

Appendix H: Calculated settlement indicator maps

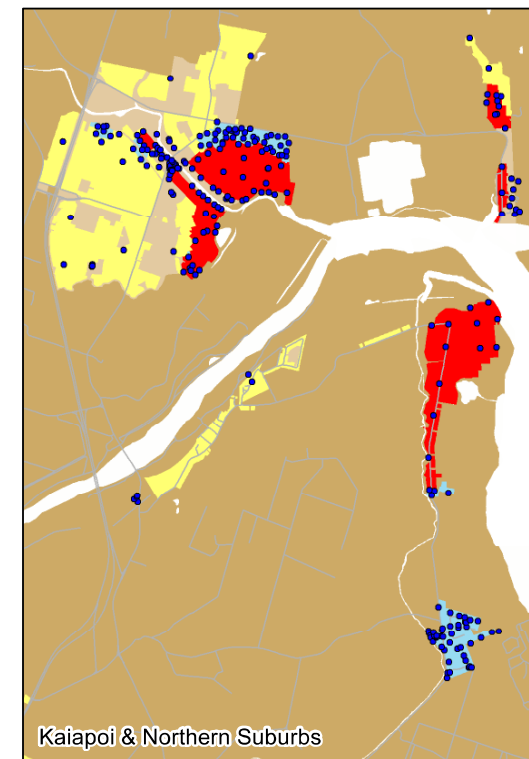
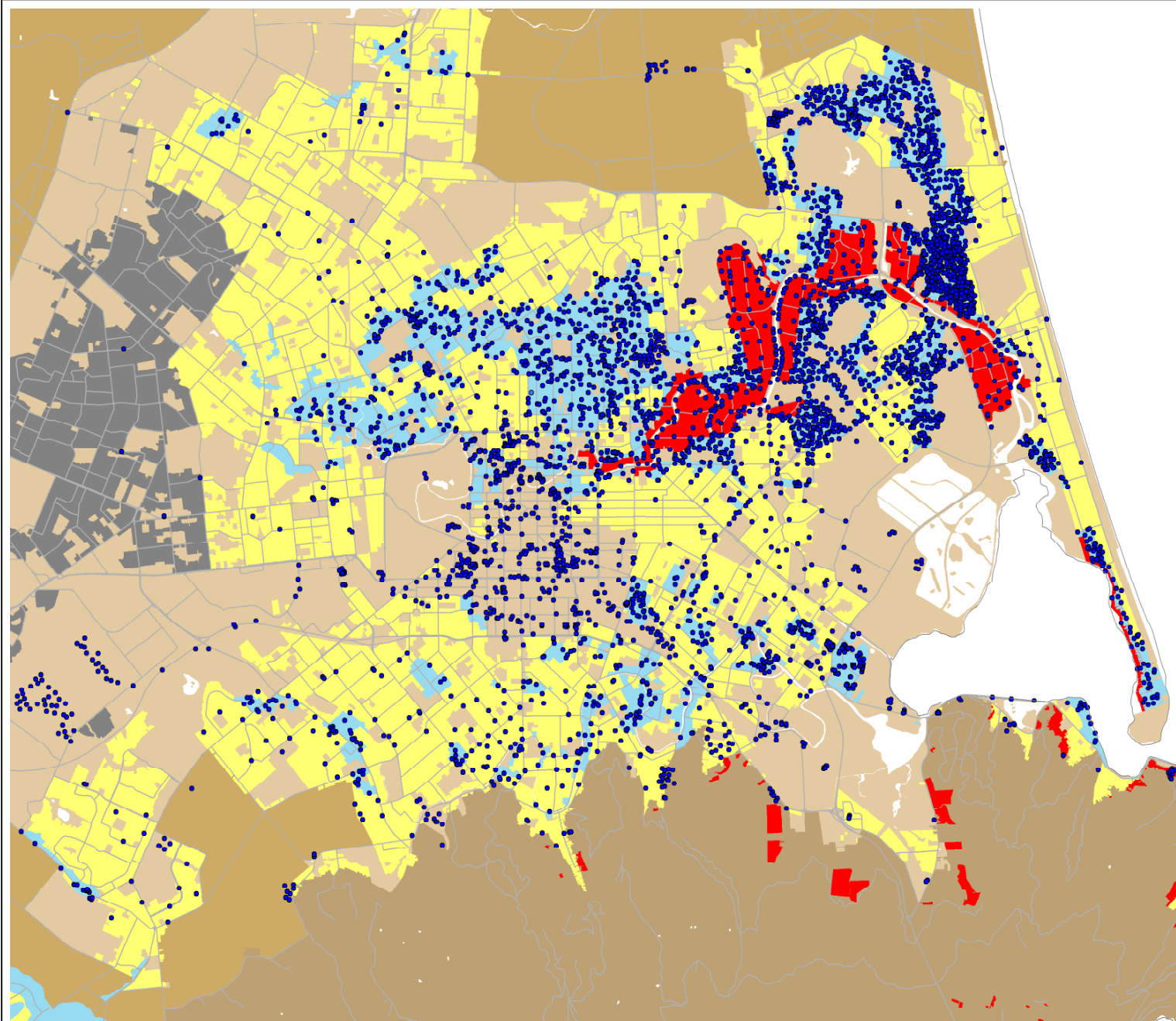
ENVIRONMENTAL AND ENGINEERING CONSULTANTS



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Calculated Settlement Indicator based on Median Groundwater	M6	0.15	H4
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Magnitude 6 Event



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

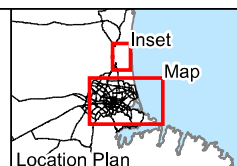
CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

0 1 2 3 4 (km)

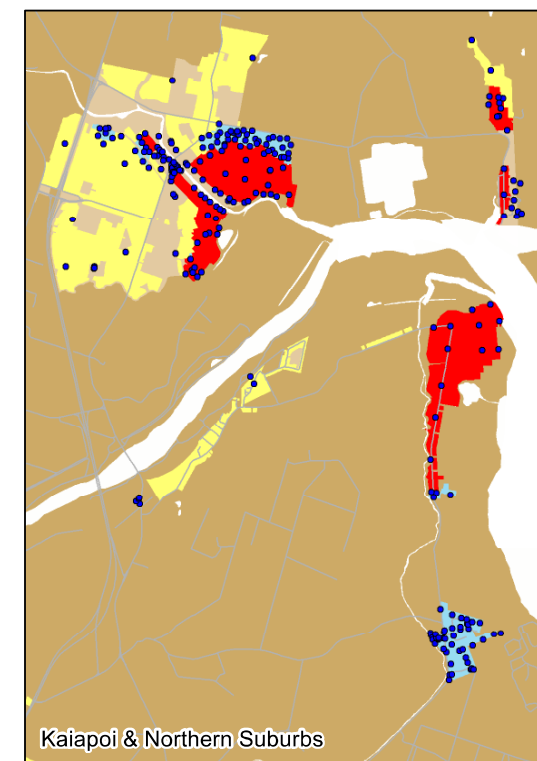
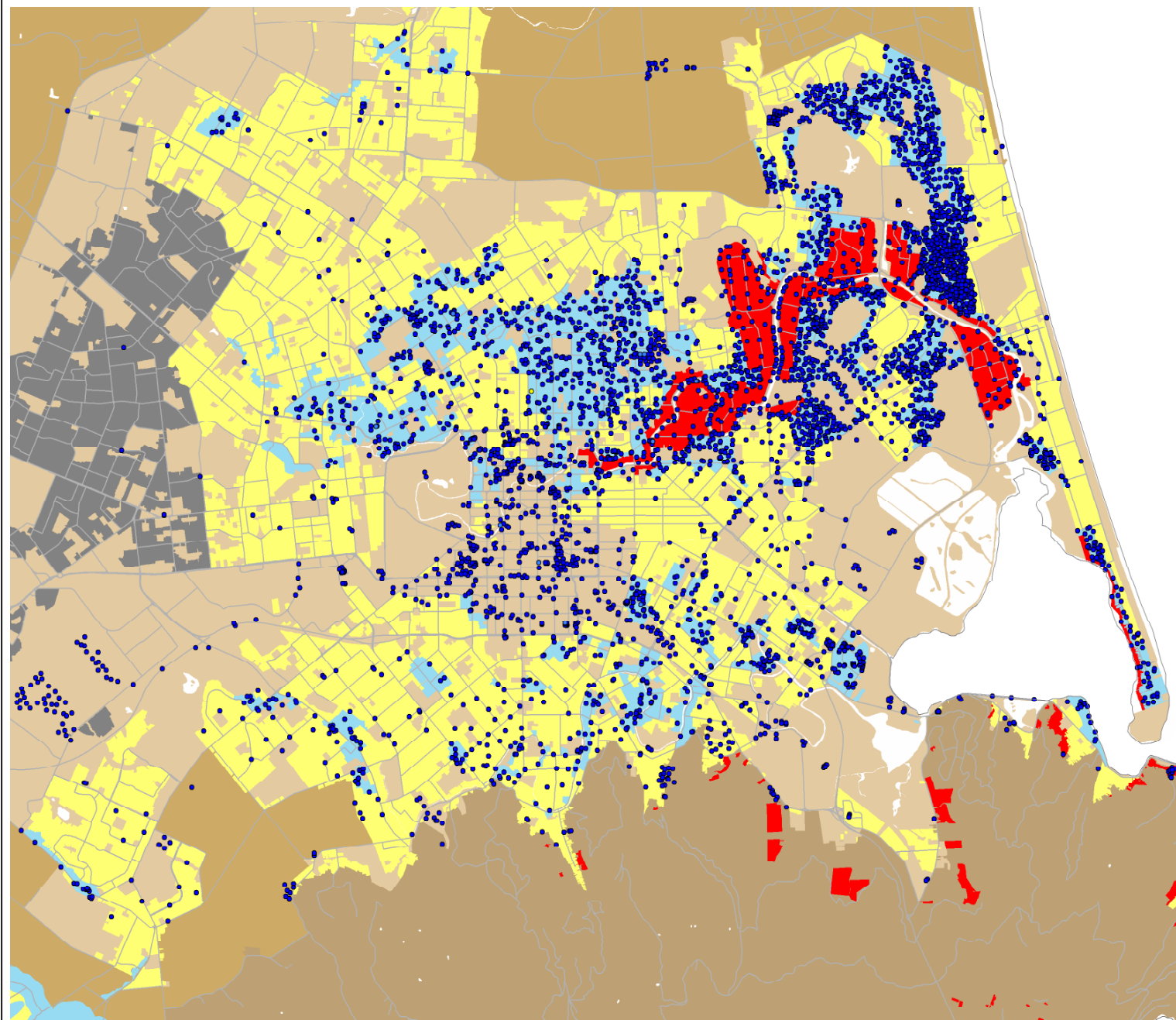


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APPROVED		
ARCFILE	52020-0200-LSN080	
SCALE (AT A3 SIZE)	1:60,000	
Prepared by Tonkin & Taylor Ltd.		
Ref:	52020-0200	

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M6, PGA 0.08g)

FIGURE No. Figure H1

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LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

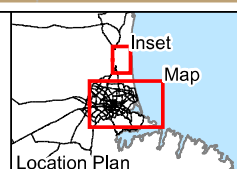
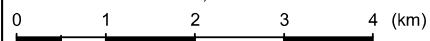
- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

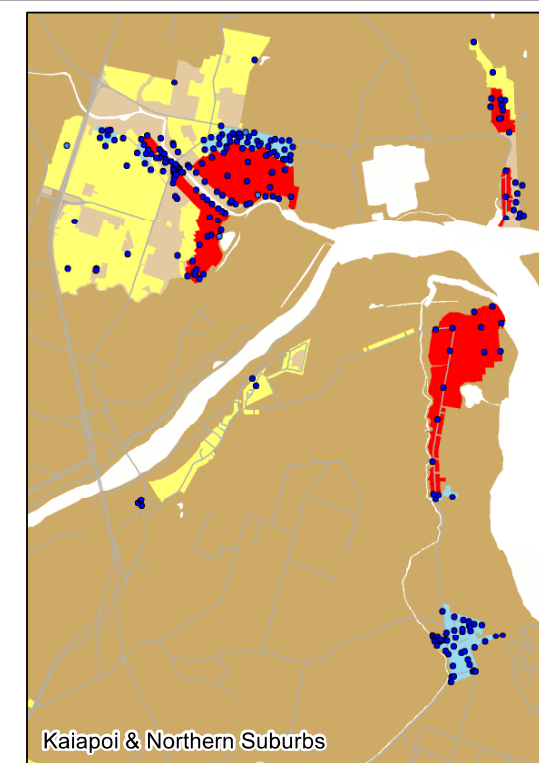
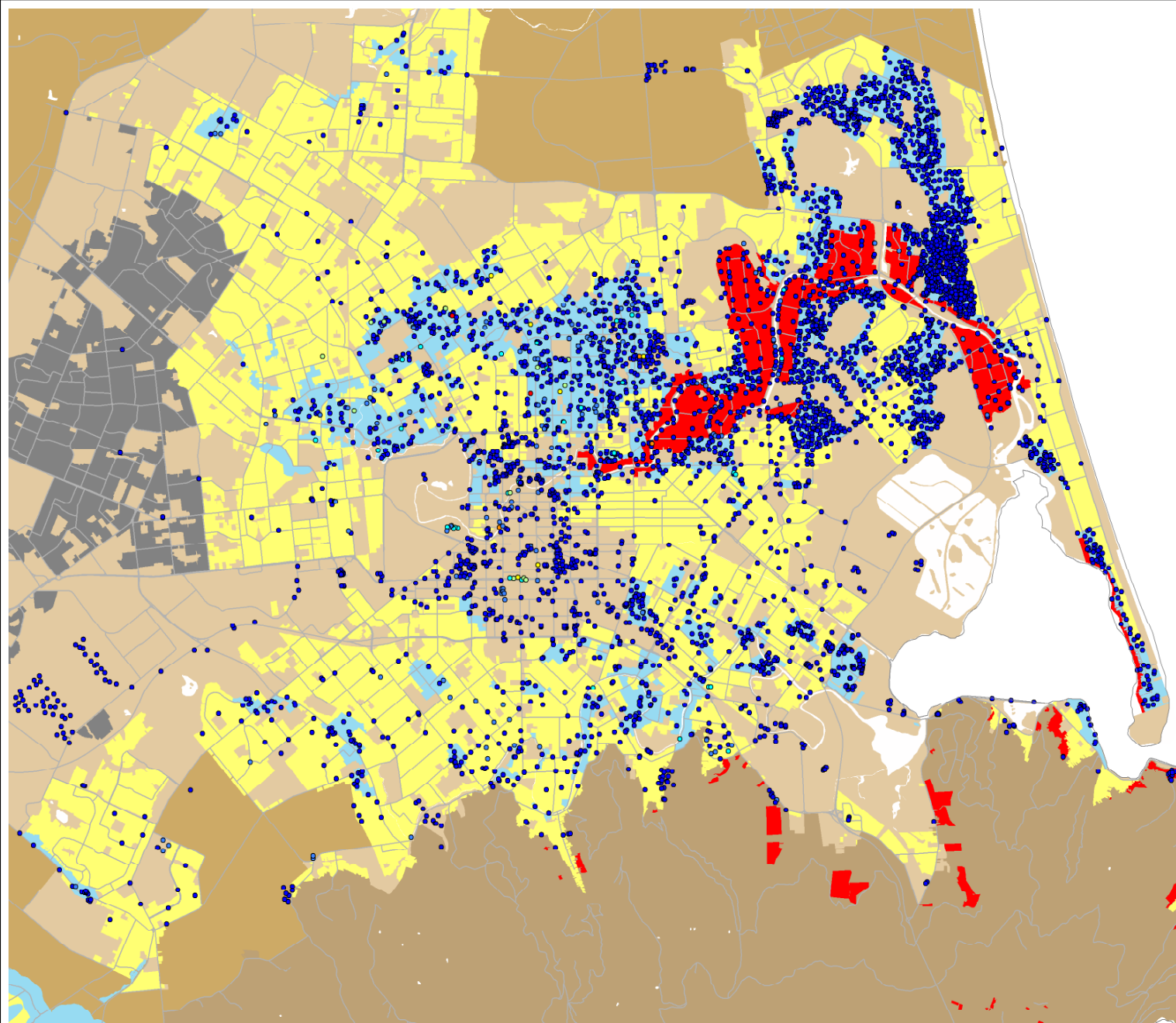


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EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M6, PGA 0.10g)

FIGURE No. Figure H2

Rev. 0



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

0 1 2 3 4 (km)

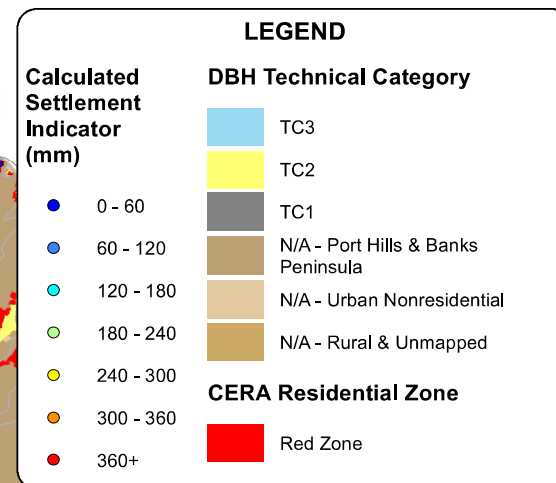
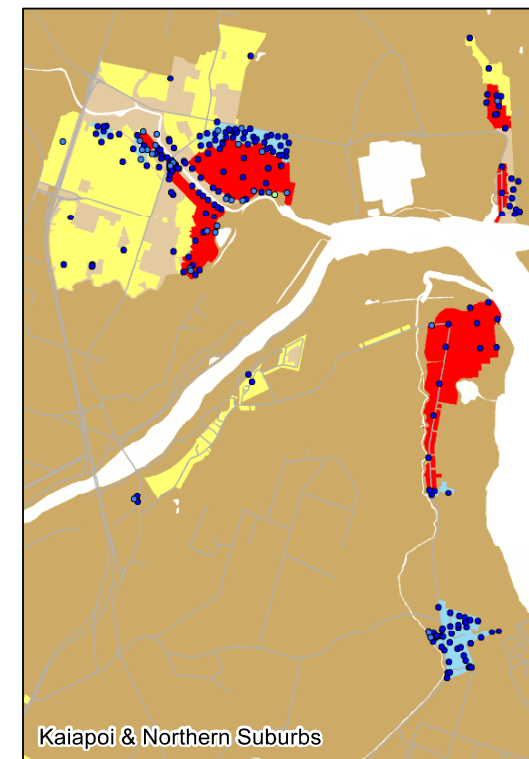
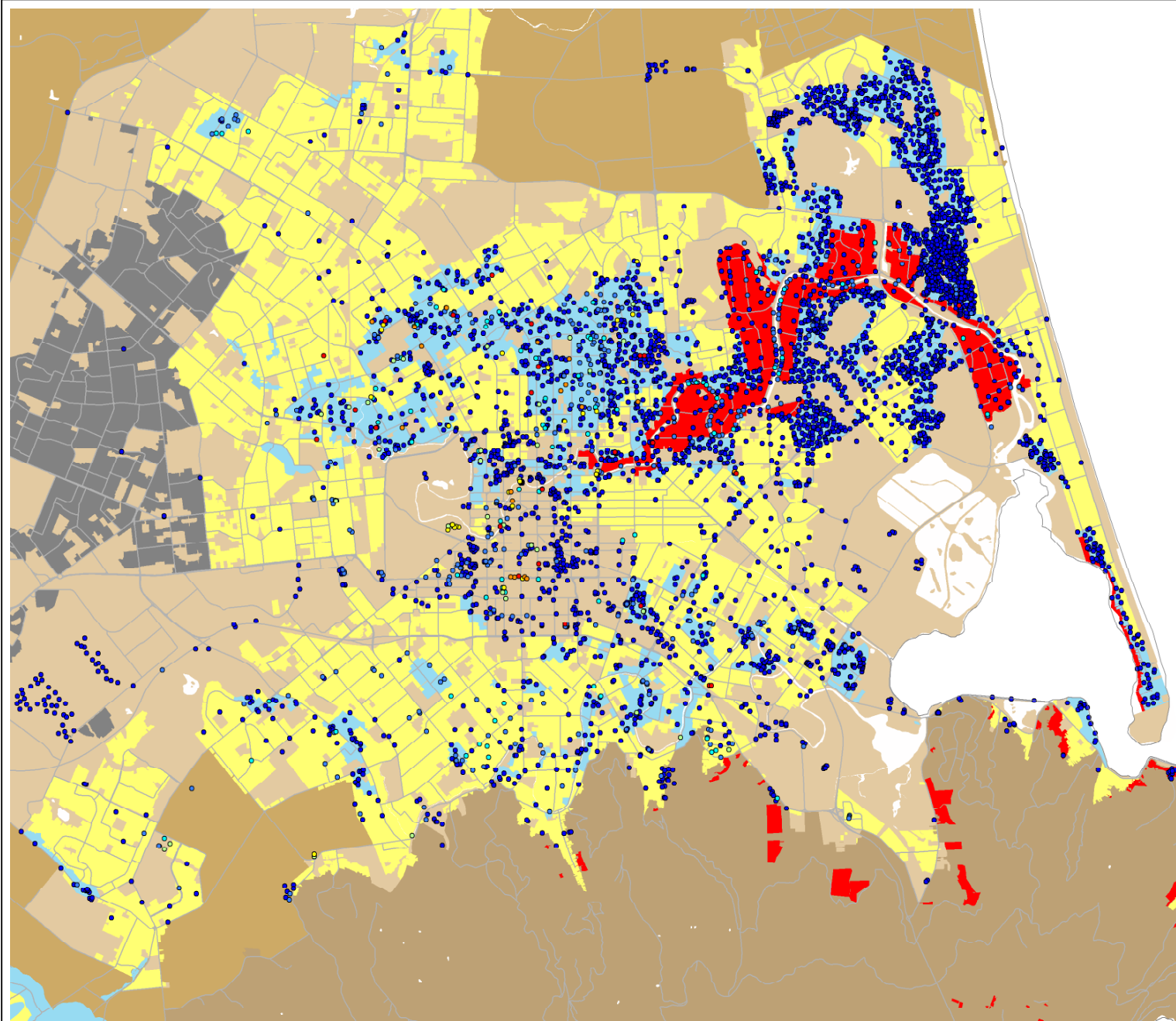


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CHRISTCHURCH CITY & KAIAPOI
Calculated Settlement Indicator based on the Median Groundwater Depth (M6, PGA 0.13g)

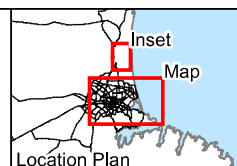
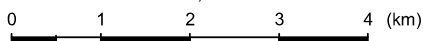
FIGURE No. Figure H3

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A3 SCALE 1:60,000

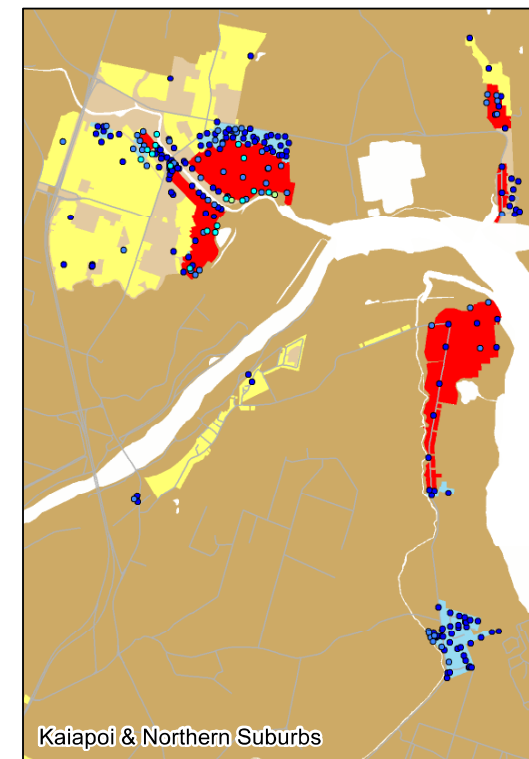
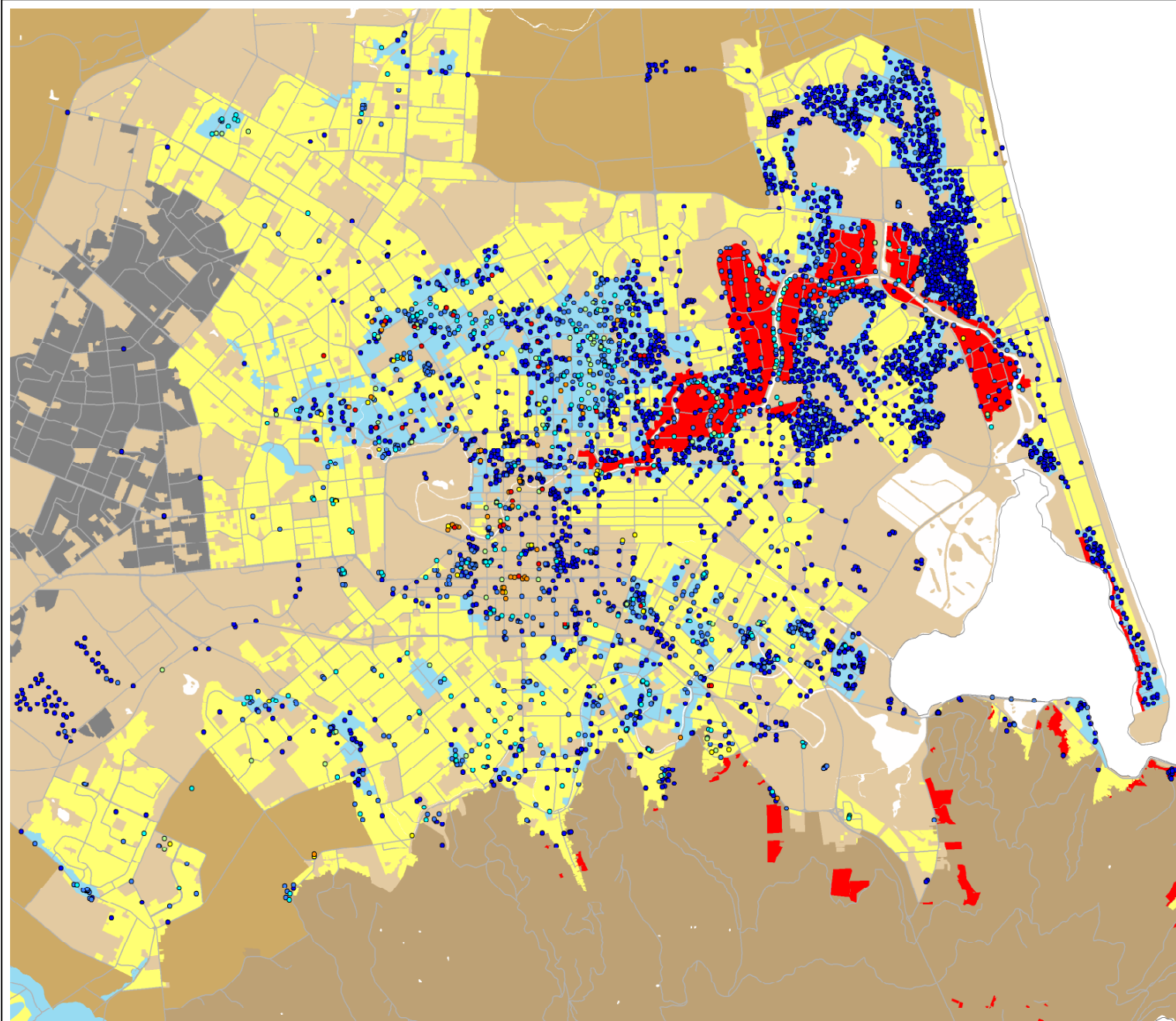


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Prepared by	Tonkin & Taylor Ltd.	
Ref:	52020-0200	

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M6, PGA 0.15g)

FIGURE No. Figure H4

Rev. 0



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

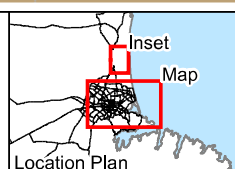
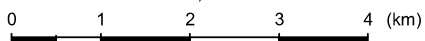
- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

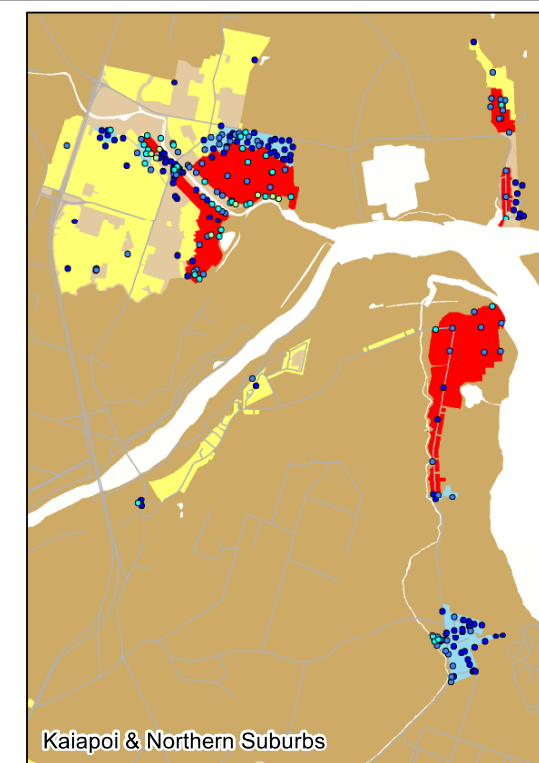
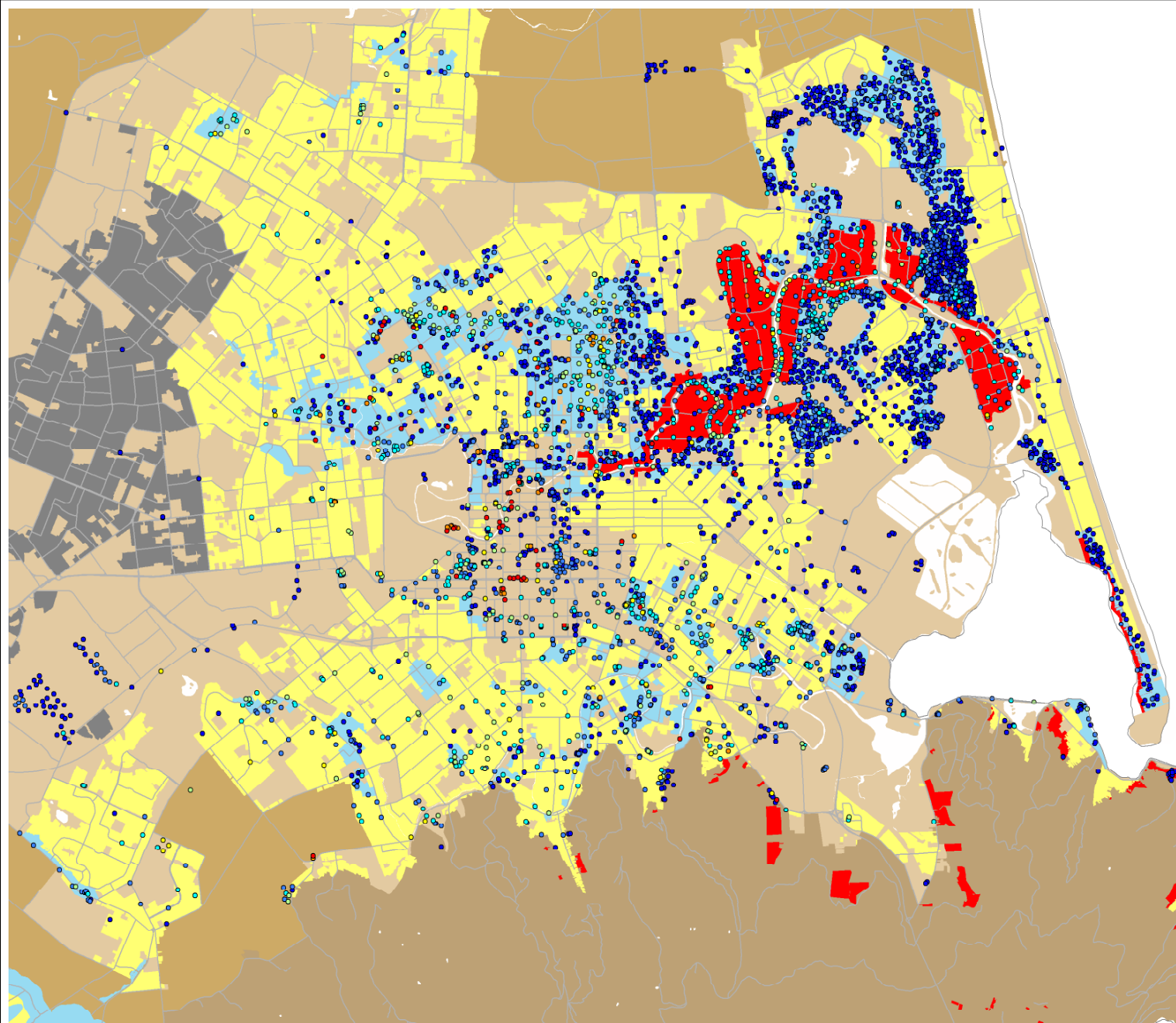


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CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M6, PGA 0.18g)

FIGURE No. Figure H5

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LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

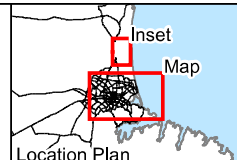
CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

0 1 2 3 4 (km)

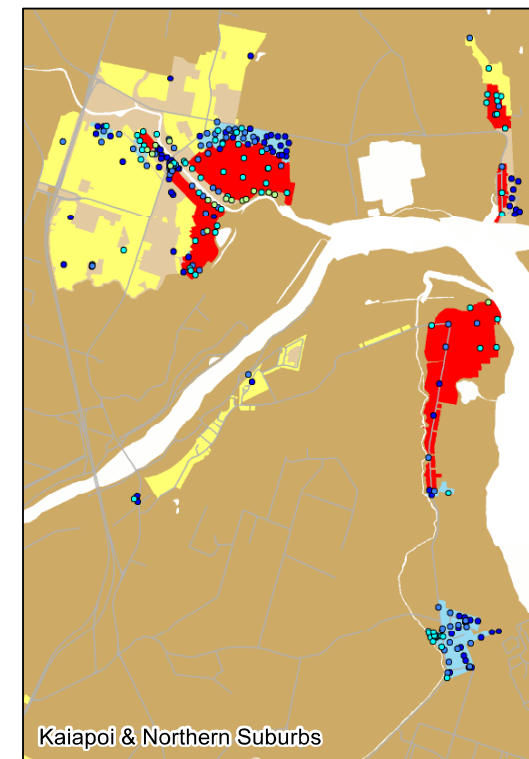
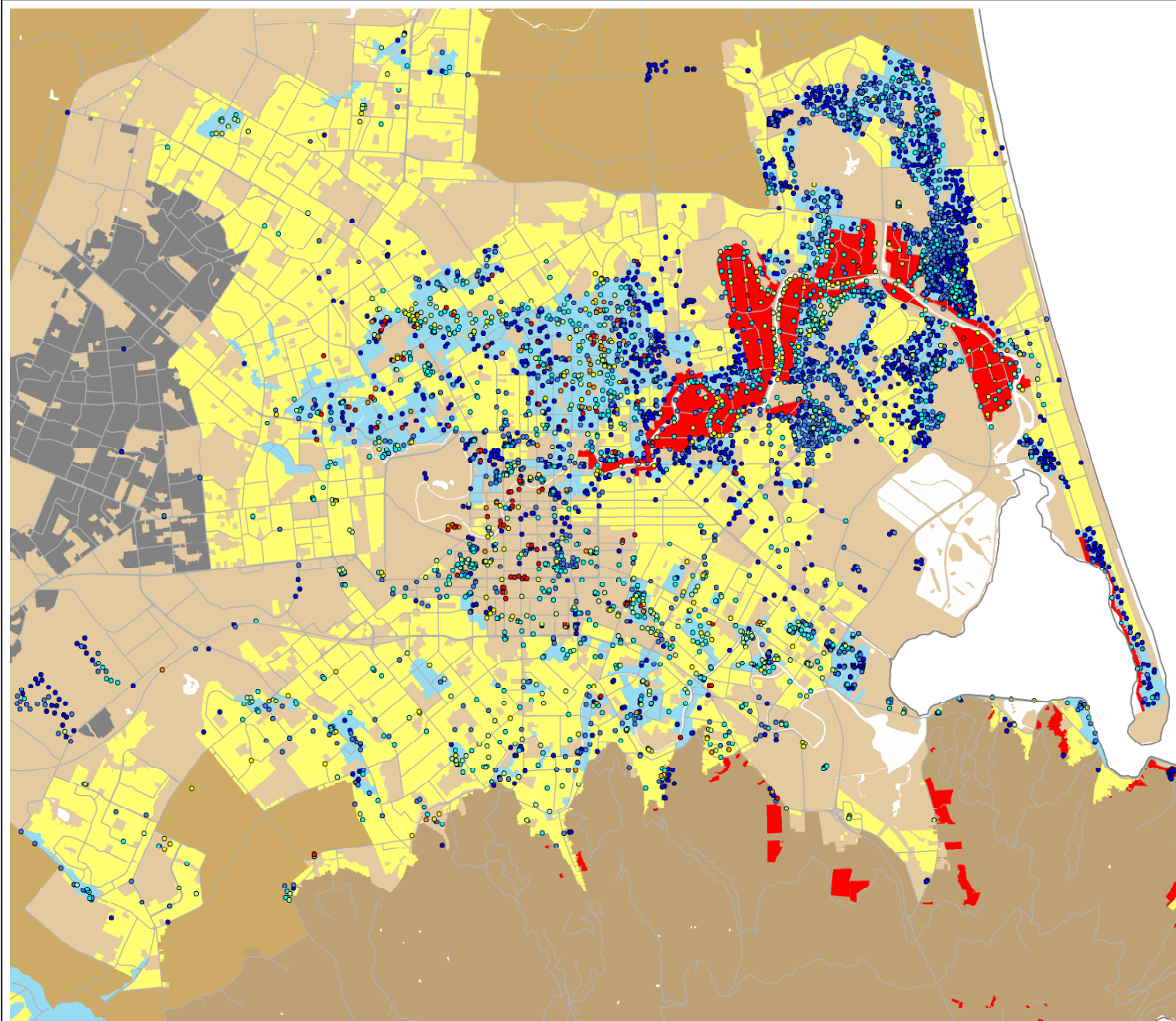


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Ref:	52020-0200	

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M6, PGA 0.22g)

FIGURE No. Figure H6

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LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

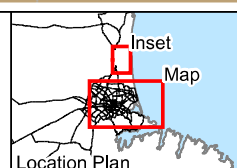
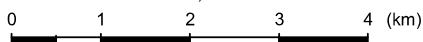
- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

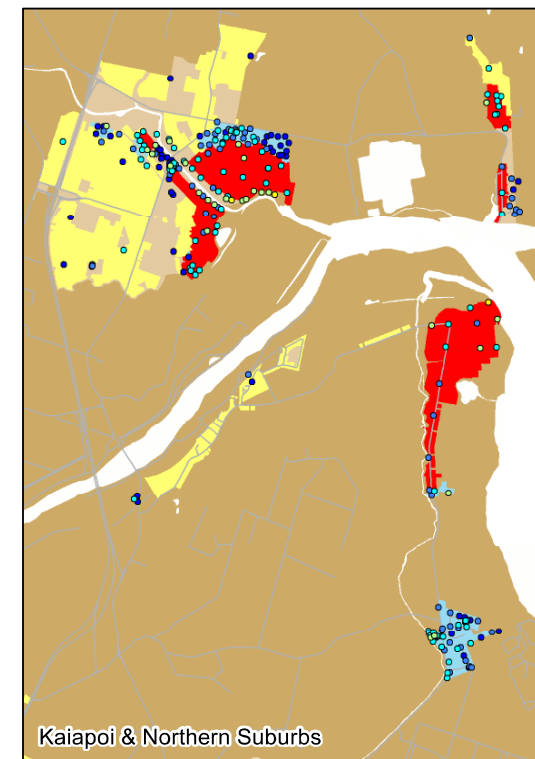
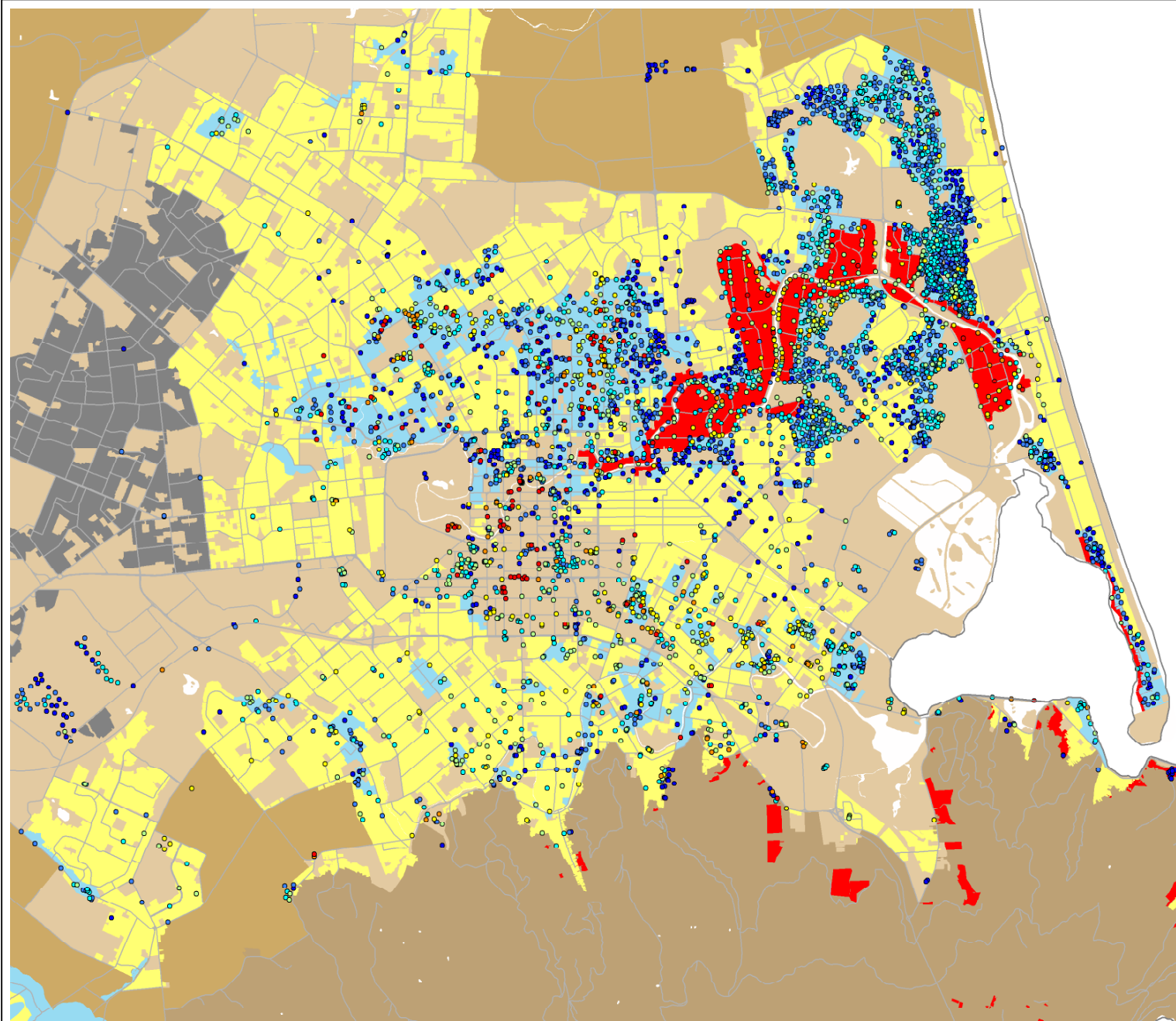


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EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M6, PGA 0.27g)

FIGURE No. Figure H7

Rev. 0



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

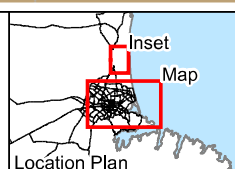
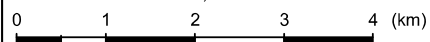
- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

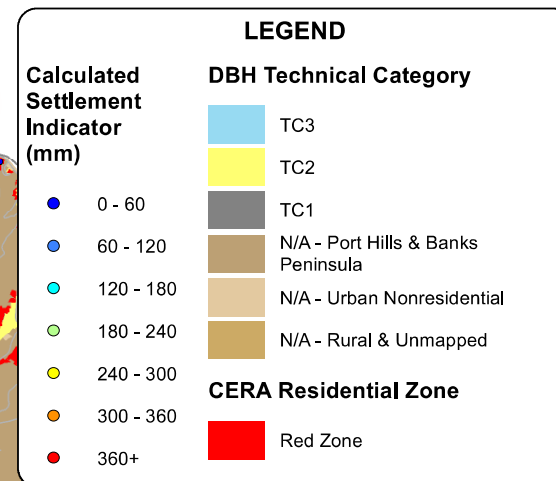
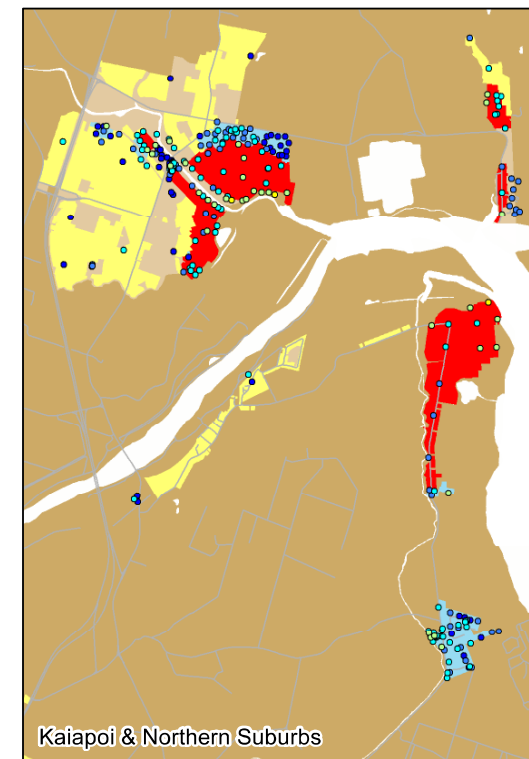
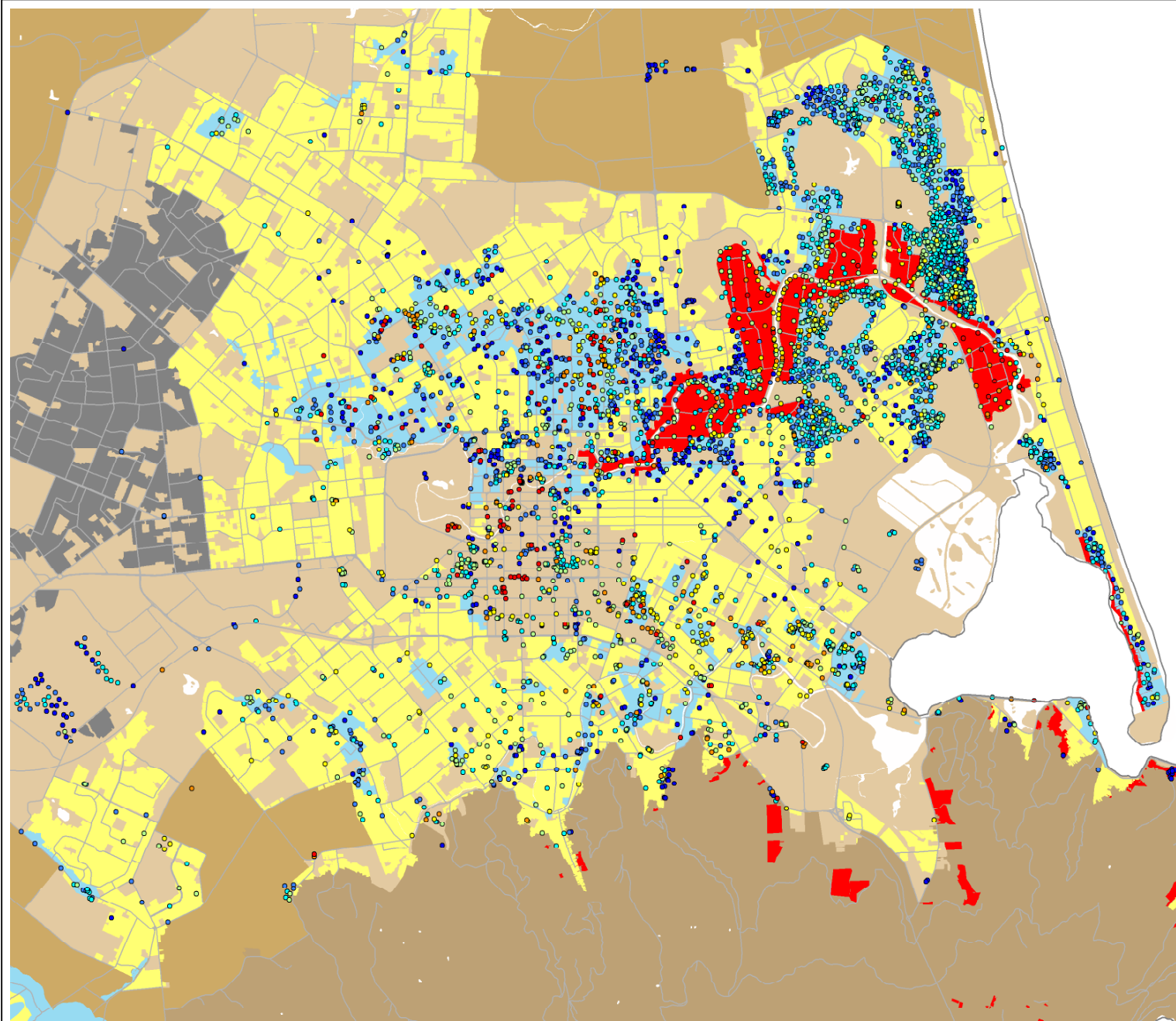


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EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M6, PGA 0.35g)

FIGURE No. Figure H8

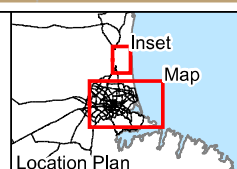
Rev. 0



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A3 SCALE 1:60,000

0 1 2 3 4 (km)



EQC
EARTHQUAKE COMMISSION
Kōhira Rūwhenua

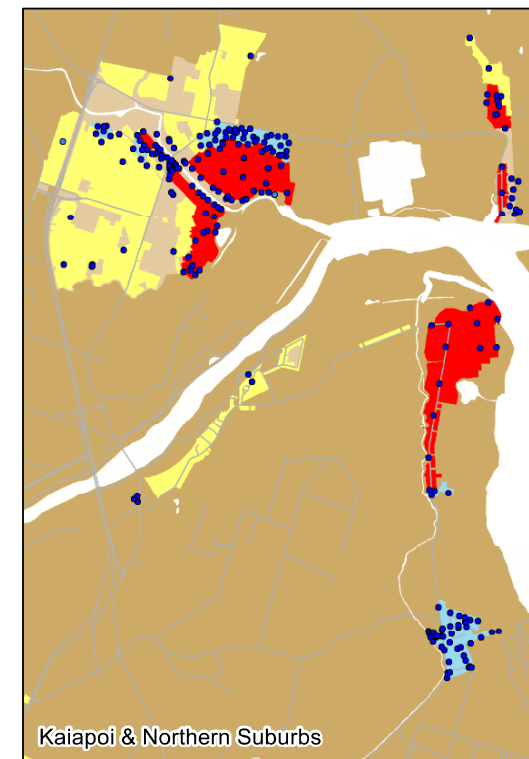
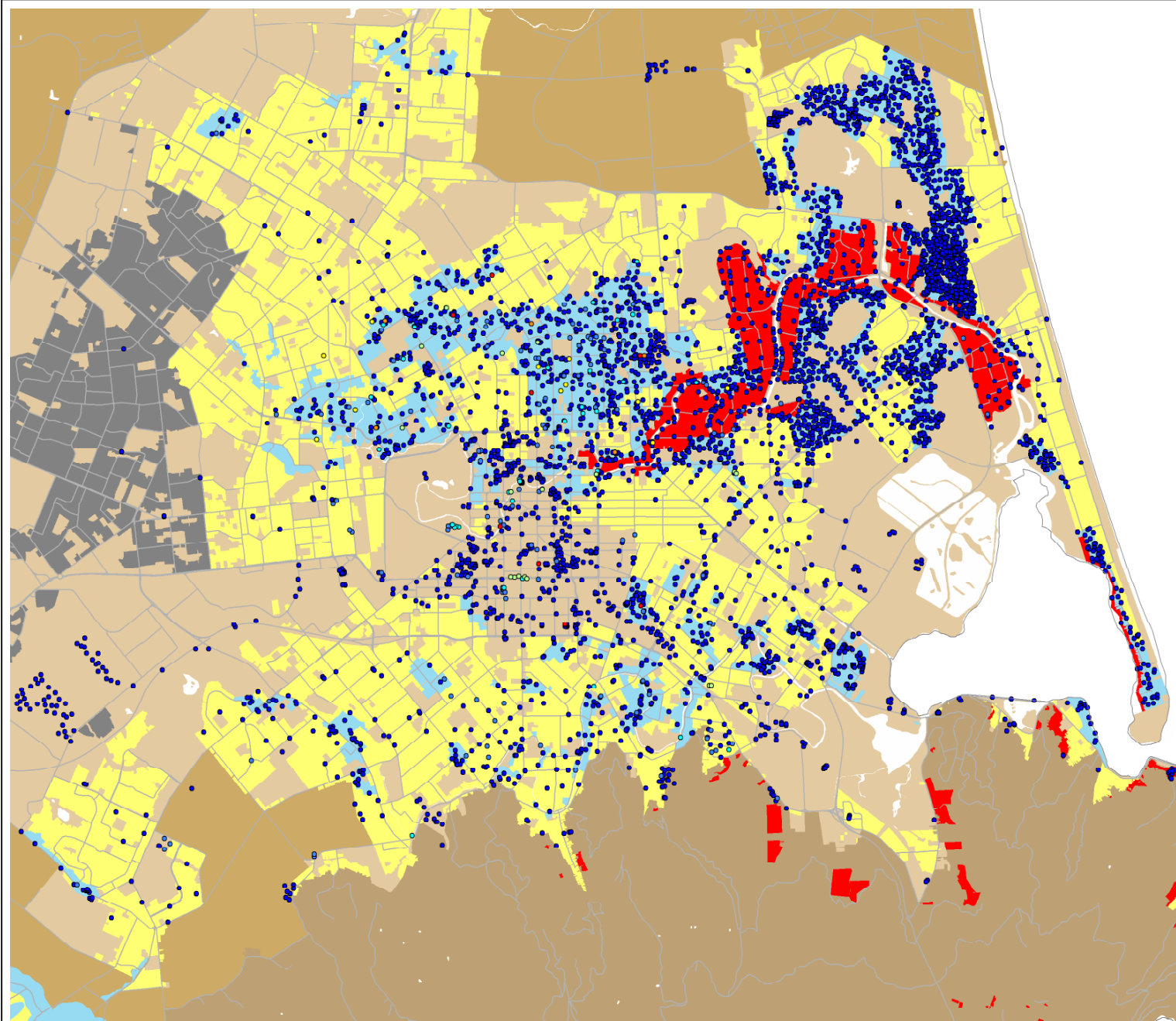
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Prepared by Tonkin & Taylor Ltd. Ref: 52020-0200		

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
Calculated Settlement Indicator based on the Median Groundwater Depth (M6, PGA 0.40g)

FIGURE No. Figure H9

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Magnitude 7.5 Event



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

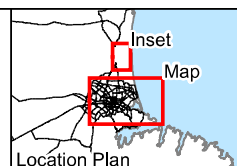
CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

0 1 2 3 4 (km)

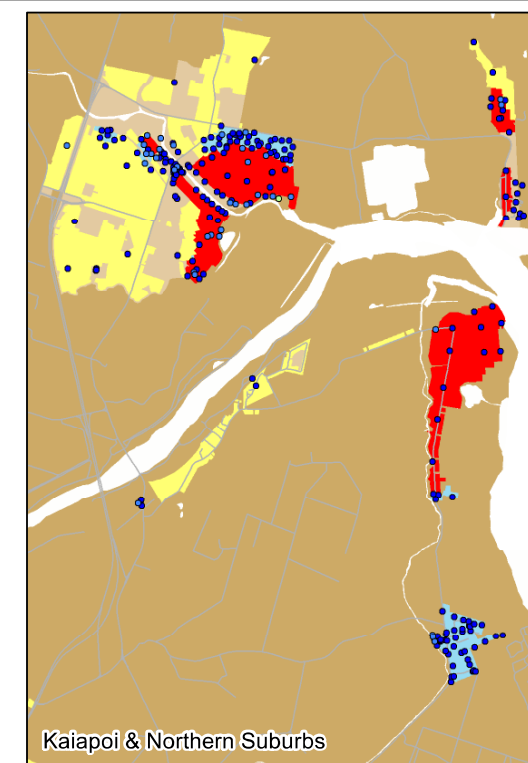
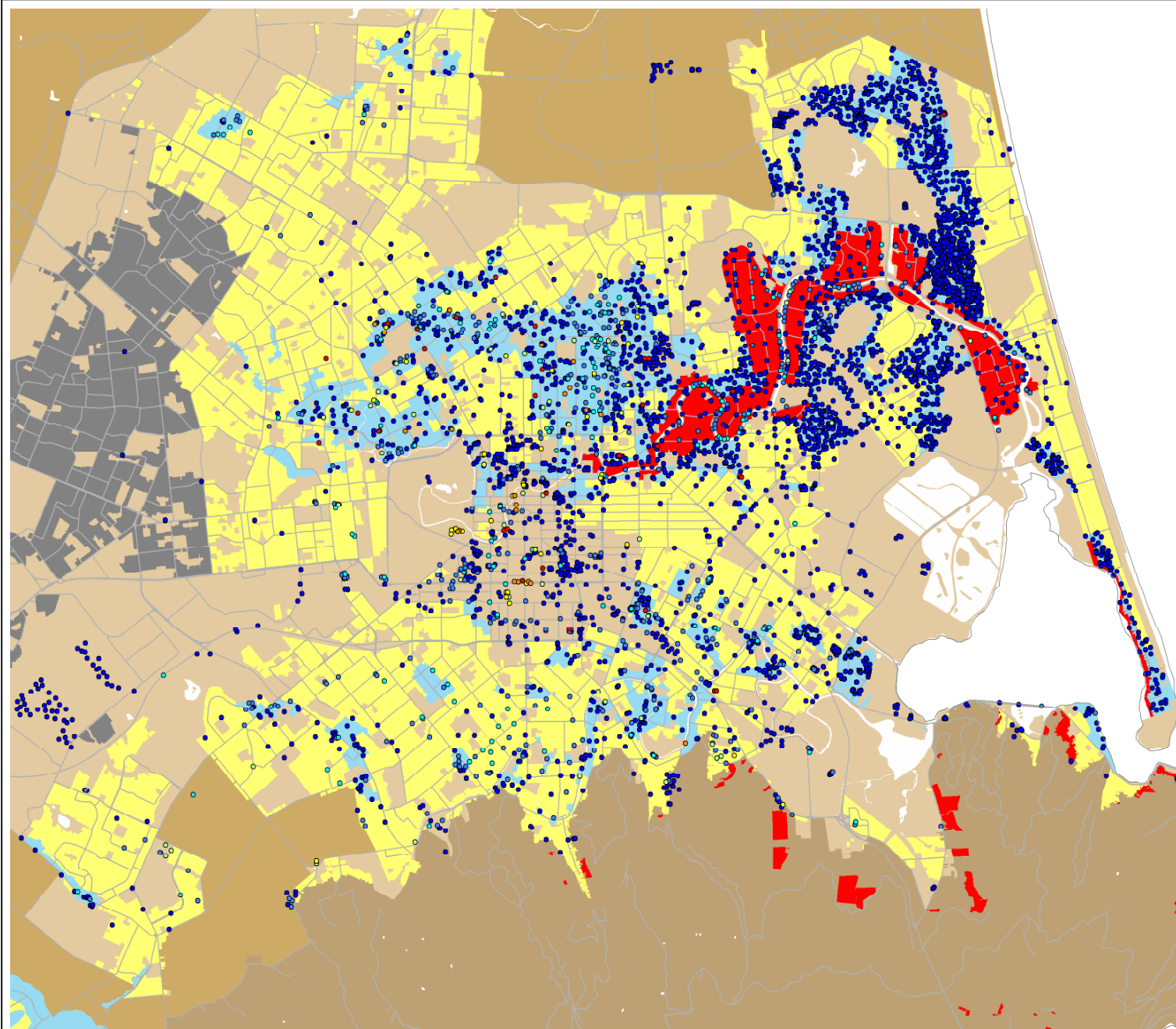


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APPROVED		
ARCFILE	52020-0200-LSN089	
SCALE (AT A3 SIZE)	1:60,000	
Prepared by	Tonkin & Taylor Ltd.	
Ref:	52020-0200	

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M7.5, PGA 0.08g)

FIGURE No. Figure H10

Rev. 0



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

0 1 2 3 4 (km)

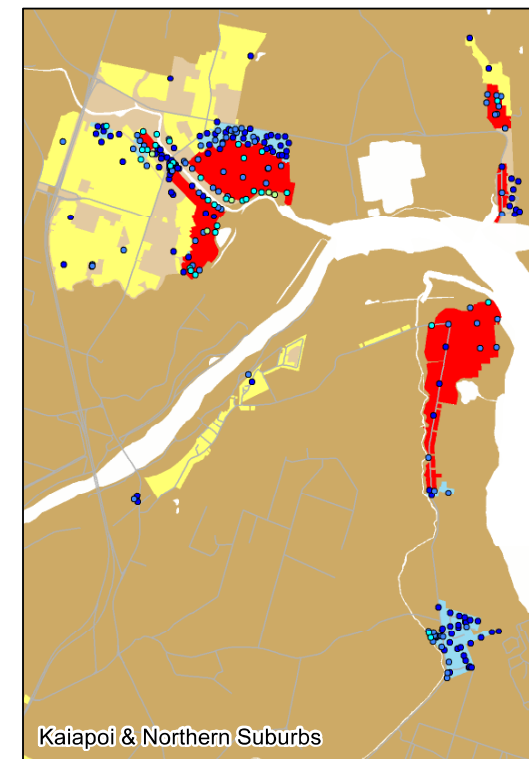
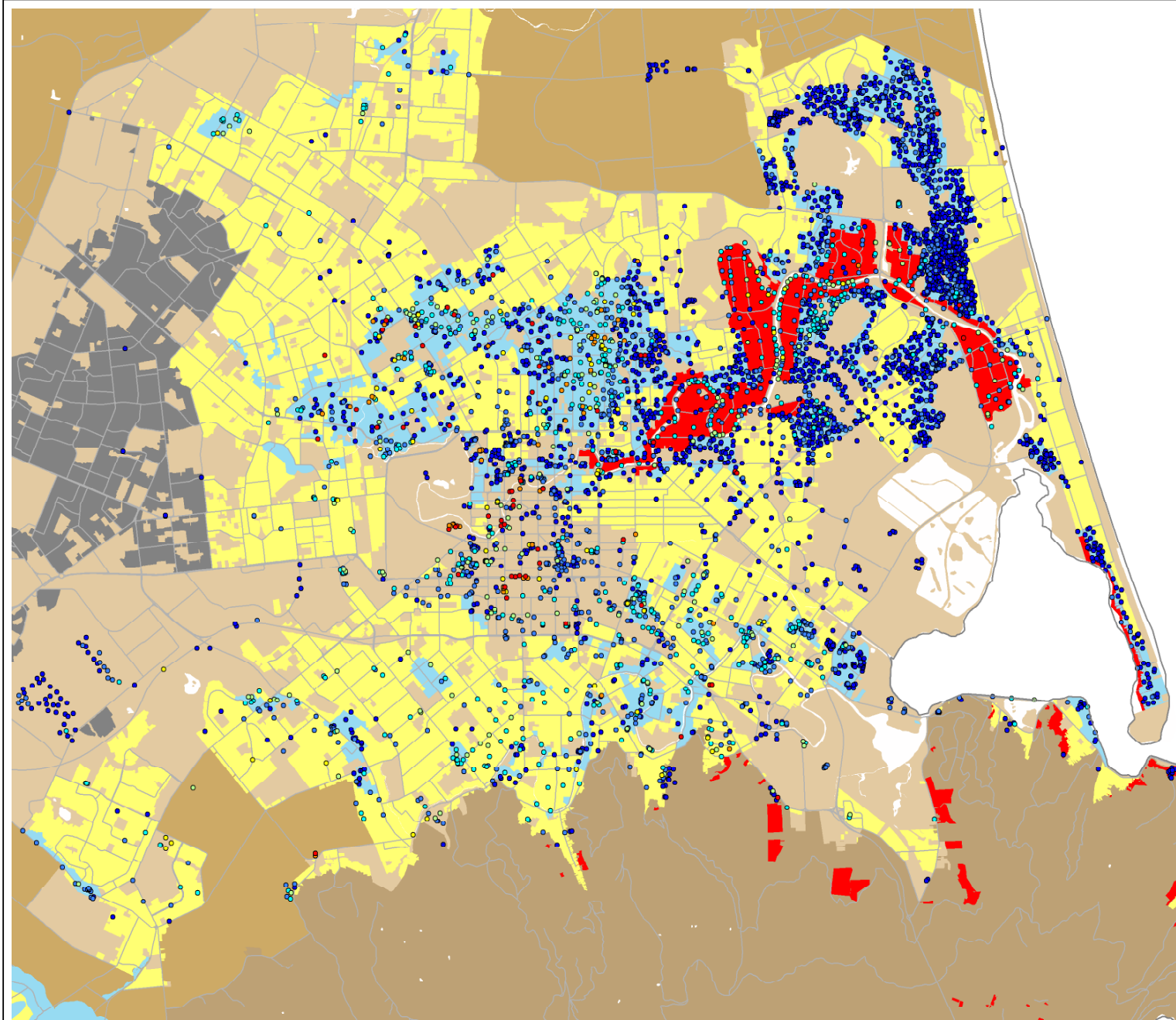


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APPROVED		
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SCALE (AT A3 SIZE)	1:60,000	
Prepared by	Tonkin & Taylor Ltd.	
Ref:	52020-0200	

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M7.5, PGA 0.10g)

FIGURE No. Figure H11

Rev. 0



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

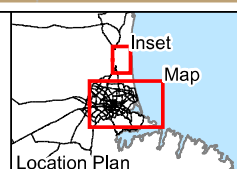
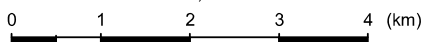
- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

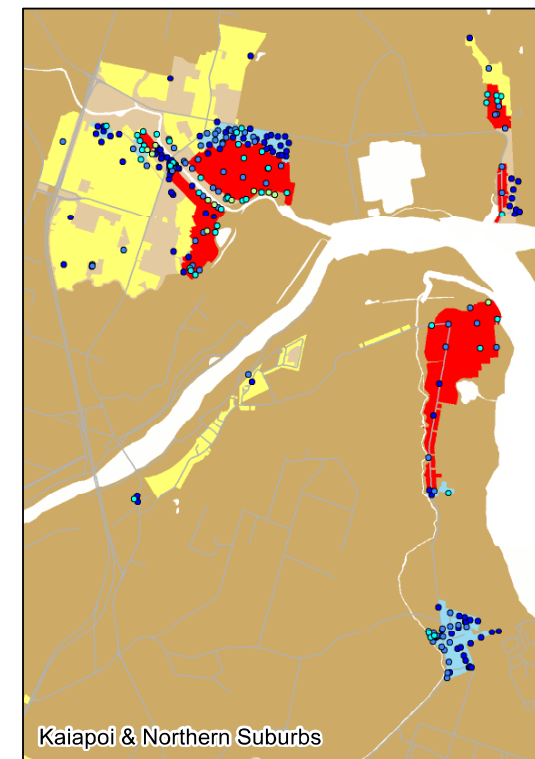
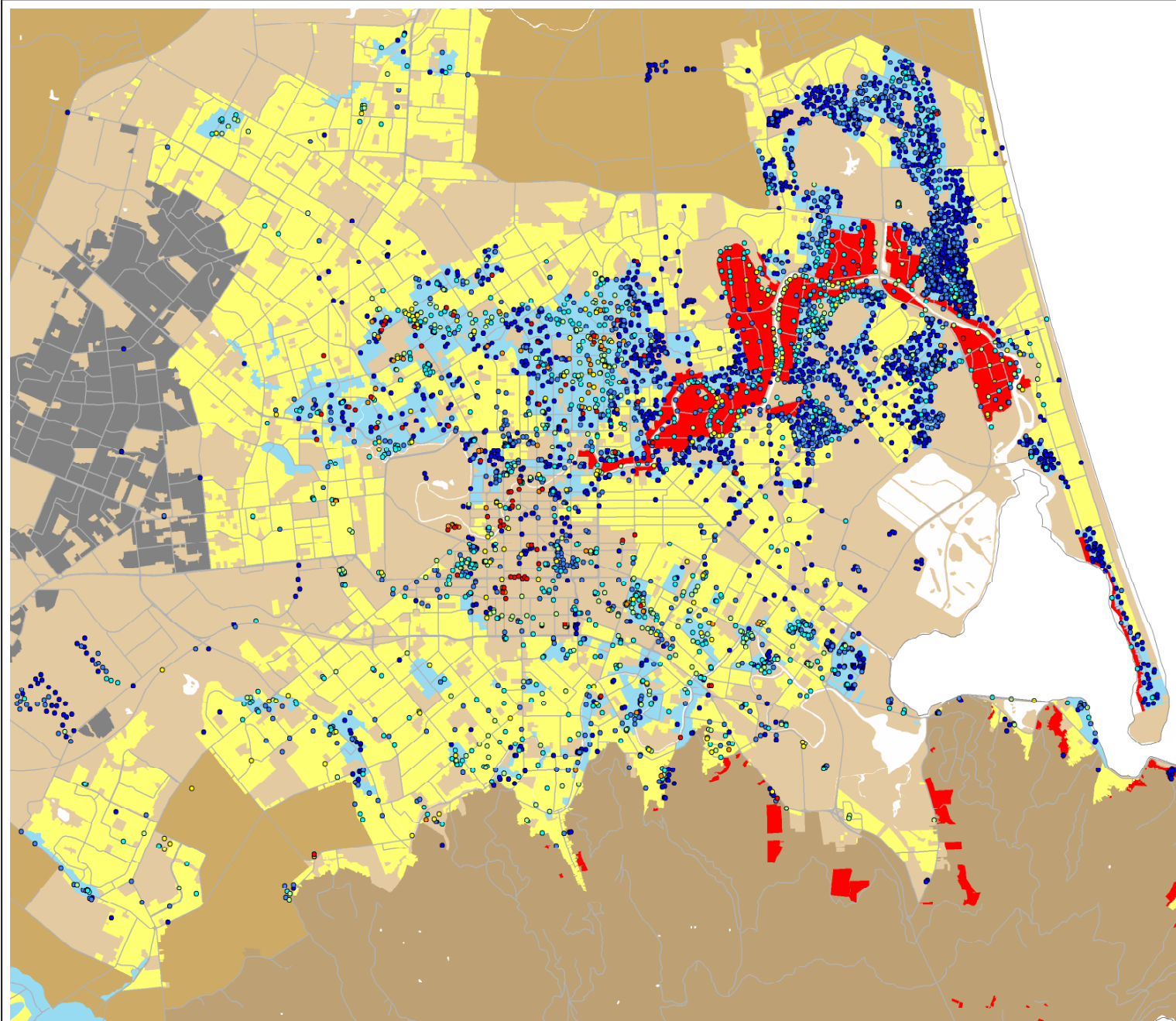


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Ref:	52020-0200	

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M7.5, PGA 0.13g)

FIGURE No. Figure H12

Rev. 0



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

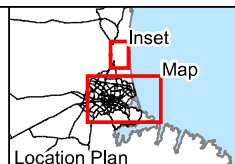
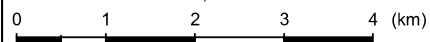
- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

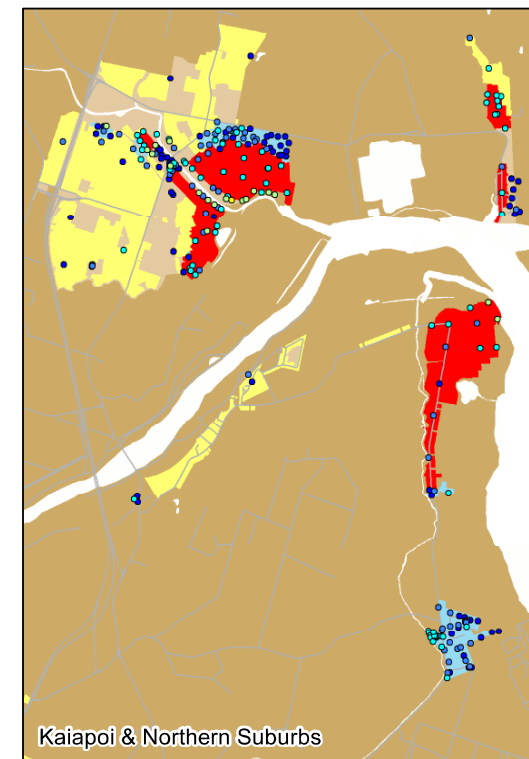
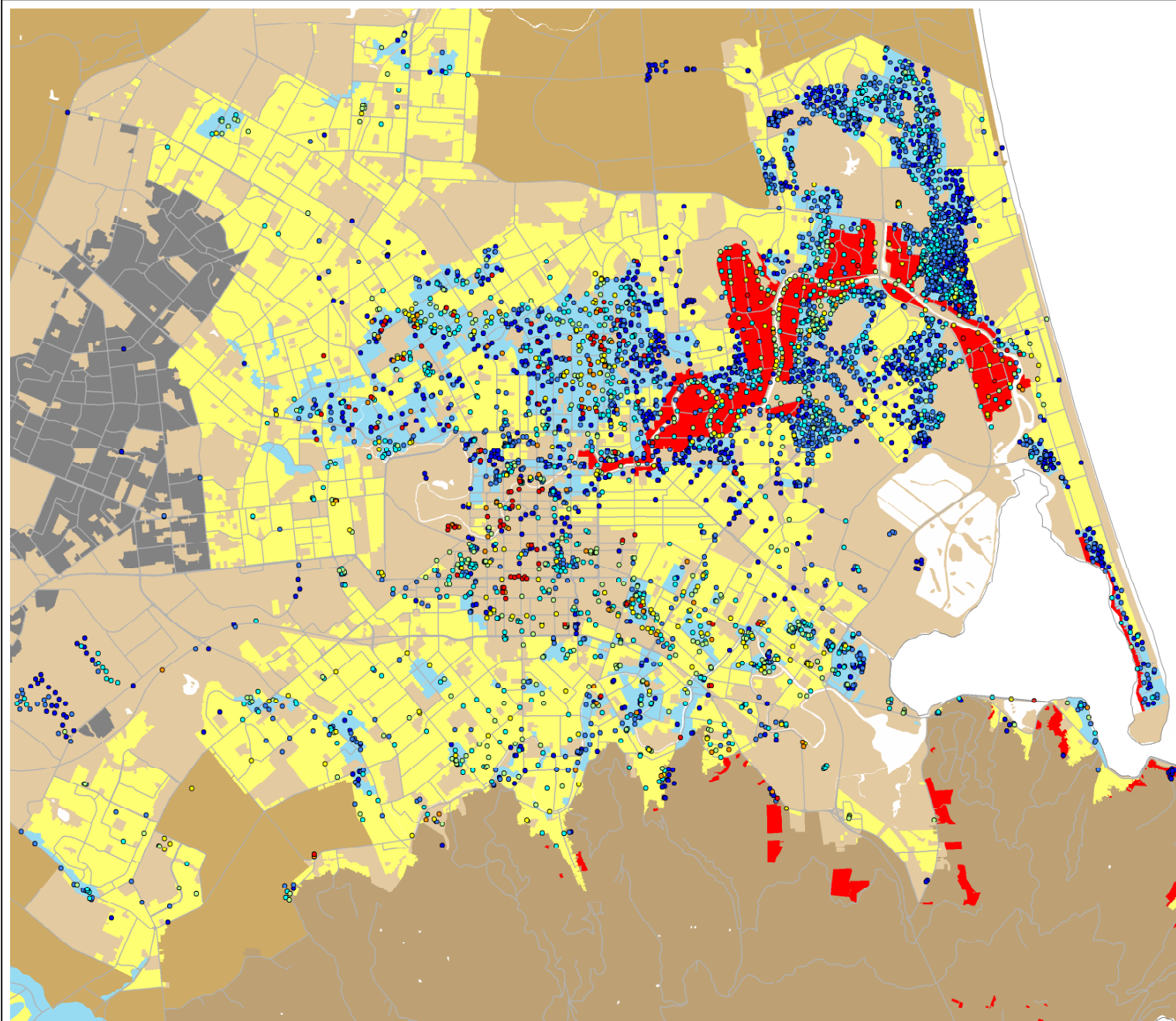


DRAWN	JEL	Feb.13
CHECKED		
APPROVED		
ARCFILE	52020-0200-LSN092	
SCALE (AT A3 SIZE)	1:60,000	
Prepared by	Tonkin & Taylor Ltd.	
Ref:	52020-0200	

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M7.5, PGA 0.15g)

FIGURE No. Figure H13

Rev. 0



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

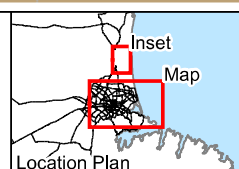
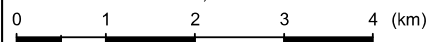
- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

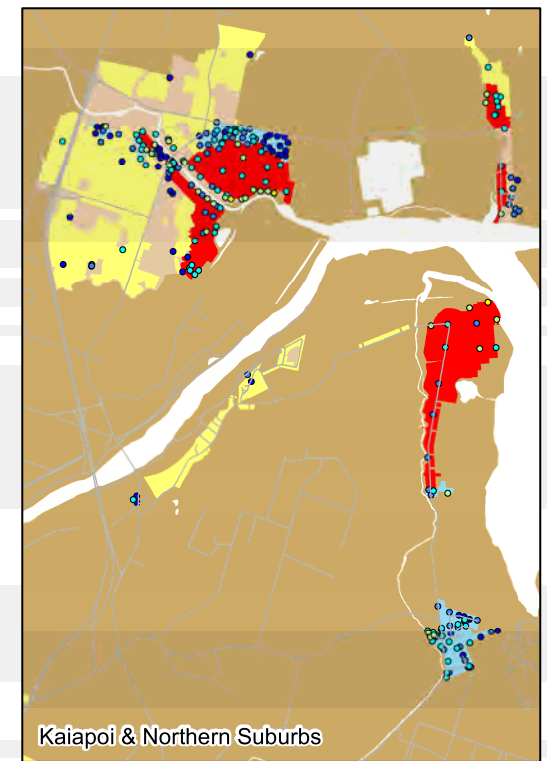
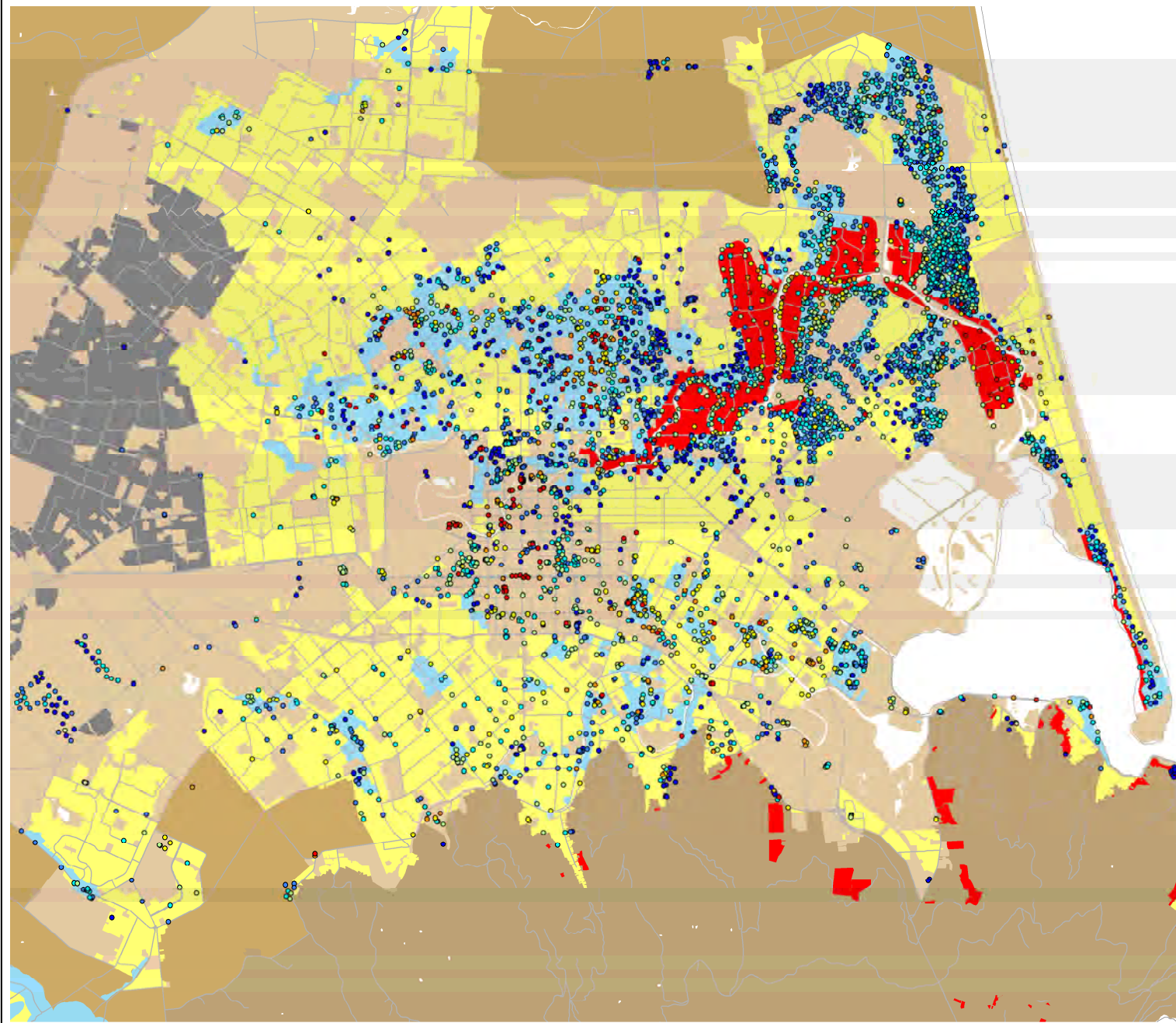


DRAWN	JEL	Feb.13
CHECKED		
APPROVED		
ARCFILE	52020-0200-LSN093	
SCALE (AT A3 SIZE)	1:60,000	
Prepared by	Tonkin & Taylor Ltd.	
Ref:	52020-0200	

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M7.5, PGA 0.18g)

FIGURE No. Figure H14

Rev. 0



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

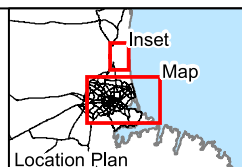
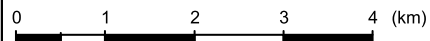
- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Rural & Unmapped
- N/A - Urban Nonresidential

CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

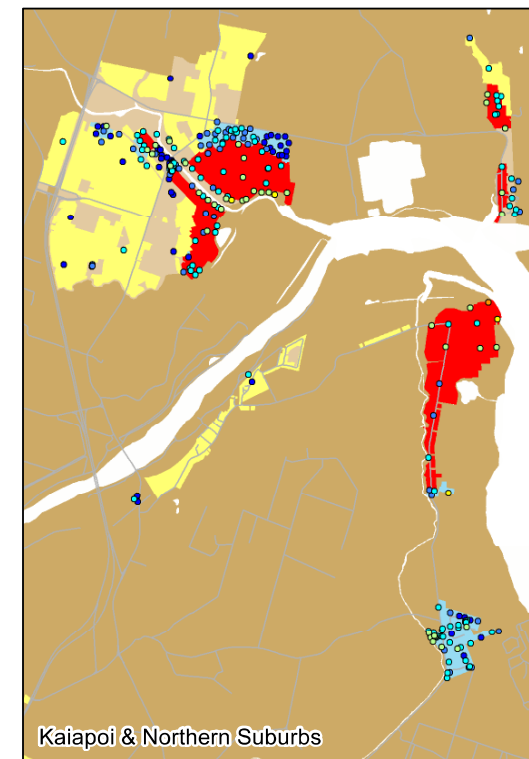
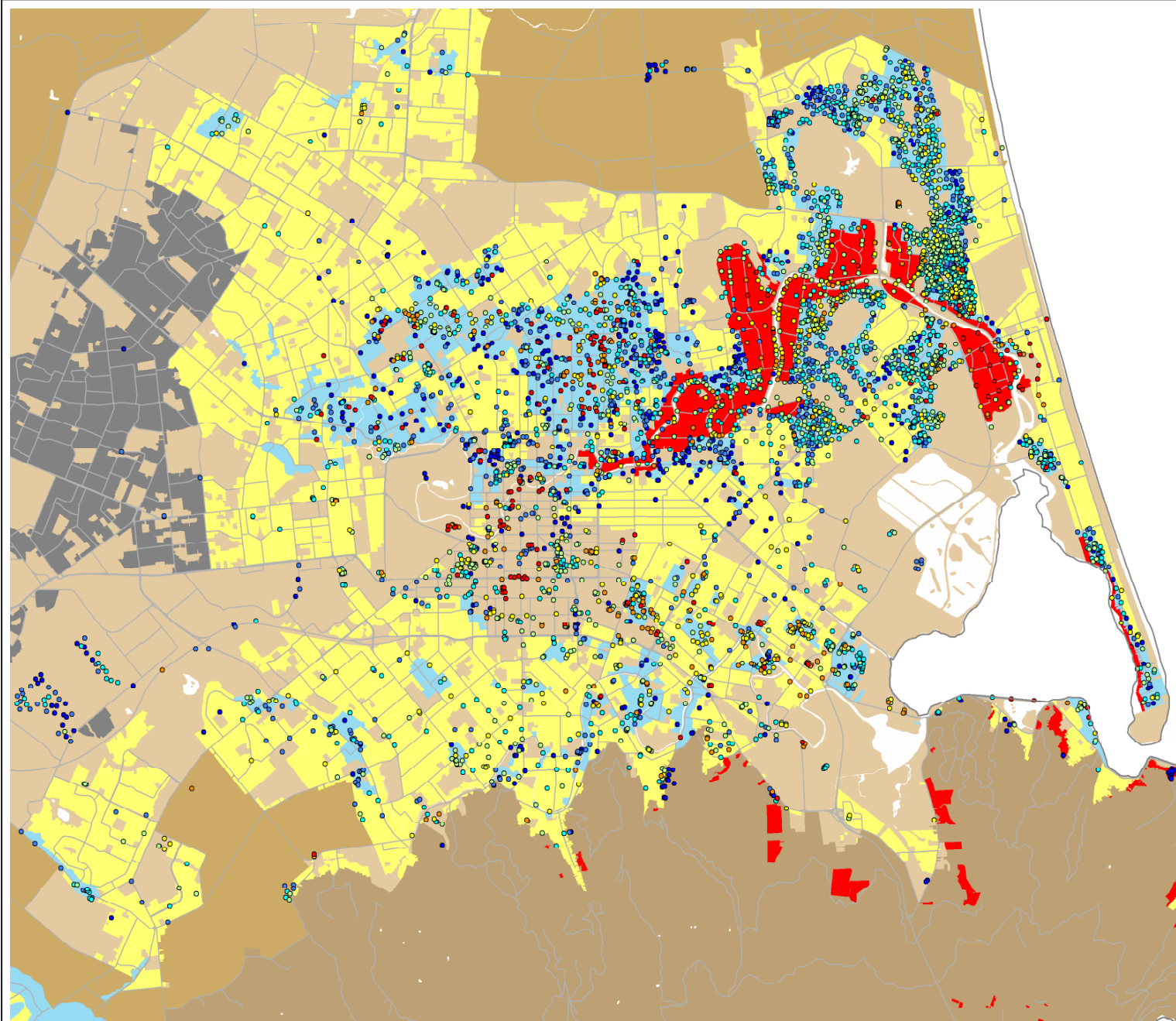


DRAWN	JEL	Mar,13
CHECKED		
APPROVED		
ARCFILE	52020-0200-LSN094	
SCALE (AT A3 SIZE)	1:60,000	
Prepared by Tonkin & Taylor Ltd, Ref:	52020-0200	

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator (Median Groundwater Depth, M7.5, PGA 0.22g)

FIGURE No. Figure H15

Rev. 0



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

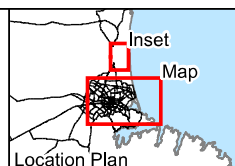
CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000

0 1 2 3 4 (km)

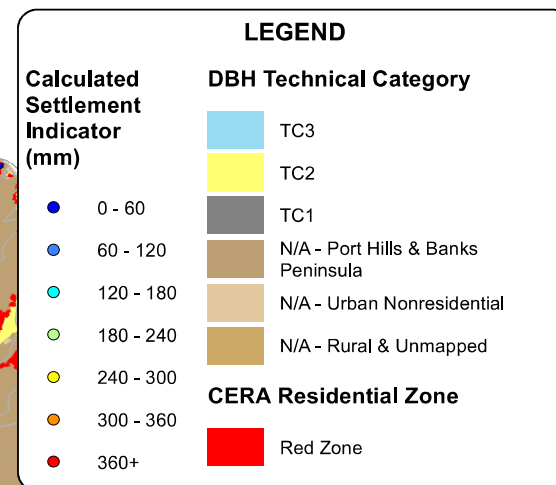
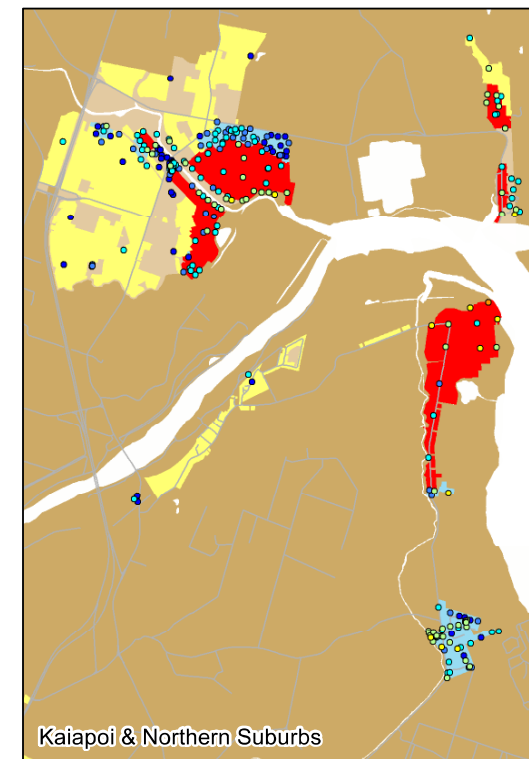
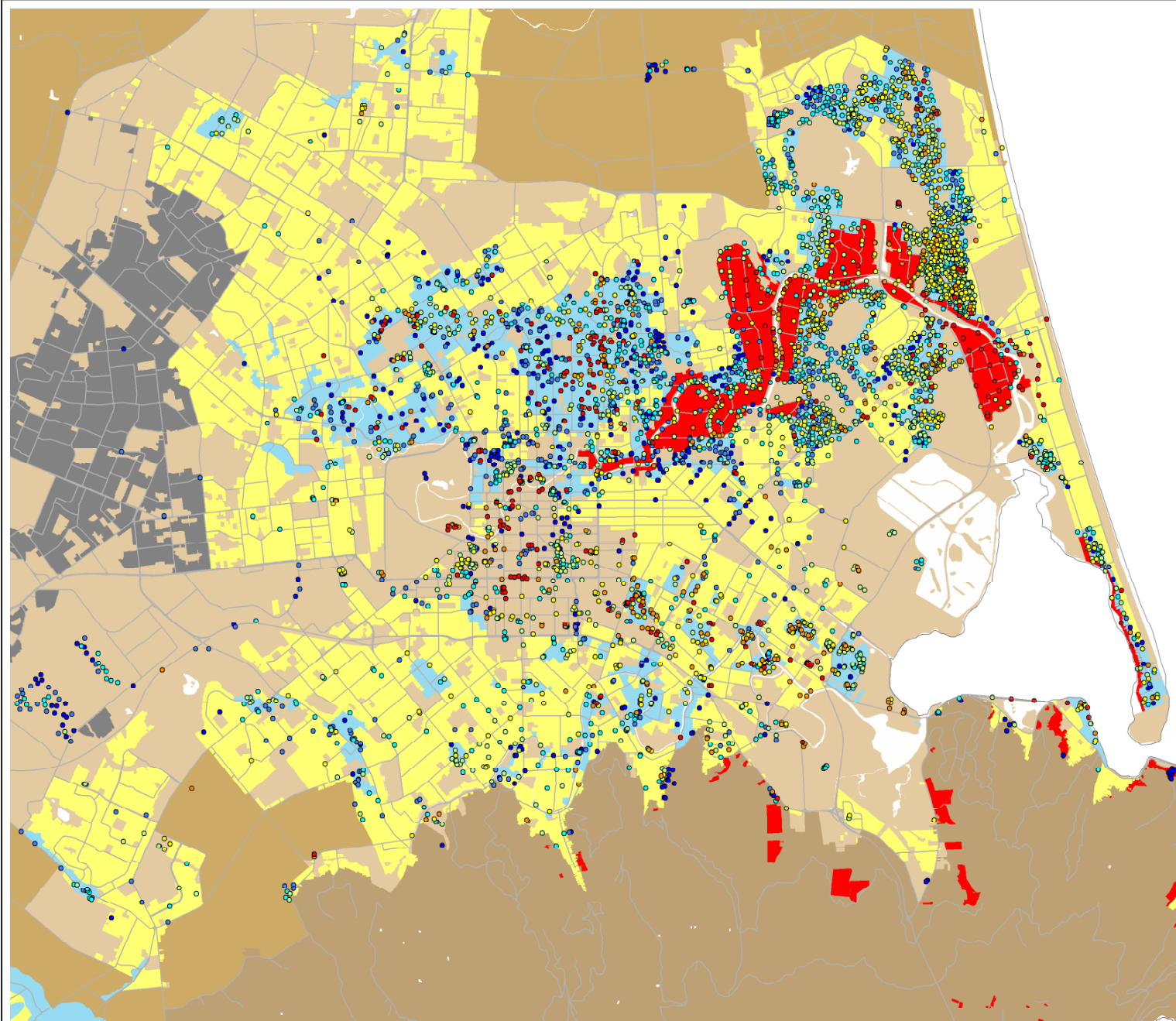


DRAWN	JEL	Feb.13
CHECKED		
APPROVED		
ARCFILE	52020-0200-LSN095	
SCALE (AT A3 SIZE)	1:60,000	
Prepared by	Tonkin & Taylor Ltd.	
Ref:	52020-0200	

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M7.5, PGA 0.27g)

FIGURE No. Figure H16

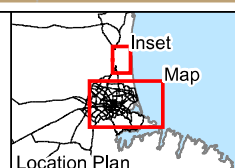
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A3 SCALE 1:60,000

0 1 2 3 4 (km)



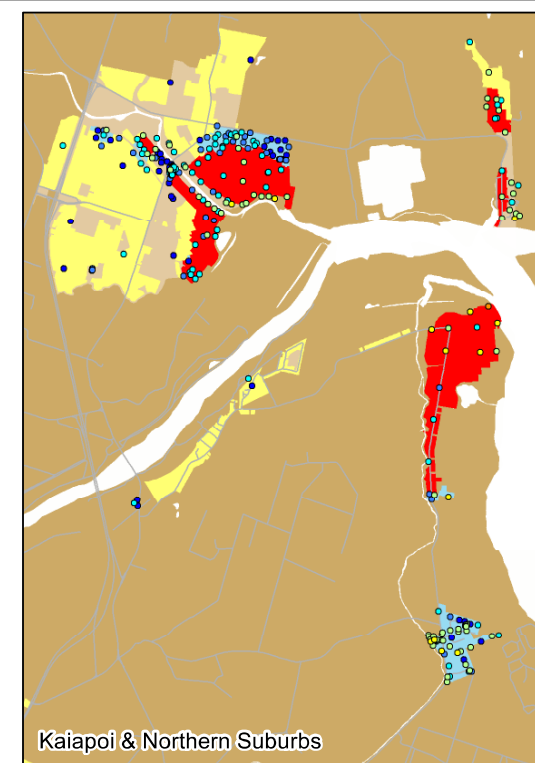
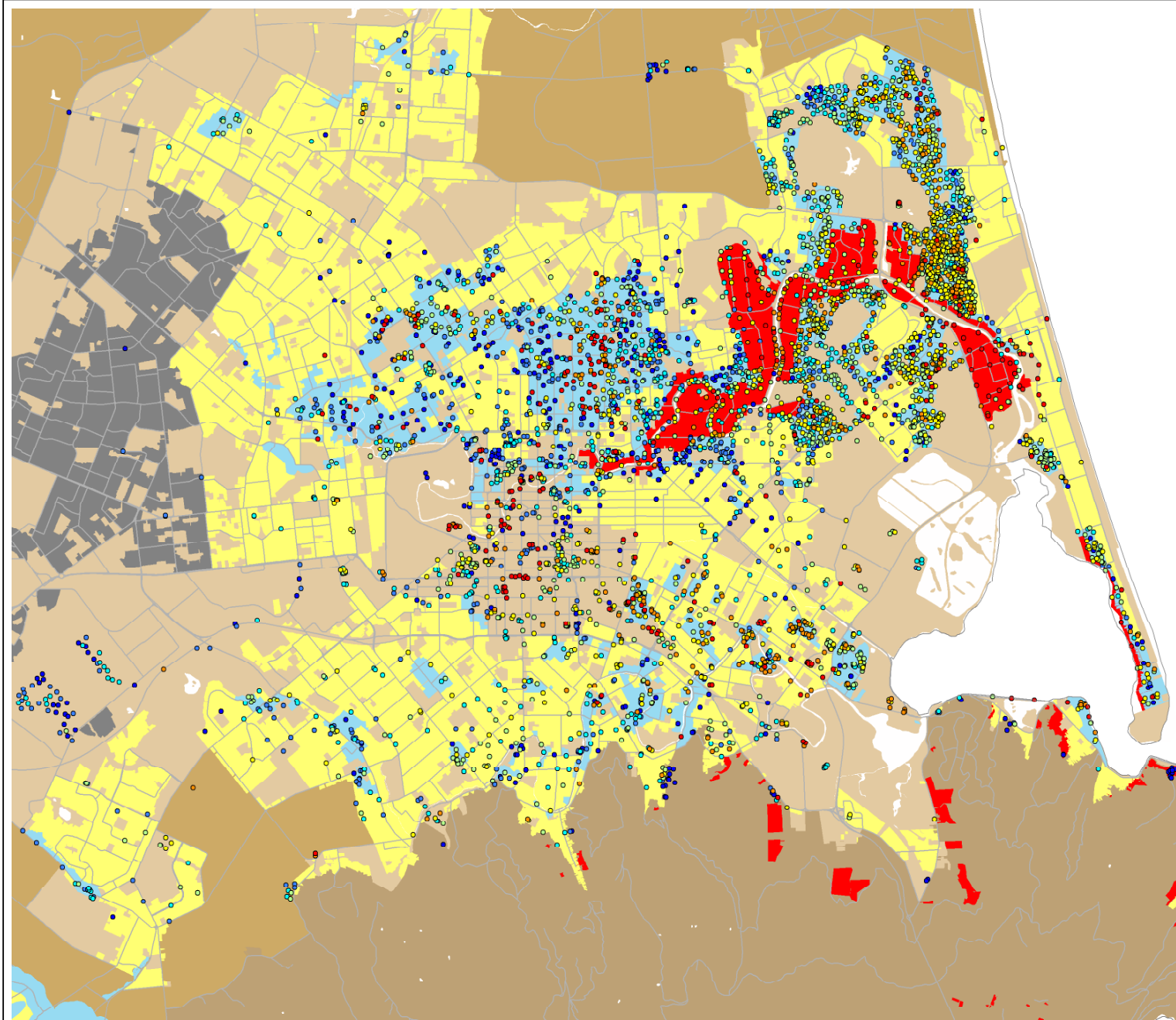
EQC
EARTHQUAKE COMMISSION
Kōhiraia Rūwhenua

DRAWN JEL Feb.13
CHECKED
APPROVED
ARCFILE 52020-0200-LSN096
SCALE (AT A3 SIZE) 1:60,000
Prepared by Tonkin & Taylor Ltd.
Ref: 52020-0200

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
Calculated Settlement Indicator based on the Median Groundwater Depth (M7.5, PGA 0.35g)

FIGURE No. Figure H17

Rev. 0



LEGEND

Calculated Settlement Indicator (mm)

- 0 - 60
- 60 - 120
- 120 - 180
- 180 - 240
- 240 - 300
- 300 - 360
- 360+

DBH Technical Category

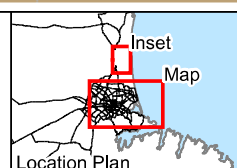
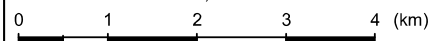
- TC3
- TC2
- TC1
- N/A - Port Hills & Banks Peninsula
- N/A - Urban Nonresidential
- N/A - Rural & Unmapped

CERA Residential Zone

- Red Zone

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A3 SCALE 1:60,000



DRAWN	JEL	Feb.13
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ARCFILE	52020-0200-LSN097	
SCALE (AT A3 SIZE)	1:60,000	
Prepared by	Tonkin & Taylor Ltd.	
Ref:	52020-0200	

EARTHQUAKE COMMISSION
CHRISTCHURCH CITY & KAIAPOI
 Calculated Settlement Indicator based on the Median Groundwater Depth (M7.5, PGA 0.40g)

FIGURE No. Figure H18

Rev. 0