

- LEGEND**
- GENERAL:-**
- Top of batter.
 - Toe of batter.
 - Invert of creek/drain.
 - Change of grade.
 - Stormwater drain line.
 - Sewer main.
 - Sewer manhole.
 - Water main.
 - Stormwater drain line.
 - Sewer main.
 - Sewer manhole.
 - Water main.
 - Overhead power line.
 - Telstra conduit.
 - Telstra optic fibre.

- SEWERAGE RETICULATION:-**
- 2 - Manhole Number
 - 1A - Sewer line description
 - MH - Manhole type: MH - Manhole
- As constructed sewer invert levels at manhole.
- 1A - Sewer line description.
- 150Ø uPVC class SN8 - Diameter, type & class of pipe.
- 40.05m at 1 in 12.0 - Distance between manholes, (centre to centre) & grade.
- As constructed top of manhole level.

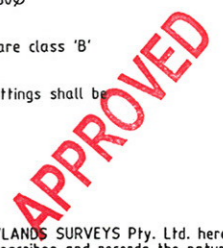
- SERVICES:-**
- Direct connection (DC)
 - Jump up connection (JU)
 - 100Ø manhole connection - Benching (BC) - Vertical Drop (VD)
- Distance from downstream manhole to Y-junction - dimension 'L'.
- Invert level at limit of house connection branch.
- Allotment connection dimension 'X'.
- Allotment connection dimension 'Y'.
- Type of junction (EX - Existing).

- NOTES:**
- All sewer manholes are 1050Ø unless shown otherwise.
 - All sewer manhole covers are class 'B' unless shown otherwise.
 - All 150Ø sewer mains & fittings shall be uPVC class SN8.

AS CONSTRUCTED

I John James Rowlands of ROWLANDS SURVEYS Pty. Ltd. hereby certify that this drawing accurately describes and records the nature and the location of the works depicted hereon as they have been constructed for the purposes of the development.

John James Rowlands Date: 22.12.10
 John James Rowlands
 Director/Registered Surveyor



TOWNSVILLE CITY COUNCIL
 REC'D 14 JAN 2011

REAL PROPERTY DESCRIPTION

Lots 501 & 502 on SP 162413
 Parish of BOHLE
 County of ELPHINSTONE
 Bilbao Place - Bushland Beach

In Association with:-

ROWLANDS SURVEYS PTY LTD
 22 GORDEN STREET
 GARBUTT. 4814
 Ph. (07)47755077

SUNLAND GROUP

SEWER MANHOLES

Manhole No.	Easting	Northing	Manhole Type
6/12A6a	5531.13*	76544.11*	Standard
7/12A6a	5508.51*	76517.49*	Standard
8/12A6a	5450.64*	76461.34*	Standard
9/12A6a	5421.25*	76425.64*	Standard
11/12A6a2	5403.77*	76492.29*	Shallow

- All dimensions are to centre of chamber.

LEVEL DATUM A.H.D.
 Horizontal Datum GDA' 94 Zone 55
 Refer P.M. 138403 RL. 8.545
 Bolt & washer in manhole top.
 LYNWOOD AVENUE

Scale: 0 5 10 15 20m

THE ORIGINAL OF THIS DOCUMENT IS COMPLETED TO THE SCALE NOTED.
 AS REPRODUCTION CAN DISTORT SIZE & SHAPE USE ONLY THE DIMENSIONS PROVIDED ON ARCHITECTURAL &/OR ENGINEERING DRAWINGS.
 VERIFY DIMENSIONS ON SITE BEFORE CONSTRUCTION.

NORTHERN CONSULTING
 engineers

Civil & Structural Engineers
 50 Punari Street, Currajong 4812
 Phone: 07 4725 5550 Fax: 07 4725 5850
 Email: mail@nceng.com.au
 Milton Messer & Associates Pty. Ltd.
 ACN 100 817 358

AMENDED TO AS CONSTRUCTED.
 D AMENDMENTS AS PER COUNCIL REQUEST FOR INFORMATION.
 C ISSUED FOR CONSTRUCTION.
 B BILBAO PLACE DESIGN AMENDED & BENCHING TO ALLOTMENTS ADDED.
 A ISSUED FOR CONSTRUCTION.
 P2 PRELIMINARY - NOT FOR CONSTRUCTION - RESPONSE TO COUNCIL REQUEST FOR INFORMATION.
 P1 PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR OPERATIONAL WORKS APPROVAL.

Issue	Description	Date
E	AMENDED TO AS CONSTRUCTED.	21/12/2010
D	AMENDMENTS AS PER COUNCIL REQUEST FOR INFORMATION.	30/04/2010
C	ISSUED FOR CONSTRUCTION.	30/03/2010
B	BILBAO PLACE DESIGN AMENDED & BENCHING TO ALLOTMENTS ADDED.	24/03/2010
A	ISSUED FOR CONSTRUCTION.	21/07/2008
P2	PRELIMINARY - NOT FOR CONSTRUCTION - RESPONSE TO COUNCIL REQUEST FOR INFORMATION.	04/03/2008
P1	PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR OPERATIONAL WORKS APPROVAL.	21/12/07

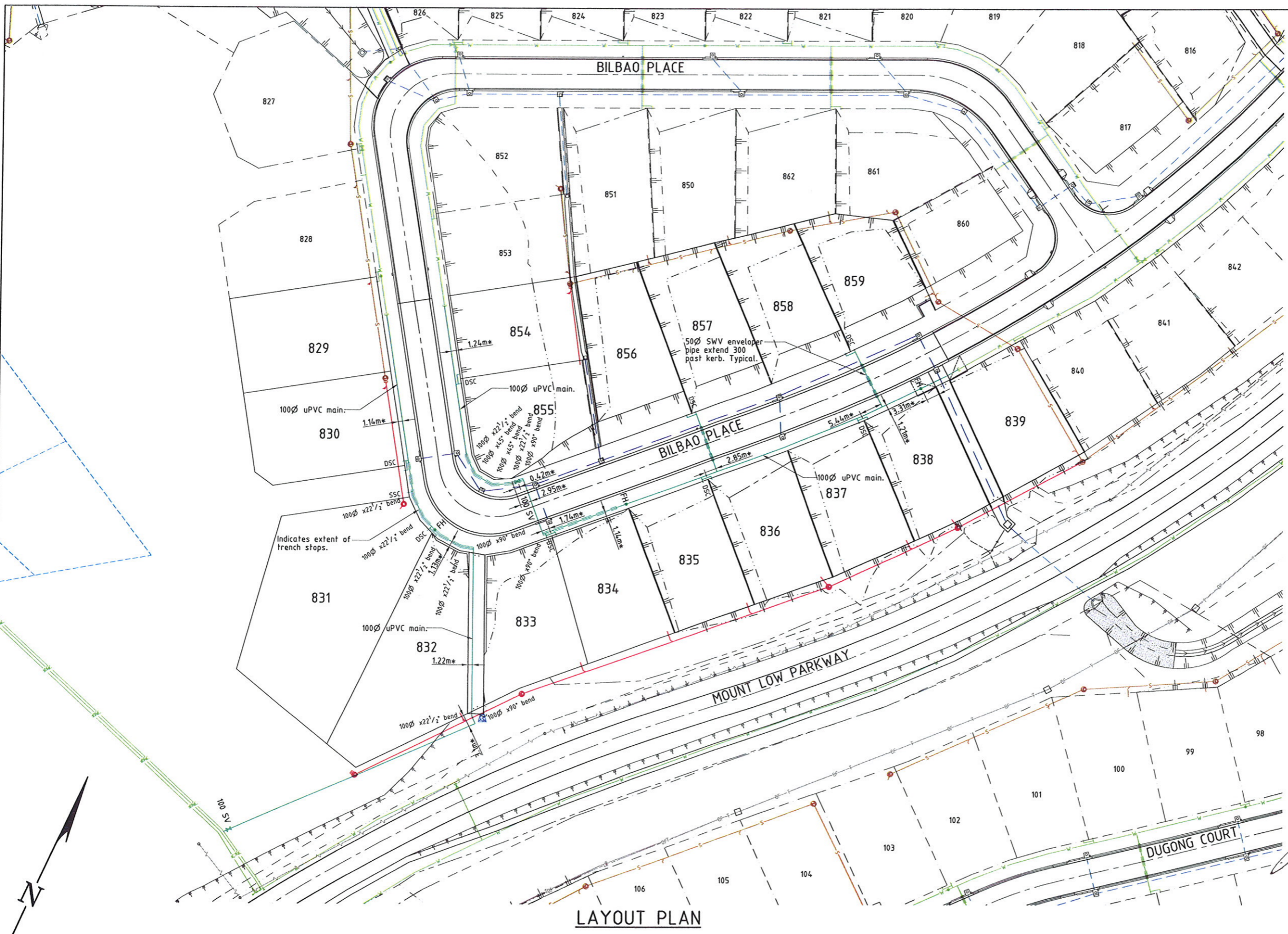
In Association with
SUNLAND GROUP LIMITED

STAGE 86, 17 TRADITIONAL RESIDENTIAL LOT SUBDIVISION BILBAO PLACE BUSHLAND BEACH

SEWERAGE RETICULATION PLAN

Drawing Number: **SUN86/12**

Issue: **E**



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- WATER RETICULATION:-**
- FH Fire Hydrant.
 - SV Stop Valve.
 - DSC Double Service Connection.
 - SSC Single Service Connection.

- NOTES:**
- All water service connections have been installed in accordance with the former Thuringowa City Council standards. ie. 1.2m 100mm offset from property boundary. U.N.O.
 - All water supply fixtures (FH, SV etc.) have been installed in accordance with the former Thuringowa City Council standards. ie. adjacent to property boundary intersection. U.N.O.
 - All uPVC water mains are Class 16 cast iron outside diameter compatible. Unless noted otherwise.

AS CONSTRUCTED APPROVED

I, John James Rowlands of ROWLANDS SURVEYS Pty. Ltd. hereby certify that this drawing accurately describes and records the nature and the location of the works depicted hereon as they have been constructed for the purposes of the development.

John James Rowlands 22/12/10
 Date: 22/12/10
 John James Rowlands
 Director/Registered Surveyor

TOWNSVILLE CITY COUNCIL
 REC'D 14 JAN 2011
 TOWN PLANNING

REAL PROPERTY DESCRIPTION

Lots 501 & 502 on SP 162413
 Parish of BOHLE
 County of ELPHINSTONE
 Bilbao Place - Bushland Beach

In Association with:-

ROWLANDS SURVEYS PTY LTD
 22 GORDEN STREET
 GARBUTT. 4814
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SUNLAND GROUP

LEVEL DATUM A.H.D.
 Horizontal Datum GDA' 94 Zone 55
 Refer P.M. 138403 RL. 8.545
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"*" - Indicates As Constructed information.
 All work is carried out in accordance with the former THURINGOWA CITY COUNCIL standard details.

NORTHERN CONSULTING
 engineers

Civil & Structural Engineers
 50 Punari Street, Currajong 4812
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 Email: mail@nceng.com.au
 Milton Messer & Associates Pty. Ltd.
 ACN 100 817 358

Issue	Description	Date
E	AMENDED TO AS CONSTRUCTED.	21/12/2010
D	ISSUED FOR CONSTRUCTION - FIRE HYDRANTS RELOCATION.	22/07/2010
C	ISSUED FOR CONSTRUCTION.	30/03/2010
B	BILBAO PLACE DESIGN AMENDED & BENCHING TO ALLOTMENTS ADDED.	24/03/2010
A	ISSUED FOR CONSTRUCTION.	21/07/2008
P1	PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR OPERATIONAL WORKS APPROVAL.	21/12/07

Drawn DC
 Date 21/12/07
 Checked [Signature]
 Approved [Signature]

In Association with
SUNLAND GROUP LIMITED

WATER RETICULATION PLAN

STAGE 86, 17 TRADITIONAL RESIDENTIAL LOT SUBDIVISION
 BILBAO PLACE
 BUSHLAND BEACH

Drawing Number
SUN86/13

Issue
E