

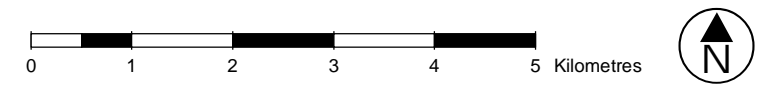
NSW SPATIAL - GIS MAP file : JA091300_FigF-5_20y_Rough_incr_R1V1

Legend

Change in Flood Level (m)

- | | | | |
|---|--|---|---|
| < -0.5 | -0.3 - -0.1 | 0.1 - 0.3 | Study Area |
| -0.5 - -0.3 | -0.1 - -0.01 | 0.3 - 0.5 | Urban Area TUFLOW Model (2m grid) |
| | -0.01 - 0.01 | > 0.5 | |
| | 0.01 - 0.1 | | |

20% increase in Manning's n values from design values



1:75,000@ A3

Figure F-5 5% AEP Change in Flood Level - Increased Hydraulic Roughness - Overall Study Area View










NSW SPATIAL - GIS MAP file : JA091300_FigF-5_20y_Rough_incr_R1V1

Legend

Change in Flood Level (m)

	< -0.5		-0.3 - -0.1		0.1 - 0.3
	-0.5 - -0.3		-0.1 - -0.01		0.3 - 0.5
			-0.01 - 0.01		> 0.5
			0.01 - 0.1		

-  Study Area
-  Urban Area TUFLOW Model (2m grid)



1:20,000@ A3

Figure F-5A 5% AEP Change in Flood Level - Increased Hydraulic Roughness - Anna Bay Urban Area





NSW SPATIAL - GIS MAP file : JA091300_EgIF-5_20y_Rough_incr_R1V1

Legend

Change in Flood Level (m)

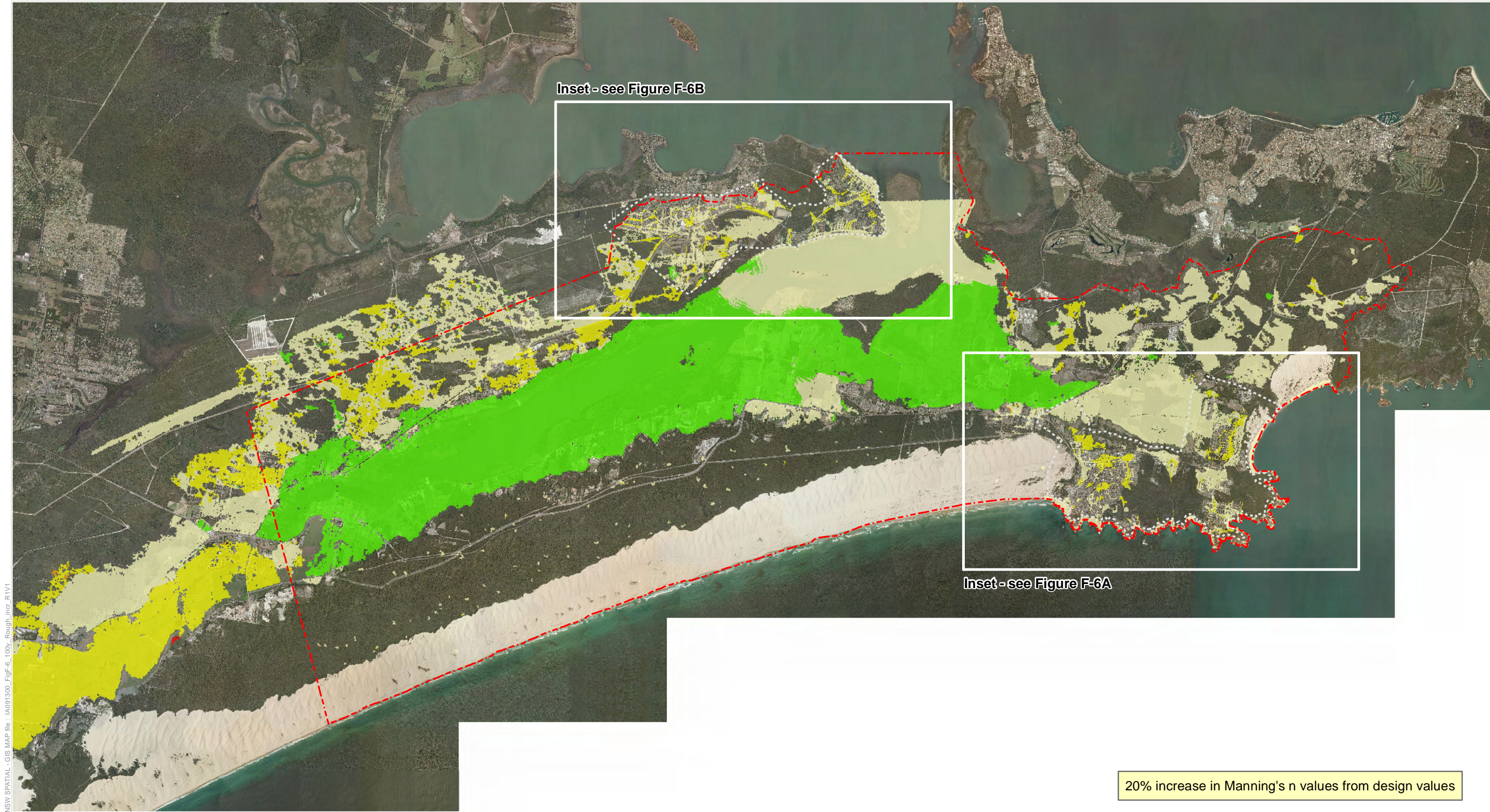
 < -0.5	 -0.3 - -0.1	 0.1 - 0.3	 Study Area
 -0.5 - -0.3	 -0.1 - -0.01	 0.3 - 0.5	 Urban Area TUFLOW Model (2m grid)
	 -0.01 - 0.01	 > 0.5	
	 0.01 - 0.1		



1:20,000@ A3

Figure F-5B 5% AEP Change in Flood Level - Increased Hydraulic Roughness - Tilligerry Peninsula Urban Area





NSW SPATIAL - GIS MAP file : JA091300_FigF-6_100y_Rough_Incr_R1V1

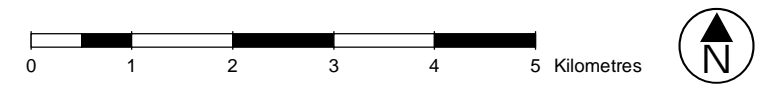
Legend

Change in Flood Level (m)

- < -0.5
- 0.5 - -0.3
- 0.3 - -0.1
- 0.1 - -0.01
- 0.01 - 0.01
- 0.01 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- > 0.5

- Study Area
- Urban Area TUFLOW Model (2m grid)

20% increase in Manning's n values from design values



1:75,000@ A3

Figure F-6 1% AEP Change in Flood Level - Increased Hydraulic Roughness - Overall Study Area View








NSW SPATIAL - GIS MAP file : JA091300_FigF-6_100y_Rough_Incr_R1V1

Legend

Change in Flood Level (m)

	< -0.5		-0.3 - -0.1		0.1 - 0.3		Study Area
	-0.5 - -0.3		-0.1 - -0.01		0.3 - 0.5		Urban Area TUFLOW Model (2m grid)
			-0.01 - 0.01		> 0.5		
			0.01 - 0.1				



1:20,000@ A3

Figure F-6A

1% AEP Change in Flood Level - Increased Hydraulic Roughness - Anna Bay Urban Area



NSW SPATIAL - GIS MAP file : JA091300_EgIF-6_100y_Rough_Incr_R1V1



Legend

Change in Flood Level (m)

- < -0.5
- 0.5 - -0.3
- 0.3 - -0.1
- 0.1 - -0.01
- 0.01 - 0.01
- 0.01 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- > 0.5

- Study Area
- Urban Area TUFLOW Model (2m grid)

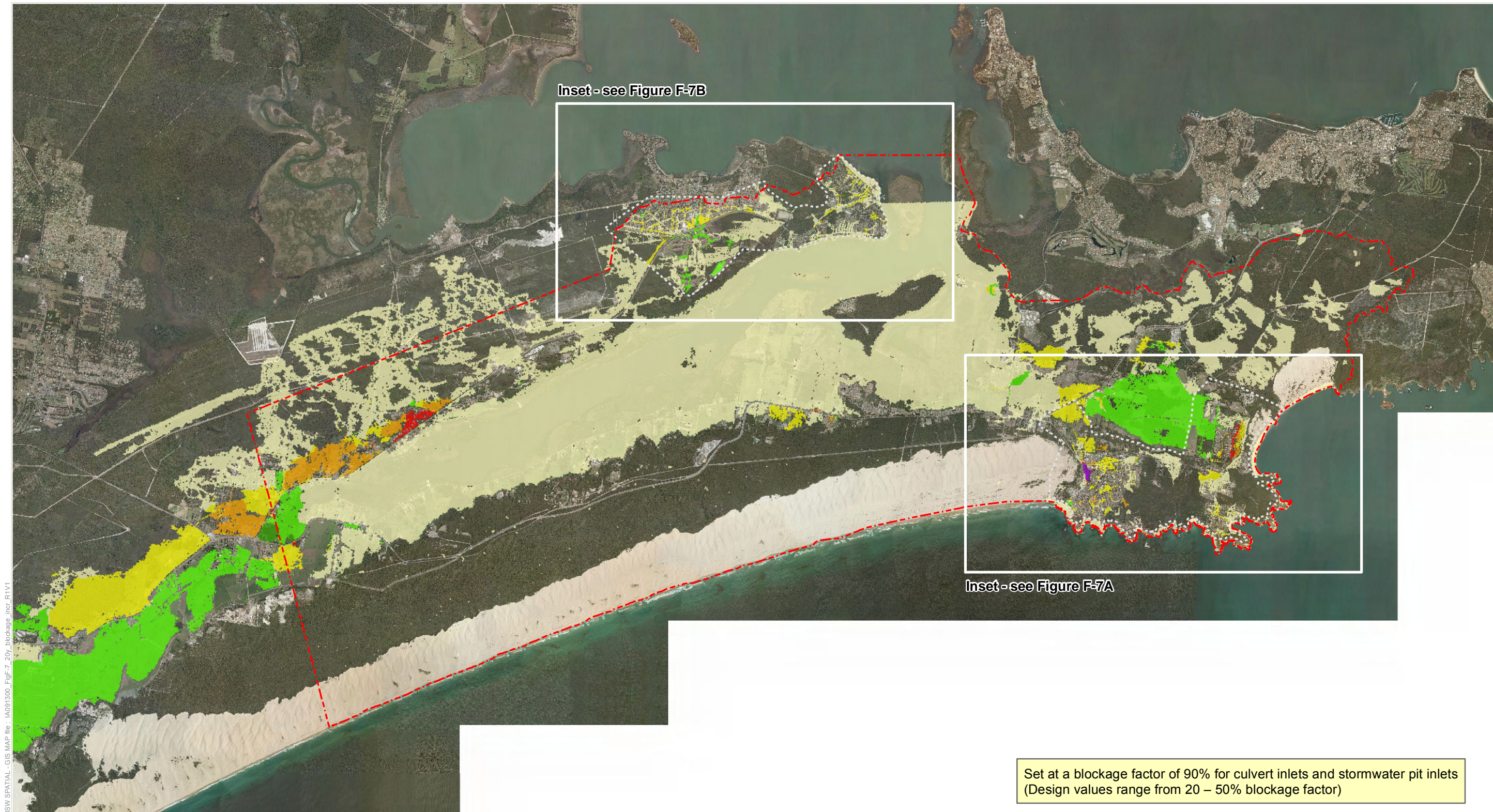


1:20,000@ A3

Figure F-6B

1% AEP Change in Flood Level - Increased Hydraulic Roughness - Tilligerry Peninsula Urban Area



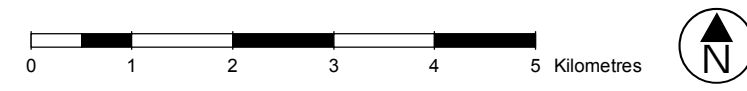


Legend

Change in Flood Level (m)

< -0.5	-0.3 - -0.1	0.1 - 0.3
-0.5 - -0.3	-0.1 - -0.01	0.3 - 0.5
	-0.01 - 0.01	> 0.5
	0.01 - 0.1	

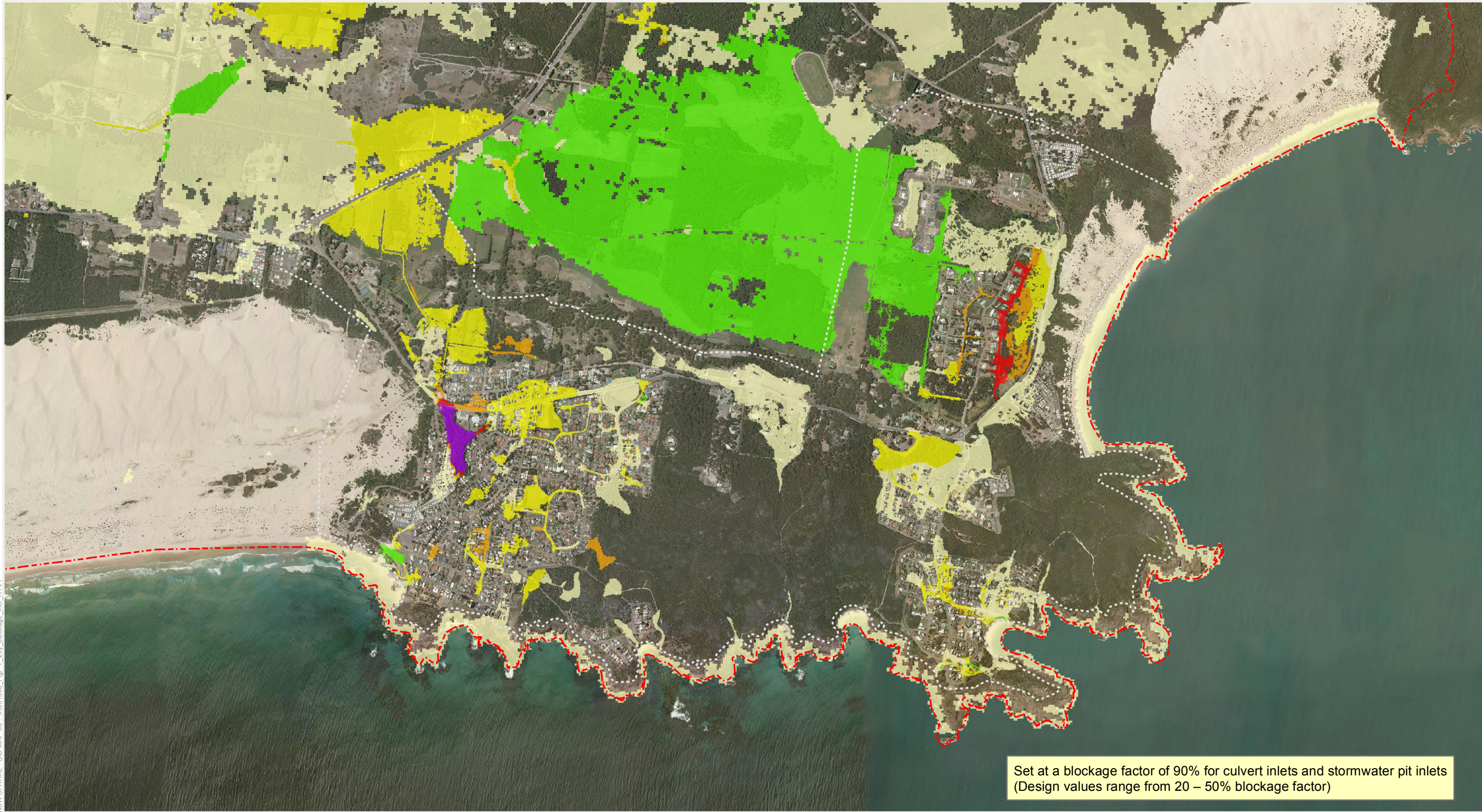
- Study Area
- Urban Area TUFLOW Model (2m grid)



1:75,000@ A3






Figure F-7 5% AEP Change in Flood Level - Increased Blockage of Hydraulic Structures - Overall Study Area View







Legend

Change in Flood Level (m)

	< -0.5		-0.3 - -0.1		0.1 - 0.3
	-0.5 - -0.3		-0.1 - -0.01		0.3 - 0.5
			-0.01 - 0.01		> 0.5
			0.01 - 0.1		

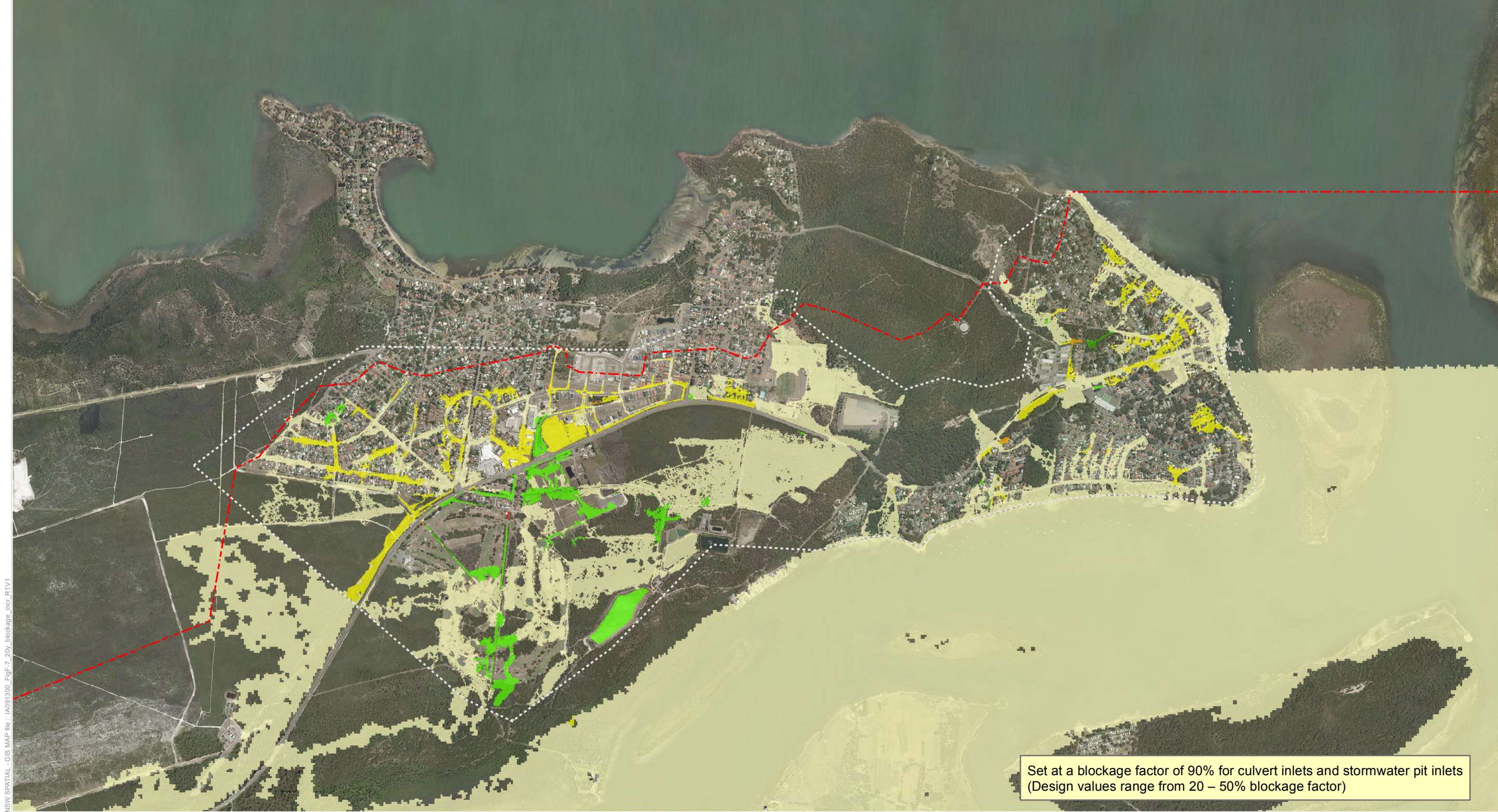
-  Study Area
-  Urban Area TUFLOW Model (2m grid)



1:20,000@ A3

Figure F-7A 5% AEP Change in Flood Level - Increased Blockage of Hydraulic Structures - Anna Bay Urban Area







Legend

Change in Flood Level (m)

 < -0.5	 -0.3 - -0.1	 0.1 - 0.3
 -0.5 - -0.3	 -0.1 - -0.01	 0.3 - 0.5
	 -0.01 - 0.01	 > 0.5
	 0.01 - 0.1	

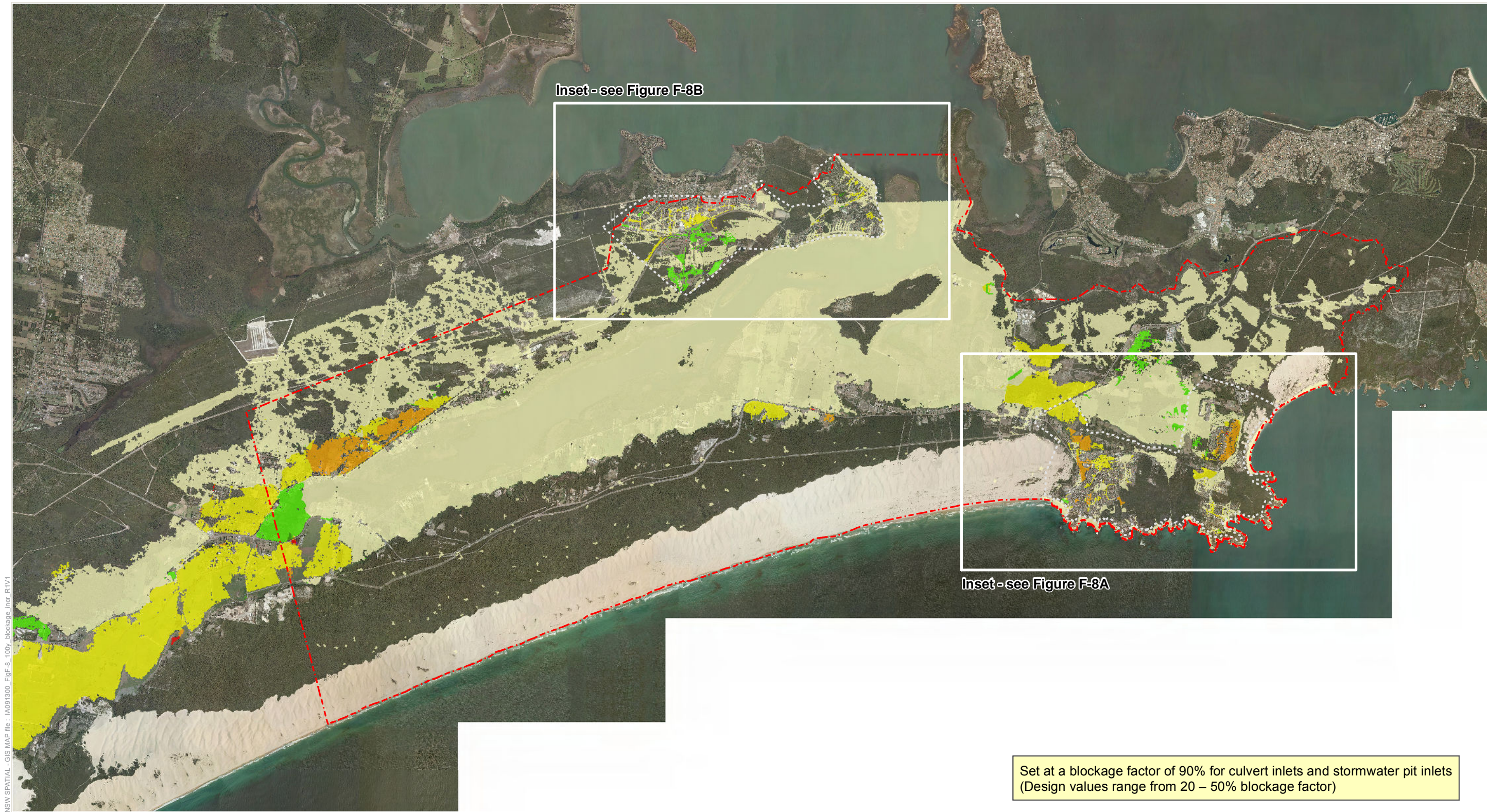
-  Study Area
-  Urban Area TUFLOW Model (2m grid)



1:20,000@ A3

Figure F-7B 5% AEP Change in Flood Level - Increased Blockage of Hydraulic Structures - Tilligerry Peninsula Urban Area





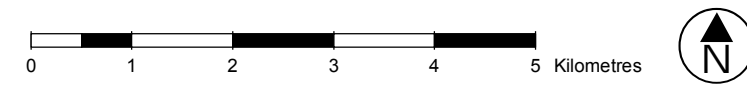
Set at a blockage factor of 90% for culvert inlets and stormwater pit inlets
(Design values range from 20 – 50% blockage factor)

Legend

Change in Flood Level (m)

- < -0.5
- 0.5 - -0.3
- 0.3 - -0.1
- 0.1 - -0.01
- 0.01 - 0.01
- 0.01 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- > 0.5

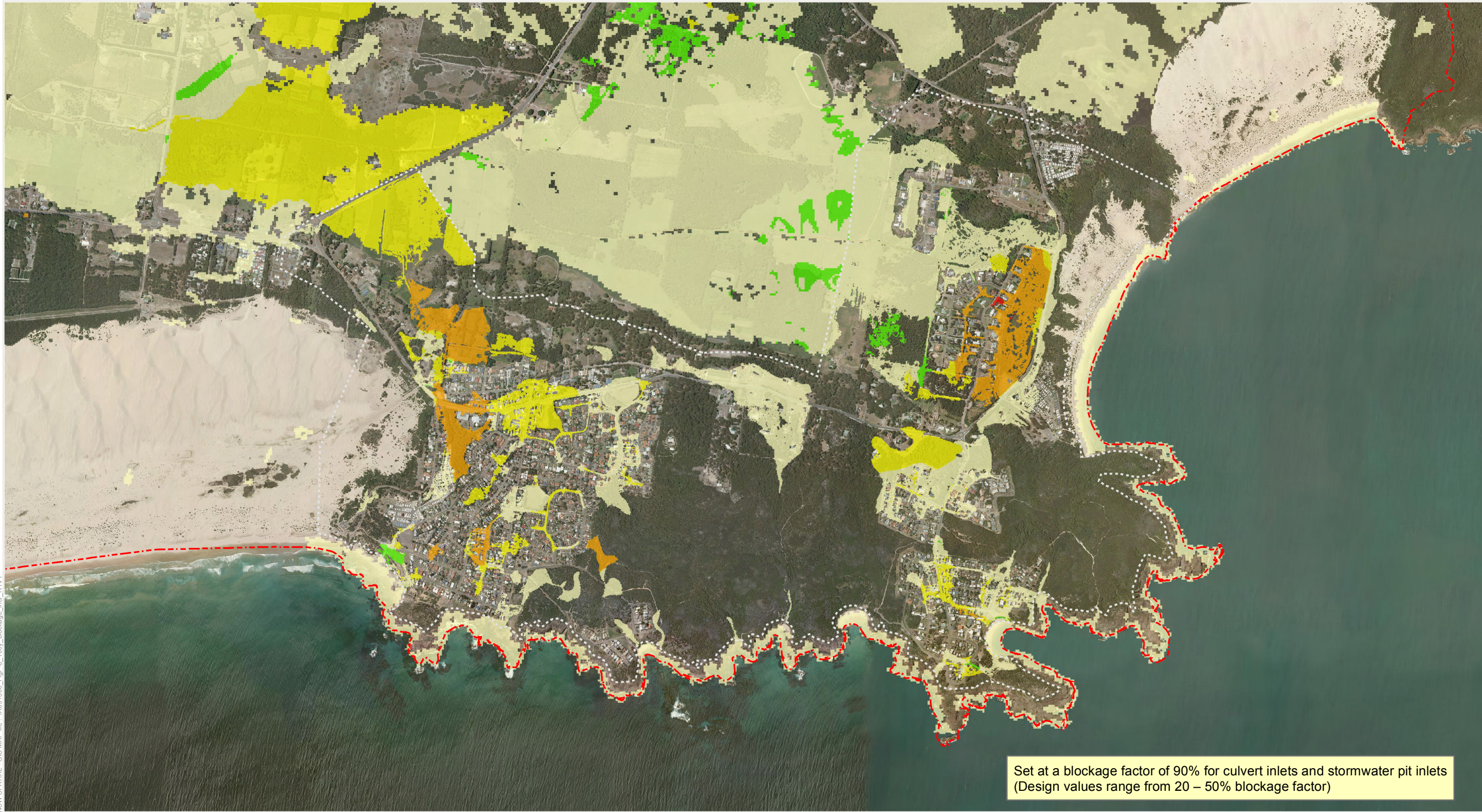
- Study Area
- Urban Area TUFLOW Model (2m grid)



1:75,000@ A3

Figure F-8 1% AEP Change in Flood Level - Increased Blockage of Hydraulic Structures - Overall Study Area View













NSW SPATIAL - GIS MAP file : JA091300_FigF-8_100y_blockage_incr_R1V1

Legend

Change in Flood Level (m)

 < -0.5	 -0.3 - -0.1	 0.1 - 0.3	 Study Area
 -0.5 - -0.3	 -0.1 - -0.01	 0.3 - 0.5	 Urban Area TUFLOW Model (2m grid)
	 -0.01 - 0.01	 > 0.5	
	 0.01 - 0.1		

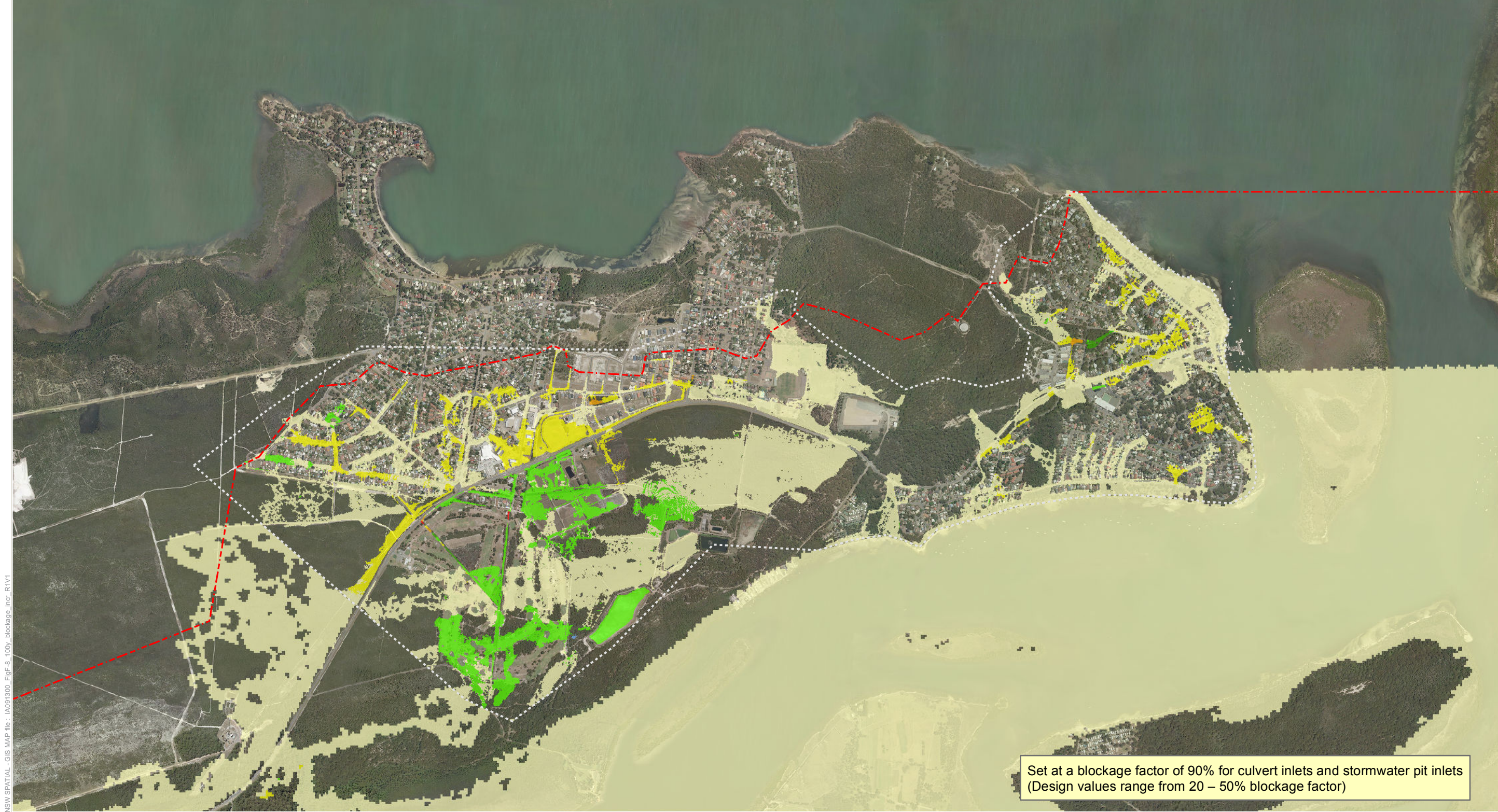


1:20,000@ A3

Figure F-8A

1% AEP Change in Flood Level - Increased Blockage of Hydraulic Structures - Anna Bay Urban Area





NSW SPATIAL - GIS MAP file : JA091300_FigF-8_100y_blockage_incr_R1V1

Legend

Change in Flood Level (m)

- | | | | |
|---|--|---|--|
| < -0.5 | -0.3 - -0.1 | 0.1 - 0.3 | Study Area |
| -0.5 - -0.3 | -0.1 - -0.01 | 0.3 - 0.5 | Urban Area TUFLOW Model (2m grid) |
| | 0.01 - 0.1 | > 0.5 | |



1:20,000@ A3

Figure F-8B 1% AEP Change in Flood Level - Increased Blockage of Hydraulic Structures - Tilligerry Peninsula Urban Area





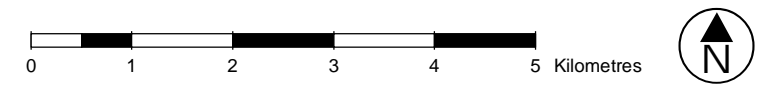
NSW SPATIAL - GIS MAP file : JA091300_EgF-9_100y_floodgates.R1V1

Legend

Change in Flood Level (m)

- < -0.5
- 0.5 - -0.3
- 0.3 - -0.1
- 0.1 - -0.01
- 0.01 - 0.01
- 0.01 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- > 0.5

- Study Area
- Urban Area TUFLOW Model (2m grid)



1:75,000@ A3

Figure F-9 1% AEP Change in Flood Level - Floodgates Partially Open - Overall Study Area View

