



Technical and Approvals Consultancy Services: Parkes to Narromine

Flood Study Report Volume 2

December 2018

3-0001-240-IHY-00-RP-0004



Appendix A

Existing Conditions Flood Maps

A01 - Existing Flood Depth 18% AEP

A02 – Existing Flood Depth 5% AEP

A03 – Existing Flood Depth 2% AEP

A04 – Existing Flood Depth 0.05% AEP

A05 – Existing Flood Velocity 18% AEP

A06 – Existing Flood Velocity 5% AEP

A07 – Existing Flood Velocity 2% AEP

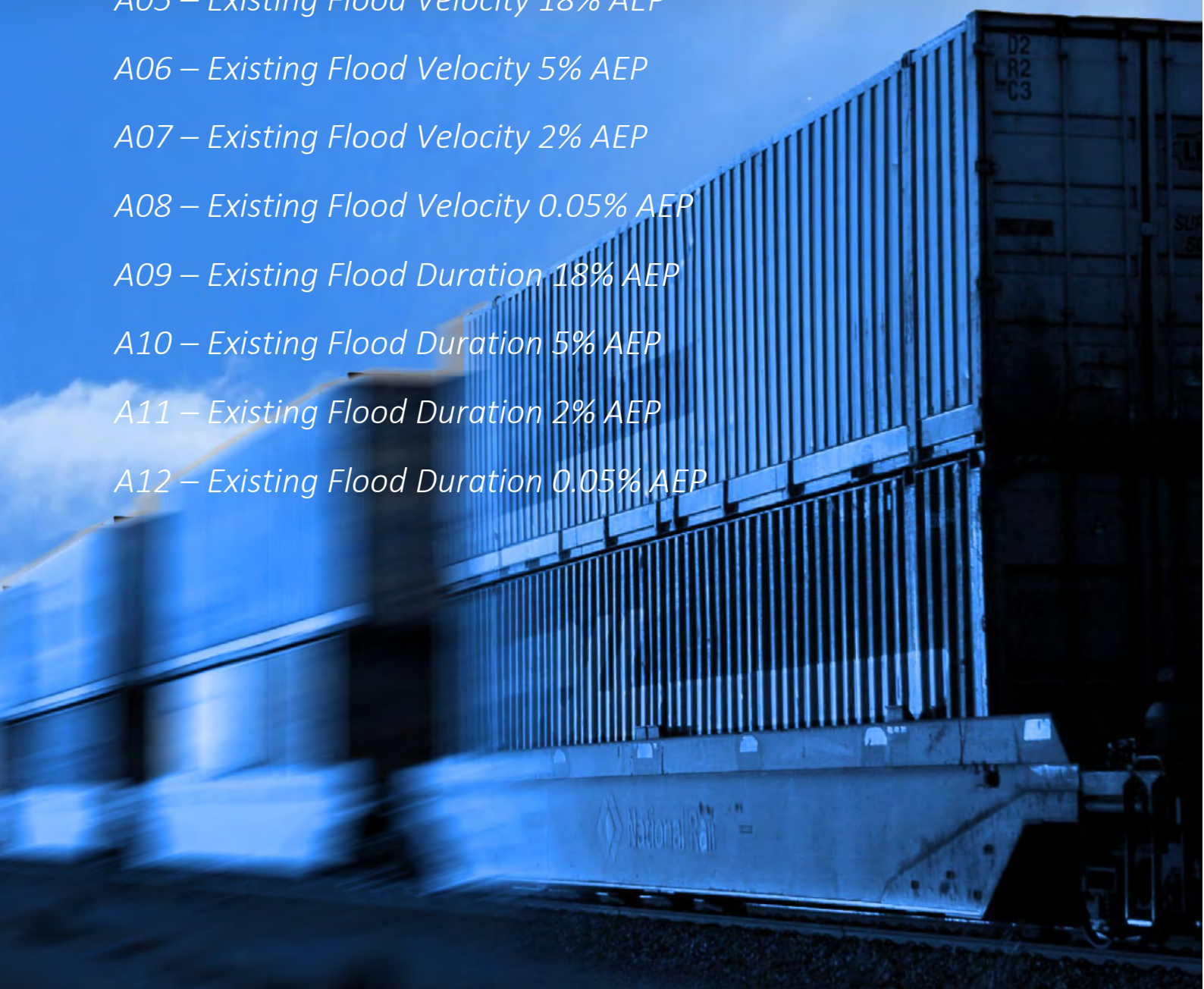
A08 – Existing Flood Velocity 0.05% AEP

A09 – Existing Flood Duration 18% AEP

A10 – Existing Flood Duration 5% AEP

A11 – Existing Flood Duration 2% AEP

A12 – Existing Flood Duration 0.05% AEP



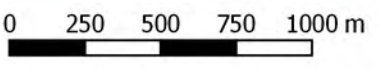


Legend

- Rail Alignment
- Newell Hwy Upgrade
- Road Crossings
- Culverts
- Existing Bridges
- Property Boundaries

Existing Flood Velocity (m/s):

- <= 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0



1:25,000

Coordinate system: GDA 1994 MGA Zone 55
 Inset Aerial Source: NSW Six Map
 Scale ratio correct when printed at A3



Date: 19/10/2018

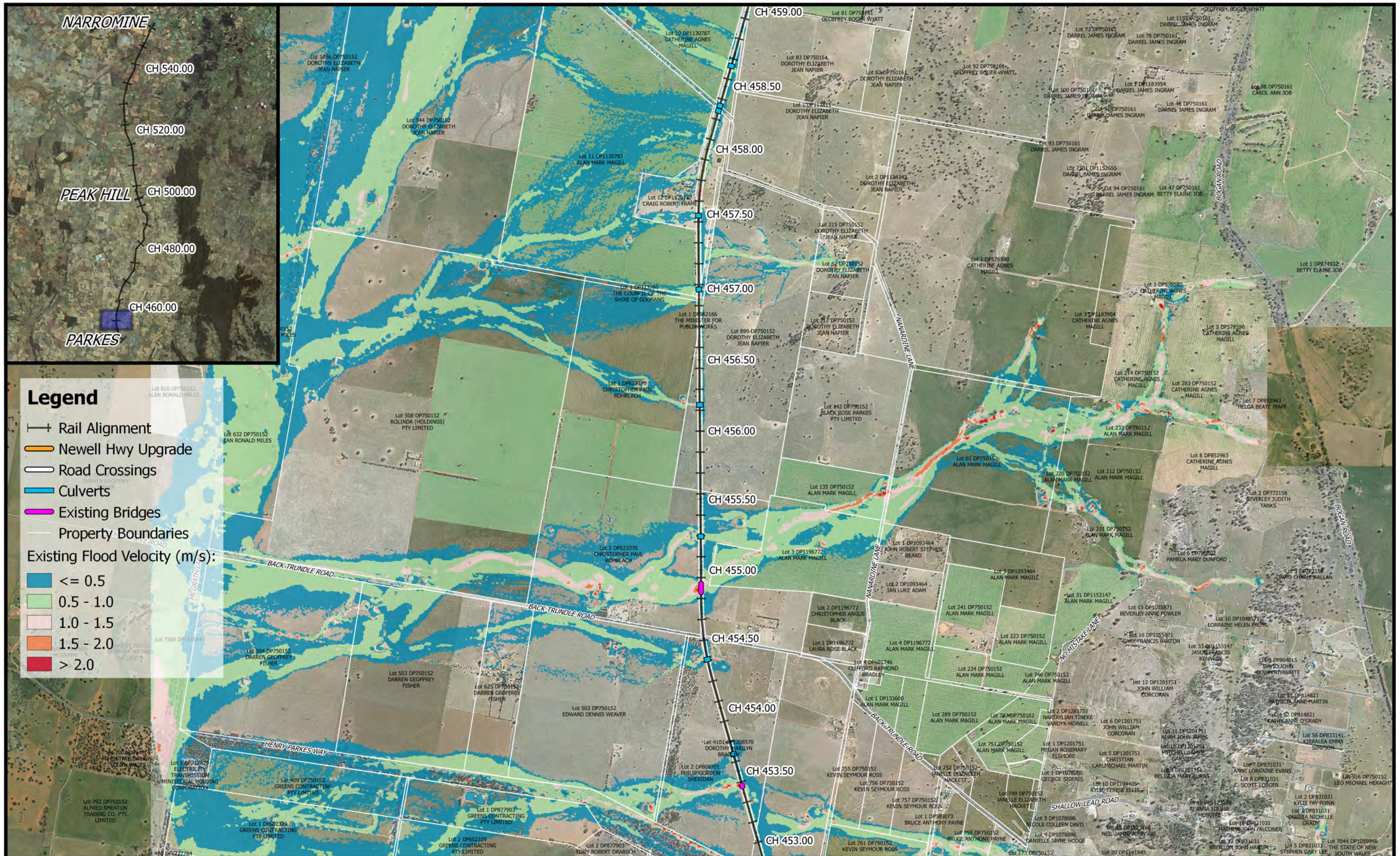
Rev: B

Prepared By: YeohM

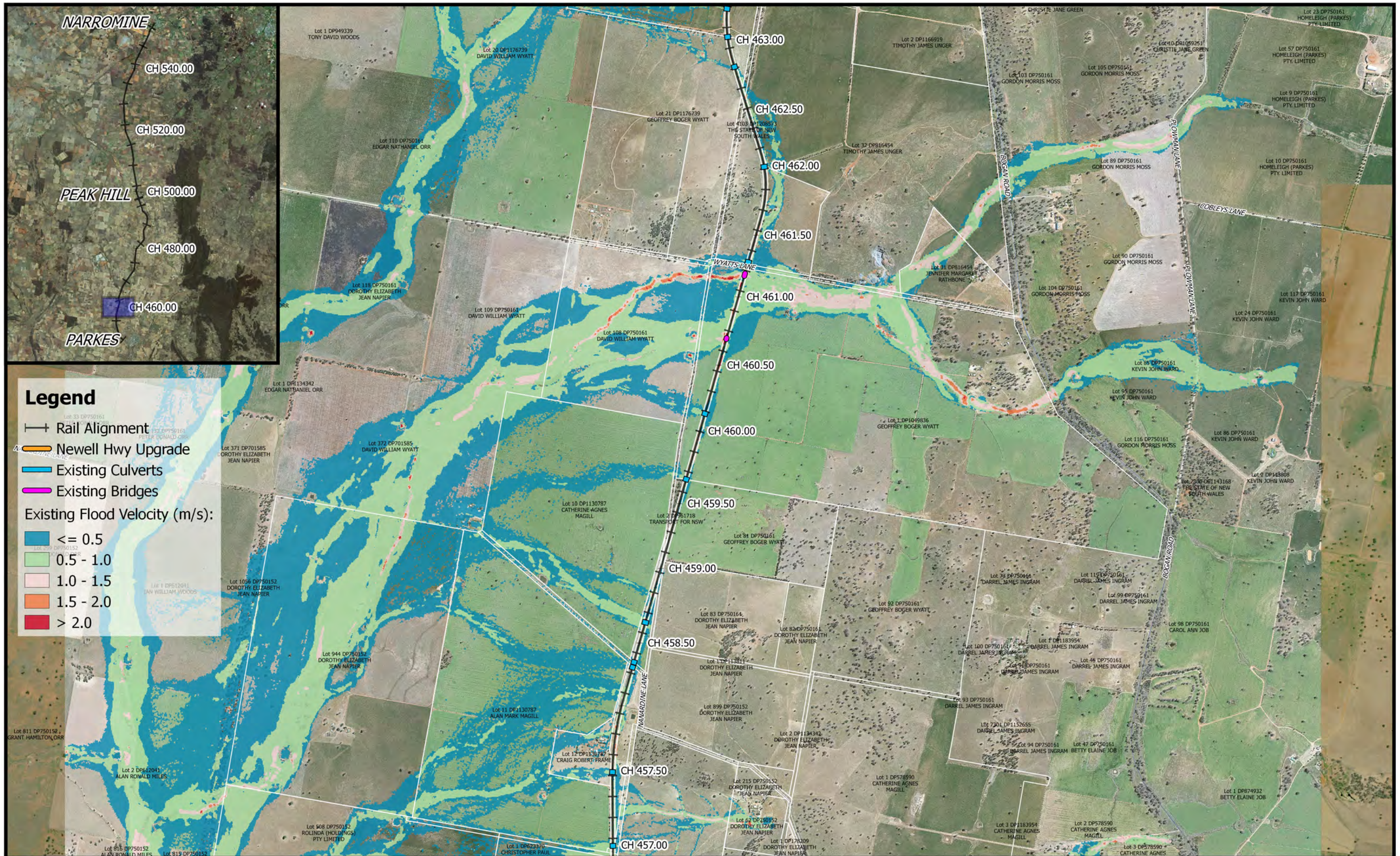
Inland Rail - Parkes to Narromine
 DD100% - Cross Drainage Flood Impact Assessment Results

Figure EX5V1
 5% AEP Existing Flood Velocity - CH 450.00

E:\2\dsynergy\2\IR_P2N_1\01\WIP\Flooding and Drainage\GIS Mapping\Individual Property Maps\Maping_Full_Project.ags - 2.18.21



			Date: 19/10/2018	Inland Rail - Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results
	1:25,000		Rev: B	
	Coordinate system: GDA 1994 MGA Zone 55 Inset Aerial Source: NSW Six Map Scale ratio correct when printed at A3		Prepared By: YeohM	



Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- ≤ 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

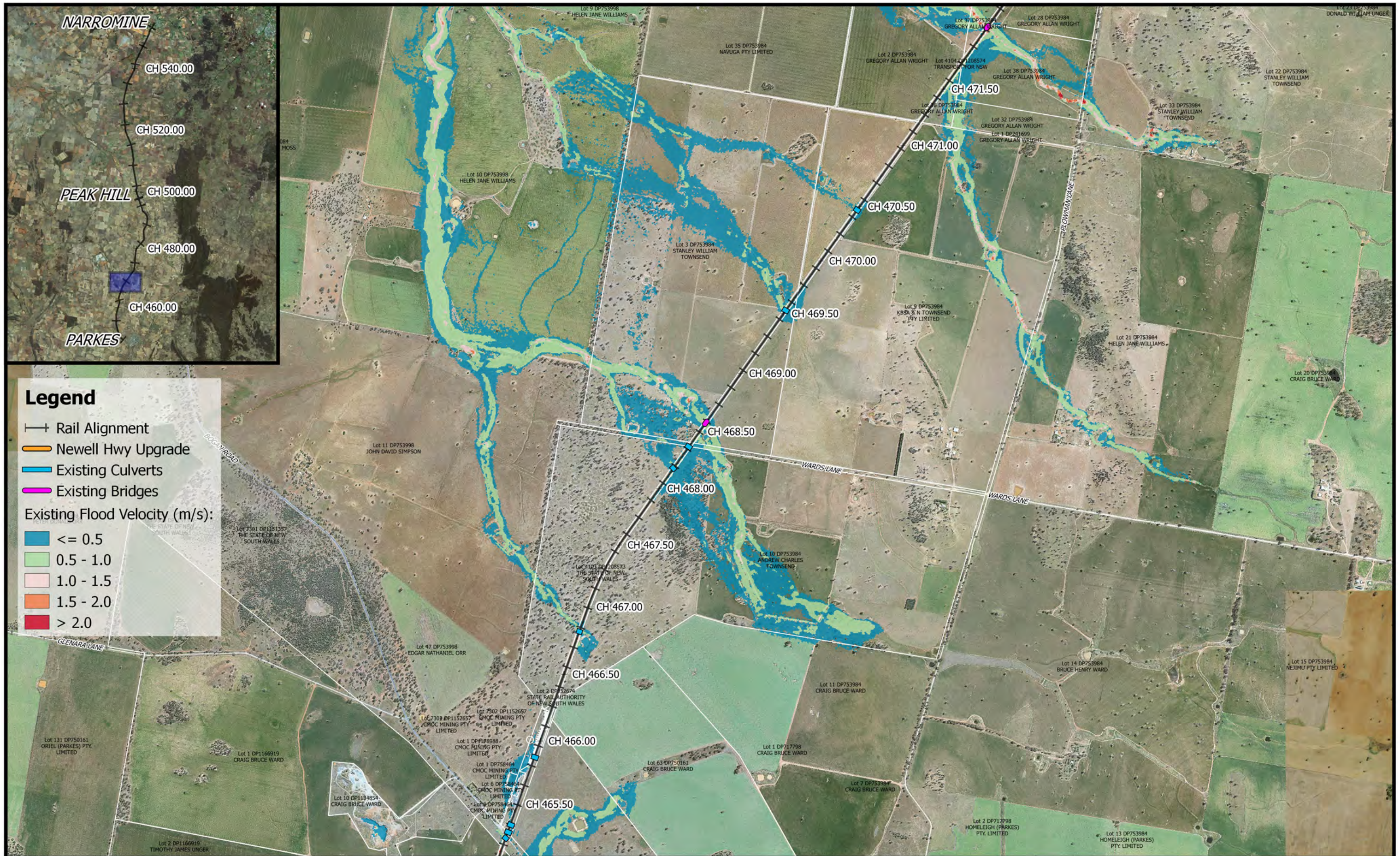
	<p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 19/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V3 5% AEP Existing Flood Velocity - CH 460.00</p>
	Rev: A			
	Prepared By: YeohM			



Legend

- Rail Alignment
 - Newell Hwy Upgrade
 - Existing Culverts
 - Existing Bridges
- Existing Flood Velocity (m/s):
- ≤ 0.5
 - 0.5 - 1.0
 - 1.0 - 1.5
 - 1.5 - 2.0
 - > 2.0

	<p>1:25,000</p>		Date: 19/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V4 5% AEP Existing Flood Velocity - CH 465.00</p>	
	<p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Rev: A		
	<p>Prepared By: YeohM</p>				



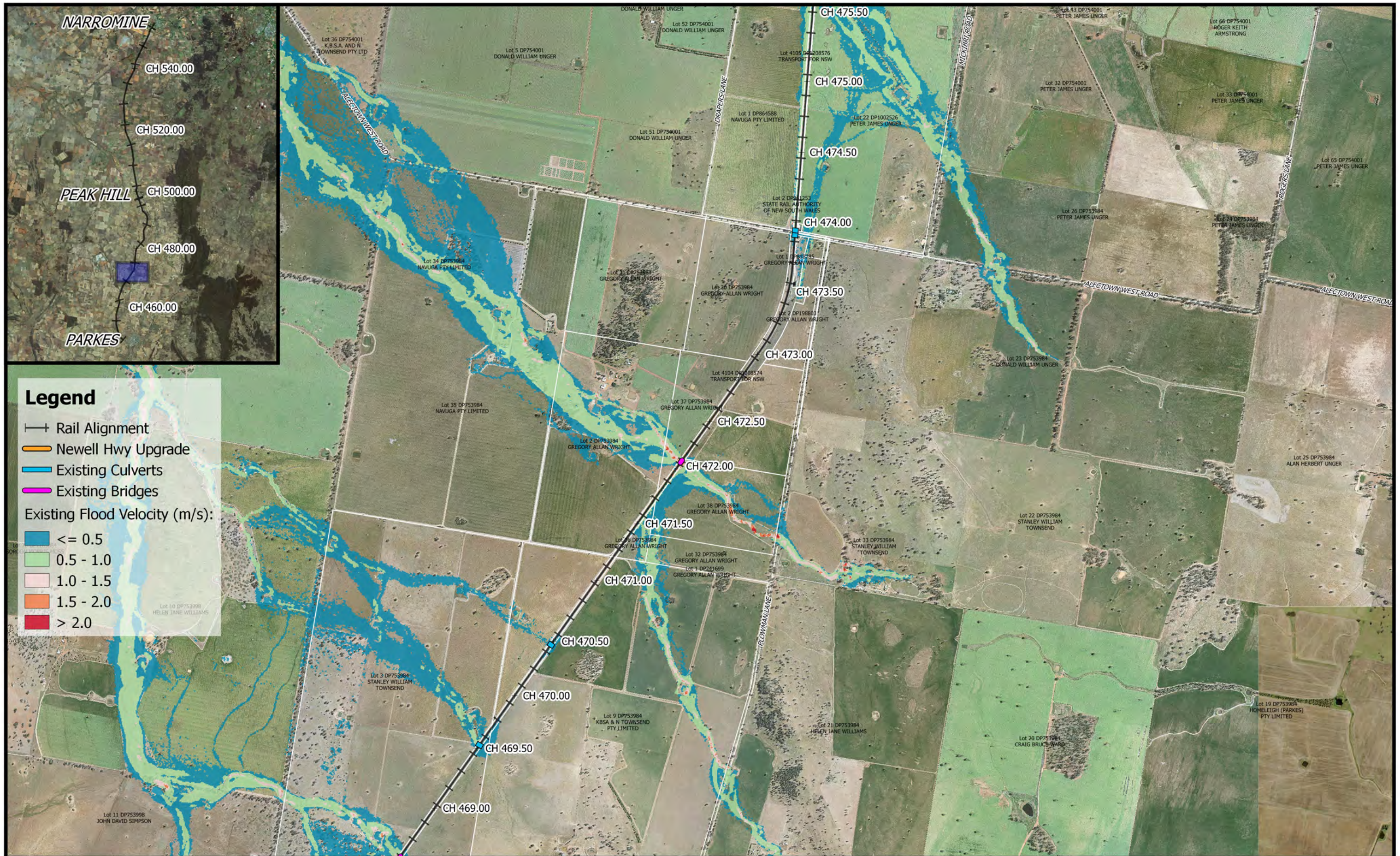
Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- Blue: <= 0.5
- Light Green: 0.5 - 1.0
- Yellow: 1.0 - 1.5
- Orange: 1.5 - 2.0
- Red: > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 19/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V5 5% AEP Existing Flood Velocity - CH 470.00</p>
	Rev: A			
	Prepared By: YeohM			



Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

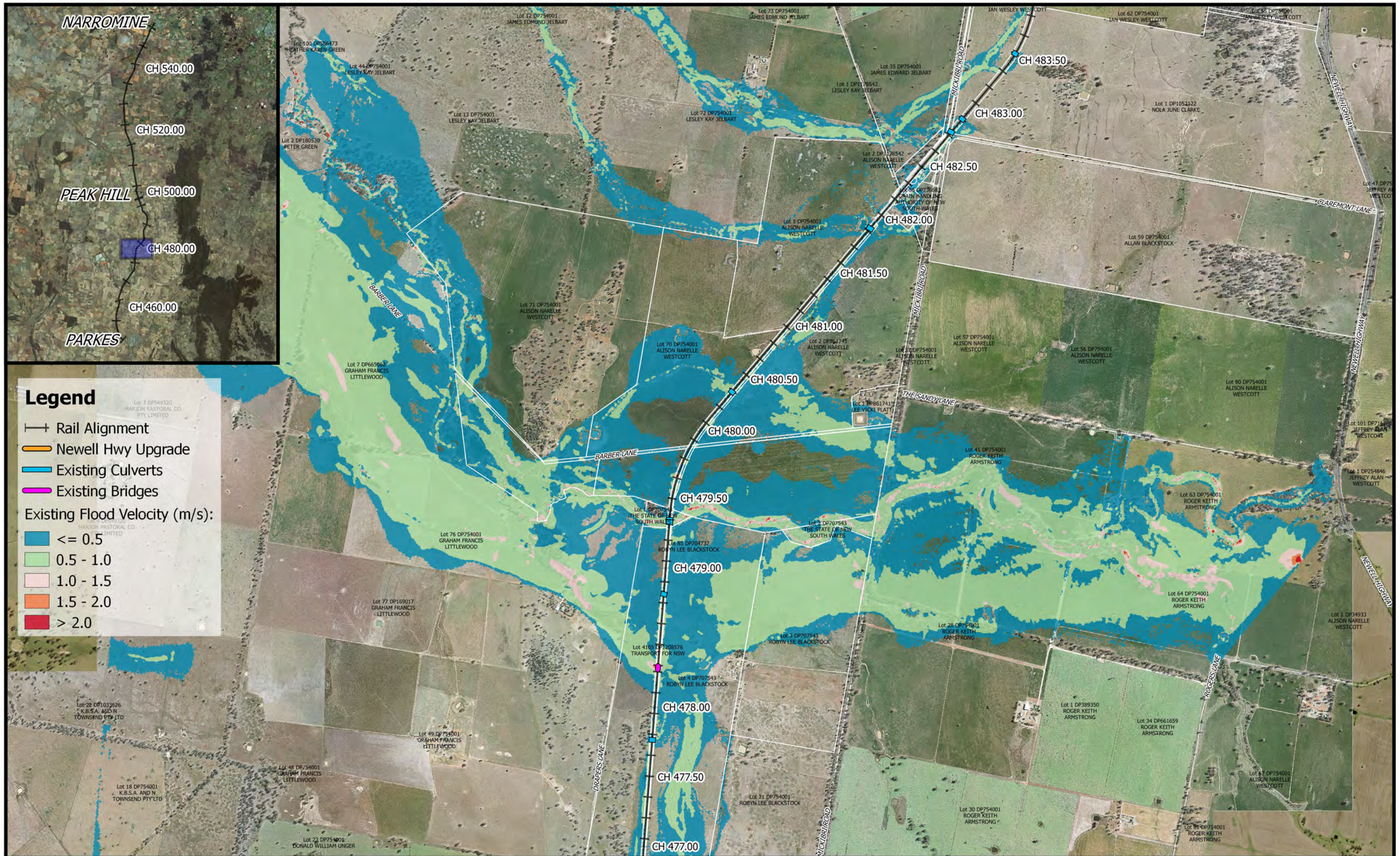
Existing Flood Velocity (m/s):

- Blue: ≤ 0.5
- Light Green: 0.5 - 1.0
- Light Orange: 1.0 - 1.5
- Orange: 1.5 - 2.0
- Red: > 2.0

	<p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 19/7/2018	<p>Parkes to Narromine</p> <p>DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V6</p> <p><i>5% AEP Existing Flood Velocity - CH 472.00</i></p>
	Rev: A		Prepared By: YeohM	



	0 250 500 750 1000 m 1:25,000		Date: 19/7/2018	Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results Figure EX5V7 5% AEP Existing Flood Velocity - CH 475.00
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			



Legend

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- <= 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

	<p>1:25,000</p>		Date: 19/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V8 5% AEP Existing Flood Velocity - CH 480.00</p>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			



Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- ≤ 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0



0 250 500 750 1000 m

1:25,000

Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3



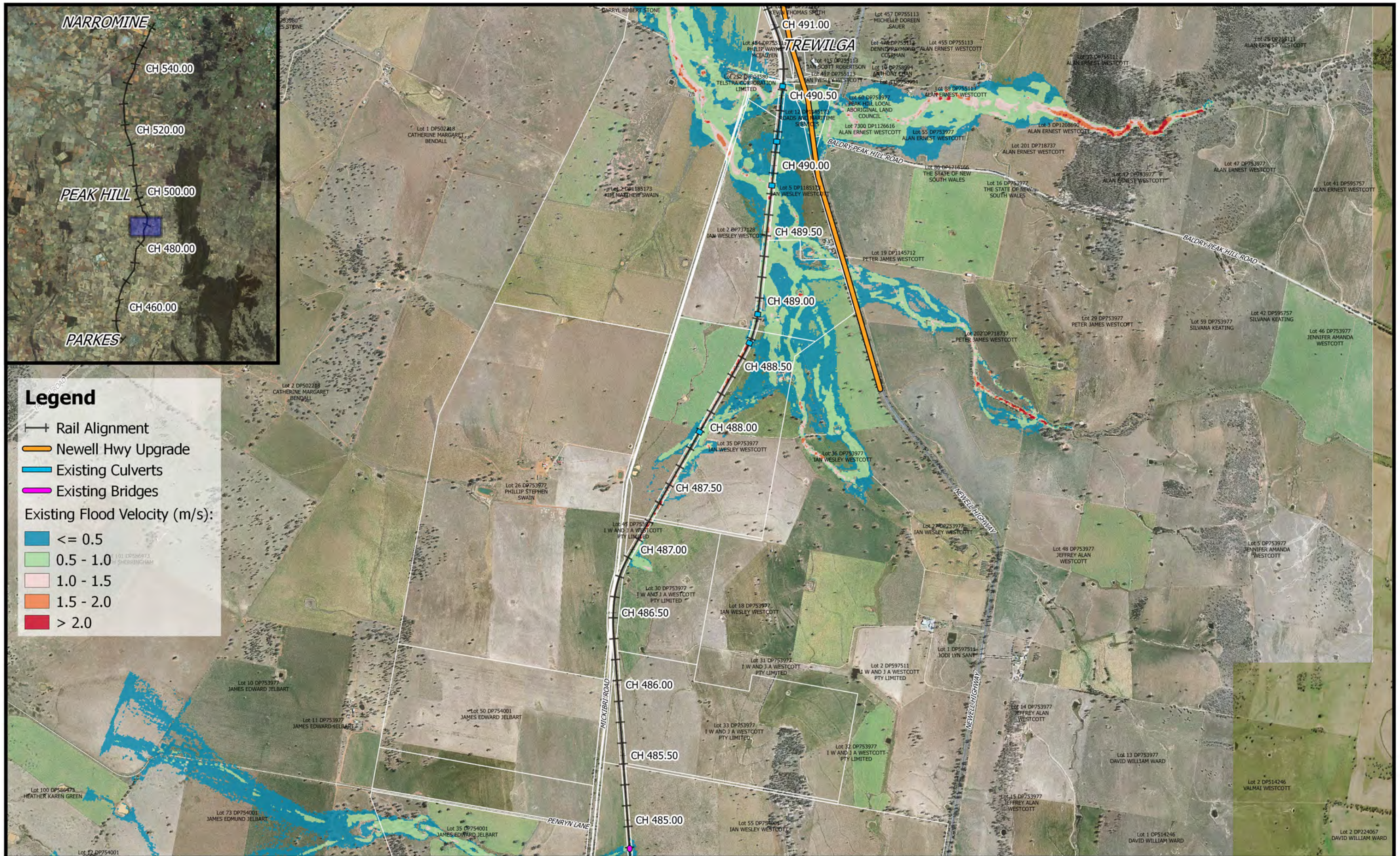
Date: 19/7/2018

Rev: A

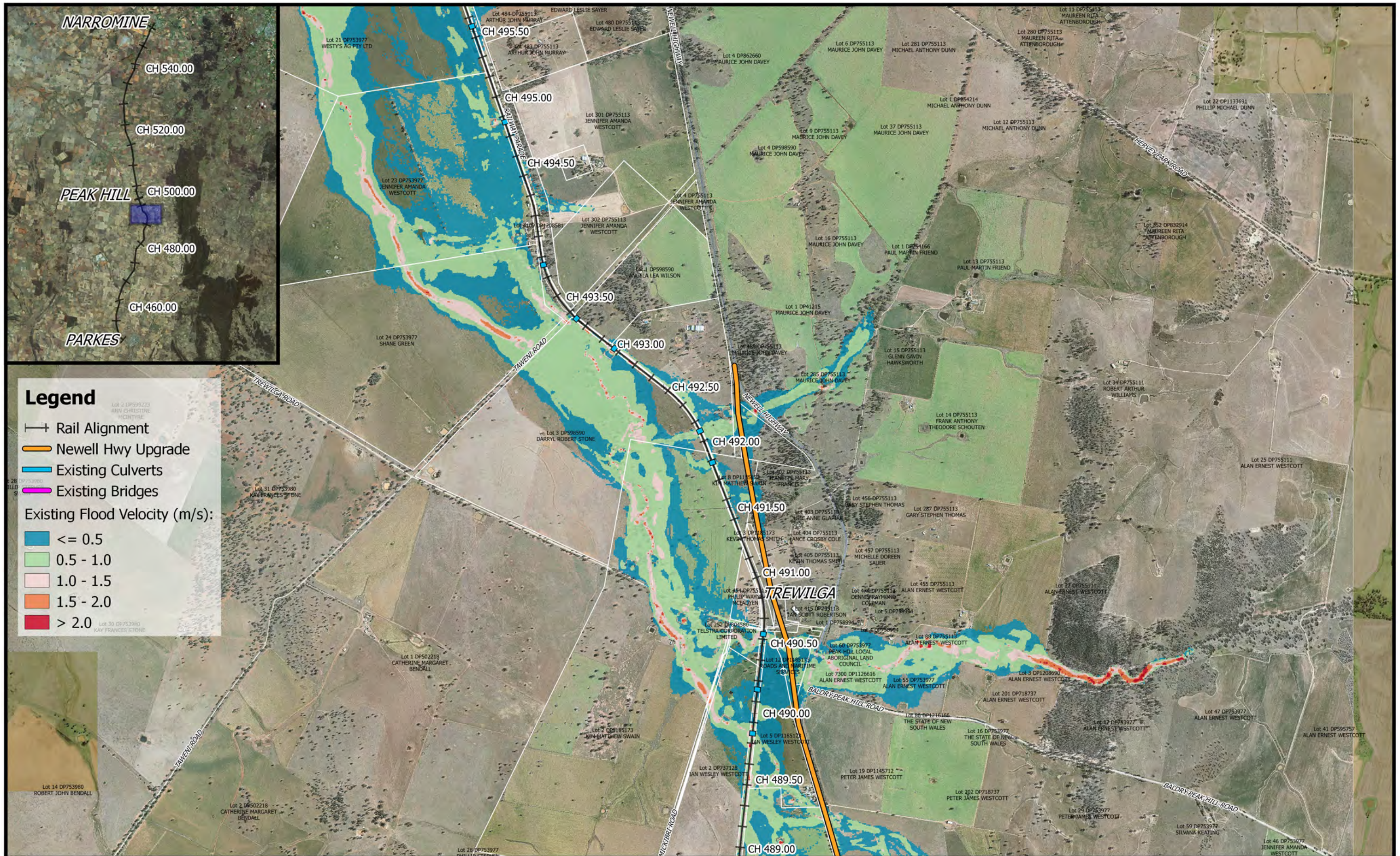
Prepared By: YeohM

Parkes to Narromine
DD100% - Cross Drainage Flood Impact Assessment Results

Figure EX5V9
5% AEP Existing Flood Velocity - CH 485.00



			Date: 19/7/2018	Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results Figure EX5V10 5% AEP Existing Flood Velocity - CH 490.00
	1:25,000		Rev: A	
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Prepared By: YeohM	



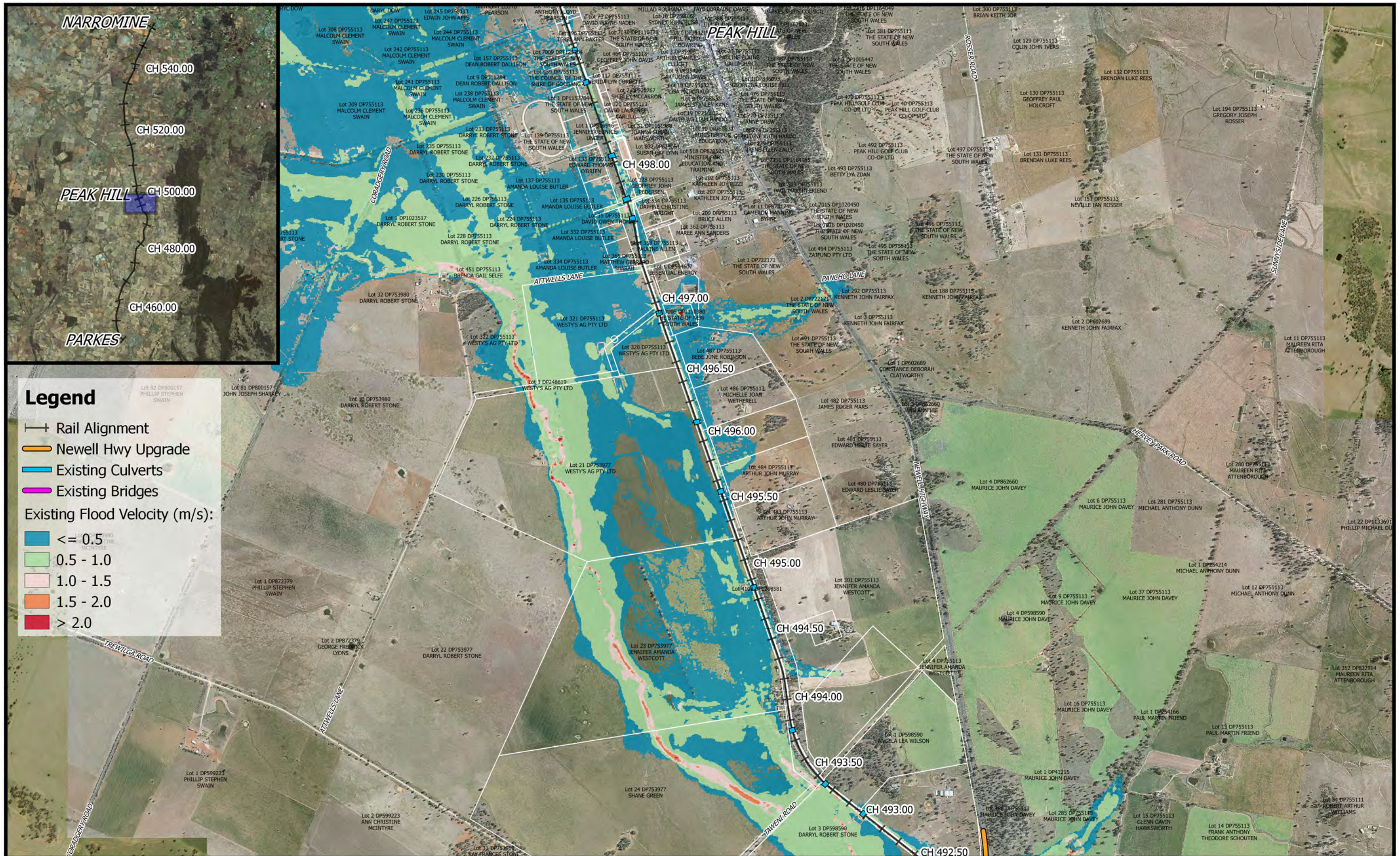
Legend

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- <= 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 19/7/2018	<p>Parkes to Narromine</p> <p>DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V11</p> <p><i>5% AEP Existing Flood Velocity - CH 492.00</i></p>
	Rev: A			
	Prepared By: YeohM			



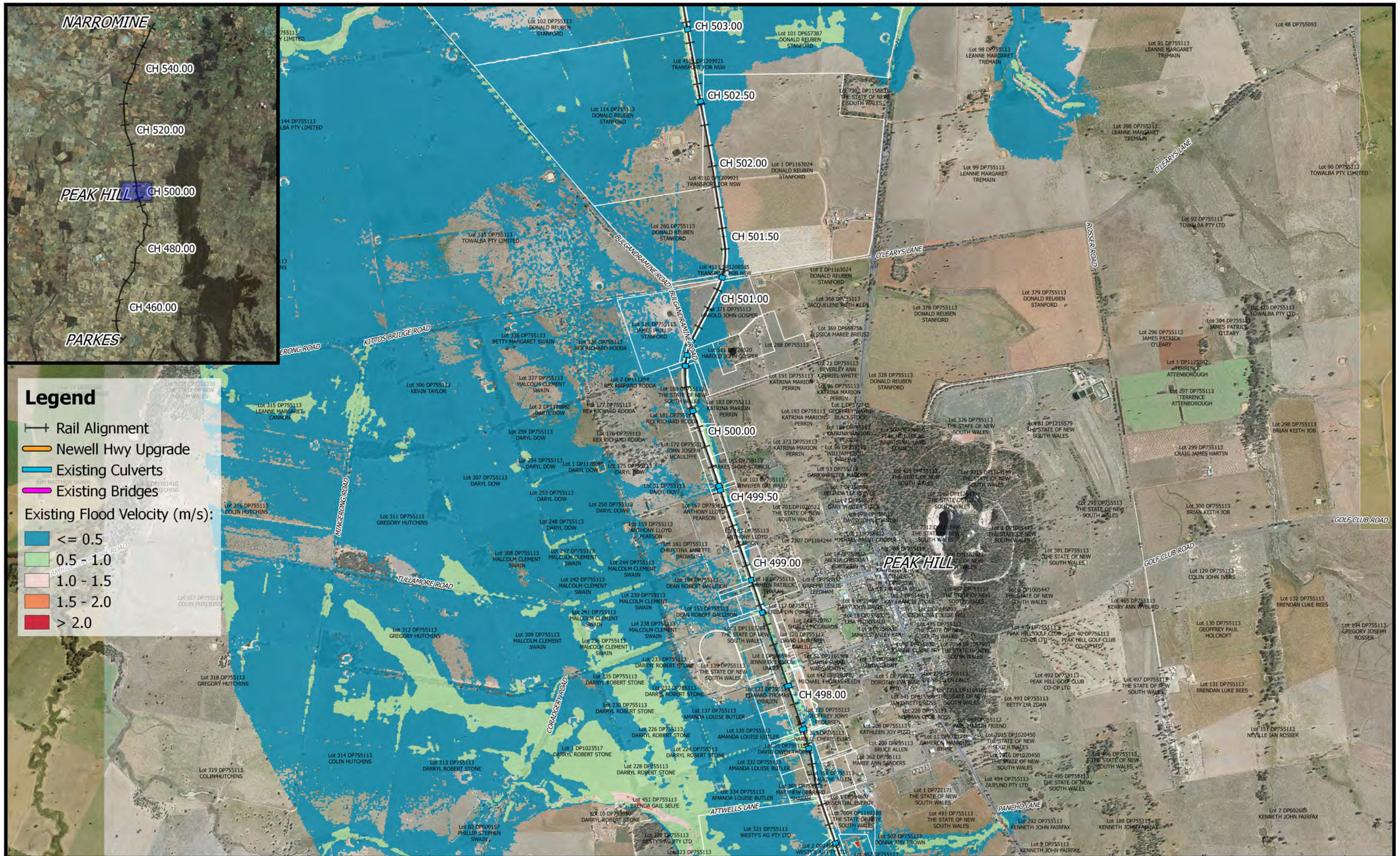
Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- Blue: ≤ 0.5
- Light Green: 0.5 - 1.0
- Yellow: 1.0 - 1.5
- Orange: 1.5 - 2.0
- Red: > 2.0

	 1:25,000		Date: 19/7/2018	Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results Figure EX5V12 <i>5% AEP Existing Flood Velocity - CH 495.00</i>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			



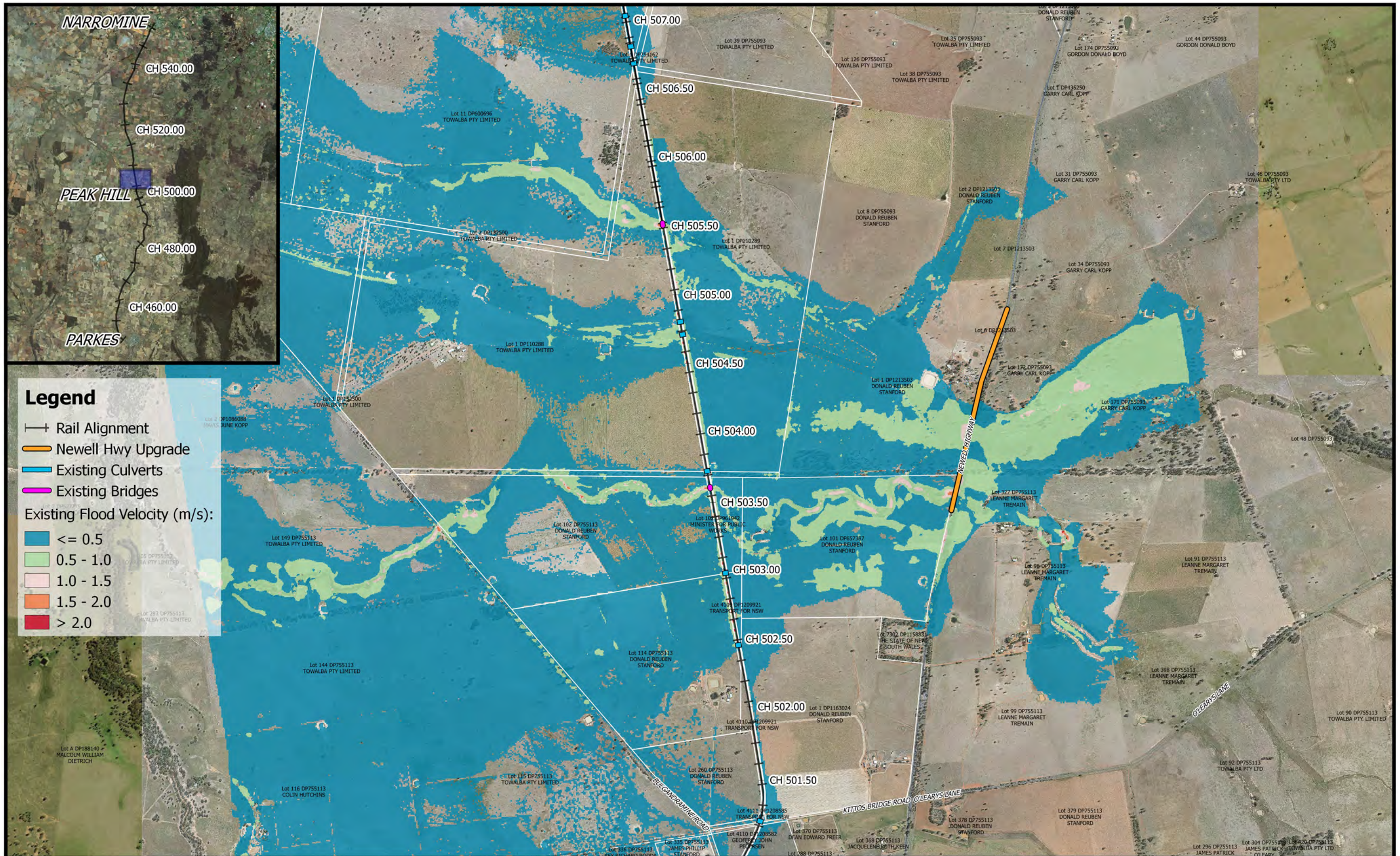
Legend

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- ≤ 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p>		Date: 19/7/2018	<p>Parkes to Narromine</p> <p>DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V13</p> <p><i>5% AEP Existing Flood Velocity - CH 500.00</i></p>
	Coordinate system: GDA 1994 MGA Zone 55		Rev: A	
	Scale ratio correct when printed at A3		Prepared By: YeohM	



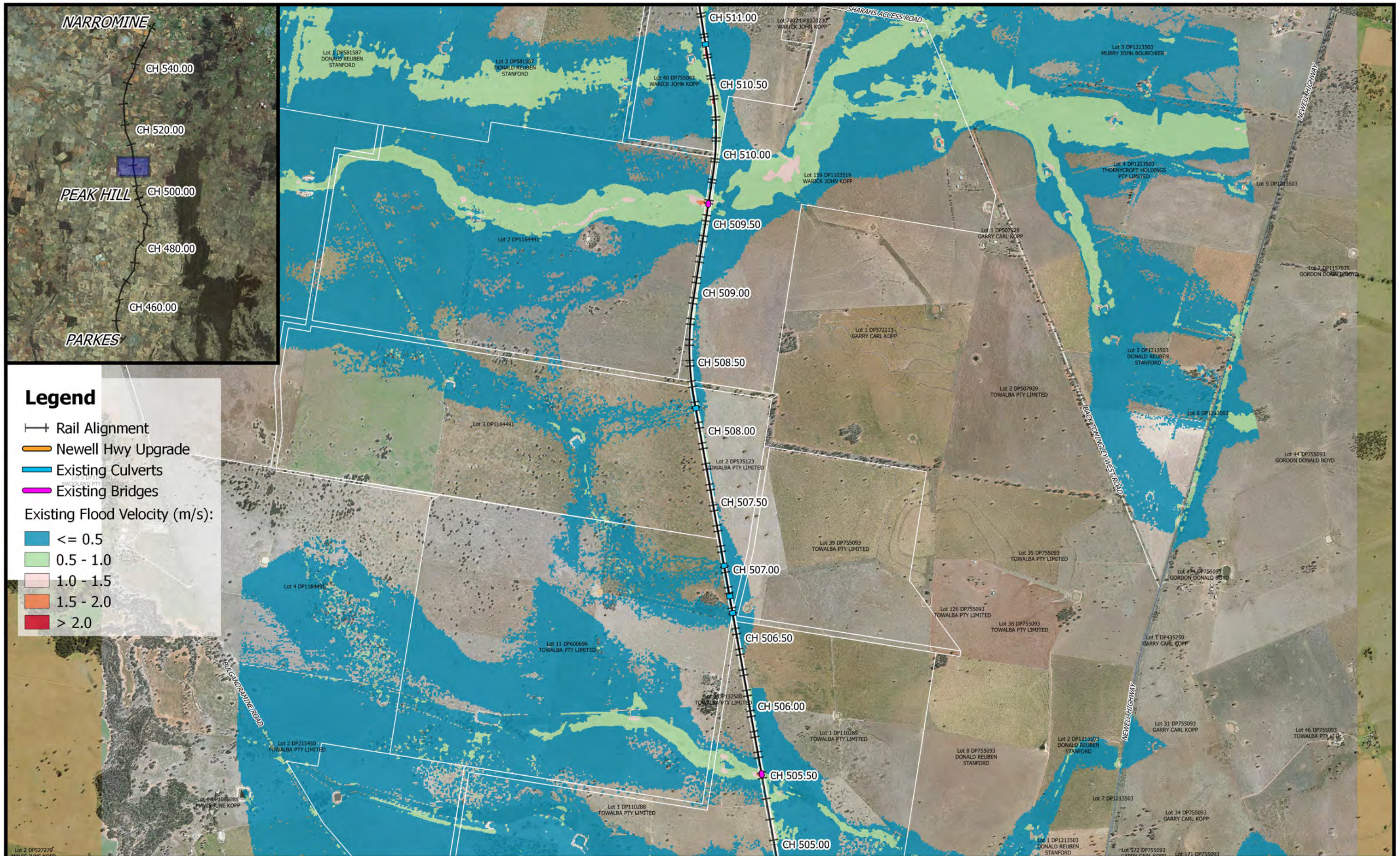
Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- ≤ 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		<p>Date: 19/7/2018</p>	<p style="text-align: right;">Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p style="text-align: right;">Figure EX5V14 5% AEP Existing Flood Velocity - CH 505.00</p>
	<p>Rev: A</p>			
	<p>Prepared By: YeohM</p>			



Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- Blue: <= 0.5
- Light Green: 0.5 - 1.0
- Pink: 1.0 - 1.5
- Orange: 1.5 - 2.0
- Red: > 2.0



0 250 500 750 1000 m

1:25,000

Coordinate system: GDA 1994 MGA Zone 55
Scale ratio correct when printed at A3



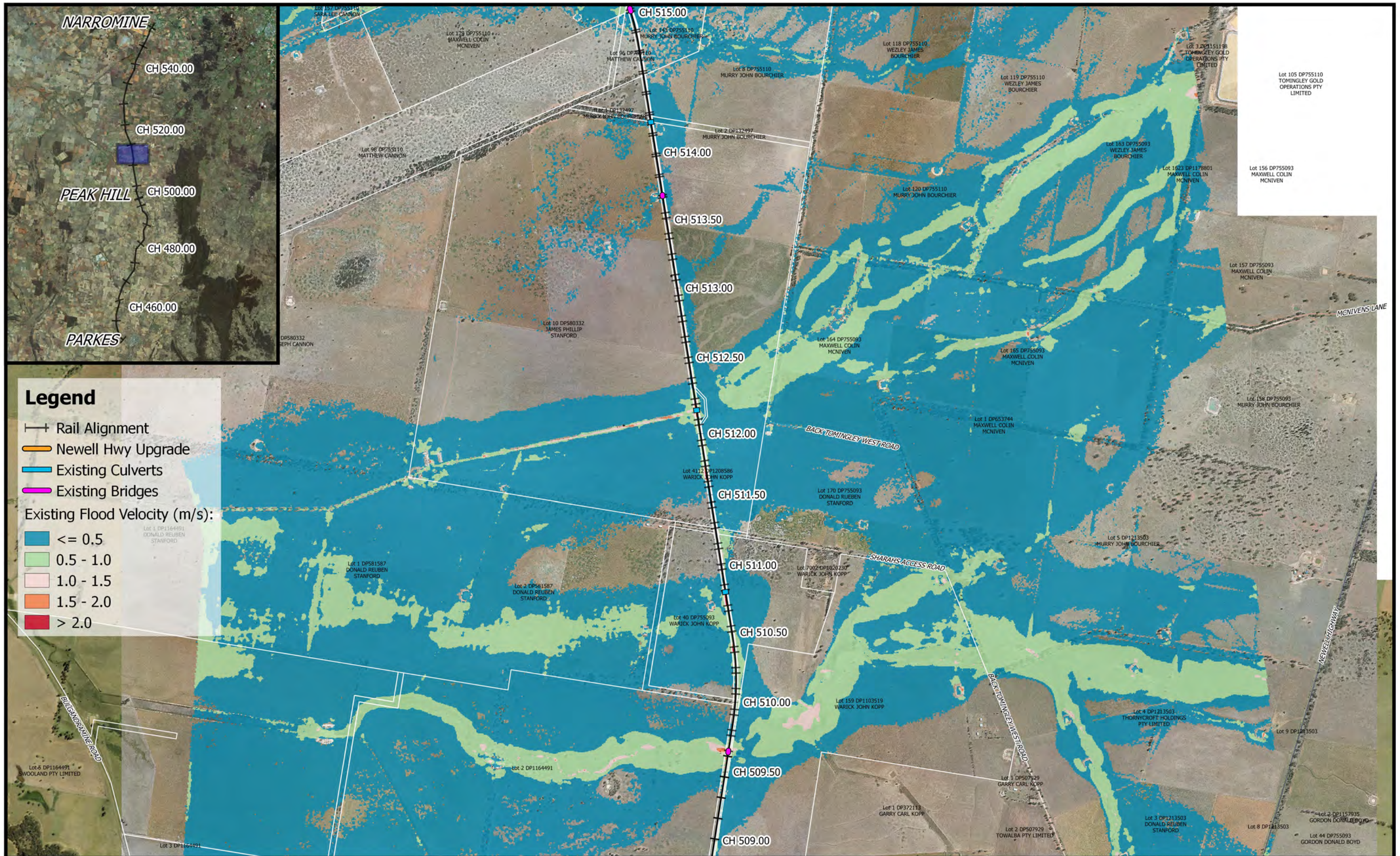
Date: 19/7/2018

Rev: A

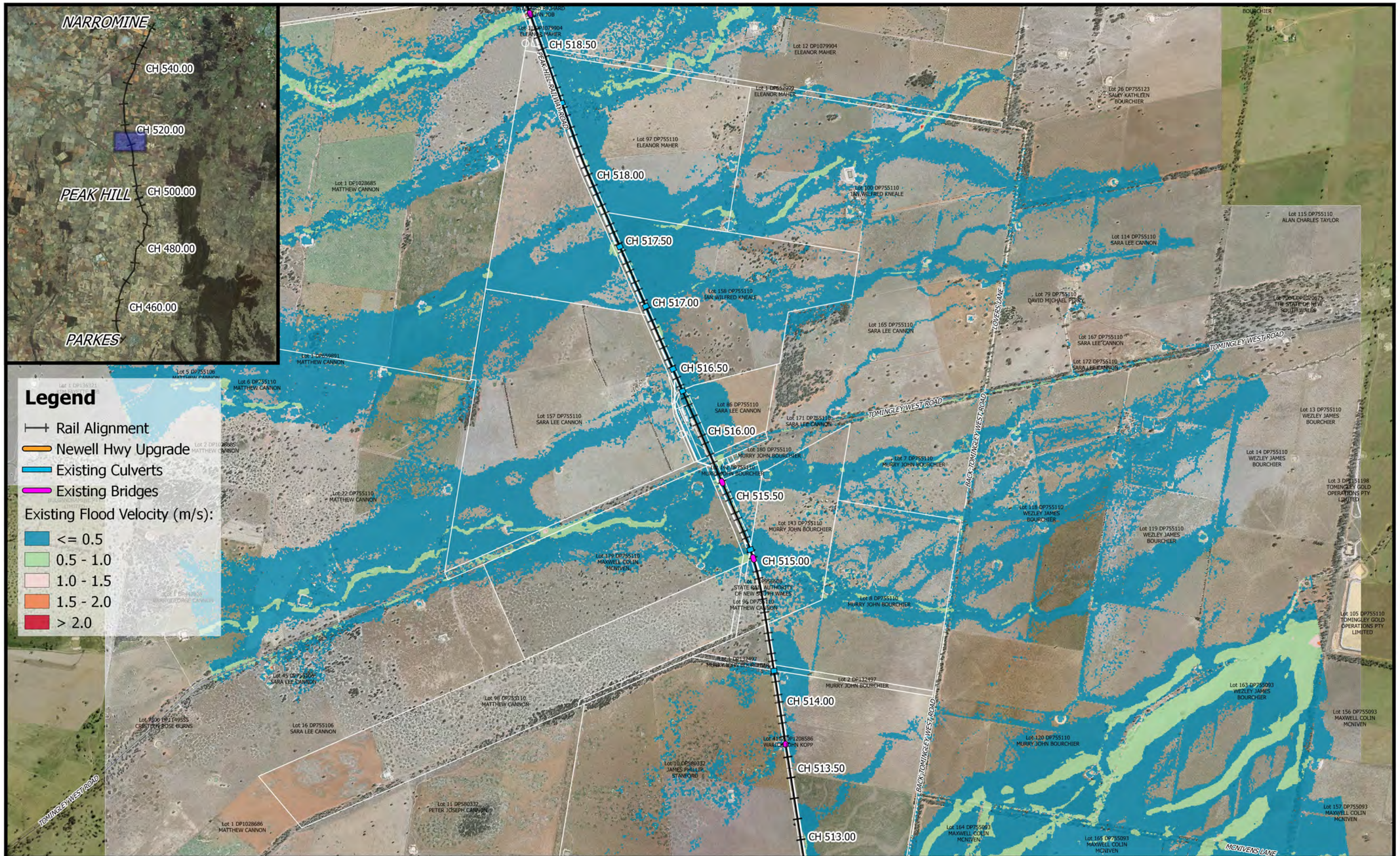
Prepared By: YeohM

Parkes to Narromine
DD100% - Cross Drainage Flood Impact Assessment Results

Figure EX5V15
5% AEP Existing Flood Velocity - CH 510.00



	<p>1:25,000</p>		Date: 19/7/2018	<p align="center">Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p align="right">Figure EX5V16 5% AEP Existing Flood Velocity - CH 512.00</p>
	<p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		<p>Rev: A</p>	
	<p>Prepared By: YeohM</p>			



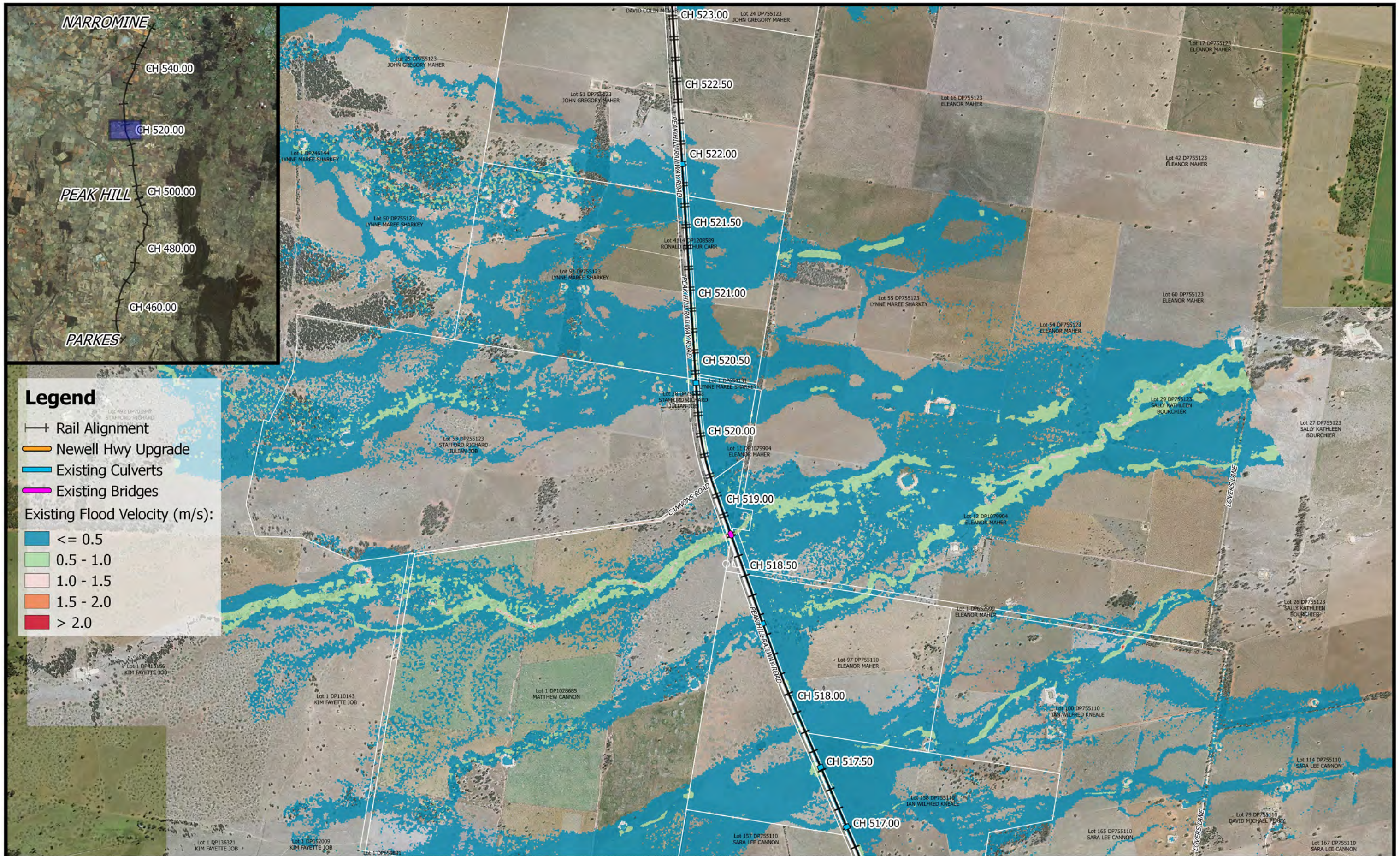
Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- Blue: <= 0.5
- Light Green: 0.5 - 1.0
- Pink: 1.0 - 1.5
- Orange: 1.5 - 2.0
- Red: > 2.0

	 1:25,000		Date: 19/7/2018	Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results Figure EX5V17 <i>5% AEP Existing Flood Velocity - CH 515.00</i>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			



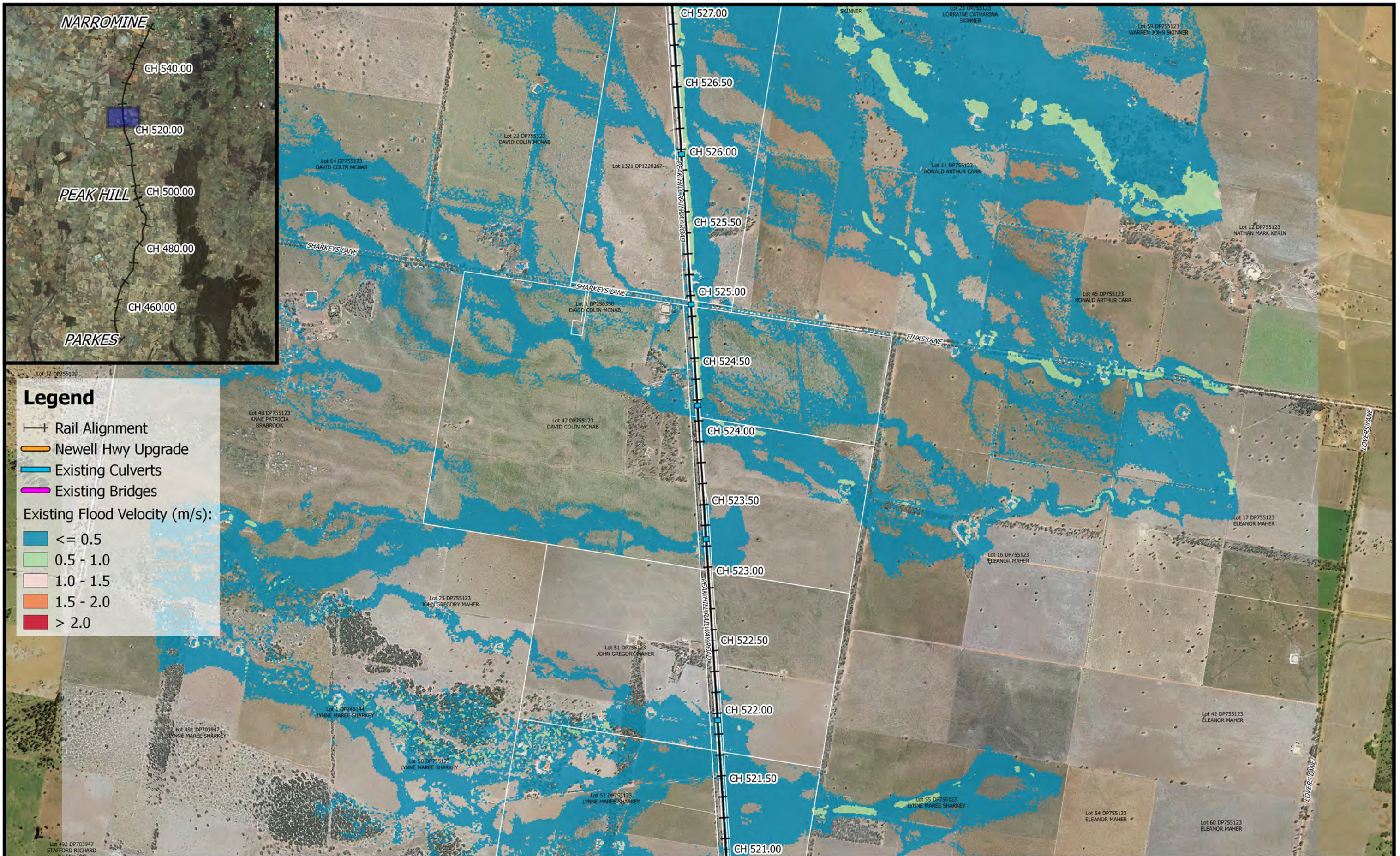
Legend

- Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- <= 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- > 2.0

	<p>1:25,000</p>		Date: 19/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V18 5% AEP Existing Flood Velocity - CH 520.00</p>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			



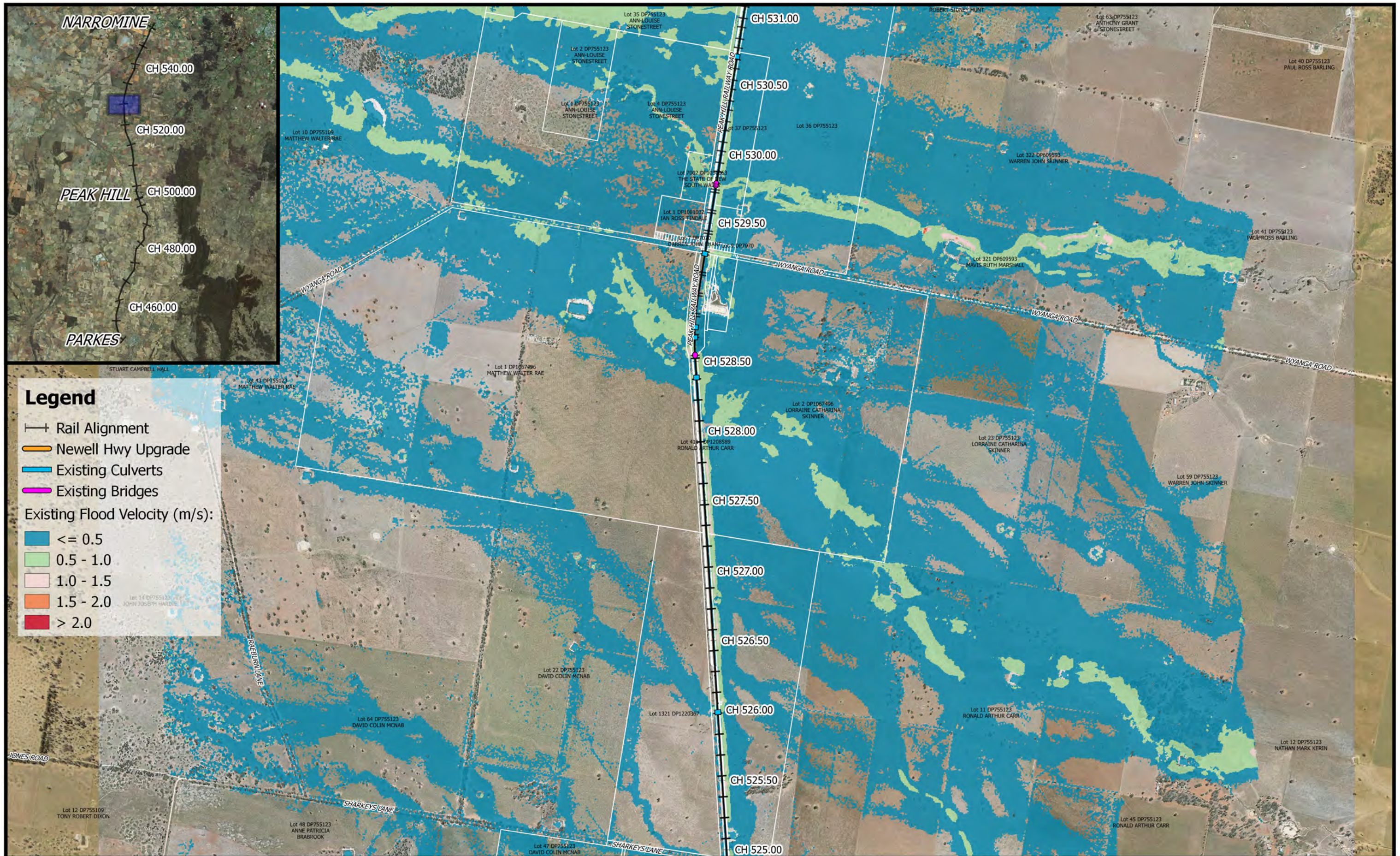
Legend



- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

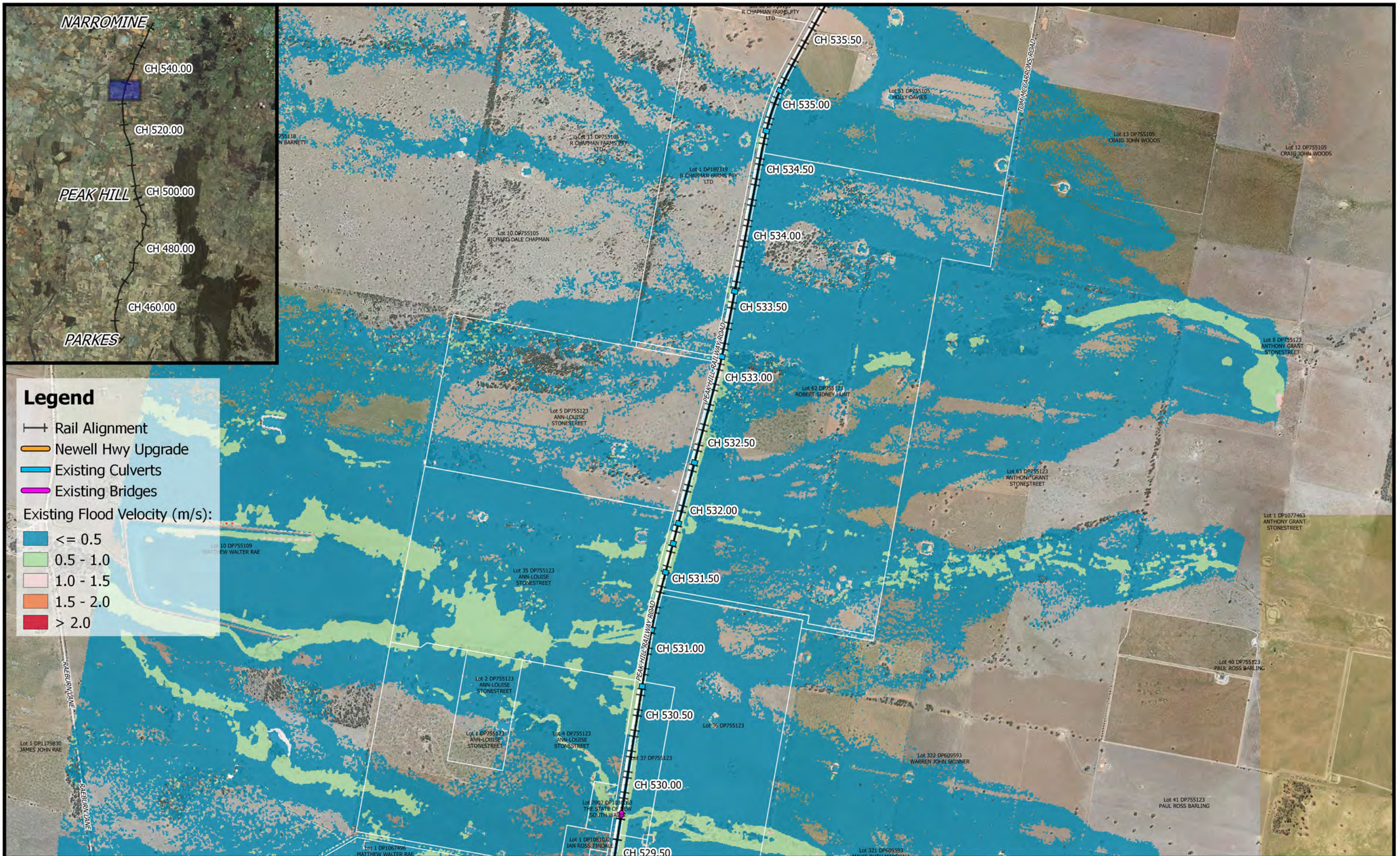
Existing Flood Velocity (m/s):

- Blue: ≤ 0.5
- Light Green: 0.5 - 1.0
- Pink: 1.0 - 1.5
- Orange: 1.5 - 2.0
- Red: > 2.0

	<p>1:25,000</p>		Date: 19/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V19 5% AEP Existing Flood Velocity - CH 525.00</p>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			



	<p>0 250 500 750 1000 m</p> <p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 19/7/2018	<p>Parkes to Narromine</p> <p>DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V20</p> <p><i>5% AEP Existing Flood Velocity - CH 530.00</i></p>
			Rev: A	
			Prepared By: YeohM	



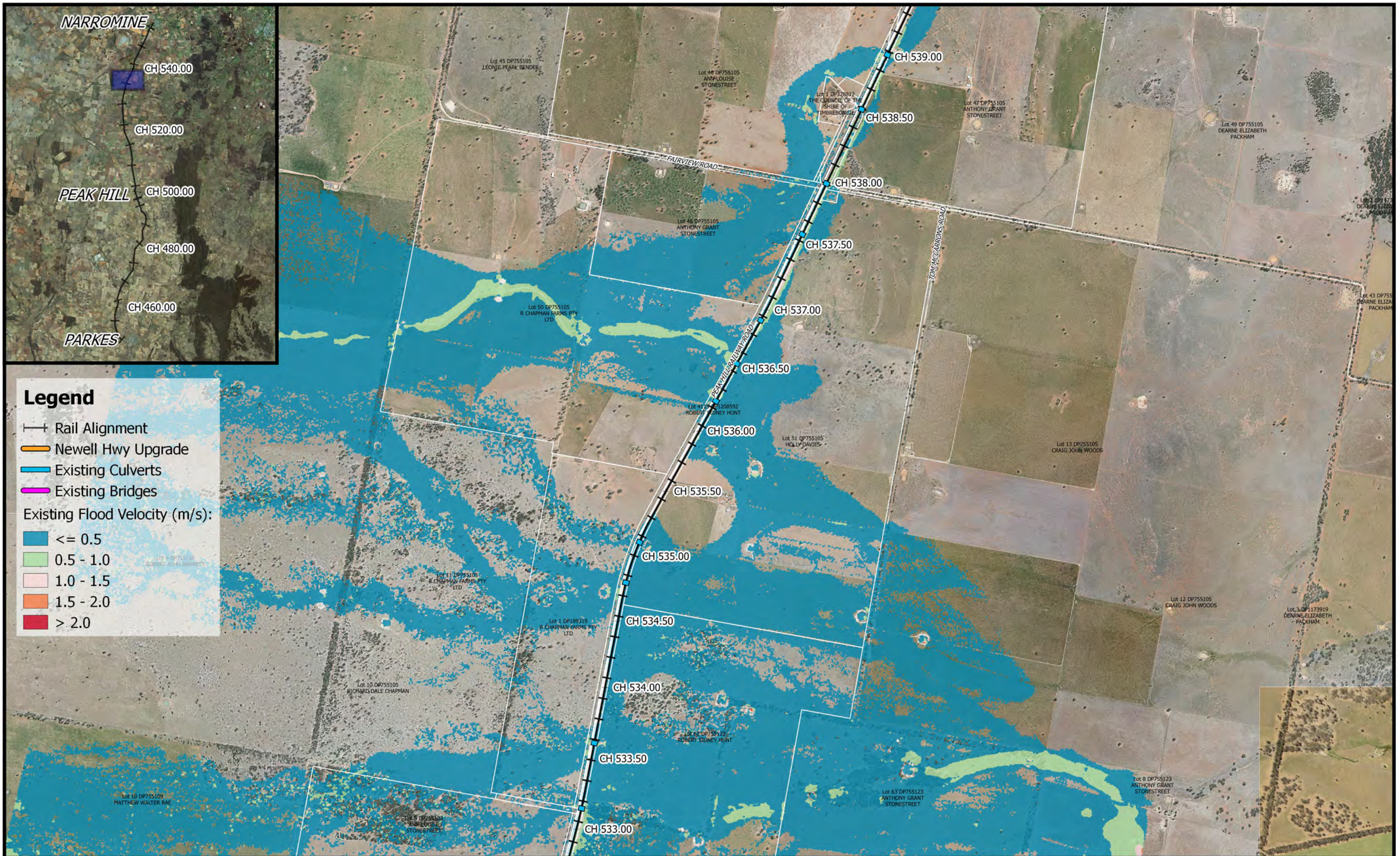
Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- Blue: ≤ 0.5
- Light Green: 0.5 - 1.0
- Pink: 1.0 - 1.5
- Orange: 1.5 - 2.0
- Red: > 2.0

	 1:25,000		Date: 19/7/2018	Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results Figure EX5V21 <i>5% AEP Existing Flood Velocity - CH 533.00</i>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			



	<p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 19/7/2018	<p align="center">Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p align="right">Figure EX5V22 5% AEP Existing Flood Velocity - CH 535.00</p>
	Rev: A			
	Prepared By: YeohM			



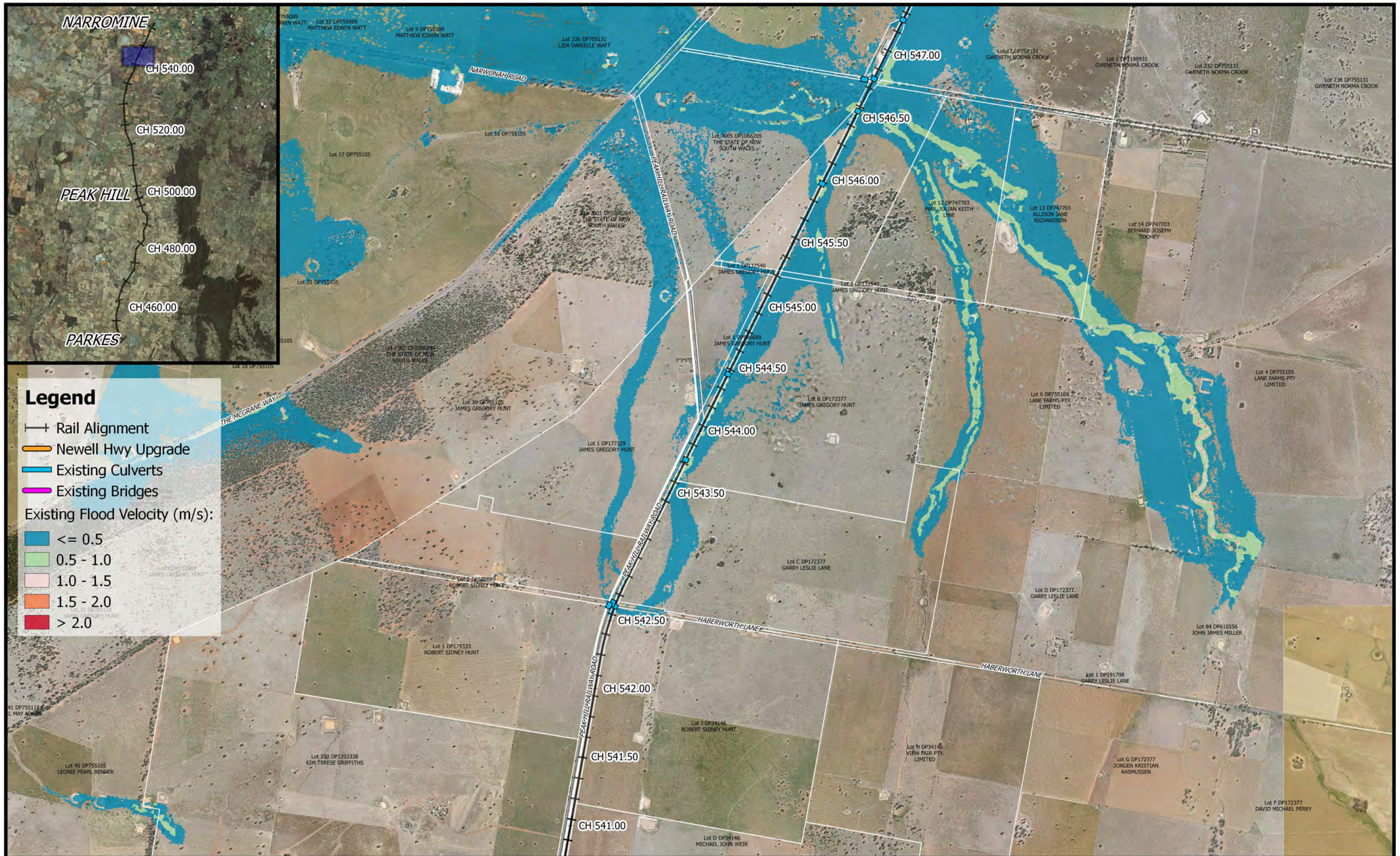
Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- Blue: ≤ 0.5
- Light Green: $0.5 - 1.0$
- Pink: $1.0 - 1.5$
- Orange: $1.5 - 2.0$
- Red: > 2.0

	<p>1:25,000</p>		Date: 19/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V23 5% AEP Existing Flood Velocity - CH 540.00</p>
	Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3		Rev: A	
	Prepared By: YeohM			



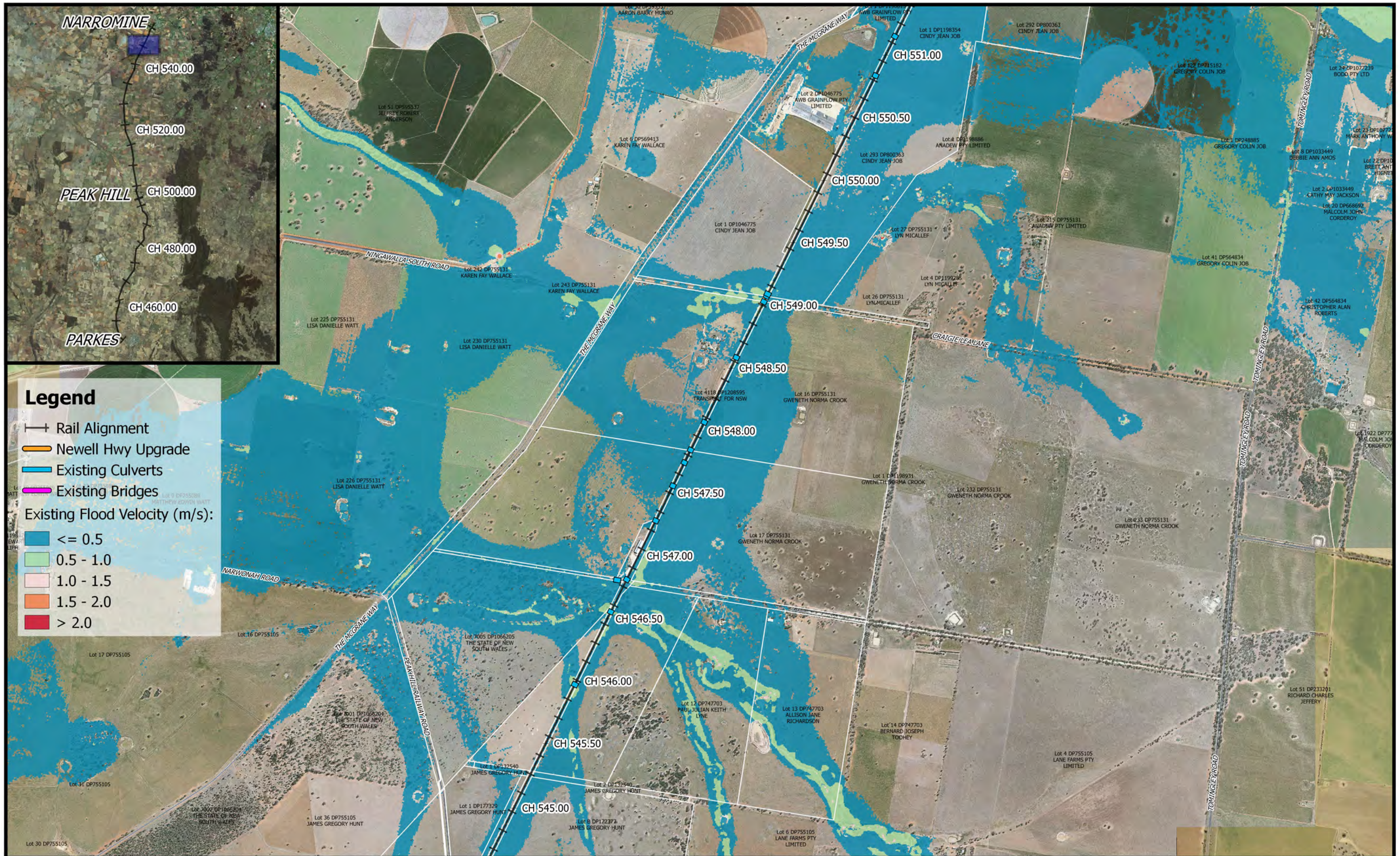
Legend

- +— Rail Alignment
- Newell Hwy Upgrade
- Existing Culverts
- Existing Bridges

Existing Flood Velocity (m/s):

- Blue: <= 0.5
- Light Green: 0.5 - 1.0
- Pink: 1.0 - 1.5
- Orange: 1.5 - 2.0
- Red: > 2.0

	<p>0 250 500 750 1000 m</p> <p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 19/7/2018	<p>Parkes to Narromine DD100% - Cross Drainage Flood Impact Assessment Results</p> <p>Figure EX5V24 5% AEP Existing Flood Velocity - CH 545.00</p>
	Rev: A			
	Prepared By: YeohM			



	<p>1:25,000</p> <p>Coordinate system: GDA 1994 MGA Zone 55 Scale ratio correct when printed at A3</p>		Date: 19/7/2018	<p align="center">Parkes to Narromine</p> <p align="center">DD100% - Cross Drainage Flood Impact Assessment Results</p> <p align="center">Figure EX5V25</p> <p align="center">5% AEP Existing Flood Velocity - CH 550.00</p>
			Rev: A	
			Prepared By: YeohM	