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Contact Robert Swan



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Dear Colin

RE - MOOROOPNOA WEST ODP FLOOD MODELLING

Cardno Lawson Treloar is pleased to present the results of our investigation into the flooding impacts for the Mooroopna West Outline Development Plan(ODP).

Project Description

Cardno Lawson Treloar was engaged by the City of Greater Shepparton to undertake modelling to determine the impact of flooding for various layouts of the proposed Mooroopna ODP area. Modelling of the current conditions model was also undertaken to provide a basis for comparison.

This work builds on the previous Mooroopna ODP work carried out by Cardno Lawson Treloar in 2005. The new models utilise the previous model with updated topography. The existing scenario topography consists of the original 2005 topography altered by Maunsell to include current updates. The topography for the two ODP options were supplied by Maunsell and included the Council preferred option as well as a Chris Smith and Associates (CSA) option.

Results

Figure 1 shows the location of reporting stations in the model where flow rates have been extracted. These flow rates for the existing and ODP scenarios are shown in table 1. The differences in depths between the existing scenario and the Council Preferred Option and the CSA Option are shown in figures 2 and 3 respectively.

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Table 1 – Cross Section Flows

Location	Flow (m3/s)		
	Exist	Council	CSA
19	8.0	5.5	5.6
20	10.3	0.2	0.2
21	0.0	0.0	0.0
22	112.5	111.4	111.8
23	0.0	0.0	0.0
24	0.9	0.9	1.2
25	9.7	7.7	7.9
26	28.8	30.2	29.4
27	46.8	45.1	46.2
28	105.6	105.9	105.8
29	1.9	2.0	2.0
30	0.6	2.0	2.0
31	53.8	55.0	54.8
32	5.3	0.4	0.3
33	1.7	1.3	1.1
50	3.8	0.0	0.0
64	0.7	0.7	0.4
67	54.4	55.8	55.5
69	0.4	0.0	0.0
71	0.2	0.9	0.8
73	0.5	1.2	1.0
75	2.9	3.2	1.0
77	0.7	3.5	1.5
79	3.1	5.3	2.8
81	0.8	2.3	1.0
85	1.6	1.6	1.4
86	0.3	0.8	0.9
89	0.3	1.7	1.7
92	2.4	4.0	2.0
113	1.6	1.4	1.5
121	2.1	1.4	1.6
122	1.1	0.2	0.9
123	0.8	0.0	0.0
124	1.8	1.8	1.7
125	0.0	0.0	0.0
126	0.0	0.0	0.0
127	2.8	0.6	0.6
128	5.3	2.3	1.8
129	1.5	0.1	0.1
130	5.7	8.4	7.3
131	0.2	0.9	0.7
132	3.9	0.7	0.3
133	0.6	1.1	0.9
134	0.5	1.1	0.9
135	2.7	4.1	3.1
136	4.6	2.3	1.8
137	2.4	1.3	1.2
138	1.6	0.4	0.3

139	8.2	3.3	2.0
140	6.1	3.3	3.9
141	4.6	0.4	0.3
142	5.5	0.8	0.6
143	2.0	0.8	0.6
144	1.1	0.9	1.2
145	0.7	1.0	1.0
146	0.0	1.2	1.0
147	0.5	1.1	0.9
148	2.5	3.0	2.7
149	0.2	0.7	0.4
150	0.7	0.5	0.1
151	0.9	0.9	1.2
152	7.1	2.3	1.8
153	5.4	6.1	7.4
154	7.3	7.5	9.4
155	4.4	10.0	12.4
156	1.0	1.5	1.2
157	3.0	1.0	0.3
158	1.7	1.7	1.8
159	1.8	2.5	1.6
160	2.7	1.0	2.5
161	0.9	2.8	1.2
162	54.9	56.2	55.9
163	67.0	70.1	70.9
164	52.9	54.7	54.4
165	120.8	123.6	124.1
166	41.9	44.9	42.7
167	35.8	36.2	36.2
168	38.6	39.3	39.0
169	46.1	47.2	47.2
170	62.1	76.5	77.5
171	34.1	26.5	26.1
172	38.8	47.1	49.3
173	36.7	33.1	38.1

If you have any queries regarding this matter, please contact Rob Swan on 8415 7532.

Yours sincerely

Rob Swan
Manager Water Resources
for **Cardno Lawson Treloar**

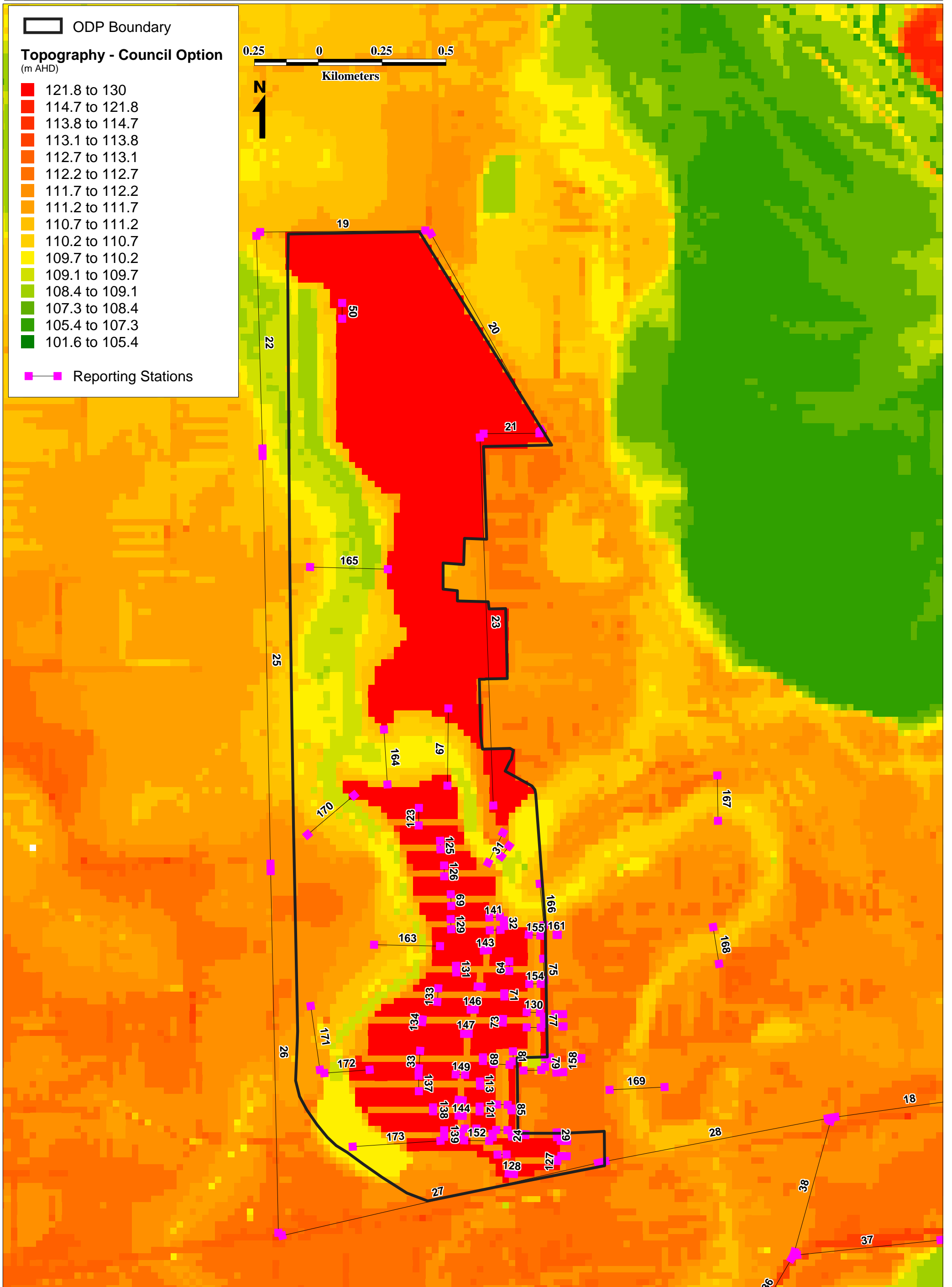


Figure 1 - Difference in Depths - Council Preferred Option minus Existing Option

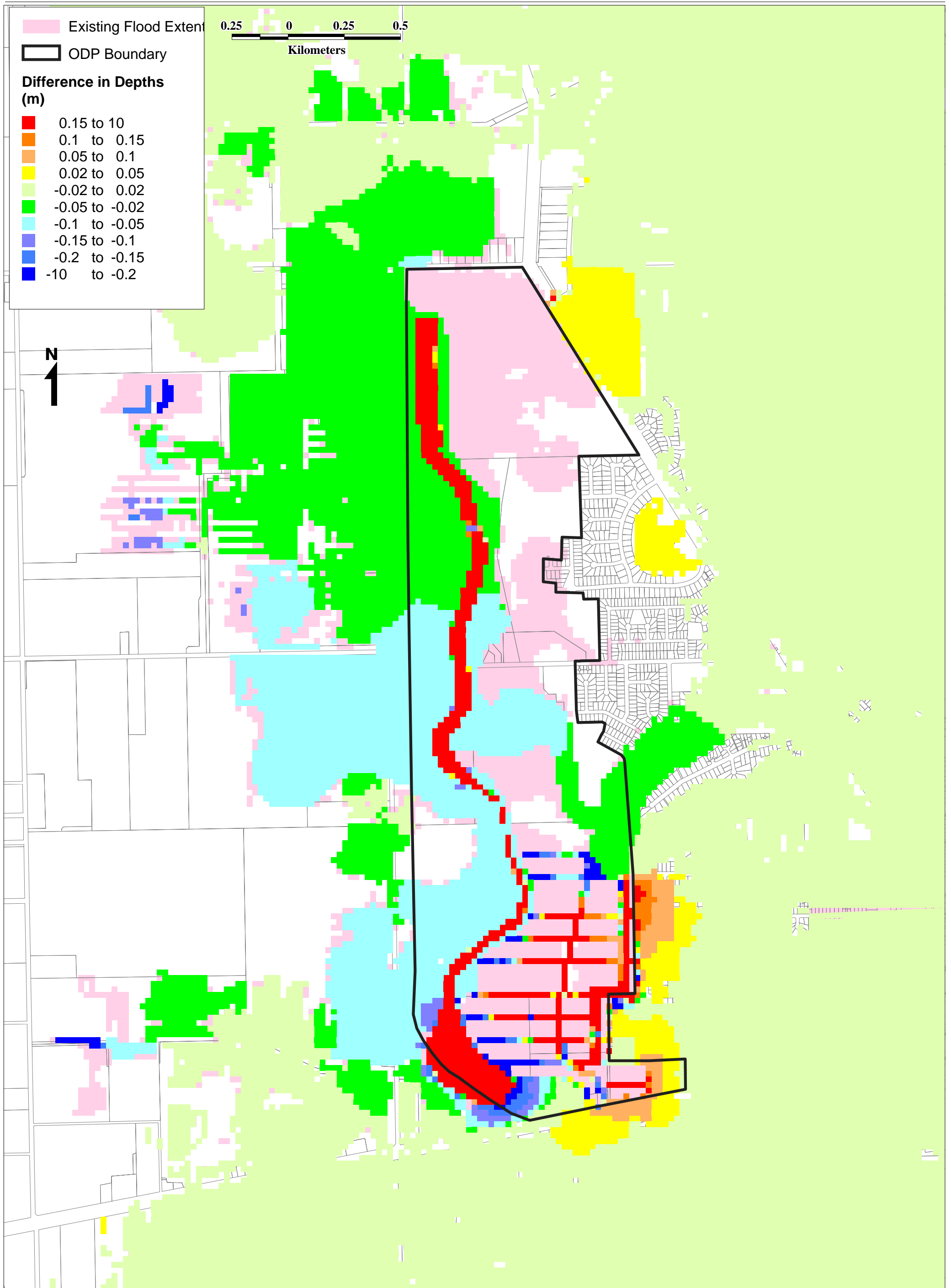


Figure 2 - Difference in Depths - Council Preferred Option minus Existing Option

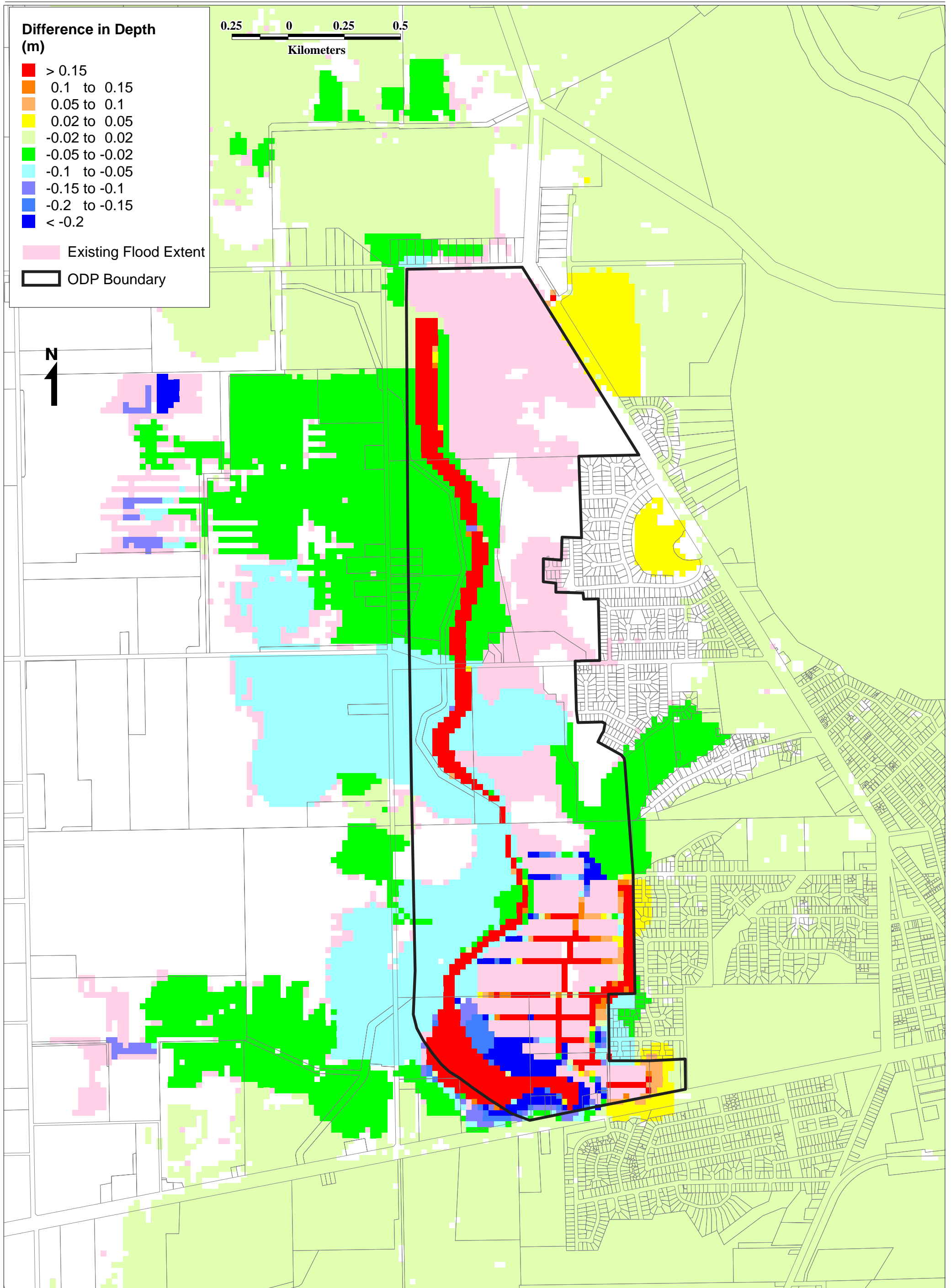


Figure 3 - Difference in Depths - CSA Option minus Existing Option