaudi (Grevillea)	

LEGEND

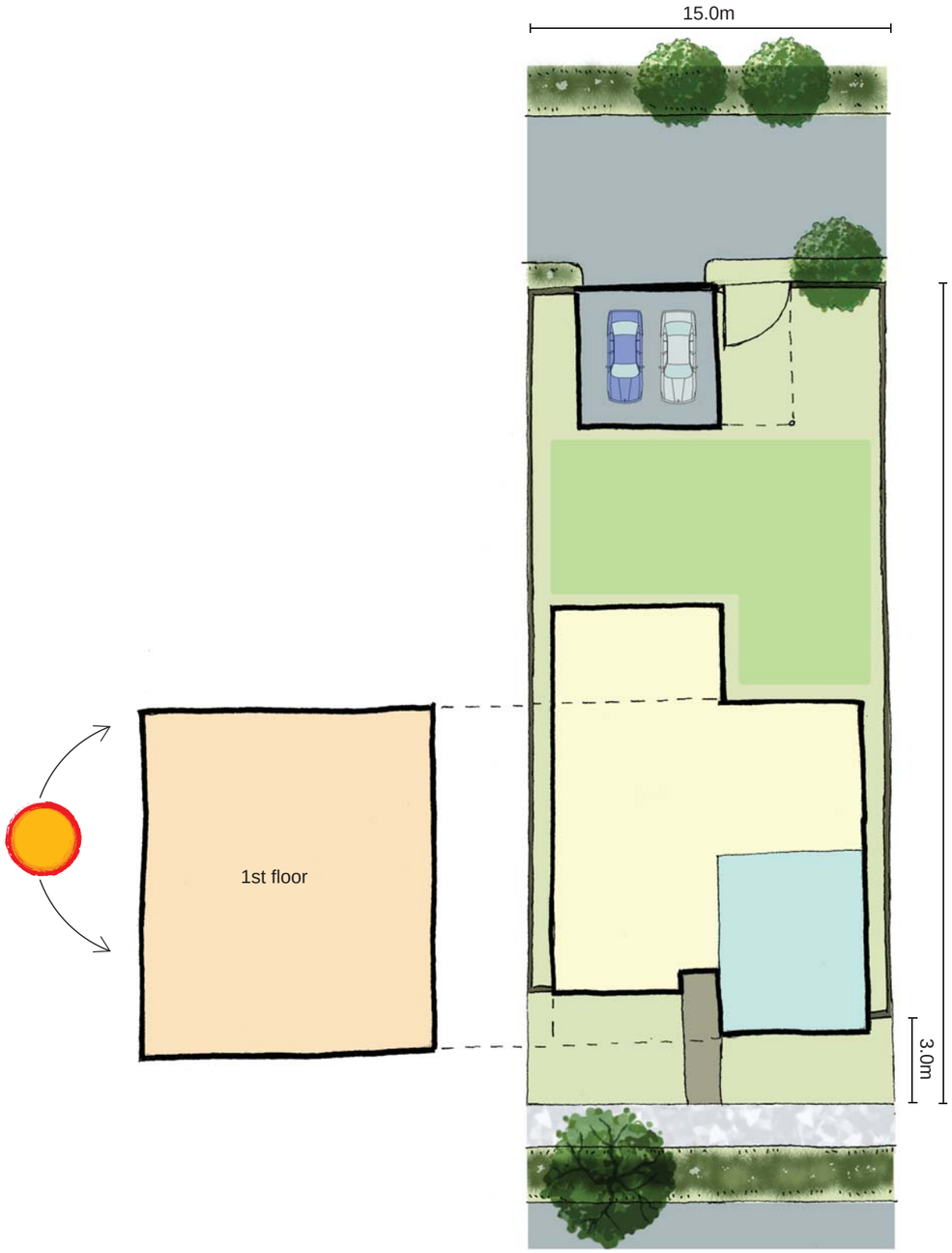
- Possible Home Office
- Vehicle Storage
- Primary House Footprint
- Secondary House Footprint (Large House)
- Primary Private Open Space

Riverside
Tea Gardens Australia

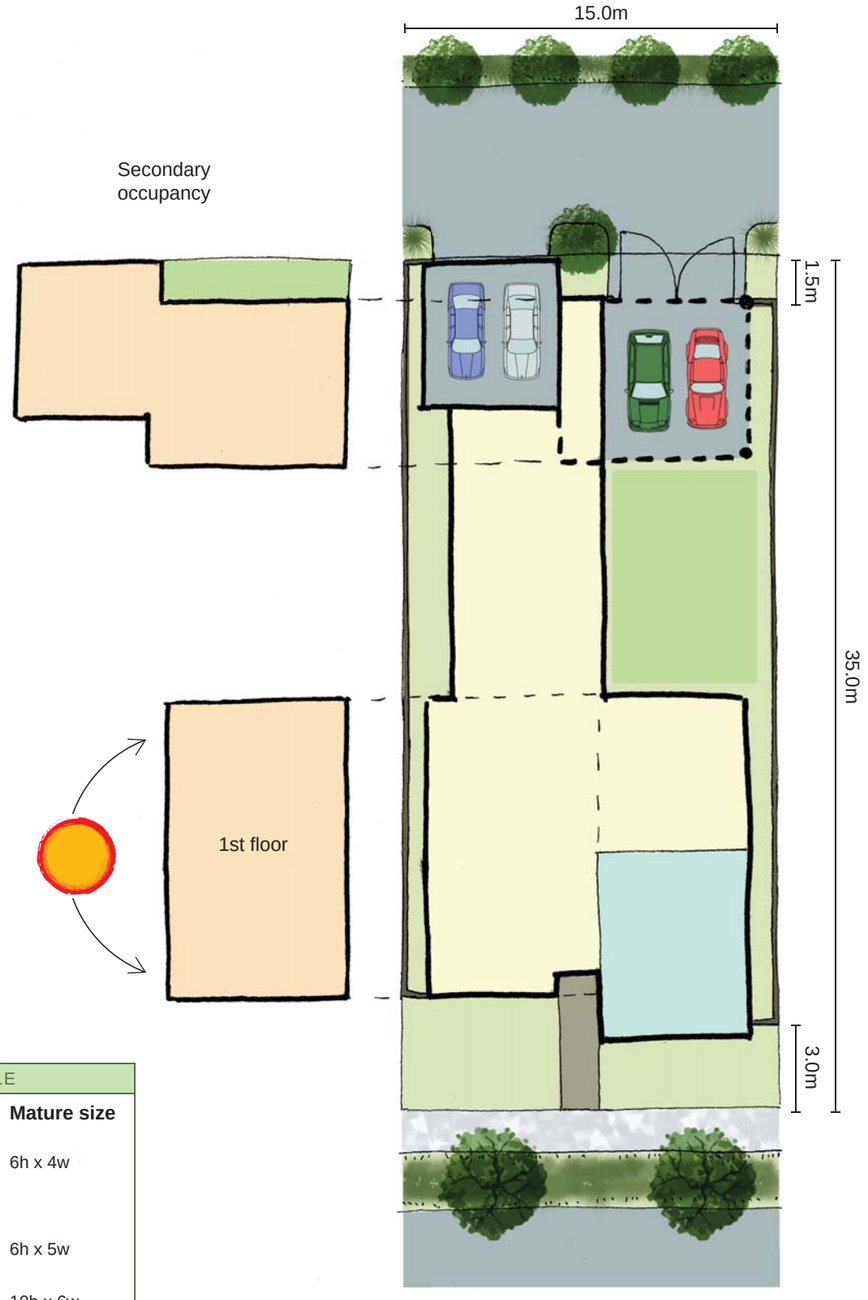
DRAWING TITLE
LOT & HOUSE TYPES -
450m² - 550m² (ALTERNATIVE #2) ACCESSWAY

APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:250 @ A1	R.C. -47	H

CRIGHTON PROPERTIES



LANEWAY 8.0m LOT
Alternative #1



LANEWAY 8.0m LOT
Alternative #2

LANDSCAPE SCHEDULE

Species	Mature size
Cupaniopsis anacardiodes (Tuckeroo)	6h x 4w
Lagerstroemia indica (Crepe Myrtle)	6h x 5w
Pyrus calleryana (Flowering Pear)	10h x 6w
Sapium sebiferum (Chinese Tallowood)	8h x 6w
Dianella 'Breeze' (Blue Flax Lilly)	
Grevillea x gaudichaudi (Grevillea)	

LEGEND

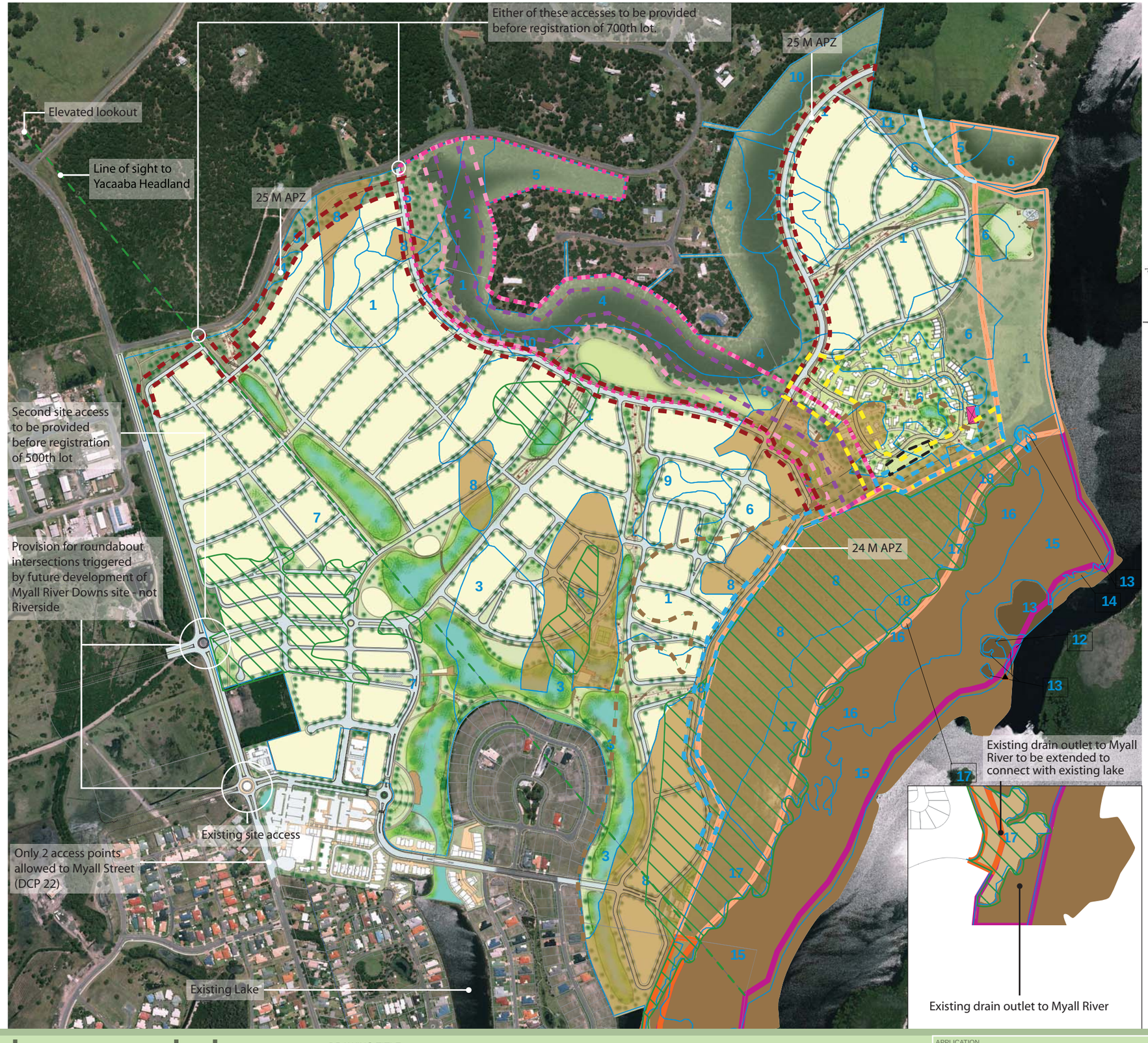
- Possible Home Office
- Vehicle Storage
- Primary House Footprint
- Secondary House Footprint (Large House)
- Primary Private Open Space

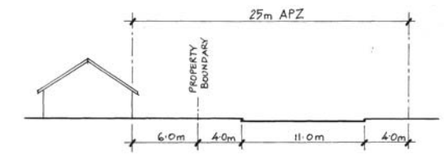
Riverside
Tea Gardens Australia

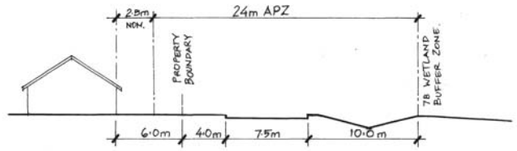
DRAWING TITLE
LOT & HOUSE TYPES -
LANEWAY 8.0m (ALTERNATIVE #1 & #2)

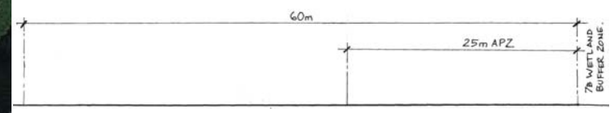
APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	**1:250 @ A1**	**R.C. -48**	**H**

CRIGHTON PROPERTIES









- 7A LANDS
- 7B LANDS
- DCP BUFFER
- 2.1 M AHD CONTOUR
- 24 M APZ
- 25 M APZ
- 60 M SPECIAL FIRE PROTECTION PURPOSE (RELEVANT TO TOURIST ACCOMMODATION)
- WILDLIFE MOVEMENT CORRIDOR 50 M CORE (DCP 22)
- WILDLIFE MOVEMENT CORRIDOR - BUFFER EDGE 25 M *LIMITED WORKS ALLOWED* (DCP 22)
- PROPOSED ACTUAL GREEN BUFFER
- DESIGNATED WATER COURSE
- LOCATION OF KNOWN MIDDEN
- COASTAL SALTMARSH (EEC)
- SWAMP OAK FLOODPLAIN FOREST (EEC)
- SWAMP SCLEROPHYLL FOREST ON COASTAL FLOOD PLAIN (EEC)
- WALLUM FROGLET HABITAT
- EXISTING RESIDENCE

VEGETATION COMMUNITIES AND FLORA SURVEY LOCATIONS

1	Pasture with Scattered Trees	7	Woodland (Eucalyptus resinifera)	13	Casuarina forest (Casuarina glauca)
2	Acacia / Melealuca Regrowth Scrub	8	Woodland / Open Forest (Eucalyptus robusta)	14	Mangroves (Avicennia marina)
3	Open Forest (Corymbia gummifera)	9	Woodland (Eucalyptus signata)	15	Saltmarsh (Juncus kraussii)
4	Open Forest (Corymbia maculata, Eucalyptus paniculata)	10	Woodland/Open Forest (Eucalyptus umbra)	16	Rushland (Baumea juncea)
5	Open Forest (Eucalyptus microcorys)	11	Pine Forest (Pinus eliotii)	17	Scrub (Melealuca ericifolia)
6	Open Forest (Eucalyptus pilularis)	12	Disturbed Estuarine Vegetation	18	Paperbark Forest (Melaleuca quinquenervia)

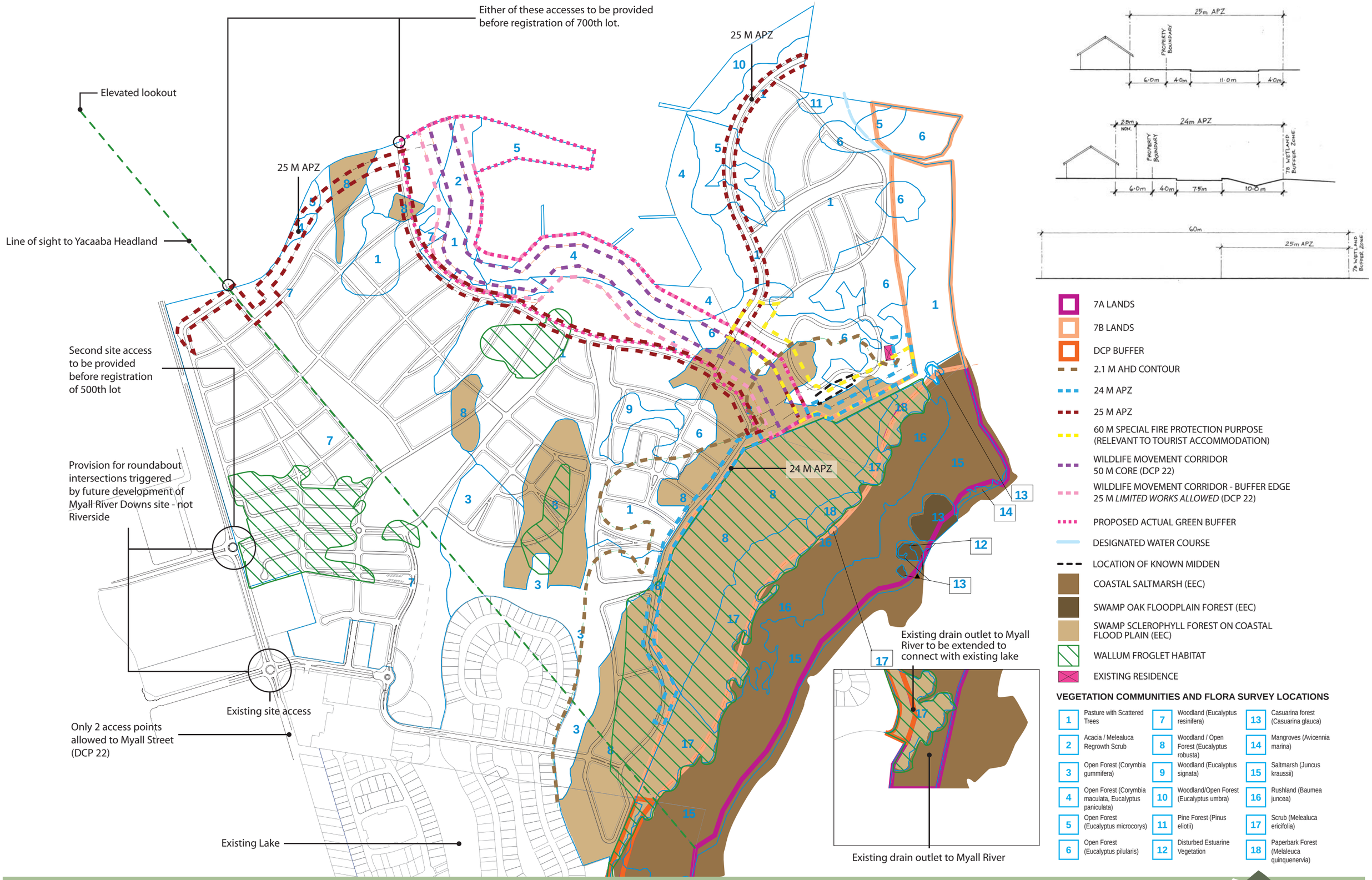
Riverside
Tea Gardens Australia

DRAWING TITLE
CONSTRAINTS PLAN - OVER AERIAL PHOTO

APPLICATION: **Part 3a Submission to N.S.W. D.O.P.**

DATE	SCALE	DRAWING No.	REVISION
January 09	1:4000 @ A1	R.C. -49	H

CRIGHTON PROPERTIES



7A LANDS

7B LANDS

DCP BUFFER

2.1 M AHD CONTOUR

24 M APZ

25 M APZ

60 M SPECIAL FIRE PROTECTION PURPOSE (RELEVANT TO TOURIST ACCOMMODATION)

WILDLIFE MOVEMENT CORRIDOR 50 M CORE (DCP 22)

WILDLIFE MOVEMENT CORRIDOR - BUFFER EDGE 25 M *LIMITED WORKS ALLOWED* (DCP 22)

PROPOSED ACTUAL GREEN BUFFER

DESIGNATED WATER COURSE

LOCATION OF KNOWN MIDDEN

COASTAL SALTMARSH (EEC)

SWAMP OAK FLOODPLAIN FOREST (EEC)

SWAMP SCLEROPHYLL FOREST ON COASTAL FLOOD PLAIN (EEC)

WALLUM FROGLET HABITAT

EXISTING RESIDENCE

VEGETATION COMMUNITIES AND FLORA SURVEY LOCATIONS

1	Pasture with Scattered Trees	7	Woodland (Eucalyptus resinifera)	13	Casuarina forest (Casuarina glauca)
2	Acacia / Melealuca Regrowth Scrub	8	Woodland / Open Forest (Eucalyptus robusta)	14	Mangroves (Avicennia marina)
3	Open Forest (Corymbia gummifera)	9	Woodland (Eucalyptus signata)	15	Saltmarsh (Juncus kraussii)
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6	Open Forest (Eucalyptus pilularis)	12	Disturbed Estuarine Vegetation	18	Paperbark Forest (Melaleuca quinquenervia)

Riverside
Tea Gardens Australia

DRAWING TITLE
CONSTRAINTS PLAN

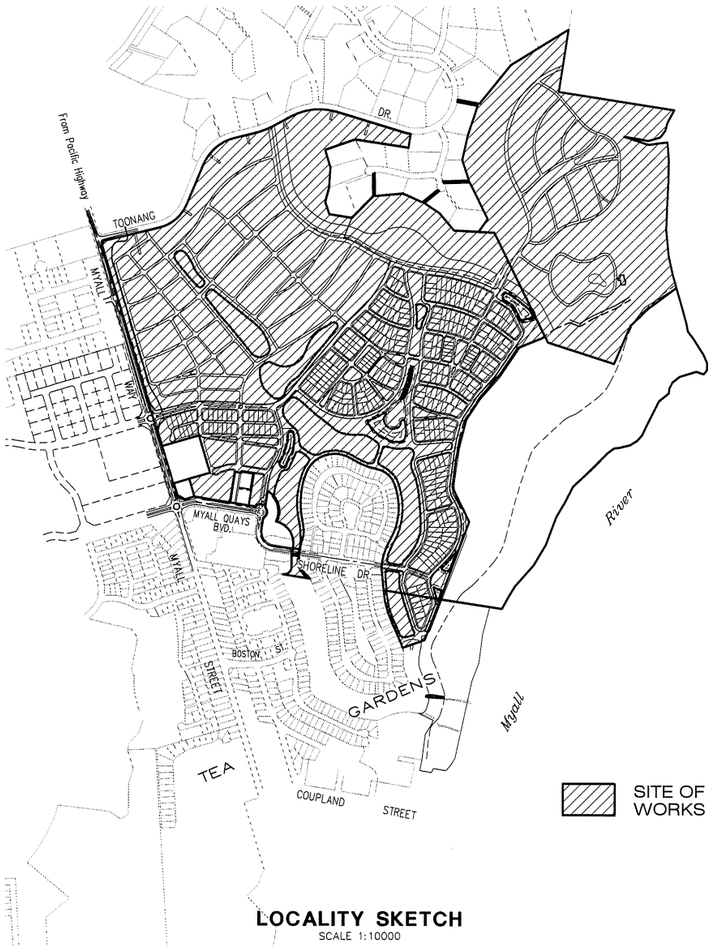
APPLICATION			
Part 3a Submission to N.S.W. D.O.P.			
DATE	SCALE	DRAWING No.	REVISION
January 09	1:4000 @ A1	R.C. -50	H

CRIGHTON PROPERTIES

Volume 2: Riverside Estate Concept and Project Plan (Engineering Drawings)

RIVERSIDE ESTATE

PROJECT APPLICATION & CONCEPT PLAN



LOCALITY SKETCH
SCALE 1:10000

Schedule of Drawings

Sheet	File Number	Description	Revision
1	20700139	COVER SHEET, LOCALITY SKETCH & INDEX	F
2	20700154	VOLUNTARY PLANNING AGREEMENT SHEET 1	B
3	20700151	VOLUNTARY PLANNING AGREEMENT SHEET 2	A
4	20700141	GENERAL LAYOUT PLAN, GENERAL NOTES & LEGEND	F
5	20700142	PLAN SHEET - ROADS, LOTS & DRAINAGE BRANCHES	F
6	20700143	PLAN SHEET - ROADS, LOTS & DRAINAGE BRANCHES	D
7	20700144	PLAN SHEET - ROADS, LOTS & DRAINAGE BRANCHES	D
8	20700145	PLAN SHEET - ROADS, LOTS & DRAINAGE BRANCHES	D
9	20700148	PLAN SHEET - ROADS, LOTS & DRAINAGE BRANCHES	D
10	20700146	ROAD TYPICAL CROSS SECTIONS	C
11	20700155	BULK EARTHWORKS PLAN	E
12	20700116	ROAD LONGITUDINAL SECTIONS - ROAD NO. 4, 11 & 12	E
13	20700117	ROAD LONGITUDINAL SECTIONS - ROAD NO. 13 & 14	E
14	20700118	ROAD LONGITUDINAL SECTIONS - ROAD NO. 15	C
15	20700119	ROAD LONGITUDINAL SECTIONS - ROAD NO. 16, 18 & 21	C
16	20700120	ROAD LONGITUDINAL SECTIONS - ROAD NO. 17 & 19	C
17	20700121	ROAD LONGITUDINAL SECTIONS - ROAD NO. 20, 22, 23, 24 & 25	C
18	20700122	ROAD LONGITUDINAL SECTIONS - ROAD NO. 26, 27, 28 & 31	C
19	20700123	ROAD LONGITUDINAL SECTIONS - ROAD NO. 29 & 30	C
20	20700124	ROAD LONGITUDINAL SECTIONS - ROAD NO. 32	C
21	20700125	ROAD LONGITUDINAL SECTIONS - ROAD NO. 33	C
22	20700126	ROAD LONGITUDINAL SECTIONS - ROAD NO. 34, 35, 36 & 37	C
23	20700127	ROAD LONGITUDINAL SECTIONS - ROAD NO. 38, 39, 40 & 41	C
24	20700128	ROAD LONGITUDINAL SECTIONS - ROAD NO. 42, 43 & 44	D
25	20700129	PROPOSED DRAINAGE BRANCH PROFILES - NORTH, EAST & WEST BRANCHES	C
26	20700130	PROPOSED DRAINAGE BRANCH PROFILES - EAST - WEST BRANCH	D
27	20700153	PROPOSED DRAINAGE BRANCH PROFILES & SECTIONS - N42 CATCHMENT BRANCH	C
28	20700136	PROPOSED DRAINAGE BRANCH SECTIONS - NORTH, EAST & WEST BRANCHES	B
29	20700137	PROPOSED DRAINAGE BRANCH SECTIONS - WEST & EAST-WEST BRANCHES	C
30	20700226	CATCHMENT AREA PLAN	E
31	20700227	CATCHMENT AREA PLAN	C
32	20700228	CATCHMENT AREA PLAN	C
33	20700195	PROPOSED DRAINAGE CALCULATION SHEETS	C
34	20700196	PROPOSED DRAINAGE CALCULATION SHEETS	B
35	20700197	PROPOSED DRAINAGE CALCULATION SHEETS	B
36	20700198	PROPOSED DRAINAGE CALCULATION SHEETS	B
37	20700199	PROPOSED DRAINAGE CALCULATION SHEETS	B
38	20700200	PROPOSED DRAINAGE CALCULATION SHEETS	B
39	20700201	PROPOSED DRAINAGE CALCULATION SHEETS	B
40	20700202	PROPOSED DRAINAGE CALCULATION SHEETS & LOW FLOW OUTLET STRUCTURE DETAILS	C

Schedule of Drawings

Sheet	File Number	Description	Revision
41	20700203	PROPOSED DRAINAGE LONGITUDINAL SECTIONS	D
42	20700204	PROPOSED DRAINAGE LONGITUDINAL SECTIONS	C
43	20700205	PROPOSED DRAINAGE LONGITUDINAL SECTIONS	C
44	20700206	PROPOSED DRAINAGE LONGITUDINAL SECTIONS	C
45	20700207	PROPOSED DRAINAGE LONGITUDINAL SECTIONS	C
46	20700208	PROPOSED DRAINAGE LONGITUDINAL SECTIONS	C
47	20700209	PROPOSED DRAINAGE LONGITUDINAL SECTIONS	C
48	20700210	PROPOSED DRAINAGE LONGITUDINAL SECTIONS	C
49	20700211	DRAINAGE BASIN DETAILS - SALINE LAKE EXTENTION	B
50	20700212	DRAINAGE BASIN DETAILS - FRESHWATER LAKE C	B
51	20700213	DRAINAGE BASIN DETAILS - FRESHWATER LAKE B	B
52	20700214	DRAINAGE BASIN DETAILS - FRESHWATER LAKE A	B
53	20700215	DRAINAGE BASIN DETAILS - PRE-TREATMENT BASIN EE5-6	B
54	20700216	DRAINAGE BASIN DETAILS - PRE-TREATMENT BASIN EE2	B
55	20700217	DRAINAGE BASIN DETAILS - PRE-TREATMENT BASIN EE2	B
56	20700218	DRAINAGE BASIN DETAILS - PRE-TREATMENT BASINS E2 & E4	B
57	20700219	DRAINAGE BASIN DETAILS - LEVEL SPREADER & PRE-TREATMENT BASINS E2 & E4	C
58	20700221	DRAINAGE BASIN DETAILS - PRE-TREATMENT BASIN N44	B
59	20700222	DRAINAGE BASIN DETAILS - FRESHWATER BASIN N10	B
60	20700223	DRAINAGE BASIN DETAILS - FRESHWATER BASIN W1 & N10U	B
61	20700224	DRAINAGE BASIN DETAILS - FRESHWATER BASIN EB	B
62	20700225	DRAINAGE BASIN DETAILS - LAKE SYSTEM CROSS SECTIONS	B
63	20700233	DRAINAGE BASIN DETAILS - LAKE SYSTEM CROSS SECTIONS	B
64	20700133	OVERALL SITE DETAIL PLAN	E
65	20800105	OVERALL SITE DETAIL PLAN SHEET 2	B
66	20800106	OVERALL DETAIL PLAN SHEET 3	B
67	20700134	CONSTRUCTION ACTIVITY STAGING PLAN & TRAFFIC CONTROL PLAN	D
68	20700135	BULK HAULAGE PLAN & WASTE MANAGEMENT FACILITIES	C
69	20700315	CUT-FILL PLAN	E
70	20700316	100 YEAR STORM INUNDATION PLAN	D
71	20800085	100 YEAR INUNDATION PLAN - LOW IMPACT GLOBAL WARMING	C
72	20800086	100 YEAR INUNDATION PLAN - MEDIUM IMPACT GLOBAL WARMING	C
73	20800084	100 YEAR INUNDATION PLAN - HIGH IMPACT GLOBAL WARMING	C
74	20800042	PLAN SHOWING DESIGN CONTOURS OVER ISLAND DEVELOPMENT	A
75	20700147	TYPICAL EROSION AND SEDIMENT CONTROL PLAN	F
76	20700138	SOIL & WATER MANAGEMENT NOTES	A
77	20800132	PROPOSED ADDITIONAL LAKE OUTLET DRAIN	C
78	20800355	SEDIMENT CONTROL PLAN FOR PROP. DRAIN EXTENSION	A
79-109		PLAN OF SUBDIVISION	

Designed By

PTY. LIMITED
TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS IN ENGINEERING, SURVEYING & PLANNING
DX 21403 RAYMOND TERRACE Phone (02) 4987 1500

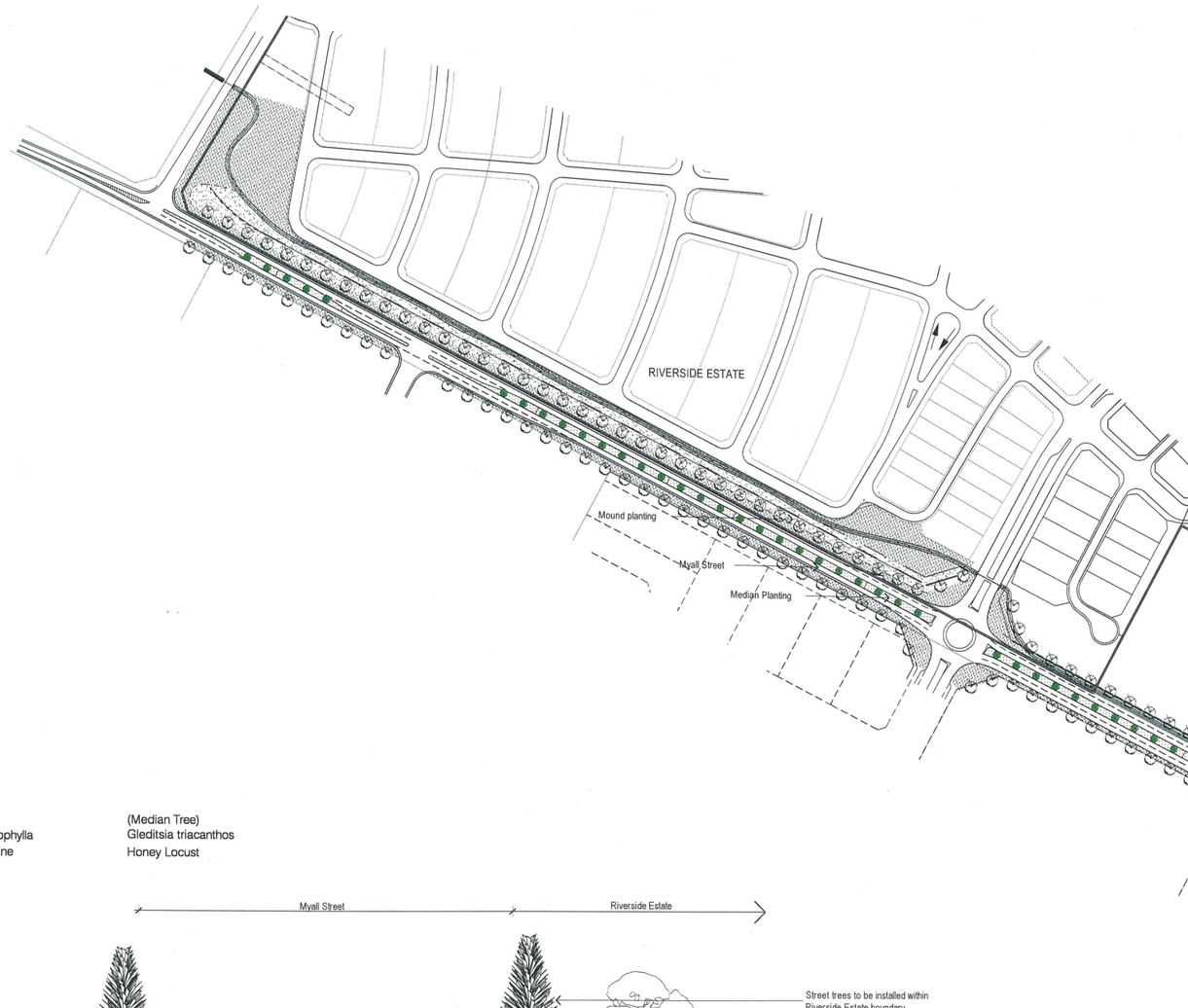
S:\projects\Myall Quays\dwg\STG9\amended_road_layout-2.dwg

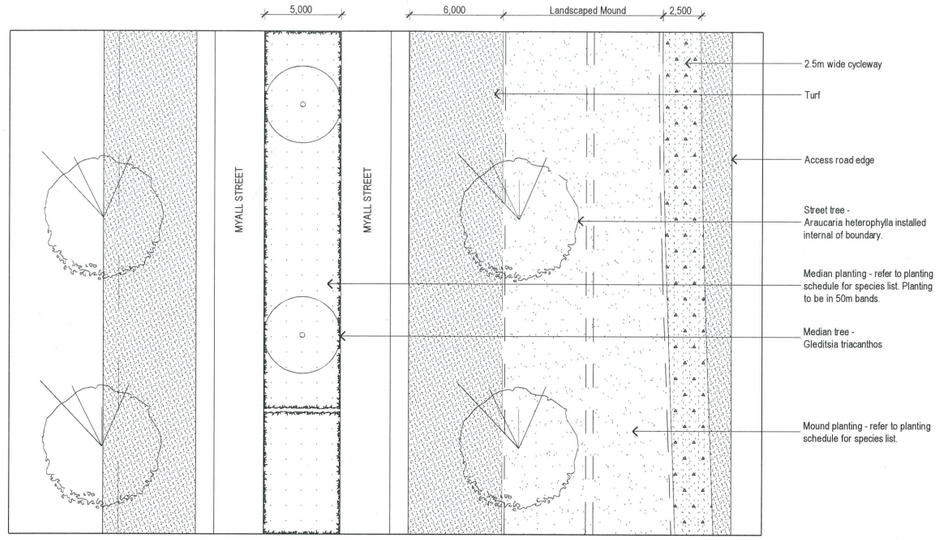
FILE : 20700139
JOB No. : 201479
SHEET No. :1 of 109
Plotted 10:18 28/01/09

VOLUNTARY PLANNING AGREEMENT

SHEET 1

DETAILS	NOMINAL LENGTH (m) OR UNIT	UNIT RATE COST	TOTAL COST	COMMENTS
Myall Street Dual Carriageway Upgrade with Planted Median between the two roundabouts north of Shopping Centre	300	$18,000.00	$5,400,000.00	Includes 2x roundabouts @ a nominal cost of $1.5M/structure
Myall Street Dual and Single Carriageway Upgrade with Planted Median between the northern roundabout and Toonang Drive	612	$5,800.00	$3,549,600.00	Dual lanes near roundabout transitioning to single lane
Lookout Development - Carpark	20	$4,500.00	$90,000.00	No formal Carpark available
Lookout Development - Observation Structure, furniture, improvements	1	$50,000.00	$50,000.00	Existing Site to be upgraded

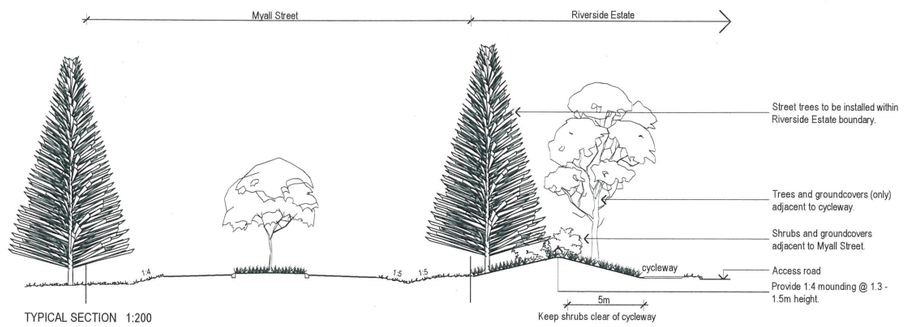




TYPICAL PLAN 1:200

(Verge Tree)
Araucaria heterophylla
Norfolk Island Pine

(Median Tree)
Gleditsia triacanthos
Honey Locust



TYPICAL SECTION 1:200

PLANTING SCHEDULE

KEY	SPECIES	SIZE	SPACING	QUANTITY
Street Tree				
	Araucaria heterophylla	400Lt	15m c/s	111
Median Planting				
	Gleditsia triacanthos	800Lt	15m c/s	44
	Dianella 'Little Jess'	150mm	6 /m ^{2}	7200
	Lomandra 'Seascape'	150mm	6 /m ^{2}	7200
	Pennisetum 'Nafray'	150mm	6 /m ^{2}	7200
Mound Planting				
	Dianella 'Little Jess'	tubestock	6 /m ^{2}	19290
	Lomandra 'Seascape'	tubestock	6 /m ^{2}	19290
	Banksia integrifolia	150mm	1m c/s	1500
	Banksia serrata	150mm	1m c/s	1500
	Doryanthes excelsa	5Lt	2.5m c/s	365
	Melaleuca nodosa	5Lt	1m c/s	1500
	Xanthorrhoea sp.	5Lt	2.5m c/s	365
	Melaleuca quinquenervia	25Lt	5m c/s	40
	Eucalyptus robusta	25Lt	5m c/s	40

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Revised Road Layout	GH	GH	A.V.	BL	17/9/08
A	Original Issue	GH	GH	AV*	BL*	06/08/08*

* Denote the original signature and date when revision was issued.

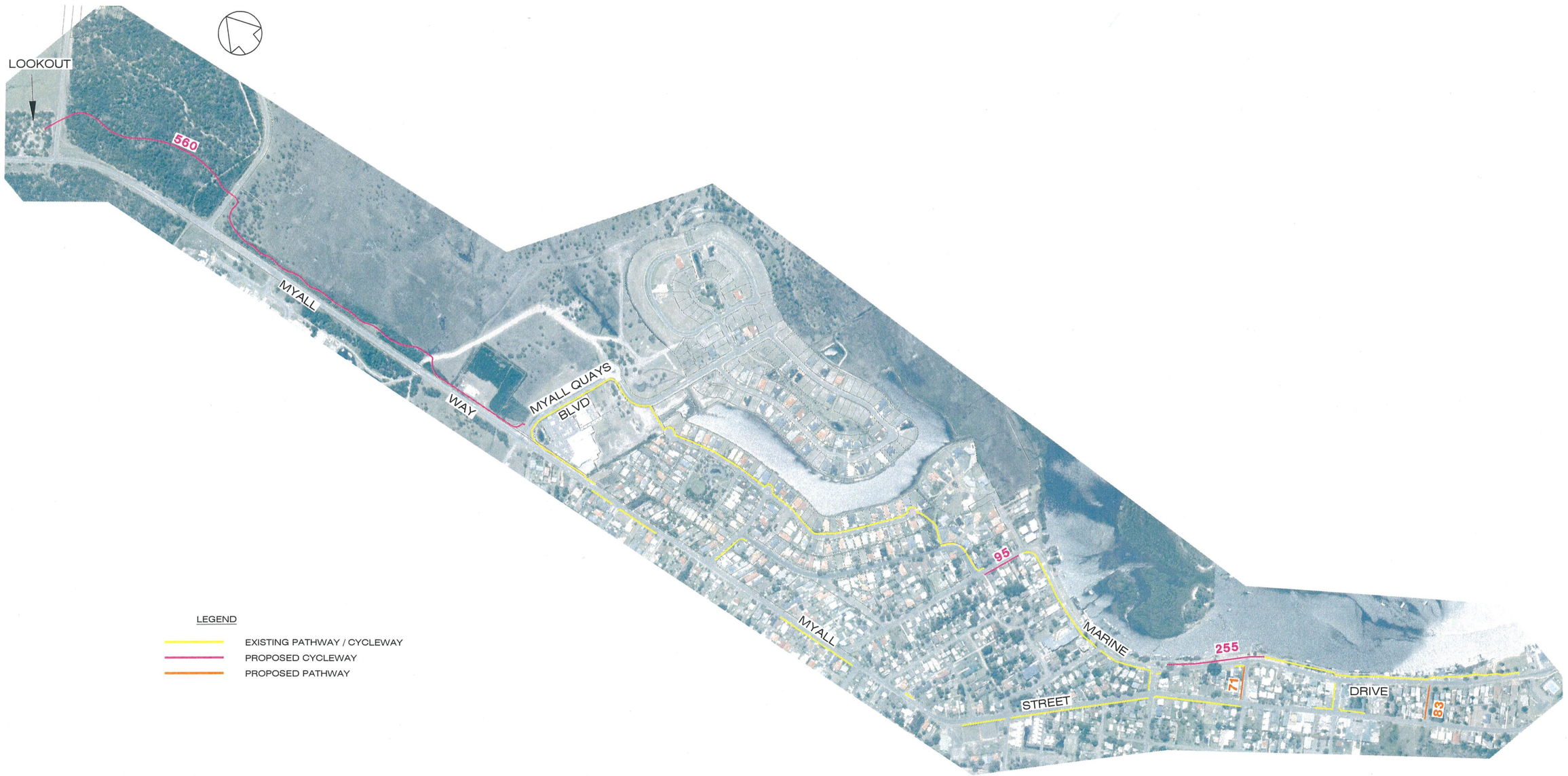
TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 1:2000 for A1 Size Plot (0 20 40m)
SHEET No. :2
JOB No. : 201479
FILE : 20700154
DATE : Plotted 11:00 17/09/08
SHEET SIZE : A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\amended_road_layout-2.dwg

Xref: 910370 - BDY (910370 - BDY.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: 920428 - Boundary Xref (920428 - Boundary Xref.dwg) Xref: Stg 9 (Stg 9.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: INDUSTRIAL AREA XREF (INDUSTRIAL AREA XREF.dwg)

VOLUNTARY PLANNING AGREEMENT

SHEET 2



LEGEND

- EXISTING PATHWAY / CYCLEWAY
- PROPOSED CYCLEWAY
- PROPOSED PATHWAY

DETAILS	NOMINAL LENGTH (m) OR UNIT	UNIT RATE COST	TOTAL COST	COMMENTS
Cycleways - Pedestrial Link to Tea Gardens Commercial Area via Foreshore	95 + 255	$250.00	$92,500.00	Two components with missing link on Foreshore needing to be relocated to the River side of Marine Drive to remove impact on Fig Trees near Police Station, generally free of service relocations
Pathways - Pedestrial Link to Tea Gardens Commercial Area via Myall Street	154	$250.00	$38,500.00	Additional pathway to the southern parts of the Commercial areas - from Myall Street to Marine Drive
Lookout Cycleway to Toonang Drive	560	$250.00	$140,000.00	General clearing with attractive route possible

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
A	Original Issue	GH	GH	A.V.	AV	6/8/08

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1:5000 on A1
SHEET No. :3
JOB No. : 201479
FILE : 20700151
DATE : Plotted 09:37 05/08/08
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Cycleways.dwg

Xref: 910370 - BDY (910370 - BDY.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg)

GENERAL NOTES

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE GREAT LAKES COUNCIL'S SPECIFICATIONS AND SUBDIVISION CODE.
2. ALL LEVELS SHALL BE TAKEN FROM AN ESTABLISHED BENCH MARK (A.H.D.) AND NOT FROM THE CENTRELINE PEGS.
3. POINTS OF CONFLICT BETWEEN NEW CONSTRUCTION AND EXISTING UTILITY SERVICE MAINS ARE TO BE IDENTIFIED, EXPOSED AND REPORTED TO THE SUPERINTENDANT PRIOR TO CONSTRUCTION.
4. SUB-SOIL DRAINAGE TO BE PROVIDED ON BOTH SIDE OF ALL ROADS EXCEPT WHERE IT COINCIDES WITH DRAINAGE LINES. FLUSHING POINTS SHALL BE INSTALLED BEHIND THE KERB AT MAX. SPACING OF 100m.
   - WHERE DRAINAGE LINES DO COINCIDE, A 3m LONG SUB-SOIL PIPE IS TO BE INSTALLED INTO PIT AS PER COUNCIL'S STANDARD DRAWING STD 157
5. SERVICE CONDUIT LOCATIONS TO SUIT TELSTRA, WATER & S.E. REQUIREMENTS IN ACCORDANCE WITH LOCATIONS PROVIDED BY THE RELAVENT AUTHORITIES
6. LOTS DRAINING TO THE ROAD TO BE PROVIDED WITH METAL KERB CONVERTERS IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS
7. STABILISATION AND HYDROSEEDING OF ALL DISTURBED AREAS SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS
8. ALL FILLS ARE TO BE LEFT WITH A LIP AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS
9. ALL FINAL EROSIONS PREVENTION MEASURES INCLUDING ESTABLISHMENT OF GRASSING ARE TO BE COMPLETED PRIOR TO THE SUBDIVISION FINAL INSPECTION
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND MULCHED WITHIN 10 DAYS OF THE COMPLETION OF FORMATION
11. NO DISTURBED AREA IS TO REMAIN DENUDED LONGER THAN 30 DAYS
12. ALL PERIMETER AND SILTATION CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN EARTHWORKS
13. ACCESS TO ALL EXISTING LOTS SHALL BE AVAILABLE AT ALL TIMES.
14. STARTER BARS WILL BE REQUIRED IN ALL PITS WHERE THE WALLS ARE POURED SEPARATELY TO THE BASE MIN. DEVELOPMENT LENGTH 300mm @ 300 CENTRES
15. 0.5m. WIDE TURF STRIP SHALL BE PLACED ALONG EACH SIDE OF CONCRETE PATHWAYS, PEDESTRIAN/CYCLEWAYS AND AT REAR OF ALL KERB AND GUTTERING.
16. IT IS THE CONTRACTORS RESPONSIBILITY TO ASCERTAIN IN THE FIELD THE LOCATION AND LEVEL OF ALL EXISTING SERVICES (TELSTRA, UNDERGROUND POWER, SEWER, WATER, ETC.) AND ANY OTHER FEATURE OR STRUCTURE LIKELY TO BE AFFECTED BY THE WORKS AND TO TAKE APPROPRIATE MEASURES TO ENSURE NO DAMAGE THERETO. ANY DAMAGE SHALL BE MADE GOOD AT NO COST TO THE PROPRIETOR.

LEGEND

- PROPOSED DRAINAGE LINE
- EXISTING DRAINAGE LINE
- IAD — INTERALLOTMENT DRAINAGE LINE
- GRATED GULLY PIT
- HEADWALL
- 'STREET NAME' SIGN AND POST
- LOG BARRIER
- SS — FP — SUB-SOIL DRAINAGE LINE (Inc. flushing points)
- 1.5 — EXISTING CONTOURS
- 2.5 — PROPOSED CONTOURS
- MOD. ROLL K & G — PROPOSED ROLL KERB & GUTTER
- KR — CONCRETE KERB RAMP TO COUNCIL'S DRAWING STD 28
- BENCH MARK
- W — W — W — EXISTING WATER MAIN
- T — T — T — EXISTING TELSTRA CABLES
- S — S — S — EXISTING SEWER MAINS
- HABITAT TREES TO BE RETAINED
- HABITAT TREES TO BE REMOVED
- 60m ASSET PROTECTION APZ
- 35m ASSET PROTECTION ZONE
- 25m ASSET PROTECTION ZONE
- 24m ASSET PROTECTION ZONE

NOTE:
1. ALL FILLING TO BE PLACED IN ACCORDANCE WITH AS3798
2. MAKE SMOOTH JUNCTION WITH ALL EXISTING WORKS.

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GENERAL LAYOUT PLAN

1: 4000

ORIGIN OF LEVELS
SSM 57405 R.L. 1.835
AUSTRALIAN HEIGHT DATUM
BUDGEREE ST. (NEAR BOSTON ROAD)
TEA GARDENS

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
F	Admin Revision	GH	GH	AV*	BL*	22/1/09
E	Revised Road Layout	GH	GH	AV*	BL*	17/09/08*
D	APZ's Revised	GH	GH	AV*	BL*	15/08/08*
C	Commercial Area Included	GH	GH	AV*	BL*	06/08/08*

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TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 0 40 80m (1: 4000for A1 Size Plot)
SHEET No. :4
JOB No. : 201479
FILE : 20700141
DATE : Plotted 17:11 22/01/09
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\ST09\amended_road_layout-2.dwg

Xref: 910370 - BDY (910370 - BDY.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: 920428 - Boundary Xref (920428 - Boundary Xref.dwg) Xref: Stg 9 (Stg 9.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: INDUSTRIAL AREA XREF (INDUSTRIAL AREA XREF.dwg)

JOINS SHEET No.8

JOINS SHEET No.6

MYALL WAY

MYALL QUAYS BVD.

NORTHERLY DR.

WEST BRANCH

ROAD

No.11

No.12

No.13

No.14

No.15

No.25

No.43

EXTENT OF PROJECT PLAN AREA

PROPOSED BASIN 'N10'
(FOR DETAILS SEE SHEET No.59)

PROPOSED FRESHWATER LAKE 'C'
(FOR DETAILS SEE SHEET No.50)

PROPOSED EXTENSION OF EXISTING SALINE LAKE
(FOR DETAILS SEE SHEET No.49)

PRE-TREATMENT BASIN (EES-6)

Section

T.S. 2 · T.S. 3 · T.S. 4 · T.S. 5 · T.S. 6 · T.S. 7 · T.S. 8 · T.S. 9 · T.S. 10 · T.S. 14 · T.S. 15

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
F	Commercial Area Detailed	GH	GH	A.V.	BL*	27/11/08
E	Revised Road Layout	GH	GH	AV*	BL*	17/09/08*
D	Drafting Changes	GH	GH	AV*	BL*	15/08/08*
C	Commercial Area Included	GH	GH	AV*	BL*	06/08/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1 0 10 20m (1:1000 for A1 Size Plot)
SHEET No. :5
JOB No. : 201479
FILE : 20700142
DATE : Plotted 12:31 23/01/09
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\amended_road_layout-2.dwg

Xref: 910370 - BDY [910370 - BDY.dwg] Xref: Shearwater Boundaries xref [Shearwater Boundaries xref.dwg] Xref: 201478 - Stg 8 Bdy [201478 - Stg 8 Bdy.dwg] Xref: 920428 - Boundary Xref [920428 - Boundary Xref.dwg] Xref: Stg 9 [Stg 9.dwg] Xref: Stg8-10_design_Contors_2_INTERVAL [Stg8-10_design_Contors_2_INTERVAL.dwg] Xref: 202400-ComSite [202400-ComSite.dwg] Xref: INDUSTRIAL AREA XREF [INDUSTRIAL AREA XREF.dwg]

JOINS SHEET No.8

JOINS SHEET No.5

JOINS SHEET No.9

JOINS SHEET No.7

NORTH

EAST

EAST-WEST

BRANCH

ROAD No.15

ROAD No.16

ROAD No.17

ROAD No.18

ROAD No.19

ROAD No.20

ROAD No.21

ROAD No.22

ROAD No.23

ROAD No.24

ROAD No.25

ROAD No.26

ROAD No.27

ROAD No.28

ROAD No.29

ROAD No.30

ROAD No.31

ROAD No.32

ROAD No.33

ROAD No.34

ROAD No.35

ROAD No.36

ROAD No.37

ROAD No.38

ROAD No.39

ROAD No.40

Section

PROPOSED DRY BASIN

PRE-TREATMENT BASIN - EB
(FOR DETAILS SEE SHEET No.61)

PRE-TREATMENT BASIN (EE2)
(FOR DETAILS SEE SHEET No.54)

PRE-TREATMENT BASIN (N44)
(FOR DETAILS SEE SHEET No.58)

PROPOSED FRESHWATER LAKE 'C'
(FOR DETAILS SEE SHEET No.50)

PROPOSED FRESHWATER LAKE 'B'
(FOR DETAILS SEE SHEET No.51)

(FOR DETAILS SEE SHEET No.25)

(FOR DETAILS SEE SHEET No.26 & 29)

FOR LEVEL SPREADER (OUT-FLOW DRAIN) TYPICAL SECTION SEE SHEET No. 57

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D	APZ's Modified	GH	GH	A.V.	BL	15/08/08
C	APZ's Shown	GH	GH	AV*	BL*	06/08/08*
B	Modified Design - Scheme 5 Adopted	GH	GH	-	-	10/06/08*
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1 : 1000 for A1 Size Plot (1 0 10 20m)

SHEET No. :6 | FILE : 20700143 | SHEET SIZE A1

JOB No. : 2014.79 | DATE : Plotted 14:15 15/08/08

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\amended_road_layout-2.dwg

Xref: 910370 – BDY [910370 – BDY.dwg] Xref: Shearwater Boundaries xref [Shearwater Boundaries xref.dwg] Xref: 201478 – Stg 8 Bdy [201478 – Stg 8 Bdy.dwg] Xref: 920428 – Boundary Xref [920428 – Boundary Xref.dwg] Xref: Stg 9 [Stg 9.dwg] Xref: Stg9-10_design_Contors_2_INTERVAL [Stg9-10_design_Contors_2_INTERVAL.dwg] Xref: 202400-ConSite [202400-ConSite.dwg] Xref: INDUSTRIAL AREA XREF [INDUSTRIAL AREA XREF.dwg]

SHORELINE DRIVE

LAKE C

EXIST 2x300x1500 RC BOX CULVERTS

EAST BRANCH

PROPOSED FRESHWATER LAKE 'B'

(FOR DETAILS SEE SHEET No.57)

JOINS SHEET No.6

EXIST 450ø RC P

EXIST SI PIT

T.S. 2

ROAD No.33

FOR CULVERT DETAILS SEE SHEET No.48

Section

PROPOSED FRESHWATER LAKE 'A'

(FOR DETAILS SEE SHEET No.52)

Section

T.S. 5

T.S. 13

No.4

T.S. 1

No.41

ROAD No.33

ROAD No.40

ROCK LINED DRAIN

ROAD No.29

ROAD No.32

T.S. 8

EXISTING SALINE BASIN

PRE-TREATMENT BASIN (E2)

PRE-TREATMENT BASIN (E4)

FOR LEVEL SPREADER (OUT-FLOW DRAIN) TYPICAL SECTION SEE SHEET No. 57

(FOR DETAILS SEE SHEET No.56)

FOR LEVEL SPREADER (OUT-FLOW DRAIN) TYPICAL SECTION SEE SHEET No. 57

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D	APZ's Modified	GH	GH	AV*	BL*	15/8/08
C	APZ's Shown	GH	GH	AV*	BL*	06/08/08*
B	Modified Design - Scheme 5 Adopted	GH	GH	-	-	10/06/08*
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 0 10 20m (1:1000 for A1 Size Plot)

SHEET No. :7 | FILE : 20700144

JOB No. : 201479 | DATE : Plotted 14:15 15/08/08

SHEET SIZE A1

COMPUTER FILE : S:\projects\Myall Quays\dwgs\STG9\amended_road_layout-2.dwg

Xref: 910370 - BDY (910370 - BDY.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: 920428 - Boundary Xref (920428 - Boundary Xref.dwg) Xref: Stg 9 (Stg 9.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: INDUSTRIAL AREA XREF (INDUSTRIAL AREA XREF.dwg)

TOONANG DRIVE

EAST-WEST BRANCH

WAY

MYALL

ROAD

ROAD

No.15

ROAD

No.15

ROAD

No.16

ROAD

No.15

No.15

BRANCH

NORTH BRANCH

WEST BRANCH

Section

PROPOSED BASIN W1
(FOR DETAILS SEE SHEET No.60)

PROPOSED BASIN 'N10U'
(FOR DETAILS SEE SHEET No.60)

PROPOSED BASIN 'N10'
(FOR DETAILS SEE SHEET No.59)

(FOR DETAILS SEE SHEET No.25)

(FOR DETAILS SEE SHEET No.26)

PROPOSED DRY BASIN

JOINS SHEET Nos. 5 & 6

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D	APZ's Modified	GH	GH	A.V.*	BL*	15/8/08
C	APZ's Shown	GH	GH	AV*	BL*	06/08/08*
B	Modified Design - Scheme 5 Adopted	GH	GH	-	-	10/06/08*
A	Original Issue	GH	GH	-	-	20/09/07

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 0 15 30m (1:1500 for A1 Size Plot)

SHEET No. :8 | FILE : 20700145 | SHEET SIZE

JOB No. : 201479 | DATE : Plotted 14:13 15/08/08 | A1

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\amended_road_layout-2.dwg

Xref: 910370 - BDY (910370 - BDY.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: 920428 - Boundary Xref (920428 - Boundary Xref.dwg) Xref: Stg 9 (Stg 9.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 202400-ConSite (202400-ConSite.dwg) Xref: INDUSTRIAL AREA XREF (INDUSTRIAL AREA XREF.dwg)

JOINS SHEET No.6

ROAD No.16

ROAD No.44

Section

Section

Section

Section

N42

(FOR DETAILS SEE SHEET No.27)

CATCHMENT

BRANCH

PRE-TREATMENT BASIN (N42)

20780 m²

PROPOSED ECO-TOURIST & RESIDENTIAL DEVELOPMENT

MIDDEN AREA

PROPOSED BASIN

EXISTING DWELLING

FOR LEVEL SPREADER (OUT-FLOW DRAIN) TYPICAL SECTION SEE SHEET No. 57

RIVER

MYALL

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D	APZ Modified	GH	GH	AV.	BL	15/8/08
C	APZ's and Midden Shown	GH	GH	AV*	BL*	06/08/08*
B	Modified Design - Scheme 5 Adopted	GH	GH	-	-	10/06/08*
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 0 10 30m
1:1500 for A1 Size Plot

SHEET No. :9

FILE : 20700148

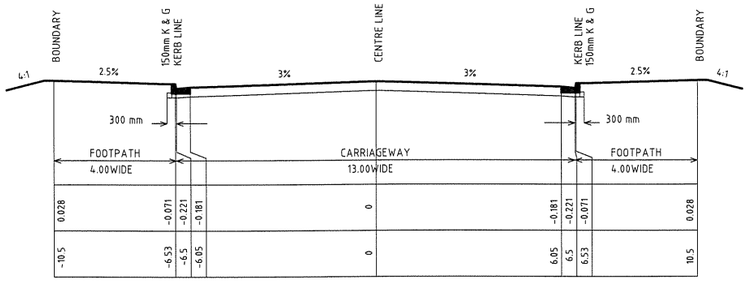
JOB No. : 201479

DATE : Plotted 14:22 15/08/08

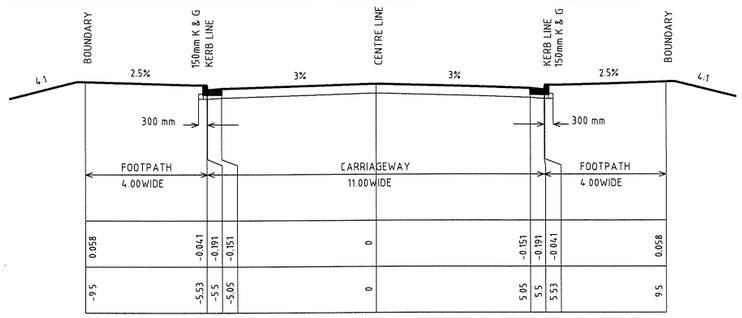
SHEET SIZE A1

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\amended_road_layout-2.dwg

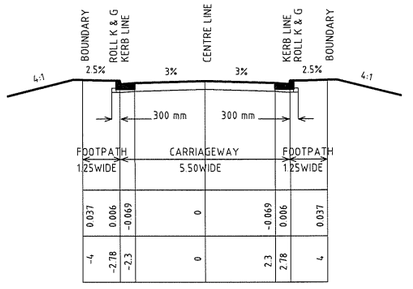
Xref: 910370 - BDY (910370 - BDY.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: 920428 - Boundary Xref (920428 - Boundary Xref.dwg) Xref: Stg 9 (Stg 9.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 202430-ConSite (202430-ConSite.dwg) Xref: INDUSTRIAL AREA XREF (INDUSTRIAL AREA XREF.dwg)



LINK ROAD COMMERCIAL / LINK ROAD #1 (T.S. 3)

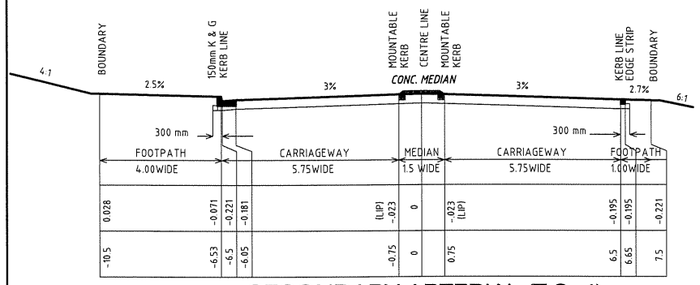


T.S. 2

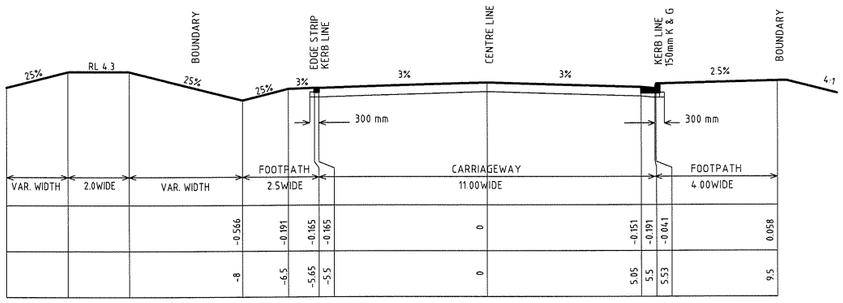


LANEWAY (T.S. 7)

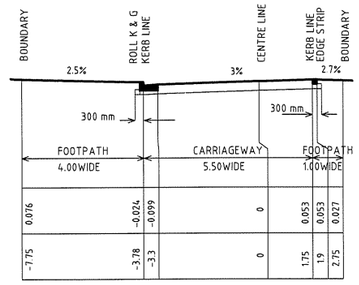
ACCESSWAY (T.S. 12)



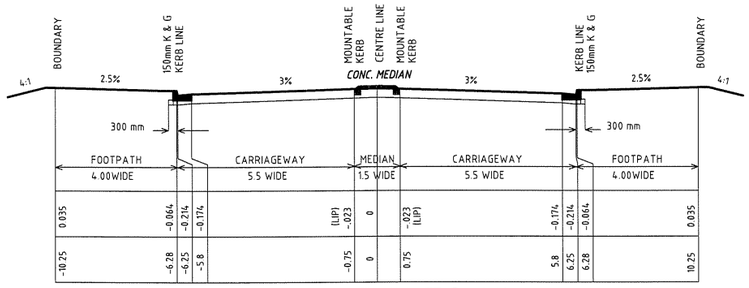
SECONDARY ARTERIAL (T.S. 4)



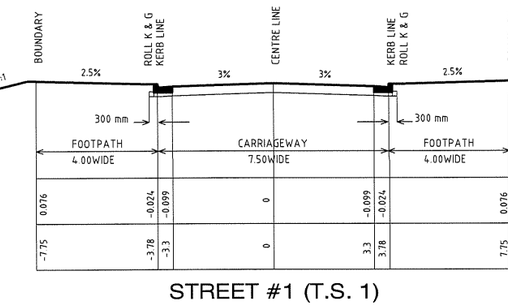
LINK ROAD #2 (T.S. 11)



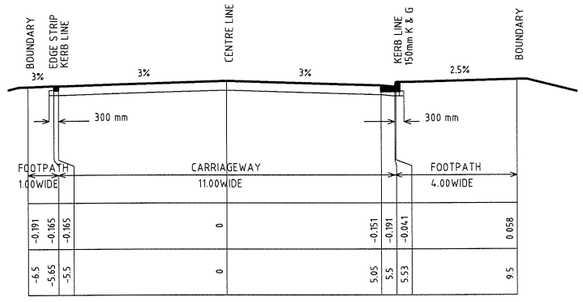
ONE WAY (T.S. 8)



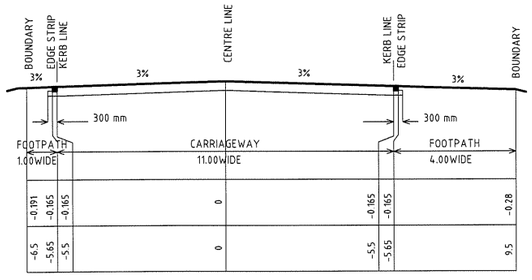
LINK ROAD #1 (T.S. 13)



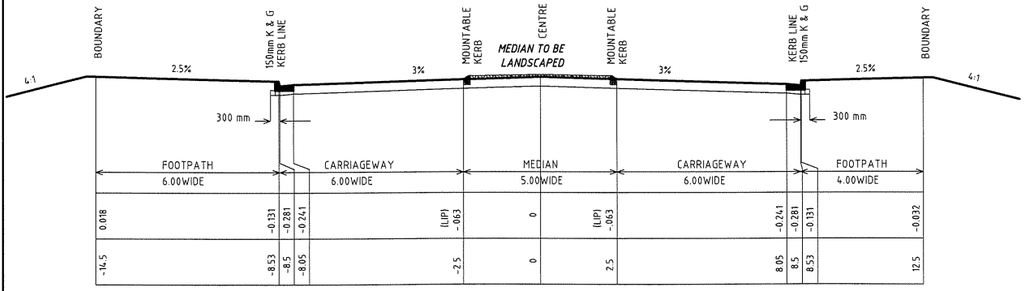
STREET #1 (T.S. 1)



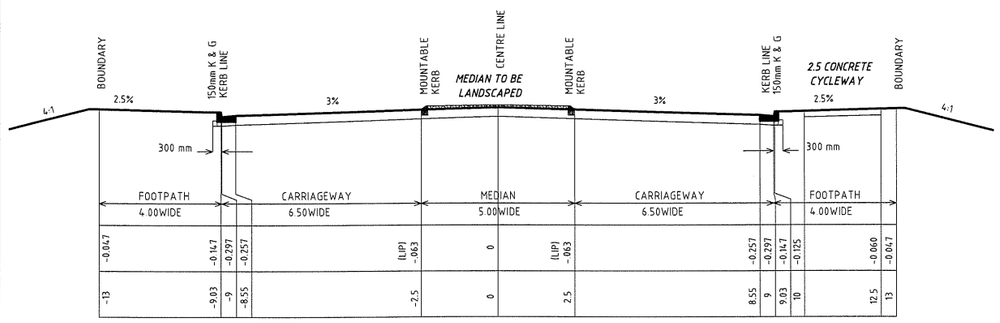
LINK ROAD #2 (T.S. 9)



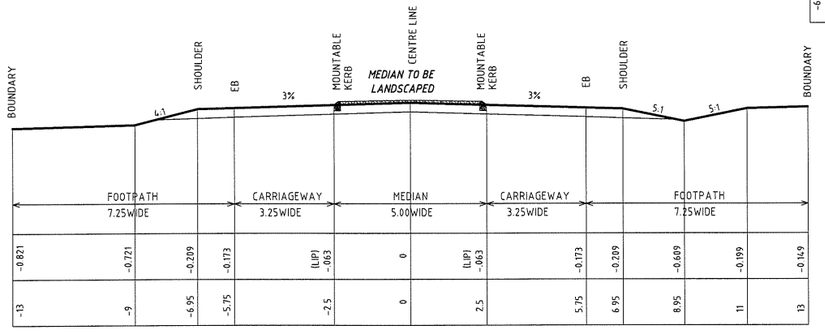
LINK ROAD #2 (T.S. 10)



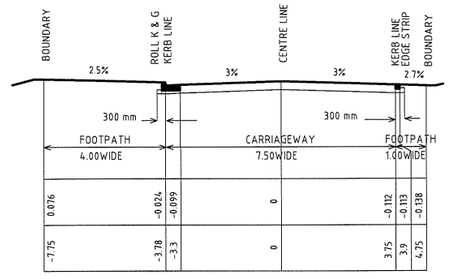
CONNECTOR (T.S. 6)



ARTERIAL #1 (T.S. 14)



ARTERIAL #2 (T.S. 15)



STREET #2 (T.S. 5)

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	T.S. 3 Added	GH	GH	A.V.	AL	4/9/08
B	T.S. 3 Removed	GH	GH	-	-	21/07/08*
A	Original Issue	GH	GH	-	-	21/04/08*

* Denote the original signature and date when revision was issued.

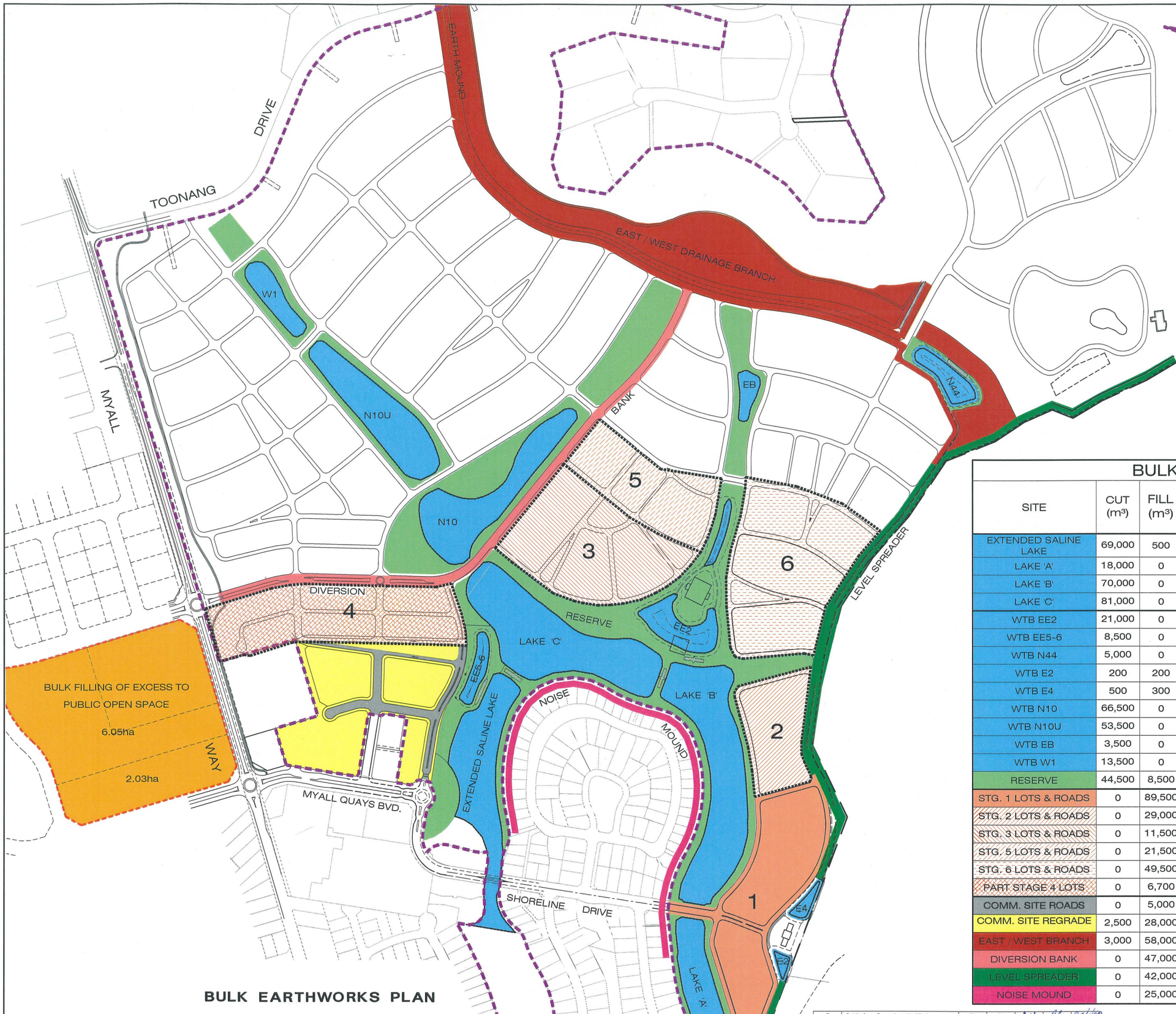
TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 1:100 for A1 Size Plot | SHEET No. :10 | FILE : 20700146 | SHEET SIZE

JOB No. : 201479 | DATE : Plotted 08:54 15/02/08 | A1

COMPUTER FILE : S:\projects\Hyall Quays\dwg\STG9\amended_road_layout-2.dwg

Xref: 910370 - BDY (910370 - BDY.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: 920428 - Boundary Xref (920428 - Boundary Xref.dwg) Xref: Stg 9 (Stg 9.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: INDUSTRIAL AREA XREF (INDUSTRIAL AREA XREF.dwg)



BULK EARTHWORKS PLAN

NOTE: WTB DENOTES WATER TREATMENT BASIN

DENOTES CONCEPT PLAN BOUNDARY

BULK EARTHWORKS

SITE	CUT (m^3)	FILL (m^3)	NETT EARTHWORKS (m^3)	TRANSPORT TO FILL AREAS(m^3)	TRANSPORT TO STOCKPILE (m^3)
EXTENDED SALINE LAKE	69,000	500	68,500	* 199,500	38,000 (TO BE STOCKPILED FOR USE OTHER THAN LOT FILLING)
LAKE 'A'	18,000	0	18,000		
LAKE 'B'	70,000	0	70,000		
LAKE 'C'	81,000	0	81,000		
WTB EE2	21,000	0	21,000	△ 207,700	
WTB EE5-6	8,500	0	8,500		
WTB N44	5,000	0	5,000		
WTB E2	200	200	0		
WTB E4	500	300	200		
WTB N10	66,500	0	66,500		
WTB N10U	53,500	0	53,500		
WTB EB	3,500	0	3,500		
WTB W1	13,500	0	13,500		
RESERVE	44,500	8,500	36,000		
STG. 1 LOTS & ROADS	0	89,500	-89,500	△ TO BE FILLED FROM WATER TREATMENT BASINS AND RESERVES	
STG. 2 LOTS & ROADS	0	29,000	-29,000		
STG. 3 LOTS & ROADS	0	11,500	-11,500		
STG. 5 LOTS & ROADS	0	21,500	-21,500		
STG. 6 LOTS & ROADS	0	49,500	-49,500		
PART STAGE 4 LOTS	0	6,700	-6,700		
COMM. SITE ROADS	0	5,000	-5,000	* TO BE FILLED FROM SALINE LAKE AND LAKES A, B & C	
COMM. SITE REGRADE	2,500	28,000	-25,500		
EAST / WEST BRANCH	3,000	58,000	-55,000		
DIVERSION BANK	0	47,000	-47,000		
LEVEL SPREADER	0	42,000	-42,000		
NOISE MOUND	0	25,000	-25,000		

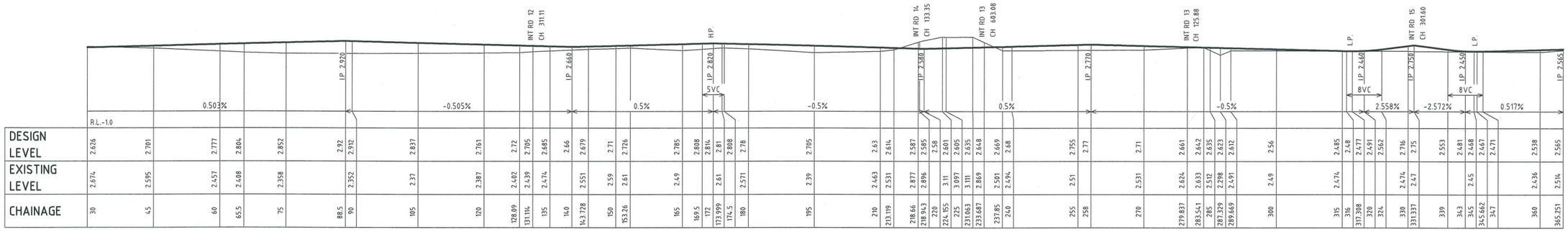
REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
E	Public Open Space Area Modified	GH	GH	A.V.	BL	22/10/08
D	Revised Road Layout	GH	GH	AV*	BL*	17/09/08*
C	Commercial Area Included	GH	GH	AV*	BL*	06/08/08*
B	Modified Design - Scheme 5 Adopted	GH	GH	-	-	10/06/08*

* Denote the original signature and date when revision was issued.

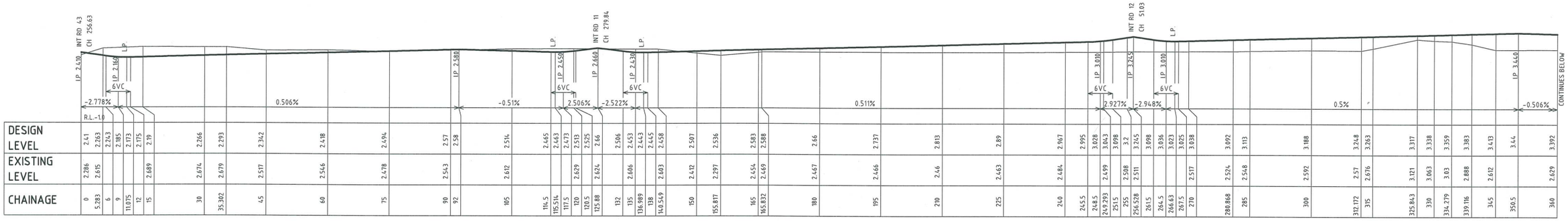
TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 0 30 60m (1: 3000for A1 Size Plot)
SHEET No. :11
JOB No. : 201479
FILE : 20700155
DATE : Plotted 11:43 22/01/09
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\amended_road_layout-2.dwg

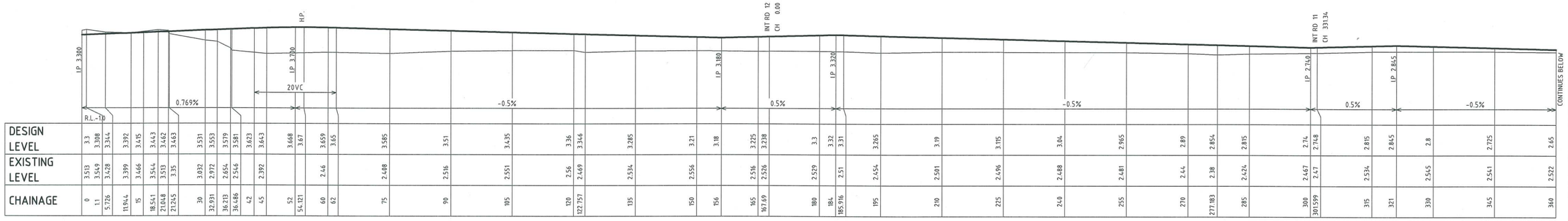
Xref: 910370 - BDY (910370 - BDY.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: 920428 - Boundary Xref (920428 - Boundary Xref.dwg) Xref: Stg 9 (Stg 9.dwg) Xref: Stg9-10_design_Centers_2_INTERVAL (Stg9-10_design_Centers_2_INTERVAL.dwg) Xref: 202400-ConSite (202400-ConSite.dwg) Xref: INDUSTRIAL AREA XREF (INDUSTRIAL AREA XREF.dwg)


INT RD 12 CH 311.11
H.P.
INT RD 14 CH 133.35
INT RD 13 CH 603.08
INT RD 13 CH 125.88
INT RD 15 CH 301.60
L.P.
IP 2.920
IP 2.660
IP 2.820
IP 2.580
IP 2.770
IP 2.460
IP 2.750
IP 2.650
IP 2.565
5VC
8VC
8VC
0.503%
-0.505%
0.5%
-0.5%
0.5%
-0.5%
2.558%
-2.572%
0.517%
R.L.-1.0

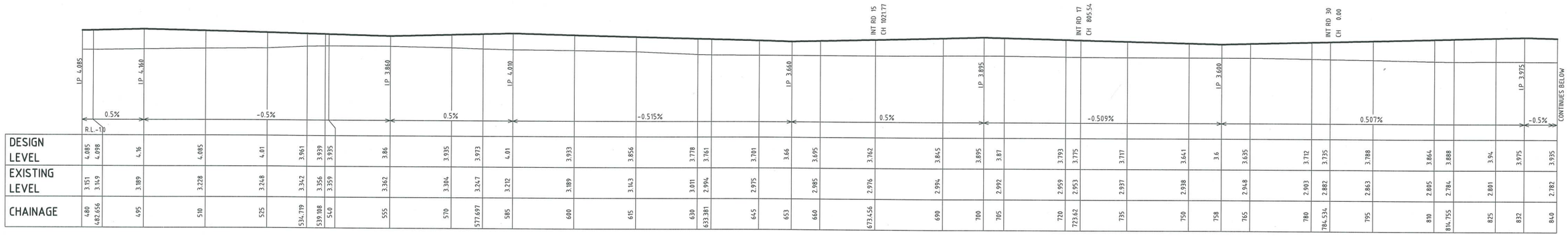
| | | |


INT RD 43 CH 256.63
IP 2.410
IP 2.160
L.P.
6VC
-2.778%
R.L.-1.0
0.506%
IP 2.588
-0.51%
L.P.
IP 2.458
6VC
2.506%
INT RD 11 CH 279.84
IP 2.660
IP 2.430
L.P.
6VC
-2.522%
0.511%
INT RD 12 CH 5.103
IP 3.010
6VC
2.927%
IP 3.225
-2.948%
L.P.
IP 3.010
6VC
0.5%
IP 3.440
-0.506%
CONTINUES BELOW

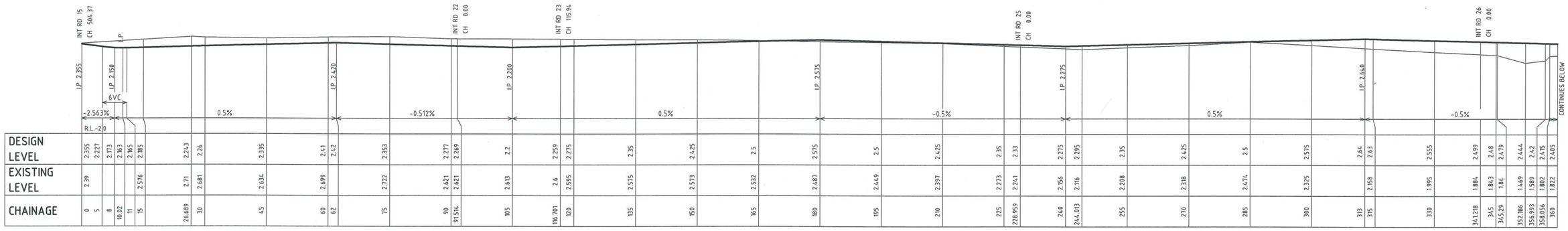
| | | |


H.P.
I.P 3.300
I.P 3.700
20VC
INT RD 12
CH 0.00
I.P 3.180
I.P 3.320
INT RD 11
CH 33134
I.P 2.740
I.P 2.845
0.769%
-0.5%
0.5%
-0.5%
0.5%
-0.5%
CONTINUES BELOW
R.L.-10

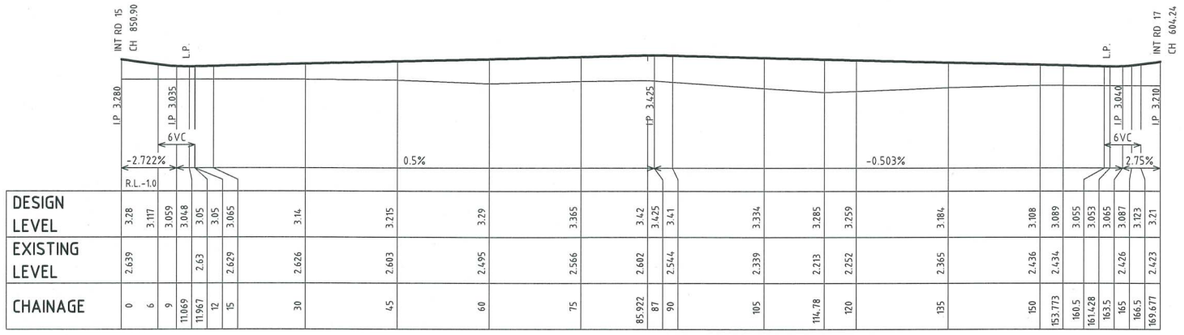
| | | |


IP 4.085
IP 4.160
IP 3.860
IP 4.010
IP 3.660
IP 3.895
IP 3.600
IP 3.975
INT RD 15 CH 1021.77
INT RD 17 CH 805.54
INT RD 30 CH 0.00
0.5%
-0.5%
0.5%
-0.515%
0.5%
-0.509%
0.507%
-0.5%
R.L.-1.0
CONTINUES BELOW

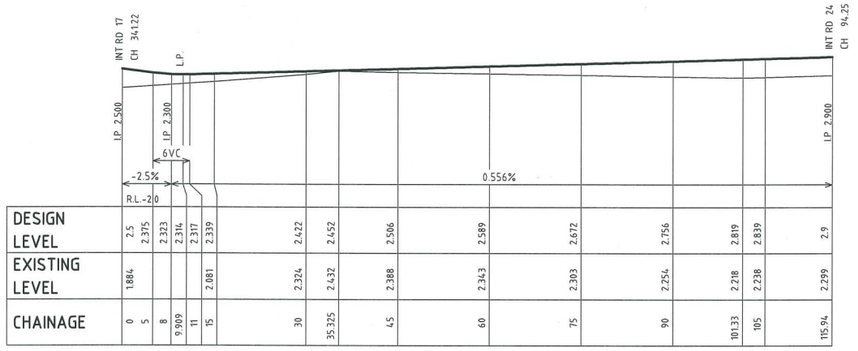
| | | |


INT RD 15 CH 504.37
L.P.
INT RD 22 CH 0.00
INT RD 23 CH 115.94
INT RD 25 CH 0.00
INT RD 26 CH 0.00
I.P. 2.355
I.P. 2.150
6VC
I.P. 2.420
I.P. 2.280
I.P. 2.575
I.P. 2.275
I.P. 2.660
-2.563%
0.5%
-0.512%
0.5%
-0.5%
0.5%
-0.5%
R.L.-2.0
CONTINUES BELOW

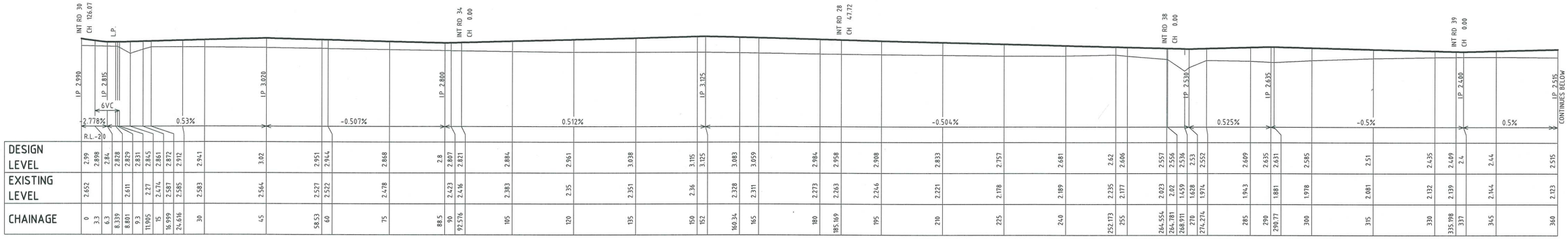
| | | |


INT RD 15
CH 850.90
L.P.
I.P. 3.280
I.P. 3.035
6VC
-2.722%
R.L.-1.0
0.5%
I.P. 3.425
-0.503%
I.P. 3.040
6VC
2.75%
INT RD 17
CH 604.24
I.P. 3.210

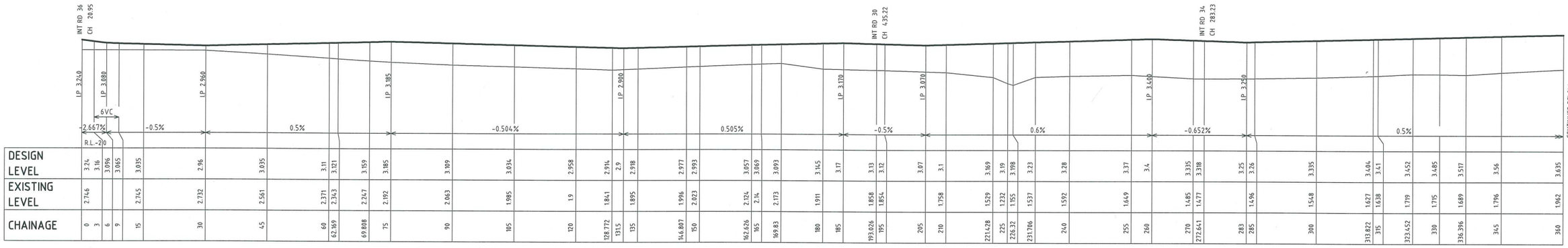
| | | |


INT RD 17
CH 34.122
L.P.
INT RD 24
CH 94.25
IP 2.500
IP 2.300
IP 2.900
6VC
-2.5%
0.556%
R.L.-2.0

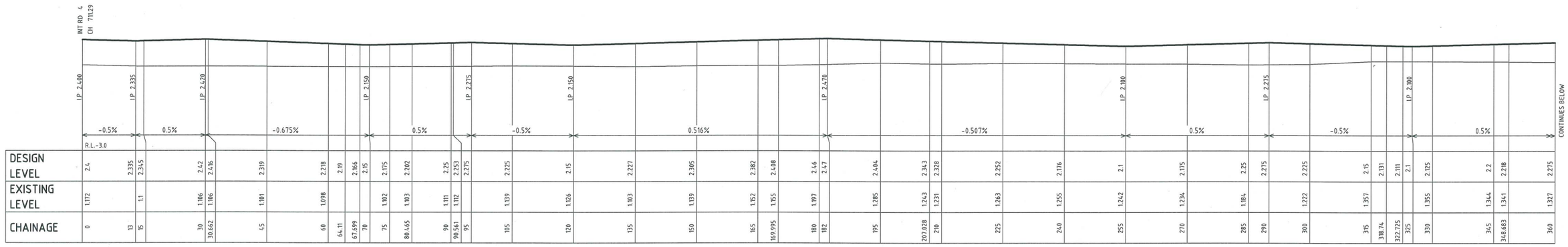
| | | |


INT RD 30
CH 126.07
L.P.
INT RD 34
CH 0.00
INT RD 28
CH 47.72
INT RD 38
CH 0.00
INT RD 39
CH 0.00
IP 2.930
IP 2.815
6VC
-2.778%
0.53%
IP 3.020
-0.507%
IP 2.800
0.512%
IP 3.125
-0.504%
IP 2.530
0.525%
IP 2.635
-0.5%
IP 2.400
0.5%
IP 2.515
CONTINUES BELOW
R.L.-2.0

| | | |

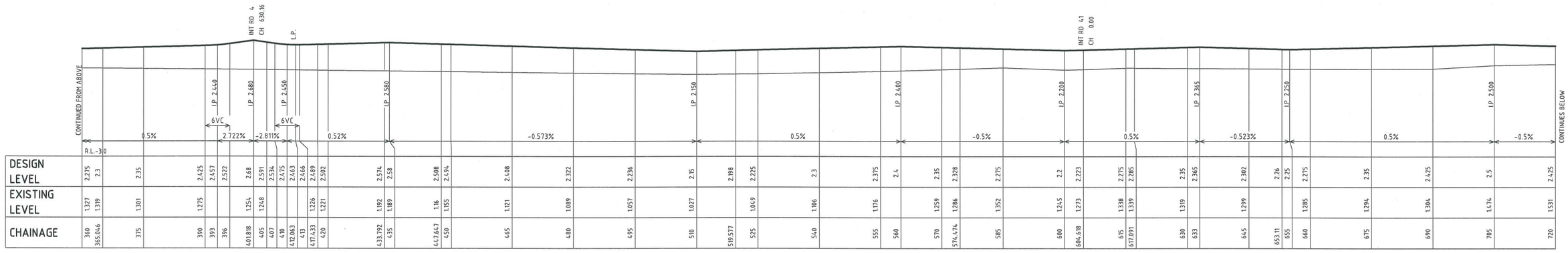

INT RD 36
CH 20.95
INT RD 30
CH 435.22
INT RD 34
CH 283.23
I.P. 3.260
I.P. 3.080
I.P. 2.960
I.P. 3.385
I.P. 2.900
I.P. 3.170
I.P. 3.070
I.P. 3.400
I.P. 3.200
6VC
-2.667%
-0.5%
0.5%
-0.504%
0.505%
-0.5%
0.6%
-0.652%
0.5%
R.L.-2.0
CONTINUES BELOW

| | | |



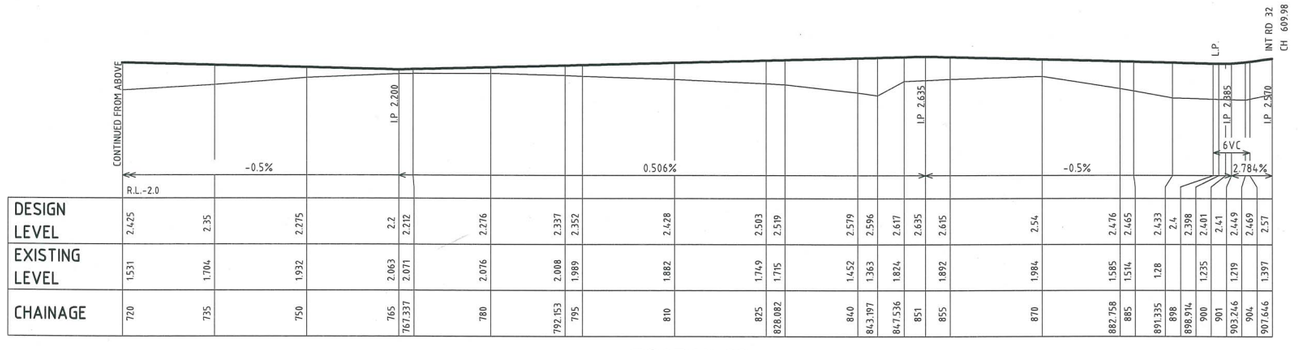
ROAD.No.33

H=1:500 V=1:100



ROAD.No.33

H=1:500 V=1:100



ROAD.No.33

H=1:500 V=1:100

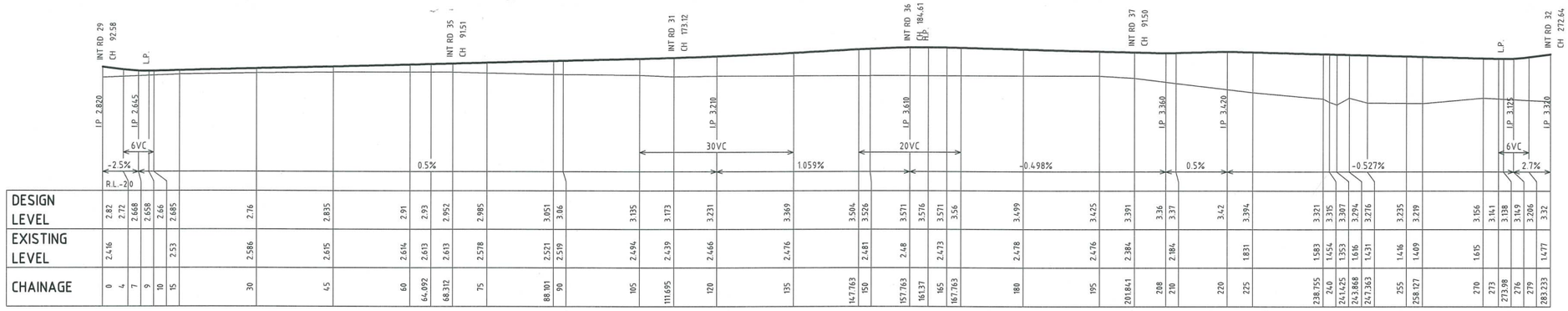
PROPOSED ROAD LONGITUDINAL SECTIONS

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	AV*	BL*	06/08/08*
B	Ammended Design - Scheme 5 Adopted	GH	GH	AV*	BL*	23/10/07*
A	Original Issue	GH	GH	-	-	

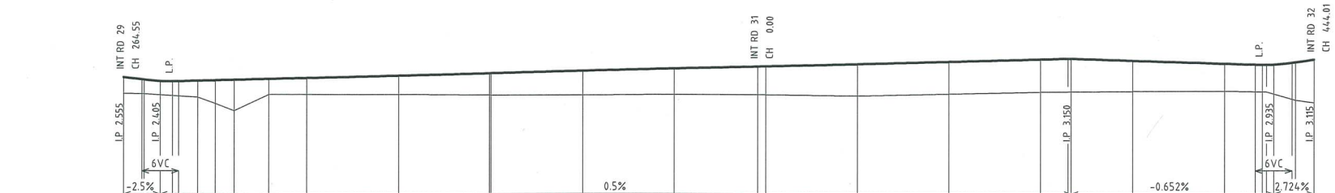
* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

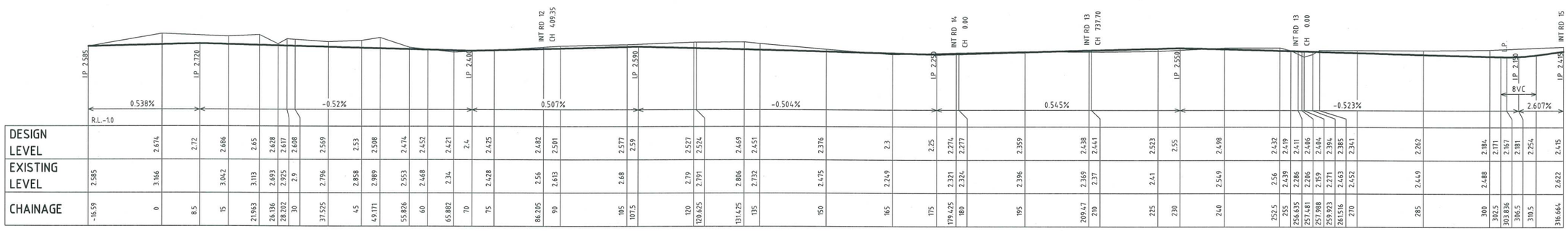
SCALE : 0 1 2m (1:100 for A1 Size Plot)
SHEET No. :21
JOB No. : 201479
FILE : 20700125
DATE : Plotted 18:13 19/12/07
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\road longsections.dwg


INT RD 29 CH 92.58
L.P.
INT RD 35 CH 91.51
INT RD 31 CH 173.12
INT RD 36 CH 184.61
INT RD 37 CH 91.50
L.P.
INT RD 32 CH 272.64
IP 2.820
IP 2.665
6VC
-2.5%
R.L.-2.0
0.5%
IP 3.210
30VC
1.059%
IP 3.610
20VC
-0.498%
IP 3.360
IP 3.420
0.5%
-0.527%
L.P.
IP 3.125
6VC
2.7%
IP 3.320

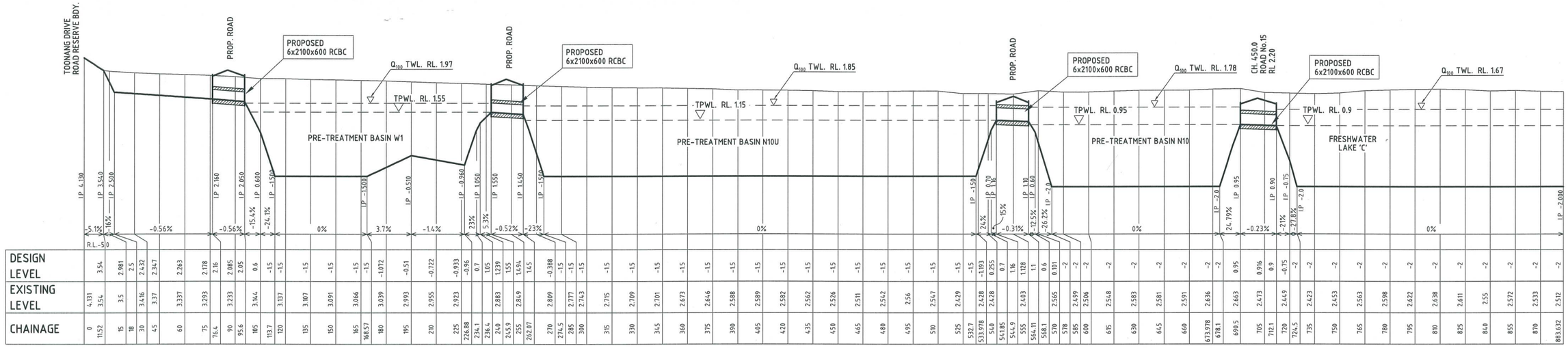
| | | |


INT RD 29
CH 264.55
L.P.
INT RD 31
CH 0.00
L.P.
INT RD 32
CH 444.01
I.P. 2.555
I.P. 2.605
I.P. 3.150
I.P. 2.935
I.P. 3.115
6VC
6VC
-2.5%
0.5%
-0.652%
2.724%
R.L.-2.0

| | | |

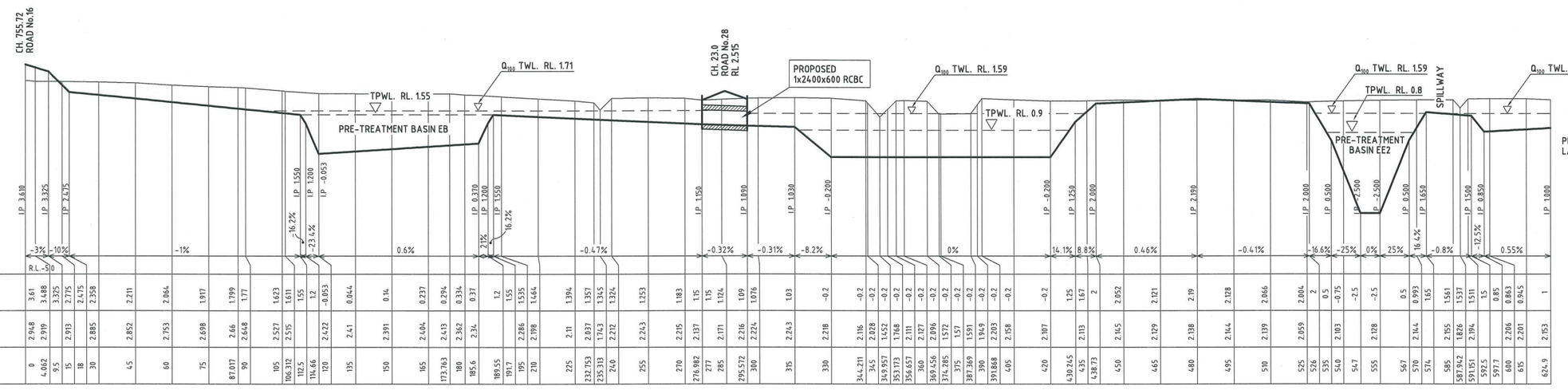

I.P. 2.585
I.P. 2.720
I.P. 2.600
I.P. 2.590
I.P. 2.250
I.P. 2.550
I.P. 2.150
I.P. 2.415
INT RD 12 CH 409.35
INT RD 14 CH 0.00
INT RD 13 CH 737.70
INT RD 13 CH 0.00
INT RD 15 CH 497.61
0.538%
-0.52%
0.507%
-0.504%
0.545%
-0.523%
BVC
2.607%
R.L.-1.0

| | | |

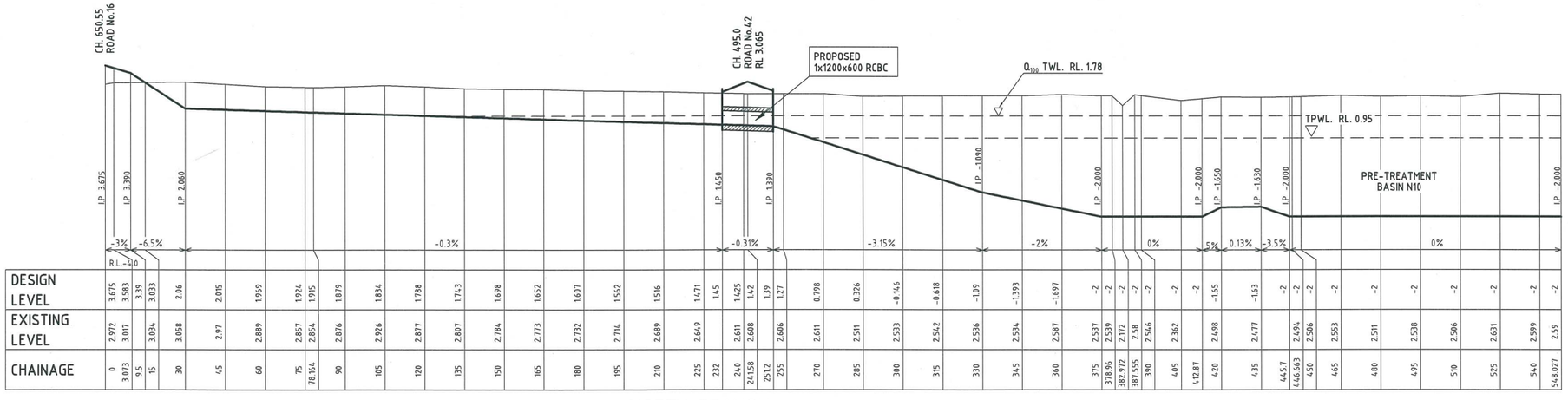


WEST BRANCH

H=1:1250 V=1:100



EAST BRANCH



NORTH BRANCH

NOTE:

TPWL. RL. 1.3 DENOTES TOP PERMANENT WATER LEVEL
TWL. RL. 1.3 DENOTES TOP WATER LEVEL

PROPOSED DRAINAGE BRANCH PROFILES

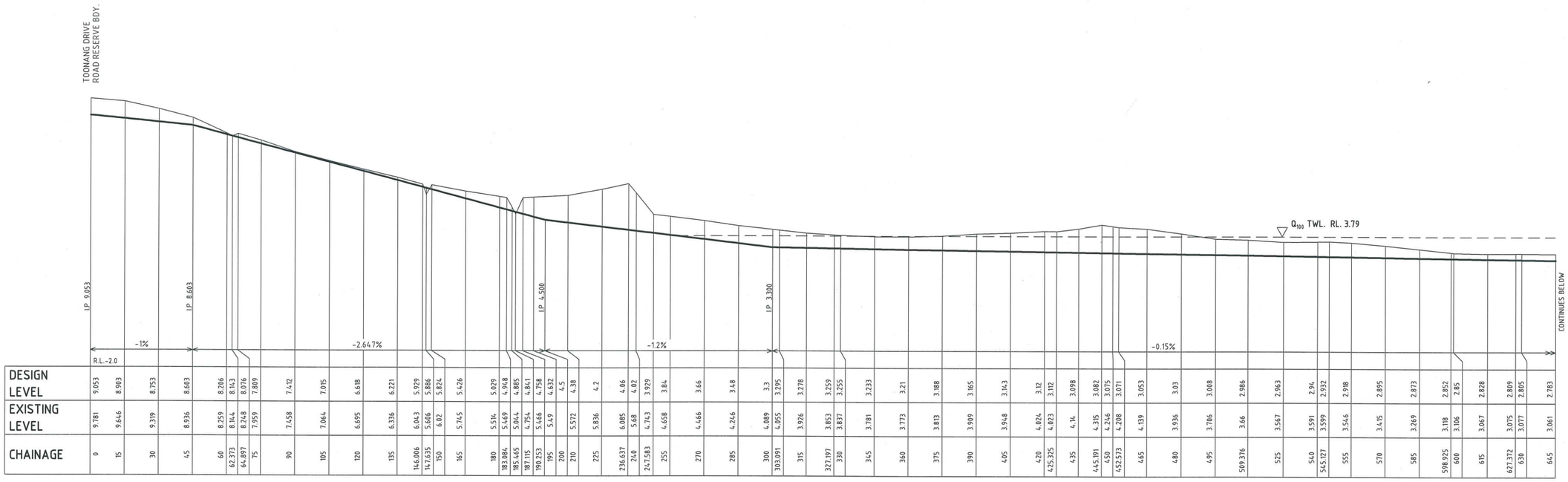
H=1:1000 V=1:100

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	A.V.	BL	21/12/07
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	20/09/07*

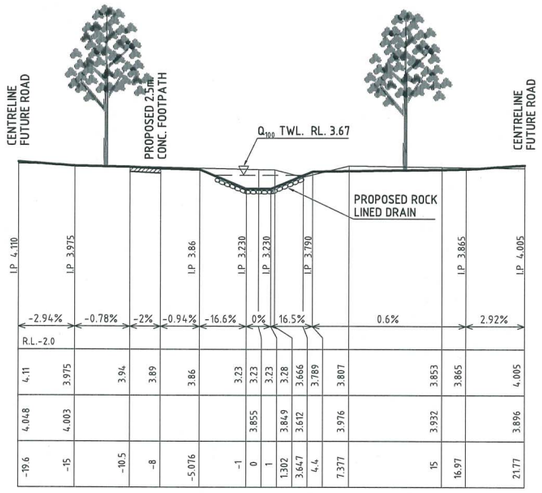
* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

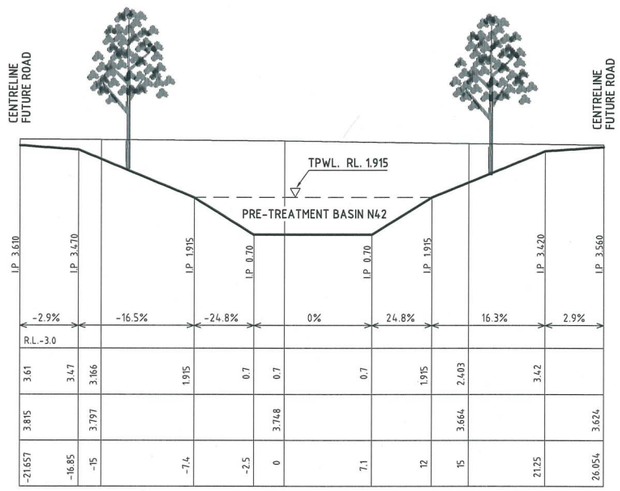
SCALE : 0 1 2m (1:100 for A1 Size Plot)
SHEET No. :25
FILE : 20700129
JOB No. : 2014.79
DATE : Plotted 18:13 19/12/07
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG5\road longsections.dwg


TOONANG DRIVE
ROAD RESERVE BDY.
I.P. 9.053
I.P. 8.603
I.P. 4.500
I.P. 3.300
-1%
-2.647%
-1.2%
-0.15%
R.L.-2.0
Q_{100} TWL. RL. 3.79
CONTINUES BELOW

| | | |



N42 CATCHMENT BRANCH - CH. 180



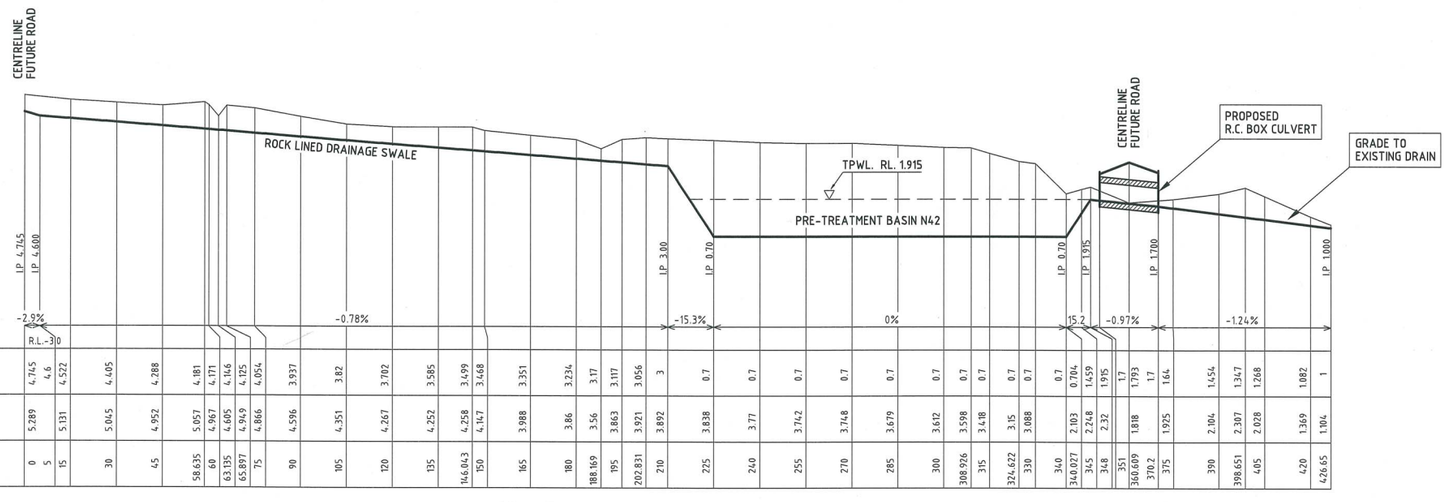
N42 CATCHMENT BRANCH - CH. 270

PROPOSED DRAINAGE BRANCH SECTIONS

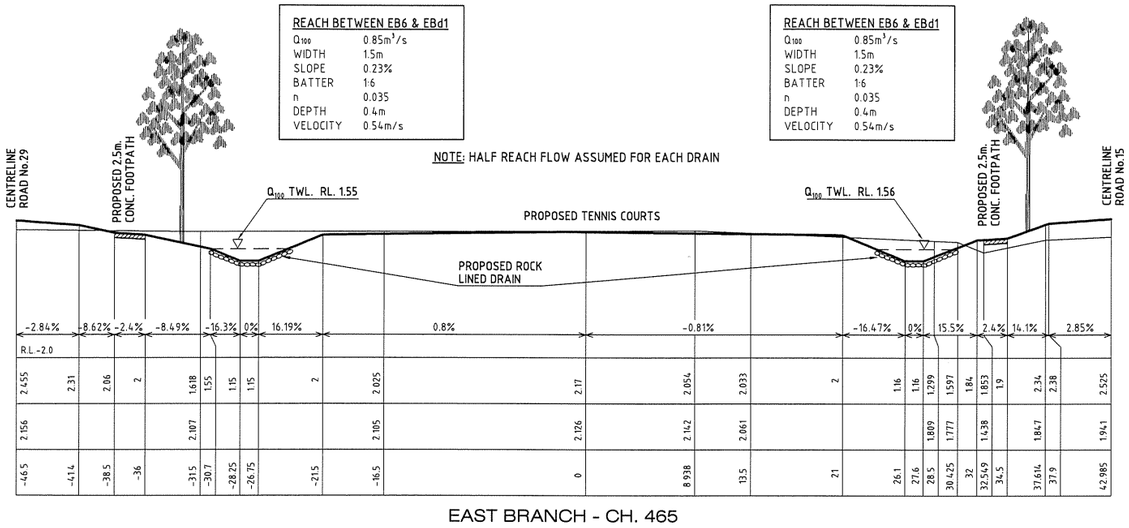
H=1:250 V=1:100

NOTE:

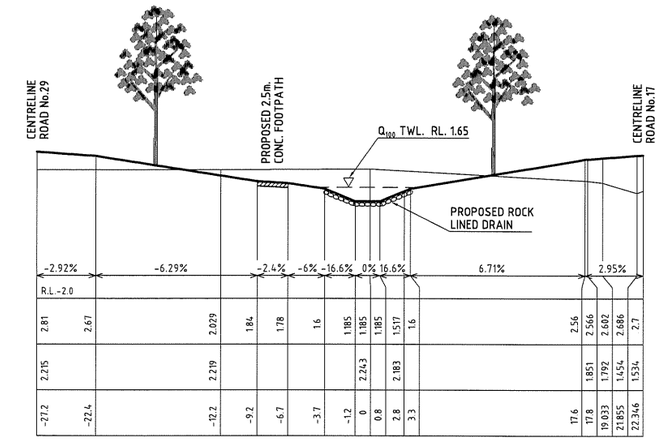
TPWL. RL. 1.915 DENOTES TOP PERMANENT WATER LEVEL
TWL. RL. 3.62 DENOTES TOP WATER LEVEL



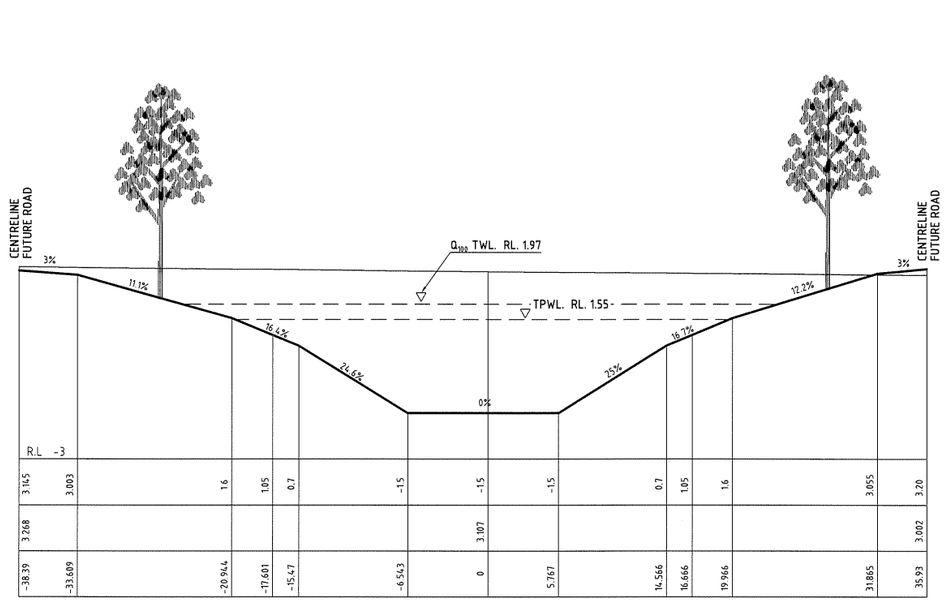
| | | |



EAST BRANCH - CH. 465



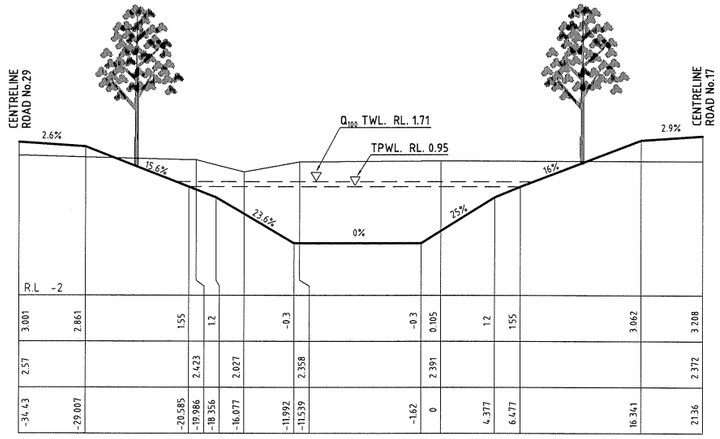
EAST BRANCH - CH. 315



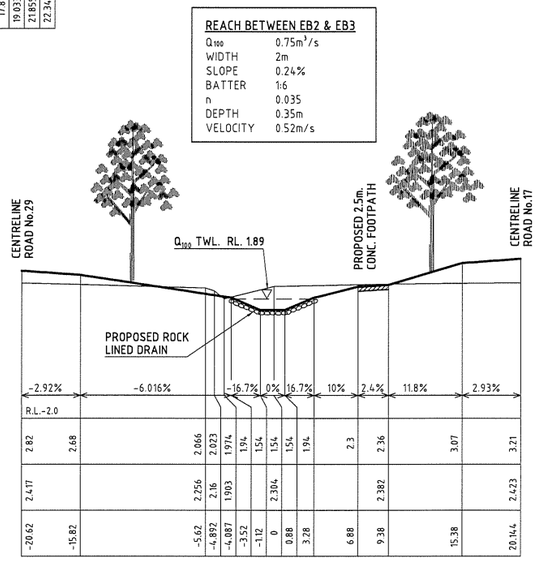
WEST BRANCH - CH. 135

NOTE:

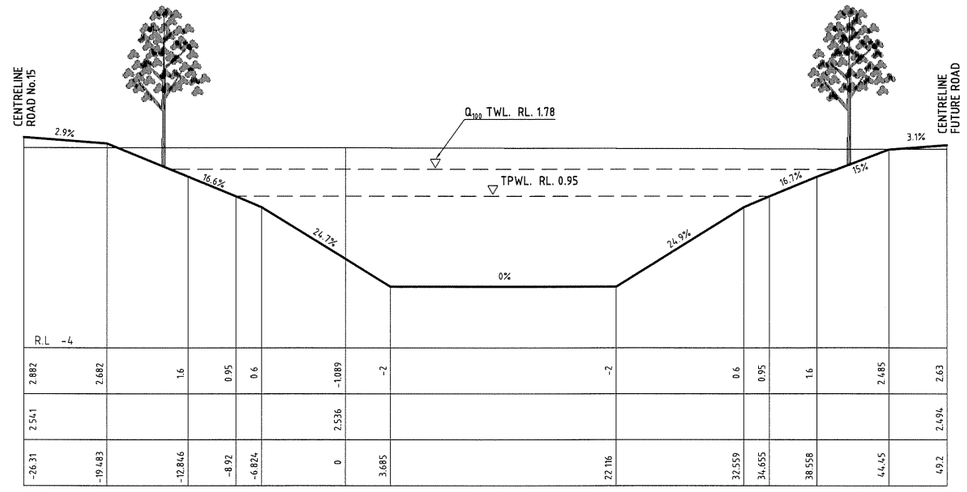
TPWL. RL. 1.3 DENOTES TOP PERMANENT WATER LEVEL
TWL. RL. 1.3 DENOTES TOP WATER LEVEL



EAST BRANCH - CH. 150



EAST BRANCH - CH. 195



NORTH BRANCH - CH. 330

PROPOSED DRAINAGE BRANCH SECTIONS

H=1:250 V=1:100

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	BZ	6/11/07
A	Original Issue	GH	GH	-	-	20/09/07

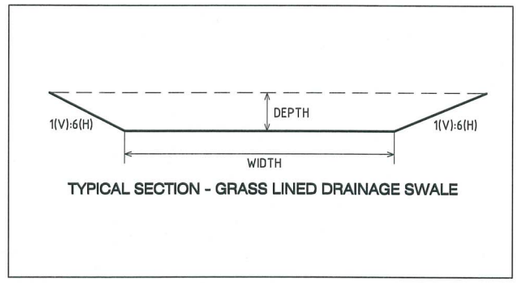
* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 0 1 2m (1:100 for A1 Size Plot)
SHEET No. :28
JOB No. : 201479
FILE : 207700136
DATE : Plotted 14:05 01/05/08
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\roadlongsections.dwg

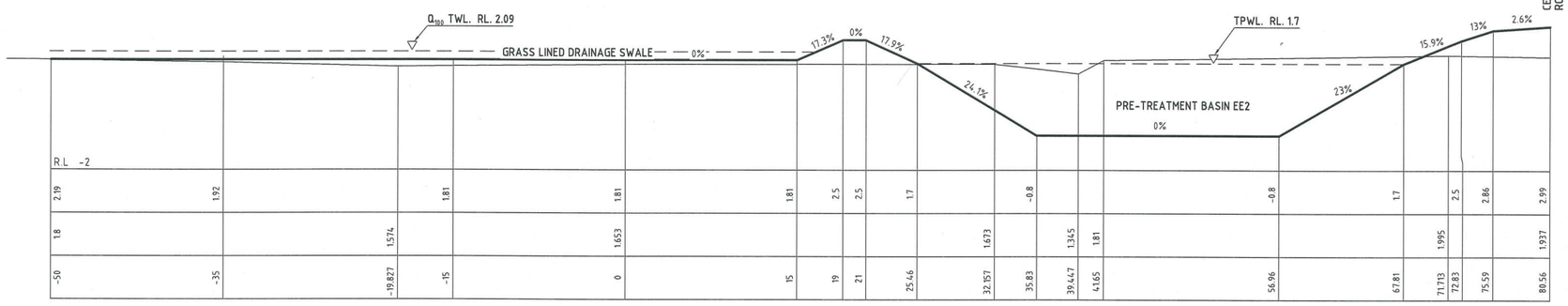
NOTE:

TPWL. RL. 1.3 DENOTES TOP PERMANENT WATER LEVEL
TWL. RL. 1.3 DENOTES TOP WATER LEVEL



TYPICAL SECTION - GRASS LINED DRAINAGE SWALE

REACH BETWEEN EW6 & EW7	
Q_{100}	5.73m³/s
WIDTH	40m
SLOPE	0.25%
BATTER	1:6
n	0.065
DEPTH	0.36m
VELOCITY	0.3m/s



| | | |

CATCHMENT AREA PLAN

1:1000

JOINS SHEET No. 31

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
E	Commercial Area Detailed	GH	GH	A.V.	BL*	17/09/08*
D	Revised Road Layout	GH	GH	AV*	BL*	17/09/08*
C	Commercial Area Included	GH	GH	AV*	BL*	06/08/08*
B	Modified Design - Scheme 5 Adopted	GH	GH	-	-	10/06/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 10 0 20m (1:1000 for A1 Size Plot)

SHEET No. :30 | FILE : 20700226 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 12:16 22/01/09

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\amended_road_layout-2.dwg

Xref: 910370 - BDY (910370 - BDY.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: 920428 - Boundary Xref (920428 - Boundary Xref.dwg) Xref: Stg 9 (Stg 9.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: INDUSTRIAL AREA XREF (INDUSTRIAL AREA XREF.dwg)

JOINS SHEET No. 30

JOINS SHEET No. 32

JOINS SHEET No. 32

PROPOSED FRESHWATER LAKE 'C'

PROPOSED FRESHWATER LAKE 'B'

PRE-TREATMENT BASIN (EE2)

ROAD No.23

ROAD No.25

ROAD No.26

ROAD No.27

ROAD No.28

ROAD No.29

ROAD No.30

ROAD No.31

ROAD No.32

ROAD No.33

ROAD No.34

ROAD No.35

ROAD No.36

ROAD No.37

ROAD No.38

ROAD No.39

ROAD No.40

ROAD No.41

ROAD No.15

ROAD No.16

ROAD No.17

ROAD No.18

ROAD No.19

ROAD No.20

ROAD No.21

ROAD No.22

ROAD No.24

BRANCH ROAD

EAST ROAD

ROAD

CATCHMENT AREA PLAN

1:1000

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	A.J.	AL	21/1/09
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 10 20m (1:1000 for A1 Size Plot)

SHEET No. :31

FILE : 20700227

SHEET SIZE A1

JOB No. : 201479

DATE : Plotted 11:11 21/01/09

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\amended_road_layout-2.dwg

Xref: 910370 - BDY (910370 - BDY.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: 920428 - Boundary Xref (920428 - Boundary Xref.dwg) Xref: Stg 9 (Stg 9.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: INDUSTRIAL AREA XREF (INDUSTRIAL AREA XREF.dwg)

SHORELINE DRIVE

EXIST. 450ø RC P

EXIST. SI PIT

PROPOSED FRESHWATER LAKE 'A'

PROPOSED FRESHWATER LAKE 'B'

PROPOSED FRESHWATER LAKE 'C'

PRE-TREATMENT BASIN (EE2)

ROAD No.33

ROAD No.4

ROAD No.41

ROAD No.32

ROAD No.29

ROAD No.40

ROAD No.39

ROAD No.26

ROAD

0.306 ha
0.128 ha
0.252 ha
0.260 ha
0.171 ha
0.249
0.198 ha
0.155 ha
0.142 ha
0.180 ha
0.310 ha
0.253 ha
0.221 ha
0.335 ha
0.174 ha
0.304 ha
0.141 ha
0.181 ha
0.149 ha
0.046 ha
0.093 ha
0.169 ha
0.076 ha
0.124 ha
0.100 ha
0.226 ha
0.182 ha
0.067 ha
0.305 ha
0.179 ha
0.128 ha
0.235 ha
0.165 ha
0.176 ha
0.253 ha
0.167 ha
0.173 ha
0.258 ha
0.21 ha
0.134 ha
0.19 ha
0.164 ha
0.097 ha
0.212 ha
0.305 ha
0.15 ha
0.008 ha
0.028 ha
0.034 ha
0.106 ha
0.008 ha
0.008 ha

CATCHMENT AREA PLAN

1:1000

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	AW*	BL*	21/1/09
B	Modified Design - Scheme 5 Adopted	GH	GH	AW*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	20/09/07*
*	Denote the original signature and date when revision was issued.					

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 10 20m (1:1000 for A1 Size Plot)

SHEET No. :32 | FILE : 20700228 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 11:14 21/01/09

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\amended_road_layout-2.dwg

Xref: 910370 - BDY [910370 - BDY.dwg] Xref: Shearwater Boundaries xref [Shearwater Boundaries xref.dwg] Xref: 201478 - Stg 8 Bdy [201478 - Stg 8 Bdy.dwg] Xref: 920428 - Boundary Xref [920428 - Boundary Xref.dwg] Xref: Stg 9 [Stg 9.dwg] Xref: Stg9-10_design_Contors_2_INTERVAL [Stg9-10_design_Contors_2_INTERVAL.dwg] Xref: 202400-ComSite [202400-ComSite.dwg] Xref: INDUSTRIAL AREA XREF [INDUSTRIAL AREA XREF.dwg]

HYDROLOGICAL DESIGN SHEET

PIT	LAND USE	FLOW LENGTH	SLOPE	"n"	TIME	TIME	INTENSITY	CODE	COEFF	AREA	C.A	SUM AREA	Q	BY PASS	TOTAL FLOW	GUTTER SLOPE	FLOW WIDTH	PIT TYPE	LINTEL	INFLOW	BY FLOW	BY PIT	KINEMATIC MIN TIME 5 MAX TIME 20 HAWKS NEST REMARKS
		m	%		min	min	mm/h			ha	ha	ha	L/s	L/s	L/s	%	m		m	L/s	L/s		
6	1 4	25 40	1 0.5	0.010 0.010	2.933	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.197 0.050	0.144 0.041	0.185	77		77	0.5	2.819 0.04PH	1 SAG	1.8	77		6	
10	1 4	30 20	1 0.5	0.010 0.010	2.338	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.095 0.020	0.070 0.016	0.086	36		36	0.5	2.063	1	1.8	36		6	
11A	1 4	25 10	1 0.5	0.010 0.010	1.781	5	150 5Yr	-0.6 -0.9	0.693 0.814	0.053 0.017	0.037 0.014	0.051	21		21	0.5	1.641	1	1.8	21		11	
11	1 4	35 10	1 0.5	0.010 0.010	2.103	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.053 0.013	0.039 0.011	0.049	21		21	0.5	1.625	1	1.8	21		12	
12	3 4	7 10	3 0.5	0.010 0.010	0.926	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.019 0.019	0.014 0.015	0.029	12		12	0.5	1.274	1	1.8	12		16	
8	1 4	25 25	1 0.5	0.010 0.010	2.384	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.091 0.022	0.067 0.018	0.085	35		35	0.5	2.049 0.03PH	1 SAG	1.8	35		8	
9	1 4	20 25	1 0.5	0.010 0.010	2.239	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.070 0.022	0.051 0.018	0.069	29		29	0.5	1.883 0.03PH	1 SAG	1.8	29		9	
15	2 4	35 50	1 0.5	0.010 0.010	3.517	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.191 0.040	0.140 0.033	0.173	72		72	0.5	2.741	1	1.8	72		16	
16	2 4	35 50	1 0.5	0.010 0.010	3.517	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.154 0.053	0.113 0.043	0.156	65		65	0.5	2.633 0.04PH	1 SAG	1.8	65		16	
3	1 4	30 15	0.7 0.5	0.010 0.010	2.358	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.221 0.056	0.162 0.046	0.208	87		87	0.5	2.95	1	1.8	87		5	
5	1 4	30 30	1 0.5	0.010 0.010	2.708	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.111 0.027	0.081 0.022	0.103	43		43	0.5	2.227	1	1.8	43		7	
7	1 4	30 15	1 0.5	0.010 0.010	2.145	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.064 0.025	0.047 0.020	0.067	28		28	0.5	1.86 0.03PH	1 SAG	1.8	28		7	
13	2 4	25 10	1 0.5	0.010 0.010	1.781	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.019 0.019	0.014 0.015	0.029	12		12	0.5	1.274	1	1.8	12		17	
17	2 4	35 50	1 0.5	0.010 0.010	3.517	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.191 0.053	0.140 0.043	0.183	76		76	0.5	2.807 0.04PH	1 SAG	1.8	76		17	
18	3 4	15 10	1 0.5	0.010 0.010	1.433	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.030 0.013	0.020 0.011	0.03	13		13	0.5	1.291	1	1.8	13		17	
21	1 4	15 25	1 0.5	0.053 0.010	4.330	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.078 0.078	0.057 0.064	0.121	50		50	0.506	2.368	1	1.8	50		25	
22	2 4	35 25	0.7 0.5	0.053 0.010	7.336	7.3	130 5Yr	-0.5 -0.9	0.652 0.814	0.114 0.025	0.074 0.020	0.095	34		34	0.506	2.018	4		34		23	
23	2 4	35 30	0.7 0.5	0.053 0.010	7.544	7.5	129 5Yr	-0.5 -0.9	0.652 0.814	0.168 0.020	0.110 0.016	0.126	45		45	0.506	2.061 0.04PH	4 SAG		45		23	
24	2 4	10 20	0.7 0.5	0.053 0.010	3.747	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.050 0.034	0.033 0.028	0.06	25		25	0.5	1.608 0.03PH	1 SAG	1.8	25		24	
29	2 4	30 35	0.7 0.5	0.053 0.010	7.151	7.2	132 5Yr	-0.5 -0.9	0.652 0.814	0.148 0.027	0.096 0.022	0.118	43		43	0.5	2.231	1	1.8	43		31	
31	2 4	35 40	0.7 0.5	0.053 0.010	7.943	7.9	126 5Yr	-0.5 -0.9	0.652 0.814	0.264 0.046	0.172 0.037	0.21	74		74	0.5	2.528 0.04PH	1 SAG	2.4	74		31	
33	2 4	35 40	0.7 0.5	0.053 0.010	7.943	7.9	126 5Yr	-0.5 -0.9	0.652 0.814	0.064 0.046	0.042 0.037	0.079	28		28	0.5	1.68 0.03PH	1 SAG	1.8	28		33	
36	2 4	20 60	0.7 0.5	0.053 0.010	6.865	6.9	134 5Yr	-0.5 -0.9	0.652 0.814	0.180 0.058	0.117 0.047	0.165	61		61	0.5	2.344 0.04PH	1 SAG	1.8	61		36	
37	1	50	0.5	0.053	8.980	9	120 5Yr	-0.1	0.490	0.195	0.095	0.095	32		32	0.5	1.317 0.03PH	4 SAG		32		37	
28	2 4	10 10	1 0.5	0.010 0.010	1.246	5	150 5Yr	-0.3 -0.9	0.571 0.814	0.097 0.031	0.055 0.025	0.081	34		34	0.5	1.827 0.03PH	1 SAG	1.8	34		28	
30	2 4	25 40	0.7 0.5	0.053 0.010	6.735	6.7	135 5Yr	-0.7 -0.9	0.733 0.814	0.157 0.036	0.115 0.029	0.144	54		54	0.5	2.442	1	1.8	54		32	
32	2 4	40 35	0.7 0.5	0.010 0.010	3.411	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.245 0.058	0.180 0.047	0.227	95		95	0.5	2.493 0.05PH	1 SAG	2.4	95		32	
34	2 4	25 30	0.7 0.5	0.010 0.010	2.767	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.118 0.067	0.087 0.055	0.141	59		59	0.5	2.049 0.04PH	1 SAG	1.8	59		34	
38	2 4	35 60	0.7 0.5	0.010 0.010	4.091	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.264 0.050	0.194 0.041	0.234	98		98	0.5	3.094 0.05PH	1 SAG	2.4	98		38	
39	2 4	25 40	1 0.5	0.010 0.010	2.933	5	150 5Yr	-0.7 -0.9	0.733 0.814	0.125 0.043	0.092 0.035	0.127	53		53	0.5	2.42	1	1.8	53		38	
72	2 4	3 30	3 0.5	0.170 0.010	3.392	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.017 0.030	0.009 0.024	0.033	14		14	0.511	1.35 0.03PH	1 SAG	1.8	14		72	
74	2 4	20 25	0.7 0.5	0.053 0.010	5.449	5.4	146 5Yr	-0.5 -0.9	0.652 0.814	0.061 0.020	0.040 0.016	0.056	23		23	0.51	1.334 0.03PH	1 SAG	1.8	23		74	
70	2 4	3 30	3 0.5	0.170 0.010	3.392	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.010 0.020	0.005 0.016	0.022	9		9	0.511	1.081	1	1.8	9		72	

HYDRAULIC DESIGN SHEET

PIT	TIME	INTENSITY	AREAS	FLOW	LENGTH	DIAMETER	GRADE	HGLGRADE	VEL Q/A	K	HEAD LOSS	VEL CAP	PIPE VEL	PIPE CAP	PIPE TIME	C=C.W., N=MANNINGS MAX TIME 20 HAWKS NEST BY PASS=AREA AREA=ADP Q REMARKS
	min	mm/hr	ha	L/s	m	mm	%	%	m/s		m	m/s	m/s	L/s	min	
LINE 8 6-10	5	150 5Yr	0.185	77	12.36 C0.0006	375	0.324	0.154	0.699	3.5	0.087	1.038	1.01	115	0.2	
10-11	5.2	148 5Yr	0.271	111	13 C0.0006	451	0.308	0.121	0.698	1.5	0.037	1.136	1.08	181	0.2	
LINE 11 11A-11	5	150 5Yr	0.051	21	10.5 C0.0006	375	0.571	0.013	0.191	3.5	0.007	1.379	0.83	152	0.21	
11-12	5.4	146 5Yr	0.371	151	12.79 C0.0006	451	0.508	0.219	0.942	1.6	0.072	1.46	1.4	233	0.15	
12-13	5.6	144 5Yr	0.401	161	13 C0.0006	451	0.385	0.248	1.007	1.1	0.057	1.27	1.3	203	0.17	
LINE 10 8-9	5	150 5Yr	0.085	35	13.581 C0.0006	451	0.515	0.014	0.221	3.5	0.009	1.47	0.9	235	0.25	
9-13	5.3	147 5Yr	0.154	63	12.856 C0.0006	451	0.506	0.04	0.395	1.3	0.01	1.456	1.07	233	0.2	
LINE 12 15-16	5	150 5Yr	0.173	72	13.21 C0.0006	451	0.492	0.051	0.451	3.5	0.036	1.437	1.11	230	0.2	
16-17	5.2	148 5Yr	0.329	135	14.025 C0.0006	451	0.321	0.177	0.846	1.6	0.058	1.16	1.16	185	0.2	
LINE 7 3-5	5	150 5Yr	0.208	87	40.358 C0.0006	450x750	0.31	0.012	0.257	1.1	0.004	1.411	1	476	0.67	
5-7	5.7	143 5Yr	0.311	124	21.01 C0.0006	450x750	0.309	0.023	0.367	0.6	0.004	1.41	1.05	476	0.33	
7-13	6	140 5Yr	0.378	148	32.725 C0.0006	450x1200	0.306	0.01	0.273	0.5	0.002	1.598	1.23	863	0.44	
13-17	6.4	136 5Yr	0.962	366	70.353 C0.0006	450x1200	0.306	0.058	0.677	2.2	0.051	1.598	1.35	863	0.87	
17-18	7.3	130 5Yr	1.474	534	11.257 C0.0006	450x1200	0.311	0.121	0.989	1.3	0.065	1.612	1.5	871	0.13	
18-14	7.4	129 5Yr	1.504	541	33.971 C0.0006	450x1200	0.309	0.124	1.003	0.5	0.026	1.607	1.5	868	0.38	
LINE 1 21-22	5	150 5Yr	0.121	50	46.419 C0.0006	375	0.409	0.066	0.456	3.5	0.037	1.167	0.96	129	0.81	
22-23	7.3	130 5Yr	0.215	78	33.079 C0.0006	375	0.348	0.157	0.706	1.4	0.036	1.076	1.04	119	0.53	
23-24	7.9	126 5Yr	0.341	120	27.161 C0.0006	451	0.313	0.141	0.753	1.1	0.032	1.146	1.11	183	0.41	
24-28	8.3	124 5Yr	0.402	139	10.448 C0.0006	451	0.335	0.186	0.869	1.7	0.065	1.185	1.18	189	0.15	
LINE 3 29-30	7.2	131 5Yr	0.118	43	19.072 C0.0006	375	0.315	0.05	0.392	3.5	0.027	1.023	0.84	113	0.38	
LINE 4 31-32	7.9	126 5Yr	0.21	74	20.91 C0.0006	375	0.311	0.139	0.666	3.5	0.079	1.017	0.98	112	0.36	
LINE 5 33-34	7.9	126 5Yr	0.079	28	24.465 C0.0006	375	0.307	0.021	0.252	3.5	0.011	1.01	0.72	112	0.57	
LINE 6 36-37	6.9	133 5Yr	0.165	61	18.436 C0.0006	375	0.325	0.097	0.553	3.5	0.055	1.041	0.94	115	0.33	
37-38	9	120 5Yr	0.26	87	17.2 C0.0006	375	0.32	0.194	0.788	1.2	0.038	1.032	1.04	114	0.28	
LINE 2 28-30	8.4	123 5Yr	0.482	165	57.92 C0.0006	522	0.302	0.124	0.773	1.8	0.055	1.234	1.18	264	0.82	
30-32	9.2	119 5Yr	0.745	246	39.211 C0.0006	450x750	0.306	0.087	0.73	1.2	0.033	1.403	1.25	473	0.52	
32-34	9.8	116 5Yr	1.182	382	31.183 C0.0006	450x900	0.305	0.129	0.944	1.2	0.055	1.473	1.39	597	0.37	
34-38	10.1	114 5Yr	1.402	447	99.699 C0.0006	450x1200	0.301	0.085	0.827	0.7	0.024	1.586	1.41	856	1.18	
38-39	11.3	109 5Yr	1.896	577	13.385 C0.0006	450x1200	0.299	0.141	1.069	1.4	0.082	1.581	1.5	854	0.15	
39-40	11.5	109 5Yr	2.023	613	16.964 C0.0006	450x1200	0.324	0.158	1.135	0.9	0.059	1.646	1.58	889	0.18	
LINE 15 72-73	5	150 5Yr	0.033	14	5.5 C0.0006	375	0.364	0.006	0.126	3.5	0.003	1.1	0.63	122	0.15	
LINE 16 74-75	5.4	145 5Yr	0.056	23	5.5 C0.0006	375	0.364	0.015	0.205	3.5	0.008	1.1	0.72	122	0.13	
LINE 14 70-71	5	150 5Yr	0.022	9	7.778 C0.0006	375	0.321	0.003	0.082	3.5	0.001	1.034	0.55	114	0.24	
71-73	7.9	126 5Yr	0.146	51	49.12 C0.0006	451	0.295	0.028	0.322	1.5	0.008	1.113	0.83	178	0.99	
73-75	8.9	120 5Yr	0.324	109	29 C0.0006	451	0.31	0.116	0.681	2	0.047	1.141	1.07	182	0.45	
75-77	9.4	118 5Yr	0.413	136	91.022 C0.0006	522	0.297	0.084	0.635	2	0.041	1.222	1.1	262	1.38	
77-78	10.8	111 5Yr	0.608	189	9.435 C0.0006	522	0.318	0.161	0.884	1.1	0.044	1.265	1.24	271	0.13	
78-79	10.9	111 5Yr	0.739	229	11.105 C0.0006	522	0.315	0.234	1.068	0.9	0.052	1.26	1.31	270	0.14	
79-80	11	110 5Yr	0.756	233	27.54 C0.0006	590	0.309	0.129	0.851	1.1	0.041	1.346	1.29	368	0.36	
LINE 23 42-44	7.7	127 5Yr	0.13	46	35.605 C0.0006	375	0.309	0.056	0.416	3.5	0.031	1.014	0.85	112	0.7	

LAND USE CODES

1. PARKS/RESERVES
2. ALLOTMENTS
3. ROADS
4. KERB & GUTTER
5. TABLE/CATCH DRAINS
6. PIPES

PIT TYPE CODES

1. G.G.P. GRATED GULLY PIT
2. L.S.I.P. LETTER BOX GULLY PIT
3. S.I.P. SURFACE INLET PIT
4. G.S.I.P. GRATED SURFACE INLET PIT
5. J.P. JUNCTION PIT
6. H.W. HEADWALL
7. D.C. DIRECT CONNECTION
8. S.P. SUMP PIT
9. BEND BEND IN PIPE
10. I.P. INSPECTION PIT
11. S.J. SLOPE JUNCTION

PROPOSED DRAINAGE CALCULATION SHEETS

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Revised Road Layout	GH	GH	A.V.	BL	17/9/08
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	23/10/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 1 2m (1:100 for A1 Size Plot) | SHEET No. :33 | FILE : 20700195 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 15:31 17/09/08

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Drainage Longsections.dwg

HYDROLOGICAL DESIGN SHEET

PIT	LAND USE	FLOW LENGTH	SLOPE	"n"	TIME	TIME	INTENSITY	CODE	COEFF	AREA	C.A.	SUM AREA	Q	BY PASS	TOTAL FLOW	GUTTER SLOPE	FLOW WIDTH	PIT TYPE	LINTEL	INFLOW	BY FLOW	BY PIT	KINEMATIC MIN TIME 5 MAX TIME 20 HAWKS NEST REMARKS
		m	%		min	min	mm/h			ha	ha	ha	L/s	L/s	L/s	%	m		m	L/s	L/s		
71	2 4	35 40	0.7 0.5	0.053 0.010	7.943	7.9	126 5Yr	-0.5 -0.9	0.652 0.814	0.164 0.022	0.107 0.018	0.125	44		44	0.511	2.233	1	1.8	44		73	
73	2 4	35 40	0.7 0.5	0.053 0.010	7.943	7.9	126 5Yr	-0.5 -0.9	0.652 0.814	0.203 0.015	0.132 0.012	0.145	51		51	0.511	2.37 0.03PH	1 SAG	1.8	51		73	
75	2 4	30 10	0.7 0.5	0.053 0.010	6.056	6.1	140 5Yr	-0.5 -0.9	0.652 0.814	0.040 0.008	0.026 0.007	0.033	13		13	0.51	1.29	1	1.8	13		61	
77	2 4	35 60	0.7 0.5	0.053 0.010	8.694	8.7	122 5Yr	-0.5 -0.9	0.652 0.814	0.268 0.025	0.175 0.020	0.195	66		66	0.506	2.534 0.04PH	1 SAG	1.8	66		77	
78	2 4	20 60	0.7 0.5	0.053 0.010	6.865	6.9	134 5Yr	-0.5 -0.9	0.652 0.814	0.175 0.020	0.114 0.016	0.13	48		48	0.506	2.231 0.03PH	1 SAG	1.8	48		78	
79	2 4	7 10	3 0.5	0.170 0.010	3.436	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.013 0.013	0.007 0.011	0.017	7		7	0.5	0.963	1	1.8	7		78	
42	2 4	35 35	0.7 0.5	0.053 0.010	7.746	7.7	128 5Yr	-0.5 -0.9	0.652 0.814	0.185 0.011	0.121 0.009	0.13	46		46	0.5	2.286	1	1.8	46		44	
43	2 4	3 60	3 0.5	0.010 0.010	3.016	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.020 0.034	0.011 0.028	0.038	16		16	0.5	1.448 0.03PH	1 SAG	1.8	16		43	
44	2 4	35 25	0.7 0.5	0.053 0.010	7.336	7.3	130 5Yr	-0.5 -0.9	0.652 0.814	0.118 0.011	0.077 0.009	0.086	31		31	0.5	1.942 0.03PH	1 SAG	1.8	31		44	
45	2 4	30 7	0.7 0.5	0.053 0.010	5.911	5.9	141 5Yr	-0.5 -0.9	0.652 0.814	0.053 0.010	0.035 0.008	0.043	17		17	0.672	1.379	1	1.8	17		53	
60	2 4	10 20	0.7 0.5	0.053 0.010	3.747	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.040 0.046	0.026 0.037	0.064	27		27	0.5	1.645 0.03PH	1 SAG	1.8	27		60	
61	2 4	10 20	0.7 0.5	0.053 0.010	3.747	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.046 0.046	0.030 0.037	0.067	28		28	0.5	1.69 0.03PH	1 SAG	1.8	28		61	
49	2 4	40 30	0.7 0.5	0.053 0.010	8.122	8.1	125 5Yr	-0.5 -0.9	0.652 0.814	0.136 0.040	0.089 0.033	0.121	42		42	0.5	2.207	1	1.8	42		19	
19	2 4	35 30	1 0.5	0.010 0.010	2.843	5	150 5Yr	-0.6 -0.9	0.693 0.814	0.164 0.030	0.114 0.024	0.138	58		58	0.5	2.506	1	2.4	58		51	
51	2 4	40 25	0.7 0.5	0.053 0.010	7.918	7.9	127 5Yr	-0.5 -0.9	0.652 0.814	0.164 0.038	0.107 0.031	0.138	48		48	0.5	2.016 0.03PH	1 SAG	1.8	48		51	
55	2 4	10 20	1 0.5	0.053 0.010	3.428	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.030 0.034	0.020 0.028	0.047	20		20	0.5	1.592 0.03PH	1 SAG	1.8	20		55	
56	3 4	10 20	1 0.5	0.053 0.010	3.428	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.050 0.025	0.033 0.020	0.053	22		22	0.5	1.676 0.03PH	1 SAG	1.8	22		56	
57	3 4	7 6	3 0.5	0.010 0.010	0.707	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.406	1	1.8	3		56	
20	2 4	35 40	0.7 0.5	0.053 0.010	7.943	7.9	126 5Yr	-0.5 -0.9	0.652 0.814	0.210 0.043	0.137 0.035	0.172	60		60	0.5	2.553	1	2.4	60		63	
63	2 4	40 40	0.7 0.5	0.053 0.010	8.516	8.5	123 5Yr	-0.5 -0.9	0.652 0.814	0.214 0.050	0.140 0.041	0.18	62		62	0.5	2.575 0.04PH	1 SAG	1.8	62		63	
64	2 4	10 10	3 0.5	0.053 0.010	2.147	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.046 0.036	0.024 0.029	0.054	22		22	0.5	1.526 0.03PH	1 SAG	1.8	22		64	
65	2 4	6 10	3 0.5	0.010 0.010	0.905	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.025 0.020	0.013 0.016	0.03	12		12	0.5	1.278 0.03PH	1 SAG	1.8	12		65	
66	2 4	7 3	3 0.5	0.010 0.010	0.530	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.406	1	1.8	3		67	
67	2 4	7 60	3 0.5	0.170 0.010	5.760	5.8	143 5Yr	-0.2 -0.9	0.530 0.814	0.025 0.061	0.013 0.050	0.063	25		25	0.5	1.766	1	1.8	25		(?)	
50	2 4	7 35	3 0.5	0.170 0.010	4.727	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.030 0.036	0.016 0.029	0.045	19		19	0.5	1.561	1	1.8	19		52	
52	2 4	7 35	3 0.5	0.170 0.010	4.727	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.020 0.053	0.011 0.043	0.054	22		22	0.5	1.526 0.03PH	1 SAG	1.8	22		52	
53	3 4	6 15	3 0.5	0.010 0.010	1.164	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.020 0.025	0.013 0.020	0.033	14		14	0.672	1.125 0.03PH	1 SAG	1.8	14		53	
54	3 4	6 15	1 0.5	0.170 0.010	4.670	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.030 0.036	0.020 0.029	0.049	20		20	0.672	1.362 0.03PH	1 SAG	1.8	20		54	
58	3 4	7 6	3 0.5	0.010 0.010	0.707	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.406	1	1.8	3		54	
59	2 4	7 70	3 0.5	0.170 0.010	6.140	6.1	139 5Yr	-0.2 -0.9	0.530 0.814	0.111 0.010	0.059 0.008	0.067	26		26	0.5	1.797	1	1.8	26		60	
62	2 4	7 3	3 0.5	0.010 0.010	0.530	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.406	1	1.8	3		68	
68	2 4	7 60	3 0.5	0.170 0.010	5.760	5.8	143 5Yr	-0.2 -0.9	0.530 0.814	0.030 0.067	0.016 0.055	0.07	28		28	0.5	1.856	1	1.8	28		69	
69	2 4	7 15	1 0.5	0.170 0.010	5.056	5.1	150 5Yr	-0.5 -0.9	0.652 0.814	0.034 0.038	0.022 0.031	0.053	22		22	0.5	1.323 0.03PH	1 SAG	1.8	22		69	
84	2 4	35 50	1 0.5	0.170 0.010	14.951	15	97 5Yr	-0.5 -0.9	0.652 0.814	0.256 0.036	0.167 0.029	0.196	53		53	0.5	2.422	1	1.8	53		85	
85	2 4	35 45	1 0.5	0.170 0.010	14.736	14.7	98 5Yr	-0.5 -0.9	0.652 0.814	0.191 0.036	0.125 0.029	0.154	42		42	0.5	2.2	1	1.8	42		86	
86	2 4	35 40	1 0.5	0.170 0.010	14.517	14.5	99 5Yr	-0.5 -0.9	0.652 0.814	0.157 0.022	0.102 0.018	0.12	33		33	0.5	1.903 0.03PH	1 SAG	1.8	33		86	
100	2 4	30 40	1 0.5	0.170 0.010	13.237	13.2	103 5Yr	-0.5 -0.9	0.652 0.814	0.130 0.020	0.085 0.016	0.101	29		29	0.5	1.879	1	1.8	29		97	
97	2 4	30 45	1 0.5	0.170 0.010	13.458	13.5	102 5Yr	-0.5 -0.9	0.652 0.814	0.191 0.046	0.125 0.037	0.162	46		46	0.505	2.079 0.03PH	1 SAG	1.8	46		97	

HYDRAULIC DESIGN SHEET

PIT	TIME	INTENSITY	AREAS	FLOW	LENGTH	DIAMETER	GRADE	H.G.L GRADE	VEL Q/A	K	HEAD LOSS	VEL CAP	PIPE VEL	PIPE CAP	PIPE TIME	C=C.W. N=MANNINGS MAX TIME 20 HAWKS NEST BY PASS=AREA AREA=ADP Q REMARKS
	min	mm/hr	ha	L/s	m	mm	%	%	m/s		m	m/s	m/s	L/s	min	
LINE 22 43-44	5	150 5Yr	0.038	16	6.371 C0.0006	375	0.314	0.008	0.145	3.5	0.004	1.022	0.62	113	0.17	
44-45	8.4	123 5Yr	0.254	87	12.06 C0.0006	375	0.332	0.193	0.788	1.8	0.057	1.051	1.05	116	0.19	
45-53	8.6	122 5Yr	0.296	101	21.808 C0.0006	375	0.16	0.258	0.912	1.2	0.051	0.731	0.731	81	0.5	
LINE 24 60-61	5	150 5Yr	0.064	27	11 C0.0006	375	0.318	0.019	0.24	3.5	0.01	1.029	0.72	114	0.25	
61-62	5.3	147 5Yr	0.131	54	18.385 C0.0006	375	0.315	0.076	0.486	1.6	0.019	1.025	0.89	113	0.34	
LINE 25 49-19	8.1	125 5Yr	0.121	42	44.318 C0.0006	375	0.496	0.048	0.382	3.5	0.026	1.285	0.97	142	0.76	
19-51	8.9	120 5Yr	0.259	87	25.31 C0.0006	451	0.316	0.075	0.545	1.3	0.02	1.152	1.01	184	0.42	
51-55	9.3	118 5Yr	0.397	131	12.541 C0.0006	451	0.319	0.166	0.82	1.4	0.048	1.157	1.14	185	0.18	
55-56	9.5	117 5Yr	0.444	145	7.524 C0.0006	451	0.399	0.205	0.911	1	0.042	1.293	1.28	207	0.1	
56-57	9.6	117 5Yr	0.497	162	12.585 C0.0006	522	0.318	0.119	0.758	0.9	0.026	1.265	1.19	271	0.18	
57-20	9.8	116 5Yr	0.504	163	56.325 C0.0006	522	0.391	0.12	0.762	0.8	0.024	1.403	1.28	300	0.73	
20-63	10.5	113 5Yr	0.676	212	47.392 C0.0006	522	0.464	0.202	0.993	1.1	0.055	1.529	1.47	327	0.54	
63-64	11	110 5Yr	0.856	264	19.534 C0.0006	590	0.307	0.163	0.964	1.4	0.066	1.342	1.33	367	0.24	
64-65	11.3	109 5Yr	0.91	278	7.5 C0.0006	590	0.333	0.182	1.015	0.9	0.047	1.398	1.39	382	0.09	
65-66	11.4	109 5Yr	0.94	286	19.533 C0.0006	590	0.307	0.192	1.045	0.8	0.045	1.342	1.36	367	0.24	
66-67	11.6	108 5Yr	0.946	285	58.291 C0.0006	590	0.3	0.191	1.043	0.7	0.039	1.327	1.35	363	0.72	
67-46	12.3	105 5Yr	1.009	296	36.437 C0.0006	590	0.302	0.206	1.084	1.2	0.072	1.331	1.37	364	0.44	
LINE 18 50-52	5	150 5Yr	0.045	19	44.538 C0.0006	375	0.301	0.011	0.171	3.5	0.005	1.001	0.63	111	1.18	
52-53	6.2	139 5Yr	0.099	38	14.147 C0.0006	375	0.304	0.039	0.346	1.3	0.008	1.006	0.79	111	0.3	
53-54	9.1	119 5Yr	0.429	143	11.03 C0.0006	451	0.299	0.197	0.892	0.5	0.02	1.12	1.15	179	0.16	
54-58	9.3	118 5Yr	0.478	158	12.938 C0.0006	522	0.309	0.113	0.737	0.6	0.017	1.248	1.17	267	0.18	
58-59	9.5	117 5Yr	0.484	159	100.017 C0.0006	522	0.302	0.114	0.741	0.9	0.025	1.233	1.16	264	1.44	
59-62	10.9	111 5Yr	0.551	170	37 C0.0006	522	0.3	0.131	0.797	0.6	0.019	1.229	1.18	263	0.52	
62-68	11.4	109 5Yr	0.689	209	75.65 C0.0006	590	0.3	0.104	0.764	0.6	0.018	1.327	1.23	363	1.03	
68-69	12.5	105 5Yr	0.76	222	11.314 C0.0006	590	0.309	0.116	0.812	0.9	0.03	1.347	1.27	368	0.15	
69-81	12.6	104 5Yr	0.813	236	25.366 C0.0006	590	0.375	0.132	0.865	0.5	0.019	1.482	1.38	405	0.31	
LINE 27 84-85	15	97 5Yr	0.196	53	51.958 C0.0006	375	0.308	0.074	0.48	3.5	0.041	1.012	0.88	112	0.98	
85-86	15.9	94 5Yr	0.35	92	12.728 C0.0006	375	0.314	0.216	0.832	1.2	0.042	1.023	1.05	113	0.2	
86-89	16.1	93 5Yr	0.47	123	25.314 C0.0006	451	0.356	0.147	0.768	1.3	0.039	1.221	1.17	195	0.36	
LINE 34 100-97	13.2	102 5Yr	0.101	29	12.688 C0.0006	375	0.315	0.023	0.261	3.5	0.012	1.024	0.74	113	0.29	
97-99	13.5	101 5Yr	0.263	74	15.677 C0.0006	375	0.319	0.142	0.672	1.5	0.035	1.03	0.99	114	0.26	
99-98	13.8	100 5Yr	0.304	85	15.793 C0.0006	451	0.317	0.071	0.532	1.1	0.016	1.152	1	184	0.26	
LINE 35 96-95	10.3	114 5Yr	0.058	18	18.452 C0.0006	375	0.325	0.01	0.166	3.5	0.005	1.04	0.65	115	0.47	
LINE 33 90-92	7	132 5Yr	0.138	51	29.33 C0.0006	375	0.307	0.068	0.46	3.5	0.038	1.011	0.87	112	0.56	
92-94	7.5	129 5Yr	0.194	70	12.818 C0.0006	375	0.312	0.125	0.63	1.1	0.022	1.019	0.97	113	0.22	
94-93	7.8	127 5Yr	0.209	74	11.21 C0.0006	375	0.312	0.141	0.67	0.8	0.018	1.019	0.98	113	0.19	
93-95	13.2	102 5Yr	0.354	101	34 C0.0006	451	0.309	0.1	0.631	1.7	0.035	1.138	1.04	182	0.54	
95-98	14.5	98 5Yr	0.517	141	51.25 C0.0006	590	0.302	0.049	0.517	1.1	0.015	1.332	1.1	364	0.78	
98-76	15.3	96 5Yr	0.97	259	12.727 C0.0006	590	0.314	0.158	0.949	1.8	0.083	1.358	1.34	371	0.16	
76-101	15.5	95 5Yr	1.002	267	21.665 C0.0006	590	0.438	0.167	0.975	0.6	0.029	1.604	1.52	439	0.24	
LINE 36 108-107	9.5	117 5Yr	0.058	19	12.68 C0.0006	375	1.105	0.011	0.171	1	0.001	1.917	1.05	212	0.2	
107-106	13.2	102 5Yr	0.206	59	7.5 C0.0006	375	1.067	0.09	0.531	1.2	0.017	1.884	1.4	208	0.09	
LINE 29 82-102	8.3	124 5Yr	0.049	17	14.175 C0.0006	375	0.317	0.009	0.153	3.5	0.004	1.028	0.63	114	0.38	
102-103	8.7	121 5Yr	0.076	26	7.501 C0.0006	375	0.4	0.018	0.233	1.1	0.003	1.154	0.77	127	0.16	
103-104	14.7	97 5Yr	0.208	57	12.681 C0.0006	375	0.394	0.084	0.512	1.3	0.017	1.146	0.98	127	0.22	
104-106	15	97 5Yr	0.215	58	64.209 C0.0006	451	0.311	0.034	0.363	0.5	0.003	1.143	0.88	183	1.22	
106-105	16.2	93 5Yr	0.547	143	12.802 C0.0006	451	0.312	0.197	0.893	2	0.081	1.145	1.16	183	0.18	

LAND USE CODES

1. PARKS/RESERVES
2. ALLOTMENTS
3. ROADS
4. KERB & GUTTER
5. TABLE/CATCH DRAINS
6. PIPES

PIT TYPE CODES

1. G.G.P. GRATED GULLY PIT
2. L.S.I.P. LETTER BOX GULLY PIT
3. S.I.P. SURFACE INLET PIT
4. G.S.I.P. GRATED SURFACE INLET PIT
5. J.P. JUNCTION PIT
6. H.W. HEADWALL
7. D.C. DIRECT CONNECTION
8. S.P. SUMP PIT
9. BEND BEND IN PIPE
10. I.P. INSPECTION PIT
11. S.J. SLOPE JUNCTION

PROPOSED DRAINAGE CALCULATION SHEETS

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	AR	4/8/08
A	Original Issue	GH	GH	-	-	23/10/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1 0 1 2m (1:100 for A1 Size Plot)
SHEET No. :34
JOB No. : 201479
FILE : 20700196
DATE : Plotted 18:19 19/12/07
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Drainage Longsections.dwg

HYDROLOGICAL DESIGN SHEET

PIT	LAND USE	FLOW LENGTH	SLOPE	"n"	TIME	TIME	INTENSITY	CODE	COEFF	AREA	C.A	SUM AREA	Q	BY PASS	TOTAL FLOW	GUTTER SLOPE	FLOW WIDTH	PIT TYPE	LINTEL	INFLOW	BY FLOW	BY PIT	KINEMATIC MIN TIME 5 MAX TIME 20 HAWKS NEST REMARKS
		m	%		min	min	mm/h			ha	ha	ha	L/s	L/s	L/s	%	m		m	L/s	L/s		
99	1	35	0.5	0.053	6.970	7	133 5Yr	-0.1	0.490	0.083	0.041	0.041	15		15	0.5	0.711 0.03PH	4 SAG		15		99	
96	2 4	20 35	1 0.5	0.170 0.010	10.283	10.3	114 5Yr	-0.5 -0.9	0.652 0.814	0.064 0.020	0.042 0.016	0.058	18		18	0.505	1.54	1	1.8	18		97	
90	1	35	0.5	0.053	6.970	7	133 5Yr	-0.1	0.490	0.281	0.138	0.138	51		51	0.5	1.583 0.04PH	4 SAG		51		90	
92	2 4	10 15	1 0.5	0.170 0.010	6.141	6.1	139 5Yr	-0.5 -0.9	0.652 0.814	0.073 0.011	0.048 0.009	0.057	22		22	0.741	1.528	1	1.8	22		94	
94	2 4	10 10	1 0.5	0.170 0.010	5.841	5.8	142 5Yr	-0.5 -0.9	0.652 0.814	0.010 0.010	0.007 0.008	0.015	6		6	0.505	0.831	1	1.8	6		96	
93	2 4	30 40	1 0.5	0.170 0.010	13.237	13.2	103 5Yr	-0.5 -0.9	0.652 0.814	0.180 0.034	0.117 0.028	0.145	41		41	0.525	2.166	1	1.8	41		95	
95	2 4	35 40	1 0.5	0.170 0.010	14.517	14.5	99 5Yr	-0.5 -0.9	0.652 0.814	0.136 0.020	0.089 0.016	0.105	29		29	0.525	1.858	1	1.8	29		98	
98	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.185 0.036	0.121 0.029	0.15	44		44	0.525	1.788 0.03PH	1 SAG	1.8	44		98	
76	2 4	15 7	1 0.5	0.170 0.010	7.302	7.3	131 5Yr	-0.2 -0.9	0.530 0.814	0.036 0.015	0.019 0.012	0.031	11		11	0.512	1.219	1	1.8	11		98	
108	2 4	20 20	1 0.5	0.170 0.010	9.545	9.5	118 5Yr	-0.5 -0.9	0.652 0.814	0.061 0.022	0.040 0.018	0.058	19		19	0.5	1.561 0.03PH	1 SAG	2.4	19		108	
107	2 4	30 40	1 0.5	0.170 0.010	13.237	13.2	103 5Yr	-0.5 -0.9	0.652 0.814	0.185 0.034	0.121 0.028	0.148	42		42	0.5	2.012 0.03PH	1 SAG	1.8	42		107	
82	1	45	0.5	0.053	8.329	8.3	124 5Yr	-0.1	0.490	0.1	0.049	0.049	17		17	0.5	1.014 0.03PH	4 SAG		17		82	
102	2 4	6 40	3 0.5	0.170 0.010	4.695	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.030	0.003 0.024	0.027	11		11	0.5	1.088 0.03PH	1 SAG	1.8	11		102	
103	2 4	35 45	1 0.5	0.170 0.010	14.736	14.7	98 5Yr	-0.5 -0.9	0.652 0.814	0.175 0.022	0.114 0.018	0.132	36		36	0.5	1.877 0.03PH	1 SAG	1.8	36		103	
104	2 4	6 7	3 0.5	0.010 0.010	0.739	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.406	1	1.8	3		106	
106	2 4	20 45	1 0.5	0.170 0.010	10.735	10.7	112 5Yr	-0.5 -0.9	0.652 0.814	0.144 0.040	0.094 0.033	0.126	39		39	0.5	1.954 0.03PH	1 SAG	1.8	39		106	
114	3 4	10 6	1 0.5	0.170 0.010	5.578	5.6	144 5Yr	-0.3 -0.9	0.571 0.814	0.025 0.017	0.014 0.014	0.028	11		11	0.5	1.221	1	1.8	11		113	
113	2 4	35 40	1 0.5	0.170 0.010	14.517	14.5	99 5Yr	-0.5 -0.9	0.652 0.814	0.136 0.025	0.089 0.020	0.109	30		30	0.5	1.825 0.03PH	1 SAG	1.8	30		113	
112	2 4	20 40	1 0.5	0.170 0.010	10.512	10.5	113 5Yr	-0.5 -0.9	0.652 0.814	0.111 0.025	0.072 0.020	0.093	29		29	0.5	1.805 0.03PH	1 SAG	1.8	29		112	
118	3 4	30 35	1 0.5	0.170 0.010	13.011	13	103 5Yr	-0.5 -0.9	0.652 0.814	0.180 0.036	0.117 0.029	0.147	42		42	0.5	2.206	1	1.8	42		112	
105	2 4	35 45	1 0.5	0.170 0.010	14.736	14.7	98 5Yr	-0.5 -0.9	0.652 0.814	0.180 0.036	0.117 0.029	0.147	40		40	0.5	2.157	1	1.8	40		106	
83	2 4	30 20	1 0.5	0.170 0.010	12.292	12.3	106 5Yr	-0.5 -0.9	0.652 0.814	0.081 0.010	0.053 0.008	0.061	18		18	0.5	1.526	1	1.8	18		116	
87	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.095 0.013	0.062 0.011	0.073	21		21	0.5	1.637	1	1.8	21		117	
119	3 4	30 20	1 0.5	0.170 0.010	12.292	12.3	106 5Yr	-0.5 -0.9	0.652 0.814	0.095 0.017	0.062 0.014	0.076	22		22	0.5	1.682	1	1.8	22		117	
117	3 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.118 0.022	0.077 0.018	0.095	27		27	0.5	1.67 0.03PH	1 SAG	1.8	27		117	
116	3 4	30 40	1 0.5	0.170 0.010	13.237	13.2	103 5Yr	-0.5 -0.9	0.652 0.814	0.185 0.025	0.121 0.020	0.141	40		40	0.5	1.969 0.03PH	1 SAG	1.8	40		116	
115	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.113 0.021	0.074 0.017	0.091	26		26	0.5	1.807	1	1.8	26		116	
126	2 4	20 20	1 0.5	0.170 0.010	9.545	9.5	118 5Yr	-0.5 -0.9	0.652 0.814	0.058 0.030	0.038 0.024	0.062	20		20	0.512	1.264 0.03PH	1 SAG	1.8	20		126	
124	2 4	20 30	1 0.5	0.170 0.010	10.046	10	115 5Yr	-0.5 -0.9	0.652 0.814	0.079 0.021	0.052 0.017	0.069	22		22	0.502	1.668	1	1.8	22		123	
123	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.118 0.022	0.077 0.018	0.095	28		28	0.5	1.766 0.03PH	1 SAG	1.8	28		123	
122	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.111 0.017	0.072 0.014	0.086	25		25	0.5	1.688 0.03PH	1 SAG	1.8	25		122	
121	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.1 0.025	0.065 0.020	0.086	25		25	0.511	1.76	1	1.8	25		122	
109A	3 5	10 80	3 0.5	0.010 0.010	3.656	5	150 5Yr	-0.1 -0.9	0.490 0.814	0.079 0.053	0.039 0.043	0.082	34		34	0.5	0.705	4		34		190A	
190A	3 5	10 80	3 0.5	0.010 0.010	3.656	5	150 5Yr	-0.1 -0.9	0.490 0.814	0.036 0.034	0.018 0.028	0.045	19		19	0.5	0.565 0.03PH	4 SAG		19		190A	
91	2 4	35 40	1 0.5	0.170 0.010	14.517	14.5	99 5Yr	-0.5 -0.9	0.652 0.814	0.218 0.028	0.142 0.023	0.165	45		45	0.5	2.27	1	1.8	45		109	
109	2 4	35 40	1 0.5	0.170 0.010	14.517	14.5	99 5Yr	-0.5 -0.9	0.652 0.814	0.214 0.027	0.140 0.022	0.162	44		44	0.5	2.25	1	2.4	44		120	
120	2 4	40 40	1 0.5	0.170 0.010	15.756	15.8	95 5Yr	-0.5 -0.9	0.652 0.814	0.237 0.031	0.155 0.025	0.18	47		47	0.5	2.315	1	2.4	47		190	
190	2 4	40 25	1 0.5	0.170 0.010	15.072	15.1	97 5Yr	-0.5 -0.9	0.652 0.814	0.118 0.022	0.077 0.018	0.095	26		26	0.5	1.786 0.03PH	1 SAG	1.8	26		190	

HYDRAULIC DESIGN SHEET

PIT	TIME	INTENSITY	AREAS	FLOW	LENGTH	DIAMETER	GRADE	H.G.L. GRADE	VEL Q/A	K	HEAD LOSS	VEL CAP	PIPE VEL	PIPE CAP	PIPE TIME	C=C.W., N=MANNINGS MAX TIME 20 HAWKS NEST BY PASS=AREA AREA=ADP Q REMARKS
	min	mm/hr	ha	L/s	m	mm	%	%	m/s		m	m/s	m/s	L/s	min	
LINE 28 114-113	5.6	144 5Yr	0.028	11	13.09 C0.0006	375	0.764	0.004	0.102	3.5	0.002	1.594	0.8	176	0.27	
113-112	14.5	98 5Yr	0.137	38	7.602 C0.0006	375	0.658	0.038	0.34	1.4	0.008	1.48	1.03	163	0.12	
112-118	14.6	98 5Yr	0.23	63	12.597 C0.0006	375	0.318	0.102	0.567	1.2	0.02	1.028	0.94	114	0.22	
118-105	14.9	97 5Yr	0.377	102	66.15 C0.0006	451	0.302	0.102	0.638	1	0.021	1.126	1.04	180	1.06	
105-110	16.4	93 5Yr	1.071	278	18.561 C0.0006	522	0.485	0.342	1.297	1.1	0.094	1.563	1.62	334	0.19	
LINE 30 83-87	12.3	105 5Yr	0.061	18	11.625 C0.0006	375	0.43	0.01	0.162	3.5	0.005	1.196	0.72	132	0.27	
87-117	12.8	104 5Yr	0.133	39	37.858 C0.0006	375	0.343	0.04	0.35	1.2	0.007	1.069	0.83	118	0.76	
LINE 31 119-117	12.3	105 5Yr	0.076	22	12.896 C0.0006	375	0.388	0.014	0.202	3.5	0.007	1.136	0.73	125	0.29	
117-116	13.5	101 5Yr	0.304	86	7.699 C0.0006	451	0.39	0.073	0.537	2.1	0.031	1.279	1.08	204	0.12	
116-115	13.7	101 5Yr	0.445	125	12.145 C0.0006	451	0.329	0.152	0.783	1.3	0.041	1.175	1.14	188	0.18	
115-129	13.8	100 5Yr	0.536	150	19.7 C0.0006	451	0.305	0.217	0.937	1.2	0.054	1.13	1.17	181	0.28	
LINE 32 126-124	9.5	117 5Yr	0.062	20	55.17 C0.0006	375	0.326	0.012	0.184	3.5	0.006	1.042	0.67	115	1.37	
124-123	10.9	111 5Yr	0.131	40	11.756 C0.0006	375	0.3	0.043	0.366	1.2	0.008	0.999	0.81	110	0.24	
123-122	12.5	104 5Yr	0.226	66	8.372 C0.0006	375	0.3	0.113	0.596	1.1	0.02	0.999	0.94	110	0.15	
122-121	12.8	104 5Yr	0.312	90	13.337 C0.0006	451	0.3	0.08	0.565	1.1	0.018	1.122	1	179	0.22	
121-127	13	103 5Yr	0.397	114	26.66 C0.0006	451	0.3	0.127	0.714	1.1	0.029	1.122	1.07	179	0.42	
LINE 69 109A-109	5	150 5Yr	0.082	34	14.2 C0.0006	451	0.352	0.013	0.214	3.5	0.008	1.215	0.78	194	0.3	
LINE 21 190A-190	5	150 5Yr	0.045	19	14.2 C0.0006	375	0.352	0.011	0.171	3.5	0.005	1.083	0.67	120	0.35	
LINE 68 91-109	14.5	98 5Yr	0.165	45	48.394 C0.0006	375	0.413	0.054	0.409	3.5	0.03	1.173	0.93	130	0.87	
109-120	15.4	95 5Yr	0.408	109	56.254 C0.0006	375	0.338	0.301	0.986	1.5	0.074	1.06	1.13	117	0.83	
120-190	16.2	93 5Yr	0.588	153	31.625 C0.0006	451	0.316	0.226	0.959	1	0.047	1.152	1.19	184	0.44	
190-191	16.7	92 5Yr	0.728	187	12.794 C0.0006	522	0.313	0.158	0.875	1.2	0.047	1.255	1.23	269	0.17	
191-192	16.8	92 5Yr	0.798	204	19.701 C0.0006	522	0.305	0.187	0.954	1.2	0.056	1.238	1.25	265	0.26	
192-193	17.1	91 5Yr	0.821	209	16.782 C0.0006	522	0.358	0.195	0.975	1	0.049	1.342	1.34	287	0.21	
193-233	17.3	90 5Yr	0.974	246	15.158 C0.0006	522	0.33	0.27	1.15	1.5	0.101	1.289	1.36	276	0.19	
LINE 74 160-186	11.4	109 5Yr	0.079	24	7.502 C0.0006	375	0.333	0.016	0.217	3.5	0.008	1.053	0.71	116	0.18	
186-187	12.5	104 5Yr	0.167	49	12.889 C0.0006	375	0.31	0.062	0.44	1.3	0.013	1.016	0.86	112	0.25	
187-185	12.8	104 5Yr	0.208	60	7.5 C0.0006	375	0.4	0.094	0.545	0.9	0.014	1.154	1.01	127	0.12	
LINE 73 226-227	12	106 5Yr	0.065	19	10.29 C0.0006	375	0.777	0.011	0.174	3.5	0.005	1.609	0.92	178	0.19	
LINE 72 228-229	13.2	102 5Yr	0.129	37	7.606 C0.0006	375	0.329	0.036	0.332	3.5	0.02	1.046	0.81	116	0.16	
LINE 71 188-189	13	103 5Yr	0.089	25	7.514 C0.0006	375	0.466	0.018	0.23	3.5	0.009	1.245	0.81	138	0.15	
189-224	14.3	99 5Yr	0.191	53	12.637 C0.0006	375	0.317	0.072	0.477	1.3	0.015	1.026	0.89	113	0.24	
224-225	14.5	98 5Yr	0.285	78	7.501 C0.0006	375	0.333	0.157	0.706	1.2	0.031	1.053	1.02	116	0.12	
225-185	14.7	98 5Yr	0.31	85	13.145 C0.0006	375	0.304	0.183	0.765	0.6	0.018	1.006	1.01	111	0.22	
185-227	14.9	97 5Yr	0.599	162	62.312 C0.0006	522	0.305	0.119	0.757	1.2	0.035	1.239	1.17	265	0.89	
227-229	15.8	94 5Yr	0.762	201	46.601 C0.0006	522	0.311	0.181	0.939	1.4	0.063	1.252	1.26	268	0.62	
229-230	16.4	93 5Yr	0.995	258	12.99 C0.0006	522	0.308	0.297	1.206	1.3	0.096	1.245	1.34	267	0.16	
LINE 76 220-221	11.4	109 5Yr	0.078	24	7.606 C0.0006	375	0.329	0.016	0.215	3.5	0.008	1.046	0.7	116	0.18	
LINE 77 179-179A	11.2	110 5Yr	0.118	36	3.5 C0.0006	375	0.3	0.035	0.328	3.5	0.019	0.999	0.78	110	0.07	
179A-259	12	106 5Yr	0.188	56	17.02 C0.0006	375	0.323	0.082	0.506	1.8	0.024	1.037	0.91	115	0.31	
LINE 78 194-195	7.8	127 5Yr	0.041	14	7.619 C0.0006	375	0.328	0.006	0.13	3.5	0.003	1.045	0.61	115	0.21	
195-198	8	126 5Yr	0.071	25	12.867 C0.0006	375	0.311	0.017	0.224	1.3	0.003	1.017	0.7	112	0.31	

LAND USE CODES

1. PARKS/RESERVES
2. ALLOTMENTS
3. ROADS
4. KERB & GUTTER
5. TABLE/CATCH DRAINS
6. PIPES

PIT TYPE CODES

1. G.G.P. GRATED GULLY PIT
2. L.S.I.P. LETTER BOX GULLY PIT
3. S.I.P. SURFACE INLET PIT
4. G.S.I.P. GRATED SURFACE INLET PIT
5. J.P. JUNCTION PIT
6. H.W. HEADWALL
7. D.C. DIRECT CONNECTION
8. S.P. SUMP PIT
9. BEND BEND IN PIPE
10. I.P. INSPECTION PIT
11. S.J. SLOPE JUNCTION

PROPOSED DRAINAGE CALCULATION SHEETS

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.J.	AL	17/9/08*
A	Original Issue	GH	GH	-	-	23/10/07*
*	Denote the original signature and date when revision was issued.					

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 1 1 2m (1:100 for A1 Size Plot) | SHEET No. :35 | FILE : 20700197 | SHEET SIZE

JOB No. : 201479 | DATE : Plotted 11:46 17/09/08 | A1

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Drainage Longsections.dwg

HYDROLOGICAL DESIGN SHEET

PIT	LAND USE	FLOW LENGTH	SLOPE	"n"	TIME	TIME	INTENSITY	CODE	COEFF	AREA	C.A	SUM AREA	Q	BY PASS	TOTAL FLOW	GUTTER SLOPE	FLOW WIDTH	PIT TYPE	LINTEL	INFLOW	BY FLOW	BY PIT	KINEMATIC MIN TIME 5 MAX TIME 20 HAWKS NEST REMARKS
		m	%		min	min	mm/h			ha	ha	ha	L/s	L/s	L/s	%	m		m	L/s	L/s		
191	2 4	20 25	1 0.5	0.170 0.010	9.801	9.8	116 5Yr	-0.5 -0.9	0.652 0.814	0.083 0.019	0.054 0.015	0.07	22		22	0.506	1.608 0.03PH	1 SAG	1.8	22		191	
192	2 4	6 20	3 0.5	0.170 0.010	3.746	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.013 0.020	0.007 0.016	0.023	10		10	0.5	1.129	1	1.8	10		193	
193	2 4	30 35	1 0.5	0.170 0.010	13.011	13	103 5Yr	-0.5 -0.9	0.652 0.814	0.203 0.025	0.132 0.020	0.153	44		44	0.5	1.932 0.03PH	1 SAG	2.4	44		193	
160	2 4	25 30	1 0.5	0.170 0.010	11.445	11.4	109 5Yr	-0.5 -0.9	0.652 0.814	0.1 0.017	0.065 0.014	0.079	24		24	0.721	1.528 0.03PH	1 SAG	1.8	24		160	
186	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.113 0.017	0.074 0.014	0.088	26		26	0.721	1.571 0.03PH	1 SAG	1.8	26		186	
187	3 4	15 10	1 0.5	0.170 0.010	7.486	7.5	129 5Yr	-0.5 -0.9	0.652 0.814	0.050 0.011	0.033 0.009	0.042	15		15	0.509	1.327 0.03PH	1 SAG	1.8	15		187	
226	2 4	30 15	1 0.5	0.170 0.010	12.036	12	107 5Yr	-0.5 -0.9	0.652 0.814	0.083 0.013	0.054 0.011	0.065	19		19	0.5	1.575	1	1.8	19		228	
228	2 4	30 40	1 0.5	0.170 0.010	13.237	13.2	103 5Yr	-0.5 -0.9	0.652 0.814	0.166 0.025	0.108 0.020	0.129	37		37	0.5	1.991 0.03PH	1 SAG	1.8	37		228	
188	2 4	30 35	1 0.5	0.170 0.010	13.011	13	103 5Yr	-0.5 -0.9	0.652 0.814	0.111 0.020	0.072 0.016	0.089	25		25	0.504	1.78	1	1.8	25		160	
189	2 4	35 35	1 0.5	0.170 0.010	14.292	14.3	99 5Yr	-0.5 -0.9	0.652 0.814	0.136 0.017	0.089 0.014	0.103	28		28	0.504	1.862	1	1.8	28		224	
224	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.118 0.021	0.077 0.017	0.094	27		27	0.506	1.661 0.03PH	1 SAG	2.4	27		224	
225	2 4	6 30	3 0.5	0.170 0.010	4.244	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.021 0.017	0.011 0.014	0.025	10		10	0.506	1.108 0.03PH	1 SAG	1.8	10		225	
185	3 4	30 20	1 0.5	0.170 0.010	12.292	12.3	106 5Yr	-0.5 -0.9	0.652 0.814	0.107 0.013	0.070 0.011	0.08	24		24	0.509	1.719	1	1.8	24		227	
227	2 4	30 35	1 0.5	0.170 0.010	13.011	13	103 5Yr	-0.5 -0.9	0.652 0.814	0.132 0.015	0.086 0.012	0.098	28		28	0.5	1.864	1	1.8	28		229	
229	2 4	25 40	1 0.5	0.170 0.010	11.907	11.9	107 5Yr	-0.5 -0.9	0.652 0.814	0.130 0.025	0.085 0.020	0.105	31		31	0.5	1.864 0.03PH	1 SAG	1.8	31		229	
220	2 4	25 30	1 0.5	0.170 0.010	11.445	11.4	109 5Yr	-0.5 -0.9	0.652 0.814	0.095 0.020	0.062 0.016	0.078	24		24	0.527	1.631 0.03PH	1 SAG	1.8	24		220	
179	2 4	25 25	1 0.5	0.170 0.010	11.202	11.2	110 5Yr	-0.5 -0.9	0.652 0.814	0.148 0.027	0.096 0.022	0.118	36		36	0.507	1.977 0.03PH	1 SAG	1.8	36		179	
179A	2 4	30 15	1 0.5	0.170 0.010	12.036	12	107 5Yr	-0.5 -0.9	0.652 0.814	0.091 0.013	0.059 0.011	0.07	21		21	0.507	1.625 0.03PH	1 SAG	1.8	21		179A	
194	2 4	15 15	1 0.5	0.170 0.010	7.776	7.8	127 5Yr	-0.5 -0.9	0.652 0.814	0.046 0.013	0.030 0.011	0.041	14		14	0.507	1.303 0.03PH	1 SAG	1.8	14		194	
195	2 4	10 15	1 0.5	0.170 0.010	6.141	6.1	139 5Yr	-0.3 -0.9	0.571 0.814	0.034 0.013	0.019 0.011	0.03	12		12	0.507	1.17 0.03PH	1 SAG	1.8	12		195	
196	3 4	6 10	3 0.5	0.010 0.010	0.905	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.021 0.019	0.014 0.015	0.029	12		12	0.5	1.27 0.03PH	1 SAG	1.8	12		196	
197	3 4	6 7	3 0.5	0.010 0.010	0.739	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.498	0.406	1	1.8	3		179	
198	3 4	6 7	3 0.5	0.010 0.010	0.739	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.498	0.406	1	1.8	3		259	
259	2 4	20 25	1 0.5	0.170 0.010	9.801	9.8	116 5Yr	-0.5 -0.9	0.652 0.814	0.191 0.022	0.125 0.018	0.142	46		46	0.001	6.096 0.03PH	1 SAG	2.4	46		259	
221	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.111 0.025	0.072 0.020	0.093	27		27	0.527	1.723 0.03PH	1 SAG	1.8	27		221	
216	2 4	10 10	1 0.5	0.170 0.010	5.841	5.8	142 5Yr	-0.5 -0.9	0.652 0.814	0.025 0.013	0.016 0.011	0.027	11		11	0.5	0.975 0.03PH	1 SAG	1.8	11		216	
217	2 4	10 10	1 0.5	0.170 0.010	5.841	5.8	142 5Yr	-0.5 -0.9	0.652 0.814	0.022 0.010	0.014 0.008	0.022	9		9	0.5	1.016 0.03PH	1 SAG	1.8	9		217	
218	2 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.406	1	1.8	3		219	
219	2 4	30 40	1 0.5	0.170 0.010	13.237	13.2	103 5Yr	-0.5 -0.9	0.652 0.814	0.222 0.031	0.145 0.025	0.17	48		48	0.5	2.131 0.03PH	1 SAG	1.8	48		219	
222	2 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.6	0.393	1	1.8	3		221	
223	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.151 0.025	0.098 0.020	0.119	34		34	0.6	1.864 0.03PH	1 SAG	1.8	34		223	
230	2 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.505	0.405	1	1.8	3		231	
231	2 4	10 6	3 0.5	0.170 0.010	3.916	5	150 5Yr	-0.3 -0.9	0.571 0.814	0.025 0.010	0.014 0.008	0.022	9		9	0.505	1.106	1	1.8	9		232	
232	2 4	10 6	3 0.5	0.170 0.010	3.916	5	150 5Yr	-0.3 -0.9	0.571 0.814	0.010 0.010	0.006 0.008	0.014	6		6	0.505	0.831	1	1.8	6		234	
234	2 4	20 45	1 0.5	0.170 0.010	10.735	10.7	112 5Yr	-0.5 -0.9	0.652 0.814	0.154 0.028	0.1 0.023	0.123	38		38	0.504	1.928 0.03PH	1 SAG	1.8	38		234	
35						5	150 5Yr										9999	6		ADP		35	

HYDRAULIC DESIGN SHEET

PIT	TIME	INTENSITY	AREAS	FLOW	LENGTH	DIAMETER	GRADE	H.G.L GRADE	VEL Q/A	K	HEAD LOSS	VEL CAP	PIPE VEL	PIPE CAP	PIPE TIME	C=C.W. N=MANNINGS MAX TIME 20 HAWKS NEST BY PASS=AREA AREA=ADP Q REMARKS
	min	mm/hr	ha	L/s	m	mm	%	%	m/s		m	m/s	m/s	L/s	min	
LINE 75 196-197	5	150 5Yr	0.029	12	12.579 C0.0006	375	0.318	0.005	0.11	3.5	0.002	1.029	0.58	114	0.36	
197-198	5.4	146 5Yr	0.036	15	7.525 C0.0006	375	0.332	0.006	0.132	1.4	0.001	1.052	0.62	116	0.2	
198-259	8.3	124 5Yr	0.113	39	36.024 C0.0006	375	0.305	0.041	0.354	1.5	0.01	1.008	0.8	111	0.75	
259-221	12.3	105 5Yr	0.444	130	63.711 C0.0006	451	0.306	0.165	0.816	1.8	0.061	1.133	1.12	181	0.95	
221-222	13.3	102 5Yr	0.615	175	12.989 C0.0006	451	0.308	0.294	1.095	1.4	0.086	1.137	1.22	182	0.18	
LINE 70 216-217	5.8	141 5Yr	0.027	11	7.703 C0.0006	375	0.325	0.004	0.096	3.5	0.002	1.039	0.57	115	0.23	
217-218	6.1	139 5Yr	0.049	19	12.347 C0.0006	375	0.324	0.011	0.174	1.5	0.002	1.038	0.65	115	0.32	
218-219	6.4	137 5Yr	0.056	21	67.163 C0.0006	375	0.305	0.013	0.194	0.9	0.002	1.008	0.66	111	1.7	
219-222	13.2	102 5Yr	0.226	64	25.535 C0.0006	375	0.313	0.107	0.583	1.4	0.024	1.021	0.94	113	0.45	
222-223	13.7	101 5Yr	0.848	238	54.081 C0.0006	450x1200	0.305	0.025	0.441	1.5	0.015	1.597	1.22	862	0.74	
223-230	14.4	98 5Yr	0.967	265	25.534 C0.0006	450x1200	0.313	0.031	0.491	1	0.012	1.618	1.26	874	0.34	
230-231	16.5	92 5Yr	1.969	508	16 C0.0006	450x1200	0.313	0.11	0.941	1.7	0.077	1.616	1.48	873	0.18	
231-232	16.7	92 5Yr	1.991	511	13.05 C0.0006	450x1200	0.307	0.111	0.947	0.5	0.023	1.601	1.47	864	0.15	
232-234	16.9	92 5Yr	2.005	513	14.685 C0.0006	450x1200	0.306	0.112	0.95	0.5	0.023	1.601	1.47	864	0.17	
234-235	17	91 5Yr	2.128	542	20.232 C0.0006	450x1200	0.297	0.124	1.003	1.3	0.067	1.575	1.48	850	0.23	
LINE 26 35-41	5	150 5Yr		1	24 C0.0006	450x1200 6	0.333	0.001	0	0.5	0	1.669	1.32	5408	0.3	

LAND USE CODES

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PIT TYPE CODES

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PROPOSED DRAINAGE CALCULATION SHEETS

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	D.V.	B.L	6/5/08
A	Original Issue	GH	GH	-	-	23/10/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1 0 1 2m (1:100 for A1 Size Plot)
SHEET No. :36
FILE : 20700198
JOB No. : 201479
DATE : Plotted 10:54 06/06/08
SHEET SIZE A1
COMPUTER FILE : S:\projects\Hyall Quays\dwg\STG9\Drainage Longsections.dwg

HYDROLOGICAL DESIGN SHEET

				SLOPE	"n"	TIME	TIME	INTENSITY	CODE	COEFF	AREA	C.A	SUM AREA	Q	BY PASS	TOTAL FLOW	GUTTER SLOPE	FLOW WIDTH	PIT TYPE	LINTEL	INFLOW	BY FLOW	BY PIT	KINEMATIC MIN TIME 5 MAX TIME 20 HAWKS NEST REMARKS
				%		min	min	mm/h			ha	ha	ha	L/s	L/s	L/s	%	m		m	L/s	L/s		
131	2 4	35 45	1 0.5	0.170 0.010	14.736	14.7	98 5Yr	-0.5 -0.9	0.652 0.814	0.266 0.040	0.173 0.033	0.206	56		56	0.5	2.006 0.04PH	1 SAG	1.8	56		131	
125	2 4	10 20	1 0.5	0.170 0.010	6.421	6.4	137 5Yr	-0.5 -0.9	0.652 0.814	0.046 0.019	0.030 0.015	0.045	17		17	0.5	1.5	1	1.8	17		131	
128	2 4	20 25	1 0.5	0.170 0.010	9.801	9.8	116 5Yr	-0.5 -0.9	0.652 0.814	0.123 0.025	0.080 0.020	0.101	32		32	0.5	1.979	1	1.8	32		157	
157	2 4	30 40	1 0.5	0.170 0.010	13.237	13.2	103 5Yr	-0.5 -0.9	0.652 0.814	0.106 0.022	0.069 0.018	0.087	25		25	0.5	1.684 0.03PH	1 SAG	1.8	25		157	
183	2 4	30 60	1 0.5	0.170 0.010	14.091	14.1	100 5Yr	-0.5 -0.9	0.652 0.814	0.222 0.031	0.145 0.025	0.17	47		47	0.5	2.211 0.03PH	1 SAG	2.4	47		183	
311	2 4	25 15	1 0.5	0.170 0.010	10.690	10.7	112 5Yr	-0.5 -0.9	0.652 0.814	0.073 0.013	0.048 0.011	0.058	18		18	0.5	1.534	1	1.8	18		150	
150	2 4	10 20	1 0.5	0.170 0.010	6.421	6.4	137 5Yr	-0.5 -0.9	0.652 0.814	0.054 0.022	0.035 0.018	0.053	20		20	0.5	1.612	1	1.8	20		152	
152	2 4	30 45	1 0.5	0.170 0.010	13.458	13.5	102 5Yr	-0.5 -0.9	0.652 0.814	0.211 0.049	0.138 0.040	0.177	50		50	0.556	2 0.03PH	1 SAG	1.8	50		152	
153	1	40	0.5	0.053	7.661	7.7	128 5Yr	-0.1	0.490	0.171	0.084	0.084	30		30	0.5	1.281 0.03PH	4 SAG		30		152A	
148	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.168 0.034	0.110 0.028	0.137	40		40	0.524	1.715 0.03PH	1 SAG	1.8	40		148	
149	3 4	6 10	3 0.5	0.010 0.010	0.905	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.017 0.017	0.009 0.014	0.023	10		10	0.5	1.122	1	1.8	10		151	
151	2 4	35 35	1 0.5	0.170 0.010	14.292	14.3	99 5Yr	-0.5 -0.9	0.652 0.814	0.148 0.025	0.096 0.020	0.117	32		32	0.5	1.971	1	1.8	32		199	
199	2 4	35 40	1 0.5	0.170 0.010	14.517	14.5	99 5Yr	-0.5 -0.9	0.652 0.814	0.211 0.040	0.138 0.033	0.17	47		47	0.5	2.202 0.03PH	1 SAG	2.4	47		199	
200	2 4	30 40	1 0.5	0.170 0.010	13.237	13.2	103 5Yr	-0.5 -0.9	0.652 0.814	0.120 0.021	0.078 0.017	0.095	27		27	0.5	1.834	1	2.4	27		199	
134	2 4	35 30	1 0.5	0.170 0.010	14.062	14.1	100 5Yr	-0.5 -0.9	0.652 0.814	0.138 0.021	0.090 0.017	0.107	30		30	0.5	1.905	1	1.8	30		138	
138	2 4	35 40	1 0.5	0.170 0.010	14.517	14.5	99 5Yr	-0.5 -0.9	0.652 0.814	0.154 0.019	0.1 0.015	0.116	32		32	0.5	1.959	1	1.8	32		141	
154	2 4	35 50	1 0.5	0.170 0.010	14.951	15	97 5Yr	-0.5 -0.9	0.652 0.814	0.218 0.034	0.142 0.028	0.17	46		46	0.5	2.188 0.03PH	1 SAG	1.8	46		154	
155	2 4	35 50	1 0.5	0.170 0.010	14.951	15	97 5Yr	-0.5 -0.9	0.652 0.814	0.250 0.034	0.163 0.028	0.191	51		51	0.5	2.293 0.03PH	1 SAG	1.8	51		155	
156	3 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.42	1	1.8	3		155	
147	2 4	35 40	1 0.5	0.170 0.010	14.517	14.5	99 5Yr	-0.5 -0.9	0.652 0.814	0.218 0.025	0.142 0.020	0.163	44		44	0.5	2.254	1	1.8	44		141	
141	2 4	35 40	1 0.5	0.170 0.010	14.517	14.5	99 5Yr	-0.5 -0.9	0.652 0.814	0.222 0.046	0.145 0.037	0.182	50		50	0.5	2.264 0.03PH	1 SAG	1.8	50		141	
142	1	40	0.5	0.053	7.661	7.7	128 5Yr	-0.1	0.490	0.116	0.057	0.057	20		20	0.5	1.094 0.03PH	4 SAG		20		142	
132	2 4	20 20	1 0.5	0.170 0.010	9.545	9.5	118 5Yr	-0.5 -0.9	0.652 0.814	0.063 0.021	0.041 0.017	0.058	19		19	0.5	1.118 0.03PH	1 SAG	1.8	19		132	
133	3 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.010	0.003 0.008	0.011	5		5	0.5	0.69 0.03PH	1 SAG	1.8	5		133	
135	2 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.42	1	1.8	3		136	
136	2 4	15 30	1 0.5	0.170 0.010	8.556	8.6	123 5Yr	-0.5 -0.9	0.652 0.814	0.066 0.017	0.043 0.014	0.057	19		19	0.5	1.581	1	1.8	19		137	
137	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.092 0.021	0.060 0.017	0.077	22		22	0.5	1.612 0.03PH	1 SAG	1.8	22		137	
139	2 4	10 6	1 0.5	0.170 0.010	5.578	5.6	144 5Yr	-0.5 -0.9	0.652 0.814	0.025 0.010	0.016 0.008	0.024	10		10	0.5	1.137	1	1.8	10		140	
140	2 4	35 30	1 0.5	0.170 0.010	14.062	14.1	100 5Yr	-0.5 -0.9	0.652 0.814	0.138 0.017	0.090 0.014	0.104	29		29	0.04	3.145	1	1.8	29		143	
143	2 4	30 20	1 0.5	0.170 0.010	12.292	12.3	106 5Yr	-0.5 -0.9	0.652 0.814	0.158 0.031	0.103 0.025	0.128	38		38	0.803	1.633 0.03PH	1 SAG	1.8	38		143	
178	2 4	30 45	1 0.5	0.170 0.010	13.458	13.5	102 5Yr	-0.5 -0.9	0.652 0.814	0.113 0.031	0.074 0.025	0.099	28		28	0.5	1.858	1	1.8	28		159	
159	2 4	20 20	1 0.5	0.170 0.010	9.545	9.5	118 5Yr	-0.5 -0.9	0.652 0.814	0.063 0.015	0.041 0.012	0.053	17		17	0.5	1.504	1	1.8	17		172	
172	2 4	35 25	1 0.5	0.170 0.010	13.826	13.8	101 5Yr	-0.5 -0.9	0.652 0.814	0.106 0.022	0.069 0.018	0.087	24		24	0.5	1.668 0.03PH	1 SAG	1.8	24		172	
173	2 4	35 45	1 0.5	0.170 0.010	14.736	14.7	98 5Yr	-0.5 -0.9	0.652 0.814	0.180 0.021	0.117 0.017	0.134	37		37	0.5	1.989 0.03PH	1 SAG	1.8	37		173	
174	2 4	35 45	1 0.5	0.170 0.010	14.736	14.7	98 5Yr	-0.5 -0.9	0.652 0.814	0.195 0.028	0.127 0.023	0.15	41		41	0.5	2.176	1	1.8	41		173	
168	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.106 0.021	0.069 0.017	0.086	25		25	0.53	1.586 0.03PH	1 SAG	1.8	25		168	
169	2 4	30 40	1 0.5	0.170 0.010	13.237	13.2	103 5Yr	-0.5 -0.9	0.652 0.814	0.218 0.025	0.142 0.020	0.163	46		46	0.5	2.293	1	1.8	46		168	
176	2 4	20 25	1 0.5	0.170 0.010	9.801	9.8	116 5Yr	-0.5 -0.9	0.652 0.814	0.063 0.017	0.041 0.014	0.055	18		18	0.5	1.518	1	1.8	18		177	

HYDRAULIC DESIGN SHEET

PIT	TIME	INTENSITY	AREAS	FLOW	LENGTH	DIAMETER	GRADE	H.G.L GRADE	VEL Q/A	K	HEAD LOSS	VEL CAP	PIPE VEL	PIPE CAP	PIPE TIME	C=C.W., N=MANNINGS MAX TIME 20 HAWKS NEST BY PASS=AREA AREA=ADP Q REMARKS
	min	mm/hr	ha	L/s	m	mm	%	%	m/s		m	m/s	m/s	L/s	min	
LINE 38 131-157	14.7	97 5Yr	0.206	56	7.5 C0.0006	375	0.4	0.082	0.507	3.5	0.046	1.154	0.99	127	0.13	
LINE 37 125-128	6.4	137 5Yr	0.045	17	12.66 C0.0006	375	0.553	0.009	0.157	3.5	0.004	1.357	0.79	150	0.27	
128-157	9.8	116 5Yr	0.146	47	42.994 C0.0006	375	0.349	0.059	0.427	1.3	0.012	1.078	0.89	119	0.81	
157-183	14.9	97 5Yr	0.439	119	13.074 C0.0006	451	0.306	0.138	0.744	1.8	0.051	1.133	1.09	181	0.2	
183-184	15.1	96 5Yr	0.609	164	27.272 C0.0006	451	0.293	0.259	1.026	1.2	0.064	1.109	1.18	177	0.39	
LINE 40 311-149	10.7	112 5Yr	0.058	18	19.74 C0.0006	375	0.506	0.01	0.164	3.5	0.005	1.298	0.76	143	0.43	
LINE 41 150-151	6.4	137 5Yr	0.053	20	25.058 C0.0006	375	0.339	0.012	0.183	3.5	0.006	1.063	0.68	117	0.61	
LINE 42 152-153	13.5	101 5Yr	0.177	50	23.941 C0.0006	375	0.355	0.066	0.455	3.5	0.037	1.087	0.91	120	0.44	
153-199	13.9	100 5Yr	0.261	73	27.065 C0.0006	451	0.314	0.053	0.456	1.2	0.013	1.148	0.95	183	0.47	
LINE 39 148-149	12.8	104 5Yr	0.137	40	15.515 C0.0006	375	0.322	0.042	0.359	3.5	0.023	1.036	0.82	114	0.32	
149-151	13.1	103 5Yr	0.218	62	43.337 C0.0006	375	0.312	0.101	0.566	1.7	0.028	1.018	0.93	112	0.78	
151-199	14.3	99 5Yr	0.388	107	50.499 C0.0006	451	0.307	0.112	0.67	1.7	0.039	1.135	1.06	181	0.79	
199-200	15.1	96 5Yr	0.82	220	11.693 C0.0006	522	0.3	0.217	1.03	1.7	0.092	1.229	1.27	263	0.15	
200-201	15.2	96 5Yr	0.915	245	14.956 C0.0006	522	0.3	0.267	1.145	1.3	0.087	1.23	1.31	263	0.19	
LINE 44 134-135	14.1	99 5Yr	0.107	30	7.5 C0.0006	375	0.533	0.025	0.269	3.5	0.013	1.332	0.89	147	0.14	
LINE 45 138-139	14.5	98 5Yr	0.116	32	20.037 C0.0006	375	0.5	0.028	0.287	3.5	0.015	1.29	0.89	142	0.38	
LINE 46 154-155	15	97 5Yr	0.17	46	7.551 C0.0006	375	0.53	0.056	0.415	3.5	0.031	1.328	1.02	147	0.12	
155-156	15.1	96 5Yr	0.361	97	12.728 C0.0006	375	0.55	0.24	0.878	1.2	0.047	1.353	1.3	149	0.16	
156-147	15.2	96 5Yr	0.368	99	65.061 C0.0006	451	0.507	0.096	0.617	0.05	0.001	1.459	1.23	233	0.88	
147-141	16.1	93 5Yr	0.53	138	12.632 C0.0006	451	0.554	0.185	0.867	1.3	0.05	1.525	1.41	244	0.15	
141-142	16.3	93 5Yr	0.713	185	20.195 C0.0006	451	0.545	0.33	1.16	1.3	0.089	1.512	1.53	241	0.22	
142-143	16.5	93 5Yr	0.769	199	20.098 C0.0006	522	0.348	0.177	0.929	0.5	0.022	1.324	1.3	283	0.26	
LINE 43 132-133	9.5	117 5Yr	0.058	19	7.5 C0.0006	375	0.533	0.011	0.172	3.5	0.005	1.332	0.79	147	0.16	
133-135	9.7	116 5Yr	0.069	22	12.728 C0.0006	375	0.55	0.014	0.203	1.2	0.003	1.353	0.83	149	0.26	
135-136	14.2	99 5Yr	0.183	51	36.5 C0.0006	451	0.521	0.027	0.317	1.3	0.007	1.478	1.01	236	0.6	
136-137	14.8	97 5Yr	0.24	65	12.728 C0.0006	451	0.55	0.043	0.408	1.2	0.01	1.519	1.11	243	0.19	
137-139	15	97 5Yr	0.317	86	15.403 C0.0006	451	0.519	0.072	0.536	1.6	0.023	1.476	1.19	236	0.22	
139-140	15.2	96 5Yr	0.458	123	12.861 C0.0006	451	0.544	0.147	0.768	1.4	0.042	1.511	1.35	241	0.16	
140-143	15.4	96 5Yr	0.562	150	49.679 C0.0006	522	0.362	0.101	0.7	0.6	0.015	1.351	1.21	289	0.68	
143-144	16.7	92 5Yr	1.459	374	22.891 C0.0006	450x900	0.306	0.124	0.924	1.5	0.065	1.476	1.38	598	0.28	
LINE 47 178-159	13.5	101 5Yr	0.099	28	37.365 C0.0006	375	0.508	0.021	0.253	3.5	0.011	1.301	0.86	144	0.72	
159-172	14.2	99 5Yr	0.152	42	14.857 C0.0006	375	0.538	0.048	0.381	1.3	0.01	1.339	1	148	0.25	
172-173	14.4	98 5Yr	0.239	66	13.61 C0.0006	451	0.441	0.043	0.411	1.8	0.016	1.36	1.03	217	0.22	
173-174	14.7	97 5Yr	0.374	102	12.002 C0.0006	451	0.458	0.101	0.636	1	0.021	1.387	1.2	221	0.17	
174-175	14.9	97 5Yr	0.524	142	16.166 C0.0006	451	0.433	0.194	0.887	1.2	0.048	1.348	1.3	215	0.21	
LINE 66 168-169	12.5	104 5Yr	0.086	25	13.987 C0.0006	375	0.357	0.018	0.228	3.5	0.009	1.091	0.74	120	0.32	
169-170	13.2	102 5Yr	0.249	71	7.5 C0.0006	375	0.4	0.13	0.642	1.4	0.029	1.154	1.06	127	0.12	
LINE 67 176-177	9.8	116 5Yr	0.055	18	12.972 C0.0006	375	1.542	0.01	0.161	3.5	0.005	2.265	1.18	250	0.18	
177-180	10	115 5Yr	0.07	22	68.454 C0.0006	375	0.584	0.014	0.202	1.4	0.003	1.395	0.85	154	1.34	
180-171	13.5	101 5Yr	0.228	64	16.684 C0.0006	375	0.539	0.107	0.583	1.4	0.024	1.34	1.14	148	0.24	

LAND USE CODES

1. PARKS/RESERVES
2. ALLOTMENTS
3. ROADS
4. KERB & GUTTER
5. TABLE/CATCH DRAINS
6. PIPES

PIT TYPE CODES

1. G.G.P. GRATED GULLY PIT
2. L.S.I.P. LETTER BOX GULLY PIT
3. S.I.P. SURFACE INLET PIT
4. G.S.I.P. GRATED SURFACE INLET PIT
5. J.P. JUNCTION PIT
6. H.W. HEADWALL
7. D.C. DIRECT CONNECTION
8. S.P. SUMP PIT
9. BEND BEND IN PIPE
10. I.P. INSPECTION PIT
11. S.J. SLOPE JUNCTION

PROPOSED DRAINAGE CALCULATION SHEETS

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	A.V.	4/8/08
A	Original Issue	GH	GH	-	-	23/10/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1 0 1 2m (1:100 for A1 Size Plot)
SHEET No. :37
JOB No. : 201479
FILE : 20700199
DATE : Plotted 18:19 19/12/07
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Drainage Longsections.dwg

HYDROLOGICAL DESIGN SHEET

				SLOPE	"n"	TIME	TIME	INTENSITY	CODE	COEFF	AREA	C.A	SUM AREA	Q	BY PASS	TOTAL FLOW	GUTTER SLOPE	FLOW WIDTH	PIT TYPE	LINTEL	INFLOW	BY FLOW	BY PIT	KINEMATIC MIN TIME 5 MAX TIME 20 HAWKS NEST REMARKS
				%		min	min	mm/h			ha	ha	ha	L/s	L/s	L/s	%	m		m	L/s	L/s		
177	3 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.010 0.010	0.007 0.008	0.015	6		6	0.5	0.864	1	1.8	6		180	
180	2 4	30 45	1 0.5	0.170 0.010	13.458	13.5	102 5Yr	-0.5 -0.9	0.652 0.814	0.211 0.025	0.138 0.020	0.158	45		45	0.5	2.26	1	2.4	45		171	
182	2 4	35 20	1 0.5	0.170 0.010	13.582	13.6	101 5Yr	-0.5 -0.9	0.652 0.814	0.133 0.017	0.087 0.014	0.101	28		28	0.5	1.868	1	1.8	28		169	
130	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.222 0.019	0.145 0.015	0.16	46		46	0.5	2.293	1	1.8	46		170	
170	2 4	30 35	1 0.5	0.170 0.010	13.011	13	103 5Yr	-0.5 -0.9	0.652 0.814	0.231 0.021	0.151 0.017	0.168	48		48	0.5	2.331	1	2.4	48		171	
171	2 4	35 25	1 0.5	0.170 0.010	13.826	13.8	101 5Yr	-0.5 -0.9	0.652 0.814	0.138 0.019	0.090 0.015	0.105	29		29	0.5	1.725 0.03PH	1 SAG	1.8	29		171	
162	2 4	25 35	1 0.5	0.170 0.010	11.679	11.7	108 5Yr	-0.5 -0.9	0.652 0.814	0.235 0.034	0.153 0.028	0.181	54		54	0.5	2.116 0.03PH	1 SAG	2.4	54		162	
158	2 4	10 25	1 0.5	0.170 0.010	6.685	6.7	135 5Yr	-0.5 -0.9	0.652 0.814	0.054 0.031	0.035 0.025	0.06	23		23	0.5	1.618 0.03PH	1 SAG	2.4	23		158	
161	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.158 0.021	0.103 0.017	0.12	35		35	0.5	2.043	1	1.8	35		163	
163	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.168 0.015	0.110 0.012	0.122	36		36	0.5	2.055	1	1.8	36		166	
164	2 4	25 35	1 0.5	0.170 0.010	11.679	11.7	108 5Yr	-0.5 -0.9	0.652 0.814	0.095 0.022	0.062 0.018	0.08	24		24	0.512	1.729	1	1.8	24		165	
165	2 4	35 30	1 0.5	0.170 0.010	14.062	14.1	100 5Yr	-0.5 -0.9	0.652 0.814	0.148 0.028	0.096 0.023	0.119	33		33	0.5	1.813 0.03PH	1 SAG	1.8	33		165	
166	2 4	35 30	1 0.5	0.170 0.010	14.062	14.1	100 5Yr	-0.5 -0.9	0.652 0.814	0.120 0.025	0.078 0.020	0.099	27		27	0.5	1.668 0.03PH	1 SAG	1.8	27		166	
167	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.106 0.017	0.069 0.014	0.083	24		24	0.507	1.739	1	1.8	24		166	
212	2 4	25 40	1 0.5	0.170 0.010	11.907	11.9	107 5Yr	-0.5 -0.9	0.652 0.814	0.218 0.036	0.142 0.029	0.171	51		51	0.5	2.178 0.03PH	1 SAG	2.4	51		212	
214A	2 4	30 20	1 0.5	0.170 0.010	12.292	12.3	106 5Yr	-0.2 -0.9	0.530 0.814	0.133 0.015	0.071 0.012	0.083	24		24	0.5	1.749	1	1.8	24		214	
214	2 4	25 20	1 0.5	0.170 0.010	10.951	11	111 5Yr	-0.2 -0.9	0.530 0.814	0.138 0.019	0.073 0.015	0.089	27		27	0.5	1.758 0.03PH	1 SAG	1.8	27		214	
213	2 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.406	1	1.8	3		215	
215	2 4	6 10	3 0.5	0.170 0.010	3.176	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.019 0.010	0.010 0.008	0.018	8		8	0.5	0.786 0.03PH	1 SAG	1.8	8		215	
202	2 4	6 35	3 0.5	0.010 0.010	2.053	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.025 0.031	0.016 0.025	0.042	17		17	1.033	1.2 0.03PH	1 SAG	1.8	17		202	
205	2 4	15 25	1 0.5	0.170 0.010	8.308	8.3	124 5Yr	-0.5 -0.9	0.652 0.814	0.116 0.022	0.076 0.018	0.094	32		32	0.5	1.692 0.03PH	1 SAG	1.8	32		205	
208	2 4	35 25	1 0.5	0.170 0.010	13.826	13.8	101 5Yr	-0.5 -0.9	0.652 0.814	0.118 0.021	0.077 0.017	0.094	26		26	0.5	1.438 0.03PH	1 SAG	1.8	26		208	
310	2 4	20 15	1 0.5	0.170 0.010	9.279	9.3	119 5Yr	-0.5 -0.9	0.652 0.814	0.054 0.010	0.035 0.008	0.043	14		14	0.5	1.374	1	1.8	14		208	
88	1	40	0.5	0.053	7.661	7.7	128 5Yr	-0.1	0.490	0.235	0.115	0.115	41		41	0.5	1.455 0.03PH	4 SAG		41		88	
203	2 4	6 15	3 0.5	0.010 0.010	1.164	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.025 0.017	0.016 0.014	0.03	13		13	0.567	1.038 0.03PH	1 SAG	1.8	13		203	
204	2 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.406	1	1.8	3		205	
206	2 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.406	1	1.8	3		208	
207	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.148 0.021	0.096 0.017	0.114	33		33	0.5	1.989	1	1.8	33		209	
209	2 4	25 30	1 0.5	0.170 0.010	11.445	11.4	109 5Yr	-0.5 -0.9	0.652 0.814	0.056 0.017	0.037 0.014	0.05	15		15	0.5	1.346 0.03PH	1 SAG	1.8	15		209	
210	2 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.010 0.010	0.005 0.008	0.013	6		6	0.5	0.815	1	1.8	6		246	
237	2 4	20 25	1 0.5	0.010 0.010	2.239	5	150 5Yr	-0.5 -0.9	0.652 0.814	0.056 0.015	0.037 0.012	0.049	20		20	0.5	1.616 0.03PH	1 SAG	1.8	20		237	
239	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.123 0.013	0.080 0.011	0.091	26		26	0.5	1.813	1	2.4	26		244	
241	2 4	15 40	1 0.5	0.170 0.010	9.028	9	120 5Yr	-0.5 -0.9	0.652 0.814	0.116 0.036	0.076 0.029	0.105	35		35	0.5	1.858 0.03PH	1 SAG	1.8	35		241	
242	2 4	20 30	1 0.5	0.170 0.010	10.046	10	115 5Yr	-0.5 -0.9	0.652 0.814	0.106 0.043	0.069 0.035	0.104	33		33	0.5	1.913 0.03PH	1 SAG	1.8	33		242	
244	2 4	30 40	1 0.5	0.170 0.010	13.237	13.2	103 5Yr	-0.5 -0.9	0.652 0.814	0.171 0.022	0.111 0.018	0.129	37		37	0.5	2.086	1	1.8	37		248	
246	2 4	25 35	1 0.5	0.170 0.010	11.679	11.7	108 5Yr	-0.5 -0.9	0.652 0.814	0.154 0.028	0.1 0.023	0.123	37		37	0.5	2.09	1	1.8	37		247	
236	2 4	30 35	1 0.5	0.170 0.010	13.011	13	103 5Yr	-0.5 -0.9	0.652 0.814	0.138 0.019	0.090 0.015	0.105	30		30	0.5	1.92	1	1.8	30		238	
238	2 4	20 25	1 0.5	0.170 0.010	9.801	9.8	116 5Yr	-0.5 -0.9	0.652 0.814	0.063 0.022	0.041 0.018	0.059	19		19	0.5	1.495 0.03PH	1 SAG	1.8	19		238	

HYDRAULIC DESIGN SHEET

PIT	TIME	INTENSITY	AREAS	FLOW	LENGTH	DIAMETER	GRADE	HGL GRADE	VEL Q/A	K	HEAD LOSS	VEL CAP	PIPE VEL	PIPE CAP	PIPE TIME	C=C.W., N=MANNINGS MAX TIME 20 HAWKS NEST BY PASS=AREA AREA=ADP Q REMARKS
	min	mm/hr	ha	L/s	m	mm	%	%	m/s		m	m/s	m/s	L/s	min	
LINE 65 182-130	13.6	101 5Yr	0.101	28	10.26 C0.0006	375	0.487	0.022	0.257	3.5	0.012	1.274	0.85	141	0.2	
130-170	13.8	100 5Yr	0.261	73	54.809 C0.0006	375	0.493	0.137	0.661	1.4	0.031	1.28	1.15	141	0.79	
170-171	14.6	98 5Yr	0.677	185	32.561 C0.0006	522	0.369	0.153	0.864	1.4	0.053	1.362	1.3	292	0.42	
171-181	15	97 5Yr	1.01	272	11.37 C0.0006	522	0.352	0.33	1.273	1	0.083	1.331	1.43	285	0.13	
LINE 64 162-163	11.7	108 5Yr	0.181	54	18.011 C0.0006	375	0.333	0.078	0.492	3.5	0.043	1.053	0.92	116	0.33	
LINE 63 158-161	6.7	134 5Yr	0.06	23	19.36 C0.0006	375	0.31	0.015	0.205	3.5	0.008	1.016	0.68	112	0.47	
161-163	12.5	104 5Yr	0.181	53	34.62 C0.0006	375	0.318	0.072	0.477	1.3	0.015	1.028	0.89	114	0.65	
163-166	13.2	102 5Yr	0.483	138	48.906 C0.0006	451	0.378	0.184	0.863	1.3	0.049	1.26	1.23	201	0.66	
LINE 59 164-165	11.7	108 5Yr	0.08	24	12.416 C0.0006	375	0.362	0.016	0.217	3.5	0.008	1.098	0.73	121	0.28	
165-166	14.1	99 5Yr	0.199	55	8.015 C0.0006	375	0.312	0.08	0.5	1.3	0.017	1.019	0.9	113	0.15	
166-167	14.2	99 5Yr	0.781	216	13.556 C0.0006	522	0.369	0.208	1.008	1.4	0.073	1.363	1.36	292	0.17	
167-293	14.4	98 5Yr	0.864	237	12.013 C0.0006	522	0.416	0.251	1.109	0.5	0.031	1.448	1.47	310	0.14	
LINE 62 212-213	11.9	107 5Yr	0.171	51	7.524 C0.0006	375	0.332	0.068	0.463	3.5	0.038	1.052	0.9	116	0.14	
LINE 61 214A-214	12.3	105 5Yr	0.083	24	15.349 C0.0006	375	0.326	0.017	0.22	3.5	0.009	1.041	0.7	115	0.37	
214-213	12.7	104 5Yr	0.171	50	12.623 C0.0006	375	0.317	0.065	0.451	3.5	0.036	1.027	0.87	113	0.24	
213-215	12.9	103 5Yr	0.35	101	15.94 C0.0006	375	0.314	0.258	0.912	1.6	0.068	1.022	1.08	113	0.25	
215-202	13.1	102 5Yr	0.368	105	12.897 C0.0006	375	0.31	0.281	0.952	1.9	0.088	1.016	1.08	112	0.2	
202-203	13.3	102 5Yr	0.409	116	29.064 C0.0006	451	0.344	0.131	0.727	0.9	0.024	1.201	1.13	192	0.43	
LINE 60 205-206	8.3	124 5Yr	0.094	32	15.184 C0.0006	375	0.757	0.029	0.292	3.5	0.015	1.588	1.03	175	0.25	
LINE 17 208-209	13.8	100 5Yr	0.094	26	7.86 C0.0006	375	0.509	0.019	0.238	3.5	0.01	1.301	0.84	144	0.16	
LINE 84 310-210	9.3	118 5Yr	0.043	14	24.954 C0.0006	375	0.321	0.006	0.13	3.5	0.003	1.033	0.61	114	0.68	
LINE 58 88-203	7.7	128 5Yr	0.115	41	27.101 C0.0006	375	0.369	0.045	0.371	3.5	0.025	1.108	0.87	122	0.52	
203-204	13.8	100 5Yr	0.555	155	13.32 C0.0006	451	0.375	0.232	0.972	1.7	0.082	1.255	1.27	200	0.17	
204-206	13.9	100 5Yr	0.561	156	40.286 C0.0006	522	0.335	0.111	0.73	0.9	0.024	1.299	1.2	278	0.56	
206-207	14.5	98 5Yr	0.662	181	8.735 C0.0006	522	0.515	0.147	0.846	1.5	0.055	1.611	1.46	345	0.1	
207-209	14.6	98 5Yr	0.775	212	32.534 C0.0006	522	0.523	0.2	0.988	1.2	0.06	1.622	1.53	347	0.35	
209-210	15	97 5Yr	0.92	248	13.015 C0.0006	522	0.538	0.274	1.16	1.3	0.089	1.646	1.62	352	0.13	
210-211	15.1	96 5Yr	0.976	263	30.009 C0.0006	522	0.5	0.307	1.227	0.5	0.038	1.587	1.61	340	0.31	
LINE 57 237-238	5	150 5Yr	0.049	20	7.669 C0.0006	375	0.391	0.012	0.184	3.5	0.006	1.141	0.71	126	0.18	
LINE 56 239-240	12.5	104 5Yr	0.091	26	8.738 C0.0006	375	0.572	0.019	0.24	3.5	0.01	1.38	0.88	152	0.17	
LINE 55 241-242	9	120 5Yr	0.105	35	7.646 C0.0006	375	0.392	0.033	0.317	3.5	0.018	1.143	0.84	126	0.15	
242-243	10	115 5Yr	0.209	67	13.12 C0.0006	375	0.534	0.116	0.606	1.2	0.022	1.333	1.15	147	0.19	
LINE 54 244-245	13.2	102 5Yr	0.129	37	11.177 C0.0006	375	0.537	0.036	0.334	3.5	0.02	1.337	0.95	148	0.2	
LINE 53 246-247	11.7	108 5Yr	0.123	37	13.336 C0.0006	375	0.3	0.037	0.335	3.5	0.02	0.999	0.78	110	0.28	
LINE 52 236-238	13	103 5Yr	0.105	30	13.06 C0.0006	375	0.536	0.026	0.274	3.5	0.013	1.336	0.9	148	0.24	
238-240	13.3	102 5Yr	0.213	61	66.26 C0.0006	375	0.302	0.096	0.55	2	0.031	1.002	0.92	111	1.2	
240-243	14.5	98 5Yr	0.396	109	25.63 C0.0006	451	0.468	0.115	0.68	1.5	0.035	1.401	1.24	224	0.34	
243-245	14.8	97 5Yr	0.612	166	36.38 C0.0006	522	0.412	0.125	0.776	1.3	0.04	1.441	1.31	308	0.46	
245-247	15.3	96 5Yr	0.816	218	39.86 C0.0006	522	0.452	0.213	1.02	1.3	0.069	1.508	1.47	323	0.45	
247-248	15.7	95 5Yr	1.033	273	8.35 C0.0006	590	0.479	0.175	0.998	0.7	0.036	1.677	1.58	458	0.09	
248-249	15.8	94 5Yr	1.194	315	23.46 C0.0006	590	0.341	0.232	1.151	1.3	0.088	1.414	1.46	387	0.27	

LAND USE CODES

1. PARKS/RESERVES
2. ALLOTMENTS
3. ROADS
4. KERB & GUTTER
5. TABLE/CATCH DRAINS
6. PIPES

PIT TYPE CODES

1. G.G.P. GRATED GULLY PIT
2. L.S.I.P. LETTER BOX GULLY PIT
3. S.I.P. SURFACE INLET PIT
4. G.S.I.P. GRATED SURFACE INLET PIT
5. J.P. JUNCTION PIT
6. H.W. HEADWALL
7. D.C. DIRECT CONNECTION
8. S.P. SUMP PIT
9. BEND BEND IN PIPE
10. I.P. INSPECTION PIT
11. S.J. SLOPE JUNCTION

PROPOSED DRAINAGE CALCULATION SHEETS

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	B.T	6/5/08
A	Original Issue	GH	GH	-	-	23/10/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 1 2m (1:100 for A1 Size Plot)

SHEET No. :38 | FILE : 20700200 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 18:19 19/12/07

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Drainage Longsections.dwg

HYDROLOGICAL DESIGN SHEET

				SLOPE	"n"	TIME	TIME	INTENSITY	CODE	COEFF	AREA	C.A	SUM AREA	Q	BY PASS	TOTAL FLOW	GUTTER SLOPE	FLOW WIDTH	PIT TYPE	LINTEL	INFLOW	BY FLOW	BY PIT	KINEMATIC MIN TIME 5 MAX TIME 20 HAWKS NEST REMARKS
				%		min	min	mm/h			ha	ha	ha	L/s	L/s	L/s	%	m		m	L/s	L/s		
240	2 4	30 35	1 0.5	0.170 0.010	13.011	13	103 5Yr	-0.5 -0.9	0.652 0.814	0.123 0.015	0.080 0.012	0.092	27		27	0.5	1.815	1	2.4	27		241	
243	2 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.406	1	1.8	3		245	
245	2 4	30 20	1 0.5	0.170 0.010	12.292	12.3	106 5Yr	-0.5 -0.9	0.652 0.814	0.095 0.015	0.062 0.012	0.074	22		22	0.5	1.666	1	1.8	22		247	
247	2 4	30 20	1 0.5	0.170 0.010	12.292	12.3	106 5Yr	-0.5 -0.9	0.652 0.814	0.118 0.021	0.077 0.017	0.094	28		28	0.5	1.766 0.03PH	1 SAG	1.8	28		247	
248	2 4	30 45	1 0.5	0.170 0.010	13.458	13.5	102 5Yr	-0.5 -0.9	0.652 0.814	0.205 0.034	0.134 0.028	0.161	46		46	0.5	1.965 0.03PH	1 SAG	1.8	46		248	
250	2 4	30 40	1 0.5	0.170 0.010	13.237	13.2	103 5Yr	-0.5 -0.9	0.652 0.814	0.195 0.028	0.127 0.023	0.15	43		43	0.5	2.219	1	2.4	43		251	
251	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.171 0.025	0.111 0.020	0.132	38		38	0.5	2.118	1	1.8	38		252	
252	2 4	30 35	1 0.5	0.170 0.010	13.011	13	103 5Yr	-0.5 -0.9	0.652 0.814	0.171 0.028	0.111 0.023	0.134	39		39	0.5	1.829 0.03PH	1 SAG	1.8	39		252	
255	1	35	0.5	0.053	6.970	7	133 5Yr	-0.1	0.490	0.180	0.088	0.088	33		33	0.5	1.327 0.03PH	4 SAG		33		255	
254	2 4	35 45	1 0.5	0.170 0.010	14.736	14.7	98 5Yr	-0.5 -0.9	0.652 0.814	0.211 0.040	0.138 0.033	0.17	46		46	0.5	2.291	1	2.4	46		256	
256	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.118 0.025	0.077 0.020	0.097	28		28	0.5	1.78 0.03PH	1 SAG	1.8	28		256	
257	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.130 0.025	0.085 0.020	0.105	30		30	0.5	1.84 0.03PH	1 SAG	1.8	30		257	
260	2 4	20 25	1 0.5	0.170 0.010	9.801	9.8	116 5Yr	-0.5 -0.9	0.652 0.814	0.081 0.019	0.053 0.015	0.068	22		22	0.5	1.674	1	1.8	22		261	
261	2 4	25 25	1 0.5	0.170 0.010	11.202	11.2	110 5Yr	-0.5 -0.9	0.652 0.814	0.103 0.021	0.067 0.017	0.084	26		26	0.5	1.711 0.03PH	1 SAG	1.8	26		261	
262	2 4	20 25	1 0.5	0.170 0.010	9.801	9.8	116 5Yr	-0.5 -0.9	0.652 0.814	0.063 0.015	0.041 0.012	0.053	17		17	0.5	1.426 0.03PH	1 SAG	1.8	17		262	
263	3 4	6 6	3 0.5	0.010 0.010	0.681	5	150 5Yr	-0.2 -0.9	0.530 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.406	1	1.8	3		262	
264	2 4	35 25	1 0.5	0.170 0.010	13.826	13.8	101 5Yr	-0.5 -0.9	0.652 0.814	0.148 0.022	0.096 0.018	0.114	32		32	0.5	1.879 0.03PH	1 SAG	1.8	32		264	
265	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.078 0.015	0.051 0.012	0.063	18		18	0.5	1.471 0.03PH	1 SAG	1.8	18		265	
269	2 4	30 50	1 0.5	0.170 0.010	13.673	13.7	101 5Yr	-0.5 -0.9	0.652 0.814	0.275 0.036	0.179 0.029	0.209	59		59	0.5	2.045 0.04PH	1 SAG	1.8	59		269	
309	2 4	35 15	1 0.5	0.170 0.010	13.331	13.3	102 5Yr	-0.5 -0.9	0.652 0.814	0.163 0.017	0.106 0.014	0.12	34		34	0.5	1.62 0.03PH	1 SAG	1.8	34		309	
266	2 4	15 15	1 0.5	0.170 0.010	7.776	7.8	127 5Yr	-0.5 -0.9	0.652 0.814	0.036 0.010	0.023 0.008	0.032	11		11	0.5	1.217	1	1.8	11		267	
267	2 4	30 45	1 0.5	0.170 0.010	13.458	13.5	102 5Yr	-0.5 -0.9	0.652 0.814	0.118 0.025	0.077 0.020	0.097	28		28	0.5	1.762 0.03PH	1 SAG	1.8	28		267	
271	2 4	35 25	1 0.5	0.170 0.010	13.826	13.8	101 5Yr	-0.5 -0.9	0.652 0.814	0.160 0.015	0.104 0.012	0.117	33		33	0.5	1.981	1	1.8	33		272	
272	2 4	35 40	1 0.5	0.170 0.010	14.517	14.5	99 5Yr	-0.5 -0.9	0.652 0.814	0.295 0.040	0.192 0.033	0.225	62		62	0.012	4.659 0.04PH	1 SAG	2.4	62		272	
289	2 4	35 45	1 0.5	0.170 0.010	14.736	14.7	98 5Yr	-0.5 -0.9	0.652 0.814	0.235 0.022	0.153 0.018	0.171	47		47	0.5	2.297	1	2.4	47		290	
290	2 4	35 30	1 0.5	0.170 0.010	14.062	14.1	100 5Yr	-0.5 -0.9	0.652 0.814	0.160 0.015	0.104 0.012	0.117	32		32	0.5	1.975	1	1.8	32		291	
291	2 4	35 20	1 0.5	0.170 0.010	13.582	13.6	101 5Yr	-0.5 -0.9	0.652 0.814	0.154 0.015	0.1 0.012	0.113	32		32	0.5	1.68 0.03PH	1 SAG	2.4	32		291	
279	2 4	35 40	1 0.5	0.170 0.010	14.517	14.5	99 5Yr	-0.5 -0.9	0.652 0.814	0.275 0.028	0.179 0.023	0.202	55		55	0.5	2.129 0.03PH	1 SAG	2.4	55		279	
280	2 4	10 6	1 0.5	0.170 0.010	5.578	5.6	144 5Yr	-0.5 -0.9	0.652 0.814	0.015 0.005	0.010 0.004	0.014	6		6	0.5	0.809	1	1.8	6		281	

LAND USE CODES

1. PARKS/RESERVES
2. ALLOTMENTS
3. ROADS
4. KERB & GUTTER
5. TABLE/CATCH DRAINS
6. PIPES

PIT TYPE CODES

1. G.G.P. GRATED GULLY PIT
2. L.S.I.P. LETTER BOX GULLY PIT
3. S.I.P. SURFACE INLET PIT
4. G.S.I.P. GRATED SURFACE INLET PIT
5. J.P. JUNCTION PIT
6. H.W. HEADWALL
7. D.C. DIRECT CONNECTION
8. S.P. SUMP PIT
9. BEND BEND IN PIPE
10. I.P. INSPECTION PIT
11. S.J. SLOPE JUNCTION

HYDRAULIC DESIGN SHEET

PIT	TIME	INTENSITY	AREAS	FLOW	LENGTH	DIAMETER	GRADE	H.G.L GRADE	VEL Q/A	K	HEAD LOSS	VEL CAP	PIPE VEL	PIPE CAP	PIPE TIME	C=C.W., N=MANNINGS MAX TIME 20 HAWKS NEST BY PASS=AREA AREA=ADP Q REMARKS
	min	mm/hr	ha	L/s	m	mm	%	%	m/s		m	m/s	m/s	L/s	min	
LINE 51 250-251	13.2	102 5Yr	0.15	43	43.4 C0.0006	375	0.472	0.049	0.387	3.5	0.027	1.254	0.96	138	0.75	
251-252	14	100 5Yr	0.282	78	21.17 C0.0006	375	0.307	0.158	0.71	1.6	0.041	1.011	1	112	0.35	
252-253	14.3	99 5Yr	0.416	114	32.43 C0.0006	375	0.308	0.333	1.036	1.3	0.071	1.013	1.09	112	0.5	
LINE 50 255-256	7	132 5Yr	0.088	33	23.206 C0.0006	375	0.517	0.029	0.295	3.5	0.015	1.312	0.91	145	0.43	
LINE 49 254-256	14.7	97 5Yr	0.17	46	36.439 C0.0006	375	0.521	0.057	0.419	3.5	0.031	1.317	1.02	145	0.6	
256-257	15.3	96 5Yr	0.356	95	12.717 C0.0006	375	0.55	0.23	0.86	1.9	0.072	1.353	1.29	149	0.16	
257-258	15.5	95 5Yr	0.461	122	21.844 C0.0006	375	0.412	0.379	1.109	1.3	0.082	1.171	1.25	129	0.29	
LINE 79 260-261	9.8	116 5Yr	0.068	22	12.688 C0.0006	375	0.631	0.014	0.2	3.5	0.007	1.449	0.87	160	0.24	
261-262	11.2	110 5Yr	0.153	47	8.313 C0.0006	375	0.361	0.058	0.422	1.7	0.015	1.096	0.9	121	0.15	
262-263	11.4	109 5Yr	0.206	63	11.263 C0.0006	375	0.355	0.102	0.567	1.2	0.02	1.087	0.98	120	0.19	
263-264	11.5	108 5Yr	0.213	64	48.473 C0.0006	375	0.33	0.106	0.581	0.7	0.012	1.048	0.96	116	0.84	
264-265	13.8	100 5Yr	0.327	91	12.412 C0.0006	375	0.322	0.214	0.828	1.3	0.045	1.036	1.06	114	0.2	
265-274	14	100 5Yr	0.39	108	14.217 C0.0006	451	0.352	0.115	0.678	0.4	0.009	1.215	1.12	194	0.21	
LINE 80 269-270	13.7	101 5Yr	0.209	59	11.84 C0.0006	375	0.507	0.09	0.531	3.5	0.05	1.299	1.08	143	0.18	
LINE 81 309-266	13.3	102 5Yr	0.12	34	41.56 C0.0006	375	0.481	0.032	0.309	3.5	0.017	1.266	0.9	140	0.77	
266-267	14.1	99 5Yr	0.152	42	13.61 C0.0006	375	0.441	0.048	0.381	1.4	0.01	1.211	0.93	134	0.24	
267-268	14.3	99 5Yr	0.249	69	11.88 C0.0006	375	0.337	0.122	0.62	1.3	0.026	1.059	0.99	117	0.2	
LINE 82 271-272	13.8	100 5Yr	0.117	33	24.68 C0.0006	375	0.365	0.029	0.295	3.5	0.016	1.102	0.8	122	0.51	
272-273	14.5	98 5Yr	0.341	93	15.32 C0.0006	375	0.587	0.223	0.846	1.3	0.047	1.398	1.32	154	0.19	
LINE 89 289-290	14.7	97 5Yr	0.171	47	37.943 C0.0006	375	0.395	0.057	0.421	3.5	0.032	1.147	0.93	127	0.68	
290-291	15.4	95 5Yr	0.288	77	11.669 C0.0006	375	0.343	0.151	0.694	1	0.025	1.068	1.03	118	0.19	
291-292	15.6	95 5Yr	0.4	106	12.908 C0.0006	375	0.465	0.286	0.96	1.6	0.075	1.244	1.26	137	0.17	
LINE 85 279-280	14.5	98 5Yr	0.202	55	35.184 C0.0006	375	0.313	0.08	0.501	3.5	0.045	1.02	0.9	113	0.65	
280-281	15.2	96 5Yr	0.216	58	13.697 C0.0006	375	0.438	0.088	0.525	1.1	0.015	1.207	1.03	133	0.22	
LINE 86 275-277	11.7	108 5Yr	0.143	43	20.8 C0.0006	375	0.337	0.049	0.388	3.5	0.027	1.058	0.85	117	0.41	
LINE 83 278-276	12.8	104 5Yr	0.101	29	48.478 C0.0006	375	0.33	0.024	0.263	3.5	0.012	1.048	0.75	116	1.08	
276-277	14.1	99 5Yr	0.223	62	13.844 C0.0006	375	0.361	0.099	0.559	1.6	0.026	1.096	0.98	121	0.24	
277-281	14.3	99 5Yr	0.413	114	69.165 C0.0006	451	0.304	0.126	0.712	1.7	0.044	1.129	1.08	180	1.07	
281-282	15.4	95 5Yr	0.741	197	9.066 C0.0006	522	0.331	0.175	0.922	1.7	0.074	1.291	1.28	276	0.12	
282-283	15.5	95 5Yr	0.899	239	11.601 C0.0006	522	0.302	0.254	1.115	1.2	0.076	1.233	1.3	264	0.15	
283-284	15.7	95 5Yr	0.984	260	19.366 C0.0006	522	0.336	0.302	1.216	0.7	0.053	1.3	1.39	278	0.23	
LINE 88 286-287	13.8	100 5Yr	0.118	33	15.533 C0.0006	375	0.386	0.03	0.3	3.5	0.016	1.134	0.83	125	0.31	
LINE 87 285-287	10	115 5Yr	0.111	36	24.915 C0.0006	375	0.321	0.034	0.321	3.5	0.018	1.034	0.79	114	0.53	
287-288	14.1	99 5Yr	0.431	119	18.74 C0.0006	375	0.32	0.36	1.08	2.2	0.131	1.032	1.11	114	0.28	

PROPOSED DRAINAGE CALCULATION SHEETS

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme S Adopted	GH	GH	A.V.	BE	6/8/08
A	Original Issue	GH	GH	-	-	23/10/07*
*	Denote the original signature and date when revision was issued.					

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 0 1 2m (1:100 for A1 Size Plot)
SHEET No. :39
FILE : 20700201
JOB No. : 201479
DATE : Plotted 18:19 19/12/07
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Drainage Longsections.dwg

HYDROLOGICAL DESIGN SHEET

			SLOPE	"n"	TIME	TIME	INTENSITY	CODE	COEFF	AREA	C.A	SUM AREA	Q	BY PASS	TOTAL FLOW	GUTTER SLOPE	FLOW WIDTH	PIT TYPE	LINTEL	INFLOW	BY FLOW	BY PIT	KINEMATIC MIN TIME 5 MAX TIME 20 HAWKS NEST REMARKS
			%		min	min	mm/h			ha	ha	ha	L/s	L/s	L/s	%	m		m	L/s	L/s		
275	2 4	25 35	1 0.5	0.170 0.010	11.679	11.7	108 5Yr	-0.5 -0.9	0.652 0.814	0.174 0.036	0.113 0.029	0.143	43		43	0.5	1.915 0.03PH	1 SAG	1.8	43		275	
278	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.133 0.017	0.087 0.014	0.101	29		29	0.5	1.889	1	1.8	29		276	
276	2 4	30 60	1 0.5	0.170 0.010	14.091	14.1	100 5Yr	-0.5 -0.9	0.652 0.814	0.160 0.022	0.104 0.018	0.122	34		34	0.5	1.926 0.03PH	1 SAG	1.8	34		276	
277	3 4	20 15	1 0.5	0.170 0.010	9.279	9.3	119 5Yr	-0.5 -0.9	0.652 0.814	0.054 0.015	0.035 0.012	0.047	16		16	0.5	1.434 0.03PH	1 SAG	1.8	16		277	
281	2 4	25 30	1 0.5	0.170 0.010	11.445	11.4	109 5Yr	-0.5 -0.9	0.652 0.814	0.140 0.025	0.091 0.020	0.112	34		34	0.5	2.014	1	1.8	34		281	
282	2 4	40 35	1 0.5	0.170 0.010	15.533	15.5	96 5Yr	-0.5 -0.9	0.652 0.814	0.211 0.025	0.138 0.020	0.158	42		42	0.5	2.108 0.03PH	1 SAG	2.4	42		282	
283	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.113 0.015	0.074 0.012	0.086	25		25	0.5	1.77	1	1.8	25		282	
286	2 4	35 25	1 0.5	0.170 0.010	13.826	13.8	101 5Yr	-0.5 -0.9	0.652 0.814	0.163 0.015	0.106 0.012	0.118	33		33	0.5	1.995	1	1.8	33		287	
285	2 4	20 30	1 0.5	0.170 0.010	10.046	10	115 5Yr	-0.5 -0.9	0.652 0.814	0.144 0.021	0.094 0.017	0.111	36		36	0.573	1.997	1	1.8	36		287	
287	2 4	30 20	1 0.5	0.170 0.010	12.292	12.3	106 5Yr	-0.5 -0.9	0.652 0.814	0.290 0.015	0.189 0.012	0.201	59		59	0.5	2.055 0.04PH	1 SAG	2.4	59		287	
312	2 4	35 20	1 0.5	0.170 0.010	13.582	13.6	101 5Yr	-0.5 -0.9	0.652 0.814	0.228 0.025	0.149 0.020	0.169	48		48	0.5	1.731 0.03PH	1 SAG	2.4	48		312	
297	3 4	6 10	3 3	0.010 0.010	0.644	5	150 5Yr	-0.3 -0.9	0.571 0.814	0.005 0.022	0.003 0.018	0.021	9		9	0.52	1.053	1	1.8	9			
316	3 4	10 6	3 0.5	0.170 0.010	3.916	5	150 5Yr	-0.3 -0.9	0.571 0.814	0.019 0.015	0.011 0.012	0.023	10		10	1	0.924	1	1.8	10		317	
317	3 4	6 6	3 3	0.010 0.010	0.517	5	150 5Yr	-0.3 -0.9	0.571 0.814	0.005 0.010	0.003 0.008	0.011	5		5	0.891	0.516	1	1.8	5		294	
294	2 4	20 30	1 0.5	0.170 0.010	10.046	10	115 5Yr	-0.5 -0.9	0.652 0.814	0.130 0.046	0.085 0.037	0.122	39		39	0.5	2.047 0.03PH	1 SAG	1.8	39		294	
295	3 4	6 40	3 3	0.010 0.010	1.394	5	150 5Yr	-0.9 -0.9	0.814 0.814	0.015 0.046	0.012 0.037	0.05	21		21	0.891	1.428	1	1.8	21		297	
296	3 4	6 40	3 3	0.010 0.010	1.394	5	150 5Yr	-0.9 -0.9	0.814 0.814	0.015 0.046	0.012 0.037	0.05	21		21	0.891	1.428	1	1.8	21			
298	3 4	6 6	3 3	0.010 0.010	0.517	5	150 5Yr	-0.3 -0.9	0.571 0.814	0.005 0.010	0.003 0.008	0.011	5		5	0.891	0.516	1	1.8	5		299	
299	2 4	20 30	1 0.5	0.170 0.010	10.046	10	115 5Yr	-0.5 -0.9	0.652 0.814	0.118 0.046	0.077 0.037	0.114	37		37	0.5	1.991 0.03PH	1 SAG	1.8	37		299	
300	2 4	30 15	1 0.5	0.170 0.010	12.036	12	107 5Yr	-0.5 -0.9	0.652 0.814	0.084 0.013	0.055 0.011	0.065	19		19	0.5	1.506 0.03PH	1 SAG	1.8	19		300	
306	2 4	20 25	1 0.5	0.170 0.010	9.801	9.8	116 5Yr	-0.5 -0.9	0.652 0.814	0.106 0.028	0.069 0.023	0.092	30		30	0.5	1.905	1	1.8	30		307	
307	2 4	30 25	1 0.5	0.170 0.010	12.539	12.5	105 5Yr	-0.5 -0.9	0.652 0.814	0.171 0.019	0.111 0.015	0.127	37		37	0.5	1.903 0.03PH	1 SAG	2.4	37		307	
302	2 4	15 40	1 0.5	0.170 0.010	9.028	9	120 5Yr	-0.5 -0.9	0.652 0.814	0.120 0.031	0.078 0.025	0.103	35		35	0.5	1.745 0.03PH	1 SAG	1.8	35		302	
303	2 4	10 6	1 0.5	0.170 0.010	5.578	5.6	144 5Yr	-0.3 -0.9	0.571 0.814	0.005 0.005	0.003 0.004	0.007	3		3	0.5	0.404	1	1.8	3		304	
304	2 4	30 30	1 0.5	0.170 0.010	12.779	12.8	104 5Yr	-0.5 -0.9	0.652 0.814	0.190 0.022	0.124 0.018	0.142	41		41	0.5	2.088 0.03PH	1 SAG	2.4	41		304	
314	2 4	35 20	1 0.5	0.170 0.010	13.582	13.6	101 5Yr	-0.5 -0.9	0.652 0.814	0.266 0.040	0.173 0.033	0.206	58		58	0.5	2.172 0.03PH	1 SAG	2.4	58		314	

HYDRAULIC DESIGN SHEET

PIT	TIME	INTENSITY	AREAS	FLOW	LENGTH	DIAMETER	GRADE	H.G.L GRADE	VEL Q/A	K	HEAD LOSS	VEL CAP	PIPE VEL	PIPE CAP	PIPE TIME	C=C.W., N=MANNINGS MAX TIME 20 HAWKS NEST BY PASS=AREA AREA=ADP Q REMARKS
	min	mm/hr	ha	L/s	m	mm	%	%	m/s		m	m/s	m/s	L/s	min	
LINE 95 312-313	13.6	101 5Yr	0.169	48	10.296 C0.0006	375	0.486	0.06	0.431	3.5	0.033	1.271	1	140	0.17	
LINE 91 297-316	5	150 5Yr	0.021	9	7.808 C0.0006	375	0.384	0.003	0.078	3.5	0.001	1.131	0.58	125	0.22	
316-317	5.2	147 5Yr	0.044	18	12.809 C0.0006	375	0.39	0.01	0.163	1.5	0.002	1.14	0.69	126	0.31	
317-298	5.5	144 5Yr	0.055	22	12.513 C0.0006	375	0.4	0.014	0.2	1.5	0.003	1.153	0.74	127	0.28	
LINE 92 294-299	10	115 5Yr	0.122	39	12.58 C0.0006	375	0.477	0.041	0.354	3.5	0.022	1.26	0.93	139	0.23	
LINE 90 295-296	5	150 5Yr	0.05	21	11 C0.0006	375	0.545	0.013	0.188	3.5	0.006	1.347	0.81	149	0.23	
296-298	5.2	147 5Yr	0.099	41	26.04 C0.0006	375	0.538	0.045	0.369	1.8	0.013	1.338	0.99	148	0.44	
298-299	5.8	142 5Yr	0.165	65	57.32 C0.0006	375	0.349	0.111	0.591	1.5	0.027	1.078	0.99	119	0.96	
299-300	10.3	114 5Yr	0.402	127	11.21 C0.0006	451	0.357	0.158	0.797	1.8	0.058	1.223	1.18	195	0.16	
300-301	12	106 5Yr	0.467	139	22.26 C0.0006	451	0.404	0.186	0.868	0.7	0.027	1.302	1.26	208	0.29	
LINE 93 306-307	9.8	116 5Yr	0.092	30	11.406 C0.0006	375	0.438	0.025	0.269	3.5	0.013	1.208	0.83	133	0.23	
307-308	12.5	104 5Yr	0.219	64	20.309 C0.0006	375	0.394	0.105	0.578	1.3	0.022	1.145	1.02	126	0.33	
LINE 94 302-303	9	120 5Yr	0.103	35	28.441 C0.0006	375	0.316	0.032	0.313	3.5	0.017	1.026	0.78	113	0.61	
303-304	9.6	117 5Yr	0.11	36	18.517 C0.0006	375	0.324	0.035	0.325	0.6	0.003	1.038	0.8	115	0.39	
304-305	12.8	104 5Yr	0.252	73	10.407 C0.0006	375	0.384	0.137	0.661	1.3	0.029	1.131	1.05	125	0.17	
LINE 96 314-315	13.6	101 5Yr	0.206	58	14 C0.0006	375	0.429	0.088	0.525	3.5	0.049	1.194	1.02	132	0.23	

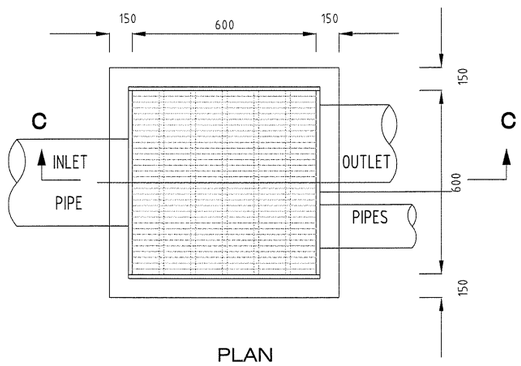
LAND USE CODES

1. PARKS/RESERVES
2. ALLOTMENTS
3. ROADS
4. KERB & GUTTER
5. TABLE/CATCH DRAINS
6. PIPES

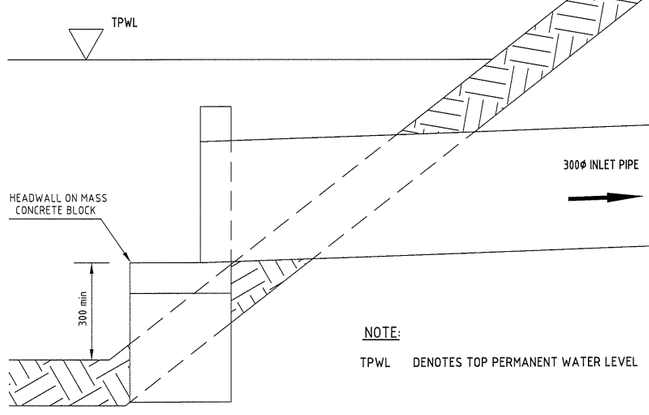
PIT TYPE CODES

1. G.G.P. GRATED GULLY PIT
2. L.S.I.P. LETTER BOX GULLY PIT
3. S.I.P. SURFACE INLET PIT
4. G.S.I.P. GRATED SURFACE INLET PIT
5. J.P. JUNCTION PIT
6. H.W. HEADWALL
7. D.C. DIRECT CONNECTION
8. S.P. SUMP PIT
9. BEND BEND IN PIPE
10. I.P. INSPECTION PIT
11. S.J. SLOPE JUNCTION

PROPOSED DRAINAGE CALCULATION SHEETS



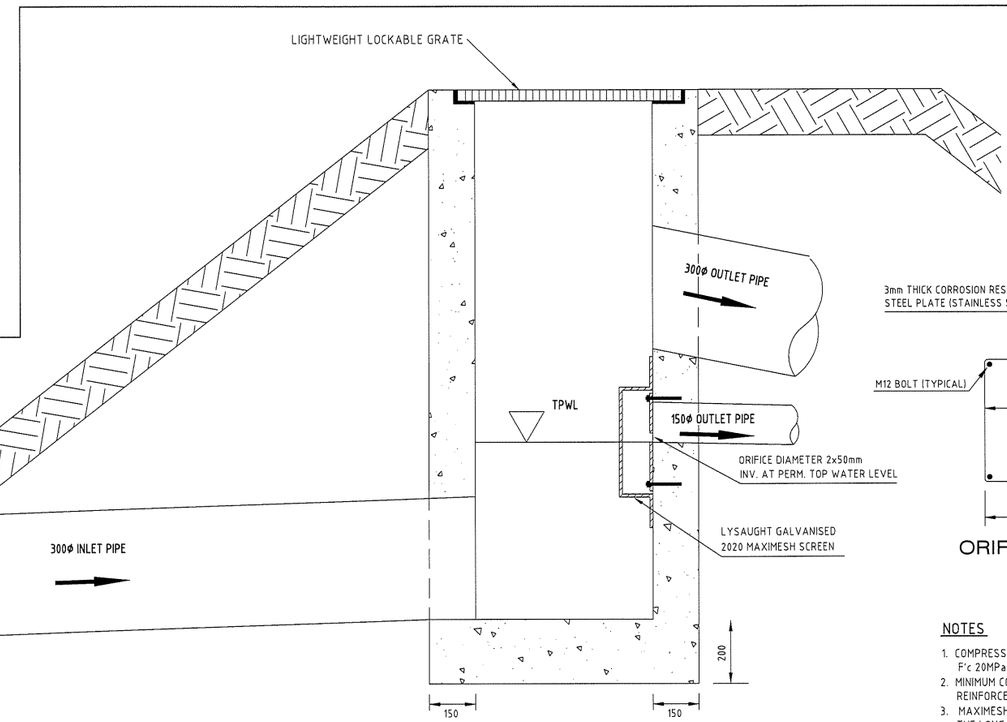
PLAN
NOT TO SCALE



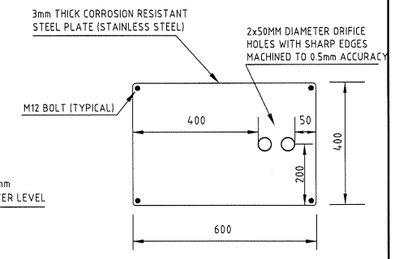
NOTE:

TPWL DENOTES TOP PERMANENT WATER LEVEL

LOW FLOW OUTLET STRUCTURE DETAILS



SECTION C-C - MODIFIED GRATED SURFACE INLET PIT
NOT TO SCALE



ORIFICE PLATE DETAILS

NOTES

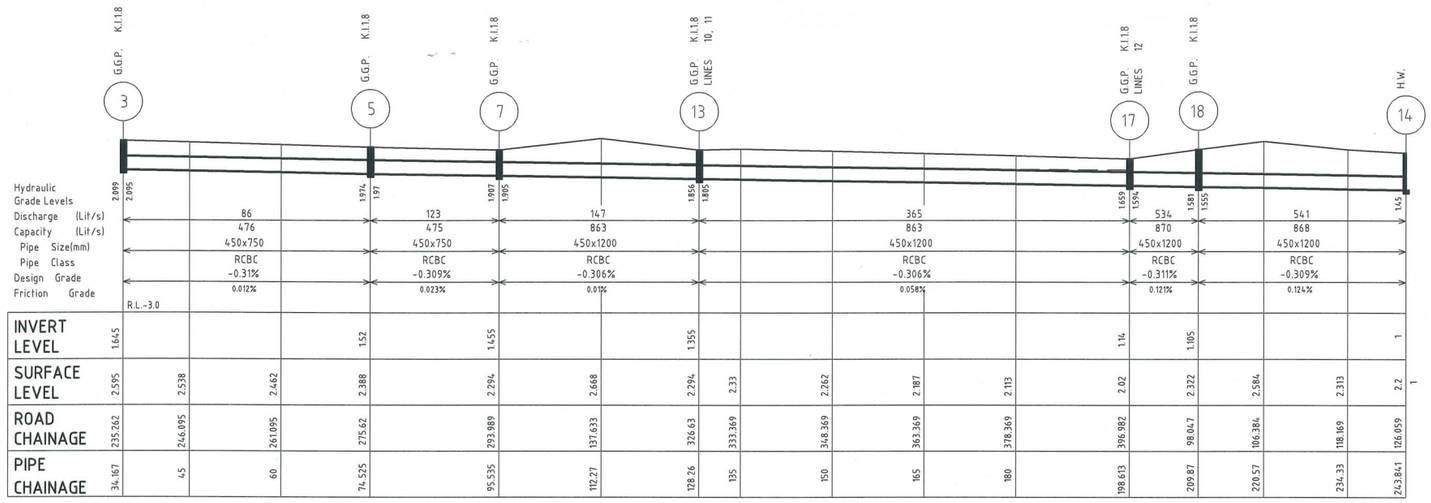
1. COMPRESSIVE STRENGTH OF CONCRETE TO BE F'c 20MPa AT 28 DAYS
2. MINIMUM COVER OF CONCRETE OVER REINFORCEMENT TO BE 50mm
3. MAXIMESH SCREEN MUST BE PLACED SO THAT THE LONG AXIS OF THE OVAL SHAPED HOLES ARE HORIZONTAL WITH THE PROTRUDING LIP ANGLED UPWARDS & FACING DOWNSTREAM
4. ALL OTHER DETAILS AS PER RM 11B

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Low Flow Outlet Structure Modified	GH	GH	AW.	GL	6/9/08
B	Modified Design - Scheme 5 Adopted	GH	GH	-	-	21/04/08*
A	Original Issue	GH	GH	-	-	23/10/07*

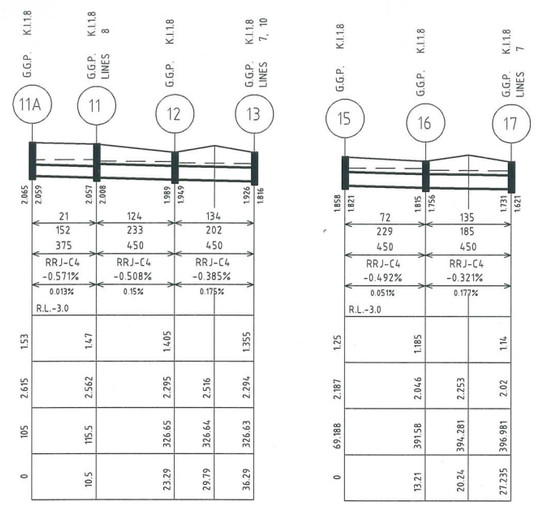
* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : (1:100 for A1 Size Plot)
SHEET No. :40
FILE : 20700202
SHEET SIZE A1
JOB No. : 201479
DATE : Plotted 12:30 29/04/08
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Drainage Longsections.dwg

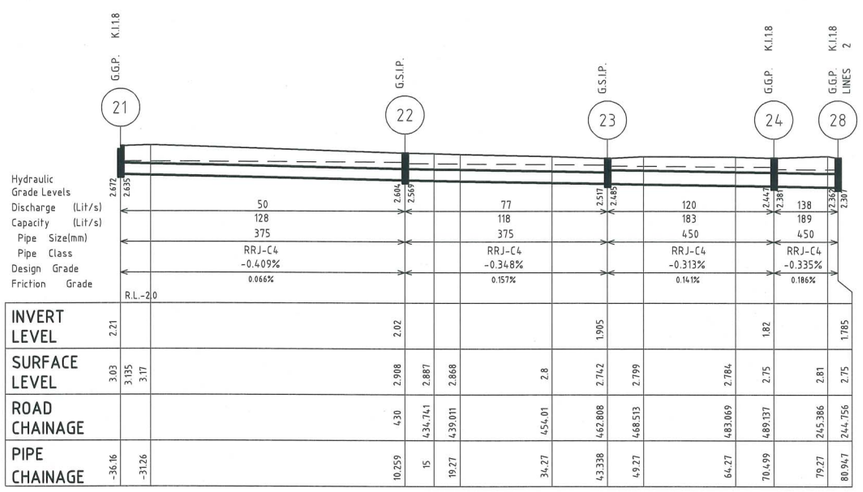


LINE.7

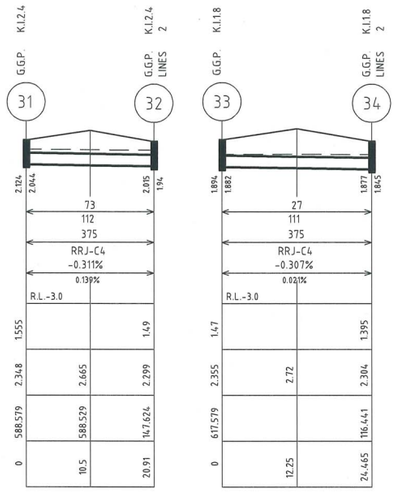


LINE.11

LINE.12

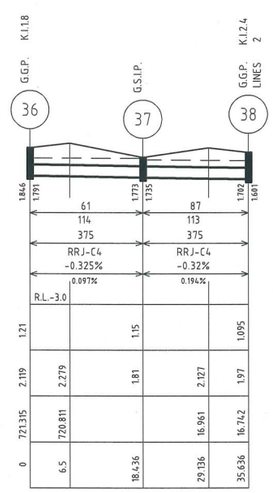


LINE.1

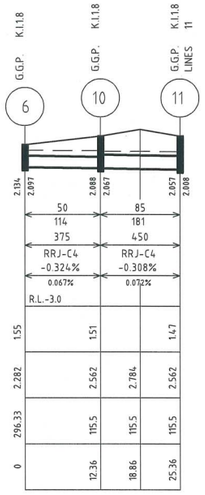


LINE.4

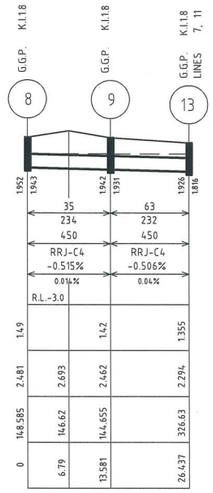
LINE.5



LINE.6



LINE.8



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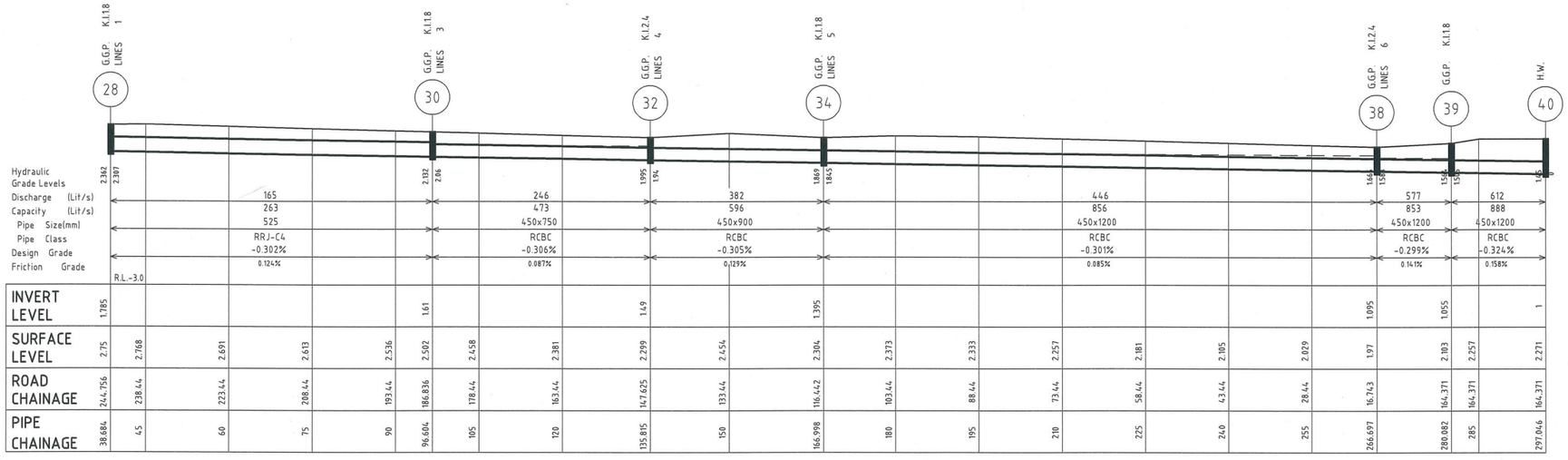
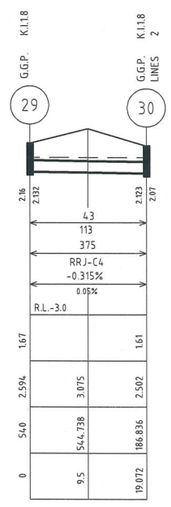


LINE.2



LINE.3

PROPOSED DRAINAGE LONGITUDINAL SECTIONS

H=1:500 V=1:100

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D	Admin Revision	GH	GH	A.V.	B.L	21/10/09
C	Revised Road Layout	GH	GH	AV*	BL*	17/09/08*
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	23/10/07*

* Denote the original signature and date when revision was issued.

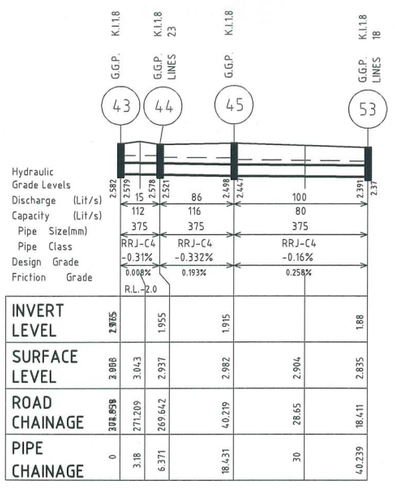
TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 0 1 2m (1:100 for A1 Size Plot)

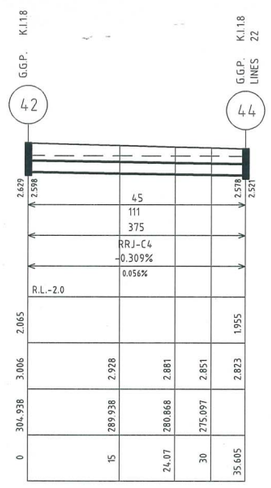
SHEET No. :41 | FILE : 20700203 | SHEET SIZE A1

JOB No. : 20179 | DATE : Plotted 13:29 21/01/09

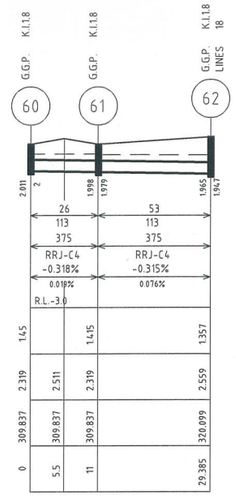
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Drainage Longsections.dwg



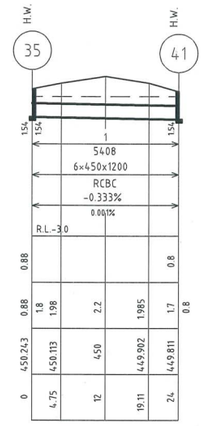
LINE.22



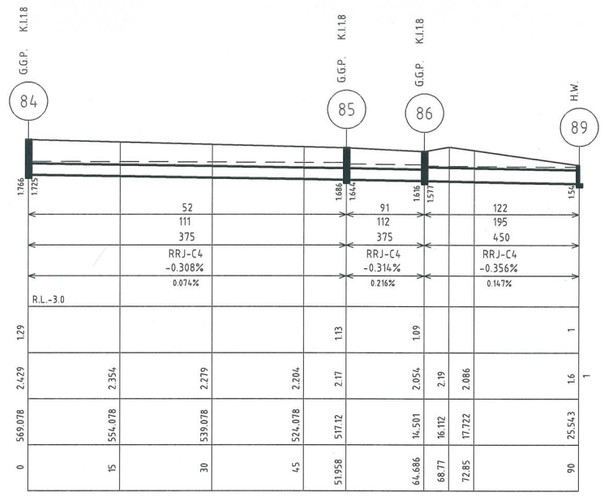
LINE.23



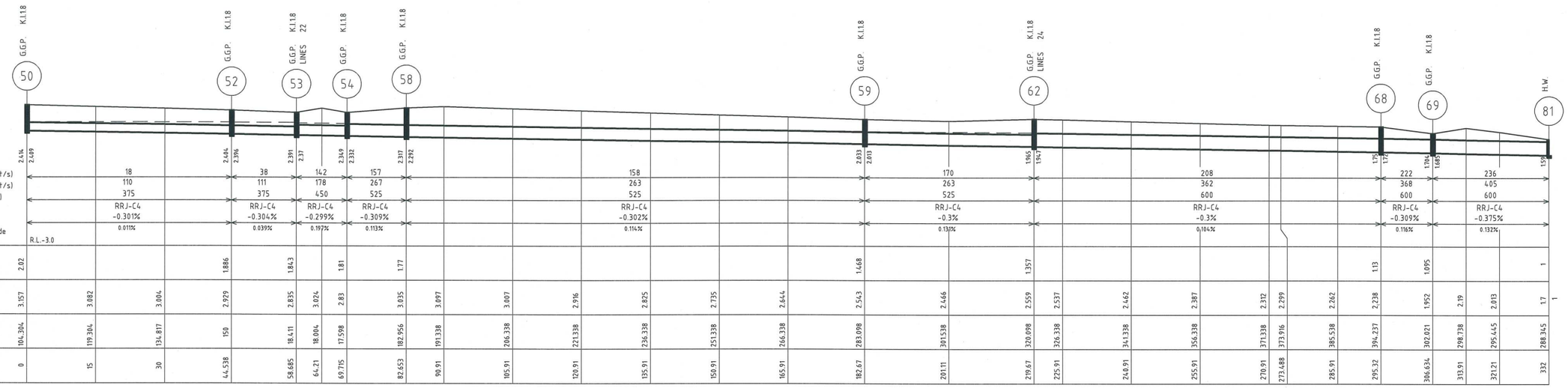
LINE.24



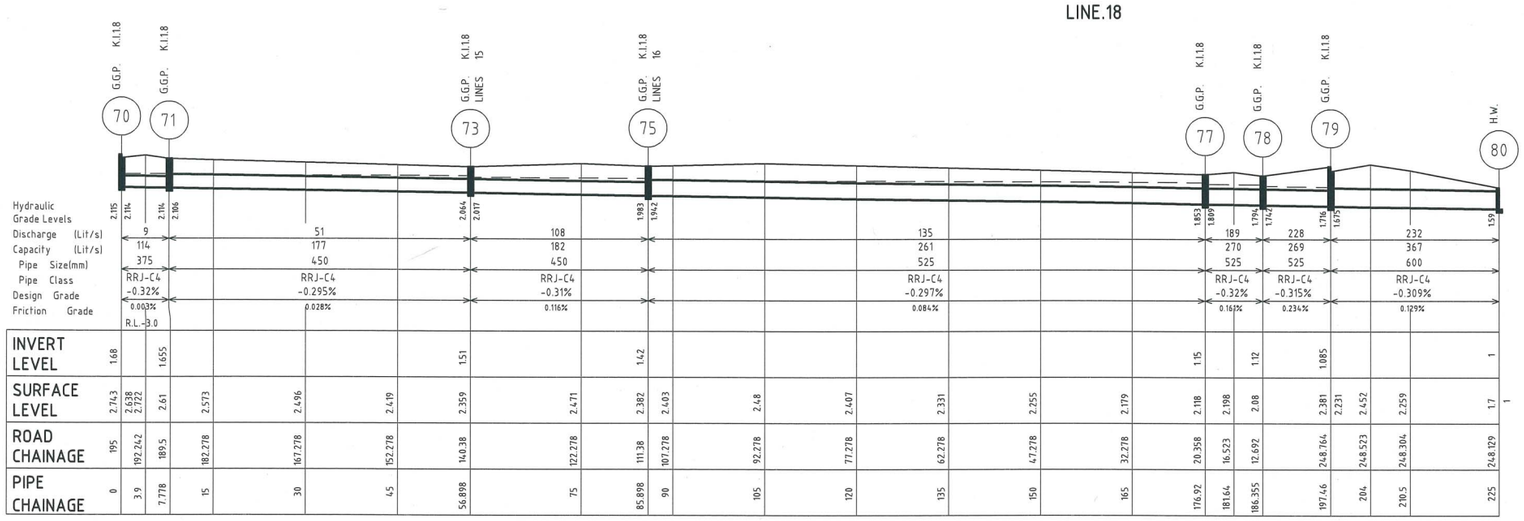
LINE.26



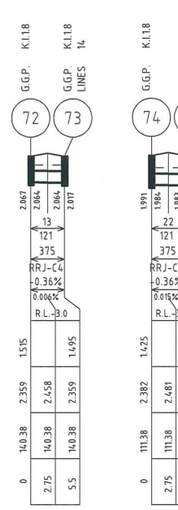
LINE.27



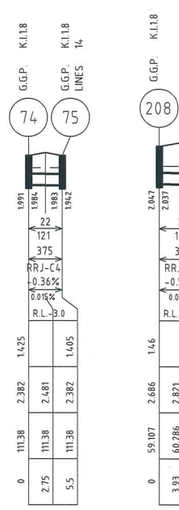
LINE.18



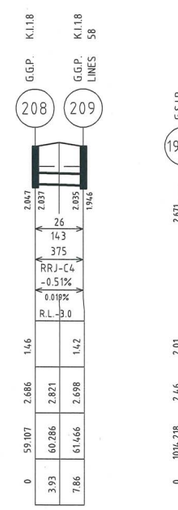
LINE.14



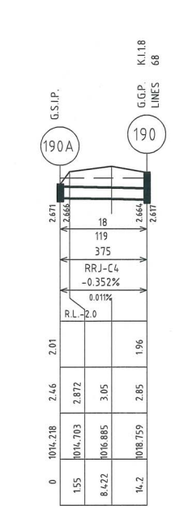
LINE.15



LINE.16



LINE.17



LINE.21

PROPOSED DRAINAGE LONGITUDINAL SECTIONS

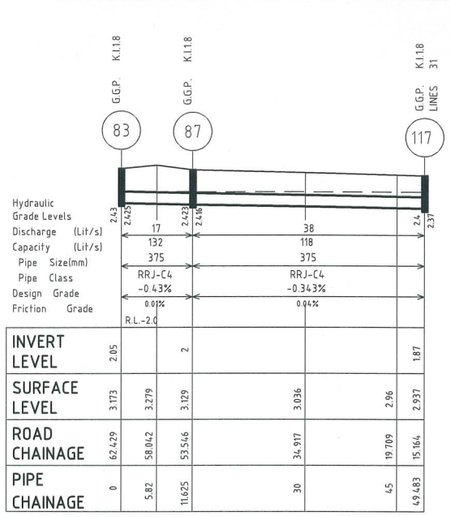
H=1:500 V=1:100

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	AV*	BL*	21/10/08*
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	23/10/07*

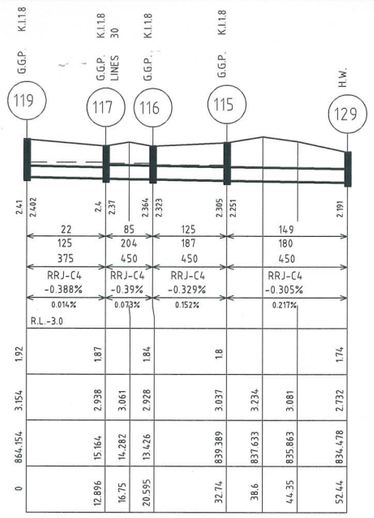
* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

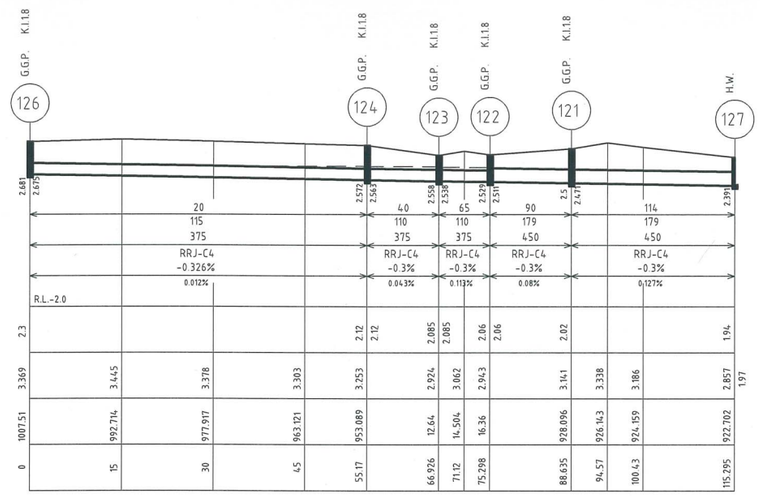
SCALE : 2m (1:100 for A1 Size Plot)
SHEET No. : 42
FILE : 20700204
JOB No. : 201479
DATE : Plotted 18:19 19/12/07
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\ST69\Drainage Longsections.dwg



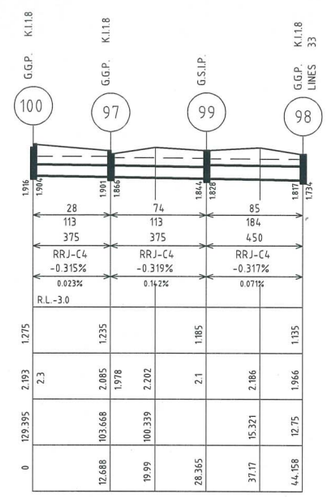
LINE.30



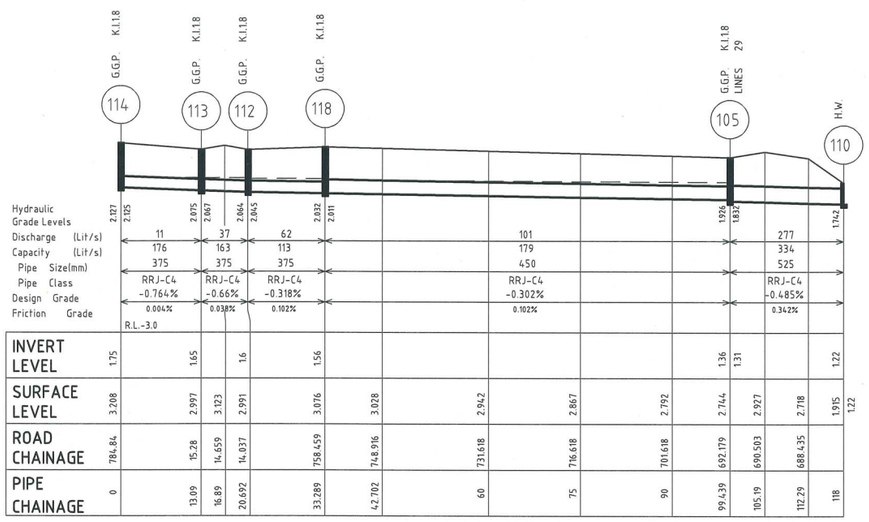
LINE.31



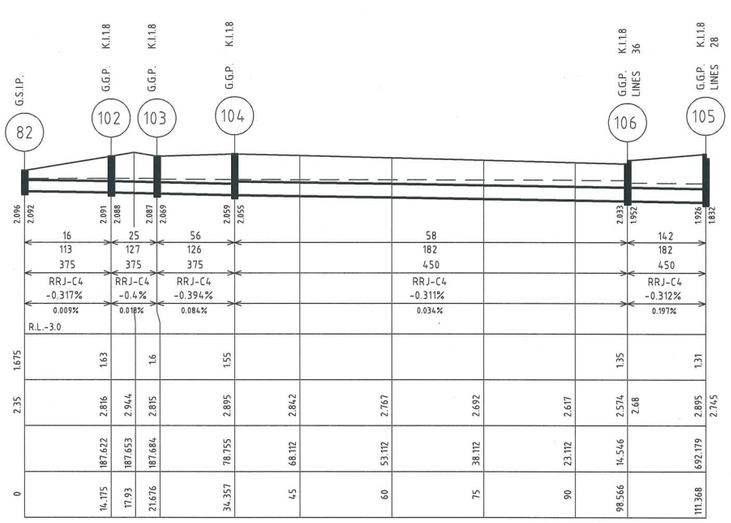
LINE.32



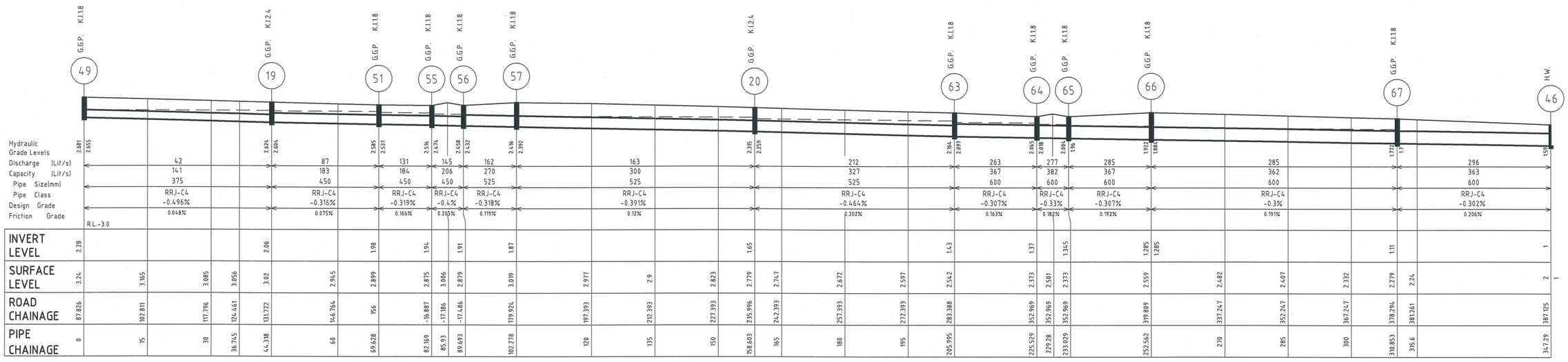
LINE.34



LINE.28



LINE.29



LINE.25

PROPOSED DRAINAGE LONGITUDINAL SECTIONS

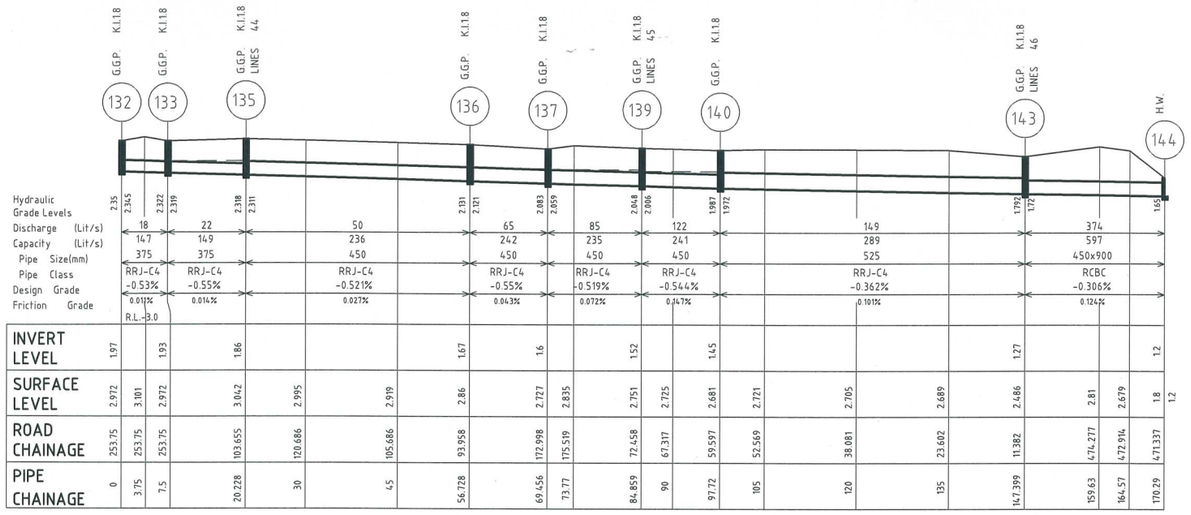
H=1:500 V=1:100

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	A.V.	BL	21/11/07
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	23/10/07*

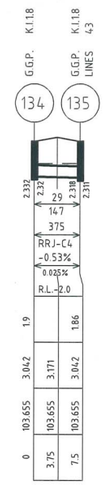
* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

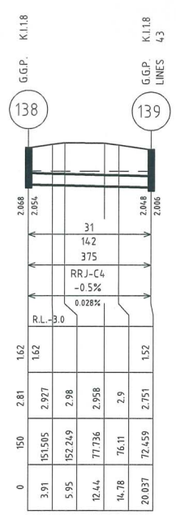
SCALE : 1 1 2m (1:100 for A1 Size Plot)
SHEET No. :43
FILE : 20700205
JOB No. : 201479
DATE : Plotted 18:19 19/12/07
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Drainage Longsections.dwg



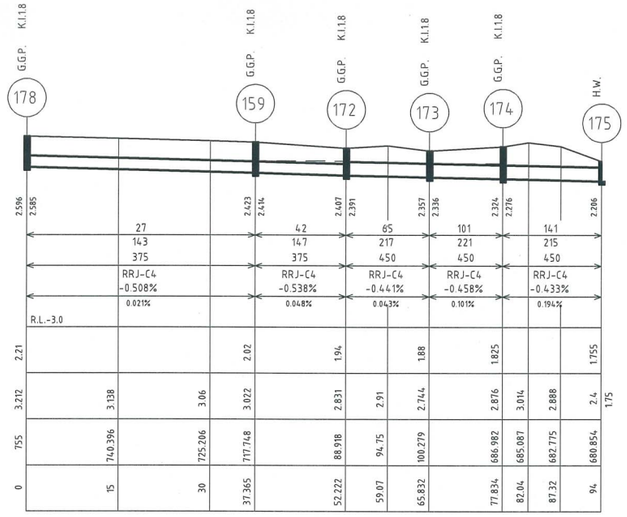
LINE.43



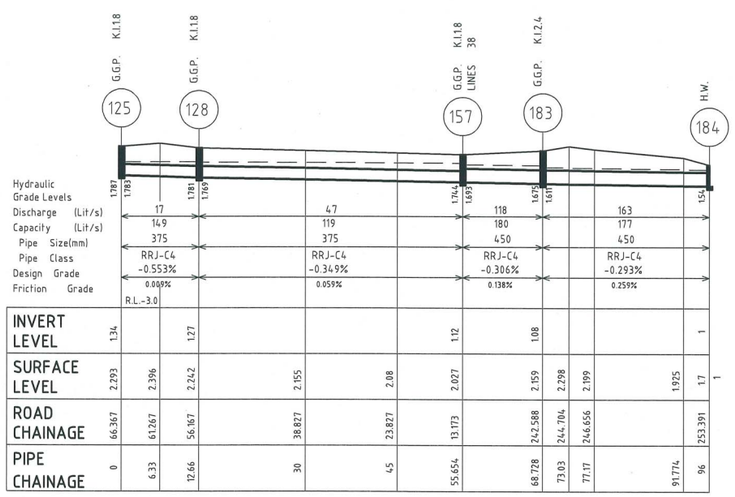
LINE.44



LINE.45



LINE.47



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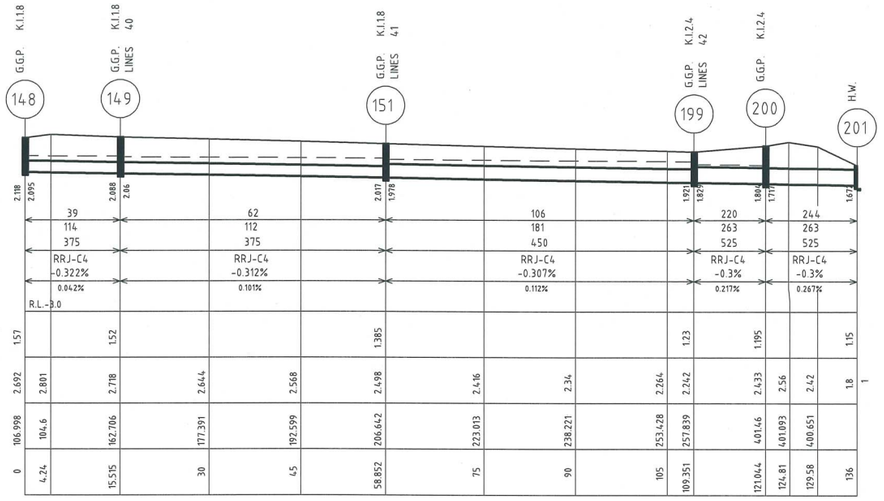
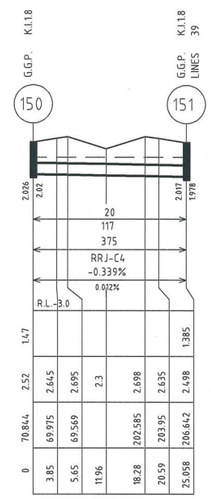
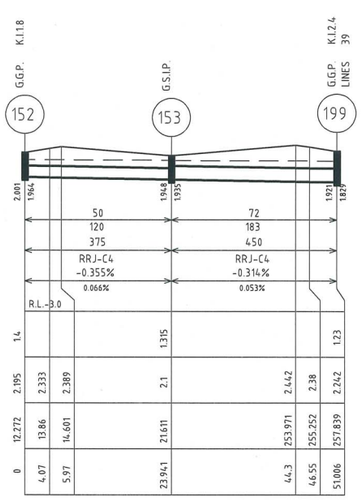


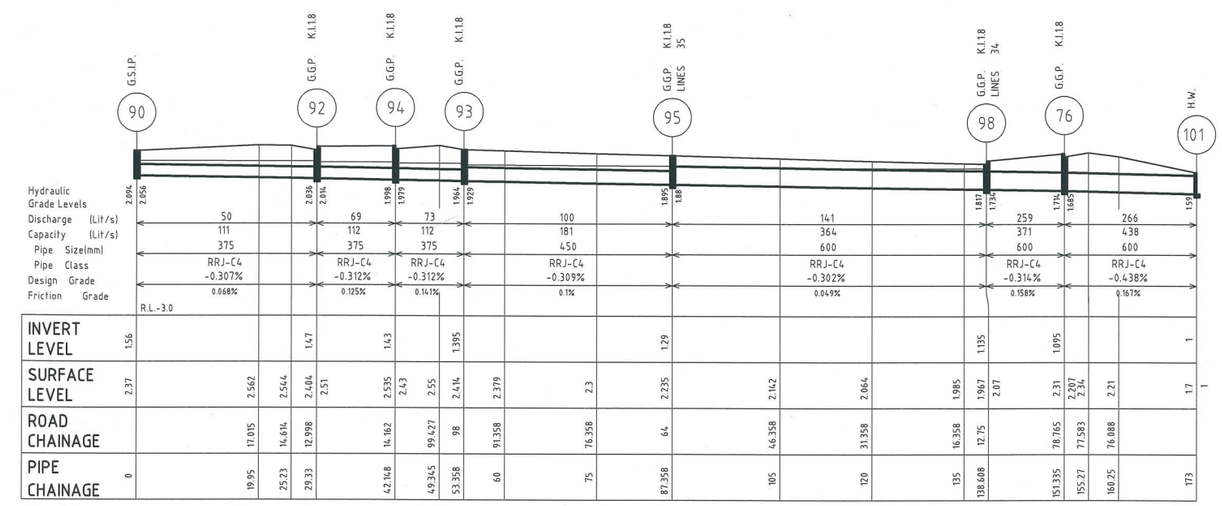
LINE.39



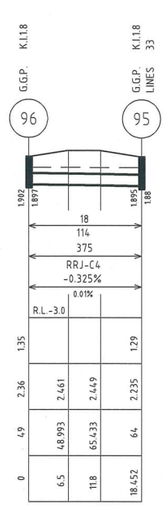
LINE.41



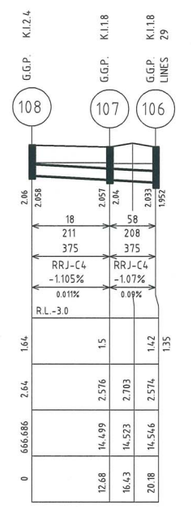
LINE.42



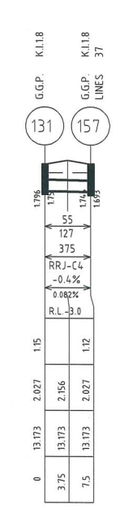
LINE.33



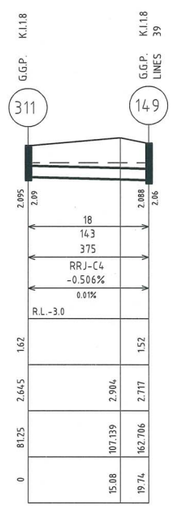
LINE.35



LINE.36



LINE.38



LINE.40

PROPOSED DRAINAGE LONGITUDINAL SECTIONS

H=1:500 V=1:100

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	AV.	BL	23/10/07
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	23/10/07*

* Denote the original signature and date when revision was issued.

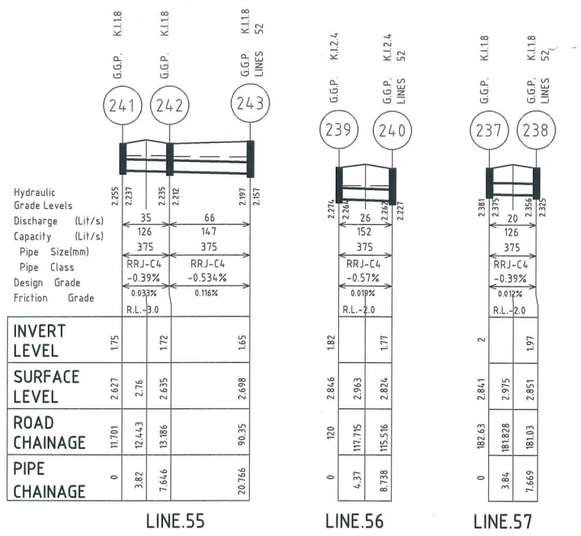
TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 1 1 2m (1:100 for A1 Size Plot)

SHEET No. :44 | FILE : 20700206 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 18:19 19/12/07

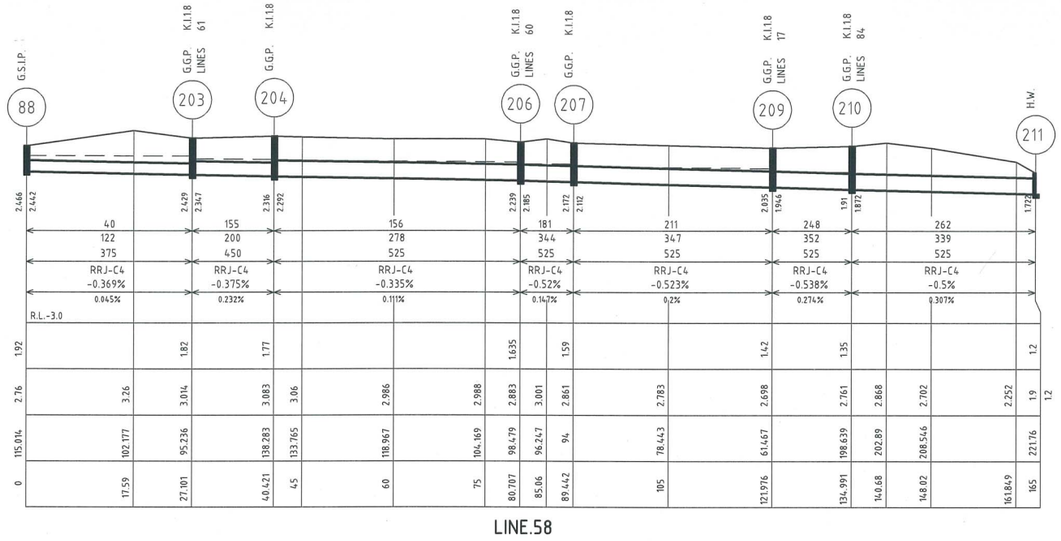
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Drainage Longsections.dwg



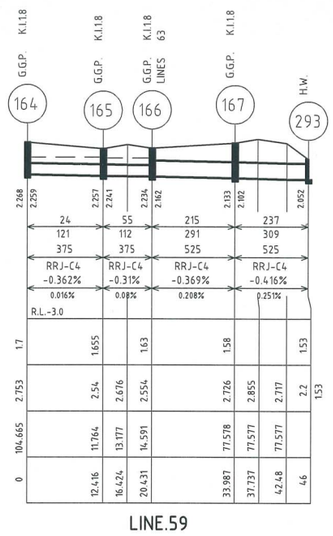
LINE.55

LINE.56

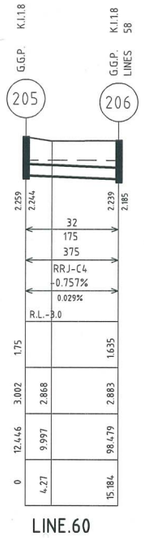
LINE.57



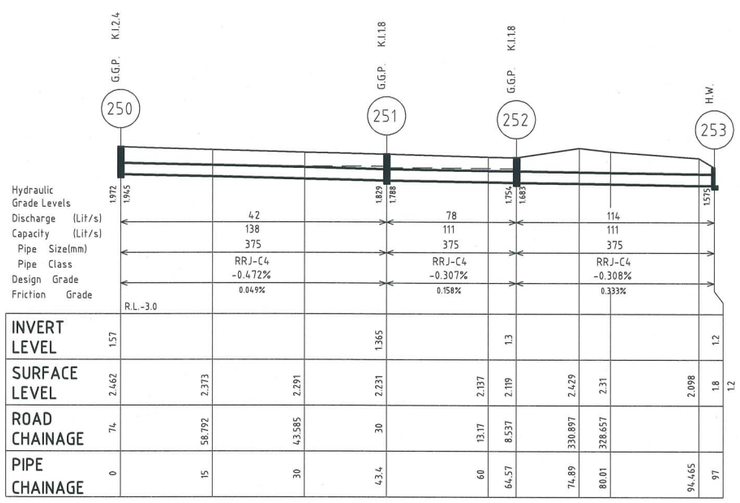
LINE.58



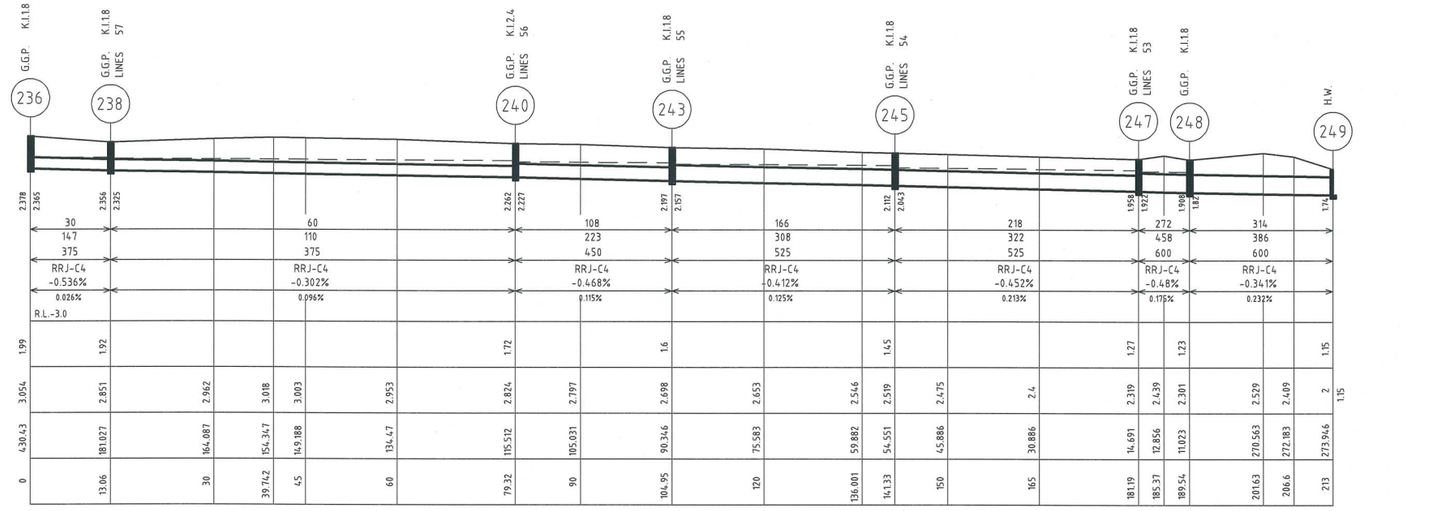
LINE.59



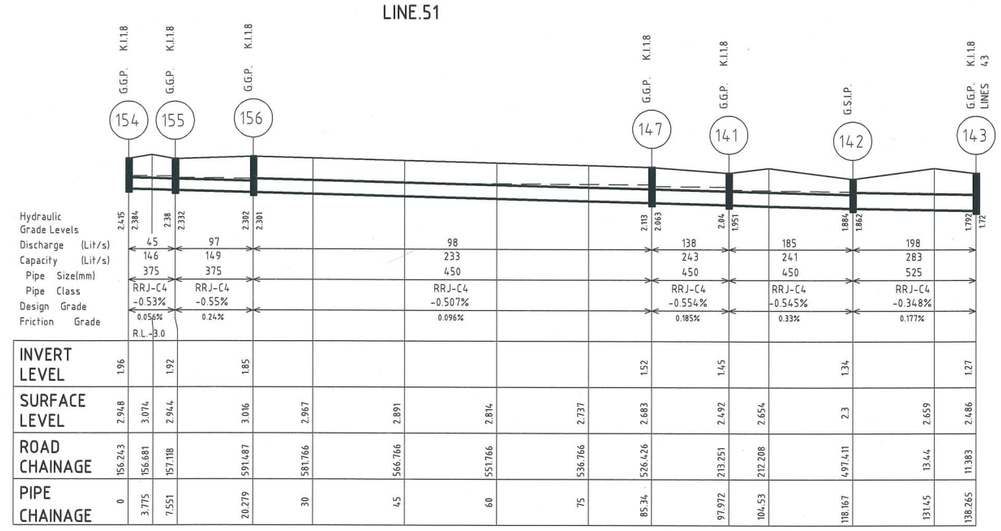
LINE.60



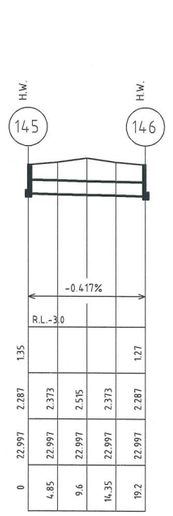
LINE.51



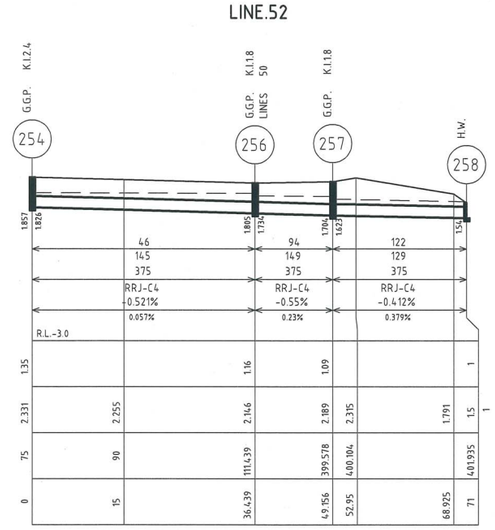
LINE.52



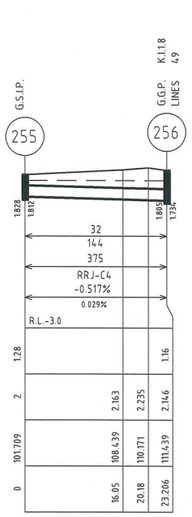
LINE.46



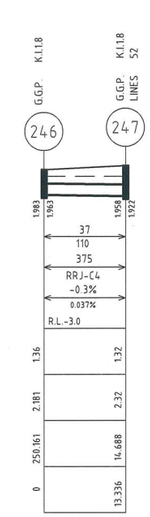
LINE.48



LINE.49



LINE.50



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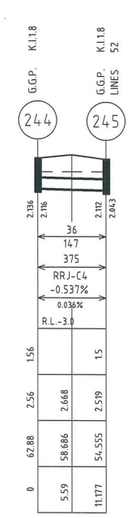


LINE.54

PROPOSED DRAINAGE LONGITUDINAL SECTIONS

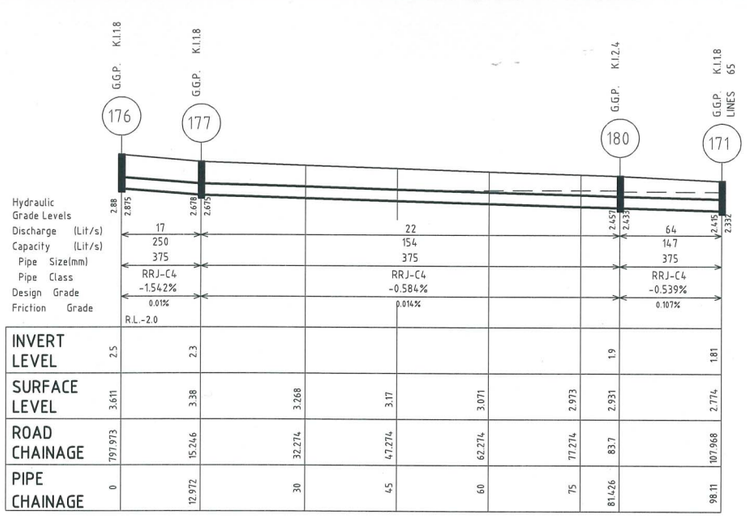
H=1:500 V=1:100

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	A.V.	BL	24/10/07
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	23/10/07*

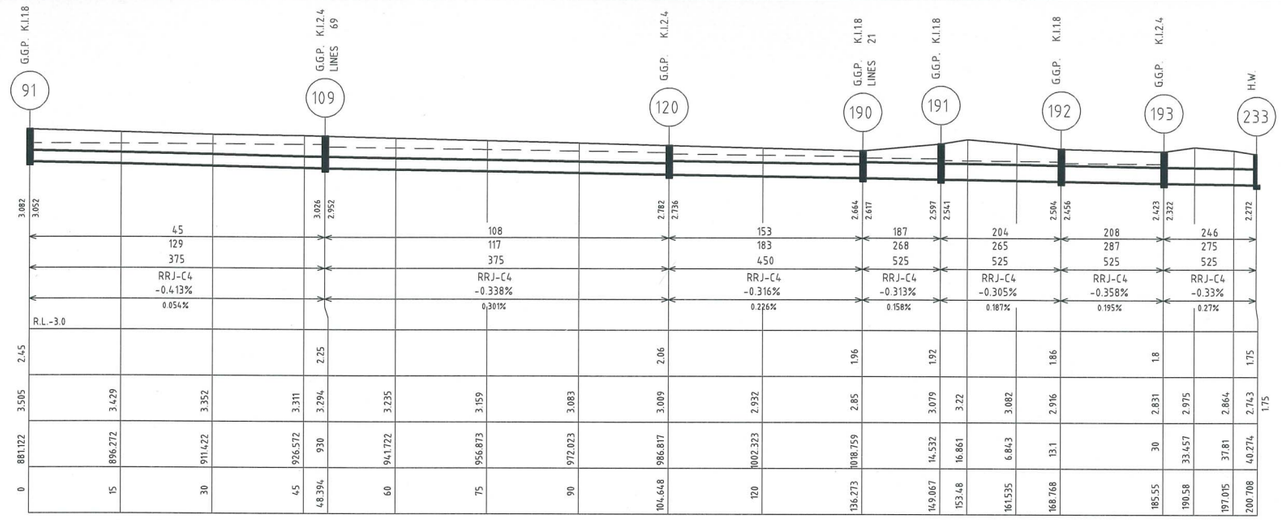
* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

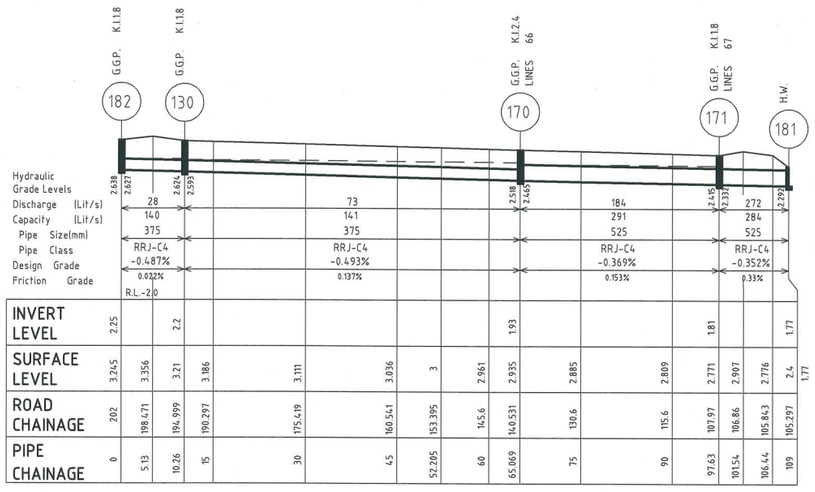
SCALE : 1 2m (1:100 for A1 Size Plot)
SHEET No. :45
FILE : 20700207
JOB No. : 2014/79
DATE : Plotted 18:20 19/12/07
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\ST09\Drainage Longsections.dwg



LINE.67



LINE.68



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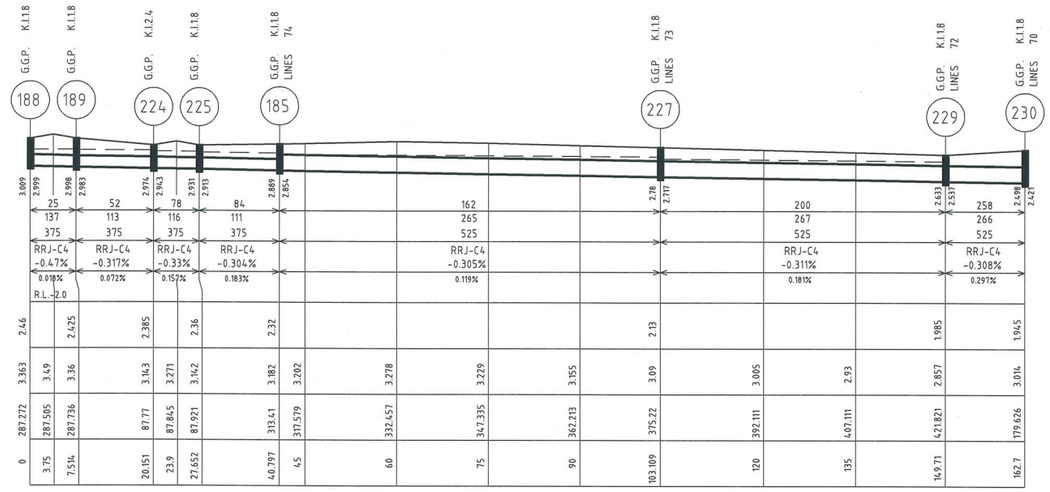
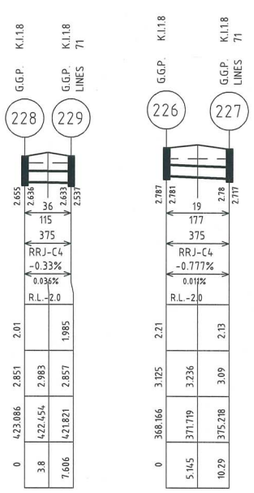
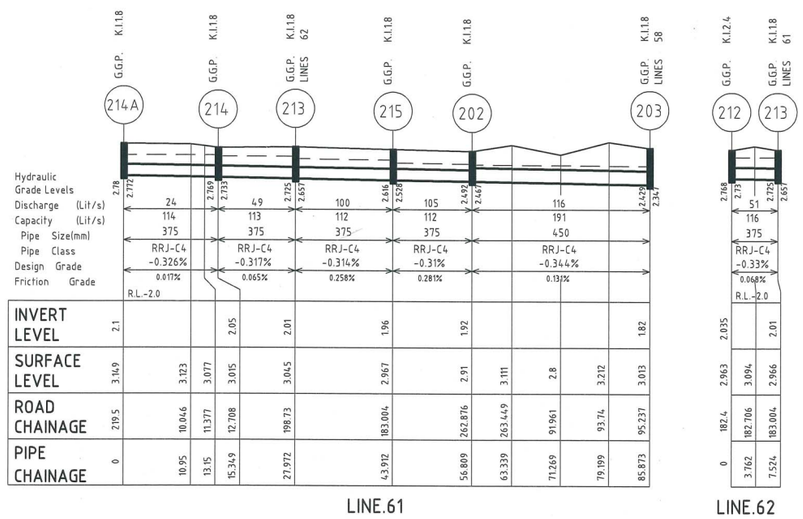


LINE.71



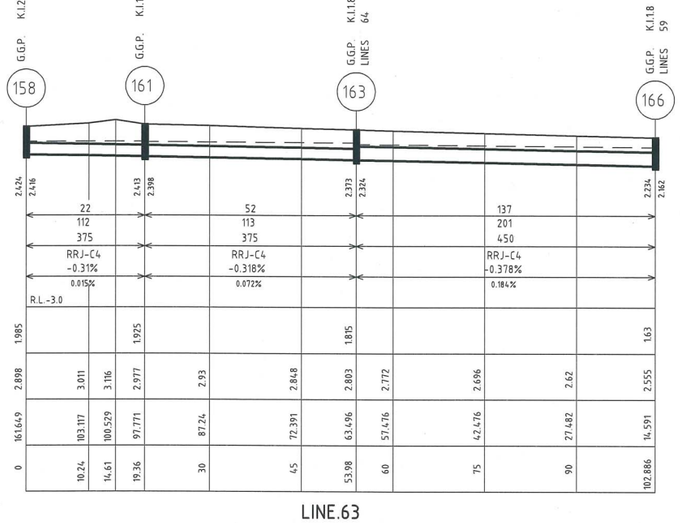
LINE.72

LINE.73

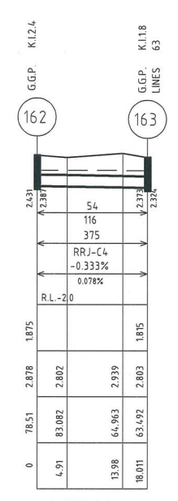


LINE.61

LINE.62



LINE.63



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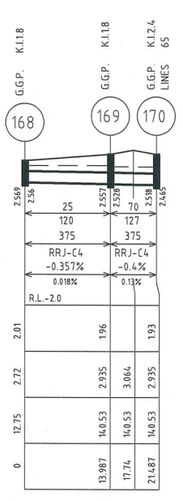
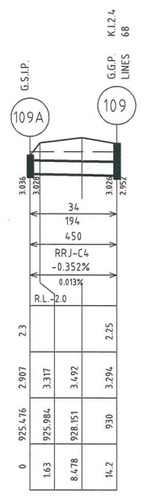


LINE.66



LINE.69

PROPOSED DRAINAGE LONGITUDINAL SECTIONS

H=1:500 V=1:100

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	AV	AL	21/11/08
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	23/10/07*

* Denote the original signature and date when revision was issued.

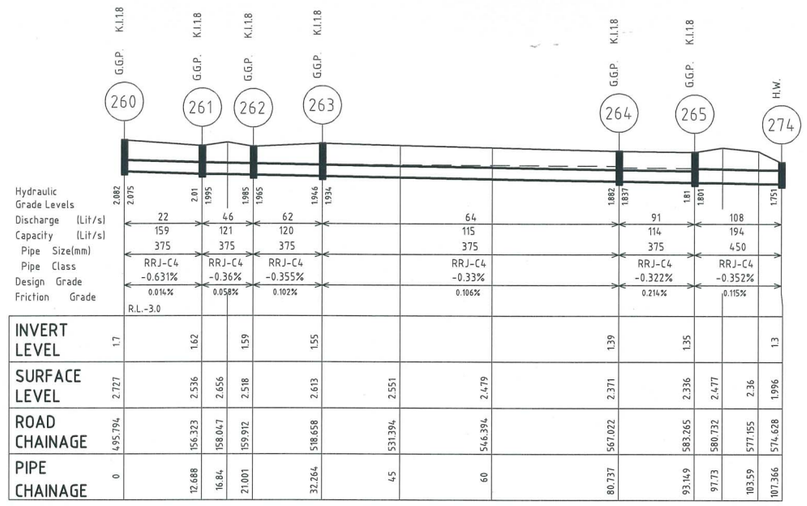
TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 0 1 2m (1:100 for A1 Size Plot)

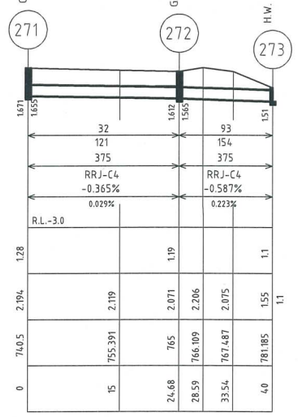
SHEET No. :46 | FILE : 20700208 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 18:20 19/12/07

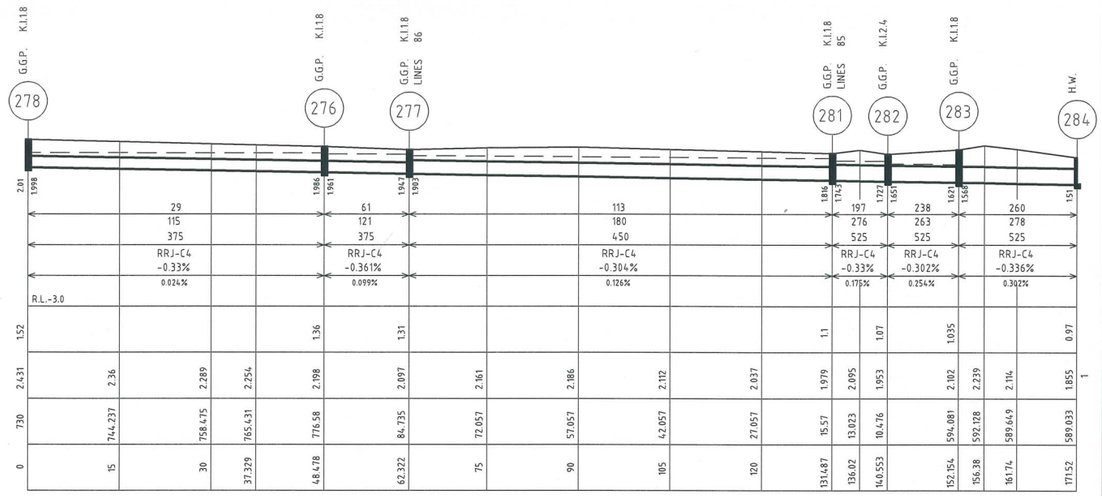
COMPUTER FILE : S:\projects\Myall Quays\dwg\ST69\Drainage Longsections.dwg



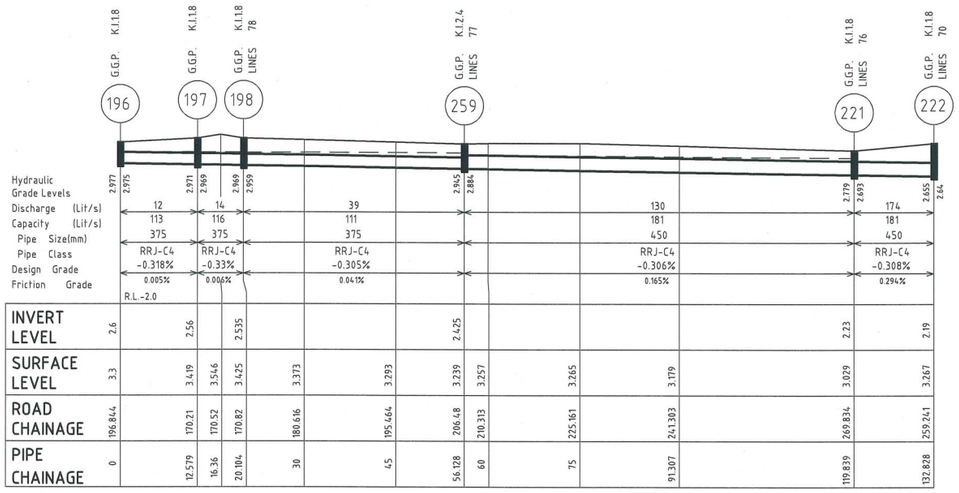
LINE.79



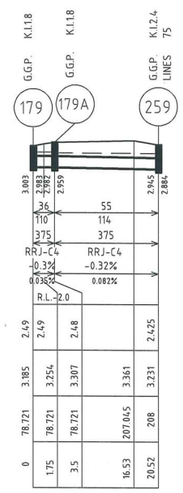
LINE.82



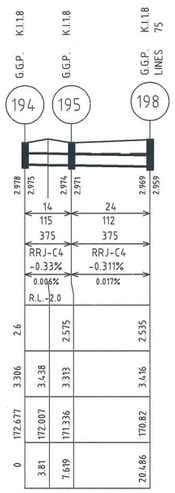
LINE.83



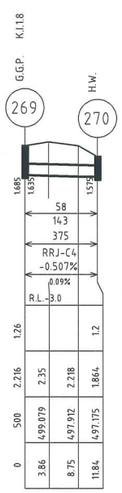
LINE.75



LINE.77



LINE.78



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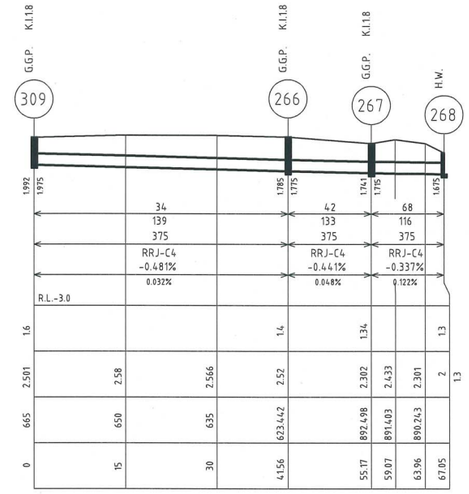
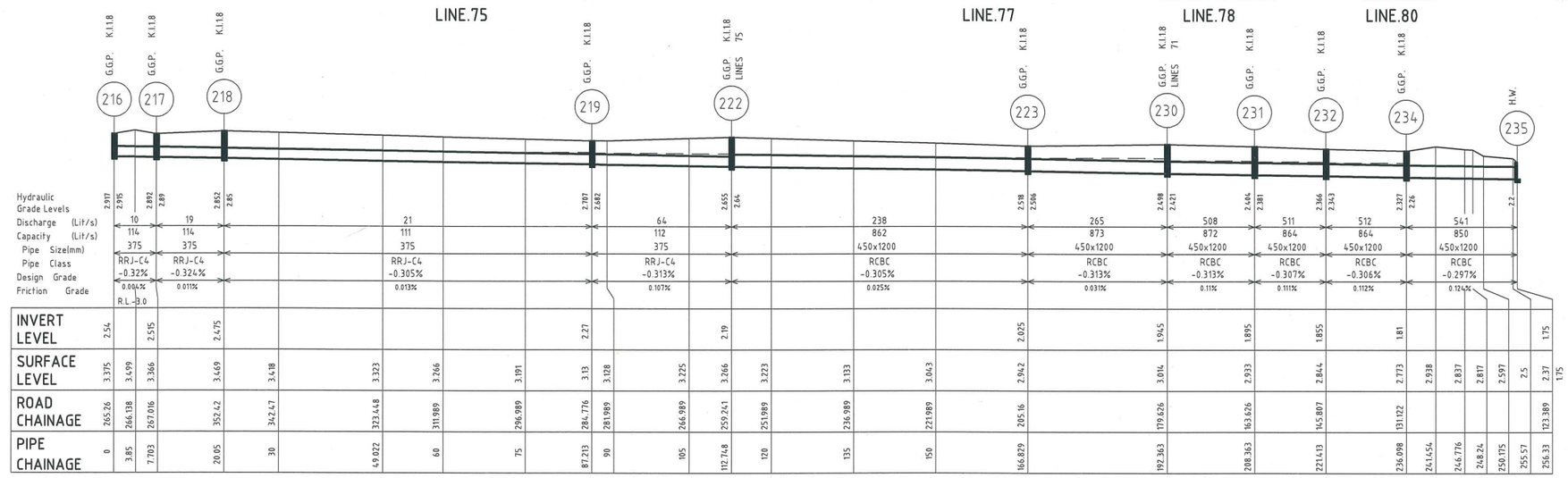
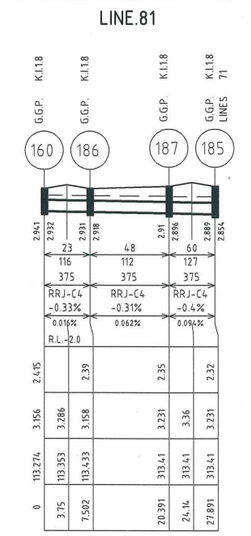


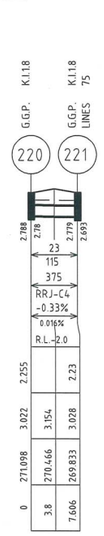
LINE.81



LINE.70



LINE.74



LINE.76

PROPOSED DRAINAGE LONGITUDINAL SECTIONS

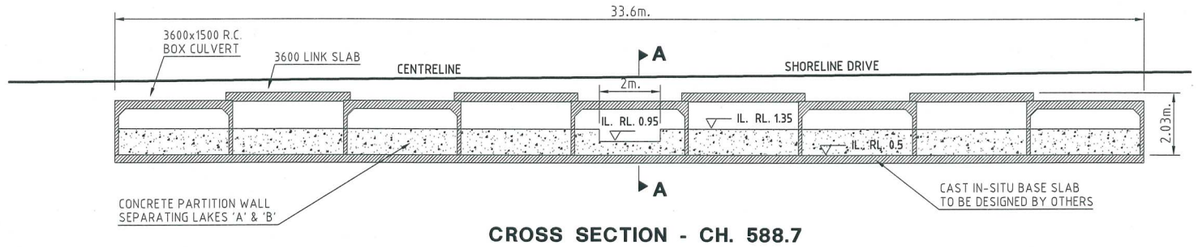
H=1:500 V=1:100

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	A.V.	AL	24/12/08
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	23/10/07*

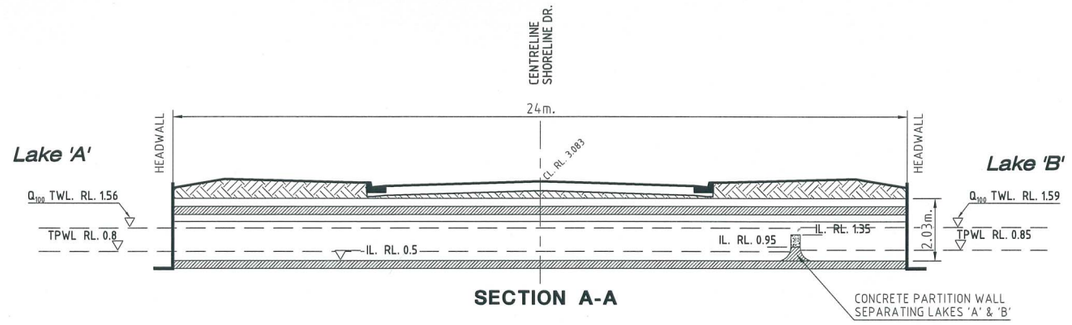
* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1 0 1 2m (1:100 for A1 Size Plot)
SHEET No. :47
JOB No. : 201479
FILE : 20700209
DATE : Plotted 18:20 19/12/07
SHEET SIZE : A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Drainage Longsections.dwg



CROSS SECTION - CH. 588.7



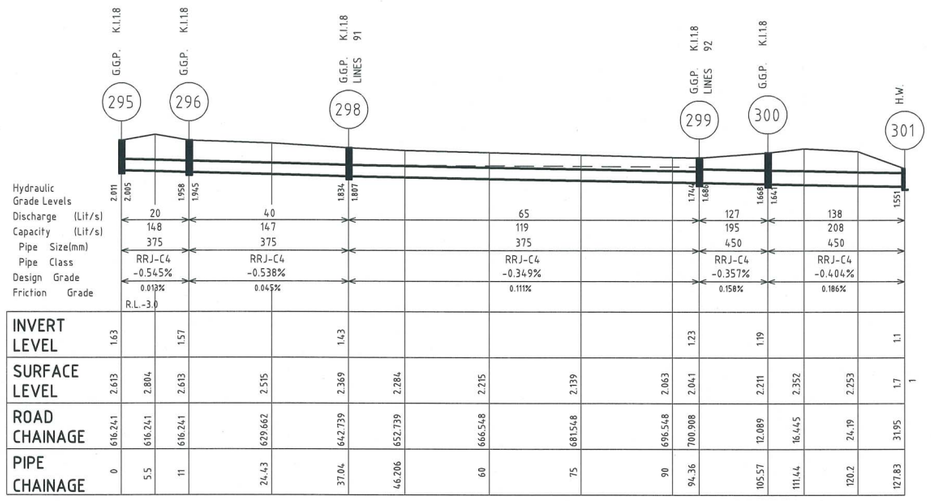
SECTION A-A

CULVERT DETAILS UNDER SHORELINE DRIVE

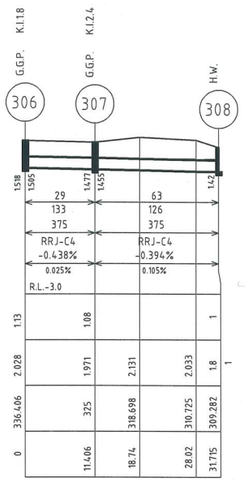
SCALE 1:100

NOTE:

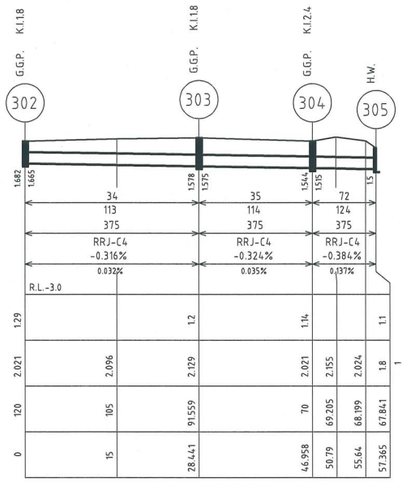
TPWL. RL. 1.3	DENOTES TOP PERMANENT WATER LEVEL
TWL. RL. 1.3	DENOTES TOP WATER LEVEL



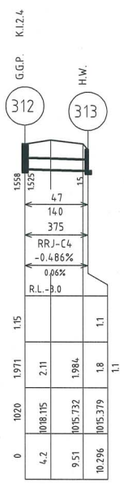
LINE.90



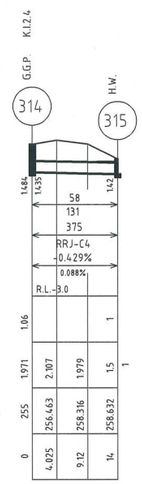
LINE.93



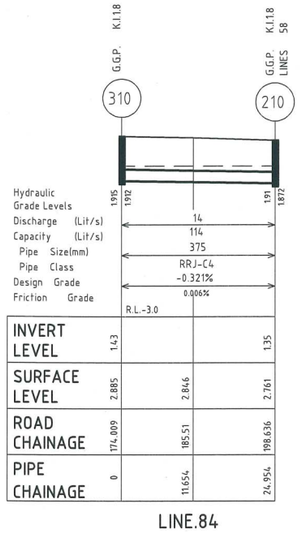
LINE.94



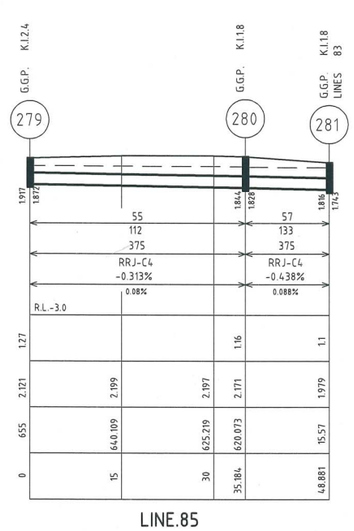
LINE.95



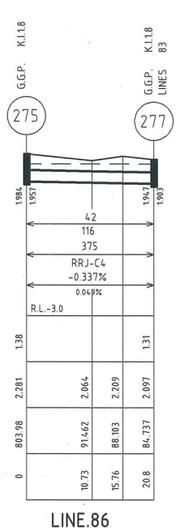
LINE.96



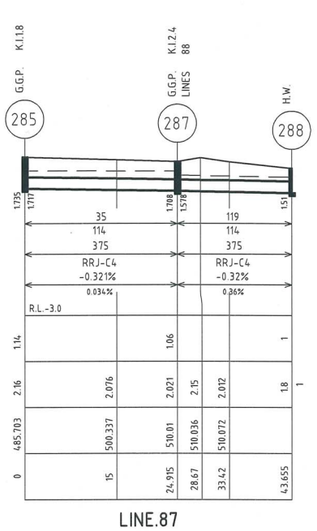
LINE.84



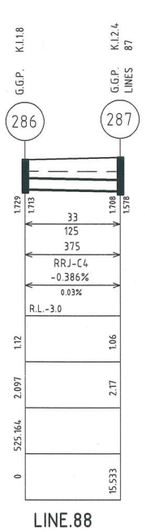
LINE.85



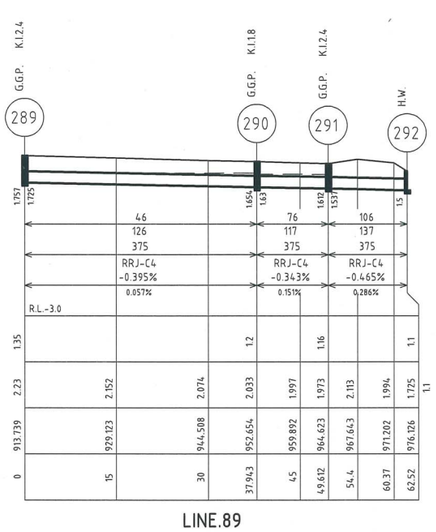
LINE.86



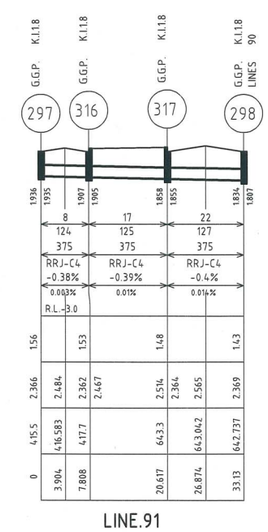
LINE.87



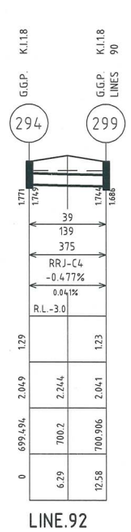
LINE.88



LINE.89



LINE.91



LINE.92

PROPOSED DRAINAGE LONGITUDINAL SECTIONS

H=1:500 V=1:100

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	A.V.*	B.L.*	24/10/07
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	06/08/07*
A	Original Issue	GH	GH	-	-	23/10/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

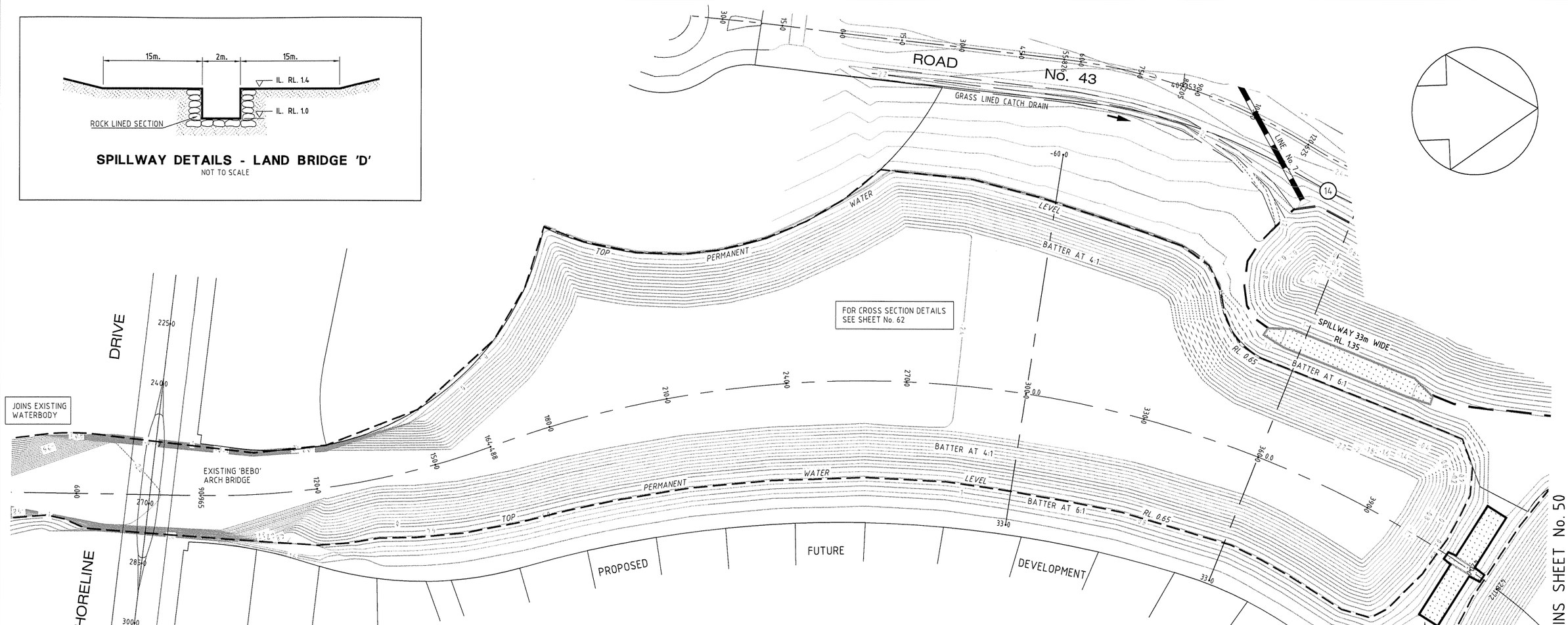
SCALE : 2m (1:100 for A1 Size Plot) | SHEET No. :4.8 | FILE : 20700210 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 18:20 19/12/07

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG5\Drainage Longsections.dwg

SPILLWAY DETAILS - LAND BRIDGE 'D'

NOT TO SCALE



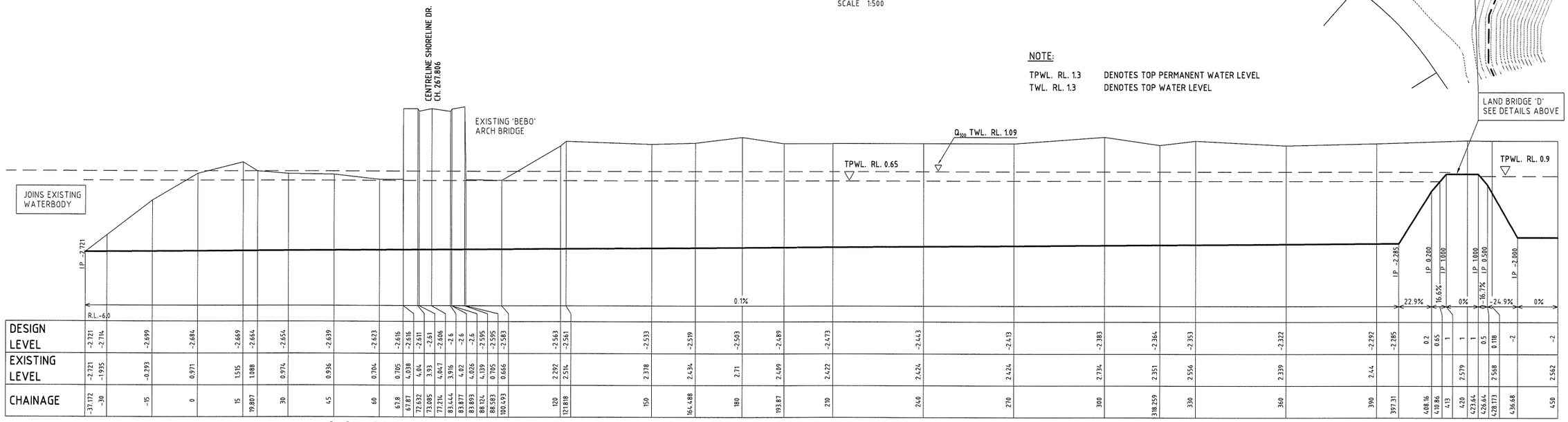
PLAN - PROPOSED EXTENSION TO EXISTING SALINE LAKE

SCALE 1:500

NOTE:

TPWL. RL. 1.3 DENOTES TOP PERMANENT WATER LEVEL

TWL. RL. 1.3 DENOTES TOP WATER LEVEL



| | | |

JOINS SHEET No. 59

JOINS SHEET No. 51

JOINS SHEET No. 49

ROAD

No. 15

No. 17

No. 43

LINE No. 27

LINE No. 23

LINE No. 26

LINE No. 18

LINE No. 14

BATTER AT 6:1

BATTER AT 4:1

TOP

PERMANENT

WATER

LEVEL

RL. 0.9

CENTRELINE WEST BRANCH (SEE SHEET No.25)

FOR CROSS SECTION DETAILS SEE SHEET No. 63

FOR CROSS SECTION DETAILS SEE SHEET No. 62

BASE R.L. -2.0 (AHD)

LAND BRIDGE 'C' SEE DETAILS BELOW

EXIST. SK PIT

EXIST. 2 CELL 1500x300 RCBC

GRADE EXIST. OUTLET DRAIN TO PROP. DRAINAGE BASIN

FUTURE

DEVELOPMENT

PROPOSED

LAND BRIDGE 'D' FOR DETAILS SEE SHEET No.49

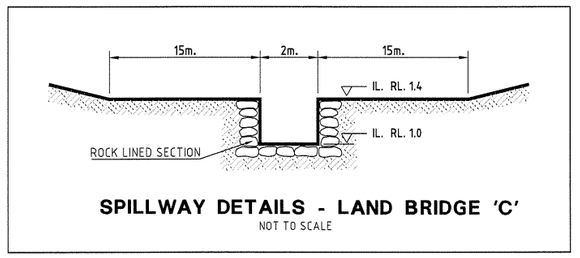
NOTE:

TPWL. RL. 1.3 DENOTES TOP PERMANENT WATER LEVEL

TWL. RL. 1.3 DENOTES TOP WATER LEVEL

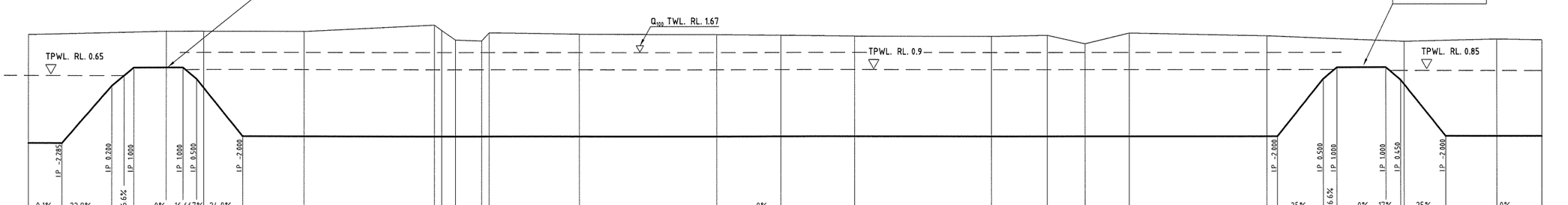
PLAN - PROPOSED FRESHWATER LAKE 'C'

SCALE 1:500

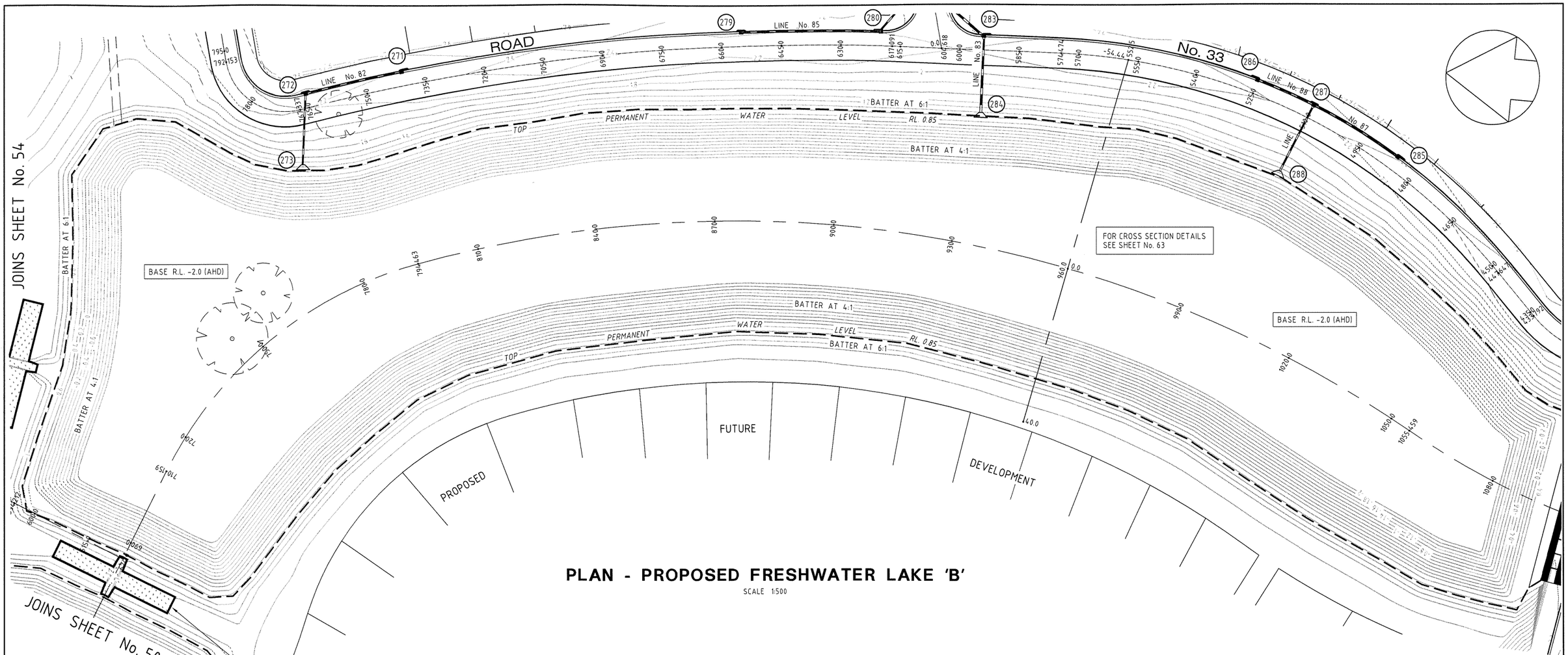


SPILLWAY DETAILS - LAND BRIDGE 'C'

NOT TO SCALE



| | | |

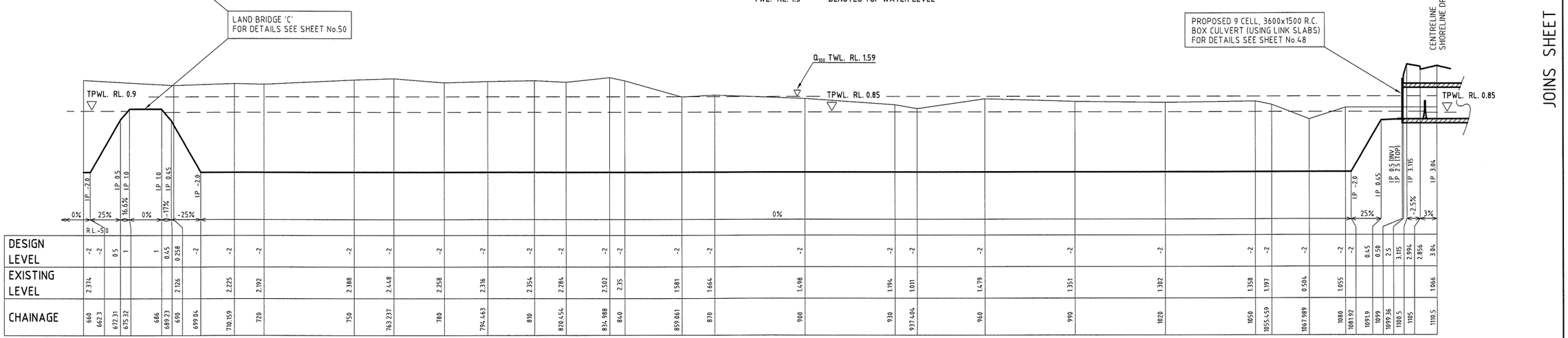


PLAN - PROPOSED FRESHWATER LAKE 'B'

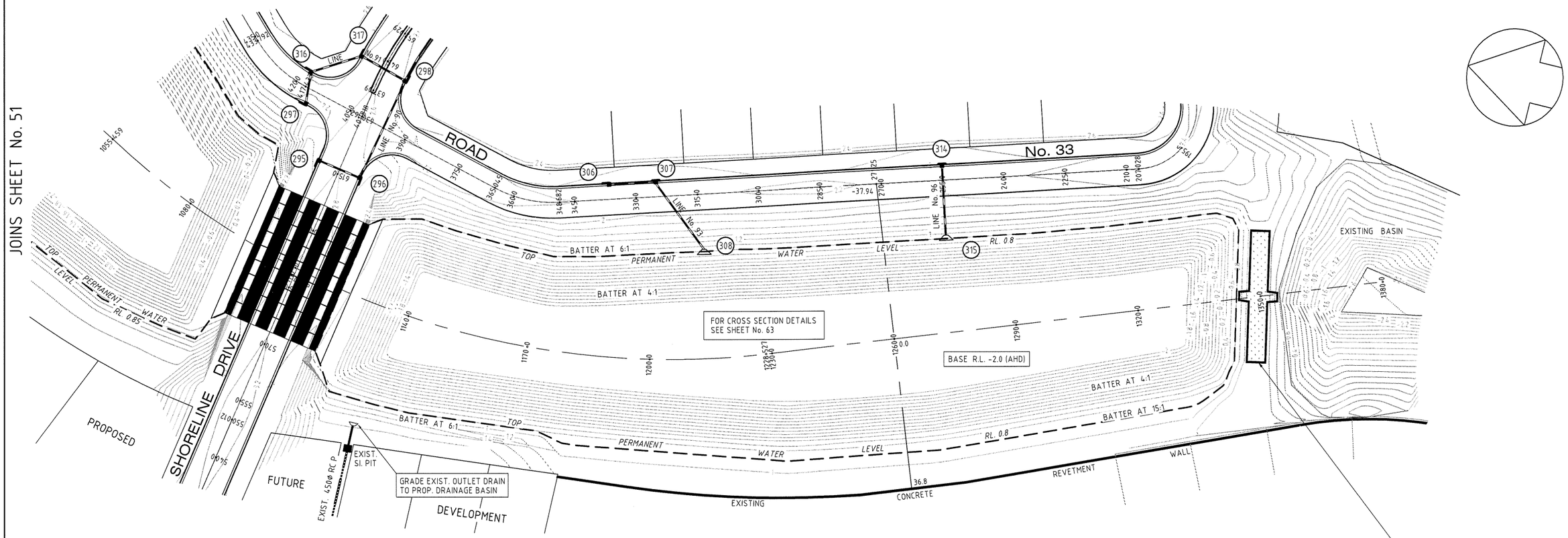
SCALE 1:500

NOTE:

TPWL. RL. 1.3 DENOTES TOP PERMANENT WATER LEVEL
TWL. RL. 1.3 DENOTES TOP WATER LEVEL

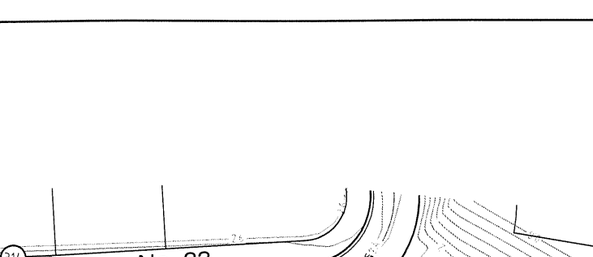


| | | |



PLAN - PROPOSED FRESHWATER LAKE 'A'

SCALE 1:500



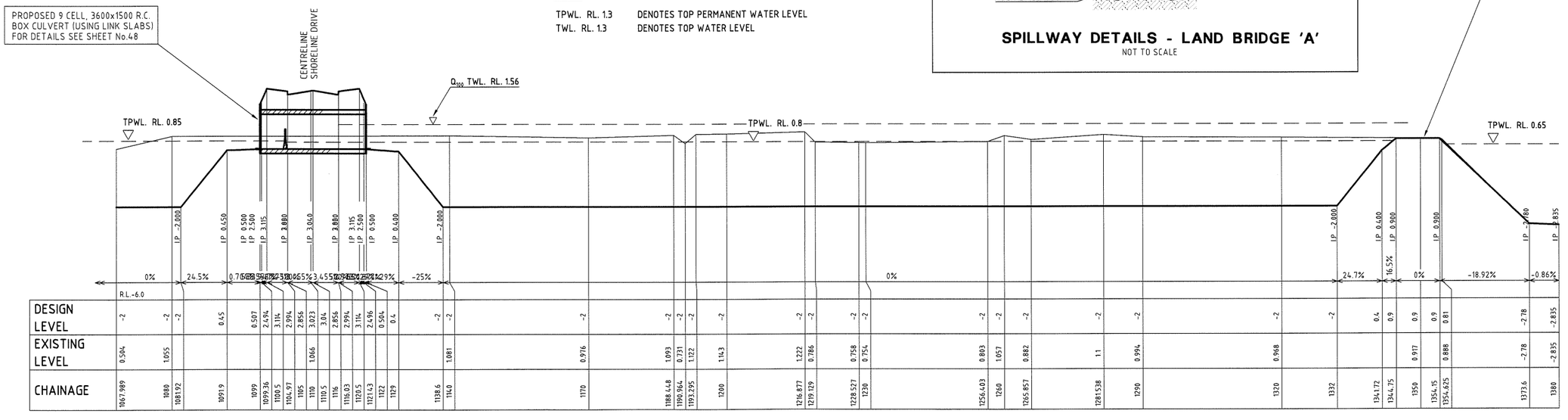
SPILLWAY DETAILS - LAND BRIDGE 'A'

NOT TO SCALE

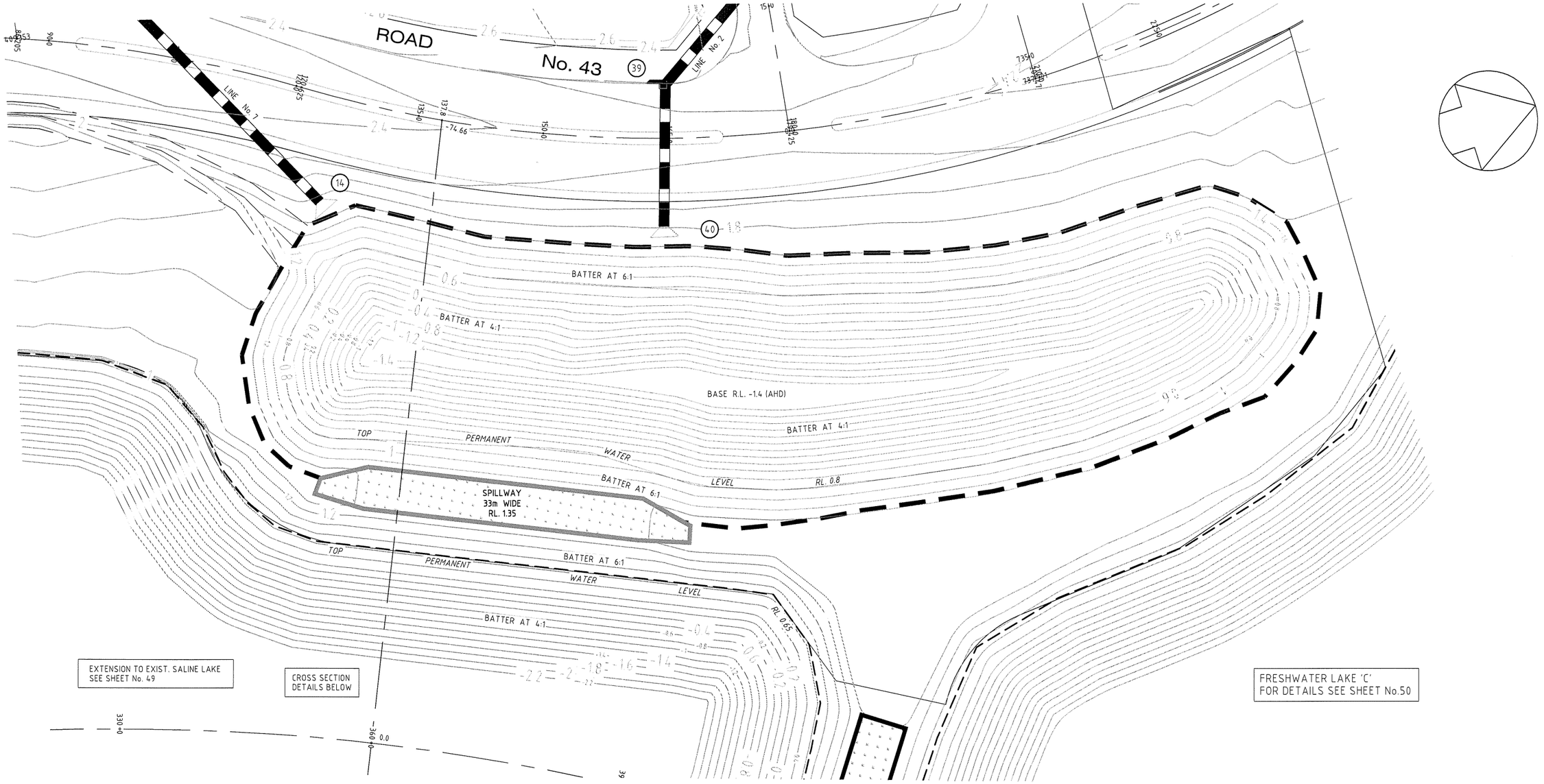
LAND BRIDGE 'A' SEE DETAILS THIS SHEET

NOTE:

TPWL. RL. 1.3 DENOTES TOP PERMANENT WATER LEVEL
TWL. RL. 1.3 DENOTES TOP WATER LEVEL

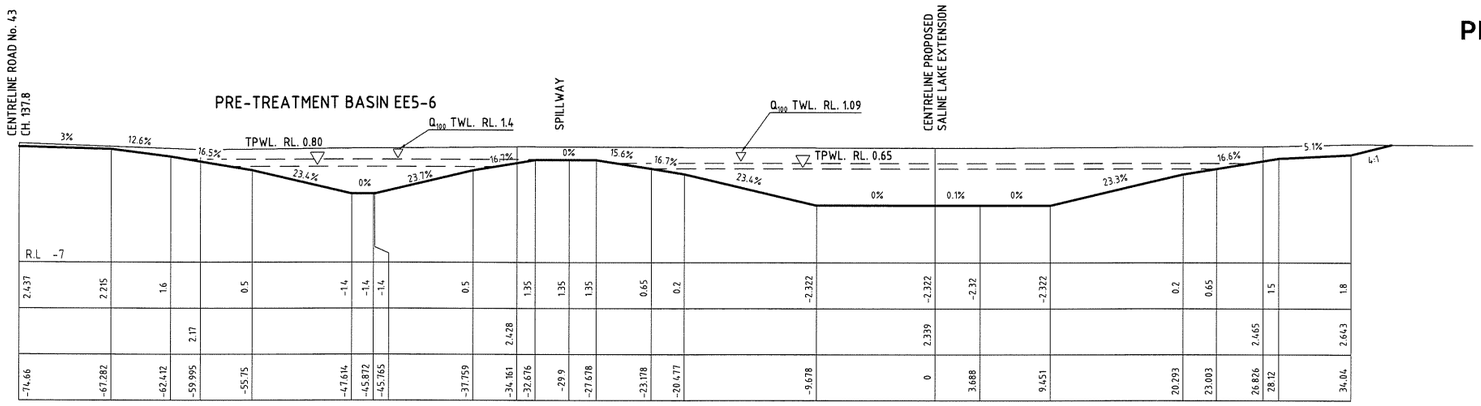


| | | |



PLAN - PRE-TREATMENT BASIN EE5-6

SCALE 1:250



CROSS SECTIONS - PRE-TREATMENT BASIN EE5-6

H=1:250 V=1:250

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	gl	6/5/08
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 1 2.5 5m (1:250 for A1 Size Plot) | SHEET No. :53 | FILE : 20700215 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 12:38 29/04/08

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ConSite (202400-ConSite.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: MQ-STAGE6 (MQ-STAGE6.dwg)

JOINS SHEET No. 55

CENTRELINE EAST BRANCH (SEE SHEET No.25)

ROAD No. 17

ROAD No. 29

LINE No. 37

LINE No. 49

BATTER AT 6:1

BATTER AT 4:1

BASE R.L. -2.5 (AHD)

FOR LONG. SECTION DETAILS
SEE SHEET No. 25

TOP PERMANENT WATER LEVEL RL. 0.8

LAND BRIDGE 'E'
SEE DETAILS THIS SHEET

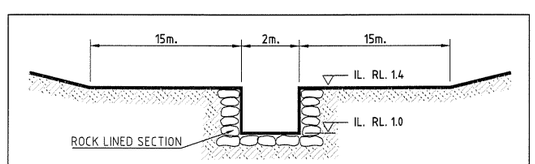
TOP PERMANENT WATER LEVEL RL. 0.9

FRESHWATER LAKE 'C'
FOR DETAILS SEE SHEET No.50

JOINS SHEET No. 60

TOP PERMANENT WATER LEVEL RL. 0.85

FRESHWATER LAKE 'B'
FOR DETAILS SEE SHEET No.51



SPILLWAY DETAILS - LAND BRIDGE 'E'
NOT TO SCALE

PLAN - PRE-TREATMENT BASIN EE2

SCALE 1:250

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	BE	20/09/07*
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 2.5 5.0m (1:250 for A1 Size Plot)
SHEET No. :54
FILE : 20700216
JOB No. : 201479
DATE : Plotted 18:20 19/12/07
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: MQ-STAGE6 (MQ-STAGE6.dwg)

PLAN - PRE-TREATMENT BASIN EE2 - CONTINUED

SCALE 1:250

JOINS SHEET No. 54

CENTRELINE EAST BRANCH (SEE SHEET No.25)

FOR CROSS SECTION DETAILS SEE SHEET No. 28

FOR CROSS SECTION DETAILS SEE SHEET No. 28

ROAD No. 17

ROAD No. 18

ROAD No. 29

LINE No. 42

LINE No. 39

LINE No. 43

LINE No. 51

LINE No. 52

LINE No. 58

BATTER AT 6:1

BATTER AT 4:1

BATTER AT 6:1

BATTER AT 6:1

TOP PERMANENT WATER LEVEL RL 0.9

BATTER AT 4:1

BATTER AT 6:1

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	A.L.	6/8/08
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 0 2.5 5.0m (1:250 for A1 Size Plot)

SHEET No. :55 | FILE : 20700217 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 18:20 19/12/07

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ConSite (202400-ConSite.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Stg9-10__design_Contors__2_INTERVAL (Stg9-10__design_Contors__2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: MQ-STAGE6 (MQ-STAGE6.dwg)

PRE-TREATMENT BASIN E4

PRE-TREATMENT BASIN E2

SPILLWAY
5m WIDE
RL. 1.35

FOR LEVEL SPREADER
(OUT-FLOW DRAIN) TYPICAL
SECTION SEE SHEET No. 57

FOR OUT FLOW STRUCTURE DETAILS
SEE SHEET No. 40

FOR SECTION DETAILS
SEE SHEET No. 57

TOP PERMANENT WATER LEVEL RL 0.9

BASE R.L. -1.2 (AHD)

BATTER AT 6:1

BATTER AT 4:1

ROAD No. 32

ROAD No. 4

ROAD No. 33

CATCH DRAIN

LINE No. 89

LINE No. 95

LINE No. 90

LINE No. 94

PLAN - PRE-TREATMENT BASINS E2 & E4

SCALE 1:250

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	RE	20/09/07
A	Original Issue	GH	GH	-	-	20/09/07

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

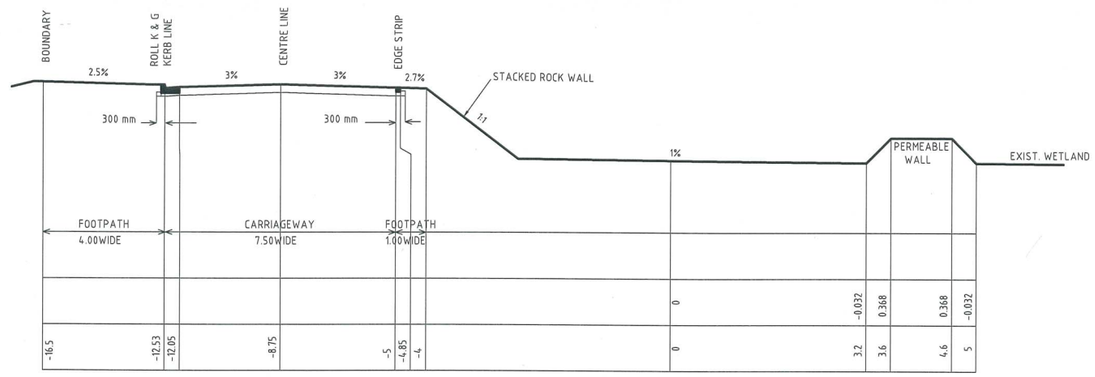
SCALE : (1:250 for A1 Size Plot)

SHEET No. :56 | FILE : 20700218 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 18:20 19/12/07

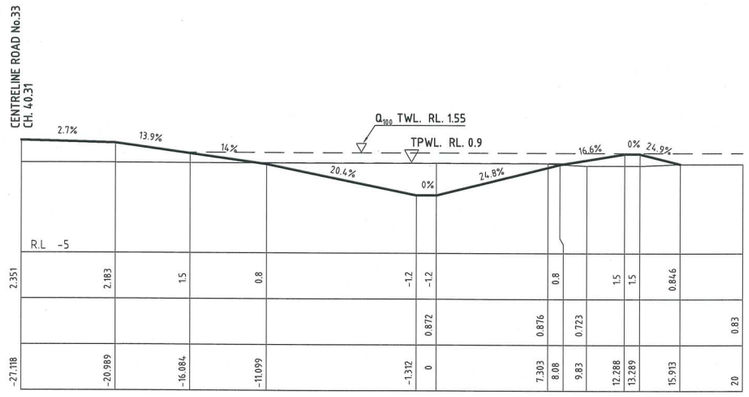
COMPUTER FILE : S:\projects\Myall Quays\dwg\ST09\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ConSite (202400-ConSite.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: MQ-STAGE6 (MQ-STAGE6.dwg)

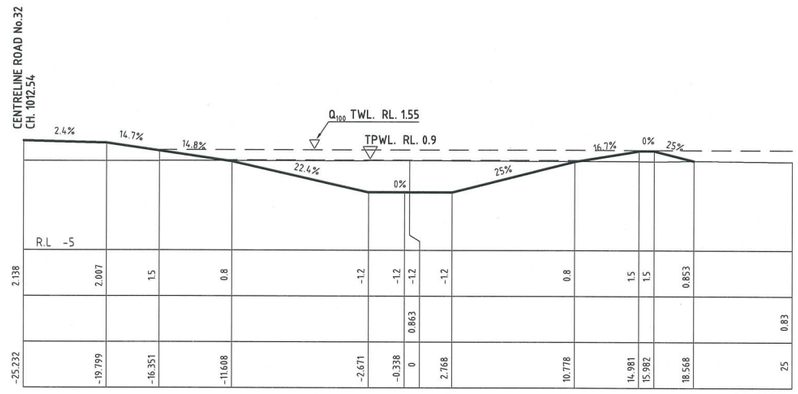


LEVEL SPREADER TYPICAL SECTION

1:50



CH. 41



CH. 127

CROSS SECTION - PRE-TREATMENT BASIN E2

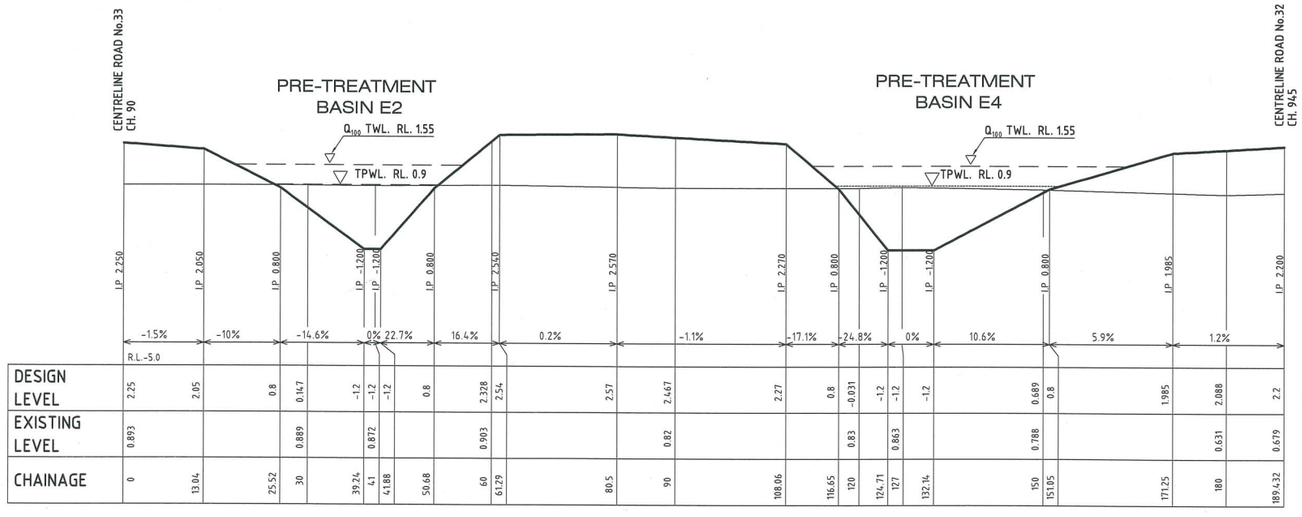
(SEE SHEET No.56)

H=1:200 V=1:200

CROSS SECTION - PRE-TREATMENT BASIN E4

(SEE SHEET No.56)

H=1:200 V=1:200



LONGITUDINAL SECTION - PRE-TREATMENT BASINS E2 & E4

(SEE SHEET No.56)

H=1:500 V=1:100

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Admin Revision	GH	GH	AJ.	BL	21/9/08
B	Modified Design - Scheme S Adopted	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

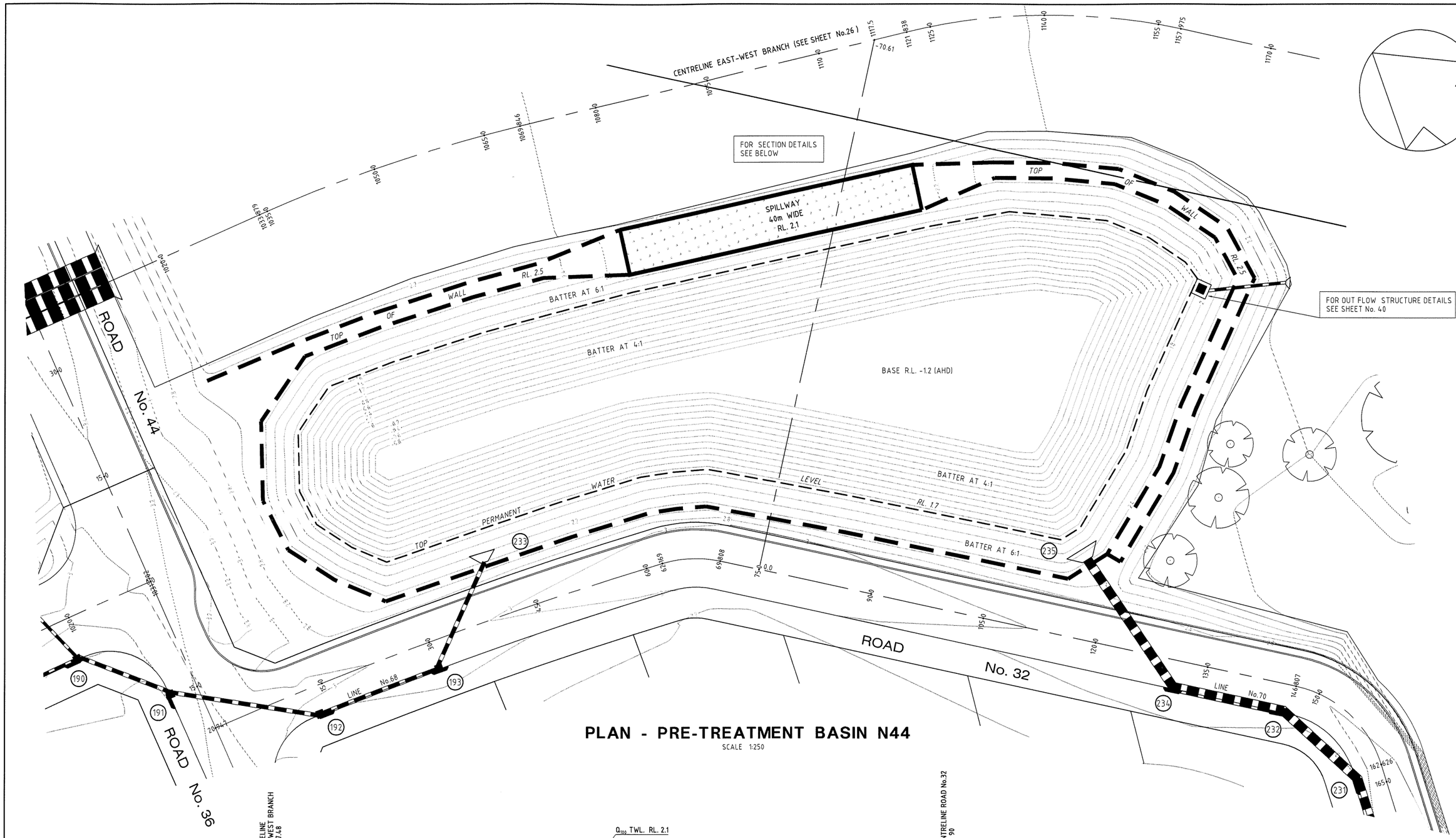
SCALE : 1 1 2m (1:100 for A1 Size Plot)

SHEET No. :57 | FILE : 20700219 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 09:39 22/01/09

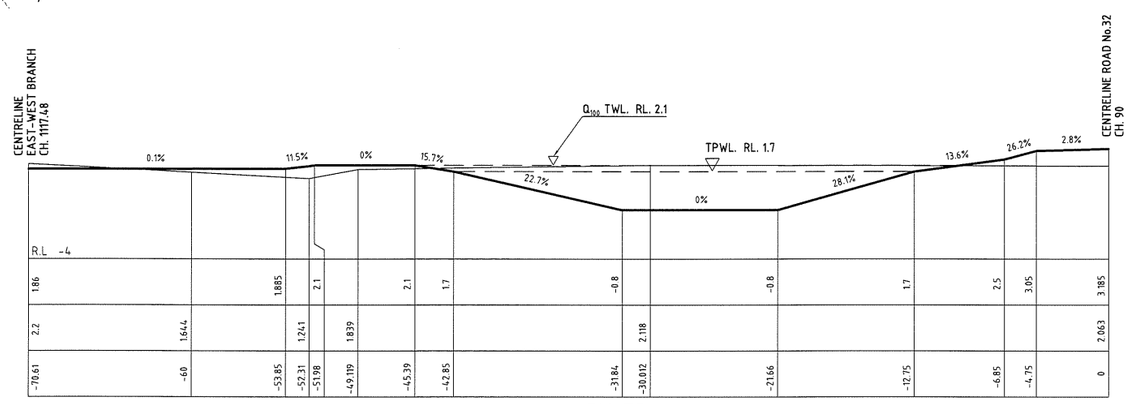
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: 201478 - Stg B Bdy (201478 - Stg B Bdy.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: MQ-STAGE6 (MQ-STAGE6.dwg)



PLAN - PRE-TREATMENT BASIN N44

SCALE 1:250



CH. 75

CROSS SECTION - PRE-TREATMENT BASIN N44

H=1:200 V=1:200

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme S Adopted	GH	GH	A.J.	AR	6/8/08*
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 0 2.5 5.0m (1:250 for A1 Size Plot)

SHEET No. :58 | FILE : 20700221 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 18:21 19/12/07

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ConSite (202400-ConSite.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Stg9-10__design_Contors_2_INTERVAL (Stg9-10__design_Contors_2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: MQ-STAGE6 (MQ-STAGE6.dwg)

JOINS SHEET No. 60

FUTURE DEVELOPMENT

FUTURE ROAD

ROAD No. 42

CENTRELINE WEST BRANCH (SEE SHEET No.25)

CENTRELINE NORTH BRANCH (SEE SHEET No.25)

TOP

PERMANENT WATER LEVEL

RL. 0.95

BATTER AT 6:1

BATTER AT 4:1

BASE R.L. -2.0 (AHD)

FOR CROSS SECTION DETAILS SEE SHEET No. 28

BASE R.L. -2.0 (AHD)

LINE No. 25

LINE No. 26

LINE No. 27

LINE No. 28

LINE No. 29

LINE No. 36

ROAD No. 15

ROAD No. 17

JOINS SHEET No. 50

PLAN - PROPOSED FRESHWATER BASIN 'N10'

SCALE 1:500

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	A.L	6/9/07
A	Original Issue	GH	GH	-	-	20/09/07
*	Denote the original signature and date when revision was issued.					

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

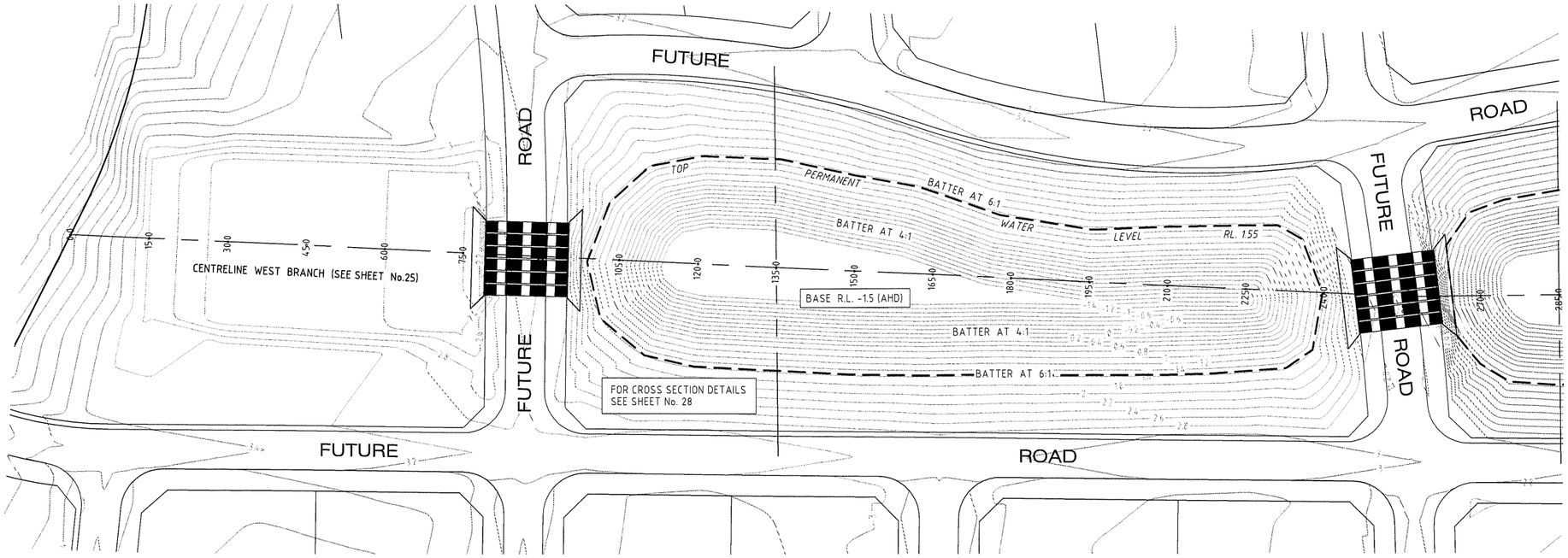
SCALE : 1:500 for A1 Size Plot (1 5 10m)

SHEET No. :59 | FILE : 20700222 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 18:21 19/12/07

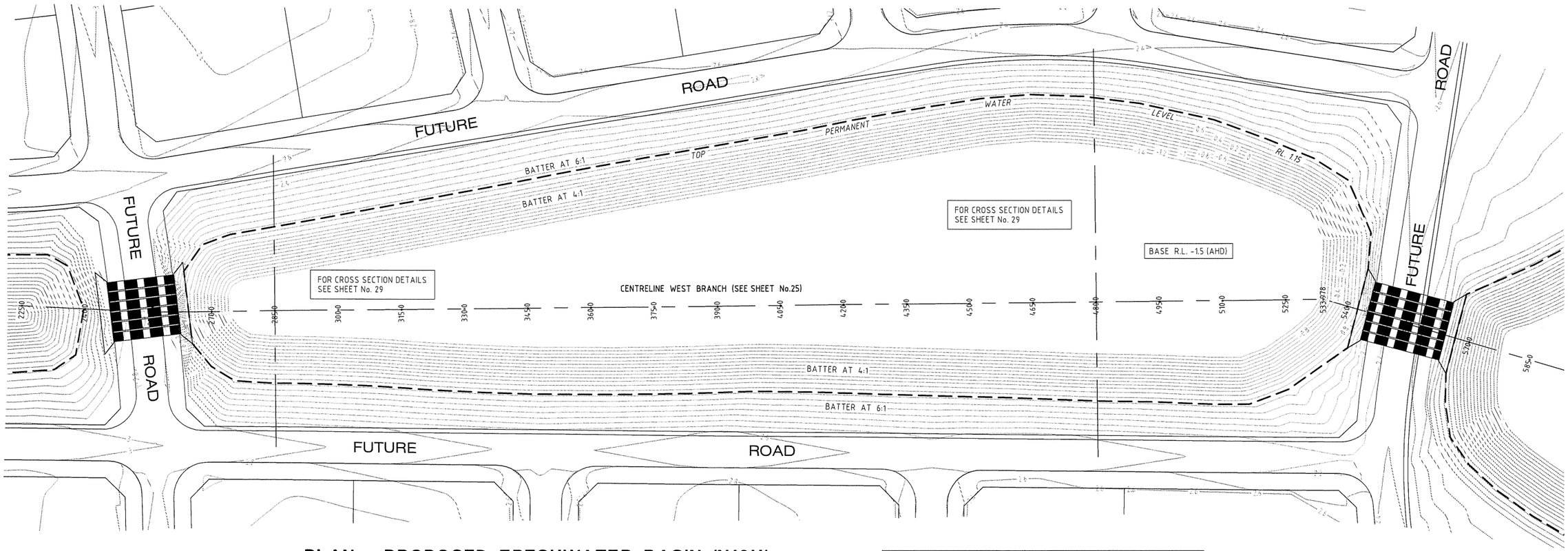
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: HQ-STAGE6 (HQ-STAGE6.dwg)



PLAN - PROPOSED FRESHWATER BASIN 'W1'

SCALE 1:500



PLAN - PROPOSED FRESHWATER BASIN 'N10U'

SCALE 1:500

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	gc	6/5/08
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

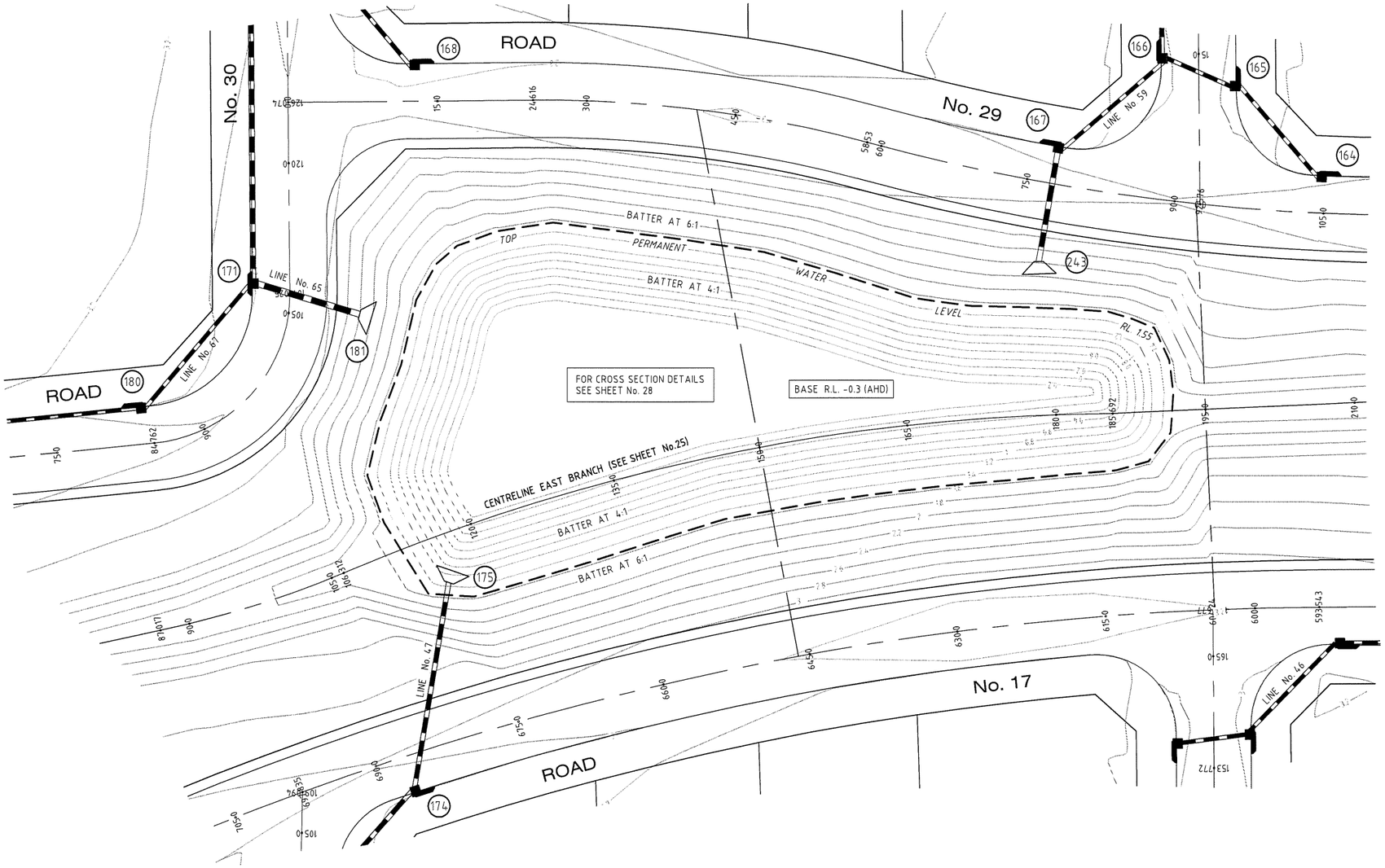
TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 1:500 for A1 Size Plot | SHEET No. :60 | FILE : 20700223 | SHEET SIZE A1

JOB No. : 201479 | DATE : Plotted 12:40 29/04/08

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: HQ-STAGE6 (HQ-STAGE6.dwg)



PLAN - PROPOSED FRESHWATER BASIN 'EB'

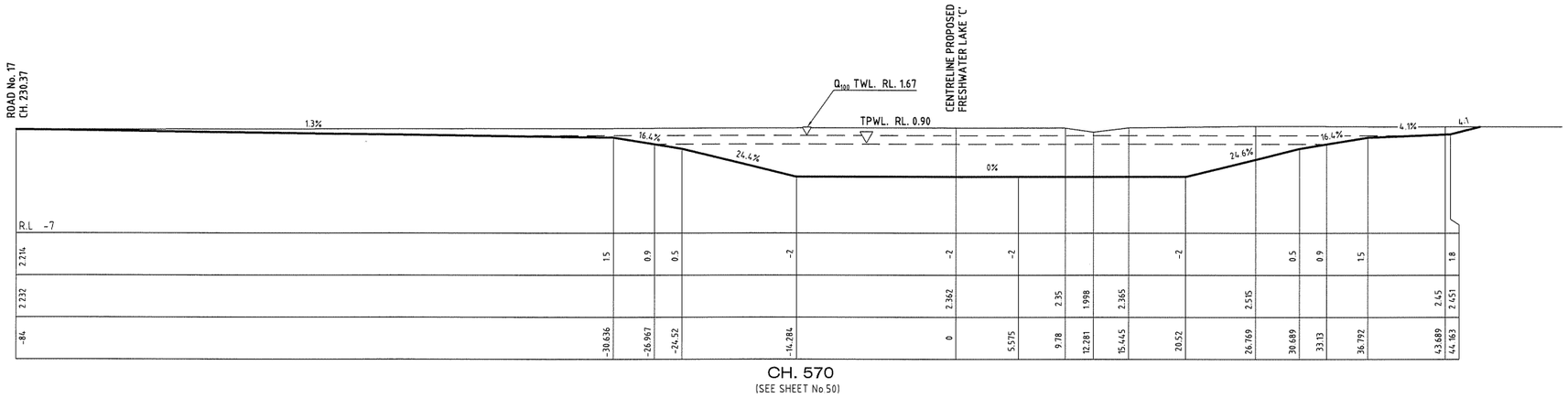
SCALE 1:250

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	BL	6/5/08
A	Original Issue	GH	GH	-	-	20/09/07*
*	Denote the original signature and date when revision was issued.					

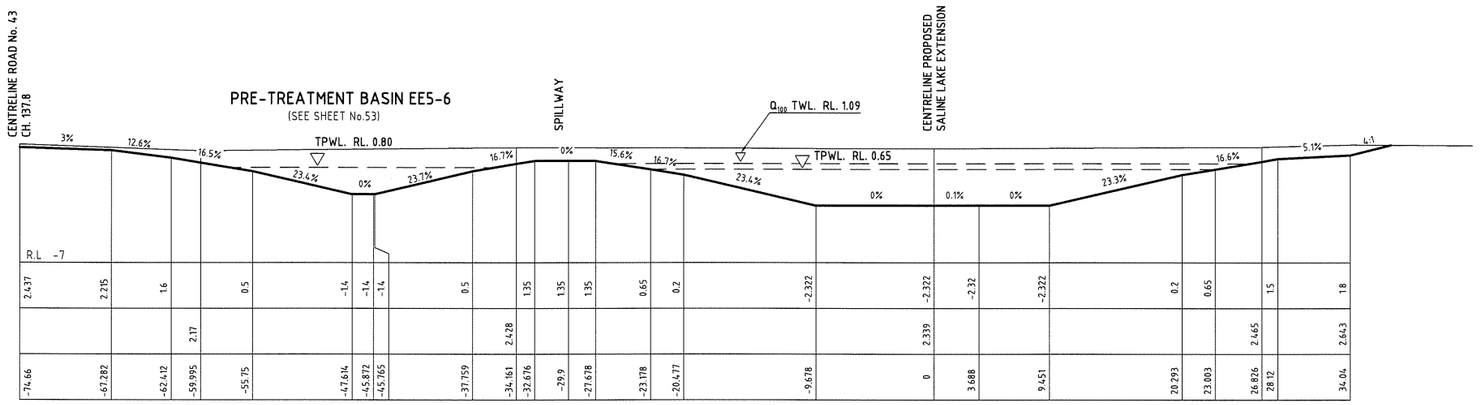
TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 0 5 10m (1:500 for A1 Size Plot)
SHEET No. :61
FILE : 20700224
JOB No. : 201479
DATE : Plotted 18:21 19/12/07
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

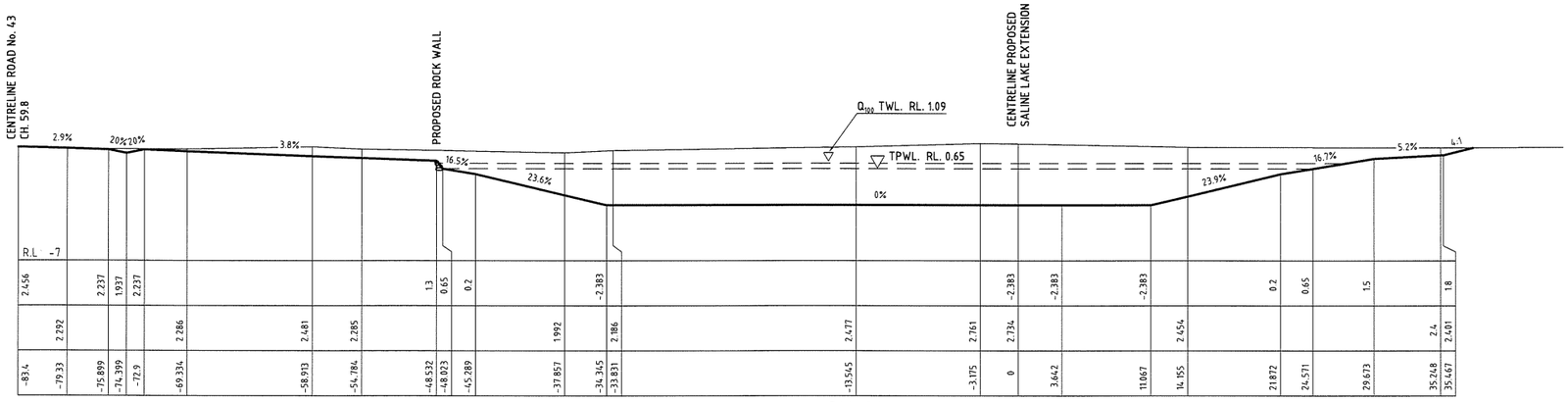
Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Stg9-10__design_Contors_2_INTERVAL (Stg9-10__design_Contors_2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: MQ-STAGES (MQ-STAGES.dwg)



CH. 570
(SEE SHEET No 50)



CH. 360
(SEE SHEET No.49)



CH. 300
(SEE SHEET No.49)

NOTE:

TPWL. RL. 1.3 DENOTES TOP PERMANENT WATER LEVEL
TWL. RL. 1.3 DENOTES TOP WATER LEVEL

CROSS SECTIONS - PROPOSED LAKE SYSTEM

H=1:250 V=1:250

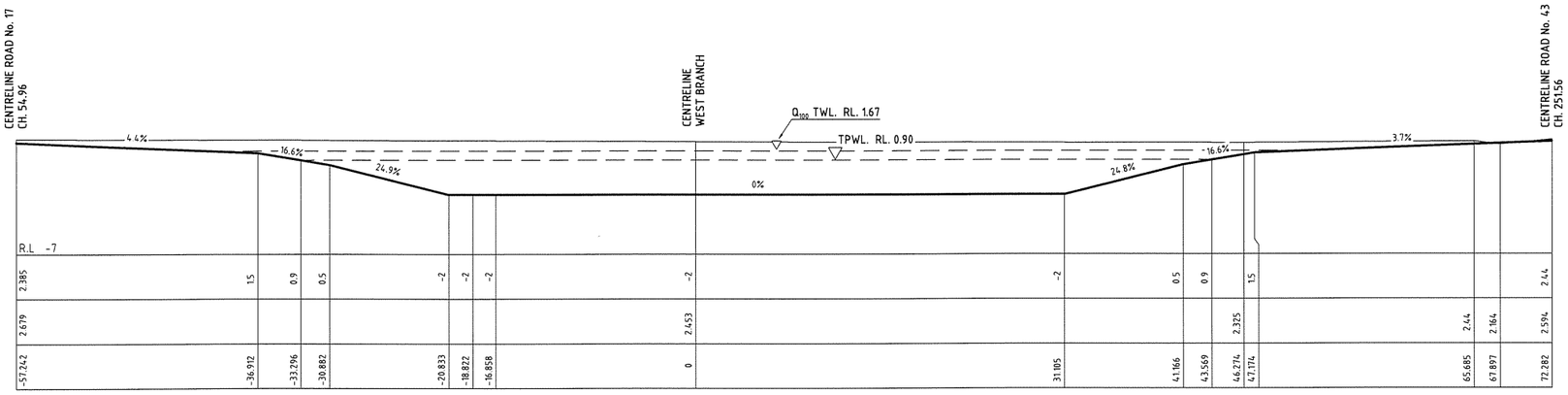
REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	[illegible]	6/8/08
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

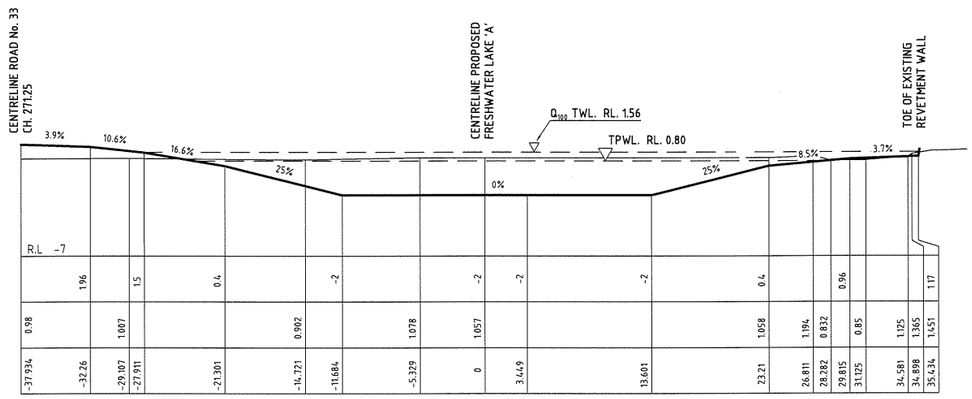
SCALE : 0 2.5 5.0m (1:250 for A1 Size Plot)
SHEET No. :62
FILE : 20700225
SHEET SIZE A1
JOB No. : 201479
DATE : Plotted 10:15 06/06/08
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: MQ-STAGE6 (MQ-STAGE6.dwg)



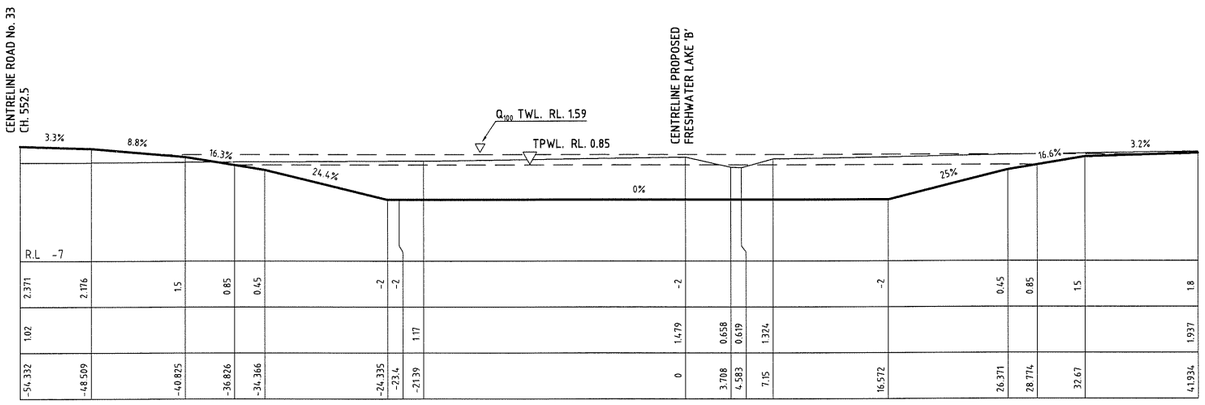
WEST BRANCH - CH. 750

(SEE SHEET No.50)



CH. 1260

(SEE SHEET No.52)



CH. 960

(SEE SHEET No.51)

NOTE:

TPWL. RL. 1.3 DENOTES TOP PERMANENT WATER LEVEL
TWL. RL. 1.3 DENOTES TOP WATER LEVEL

CROSS SECTIONS - PROPOSED LAKE SYSTEM

H=1:250 V=1:250

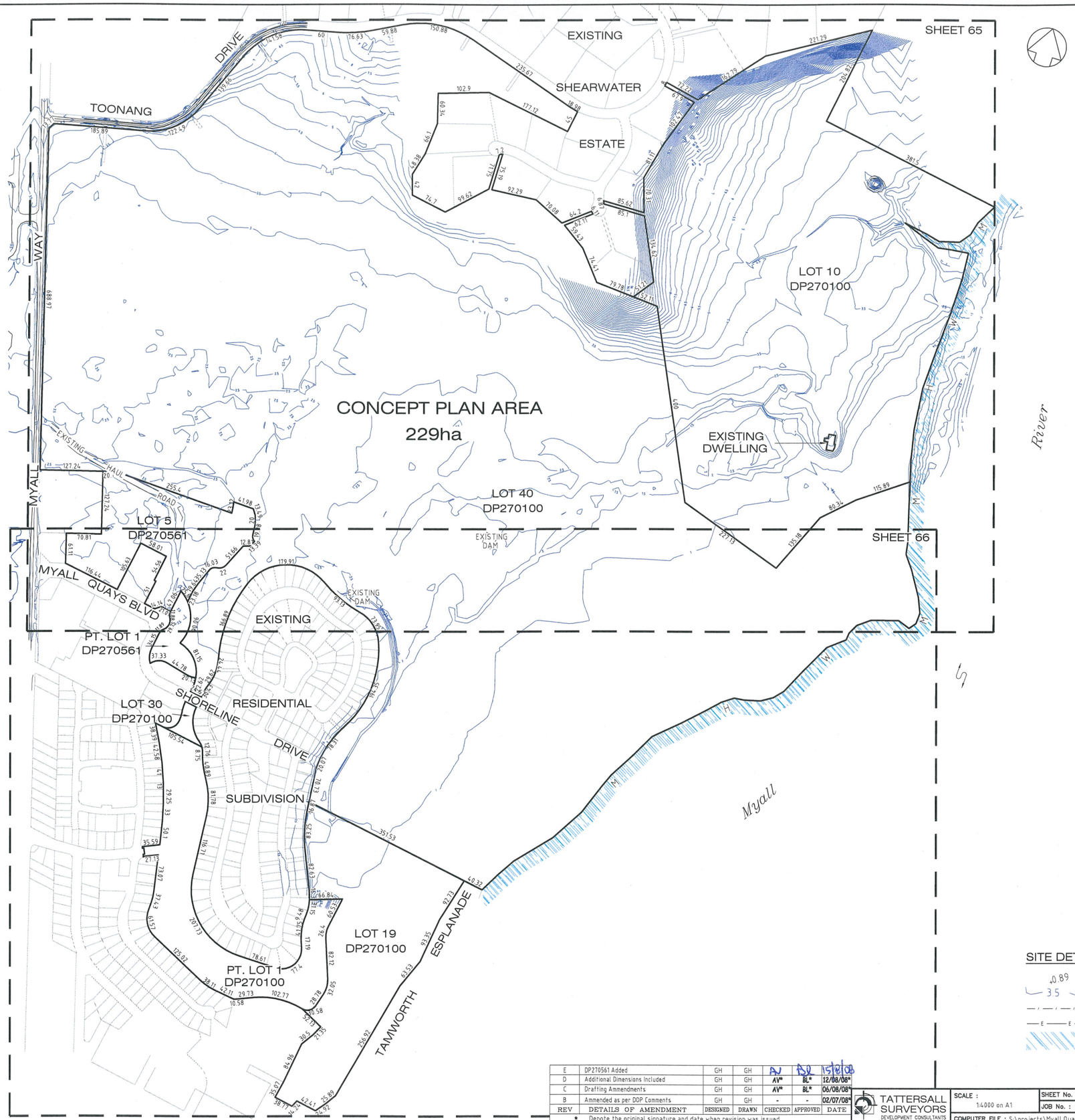
REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Modified Design - Scheme 5 Adopted	GH	GH	A.V.	AL	6/8/08
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 0 2 4m (1:200 for A1 Size Plot)
SHEET No. :63
JOB No. : 201479
FILE : 20700233
DATE : Plotted 14:16 01/05/08
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Stg9-10__design_Contors_2_INTERVAL (Stg9-10__design_Contors_2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: MQ-STAGE6 (MQ-STAGE6.dwg)



SITE DETAIL SURVEY

- SPOT HEIGHT
- EXISTING CONTOURS (0.5m INTERVAL)
- EXISTING FENCING
- EXISTING OVERHEAD POWER LINE
- FORESHORE BOUNDARY

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
E	DP270561 Added	GH	GH	AV	BL*	15/12/08
D	Additional Dimensions Included	GH	GH	AV*	BL*	12/08/08*
C	Drafting Ammendments	GH	GH	AV*	BL*	06/08/08*
B	Ammended as per DOP Comments	GH	GH	-	-	02/07/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 1:4000 on A1	SHEET No. :64	FILE : 20700133	SHEET SIZE A1
	JOB No. : 201479	DATE : Plotted 16:31 14/08/08	

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\overall detail survey plan.dwg

Xref: 910370 – BDY [910370 – BDY.dwg] Xref: 201478 – Stg 8 Bdy [201478 – Stg 8 Bdy.dwg] Xref: Shearwater Boundaries xref [Shearwater Boundaries xref.dwg]

SITE DETAIL SURVEY

- .0.89 SPOT HEIGHT
- 3.5 EXISTING CONTOURS (0.5m INTERVAL)
- EXISTING FENCING
- E EXISTING OVERHEAD POWER LINE
- TRACK TO EXISTING DWELLING
- FORESHORE BOUNDARY

TOONANG DRIVE

TOONANG WAY

EXISTING SHEARWATER ESTATE

LOT 40 DP270100

LOT 10 DP270100

EXISTING DWELLING

EXISTING TRACK TO DWELLING

MYALL QUAYS ROAD

LOT 5 DP270561

MYALL QUAYS BOULAVARDE

PT. LOT 1 DP270561

EXISTING DAM

EXISTING DAM

Myall River

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	DP270561 Added	GH	GH	AJ	BL	15/8/08
A	Original Issue	GH	GH	AV*	BL*	06/08/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1:2500 on A1

SHEET No. : 65

JOB No. : 201479

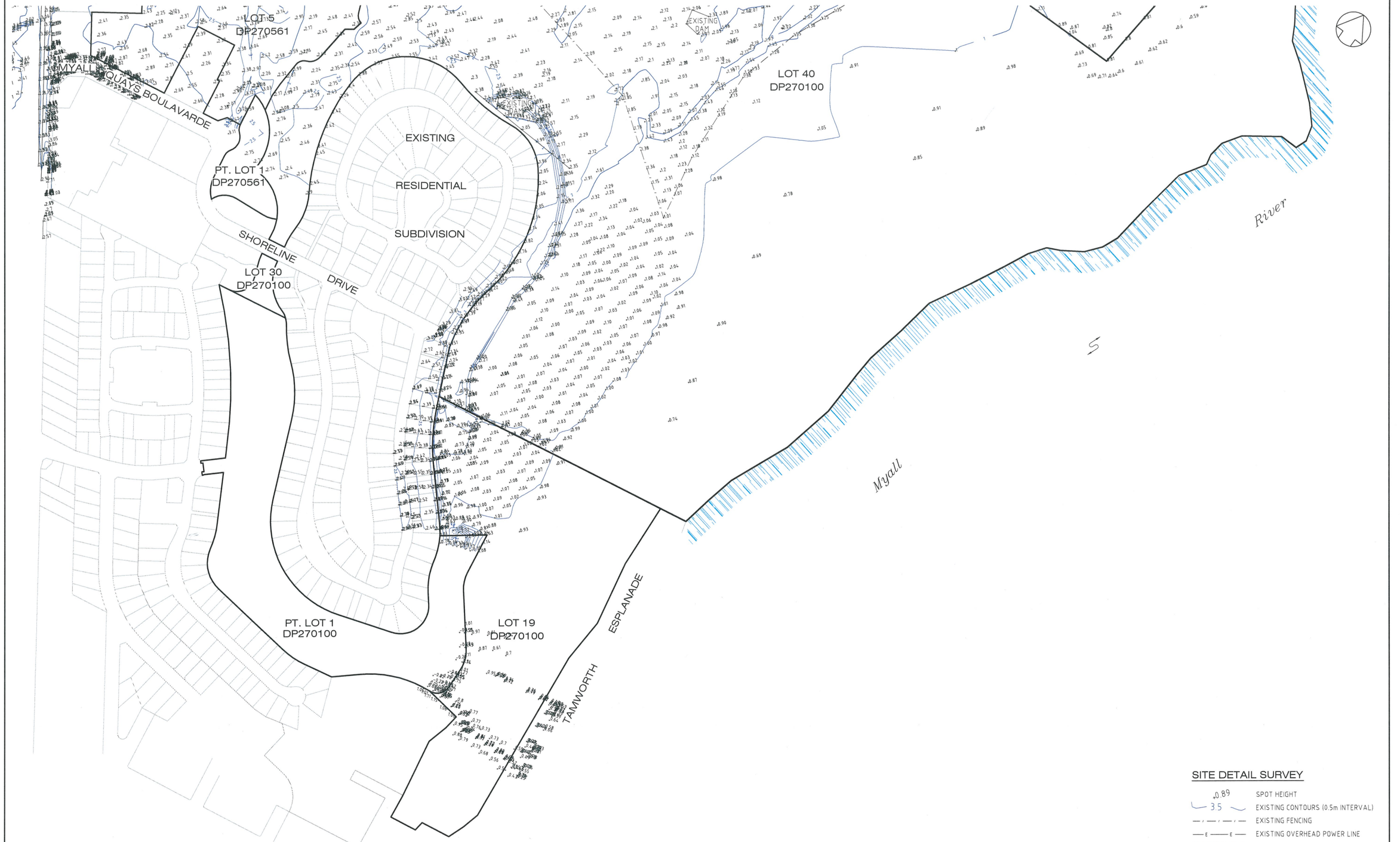
FILE : 20800105

DATE : Plotted 16:36 14/08/08

SHEET SIZE A1

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\overall detail survey plan.dwg

Xref: 910370 - BDY (910370 - BDY.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg)



SITE DETAIL SURVEY

- 0.89 SPOT HEIGHT
- 3.5 EXISTING CONTOURS (0.5m INTERVAL)
- EXISTING FENCING
- EXISTING OVERHEAD POWER LINE
- FORESHORE BOUNDARY

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
B	Drafting Ammendments	GH	GH	AV*	BL*	15/10/08*
A	Original Issue	GH	GH	AV*	BL*	06/08/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1:2500 on A1	SHEET No. :66	FILE : 20800106	SHEET SIZE A1
	JOB No. : 2014.79	DATE : Plotted 16:31 14/08/08	

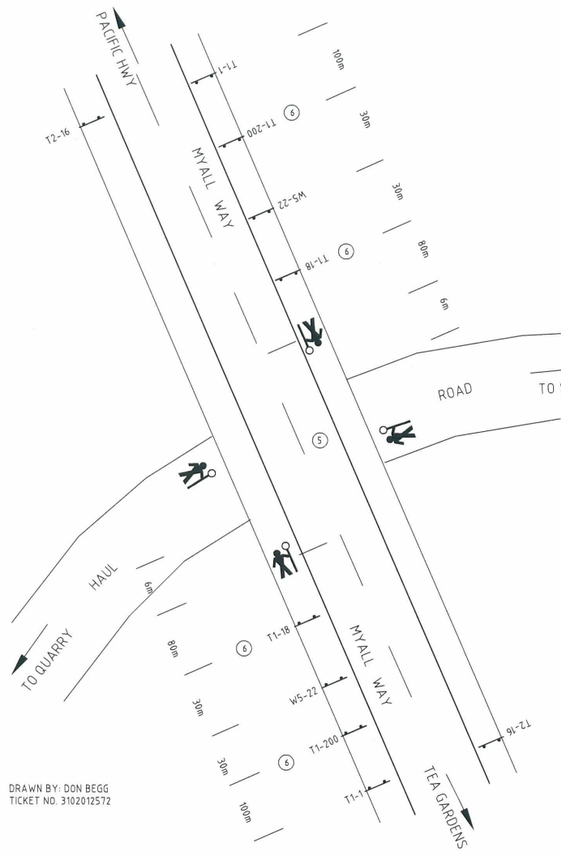
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\overall detail survey plan.dwg

Xref: 910370 - BDY (910370 - BDY.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg)

CONSTRUCTION ACTIVITY STAGING PLAN INDICATING STAGE 1 ACTIVITIES

1: 5000

- 1a CONSTRUCTION OF LAKE AND WORKS IN FINAL FORM
- 1b PARTIAL CONSTRUCTION OF 'EAST-WEST' DRAINAGE BRANCH & ROAD EMBANKMENT. ESTABLISHMENT OF FINAL FINISHED LEVELS FOR COMMERCIAL AREA, LEVEL SPREADER AND DRAINAGE SWALES
- 1c PARTIAL CONSTRUCTION OF BASINS AND 'NORTH', 'EAST' & 'WEST' DRAINAGE BRANCHES
- 2 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE
- 3 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE
- 4 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE
- 5 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE
- 6 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE
- 7 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE
- 8 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE
- 9 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE
- 10 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE
- 11 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE
- 12 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE
- 13 CONSTRUCTION OF PRECINCT & ASSOCIATED INFRASTRUCTURE

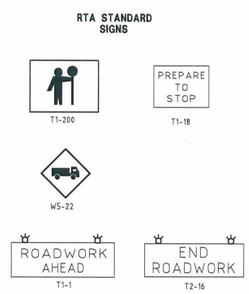


DRAWN BY: DON BEGG
TICKET NO. 3102012572

TRAFFIC CONTROL PLAN

NOT TO SCALE

RTA STANDARD SIGNS



NOTES

1. THIS PLAN IS NOT TO SCALE
2. ALL DISTANCES ARE IN METRES
3. SIGN SPACINGS TO MEASUREMENTS WHERE POSSIBLE SIGNS TO BE PLACED ON LEEWARD SIDE OF DRIVEWAYS SIGHT DISTANCES ARE TO BE MAINTAINED
4. THIS PLAN IS DESIGNED FOR USE OF HAUL ROAD ONLY DURING DAYLIGHT HOURS
5. IF MYALL WAY PAVEMENT AFFECTED THEN APPROPRIATE ROAD SIGNS TO BE USED TO HIGHLIGHT THE CONDITION AND MEASURES TAKEN TO REDUCE OR ELIMINATE CONDITION
6. SIGNS T1-200 AND T1-18 TO BE COVERED WHEN TRAFFIC CONTROLLER IS ABSENT

TRAFFIC CONTROL PLAN

MODIFICATION MADE TO RTA TCP No's 44 AND 56

TRAFFIC CONTROL AT WORK SITES - LOCATION RISK ASSESSMENT AND CHECK LIST FROM RTA TRAFFIC CONTROL MANUAL (APPENDIX D) TO BE USED WHEN IMPLEMENTING THIS TCP

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D	Stage 12 & 13 Boundaries Amend	G.H.	G.H.	AJ	BL	22/1/09
C	Revised Road Layout	GH	GH	AV	BL	17/09/08
B	Modified Design - Scheme 5 Adopted	GH	GH	AV	BL	06/08/08
A	Original Issue	GH	GH	-	-	20/09/07
*	Denote the original signature and date when revision was issued.					

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 50 100m (1: 5000for A1 Size Plot)
SHEET No. :67
FILE : 20700134
JOB No. : 2014179
DATE : Plotted 10:26 28/01/09
SHEET SIZE: A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\construction man plan.dwg

Xref: 910370 - BDY (910370 - BDY.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Shearwater Boundaries xref (Shearwater Boundaries xref.dwg) Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ComSite (202400-ComSite.dwg)

BULK HAULAGE PLAN
1: 2500

DETAIL A - TYPICAL CIVIL CONTRACTORS SITE COMPOUND INCLUDING WASTE MANAGEMENT FACILITIES
1: 500

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Revised Road Layout	GH	GH	A.U.	AL	17/9/08
B	Modified Design - Scheme 5 Adopted	GH	GH	AV*	BL*	15/08/08*
A	Original Issue	GH	GH	-	-	20/09/07*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1 5 10m (1:500 for A1 Size Plot)
SHEET No. :68
FILE : 20700135
JOB No. : 201479
DATE : Plotted 11:21 17/09/08
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\construction man plan.dwg

Xref: 910370 - BDY [910370 - BDY.dwg] Xref: 201478 - Stg 8 Bdy [201478 - Stg 8 Bdy.dwg] Xref: Shearwater Boundaries xref [Shearwater Boundaries xref.dwg] Xref: Stg 9 [Stg 9.dwg] Xref: 202400-ComSite [202400-ComSite.dwg]

DRIVE

TOONANG

MYALL WAY

EXISTING

SHEARWATER

ESTATE

MYALL QUAYS BOULAVARDE

EXISTING

RESIDENTIAL

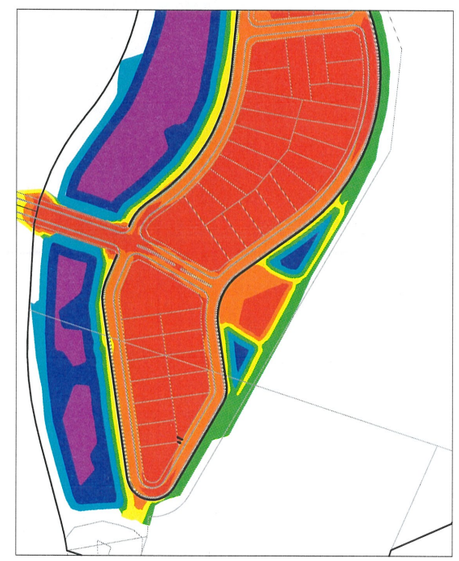
SUBDIVISION

SEE INSET A

LEGEND

- -5m to -3m
- -3m to -1m
- -1m to 0m
- 0m to 0.5m
- 0.5m to 1m
- 1m to 1.5m
- 1.5m to 2m

SITE CUT-FILL PLAN



INSET A

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
E	Revised Road Layout	GH	GH	A.V.	BL	11/7/08
D	East-West Channel Modified	GH	GH	AV*	BL*	06/08/08*
C	Commercial Area Included	GH	GH	-	-	01/07/08*
B	Marina Removed	GH	GH	-	-	13/06/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 0 25 50m (1:2500 for A1 Size Plot)

SHEET No. :69

FILE : 20700315

JOB No. : 201479

DATE : Plotted 11:27 17/09/08

SHEET SIZE: A1

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Cut-Fill Plan.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ComSite (202400-ComSite.dwg)

DRIVE

EXISTING

SHEARWATER

ESTATE

TOONANG

MYALL

WAY

EXISTING

RESIDENTIAL

SUBDIVISION

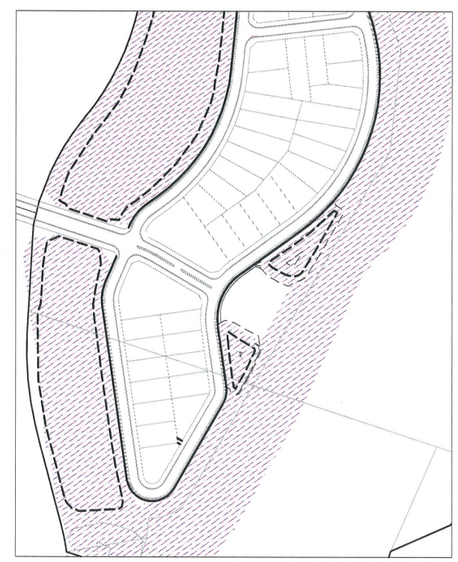
SEE INSET A

LEGEND

INUNDATION AREA

NOTE

1% FLOODING IN ROADS IS LIMITED TO A DEPTH OF 0.24m.
1% FLOW VELOCITY IN ROADS IS LESS THAN 0.9m/s.
1% VELOCITY DEPTH PRODUCT IN ROADS IS LESS THAN 0.22m.
(MAXIMUM 0.4m - REF. 'AUSTRALIAN RAINFALL & RUNOFF - 1987')



INSET A

1% INUNDATION PLAN TO RL. 2.02 (AHD)

(WITH NO RISE IN SEA LEVEL OR INCREASE IN RAINFALL INTENSITY)

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
D	Revised Road Layout	GH	GH	A.V.	BL	17/9/08
C	Commercial Area Included	GH	GH	AV*	BL*	06/08/08*
B	Marina Removed	GH	GH	-	-	11/06/08*
A	Original Issue	GH	GH	-	-	07/04/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1 25 50m (1:2500 for A1 Size Plot)
SHEET No. :70
FILE : 20700316
JOB No. : 201479
DATE : Plotted 11:31 17/09/08
SHEET SIZE: A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Cut-Fill Plan.dwg

Xref: Stg 9 [Stg 9.dwg] Xref: 202400-ComSite [202400-ComSite.dwg]

DRIVE

EXISTING

SHEARWATER

ESTATE

TOONANG

MYALL

WAY

EXISTING

RESIDENTIAL

SUBDIVISION

SEE INSET A

LEGEND

INUNDATION DEPTH (m)

0 - 0.1

>0.1

INSET A

1% INUNDATION PLAN TO RL. 2.2 (AHD)

(WITH 0.18m RISE IN SEA LEVEL + 10% INCREASE IN RAINFALL INTENSITY)

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Revised Road Layout	GH	GH	A.V.	AL	17/9/08
B	Commercial Area Included	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	13/06/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1 : 200 for A1 Size Plot

SHEET No. : 71

JOB No. : 201479

FILE : 20800085

DATE : Plotted 11:32 17/09/08

SHEET SIZE : A1

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\2.2m Inundation Plan.dwg

Xref: Stg 9 [Stg 9.dwg] Xref: 202400-ComSite [202400-ComSite.dwg]

DRIVE

EXISTING

SHEARWATER

ESTATE

TOONANG

MYALL

WAY

EXISTING

RESIDENTIAL

SUBDIVISION

SEE INSET A

LEGEND

INUNDATION DEPTH (m)

- 0 - 0.1
- 0.1-0.2
- 0.2-0.3
- 0.3-0.4
- 0.4-0.5
- >0.5

INSET A

1% INUNDATION PLAN TO RL. 2.55 (AHD)

(WITH 0.55m RISE IN SEA LEVEL + 20% INCREASE IN RAINFALL INTENSITY)

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Revised Road Layout	GH	GH	AV*	BL*	17/9/08
B	Commercial Area Added	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	13/06/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1:200 for A1 Size Plot

SHEET No. :72

FILE : 20800086

JOB No. : 201479

DATE : Plotted 11:34 17/09/08

SHEET SIZE: A1

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\255m Inundation Plan.dwg

Xref: Stg 9 [Stg 9.dwg] Xref: 202400-ComSite [202400-ComSite.dwg]

DRIVE

EXISTING

SHEARWATER

ESTATE

TOONANG

MYALL

WAY

EXISTING

RESIDENTIAL

SUBDIVISION

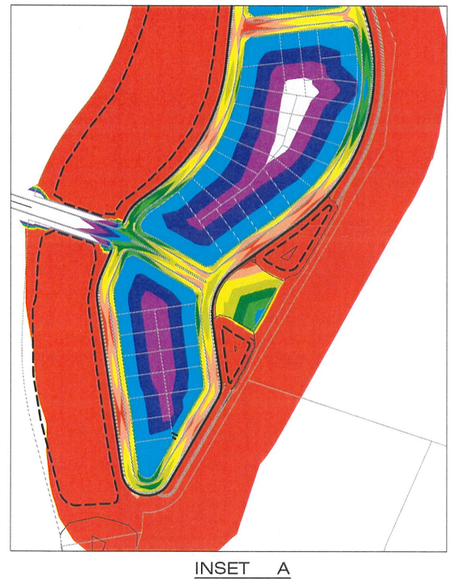
SEE INSET A

1

LEGEND

INUNDATION DEPTH (m)

- 0 - 0.1
- 0.1-0.2
- 0.2-0.3
- 0.3-0.4
- 0.4-0.5
- 0.5-0.6
- 0.6-0.7
- 0.7-0.8 (DEEPEST SAFE WADING CRITERIA - LOW HAZARD)
- >0.8



INSET A

1% INUNDATION PLAN TO RL. 2.9 (AHD)

(WITH 0.91m RISE IN SEA LEVEL + 30% INCREASE IN RAINFALL INTENSITY)

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	Revised Road Layout	GH	GH	A.V.	BL	17/9/08
B	Commercial Area Included	GH	GH	AV*	BL*	06/08/08*
A	Original Issue	GH	GH	-	-	13/06/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 0 2 4m (1:200 for A1 Size Plot)

SHEET No. : 73 | FILE : 20800084 | SHEET SIZE

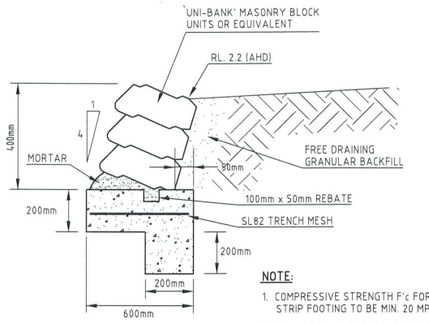
JOB No. : 20147 | DATE : Plotted 11:38 17/09/08 | A1

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\2.9m Inundation Plan.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ComSite (202400-ComSite.dwg)

MYALL QUAYS

The Ultimate Escape



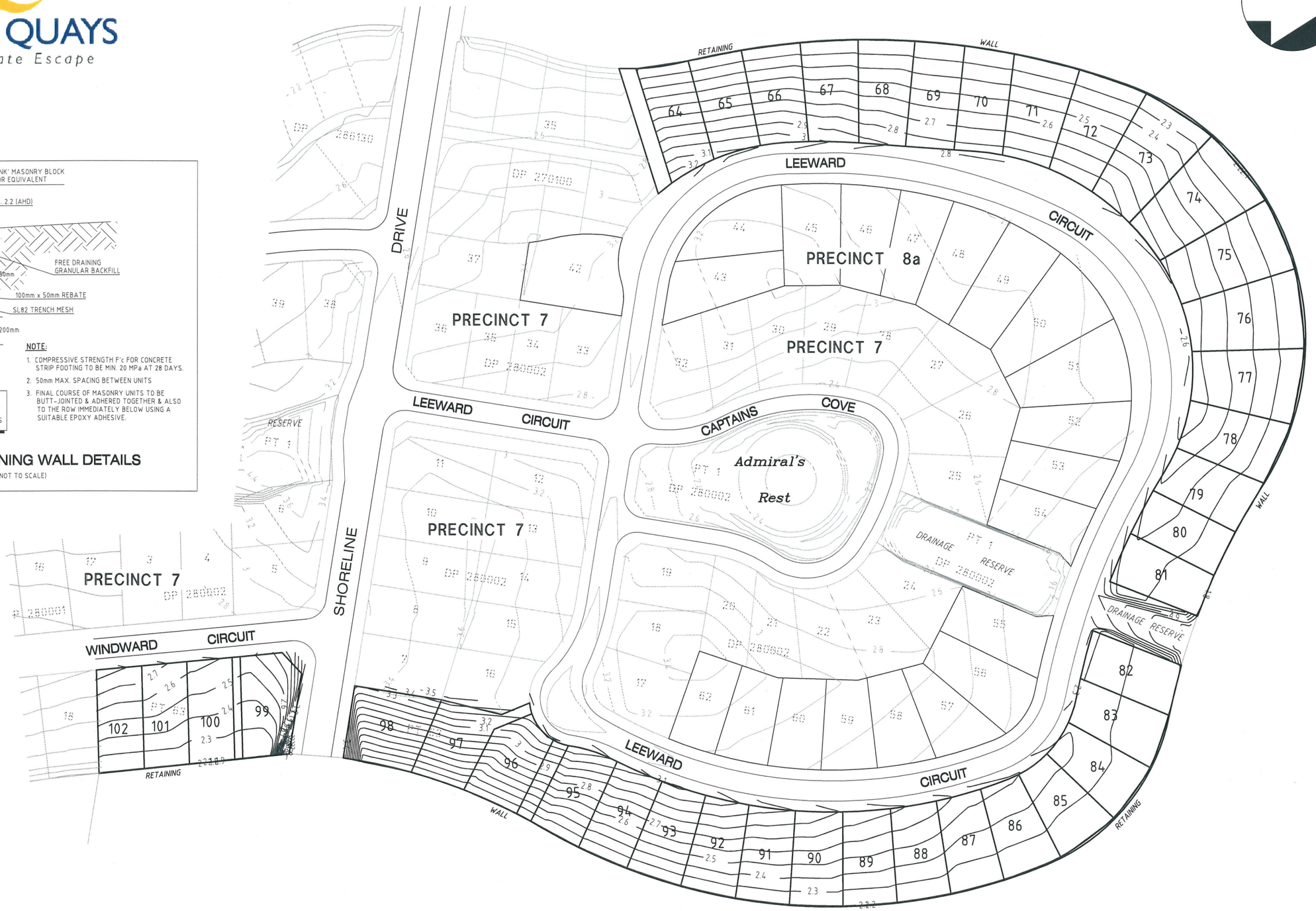
NOTE:

1. COMPRESSIVE STRENGTH F'c FOR CONCRETE STRIP FOOTING TO BE MIN. 20 MPa AT 28 DAYS.
2. 50mm MAX. SPACING BETWEEN UNITS
3. FINAL COURSE OF MASONRY UNITS TO BE BUTT-JOINTED & ADHERED TOGETHER & ALSO TO THE ROW IMMEDIATELY BELOW USING A SUITABLE EPOXY ADHESIVE.

NOTE:
INTERLOCKING MODULES TO BE CONNECTED AND INSTALLED TO MANUFACTURERS SPECIFICATIONS

BLOCK RETAINING WALL DETAILS

(NOT TO SCALE)



(1:750 for A1 Size Plot)

NOTE:
DESIGN CONTOUR INTERVAL = 0.1m.
EXISTING CONTOUR INTERVAL = 0.2m.

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
A	Original Issue	GH	GH	A.V.	AL	6/8/08

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS
ENGINEERING, SURVEYING & PLANNING
2 Bourke St. P.O.Box 54
RAYMOND TERRACE 2324
Fax (02) 49871733 Phone (02) 49871500
DX 21403 RAYMOND TERRACE

PLAN OF DESIGN CONTOURS OVER ISLAND DEVELOPMENT PROPOSED SUBDIVISION OF LOT 63 IN DP. 280002 - MYALL QUAYS ESTATE LEEWARD CIRCUIT, TEA GARDENS

COUNCIL: GREAT LAKES	REFERENCE: 20800042
PARISH: COWEAMBAH	SHEET SIZE: A1
SCALE: 1:750	SHEET No.: 74
DATE : Plotted 09:35 05/08/08	
CLIENT: CRIGHTON PROPERTIES	JOB No.: 201479
COMPUTER FILE : S:\projects\Myall Quays\dwg\STGB\STAGE 8B DES CONTOURS.dwg	

Xref: 201478 - Stg 8 Bdy [201478 - Stg 8 Bdy.dwg] Xref: 910370 - BDY [910370 - BDY.dwg]

CONSTRUCT TEMPORARY SHAKEDOWN FACILITY AT CONSTRUCTION EXIT

STANDARD SYMBOLS
EROSION AND SEDIMENT CONTROL PLANS

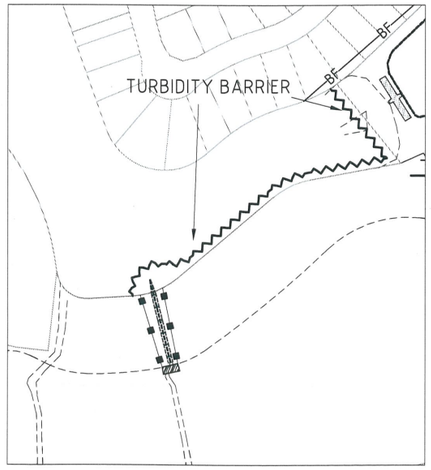
- Construction Barrier Fencing ..... BF
- Diversion Bank .....
- Sediment Fence .....
- Straw Bale Sediment Filter .....
- Temporary Construction Exit .....
- Turbidity Barrier .....
- Sandbag Sediment Filter .....

TURBIDITY BARRIER

TURBIDITY BARRIER

TURBIDITY BARRIER

SEE DETAIL A



DETAIL A: SECOND OUTLET DRAIN
SCALE 1: 2000

TYPICAL EROSION AND SEDIMENT CONTROL PLAN FOR PROJECT APPLICATION
SCALE 1: 2000

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
F	Channel Widening Removed, Second Outlet Added	GH	GH	A.V.	A.L.	21/10/08
E	Revised Road Layout	GH	GH	AV*	BL*	17/09/08*
D	Channel Widening Area Added	GH	GH	AV*	BL*	15/08/08*
C	Commercial Area Included	GH	GH	AV*	BL*	06/08/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 0 20 44m (1: 2000for A1 Size Plot)
SHEET No. :75
JOB No. : 201479
FILE : 20700147
DATE : Plotted 15:45 21/10/08
SHEET SIZE A1
COMPUTER FILE : S:\projects\myall quays\dwg\stg9\amended_road_layout-2.dwg

Xref: 910310 - BDY (910310 - BDY.dwg) Xref: Shearwater Boundaries xref [Shearwater Boundaries xref.dwg] Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: 920428 - Boundary Xref [920428 - Boundary Xref.dwg] Xref: Stg 9 [Stg 9.dwg] Xref: Stg9-10_design_Contors_2_INTERVAL [Stg9-10_design_Contors_2_INTERVAL.dwg] Xref: 202400-ComSite [202400-ComSite.dwg] Xref: INDUSTRIAL AREA XREF [INDUSTRIAL AREA XREF.dwg]

GENERAL NOTES

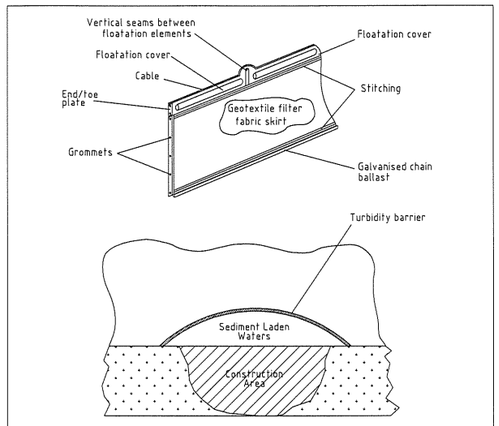
1. This plan is to be read in conjunction with other engineering plans and any written instructions that may be issued.
2. The contractor shall implement all soil erosion and sediment control measures prior to disturbance of the related catchment area and to the satisfaction of the Superintendent.
3. The location of "silt" fences, barrier fences, sediment traps, basins and other devices are indicative only and final locations are to be decided on site. Variations will be permitted to best suit the circumstances.
4. Cleared vegetation must be disposed of by :–
   i) chipping or mulching for future landscaping and usage, or
   ii) transport to an approved landfill facility.
5. Temporary crossbanks (bunds constructed with earth, straw bales or sandbags), shall be constructed during roadworks to limit slope length, where possible, to 80 metres. These shall be constructed immediately prior to forecast rain and during temporary closure of the site, including weekends.
6. Temporary rehabilitation should be undertaken on disturbed areas where works have stopped and soils are expected to remain exposed for two months.
7. Sediment barriers (e.g. sandbags or straw bales) should be located upstream of stormwater inlet pits prior to the road surface being paved and lands upslope being rehabilitated.
8. At the conclusion of each day sand bags are to be placed at the end of completed sections of road pavement to prevent scouring.
9. The contractor will inspect all erosion and pollution control works at least weekly and following every rainfall event greater than 5mm, providing particular attention to the following matters :

(a) Ensure drains operate effectively and initiate repair as required.
(b) Remove spilled sand (or other materials) from hazard areas, including lands closer than 5 metres from likely areas of concentrated or high velocity flows such as waterways and paved areas.
(c) Ensure rehabilitated lands have effectively reduced the erosion hazard and initiate upgrading or repair as appropriate.
(d) Construct additional erosion and/or sediment control works as might become necessary to ensure the desired protection is given to downslope lands and waterways, i.e.,make ongoing changes to the plan.
(e) Maintain erosion and sediment control measures in a functioning condition until all earthwork activities are completed and the site is rehabilitated.
(f) Remove temporary soil conservation structures as a last activity in the rehabilitation program.

10. Utilise a single access only to the stock pile sites.
11. Do not taint clean catchment water with silt from the works.
12. Drop inlets which do not outlet to silt traps shall be blocked until all works are completed.
13. Rehabilitate the site as soon as possible after the completion of construction activities and within 10 working days.
    Lands where works are not to continue for more than 20 working days must be rehabilitated Such rehabilitation shall involve the spraying of a straw–bitumen mulch to the disturbed lands or equivalent.
14. Access areas limited to a maximum width of 10 (preferably 5) metres.
15. All positions shown are approximate and are best determined on site in conjunction with the superintendent.
16. Conformity with this plan shall in no way reduce the responsibility of the Contractor to protect against water damage during the course of the contract.
17. Topsoil and spoil shall be stockpiled in non–hazard areas and protected from surface run–off by diversion drains or similar. Stockpiles shall be surrounded on downstream sides by silt fencing. Stockpiles shall be suitably compacted to inhibit erosion. Where the stockpiling period exceeds four (4) weeks, the stockpile shall be seeded to encourage vegetation growth.
18. Topsoil shall be respread and stabilised as soon as possible. Disturbed areas shall be left with a scarified surface to encourage water infiltration and assist keying in topsoil.
19. The contractor shall provide a turf strip behind all kerb and gutter at completion of footpath formation.
20. The contractor shall maintain grass cover until all works have been completed including the maintainence period, by frequent watering and mowing where required.
21. All drainage works shall be constructed and stabilised as quickly as possible to minimise risk of erosion.
22. Vehicular traffic shall be controlled during construction confining access where possible to proposed or existing road alignments plus 3 metres. Areas to be left undisturbed shall be marked off.
23. Site access shall be restricted to a nominated point. The construction of a shake–down area will be required at the entry to the site.
24. Facilities and/or equipment must be provided for the application of water to disturbed areas to minimise the generation of airbourne dust from any area disturbed by construction activities.
25. Material removed from sediment control structures must be disposed of in a way that does not pollute waters or bushland.
26. Waste disposal containers must be provided on site for the collection and disposal of all industrial and domestic type wastes generated on site.
27. Concrete wastes or washings from any concrete mixture or deliveries must not be deposited in any location where they can flow or be washed into waters.
28. Runoff from vehicle, construction plant or mobile plant maintenance and cleaning areas must be contained, collected and disposed of in a manner to prevent entry into any waters, including sediment retention ponds.
29. Fuelling of vehicles and construction plant must be carried out with an operator or driver present, and in a way that prevents any spillage occuring.

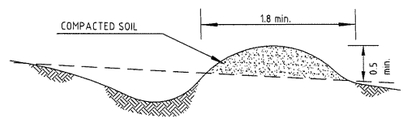
SEDIMENT BASIN TREATMENT

1. Sediment detention basins are to be drained within 5 days from the conclusion of a storm event. The discharge waters from the sediment basins should have a suspended solid content of less than 50 milligrams per litre. Where higher suspended solids concentration occur treat the water chemically with gypsum before release to flocculate and settle the particles.
2. Basins should be treated with gypsum at the rate of 32 kilograms per 100 cubic metres of water whenever capacity is reduced by more than 20 percent by water and sediment, and drainage commenced 36 to 48 hours later.
3. Basins should have sediment removed when 10 percent of capacity is lost to pollution. Any waste material should be disposed in sediment dumps where further pollution to downslope lands and waterways is unlikely.



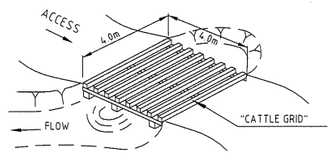
Construction Notes
1. Use turbidity barriers only where high flows are unlikely to remove accumulated sediment and/or move the curtain significantly.
2. Where the barrier is to remain in place for more than one month, ensure the floatation cover is a UV-resistant, durable material.
3. Use only closed cell foam or foam-filled PVC piping as floatation elements. Do not use unfilled pipes.
4. Use only woven or heat-set non woven geotextiles. Needle-punched, non woven geotextiles can become fouled with debris that fray and delaminate them as they move with the waves or currents.
5. Remove captured sediment before the barrier is decommissioned.
6. In tidal areas, ensure the barrier can rise and fall without being moved from its position.

TURBIDITY BARRIER **SD 6-10**



TYPICAL DIVERSION DRAIN

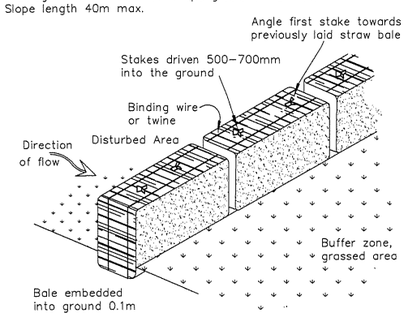
NOT TO SCALE



TEMPORARY CONSTRUCTION EXIT
SHAKE–DOWN FACILITY DETAIL (CATTLE GRID)

NOT TO SCALE

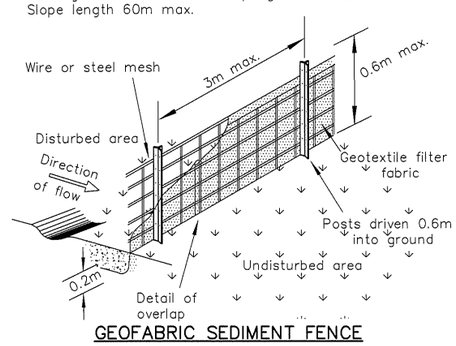
Drainage area 0.4 ha max. Slope gradient 1:2 max.
Slope length 40m max.



STRAW BALE SEDIMENT FILTER

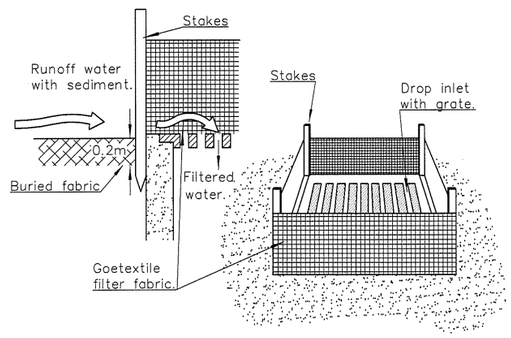
NOT TO SCALE

Drainage area 0.6ha max. Slope gradient 1:2 max.
Slope length 60m max.



GEOFABRIC SEDIMENT FENCE

NOT TO SCALE



GEOTEXTILE FILTER FABRIC
SEDIMENT TRAP

NOT TO SCALE

TO BE USED AT i) STORMWATER PITS IN SAG POINTS
ii) SURFACE INLET STRUCTURES

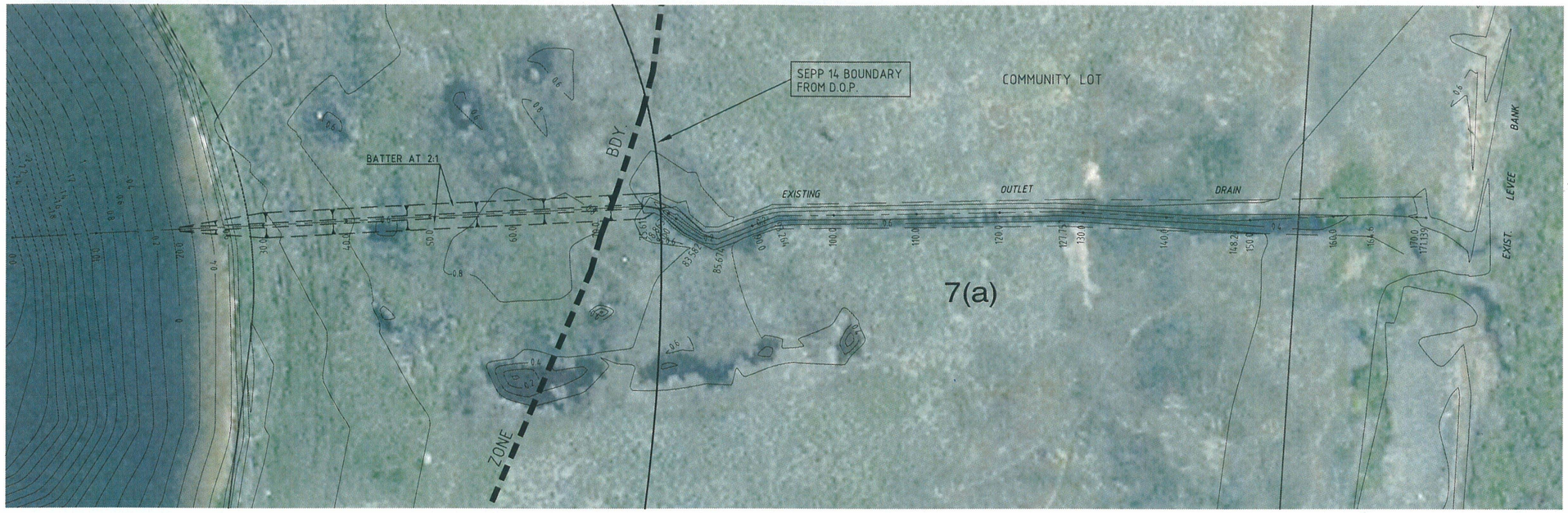
REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
A	Original Issue	GH	GH	A.V. B.E		6/8/08

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 0 10 20m (1:1000 for A1 Size Plot)
SHEET No. :76
JOB No. : 201479
FILE : 20700138
DATE : Plotted 16:13 30/07/08
SHEET SIZE A1
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\road longsections.dwg

SOIL & WATER MANAGEMENT NOTES

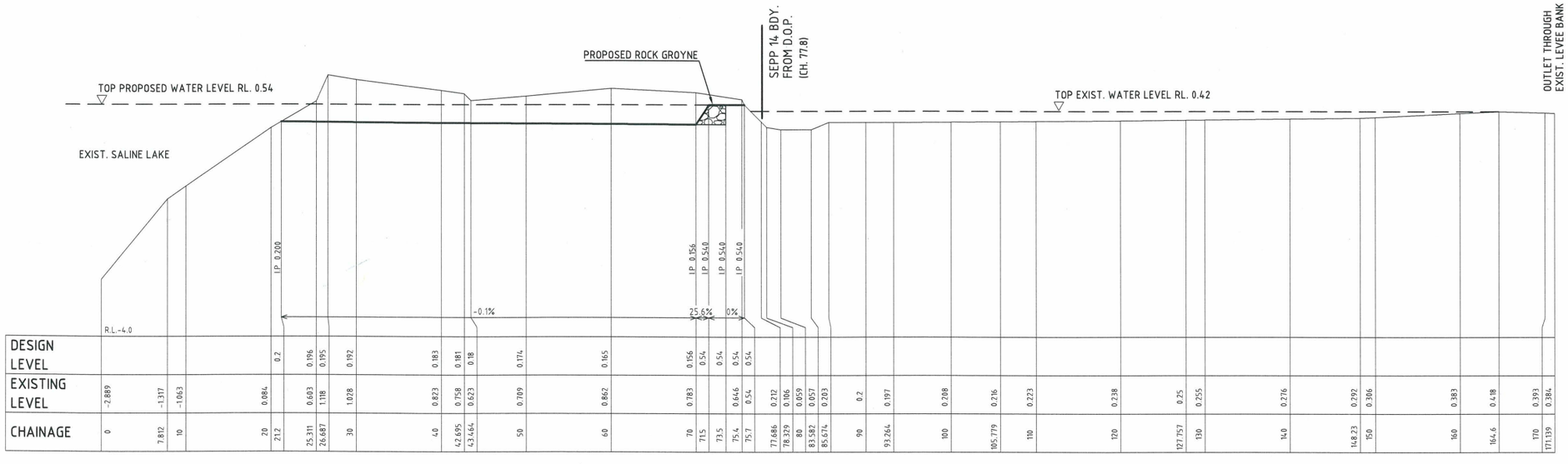


PLAN - PROP. EXTENSION OF EXISTING OUTLET DRAIN

SCALE 1:300

ESTIMATED EARTHWORKS

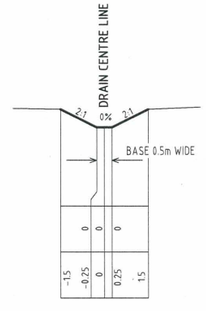
AREA OF EXCAVATION = 150 m²
VOLUME OF EXCAVATION = 60 m³



CHAINAGE	0	7.812	10	20	21.2	25.311	26.687	30	40	42.695	43.464	50	60	70	71.5	73.5	75.4	75.7	77.686	78.329	80	83.582	85.674	90	93.264	100	105.779	110	120	121.757	130	140	148.23	150	160	164.6	170	171.139
EXISTING LEVEL	-2.889	-1.317	-1.063	0.084		0.603	1.118	1.028	0.823	0.758	0.623	0.709	0.862	0.783			0.646	0.54	0.212	0.106	0.059	0.057	0.283	0.2	0.197	0.208	0.216	0.223	0.238	0.25	0.255	0.276	0.292	0.386	0.383	0.418	0.393	0.384
DESIGN LEVEL				0.2		0.196	0.195	0.192	0.183	0.181	0.18	0.174	0.165	0.156	0.54	0.54	0.54	0.54																				

LONG. SECTION - PROP. EXTENSION OF EXISTING OUTLET DRAIN

H=1:300 V=1:50



TYPICAL SECTION - PROP. OUTLET DRAIN EXTENSION

SCALE 1:100 (N.A.T.)

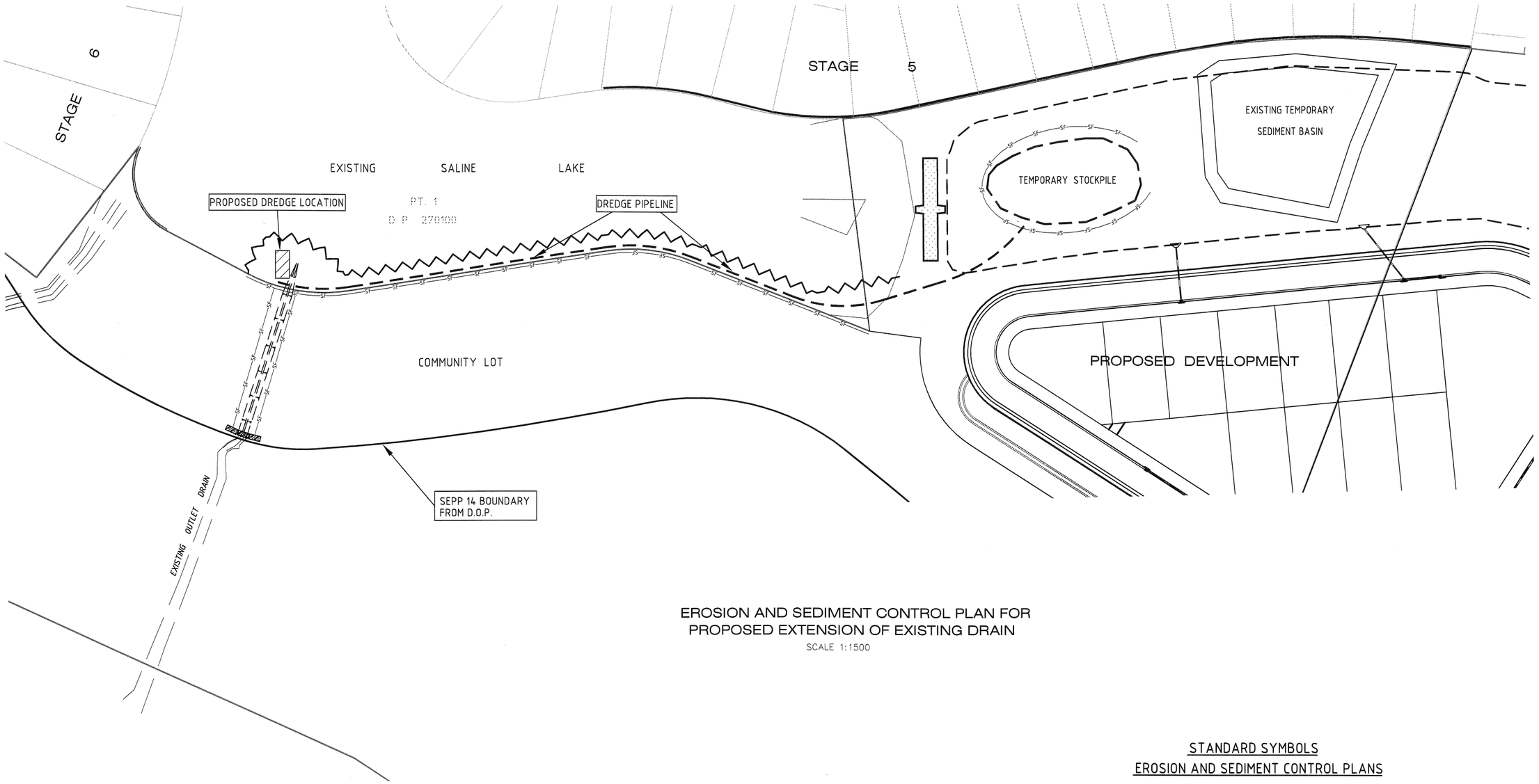
REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
C	LEP Zones 7(a) & 7(b) added	G.H.	G.H.	A.V.	DL	12/11/08*
B	Revised Outlet Drain Extention	GH	GH	-	-	12/11/08*
A	Original Issue	GH	GH	AV*	BL*	06/08/08*

* Denote the original signature and date when revision was issued.

TATTERSALL SURVEYORS
DEVELOPMENT CONSULTANTS

SCALE : 1:500 for A1 Size Plot
SHEET No. : 77
FILE : 20800132
SHEET SIZE : A1
JOB No. : 201479
DATE : Plotted 08:57 12/11/08
COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg) Xref: 202400-ComSite (202400-ComSite.dwg) Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg) Xref: Stg9-10_design_Contors_2_INTERVAL (Stg9-10_design_Contors_2_INTERVAL.dwg) Xref: 910370 - BDY (910370 - BDY.dwg) Xref: MQ-STAGE6 (MQ-STAGE6.dwg)



EROSION AND SEDIMENT CONTROL PLAN FOR PROPOSED EXTENSION OF EXISTING DRAIN

SCALE 1:1500

STANDARD SYMBOLS
EROSION AND SEDIMENT CONTROL PLANS

Sediment Fence ..... SF

Straw Bale Sediment Filter .....

Turbidity Barrier .....

REV	DETAILS OF AMENDMENT	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
A	Original Issue	G.H.	G.H.	A.V.	SH	20/1/09
*	Denote the original signature and date when revision was issued.					

TATTERSALL SURVEYORS DEVELOPMENT CONSULTANTS

SCALE : 1:1500 for A1 Size Plot

SHEET No. :78 | FILE : 20800355 | SHEET SIZE

JOB No. : 201479 | DATE : Plotted 16:36 20/01/09 | A1

COMPUTER FILE : S:\projects\Myall Quays\dwg\STG9\Basin Plans.dwg

Xref: Stg 9 (Stg 9.dwg] Xref: 202400-ComSite (202400-ComSite.dwg] Xref: 201478 - Stg 8 Bdy (201478 - Stg 8 Bdy.dwg] Xref: Stg9-10__design_Contors_2__INTERVAL (Stg9-10__design_Contors_2__INTERVAL.dwg] Xref: 910370 - BDY (910370 - BDY.dwg] Xref: MQ-STAGE6 (MQ-STAGE6.dwg]

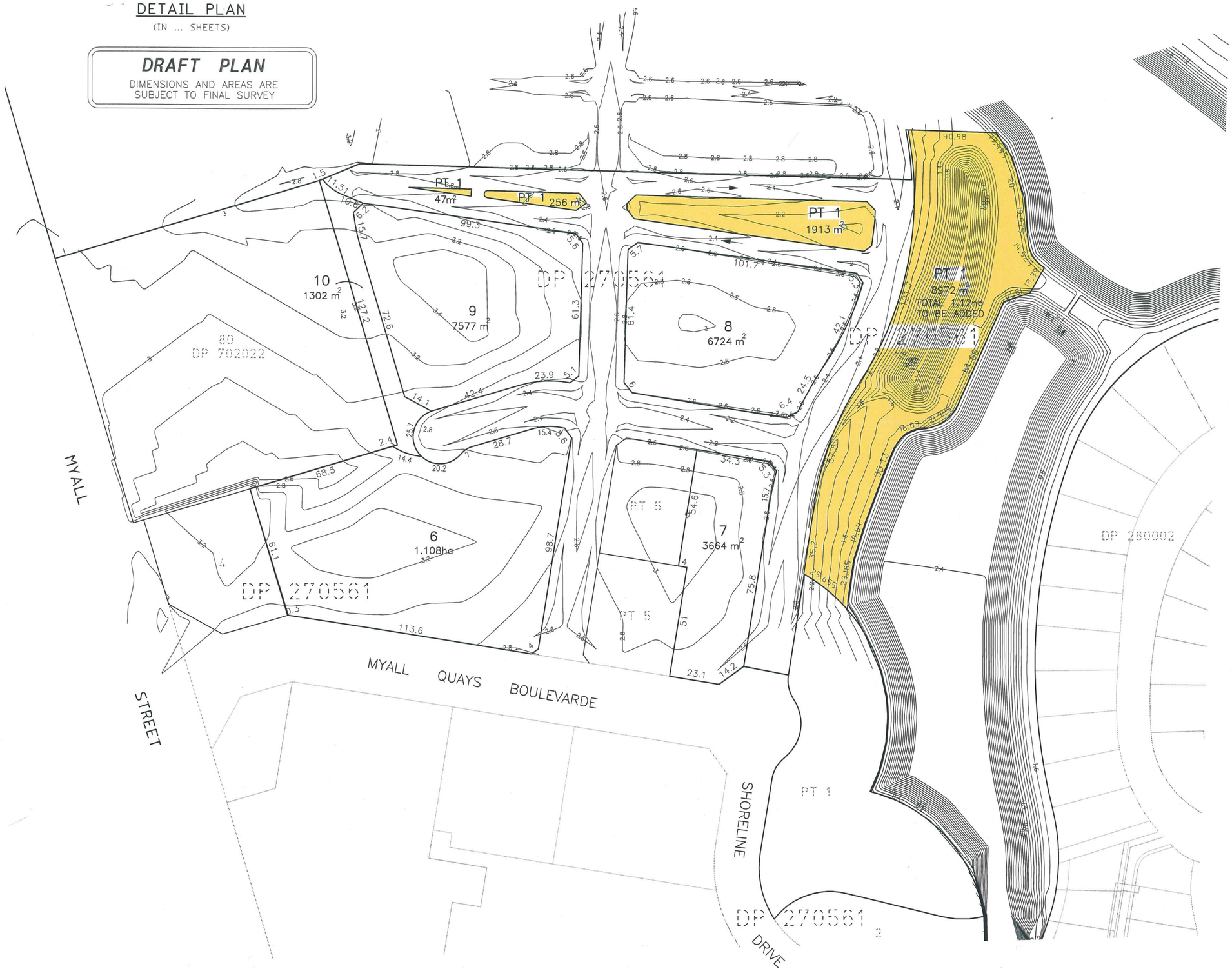
DETAIL PLAN

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

GN-MGA



LEGEND

PRECINCT LAND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

LOTS 6-9 INCL. ARE DEVELOPMENT LOTS
THIS IS SHEET .. OF DP 270561 AND IT REPLACES SHEET ... AS REGARDS TO LOT 5 AND IS AN ADDITIONAL SHEET.

Surveyor: Tattersall Surveyors Date of Survey: 21/02/2009 Surveyors Ref: 200415	PLAN OF SUBDIVISION OF LOT 5 IN DP 270561 COMMERCIAL COMMUNITY	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 1250	Registered	DP 270561 SHEET No.79 ADDITIONAL SHEET .....

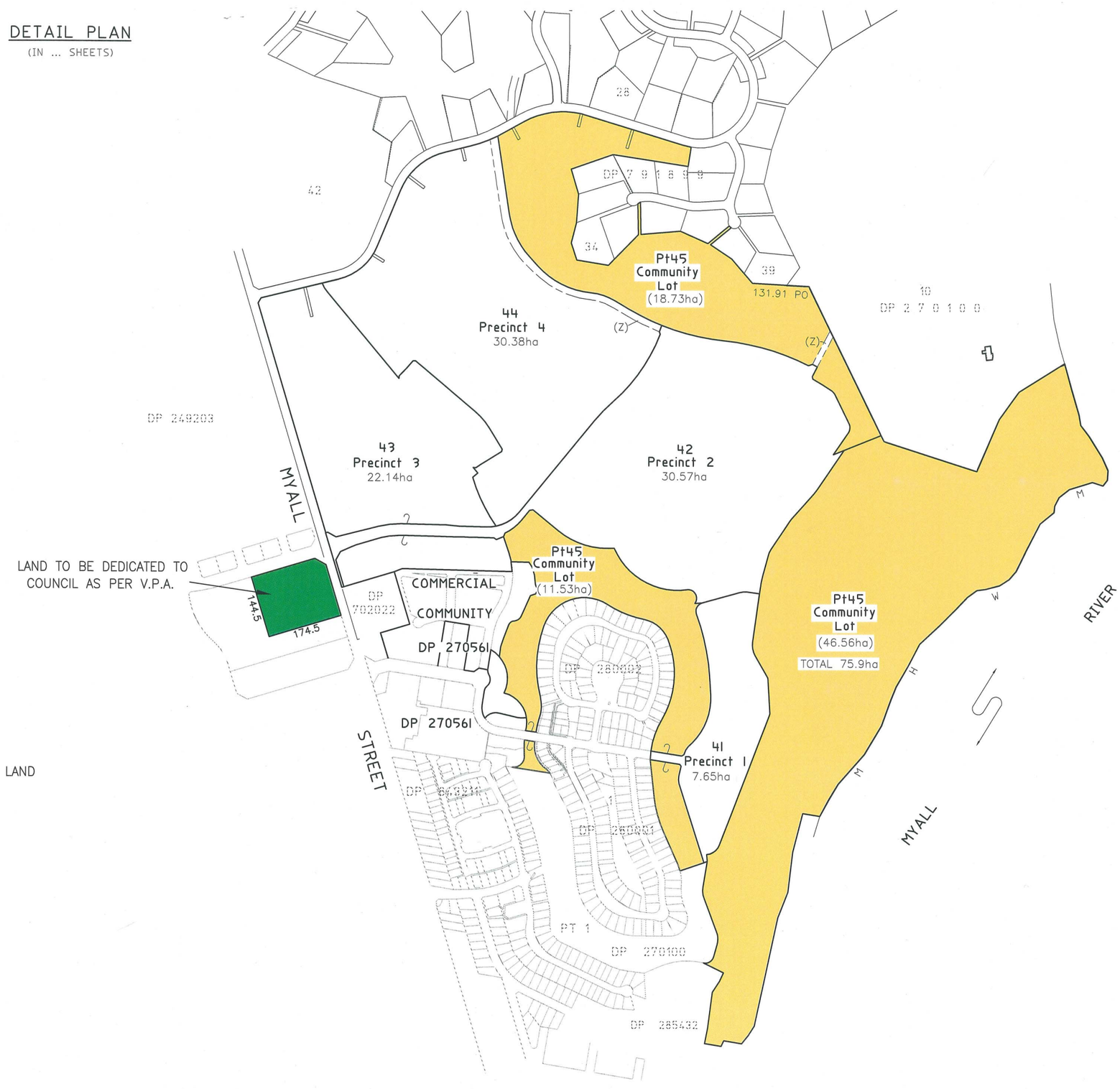
10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

S:\projects\Myall Quays\dwg\STG9\Stg 9 Schematic DPs.dwg

Plotted 12:33 22/01/09

DETAIL PLAN

(IN ... SHEETS)



LEGEND

COMMUNITY LAND

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

(E)

(Z) RIGHT OF ACCESS VARIABLE WIDTH

LOTS 41-44 INCL. ARE DEVELOPMENT LOTS THIS IS SHEET 30 OF DP 270100 AND IT REPLACES SHEET ... AS REGARDS TO LOT ... AND IS AN ADDITIONAL SHEET.

Surveyor: Tattersall Surveyors Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 40 IN DP 270100	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 7,000	Registered	SHEET No.80 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

PLAN FORM 4 (A2)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

e-Plan

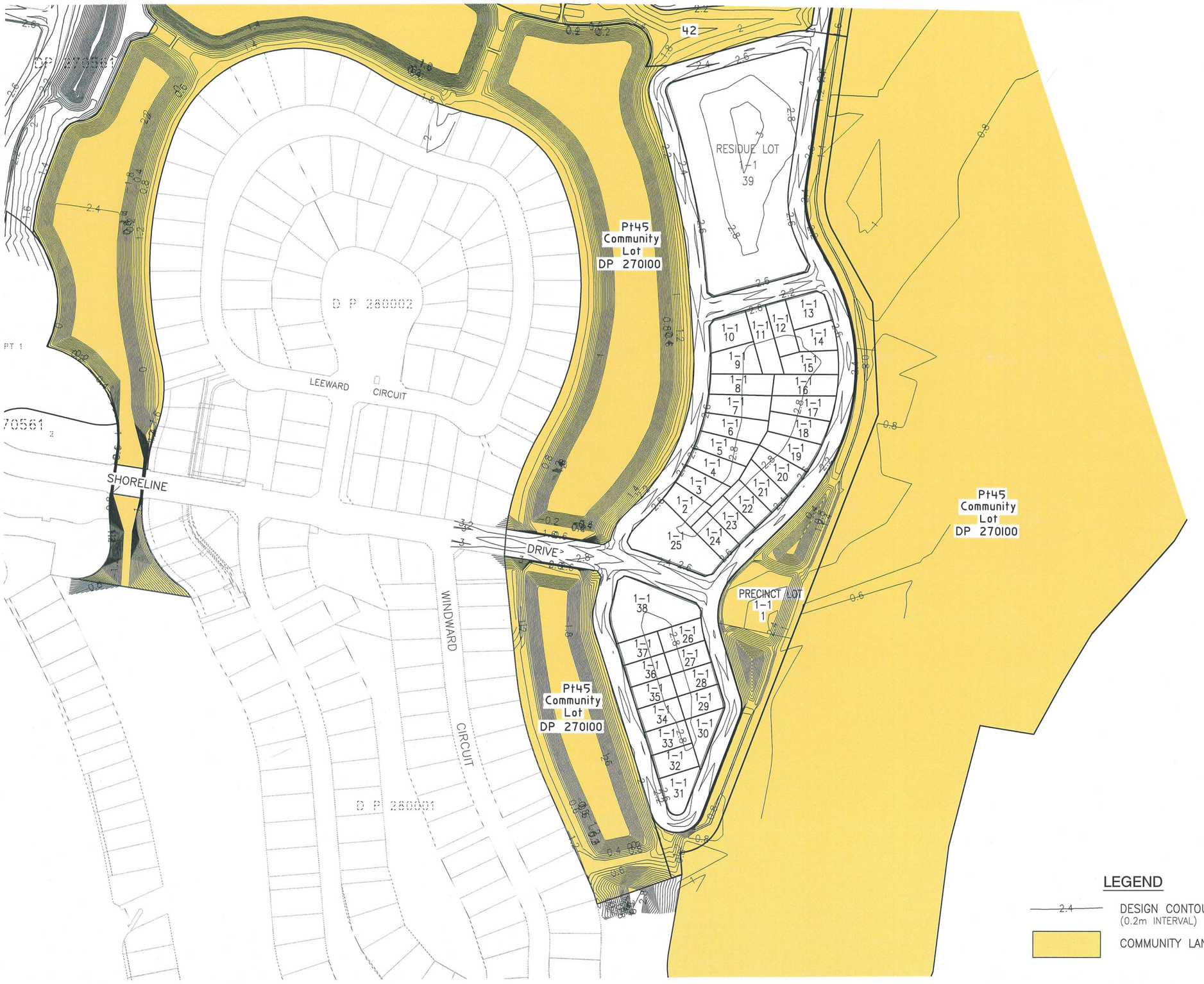
SHEET 1 OF X SHEETS

LOCATION PLAN

REDUCTION RATIO 1:2000

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY



LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

This sheet is being continually updated to show the current subdivisional pattern of the scheme.
For details of such updates and additional and replacement sheets see schedule below.

SCHEDULE OF CHANGES TO THE SCHEME

Lot No.	Details	Sheet No.
	PRECINCT PLAN 1 STAGE 1	

Subdivision Certificate No:

Surveyor: DONALD G. BEGG
Surveyors Ref: 201479 PREC 1-1

Registered:

~~COMMUNITY~~/PRECINCT/~~NEIGHBOURHOOD~~ PLAN

SHEET No.81

S:\projects\Myall Quays\dwg\STG9\Stg 9 Schematic DPs.dwg

Plotted 10:55 06/06/08

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

SEE DIAGRAM A

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

1-1 1 731 m² | 1-1 2 591 m² | 1-1 3 606 m² | 1-1 4 660 m² | 1-1 5 689 m² | 1-1 6 782 m² | 1-1 7 779 m² | 1-1 8 733 m² | 1-1 9 723 m² | 1-1 10 731 m² | 1-1 11 798 m² | 1-1 12 628 m² | 1-1 13 702 m² | 1-1 14 582 m² | 1-1 15 704 m² | 1-1 16 770 m² | 1-1 17 725 m² | 1-1 18 737 m² | 1-1 19 723 m² | 1-1 20 705 m² | 1-1 21 632 m² | 1-1 22 595 m² | 1-1 23 595 m² | 1-1 24 595 m² | 1-1 25 2007 m²

DETAIL PLAN

(IN ... SHEETS)

DIAGRAM A

SCALE 1: 800

GN-MGA

RESIDUE LOT 1-1 39

1-1 10 | 1-1 11 | 1-1 12 | 1-1 13

Surveyor: DONALD GEORGE BEGG	PLAN OF SUBDIVISION OF LOT 41 IN DP 270100	LGA: GREAT LAKES	Registered	SHEET No.82
Date of Survey: 20/02/2008	PRECINCT PLAN 1	Locality: TEA GARDENS		ADDITIONAL SHEET .....
Surveyors Ref: 201479	STAGE 1	Subdivision No:		
		Lengths are in metres. Reduction Ratio 1: 600		

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

PLAN FORM 2 (A2)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

e-Plan

Sheet of sheets

DETAIL PLAN

(IN ... SHEETS)

SHORELINE

DRIVE

WINDWARD CIRCUIT

GN-MGA

D P 260002

Pt45 Community Lot DP 270100

PRECINCT LOT 1-1 1

1-1 38 2091 m²

1-1 26 556 m²

1-1 37 544 m²

1-1 27 544 m²

1-1 36 544 m²

1-1 28 544 m²

1-1 35 544 m²

1-1 29 575 m²

1-1 34 576 m²

1-1 30 620 m²

1-1 33 576 m²

1-1 32 576 m²

1-1 31 668 m²

2007 m²

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: DONALD GEORGE BEGG Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 41 IN DP 270100 PRECINCT PLAN 1 STAGE 1	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 600	Registered	SHEET No.83 ADDITIONAL SHEET .....

10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | Table of mm

S:\projects\Myall Quays\dwg\STG9\Stg 9 Schematic DPs.dwg

Plotted 10:55 06/06/08

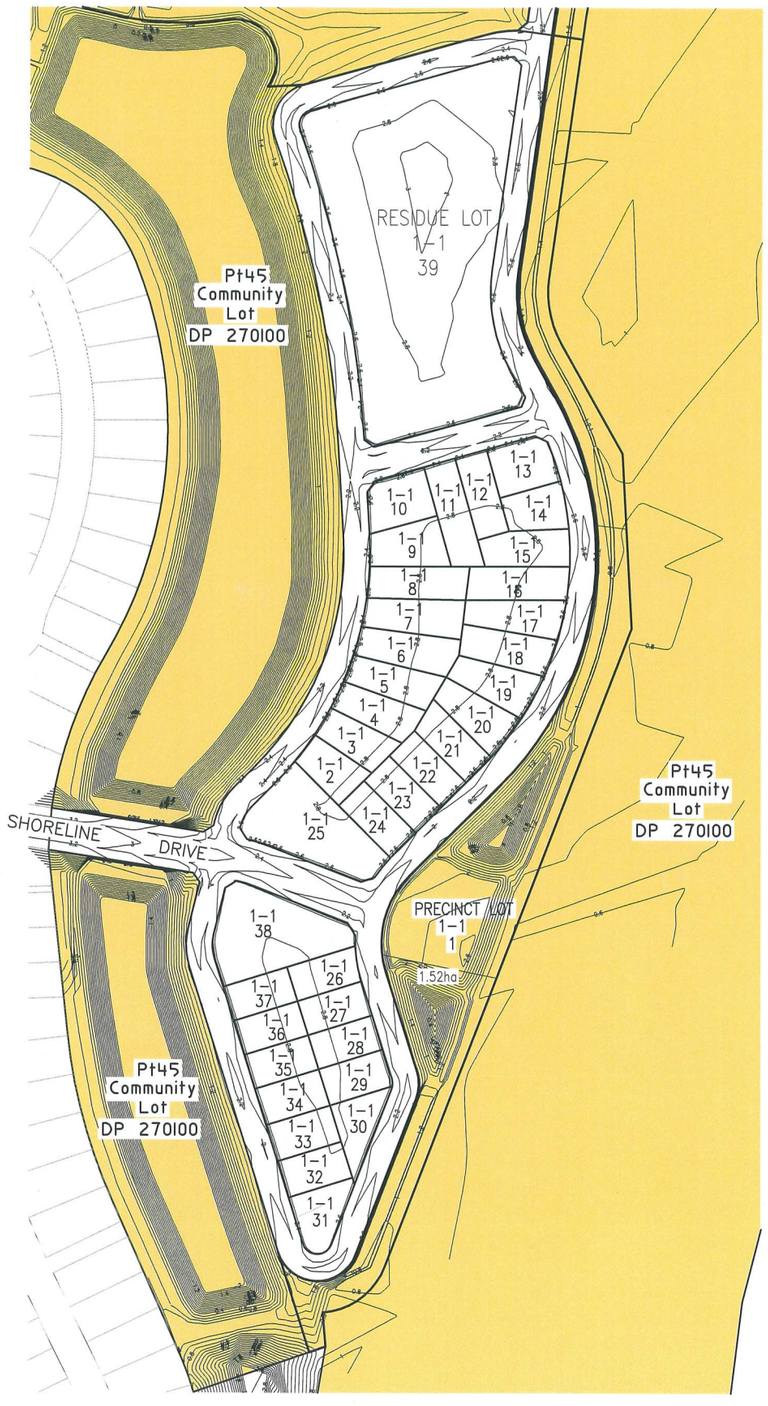
PRECINCT PROPERTY

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

PRECINCT PLAN 1
STAGE 1



LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: DONALD GEORGE BEGG Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 41 IN DP 270100 PRECINCT PLAN 1 STAGE 1	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 2000	Registered	SHEET No.84 ADDITIONAL SHEET .....

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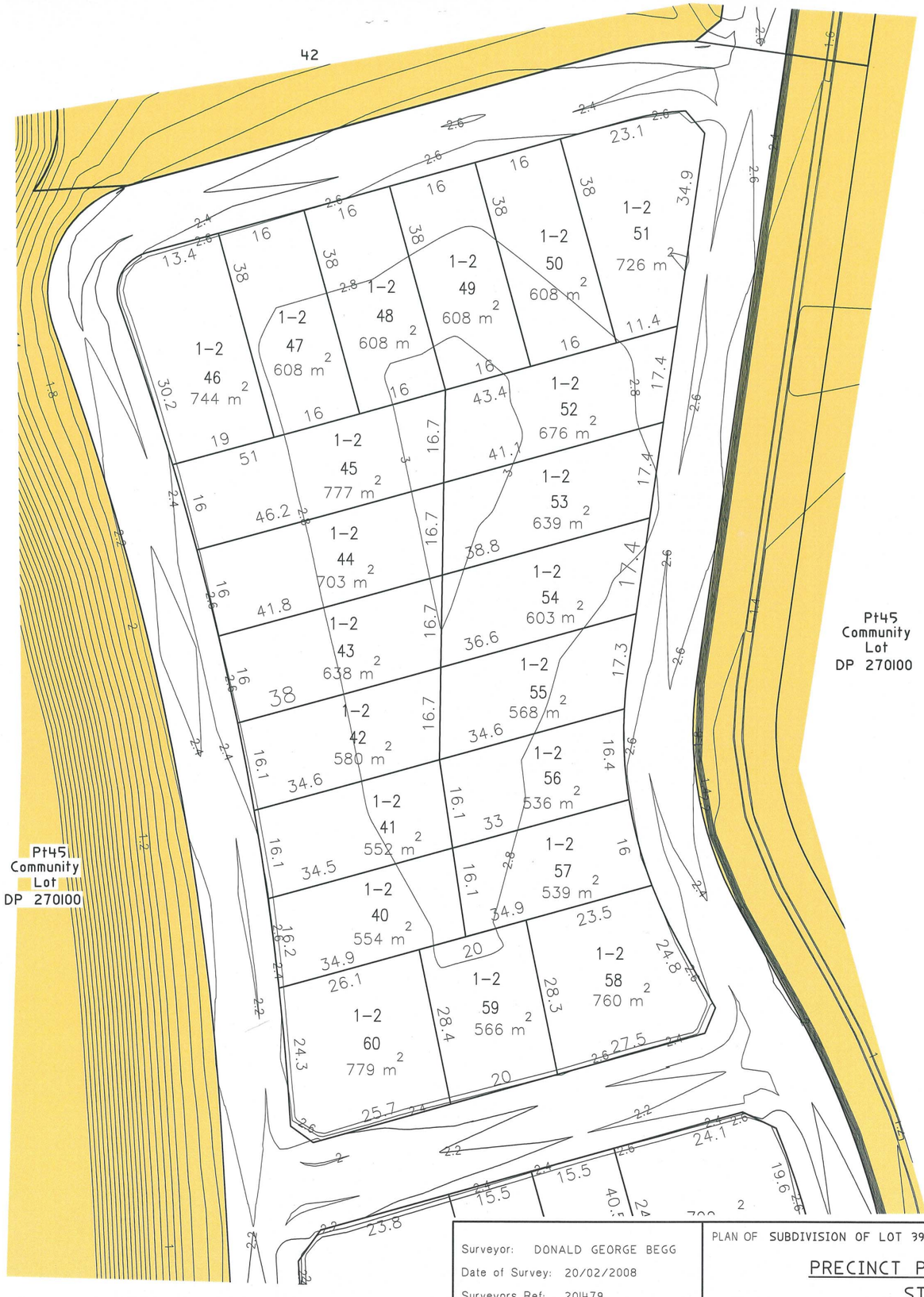
PLAN FORM 2 (A2)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

e-Plan



DETAIL PLAN

(IN 1 SHEET)

GN-MGA

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

PRECINCT PLAN 1 STAGE 2

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: DONALD GEORGE BEGG Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 39 IN DP 280..... PRECINCT PLAN 1 STAGE 2	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 600	Registered	SHEET No.85 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

S:\projects\Myall Quays\dwg\STG9\Stg 9 Schematic DPs.dwg

Plotted 10:55 06/06/08

PLAN FORM 4 (A2)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

e-Plan

SHEET 1 OF X SHEETS

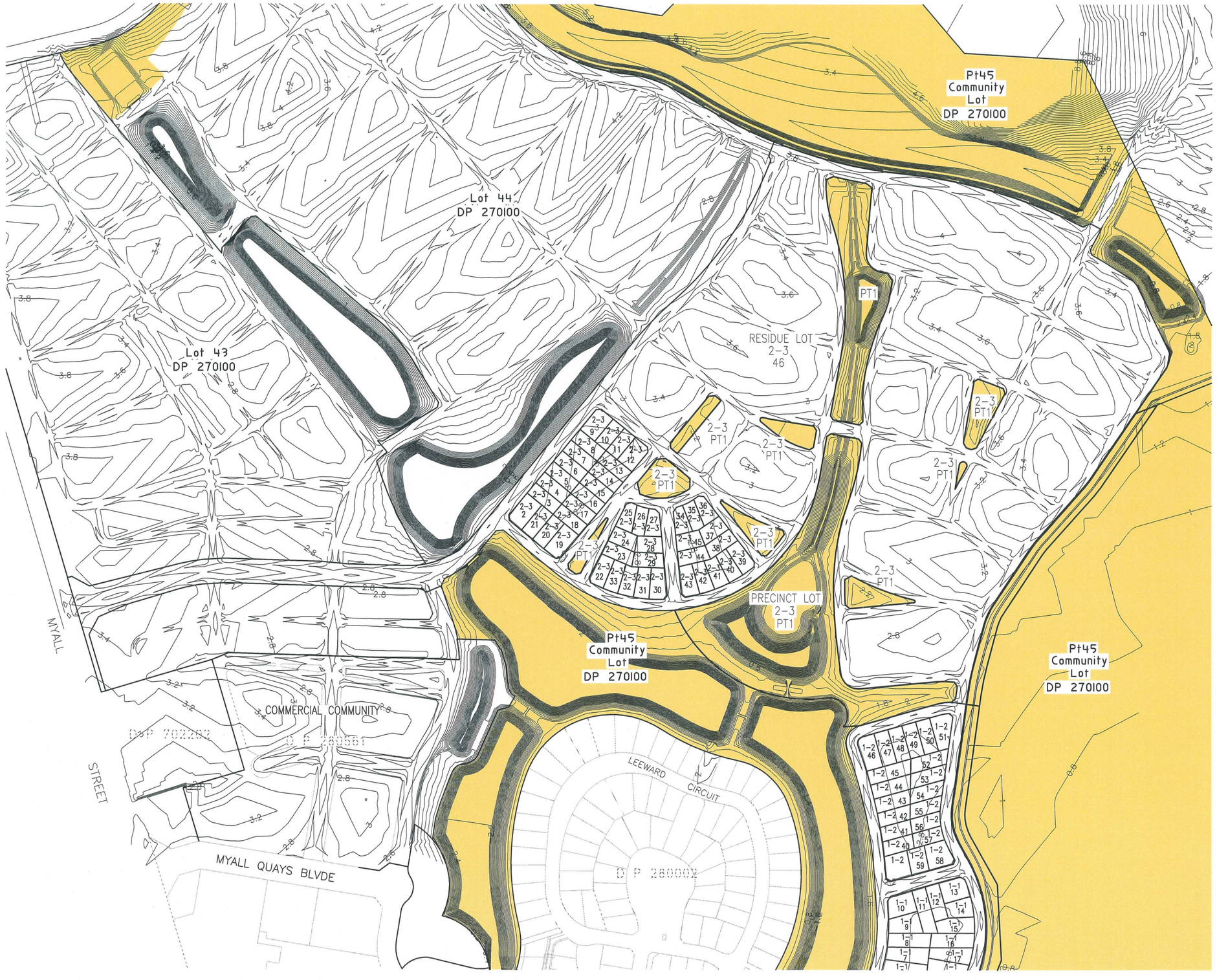
LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

LOCATION PLAN

REDUCTION RATIO 1:3000



This sheet is being continually updated to show the current subdivisional pattern of the scheme.
For details of such updates and additional and replacement sheets see schedule below.

SCHEDULE OF CHANGES TO THE SCHEME

Lot No.	Details	Sheet No.

PRECINCT PLAN 2 STAGE 3

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

Subdivision Certificate No:

Surveyor: TATTERSALL SURVEYORS
Surveyors Ref: 201479 PREC 2-3

Registered:

~~COMMUNITY~~/PRECINCT/~~NEIGHBOURHOOD~~ PLAN

SHEET No.86

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Plotted 14:00 17/09/08

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

DETAIL PLAN

(IN ... SHEETS)

PRECINCT LOT
2-3
Pt 1

Pt45
Community
Lot
DP 270100

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 42 IN DP 270100 PRECINCT PLAN 2 STAGE 3	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 600	Registered

SHEET No.87

ADDITIONAL SHEET .....

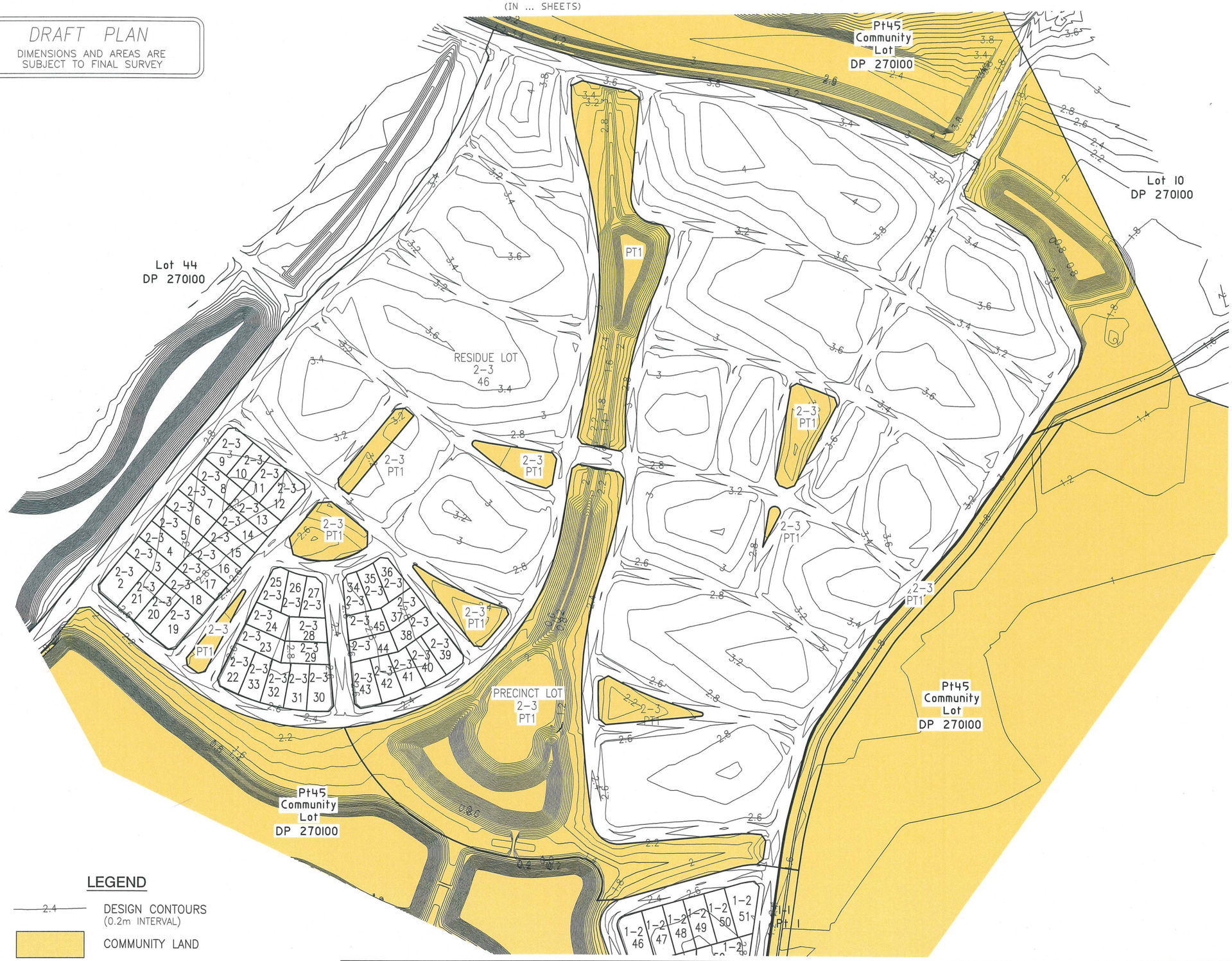
DETAIL PLAN

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

GN-MGA



LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 42 IN DP 270100 PRECINCT PLAN 2 STAGE 3	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 2000	Registered	SHEET No.88 ADDITIONAL SHEET .....

PRECINCT PROPERTY

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

GN-MGA

Pt45 Community Lot DP 270100

Lot 10 DP 270100

Lot 44 DP 270100

RESIDUE LOT 2-3 46

PT1 1.03ha

2-3 PT1 1005 m²

2-3 PT1 1163 m²

2-3 PT1 1950 m²

2-3 PT1 1783 m²

2-3 PT1 147 m²

2-3 PT1 1457 m²

2-3 PT1 708 m²

2-3 PT1 5790 m²

2-3 PT1 1460 m²

PRECINCT LOT 2-3 PT1 2.93ha

TOTAL 4.92 ha

Pt45 Community Lot DP 270100

Pt45 Community Lot DP 270100

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 42 IN DP 270100 PRECINCT PLAN 2 STAGE 3	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 2000	Registered	SHEET No.89 ADDITIONAL SHEET .....

PLAN FORM 4 (A2)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

e-Plan

SHEET 1 OF X SHEETS

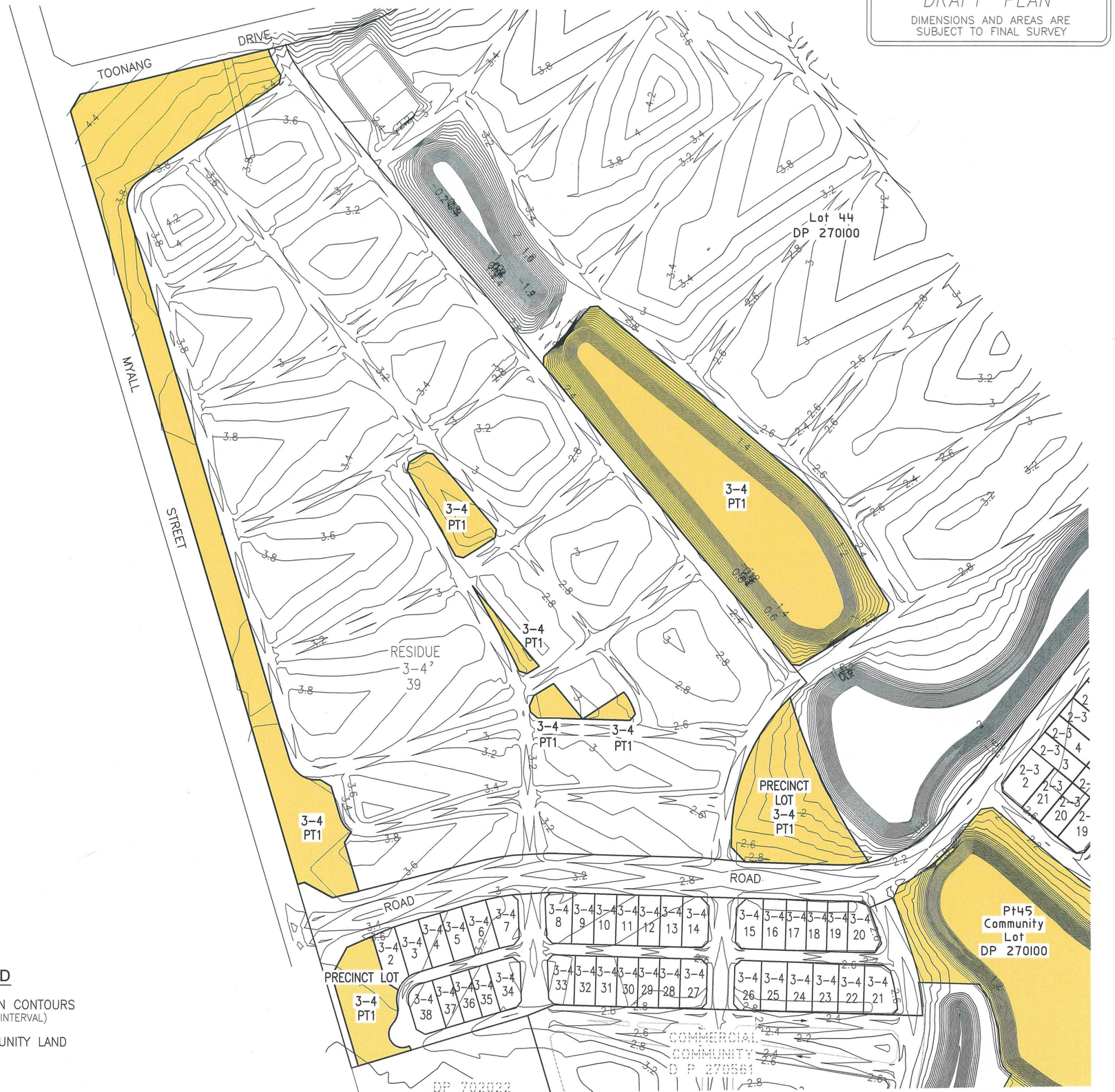
LOCATION PLAN

REDUCTION RATIO 1:2000

GN-MGA

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY



LEGEND

DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

This sheet is being continually updated to show the current subdivisional pattern of the scheme.
For details of such updates and additional and replacement sheets see schedule below.

SCHEDULE OF CHANGES TO THE SCHEME

Lot No.	Details	Sheet No.
	PRECINCT PLAN 3 STAGE 4	

Subdivision Certificate No:

Surveyor: TATTERSALL SURVEYORS
Surveyors Ref: 201479 PREC 3-4

Registered:

~~COMMUNITY~~/PRECINCT/~~NEIGHBOURHOOD~~ PLAN

SHEET No.90

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Plotted 15:27 17/09/08

PLAN FORM 2 (A2) WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION e-Plan Sheet of sheets

DETAIL PLAN

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

GN-MGA

MYALL STREET

ROAD

ROAD

3-4 PT1

PRECINCT LOT 3-4 PT1

3-4 2 622m²

3-4 3 605m²

3-4 4 543m²

3-4 5 543 m²

3-4 6 603 m²

3-4 7 620 m²

3-4 8 624 m²

3-4 9 535m²

3-4 10 535 m²

3-4 11 535 m²

3-4 12 535 m²

3-4 13 535 m²

3-4 38 651 m²

3-4 37 451 m²

3-4 36 451 m²

3-4 35 451 m²

3-4 34 649 m²

3-4 33 622 m²

3-4 32 504 m²

3-4 31 504 m²

3-4 30 504 m²

3-4 29 504 m²

3-4 28 504 m²

COMMERCIAL COMMUNITY D P 270561

DP 702022

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 43 IN DP 270100 PRECINCT PLAN 3 STAGE 4	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 600	Registered	SHEET No.91 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 15:28 17/09/08

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

DETAIL PLAN

(IN ... SHEETS)

GN-MGA

Lot 44
DP 270100

3-4
PT1

Pt45
Community
Lot
DP 270100

3-4 6 603 m² | 3-4 7 620 m² | 3-4 8 624 m² | 3-4 9 535 m² | 3-4 10 535 m² | 3-4 11 535 m² | 3-4 12 535 m² | 3-4 13 535 m² | 3-4 14 612 m²

3-4 15 615 m² | 3-4 16 563 m² | 3-4 17 501 m² | 3-4 18 501 m² | 3-4 19 501 m² | 3-4 20 665 m²

3-4 35 451 m² | 3-4 34 649 m² | 3-4 33 622 m² | 3-4 32 504 m² | 3-4 31 504 m² | 3-4 30 504 m² | 3-4 29 504 m² | 3-4 28 504 m² | 3-4 27 620 m²

3-4 26 620 m² | 3-4 25 615 m² | 3-4 24 615 m² | 3-4 23 615 m² | 3-4 22 615 m² | 3-4 21 712 m²

COMMERCIAL
COMMUNITY
D P 270561

DP 702022

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 43 IN DP 270100 PRECINCT PLAN 3 STAGE 4	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 600	Registered	SHEET No.92 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 10:56 06/06/08

PLAN FORM 2 (A2)

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e-Plan

Sheet of sheets

PRECINCT PROPERTY

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

GN-MGA

TOONANG DRIVE

MYALL STREET

ROAD

ROAD

Lot 44 DP 270100

3-4 PT1 2045m²

3-4 PT1 2.18ha

RESIDUE 3-4 39

3-4 PT1 465m²

3-4 PT1 530m²

3-4 PT1 375m²

3-4 PT1 1.89ha

PRECINCT LOT 3-4 PT1 6150m²

PRECINCT LOT 3-4 PT1 2654m²

Pt45 Community Lot DP 270100

3-4 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38

2-3 1 2 3 4 5 19 20 21

DP 702022

DP 270561

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 42 IN DP 270100 PRECINCT PLAN 3 STAGE 4	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 2000	Registered	SHEET No.93 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 15:29 17/09/08

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

DETAIL PLAN

(IN ... SHEETS)

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

RESIDUE LOT 2-5 71

2-3 PT1

GWHOA

Surveyor: TATTERSALL SURVEYORS	PLAN OF SUBDIVISION OF LOT 46 IN DP 28....	LGA: GREAT LAKES	Registered	SHEET No.94
Date of Survey: 20/02/2008	PRECINCT PLAN 2 STAGE 5	Locality: TEA GARDENS		ADDITIONAL SHEET .....
Surveyors Ref: 201479		Subdivision No:		
		Lengths are in metres. Reduction Ratio 1: 600		

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

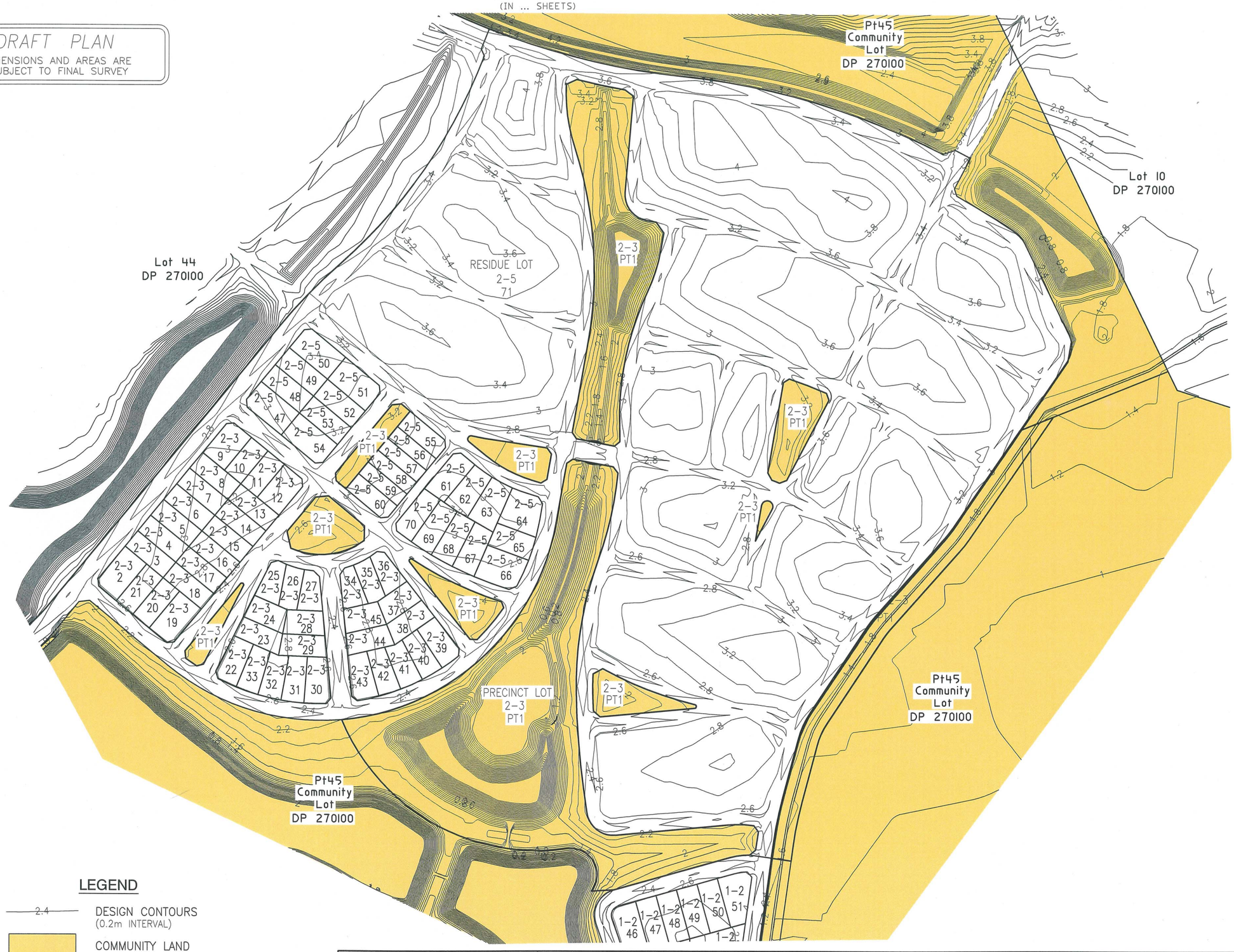
DETAIL PLAN

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

GN-MGA



LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 46 IN DP 28..... PRECINCT PLAN 2 STAGE 5	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 2000	Registered	SHEET No.95 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 10:56 06/06/08

PLAN FORM 2 (A2)

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e-Plan

Sheet of sheets

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

DETAIL PLAN

(IN ... SHEETS)

GN-MGA

2-6 72 727 m²
2-6 73 575 m²
2-6 74 579 m²
2-6 75 622 m²
2-6 76 596 m²
2-6 77 575 m²
2-6 78 576 m²
2-6 79 764 m²
2-6 80 579 m²
2-6 81 603 m²
2-6 82 544 m²
2-6 83 606 m²
2-6 84 716 m²
2-6 85 570 m²
2-6 86 710 m²
2-6 87 535 m²
2-6 88 511 m²
2-6 89 574 m²
2-6 90 664 m²
2-6 91 592 m²
2-6 92 586 m²
2-6 93 591 m²
2-6 94 698 m²
2-6 95 627 m²
2-6 96 624 m²
2-6 97 761 m²
2-6 98 824.3 m²
2-6 99 639.6 m²
2-6 100 563 m²
2-6 101 584 m²
2-6 102 590 m²
2-6 103 582 m²
2-6 104 561 m²
2-6 105 702 m²
2-6 106 583 m²

2-3 PT1

2-3 PT1

2-3 PT1

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 71 IN DP 28..... PRECINCT PLAN 2 STAGE 6	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 600	Registered	SHEET No.96 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 10:57 06/06/08

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

DETAIL PLAN

(IN ... SHEETS)

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 71 IN DP 28..... PRECINCT PLAN 2 STAGE 6	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 600	Registered	SHEET No.97 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 10:57 06/06/08

PLAN FORM 2 (A2)

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e-Plan

Sheet of sheets

DETAIL PLAN

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

GN-MGA

Pt45 Community Lot DP 270100

Lot 10 DP 270100

Lot 44 DP 270100

RESIDUE LOT 2-6 121

PRECINCT LOT 2-3 PT1

Pt45 Community Lot DP 270100

Pt45 Community Lot DP 270100

LEGEND

DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 71 IN DP 28..... PRECINCT PLAN 2 STAGE 6	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 2000	Registered	SHEET No.98 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 10:57 06/06/08

PLAN FORM 2 (A2)

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e-Plan

Sheet of sheets

DETAIL PLAN

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

RESIDUE 2-7 180

PRECINCT LOT 2-3 PT1

Pt45 Community Lot DP 270100

2-3 PT1

Pt45 Community Lot DP 270100

LEGEND

DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS	PLAN OF SUBDIVISION OF LOT 121 IN DP 28.....	LGA: GREAT LAKES	Registered
Date of Survey: 20/02/2008	PRECINCT PLAN 2 STAGE 7	Locality: TEA GARDENS	SHEET No.99
Surveyors Ref: 201479		Subdivision No:	ADDITIONAL SHEET .....
		Lengths are in metres. Reduction Ratio 1: 600	

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 10:57 06/06/08

DETAIL PLAN

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

LEGEND

DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 121 IN DP 28..... PRECINCT PLAN 2 STAGE 7	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 2000	Registered	SHEET No.100 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 15:26 06/08/08

DETAIL PLAN

(IN ... SHEETS)

DRAFT PLAN
DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

Pt45 Community Lot DP 270100

RESIDUE 2-8 222

OAK ROAD

PRECINCT LOT 2-3 PT1

2-3 PT1

Lot 44 DP 270100

2-7 172

2-7 171

2-7 170

2-8 216 655 m²

2-8 217 675 m²

2-8 218 786 m²

2-8 219 776 m

2-8 220 578 m²

2-8 221 571 m²

2-8 203 518 m²

2-8 204 643 m²

2-8 205 561 m²

2-8 206 557 m²

2-8 207 710 m²

2-8 208 633 m²

2-8 209 587 m²

2-8 210 555 m²

2-8 211 319 m²

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 80 IN DP 28.... PRECINCT PLAN 2 STAGE 8	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 600	Registered	SHEET No.101 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 10:57 06/06/08

DRAFT PLAN
DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

DETAIL PLAN

(IN ... SHEETS)

Lot 44
DP 270100

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 180 IN DP 28.... PRECINCT PLAN 2 STAGE 8	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 600	Registered	SHEET No.102 ADDITIONAL SHEET .....

DETAIL PLAN

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

GN-MGA

Pt45 Community Lot DP 270100

Lot 10 DP 270100

Lot 44 DP 270100

RESIDUE 2-8 222

PRECINCT LOT 2-3 PT1

LEGEND

DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 180 IN DP 28..... PRECINCT PLAN 2 STAGE 8	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 2000	Registered	SHEET No.103 ADDITIONAL SHEET .....

PLAN FORM 2 (A2)

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e-Plan

Sheet of sheets

DETAIL PLAN

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Pt45 Community Lot DP 270100

Pt45 Community Lot DP 270100

Pt45 Community Lot DP 270100

2-3 PT1

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 222 IN DP 28..... PRECINCT PLAN 2 STAGE 9	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 600	Registered	SHEET No.104 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 09:35 14/08/08

PLAN FORM 2 (A2)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

e-Plan

Sheet of sheets

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

DETAIL PLAN

(IN ... SHEETS)

Pt45 Community Lot DP 270100

OLD HOA

PRECINCT LOT 2-3 PT1

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 222 IN DP 28..... PRECINCT PLAN 2 STAGE 9	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 600	Registered	SHEET No.105 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 09:36 14/08/08

PLAN FORM 2 (A2)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

e-Plan

Sheet of sheets

DETAIL PLAN

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 222 IN DP 28..... PRECINCT PLAN 2 STAGE 9	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 2000	Registered	SHEET No.106 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

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Plotted 10:58 06/06/08

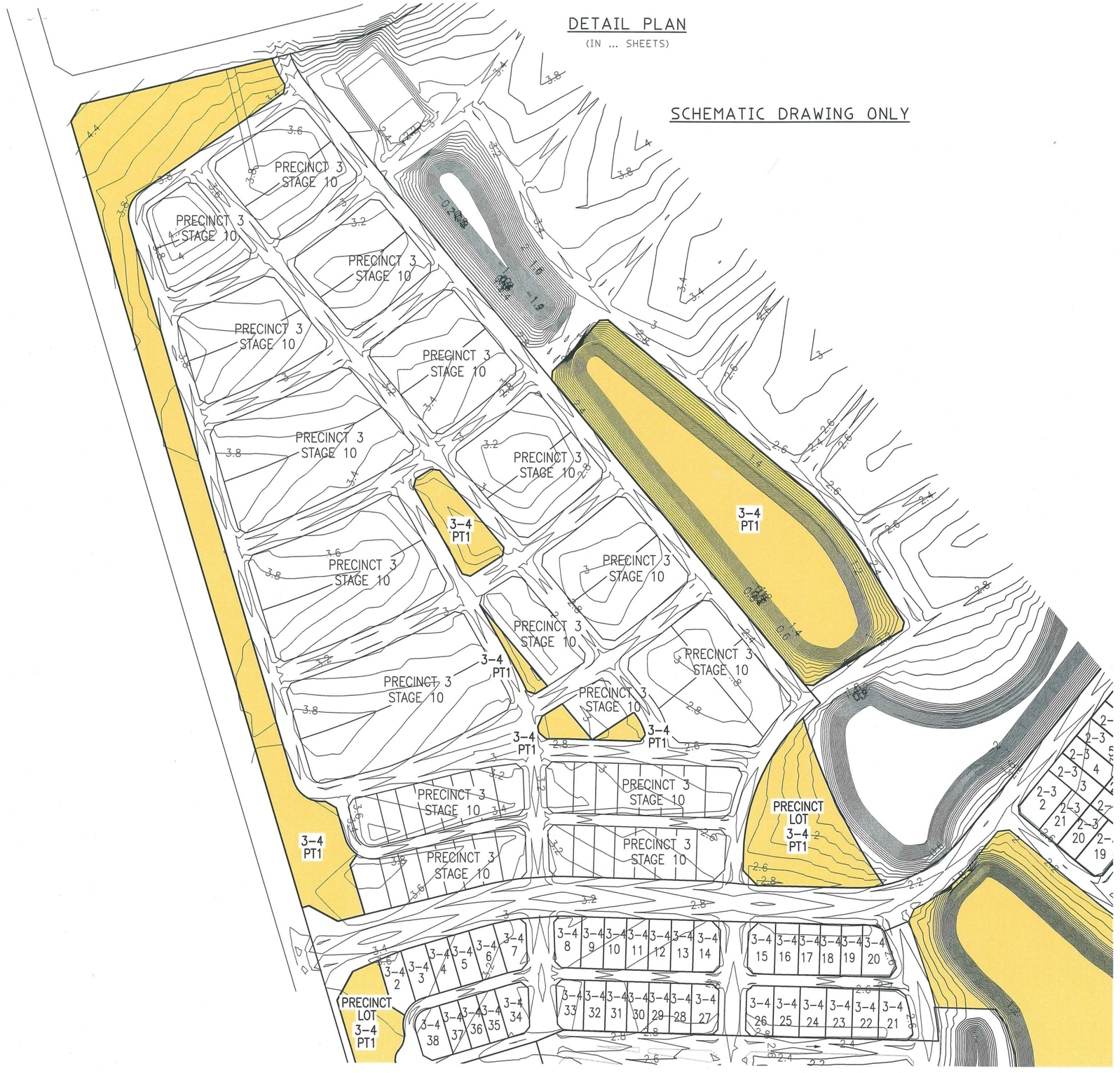
DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

DETAIL PLAN

(IN ... SHEETS)

SCHEMATIC DRAWING ONLY



LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 39 IN DP 28.... PRECINCT PLAN 3 STAGE 10	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 2000	Registered	SHEET No.107 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

PLAN FORM 4 (A2)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

e-Plan

SHEET 1 OF X SHEETS

SCHEMATIC DRAWING ONLY

LOCATION PLAN
REDUCTION RATIO 1:2500

DRAFT PLAN
DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

GN-MGA

LEGEND
2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

4–11 PT1 2.54ha

PRECINCT 4 STAGE 11

Pt45 Community Lot DP 270100

4–11 PT1 2280m²

4–11 PT1 8650m²

4–11 PT1 520m²

4–11 PT1 520m²

PRECINCT LOT 4–11 PT1 1.21ha

PRECINCT LOT 4–11 PT1 3.03ha

TOTAL 7.97ha

3–4 PT1

2–3 PT1

PRECINCT 3 STAGE 10

TOONANG DRIVE

MYALL STREET

ROAD

This sheet is being continually updated to show the current subdivisional pattern of the scheme.
For details of such updates and additional and replacement sheets see schedule below.

SCHEDULE OF CHANGES TO THE SCHEME

Lot No.	Details	Sheet No.
	PRECINCT PLAN 4 STAGE 11	

Subdivision Certificate No:

Surveyor: TATTERSALL SURVEYORS
Surveyors Ref: 201479 PREC 4–11

Registered:

~~COMMUNITY~~/PRECINCT/~~NEIGHBOURHOOD~~ PLAN

SHEET No.108

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Plotted 10:58 06/06/08

PLAN FORM 2 (A2)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

e-Plan

Sheet of sheets

PRECINCT PROPERTY

(IN ... SHEETS)

DRAFT PLAN

DIMENSIONS AND AREAS ARE SUBJECT TO FINAL SURVEY

GN-MGA

TOONANG DRIVE

MYALL STREET

4-11 PT1 2.54ha

4-11 PT1 8650m²

4-11 PT1 2280m²

4-11 PT1 520m²

4-11 PT1 520m²

PRECINCT LOT 4-11 PT1 1.21ha

PRECINCT LOT 4-11 PT1 3.03ha

TOTAL 7.97ha

Pt45 Community Lot DP 270100

Pt45 Community Lot DP 270100

PRECINCT 4 STAGE 11

ROAD

2-3 PT1

2-5

2-8

LEGEND

2.4 DESIGN CONTOURS (0.2m INTERVAL)

COMMUNITY LAND

Surveyor: TATTERSALL SURVEYORS Date of Survey: 20/02/2008 Surveyors Ref: 201479	PLAN OF SUBDIVISION OF LOT 42 IN DP 270100 PRECINCT PLAN 4 STAGE 11	LGA: GREAT LAKES Locality: TEA GARDENS Subdivision No: Lengths are in metres. Reduction Ratio 1: 2500	Registered	SHEET No.109 ADDITIONAL SHEET .....

10 20 30 40 50 60 70 80 90 100 110 120 Table of mm

S:\projects\Myall Quays\dwg\STG9\Stg 9 Schematic DPs.dwg

Plotted 10:59 06/06/08