FIGURE D1

PROPERTIES IDENTIFIED FOR VOLUNTARY PURCHASE

Verges Drain
First Lane Levee
Cochrane Street
Gladstone Street
Dangar Street
First Lane
Macleay Valley Way
Short Street
Wide Street
Railway Embankment
Hopetoun Street
Yaelwood Street
Regent Street
Forth Street
Kempsey
Smith Street (Macleay Valley Way)
Rudder Street
Euroka Creek
Wide Street/Cooks Lane Levee
Marsh Street
Cooks Lane
Sea Street
Belgrave Street
Elbow Street
River Street
Tozer Street
Clyde Street
RSL Levee Wall
Traffic Bridge
Verge Street
Eden St Levee

N

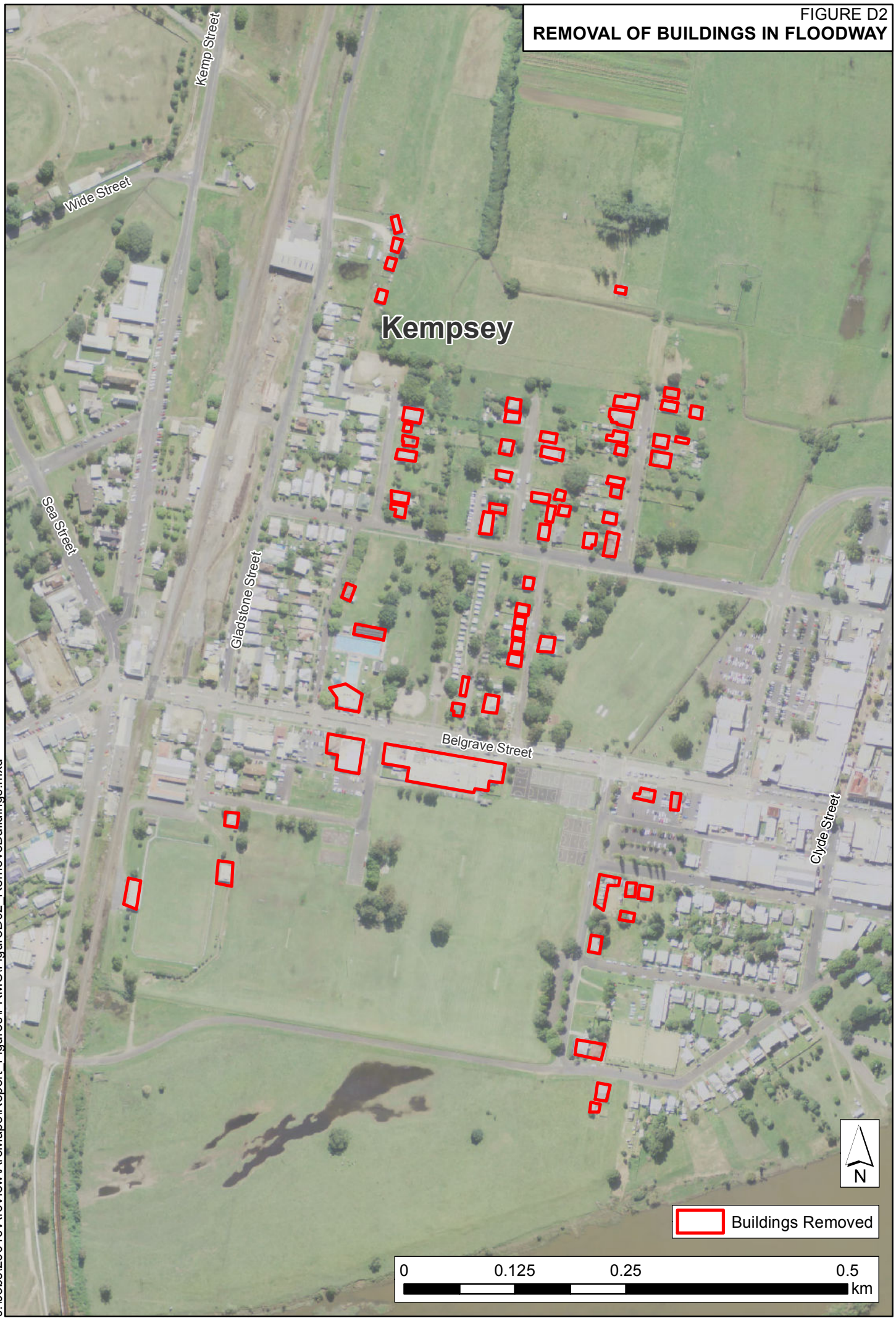
Properties Identified for Voluntary Purchase
Local Floodway No. 1
Hydraulic Floodway (See Figure 5)
Cadastre

0 0.25 0.5 1 km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD01_Voluntary_Purchase_Zone.mxd

FIGURE D2

REMOVAL OF BUILDINGS IN FLOODWAY



J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD02_RemoveBuildings.mxd

FIGURE D3
PEAK FLOOD LEVEL IMPACT
REMOVAL OF BUILDINGS FROM FLOODWAY

10% AEP EVENT

5% AEP EVENT

1% AEP EVENT

First Lane Levee

Eden St Levee

RSL Levee Wall

Impact (m)

- < -0.3
- -0.3 - -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- No Impact
- 0.01 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- > 0.3
- Newly Flooded
- No Longer Flooded

N

0 0.5 1 2 km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD03_PeakFloodLevel_Impact_RemoveBuildings.mxd

FIGURE D4
PEAK FLOOD LEVEL IMPACT
REPAIR LEVEES TO DESIGN HEIGHT

10% AEP EVENT

5% AEP EVENT

1% AEP EVENT

First Lane Levee
Eden St Levee
RSL Levee Wall

Increased Damage
Decreased Damage
Levees

Impact (m)
No Longer Flooded
<-0.3
-0.3 - -0.2
-0.2 - -0.1
-0.1--0.01
No Impact
0.01-0.1
0.1-0.2
0.2 - 0.3
>0.3
Newly Flooded

N

0 0.5 1 2 km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD04_Peak_Flood_Level_Impact_IncreasetoDesignHeight.mxd

FIGURE D5

RAISE FIRST LANE AND EDEN STREET LEVEES



J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD05_Raise_EdenSt_FirstLn_Levees.mxd

FIGURE D6

PEAK FLOOD LEVEL IMPACT
FIRST LANE LEVEE RAISED TO 6.65 mAHD

10% AEP EVENT

5% AEP EVENT

1% AEP EVENT

First Lane Levee
Cooks Lane Levee
Eden St Levee
RSL Levee Wall

Impact (m)
No Longer Flooded
< -0.3
-0.3 - -0.2
-0.2 - -0.1
-0.1 - -0.01
No Impact
0.01 - 0.1
0.1 - 0.2
0.2 - 0.3
> 0.3
Newly Flooded

N

0 0.5 1 2 km

J:\Jobs\29046\ArcView\ArcMaps\Report Figures\FRMS\FigureD06_Peak_Flood_Level_Impact_Raise_FirstLane_Levee_Raised.mxd

FIGURE D7

PEAK FLOOD LEVEL IMPACT
RAISE EDEN STREET LEVEE TO 8.07 mAHD

10% AEP EVENT

5% AEP EVENT

1% AEP EVENT

First Lane Levee
Wide Street/Cooks Lane Levee
Eden St Levee
RSL Levee Wall

Impact (m)

No Longer Flooded	-0.3 - -0.2	No Impact	0.2 - 0.3
< -0.3	-0.2 - -0.1	0.01 - 0.1	> 0.3
	-0.1 - -0.01	0.1 - 0.2	Newly Flooded

N

NOTE: For the 10% AEP and 5% AEP events, minor impacts (less than 0.1 m) extend to upstream boundary of the model. Minor downstream impacts (smaller than 0.01 m) extend to Frederickton. Minor upstream impacts (less than 0.1 m) in the 1% AEP event occur as far as the model boundary.

0 0.5 1 2 km

J:\Jobs\29046\ArcView\ArcMaps\Report Figures\FRMS\FigureD07_PeakFloodLevelImpact_Raise_Eden_Levee.mxd

FIGURE D8
PEAK FLOOD LEVEL IMPACT
RAISE EDEN STREET LEVEE & FIRST LANE LEVEE

10% AEP EVENT

5% AEP EVENT

1% AEP EVENT

First Lane Levee
Wide Street/Cooks Lane Levee
Eden St Levee
RSL Levee Wall

Impact (m)

No Longer Flooded	-0.3 - -0.2	No Impact	0.2 - 0.3
< -0.3	-0.2 - -0.1	0.01 - 0.1	> 0.3
	-0.1 - -0.01	0.1 - 0.2	Newly Flooded

N

NOTE: For the 5% AEP and 1% AEP events, minor impacts (less than 0.1 m) extend to upstream boundary of the model. Minor downstream impacts (smaller than 0.01 m) extend to Frederickton. Minor upstream impacts (less than 0.1 m) in the 10% AEP event occur as far as the model boundary.

0 0.5 1 2 km

J:\Jobs\29046\ArcView\ArcMaps\Report Figures\FRMS\FigureD08_PeakFloodLevelImpact_Raise_EdenSt_and_FirstLaneLevee.mxd

FIGURE D9
RAISE BELGRAVE STREET



J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD09_Raise_BelgraveSt.mxd

FIGURE D10
RAISE BELGRAVE STREET

Maximum flood impact is 1mm along Belgrave Street



J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD10_PeakLevelImpact_Raise_BelgraveSt.mxd

FIGURE D11
INTEGRATED OPTION

West Kempsey
Kempsey
East Kempsey
Hampden Hall
First Lane
First Lane Levee
Macleay Valley Way
Tozer Street
River Street
Sea Street
Cochrane Street
Kemp Street
Dangar Street
Short Street
Wide Street
Wide Street/Cooks Lane Levee
Cooks Lane
Gladstone Street
Belgrave Street
Eden St Levee
Rail Bridge
Clyde Street
RSL Levee Wall
Traffic Bridge
Rudder Street
South West Rocks Road

N

Model Extent
Floodgates
Training Walls/ Ring Levee
Area of Raised Ground
Area of Lowered Ground

0 0.25 0.5 1 km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD11_IntegratedOption.mxd

FIGURE D12
PEAK FLOOD LEVEL IMPACT
INTEGRATED OPTION
5 YEAR ARI EVENT

First Lane Levee
RSL Levee Wall
Eden St Levee
Pacific Highway
Wide Street/Cooks Lane Levee

N

Model Extent
Training Walls/ Ring Levee

Impact (m)
- No Longer Flooded
- < -0.5
- -0.5 - -0.25
- -0.25 - -0.1
- -0.1 - -0.08
- -0.08 - -0.06
- -0.06 - -0.04
- -0.04 - -0.02
- -0.02 - -0.01
- No Impact
- 0.01 - 0.05
- 0.05 - 0.1
- 0.1 - 0.25
- 0.25 - 0.5
- 0.5 - 1.0
- > 1.0
- Newly Flooded

0 1 2 4 km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD12_PeakLevelImpact_IntegratedOption_005yrARI_Event.mxd

FIGURE D13
PEAK FLOOD LEVEL IMPACT
INTEGRATED OPTION
10% AEP EVENT

First Lane Levee
RSL Levee Wall
Eden St Levee
Pacific Highway
Wide Street/Cooks Lane Levee

N

Model Extent
Training Walls/ Ring Levee

Impact (m)
- No Longer Flooded
- < -0.5
- -0.5 - -0.25
- -0.25 - -0.1
- -0.1 - -0.08
- -0.08 - -0.06
- -0.06 - -0.04
- -0.04 - -0.02
- -0.02 - -0.01
- No Impact
- 0.01 - 0.05
- 0.05 - 0.1
- 0.1 - 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1.0
- Newly Flooded

NOTE: Only those properties with a reduction in peak flood level of 0.1 m or greater are shown as properties benefiting from reduced flood levels. Properties currently located in floodway are not shown as it is assumed they will be removed.

0 1 2 4 km

J:\Jobs\29046\ArcView\ArcMaps\Report Figures\FRMS\FigureD13 PeakLevelImpact IntegratedOpt 10% AEP.mxd

FIGURE D14
PEAK FLOOD LEVEL IMPACT
INTEGRATED OPTION
5% AEP EVENT

First Lane Levee
RSL Levee Wall
Eden St Levee
Pacific Highway
Wide Street/Cooks Lane Levee

N

Model Extent
Training Walls/ Ring Levee

Impact (m)

- No Longer Flooded
- < -0.5
- -0.5 - -0.25
- -0.25 - -0.1
- -0.1 - -0.08
- -0.08 - -0.06
- -0.06 - -0.04
- -0.04 - -0.02
- -0.02 - -0.01
- No Impact
- 0.01 - 0.05
- 0.05 - 0.1
- 0.1 - 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1.0
- Newly Flooded

NOTE: Only those properties with a reduction in peak flood level of 0.1 m or greater are shown as properties benefiting from reduced flood levels. Properties currently located in floodway are not shown as it is assumed they will be removed.

0 1 2 4 km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD14_PeakLevelImpact_IntegratedOpt_5%_AEP.mxd

FIGURE D15
PEAK FLOOD LEVEL IMPACT
INTEGRATED OPTION
1% AEP EVENT

First Lane Levee
RSL Levee Wall
Eden St Levee
Wide Street/Cook's Lane Levee
Pacific Highway

N

Model Extent
Training Walls/ Ring Levee

Impact (m)

- No Longer Flooded
- < -0.5
- -0.5 - -0.25
- -0.25 - -0.1
- -0.1 - -0.08
- -0.08 - -0.06
- -0.06 - -0.04
- -0.04 - -0.02
- -0.02 - -0.01
- No Impact
- 0.01 - 0.05
- 0.05 - 0.1
- 0.1 - 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1.0
- Newly Flooded

NOTE: Only those properties with a reduction in peak flood level of 0.1 m or greater are shown as properties benefiting from reduced flood levels. Properties currently located in floodway are not shown as it is assumed they will be removed.

0 1 2 4 km

J:\Jobs\29046\ArcView\ArcMaps\Report Figures\FRMS\FigureD15 PeakLevelImpact IntegratedOpt 1% AEP.mxd


FIGURE D16
FLOOD GATES
GLADSTONE STREET
Cochrane Street
First Lane
Flood gates at
Gladstone Street
Gladstone Street
Kemp Street
N
Floodgates
0
50
100
200
m
J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD16_FloodGates_GladstoneSt.mxd

FIGURE D17
PEAK FLOOD LEVEL IMPACT
FLOOD GATES
GLADSTONE STREET

10% AEP EVENT

5% AEP EVENT

1% AEP EVENT

First Lane Levee
Gladstone Street Underpass
Wide Street/Cooks Lane Levee
Railway Embankment
Eden St Levee

Impacts (m)
No Longer Flooded
< -1.5
-1.5 - -1
-1 - -0.5
-0.5 - -0.01
No Impact
0.01 - 0.5
0.5 - 1
1 - 1.5
>1.5
Newly Flooded

N

0 0.25 0.5 1 km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD17_PeakFloodLevel_Impact_BlockGladstoneStreet.mxd

FIGURE D18
SOUTH KEMPSEY LEVEE



J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD18_SouthKempsey_Levee.mxd

FIGURE D19
PEAK FLOOD LEVEL IMPACT
SOUTH KEMPSEY LEVEE

10% AEP EVENT

5% AEP EVENT

1% AEP EVENT

Eden St Levee

Impact (m)

- No Longer Flooded
- < -0.3
- -0.3 - -0.2
- -0.2 - -0.1
- -0.1 - -0.01
- No Impact
- 0.01 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- >0.3
- Newly Flooded
- New Levee

N

0 0.25 0.5 1 km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD19_PeakFloodLevel_Impact_LeveeatSouthKempsey.mxd

FIGURE D20
RAISE SOUTH WEST ROCKS ROAD

South West Rocks Road

Raise South West Rocks Road by 0.3m

N

South West Rocks Road

0 0.125 0.25 0.5 0.75 1
km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD20_Raise_SouthWestRocksRd.mxd

FIGURE D21
PEAK FLOOD LEVEL IMPACT
RAISE SOUTH WEST ROCKS ROAD 0.3M
5 YEAR ARI EVENT

South West Rocks Road

N

South West Rocks Road

Impact (m)

- No Longer Flooded
- < -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.03
- 0.03 - 0.05
- 0.05 - 0.1
- 0.1 - 0.15
- 0.15 - 0.25
- > 0.25
- Newly Flooded

0 0.125 0.25 0.5 0.75 1 km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD21_Raise_SouthWestRocksRd_005YARI_Event.mxd

FIGURE D22

PEAK FLOOD LEVEL IMPACT
RAISE SOUTH WEST ROCKS ROAD 0.3M
5% AEP EVENT

South West Rocks Road

N

South West Rocks Road

Impact (m)

- No Longer Flooded
- < -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.03
- 0.03 - 0.05
- 0.05 - 0.1
- 0.1 - 0.15
- 0.15 - 0.25
- > 0.25
- Newly Flooded

0 0.125 0.25 0.5 0.75 1 km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD22_Raise_SouthWestRocksRd_5%AEP_Event.mxd

FIGURE D23

PEAK FLOOD LEVEL IMPACT
RAISE SOUTH WEST ROCKS ROAD 0.3M
1% AEP EVENT

South West Rocks Road

N

South West Rocks Road

Impact (m)

- No Longer Flooded
- < -0.1
- -0.1 - -0.01
- -0.01 - 0.01
- 0.01 - 0.03
- 0.03 - 0.05
- 0.05 - 0.1
- 0.1 - 0.15
- 0.15 - 0.25
- > 0.25
- Newly Flooded

0 0.125 0.25 0.5 0.75 1 km

J:\Jobs\29046\ArcView\ArcMaps\Report_Figures\FRMS\FigureD23_Raise_SouthWestRocksRd_1%AEP_Event.mxd

J:\Jobs\29046\FiguresAndTables\FigureD24_Inundation_Figures.xlsx

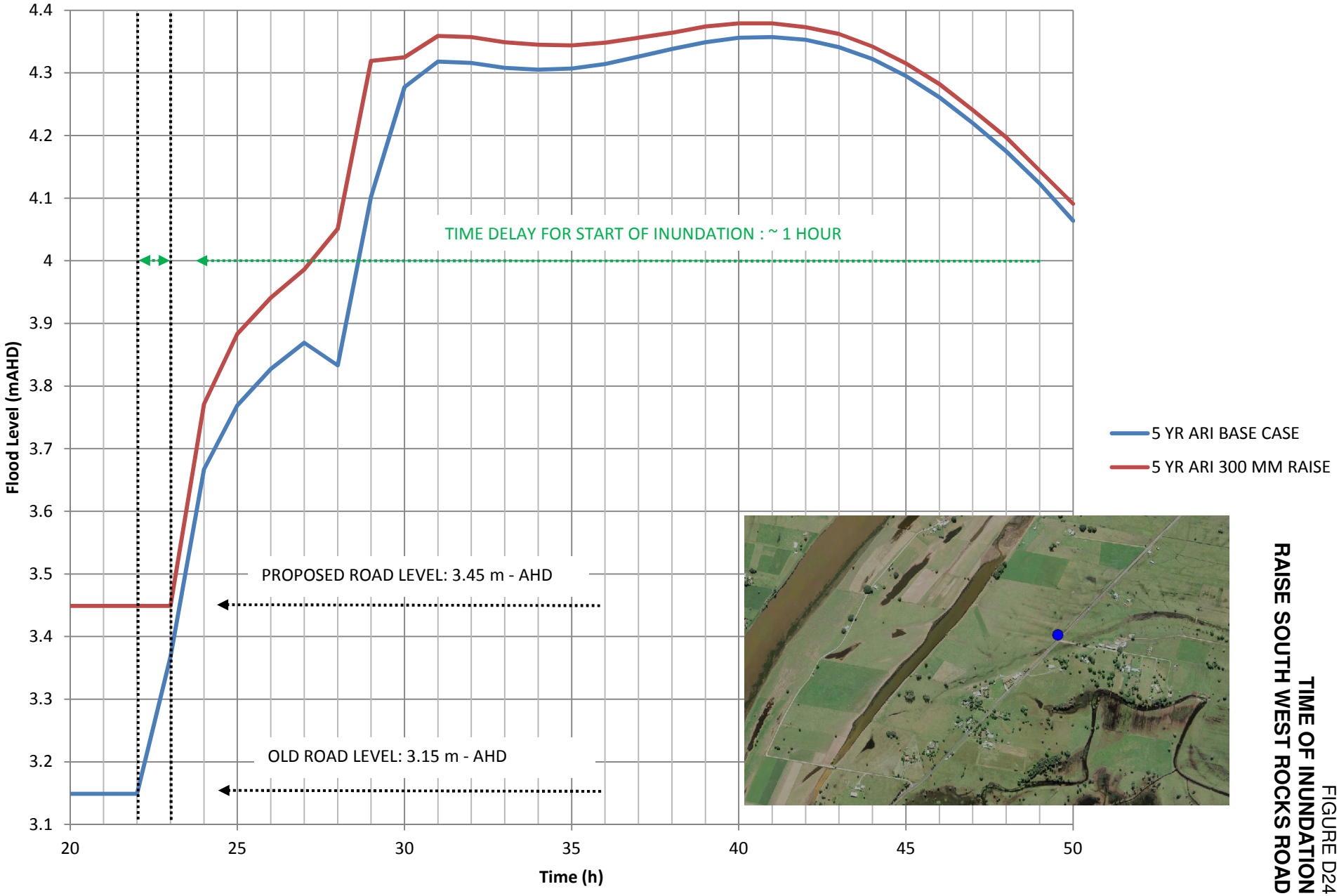


FIGURE D24
TIME OF INUNDATION
RAISE SOUTH WEST ROCKS ROAD