



Pambula River, Pambula Lake and Yowaka River Flood Study

Final Report

Volume 2 of 2: Figures



▶▶ Revision 3
May 2021

Catchment Simulation Solutions

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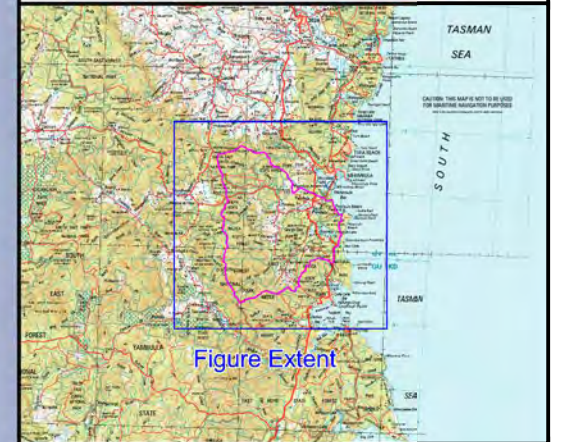
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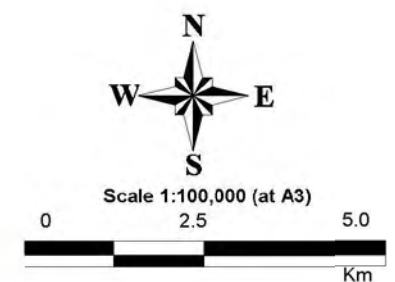




LEGEND


-  Catchment Boundary
-  Watercourse
-  Major Road

Notes:
Aerial photograph: Google Satellite 2019



**Figure 1:
Pambula River, Pambula
Lake and Yowaka River
Catchment**

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 **Catchment Simulation Solutions**
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File Name: Locality Area.qqs

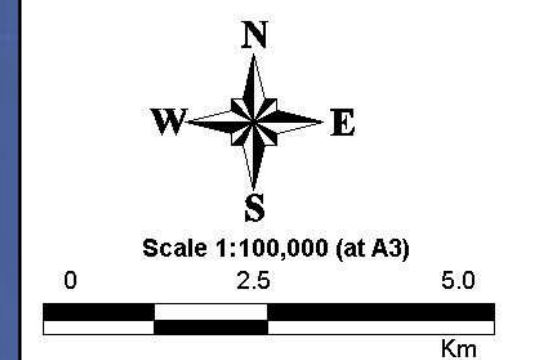




LEGEND
Ground Surface Elevation (mAHD)

Dark Blue	= < 0	Light Yellow	50
Blue	2	Yellow	75
Dark Blue	4	Orange	100
Blue	6	Red	150
Cyan	8	Red	200
Light Cyan	10	Pink	250
Light Green	20	Magenta	300
Green	30	Purple	400
Dark Green	40	Dark Purple	>= 500

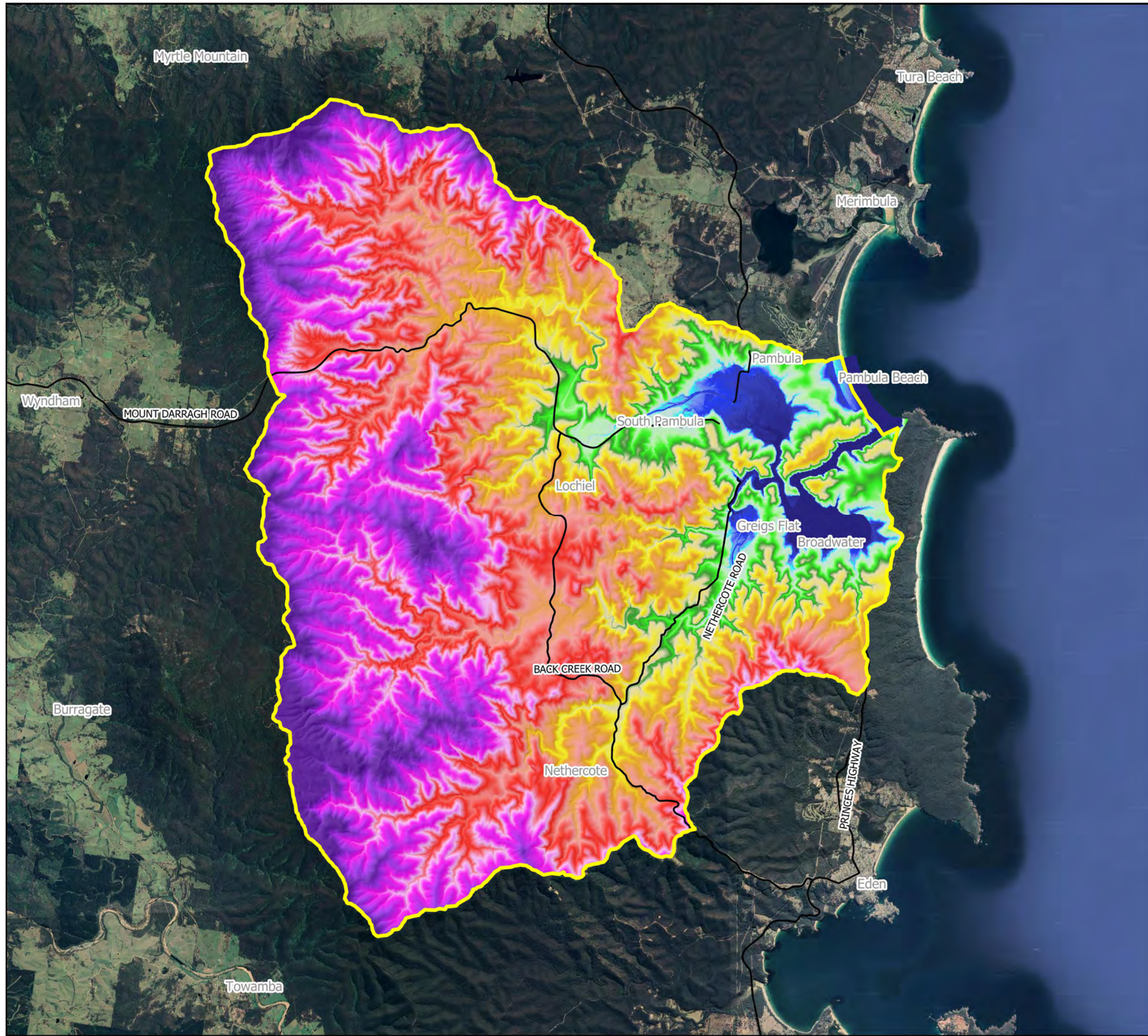
Notes:
Aerial photograph: Google Satellite 2019



**Figure 2:
Digital Elevation Model**

Prepared By:
 Catchment Simulation Solutions
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Sydney, NSW 2000

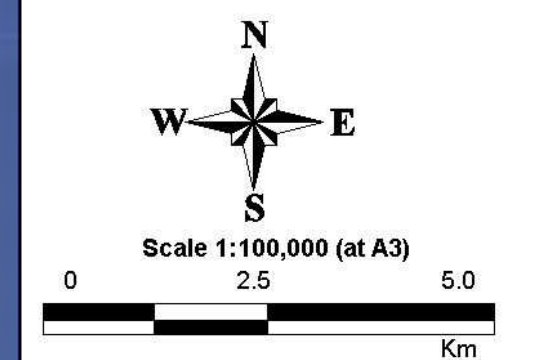
File Name: Locality AreaDigital Elevation Model.qqs





LEGEND

- Plans**
- Council drainage Plans
 - RMS Plans
- Survey**
- Hydrosurvey Extent (2003)
 - 2018 LiDAR Extent
 - 2013 LiDAR Extent
 - Cross Sections from Pambula River Data Assessment Study (1990)
- Structures**
- Stormwater Pipe/ Culvert
 - Stormwater Pit
 - ▲ Bridge
- Recorded Flood Marks**
- 1985
 - Other

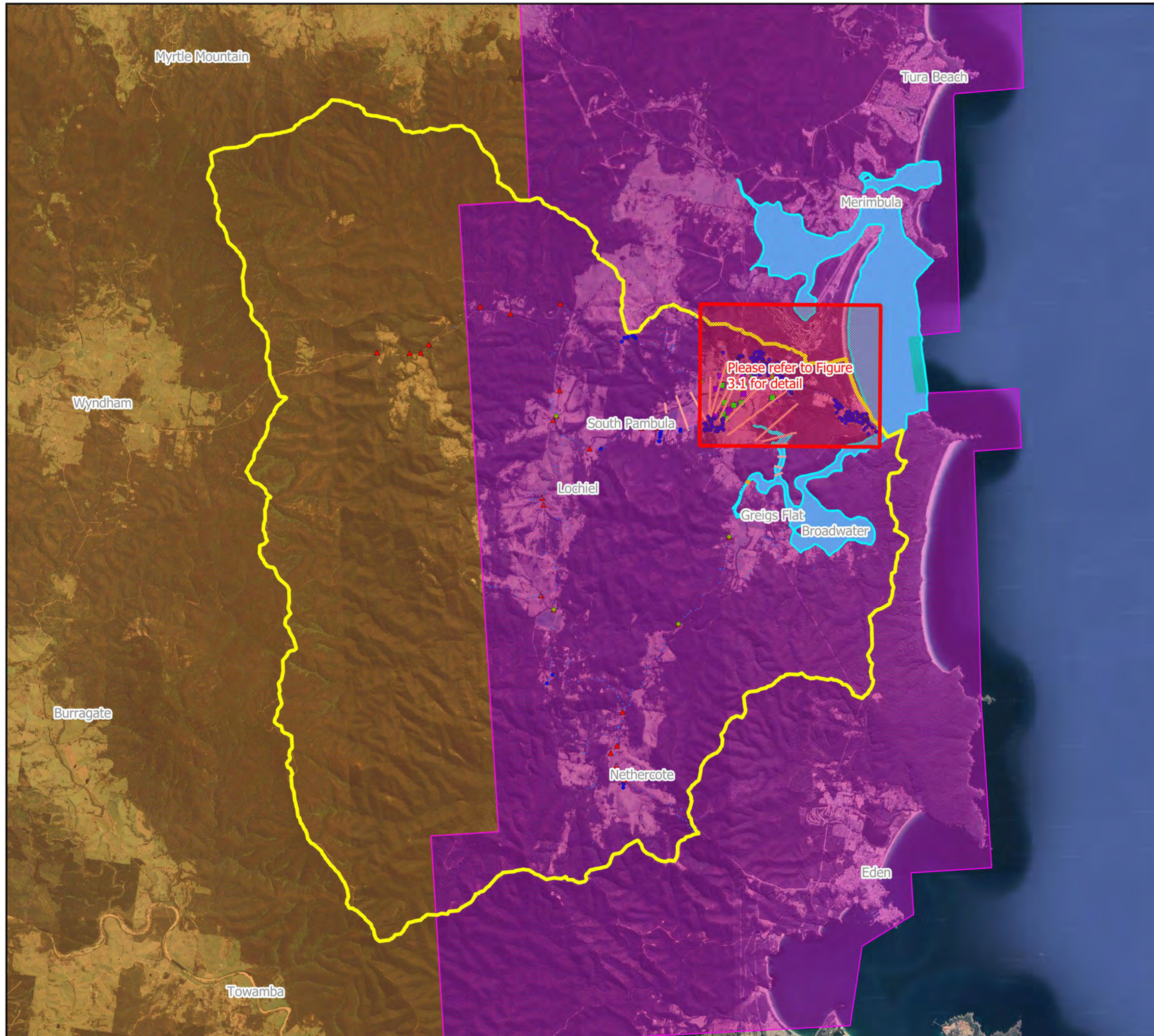


**Figure 3:
Existing Datasets**

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 Sydney, NSW 2000

File Name: Extent of available data.qqs





LEGEND

Plans

- ◆ Council drainage Plans
- ◆ RMS Plans

Survey

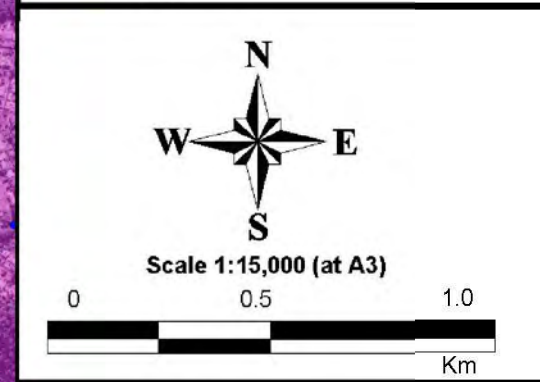
- Hydrosurvey Extent (2003)
- 2018 LiDAR Extent
- 2013 LiDAR Extent
- Cross Sections from Pambula
- River Data Assessment Study (1990)

Structures

- Stormwater Pipe/ Culvert
- Stormwater Pit
- Bridge

Recorded Flood Marks

- 1985
- Other



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S

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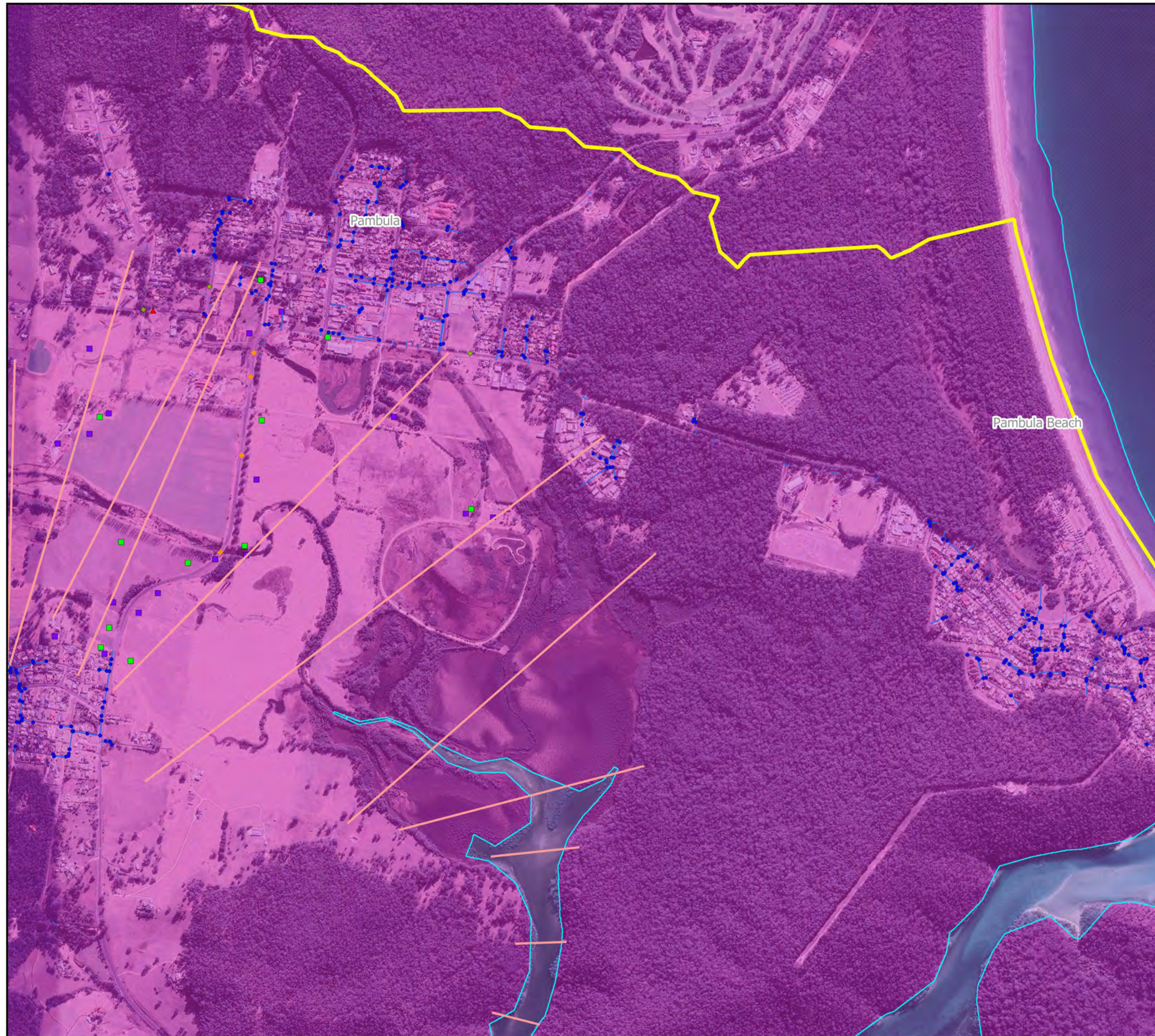
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Km

**Figure 3.1:
Existing Datasets**

Prepared By:

Catchment Simulation Solutions
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 Sydney, NSW 2000

File Name: Extent of available data.qqs

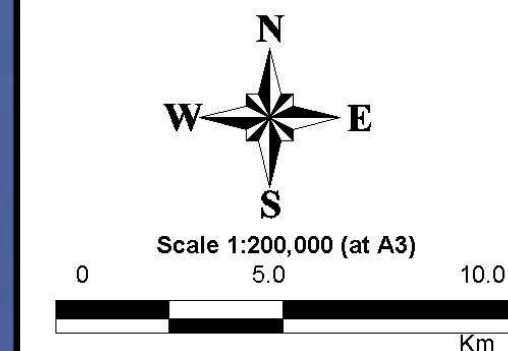





LEGEND

-  Catchment
-  Major Roads
- Rain Gauges
 -  Daily
 -  Continuous
- Stream Gauges
 -  Water Level
 -  Water Level and Flow

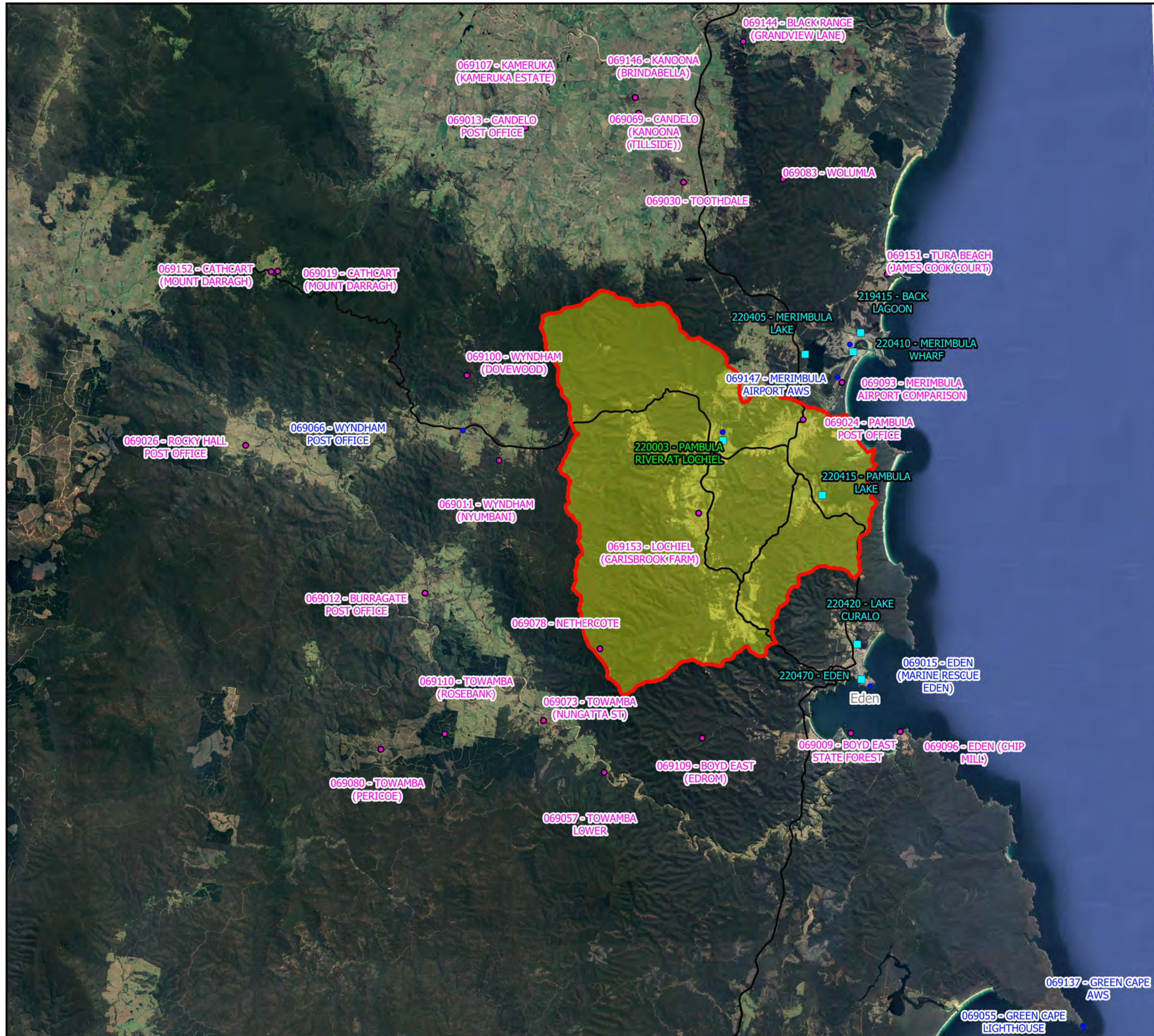
Notes:
Aerial photograph: Google Satellite 2019

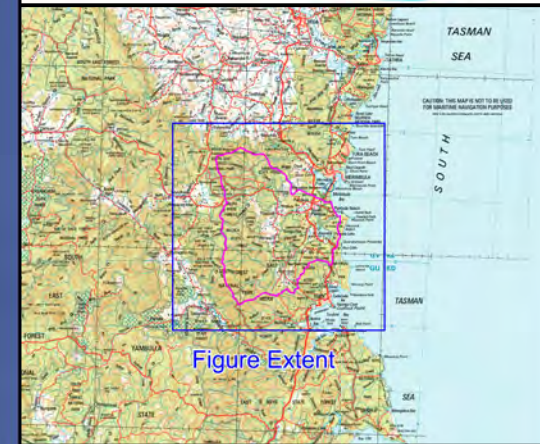


**Figure 4:
Location of Rainfall and
Stream Gauges**

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 Catchment Simulation Solutions
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File Name: location of Rainfall Stream Gauges
.qq

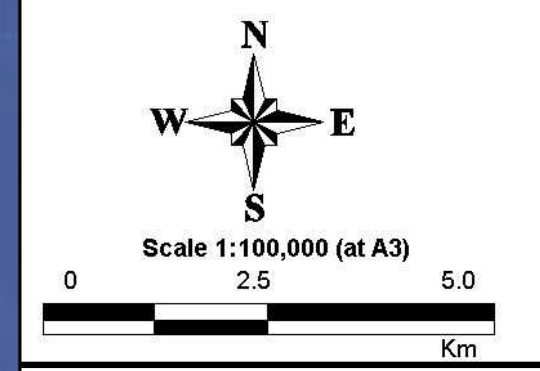




LEGEND

-  Long Grass
-  Short Grass
-  Dense Trees
-  Watercourse
-  Sand
-  Wetlands/Mangroves
-  Concrete
-  Paved Road
-  Gravel Road
-  Building

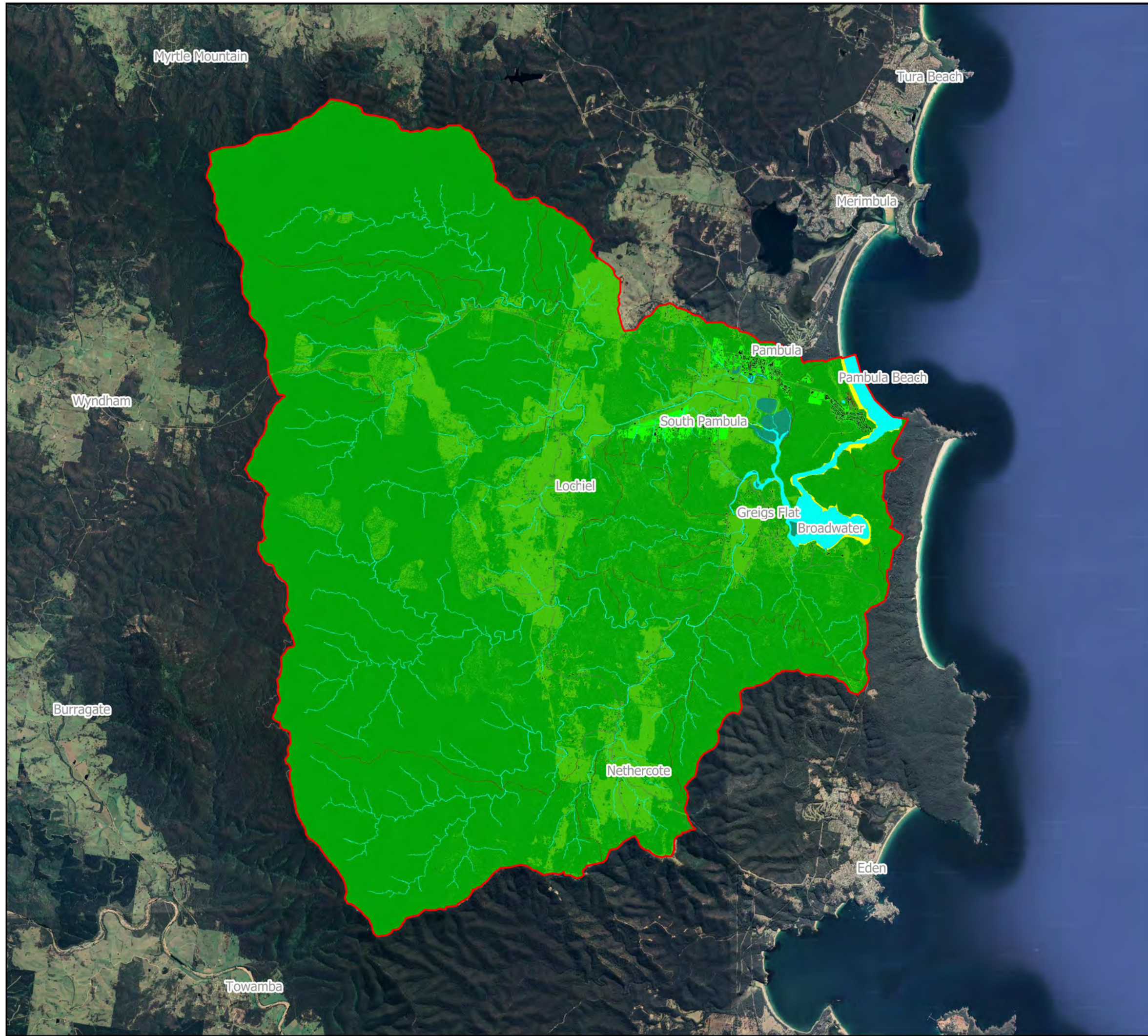
Notes:
Aerial photograph: Google Satellite 2019



**Figure 5:
Remote Sensing Land
Use Map**

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 **Catchment Simulation Solutions**
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File Name: Remote Sensing.qqs

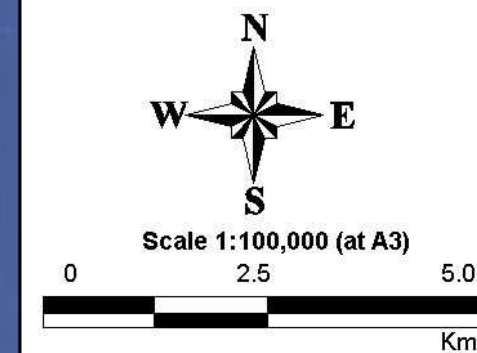




LEGEND

- Surveyed Structure
- Field Measured Structure

Notes:
Aerial photograph: Google Satellite 2019

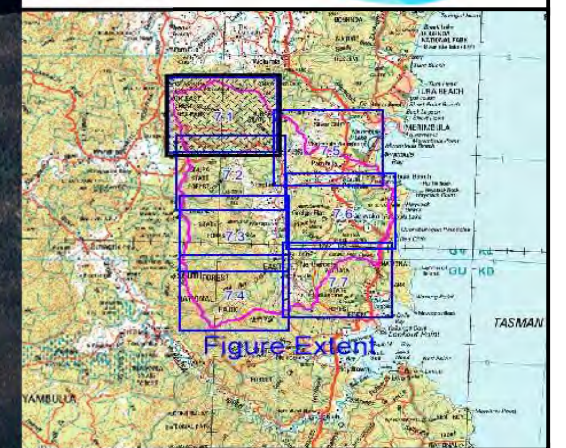


**Figure 6:
Additional Information
Collected for Study**






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Sydney, NSW 2000

File Name: Additional Information Collected for Study.qqs





LEGEND

-  Subcatchment Boundaries
-  XP - RAFTS Node
-  XP - RAFTS Link
-  Streams
-  Major Roads

Notes:
Aerial photograph: Google Satellite 2019

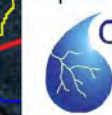


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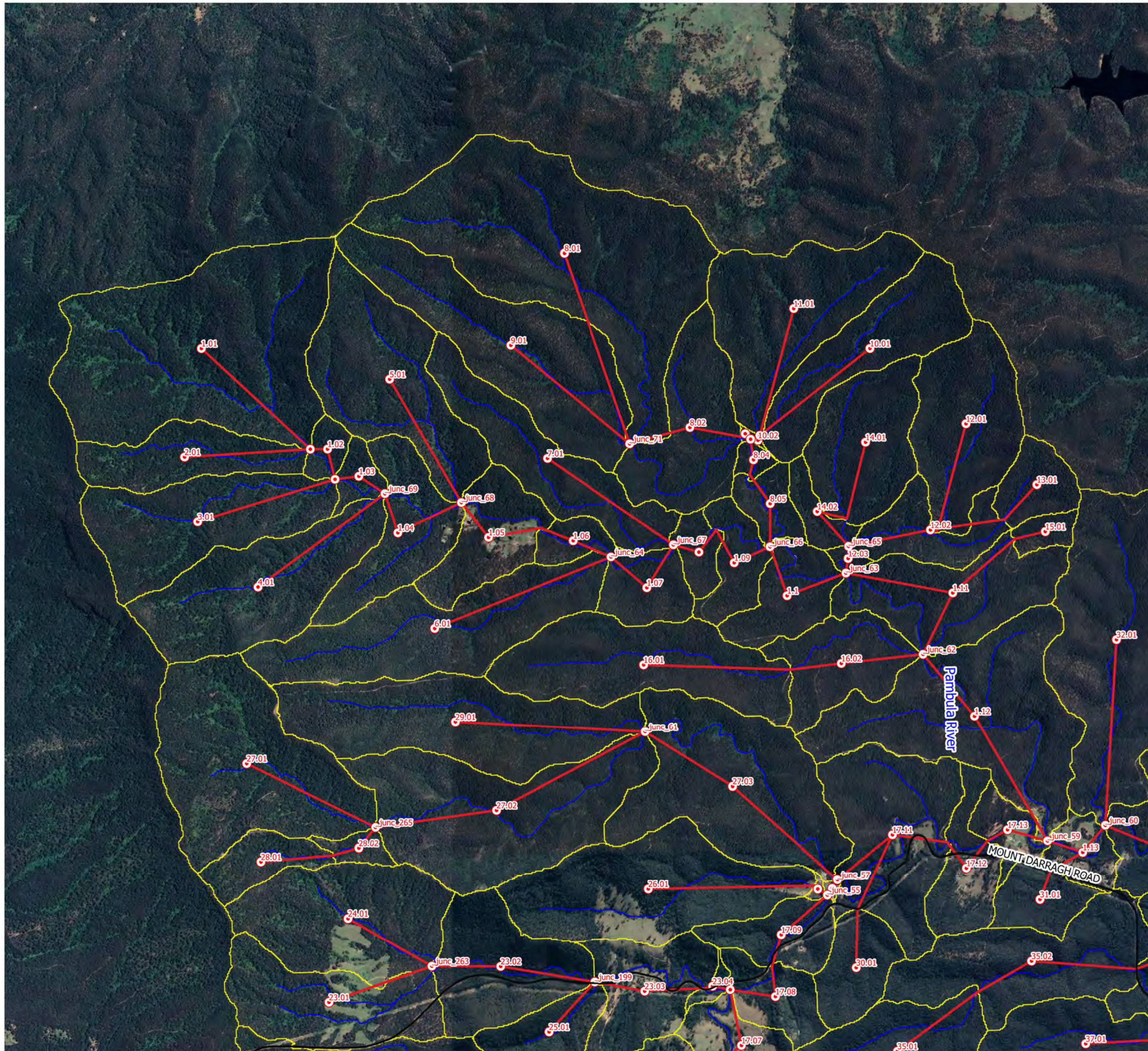


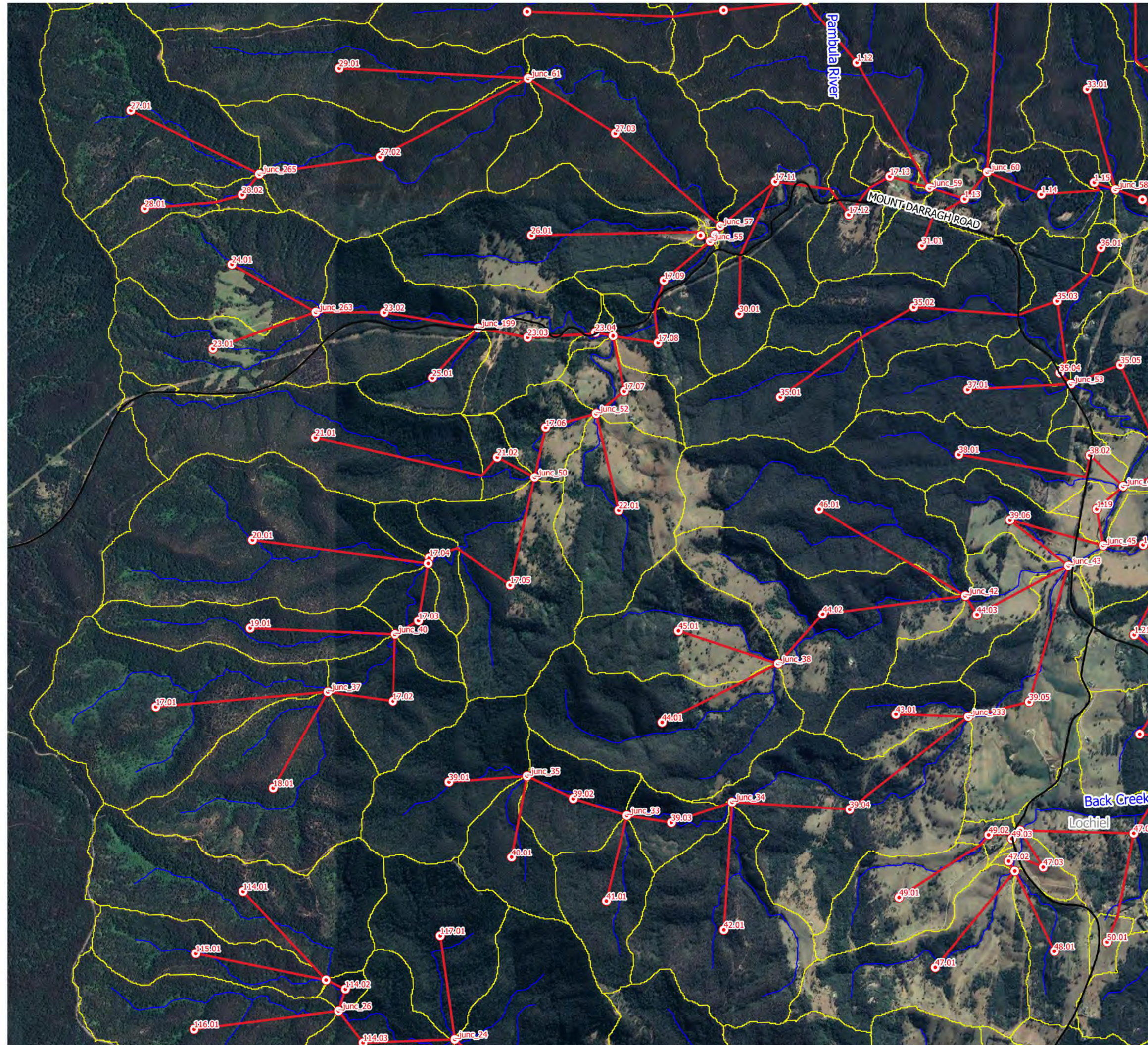
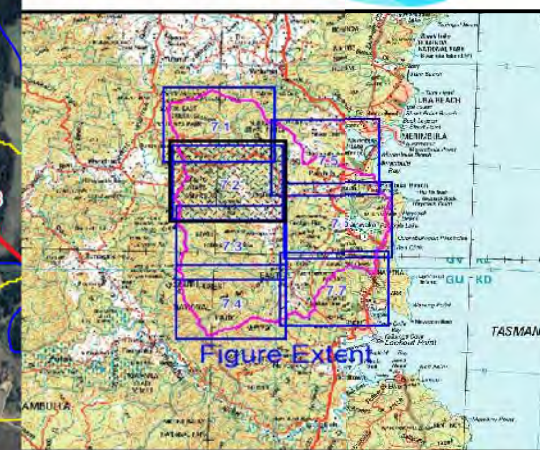
Figure 7.1
XP-RAFTS Model
Layout

Prepared By:






 **Catchment Simulation Solutions**
Suite 10.01, 70 Phillip St
Sydney, NSW 2000

File Name: Figure 7 XP-RAFTS Model Layout.qgs






LEGEND

-  Subcatchment Boundaries
-  XP - RAFTS Node
-  XP - RAFTS Link
-  Streams
-  Major Roads

Notes:
Aerial photograph: Google Satellite 2019



Scale 1:32,000 (at A3)

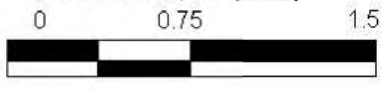
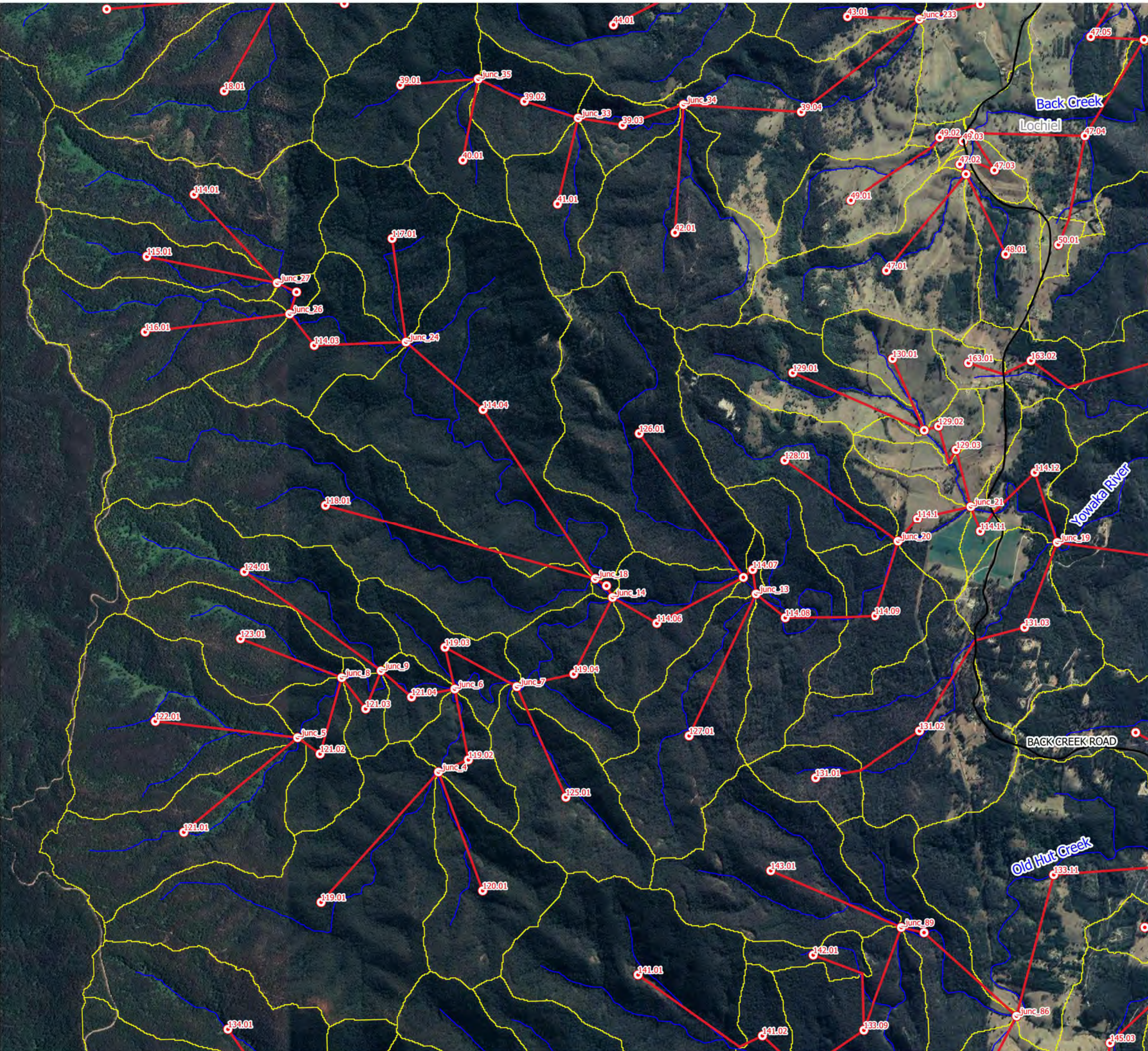
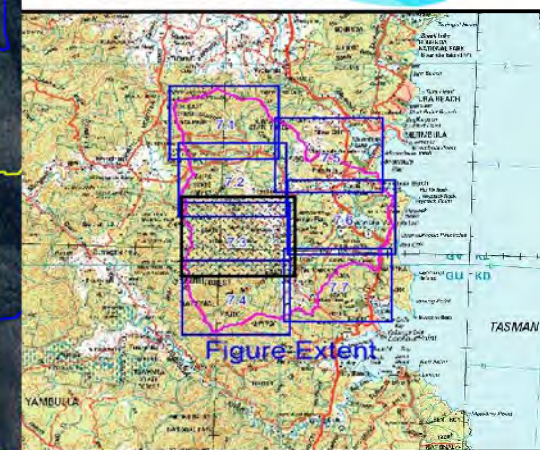


Figure 7.2
XP-RAFTS Model
Layout






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 Sydney, NSW 2000


File Name: Figure 7 XP-RAFTS Model Layout.qgs



LEGEND

-  Subcatchment Boundaries
-  XP - RAFTS Node
-  XP - RAFTS Link
-  Streams
-  Major Roads

Notes:
Aerial photograph: Google Satellite 2019



Scale 1:32,000 (at A3)

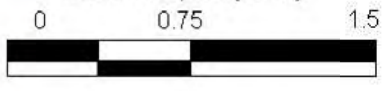
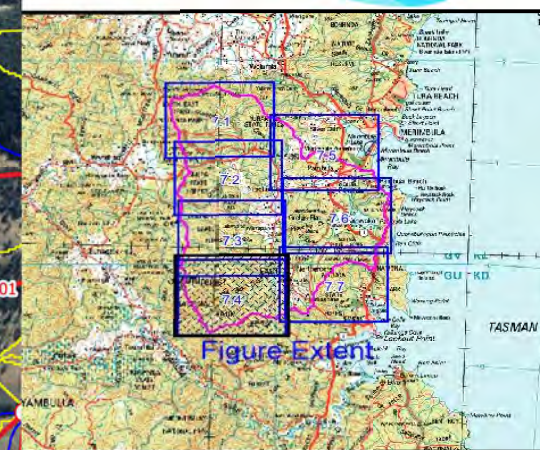







Figure 7.3
XP-RAFTS Model
Layout

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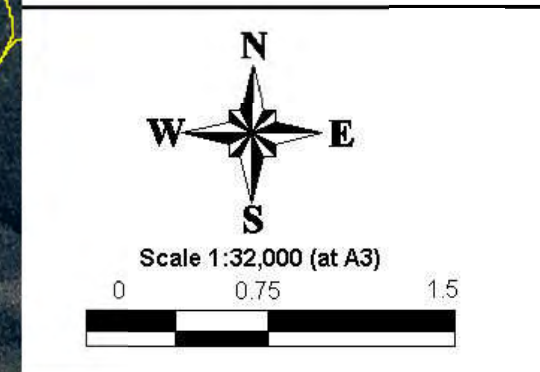
File Name: Figure 7 XP-RAFTS Model Layout.qgs



LEGEND

-  Subcatchment Boundaries
-  XP - RAFTS Node
-  XP - RAFTS Link
-  Streams
-  Major Roads

Notes:
Aerial photograph: Google Satellite 2019



Scale 1:32,000 (at A3)

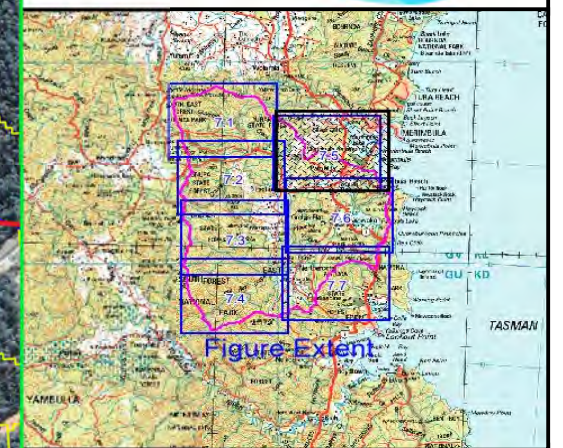
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Figure 7.4
XP-RAFTS Model
Layout






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File Name: Figure 7 XP-RAFTS Model Layout.qgs



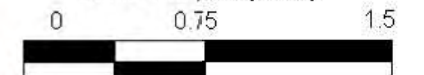
LEGEND

-  Subcatchment Boundaries
-  XP - RAFTS Node
-  XP - RAFTS Link
-  Streams
-  Major Roads

Notes:
Aerial photograph: Google Satellite 2019




Scale 1:32,000 (at A3)

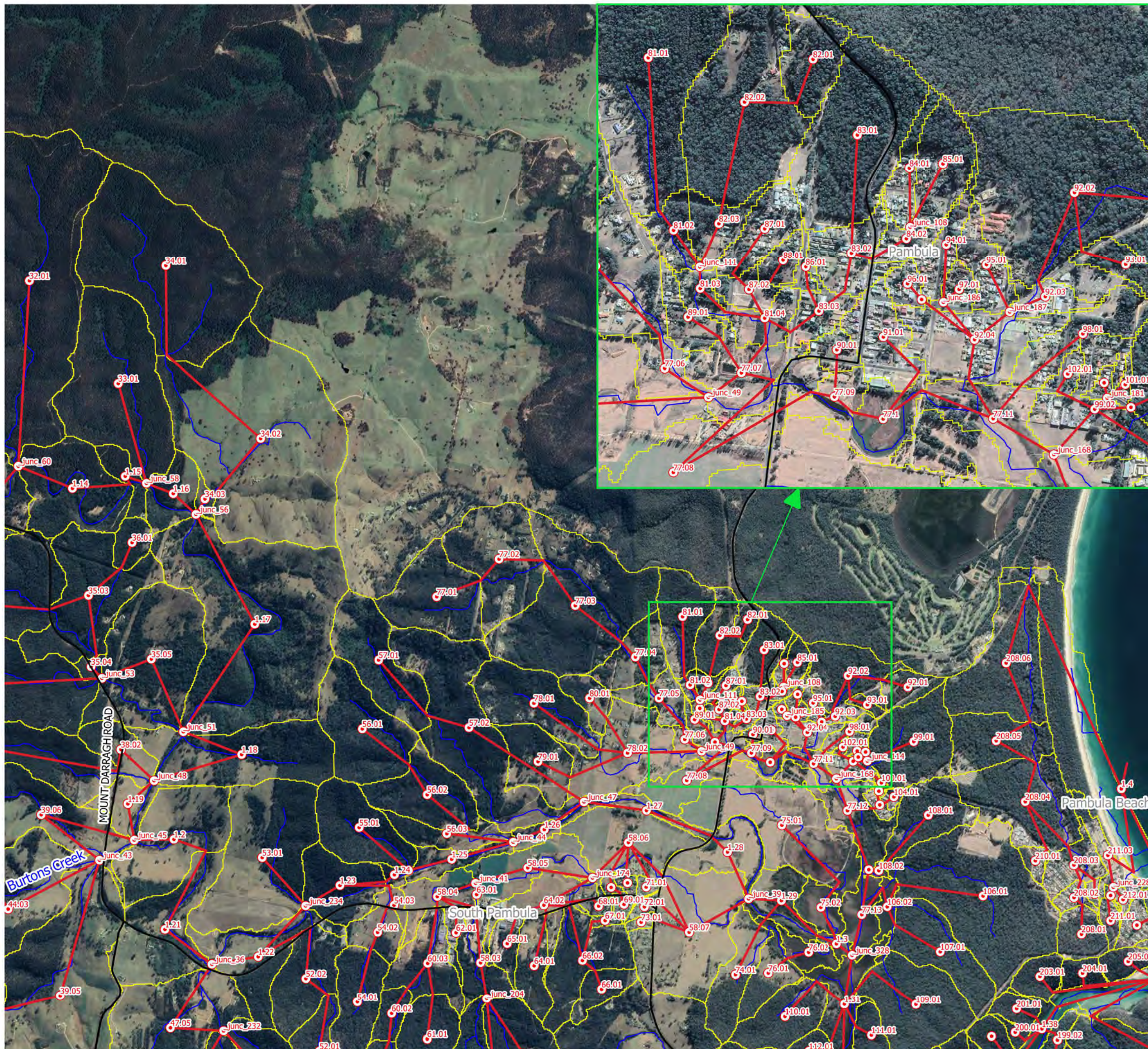


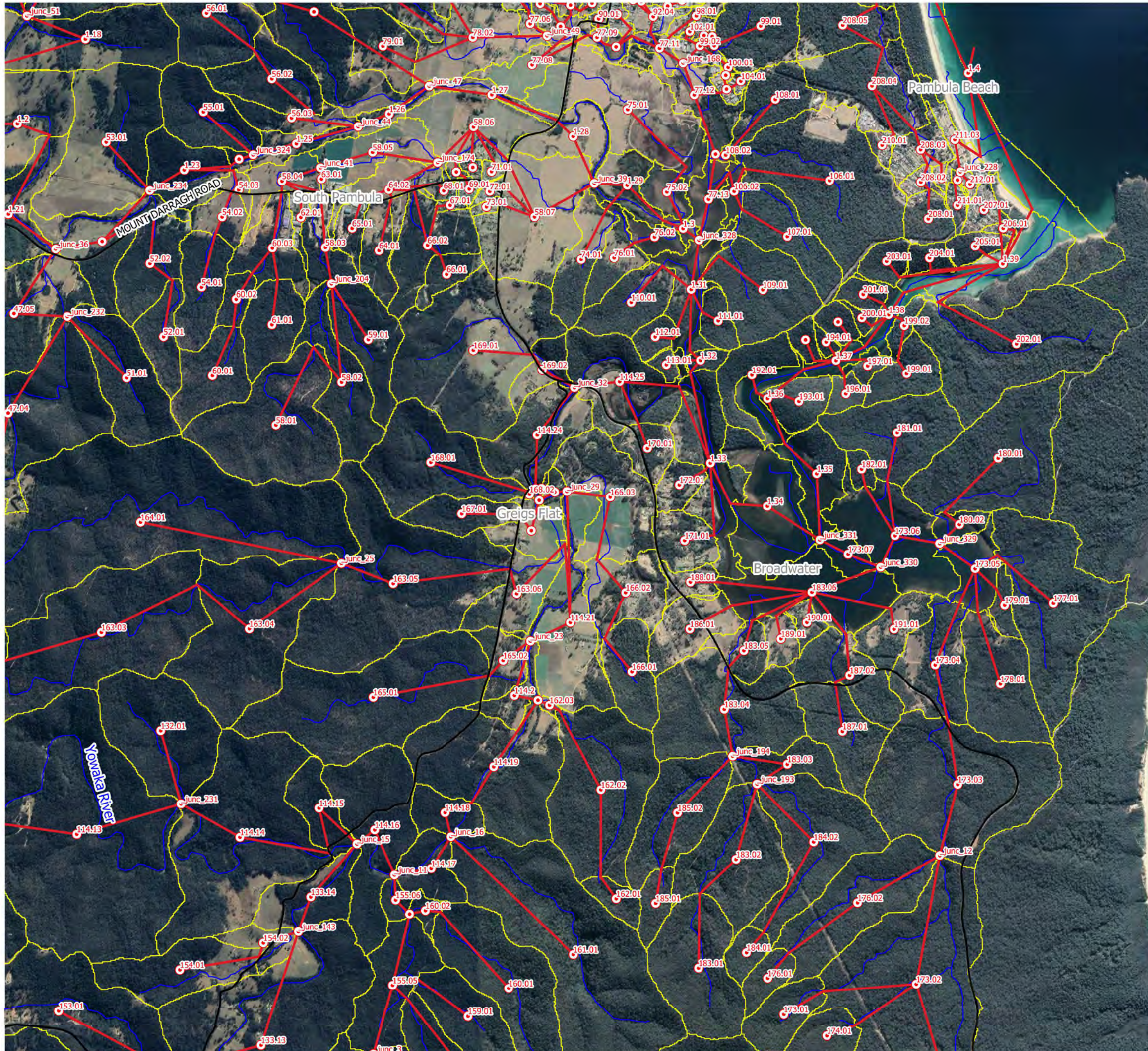
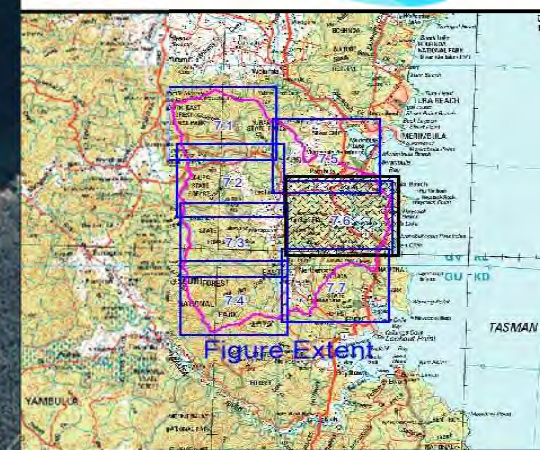
**Figure 7.5
XP-RAFTS Model
Layout**

Prepared By:






 **Catchment Simulation Solutions**
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Sydney, NSW 2000

File Name: Figure 7 XP-RAFTS Model Layout.qgs





LEGEND

-  Subcatchment Boundaries
-  XP - RAFTS Node
-  XP - RAFTS Link
-  Streams
-  Major Roads

Notes:
Aerial photograph: Google Satellite 2019

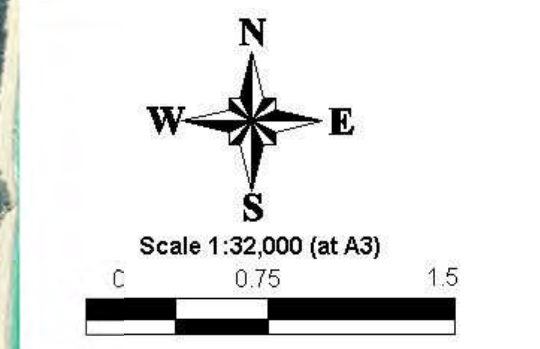
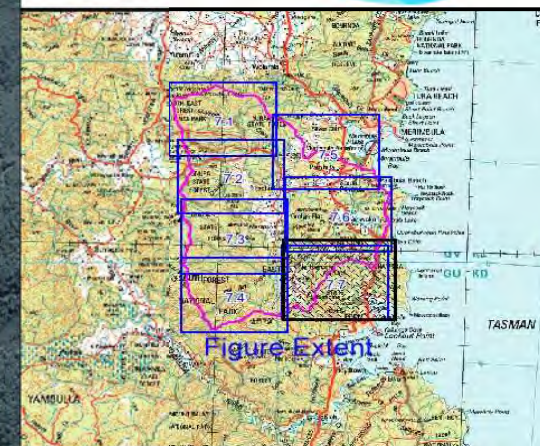


Figure 7.6
XP-RAFTS Model
Layout

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Sydney, NSW 2000

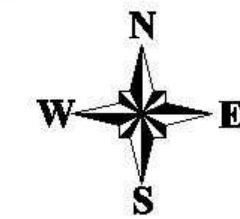
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LEGEND

-  Subcatchment Boundaries
-  XP - RAFTS Node
-  XP - RAFTS Link
-  Streams
-  Major Roads

Notes:
Aerial photograph: Google Satellite 2019



Scale 1:32,000 (at A3)

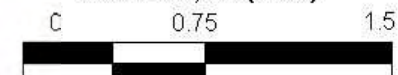
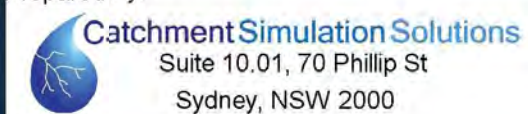


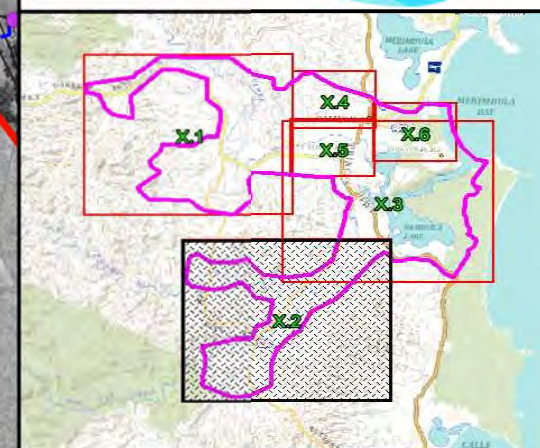
Figure 7.7
XP-RAFTS Model
Layout

Prepared By:











File Name: Figure 7 XP-RAFTS Model Layout.qgs





LEGEND

-  TUFLOW Model Extent
-  Gully Lines
- Hydraulic Structures
 -  Culverts
 -  Bridges
- Boundary Conditions
 -  Downstream Stage Boundary
 -  100.1 Total Inflow Location
 -  180.1 Local Inflow Location
- Stormwater
 -  Stormwater Pipe

Notes:
Aerial photograph: Google Satellite 2019

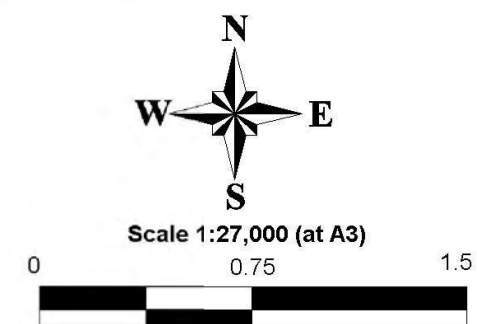
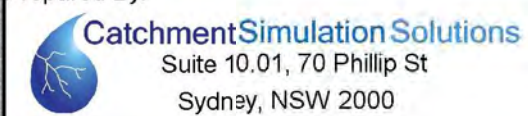
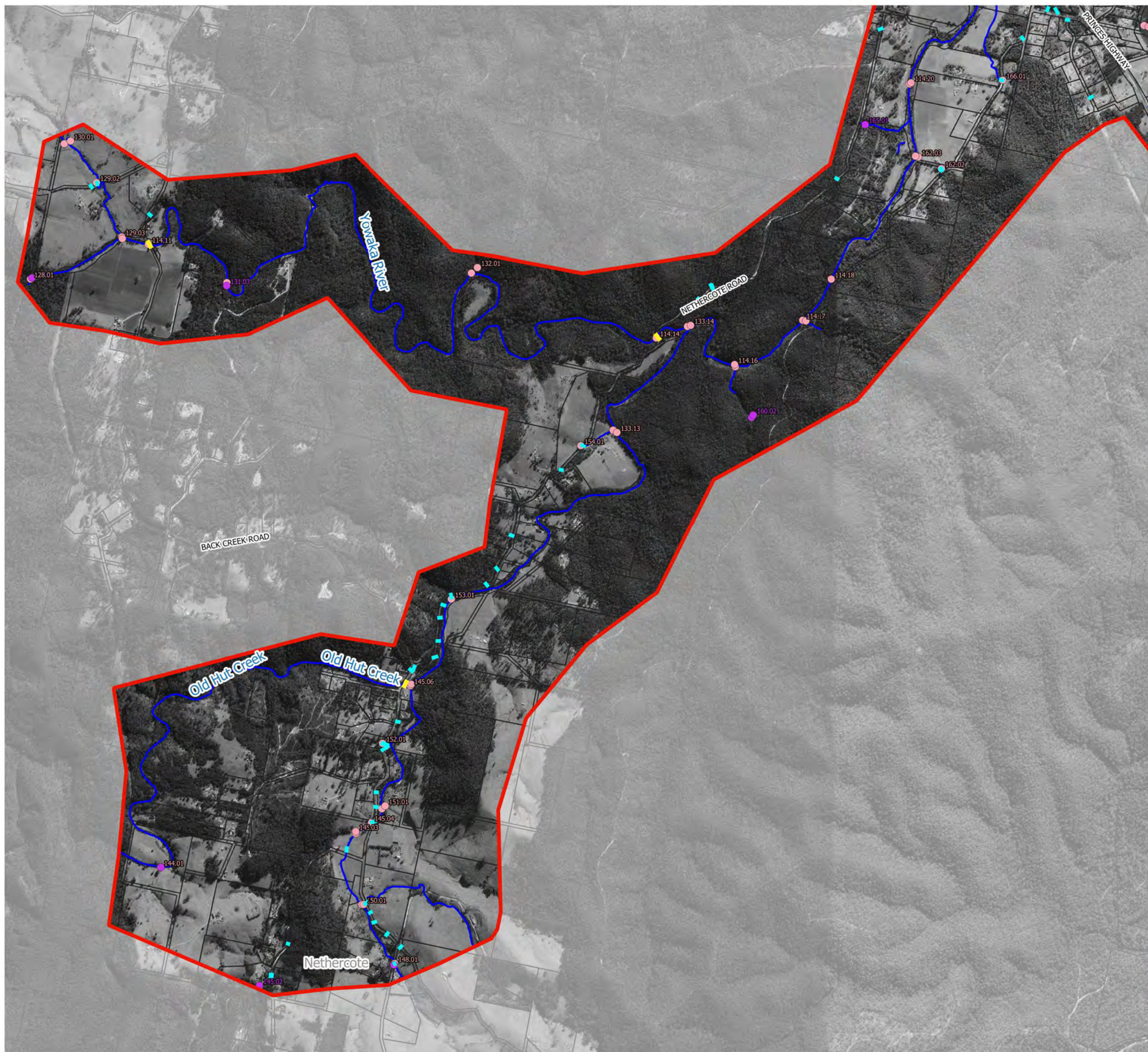


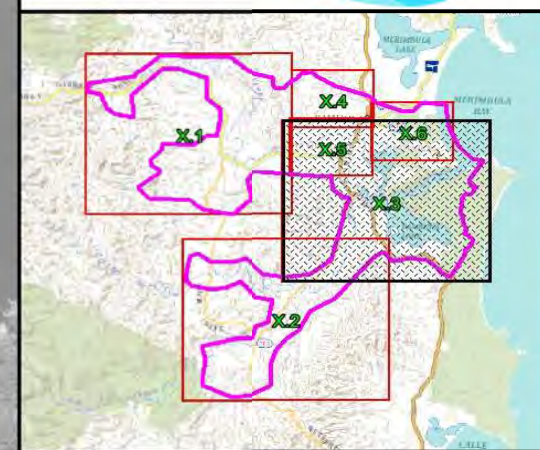
Figure 8.2
TUFLOW Model
Layout

Prepared By:



File Name: Figure 8 TUFLOW Model Layout





LEGEND

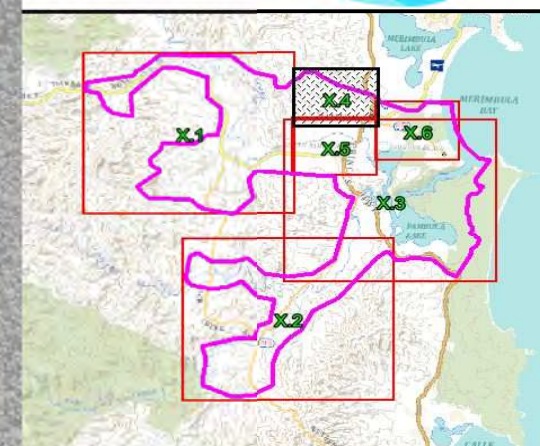
- TUFLOW Model Extent
- Gully Lines
- Hydraulic Structures
 - Culverts
 - Bridges
- Boundary Conditions
 - Downstream Stage Boundary
 - 100.1 Total Inflow Location
 - 180.1 Local Inflow Location
- Stormwater
 - Stormwater Pipe

Notes:
Aerial photograph: Google Satellite 2019

Scale 1:27,000 (at A3)

Figure 8.3
TUFLOW Model
Layout

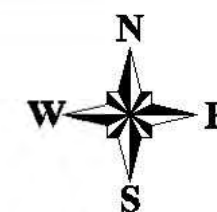
Prepared By:
Catchment Simulation Solutions
 Suite 10.01, 70 Phillip St
 Sydney, NSW 2000



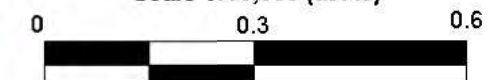
LEGEND

- ▭ TUFLOW Model Extent
- Gully Lines
- Hydraulic Structures
 - Culverts
 - Bridges
- Boundary Conditions
 - + + + Downstream Stage Boundary
 - 100.1 Total Inflow Location
 - 180.1 Local Inflow Location
- Stormwater
 - Stormwater Pipe

Notes:
Aerial photograph: Google Satellite 2019

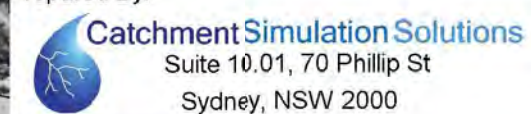


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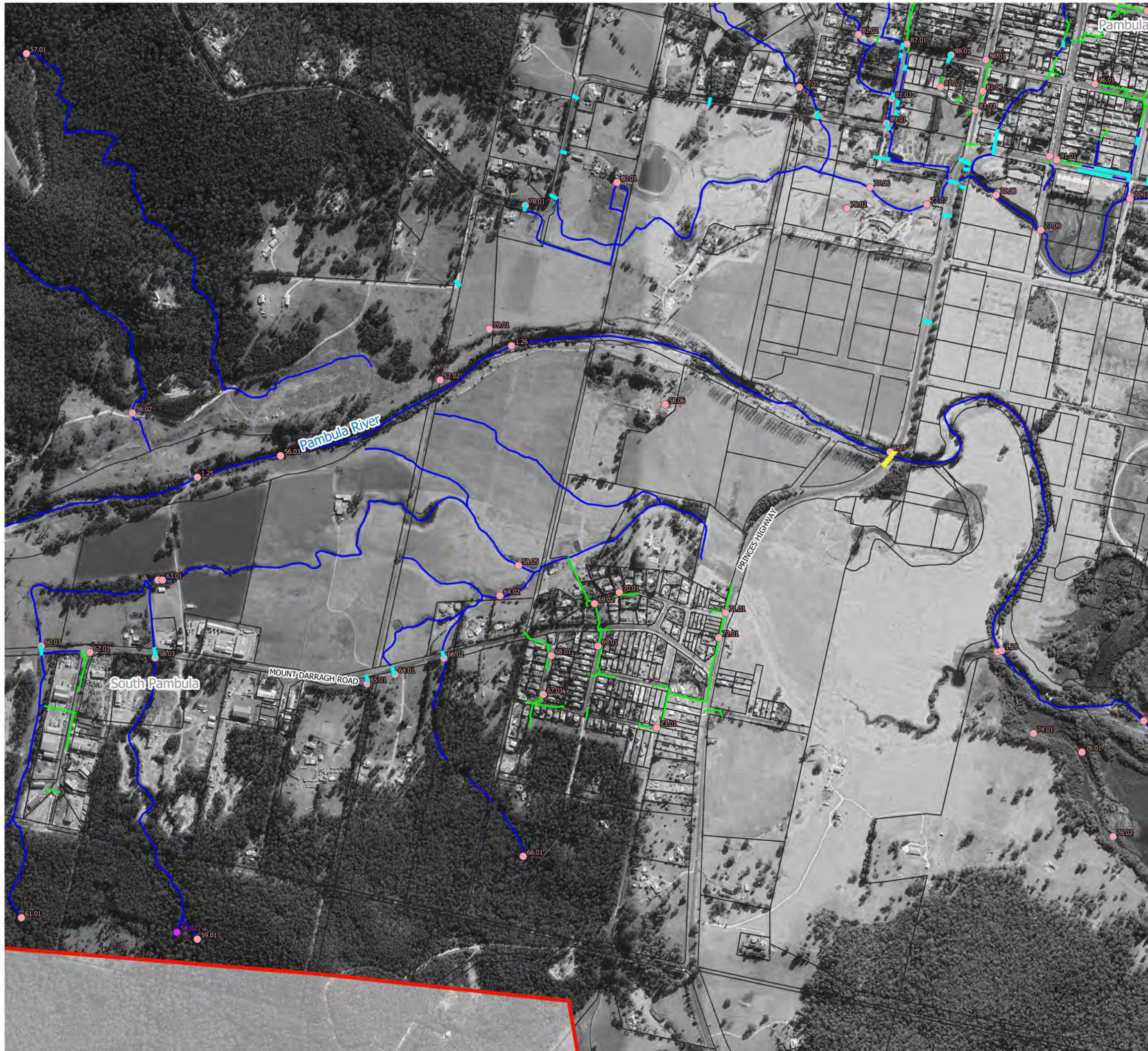
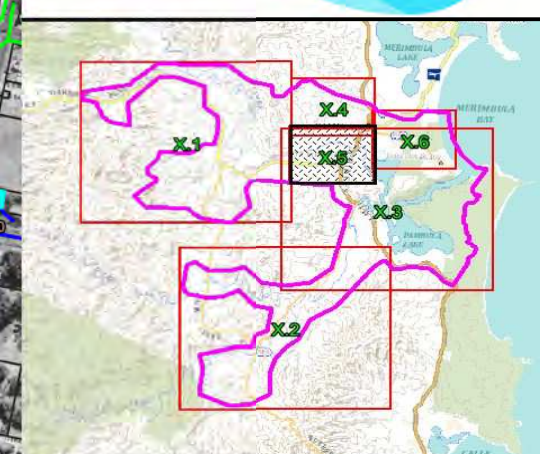
**Figure 8.4
TUFLOW Model
Layout**

Prepared By:



File Name: Figure 8 TUFLOW Model Layout

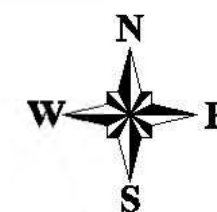




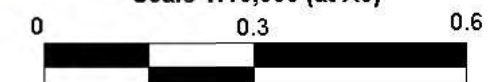
LEGEND

- TUFLOW Model Extent
- Gully Lines
- Hydraulic Structures
 - Culverts
 - Bridges
- Boundary Conditions
 - Downstream Stage Boundary
 - 100.1 Total Inflow Location
 - 100.1 Local Inflow Location
- Stormwater
 - Stormwater Pipe

Notes:
Aerial photograph: Google Satellite 2019




Scale 1:10,000 (at A3)

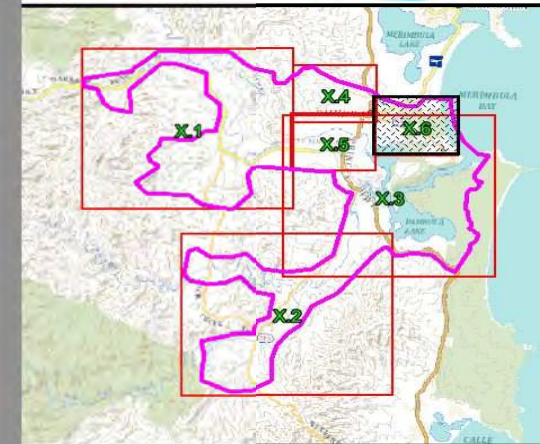


**Figure 8.5
TUFLOW Model
Layout**

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File Name: Figure 8 TUFLOW Model Layout



LEGEND

- TUFLOW Model Extent
- Gully Lines
- Hydraulic Structures
 - Culverts
 - Bridges
- Boundary Conditions
 - Downstream Stage Boundary
 - 100.1 Total Inflow Location
 - 180.1 Local Inflow Location
- Stormwater
 - Stormwater Pipe

Notes:
Aerial photograph: Google Satellite 2019

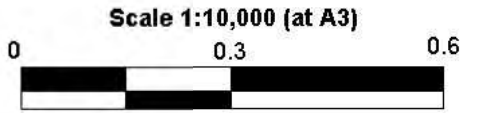


Figure 8.6
TUFLOW Model
Layout

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File Name: Figure 8 TUFLOW Model Layout

