Geraldton CBD Flood and Inundation Study

Infrastructure Management Report

CW1096100

Prepared for
City of Greater Geraldton

30 April 2021

Cardno®

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1 Introduction

Cardno was commissioned by the City of Greater Geraldton (the City) to undertake an inundation study for the Geraldton CBD, shown in Figure 1-1. As part of this study Cardno were engaged to develop a high level infrastructure management plan for Geraldton for Zone A, which is centred on the Geraldton CBD.

This report should be read in conjunction with the full Geraldton CBD Flood and Inundation Study project report (CW1096100-RP-001-ProjectModellingReport_Rev0).

This Infrastructure Management Plan has been developed for the 2110 Climatic conditions. This will allow for the increase in rainfall that is expected to occur between the present day and 2110 to be considered during the planning for future works. Furthermore, this assessment has been undertaken on the Storm Surge Tailwater conditions.

As this is a high level assessment only no indicative sizing has been undertaken and no hydraulic modelling has been undertaken to assess the effectiveness of the proposed mitigation options.

Figure 1-1 Locality Plan

2 Peak Flow Rate in Existing Drainage Infrastructure

In order for the City to be able to understand the effectiveness of the currently drainage infrastructure within Zone A the peak flow rate (obtained from the hydraulic model) for each asset has been identified. Table 2-1 outlines the properties of all drainage pipes within Zone A, such as asset ID (as per hydraulic model), asset Invert and size.

Due to the topography of Geraldton the majority of the pipes are impacted by the sea level within the harbour, significantly reducing their capacity compared to free flowing assets.

Peak flow rates in all assets have been rounded to 2 decimal places (i.e. 0.00), which has resulted in some assets having a reported peak flow rate of 0.00 m^3/s. Furthermore, due to the rain-on-grid modelling approach adopted, some pipes have a reported peak flow rate of 0.00 m^3/s. This occurs in a very limited number of small diameter pipes which are predominately connections from downpipes to the street drainage, for which the inlet is located within building footprints. As the modelling methodology adopted, raised building footprints out of any potential overland flow paths flows are not able to reach the inlet pit resulting in no flows within the pipe.

Table 2-1 Peak Flow Rates in Existing Assets

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_1	Zone A	12.76	11.2	18.98	0.57	0	1	0.32	0.45	0.53
City_2	Zone A	11.2	8.26	37.24	0.57	0	1	0.32	0.45	0.53
City_3	Zone A	8.26	4.41	67.21	0.57	0	1	0.32	0.45	0.53
City_4	Zone A	4.41	2.4	50.3	0.57	0	1	0.32	0.46	0.54
City_5	Zone A	4.73	4.41	13.01	0.3	0	1	0.01	0.01	0.02
City_6	Zone A	8.53	8.26	8.25	0.3	0	1	0.01	0.01	0.01
City_7	Zone A	2.18	2.03	33.32	0.45	0	1	0.02	0.02	0.02
City_8	Zone A	2.03	1.99	21.55	0.45	0	1	0.03	0.04	0.04
City_9	Zone A	1.6	1.55	48.97	0.6	0	1	0.17	0.21	0.23
City_10	Zone A	1.97	1.55	13.83	0.3	0	1	0.06	0.04	0.05
City_11	Zone A	13.35	13.3	4.19	0.57	0	1	0.19	0.28	0.33
City_12	Zone A	1.39	1.2	12.23	0.23	0	1	0.01	0.04	0.04
City_15	Zone A	0.47	0.28	82.98	0.9	0	1	0.51	0.49	0.55
City_16	Zone A	1.4	1.11	9.28	0.6	0	1	0.13	0.14	0.17

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_17	Zone A	1.38	1.26	17.81	0.6	0	1	0.19	0.21	0.18
City_18	Zone A	4.76	4.54	10.2	0.38	0	1	0.19	0.19	0.19
City_19	Zone A	4.54	3.5	66.07	0.38	0	1	0.18	0.18	0.18
City_20	Zone A	2.62	2.33	48.57	0.23	0	1	0.02	0.02	0.02
City_21	Zone A	2.33	1.99	52.49	0.23	0	1	0.03	0.03	0.04
City_22	Zone A	2.59	1.84	28.28	0.38	0	1	0.18	0.18	0.17
City_23	Zone A	1.84	1.5	18.85	0.38	0	1	0.09	0.1	0.11
City_24	Zone A	3.5	2.59	37.26	0.38	0	1	0.18	0.18	0.17
City_27	Zone A	1.9	1.83	27.64	0.23	0	1	0.01	0.01	0.01
City_28	Zone A	1.2	1.13	39.67	0.45	0	1	0.16	0.16	0.17
City_29	Zone A	1.5	1.3	48.63	0.38	0	1	0.06	0.07	0.07
City_30	Zone A	1.66	1.59	49.03	0.3	0	1	0.06	0.06	0.06
City_31	Zone A	2.8	2.2	14.82	0.23	0	1	0.02	0.02	0.02
City_32	Zone A	2.2	2.19	35.01	0.3	0	1	0.05	0.05	0.05
City_33	Zone A	2.19	2.18	24.98	0.3	0	1	0.05	0.05	0.05
City_36	Zone A	1.99	1.23	19.12	0.45	0	1	0.04	0.05	0.05
City_37	Zone A	1.55	1.47	55.02	0.6	0	1	0.15	0.17	0.17
City_38	Zone A	1.71	1.6	45.77	0.6	0	1	0.08	0.15	0.16
City_52	Zone A	1.89	1.66	27.57	0.3	0	1	0.02	0.03	0.03
City_53	Zone A	1.66	1.6	11.09	0.3	0	1	0.04	0.04	0.05
City_54	Zone A	1.7	1.6	3.56	0.3	0	1	0.03	0.05	0.05
City_55	Zone A	1.55	1.5	10.79	0.3	0	1	0.08	0.12	0.13
City_56	Zone A	1.6	1.55	2.58	0.3	0	1	0.07	0.1	0.11
City_57	Zone A	1.71	1.7	1.42	0.3	0	1	0.02	0.03	0.05
City_75	Zone A	2.33	2.25	4.31	0.23	0	1	0.03	0.02	0
City_76	Zone A	2.31	2.25	7.97	0.23	0	1	0	0	0

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_77	Zone A	1.36	1.31	48.31	0.68	0	1	0.11	0.16	0.12
City_87	Zone A	3.05	2.87	10.61	0.3	0	1	0.01	0.04	0.05
City_88	Zone A	2.52	1.96	34.23	0.6	0	1	0.01	0.12	0.21
City_89	Zone A	2.87	2.52	64.22	0.3	0	1	0.01	0.05	0.07
City_90	Zone A	1.94	1.73	75.07	0.6	0	1	0.48	0.48	0.49
City_94	Zone A	1.7	1.52	74.91	0.6	0	1	0.48	0.48	0.49
City_95	Zone A	5.07	2.52	105.79	0.6	0	1	0	0	0
City_97	Zone A	1.96	1.95	2.43	0.6	0	1	0.18	0.18	0.18
City_131	Zone A	19.5	19.4	5.37	0.38	0	1	0.01	0.01	0.02
City_132	Zone A	19.4	19.32	2.94	0.38	0	1	0.02	0.03	0.04
City_133	Zone A	19.32	16.94	55.06	0.38	0	1	0.02	0.03	0.04
City_159	Zone A	0.13	0.12	31.55	1.05	0	1	0.85	1.14	1.41
City_160	Zone A	0.46	0.4	37.17	0.75	0	1	0.36	0.52	0.42
City_161	Zone A	1.58	0.33	8.84	0.3	0	1	0.05	0.05	0.05
City_162	Zone A	0.32	0.27	26.63	0.9	0	1	0.8	0.66	0.87
City_163	Zone A	0.33	0.32	21.72	0.9	0	1	0.78	0.67	0.69
City_164	Zone A	1.66	0.32	3.16	0.23	0	1	0.04	0.03	0.03
City_165	Zone A	1.94	1.94	5.89	0.23	0	1	0.03	0.02	0.01
City_166	Zone A	1.93	1.77	17.46	0.3	0	1	0.04	0.05	0.05
City_167	Zone A	1.44	0.95	18.07	0.3	0	1	0.02	0.04	0.05
City_168	Zone A	1.47	0.67	18.46	0.3	0	1	0.03	0.03	0.03
City_169	Zone A	1.74	1.62	25.59	0.15	0	1	0	0.01	0.01
City_170	Zone A	1.8	1.74	34.38	0.15	0	1	0	0	0.01
City_171	Zone A	0.17	0.16	20.86	0.9	0	1	1.56	1.47	1.48
City_172	Zone A	1.01	0.17	38.56	0.9	0	1	0.86	0.72	0.69
City_173	Zone A	1.75	1.62	5.67	0.15	0	1	0	0.01	0.01

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_174	Zone A	0.85	0.78	1.12	0.6	0	1	0	0	0
City_175	Zone A	1.31	0.85	24.12	0.6	0	1	0.22	0.2	0.23
City_176	Zone A	0.83	0.67	75.82	0.6	0	1	0.13	0.11	0.12
City_177	Zone A	1.59	1.13	18.46	0.3	0	1	0.02	0.02	0.02
City_178	Zone A	3.02	-0.03	30.25	0.1	0	1	0	0	0
City_179	Zone A	1.58	1.53	20.98	0.45	0	1	0.07	0.06	0.08
City_180	Zone A	-0.03	-0.05	6.24	1.2	0	1	1.66	1.56	1.62
City_181	Zone A	0.9	-0.03	13.89	0.9	0	1	0.62	0.73	0.7
City_182	Zone A	-0.03	-0.06	30.92	1.2	0	1	2.68	2.73	2.82
City_183	Zone A	-0.05	-0.2	26.75	1.2	0	1	1.7	2.29	2.28
City_184	Zone A	1.62	1.45	8.52	0.3	0	1	0.03	0.02	0.03
City_185	Zone A	1.55	1.26	7.62	0.3	0	1	0.05	0.05	0.05
City_186	Zone A	-0.2	-0.21	56.1	1.2	0	1	2.78	3.18	2.93
City_187	Zone A	-0.21	-0.35	65.6	1.5	0	1	4.73	4.54	4.85
City_188	Zone A	1.6	1.15	18.31	0.3	0	1	0.03	0.03	0.03
City_189	Zone A	1.49	0.84	9.23	0.3	0	1	0.04	0.04	0.04
City_190	Zone A	1.95	1.6	5.48	0.15	0	1	0.01	0.01	0.01
City_191	Zone A	1.15	0.84	31.98	0.6	0	1	0.16	0.18	0.14
City_192	Zone A	0.82	0.82	9.5	0.45	0	1	0.39	0.43	0.45
City_193	Zone A	0.84	0.82	7.59	0.45	0	1	0.2	0.23	0.21
City_194	Zone A	1.15	1.03	30.2	0.6	0	1	0.16	0.19	0.19
City_195	Zone A	1.03	0.84	7.19	0.6	0	1	0.22	0.27	0.21
City_196	Zone A	1.25	1.15	43.32	0.6	0	1	0.14	0.14	0.16
City_197	Zone A	1.9	1.25	15.93	0.3	0	1	0.03	0.03	0.03
City_198	Zone A	2.26	1.79	17.89	0.15	0	1	0.01	0.01	0.01
City_199	Zone A	2.32	2.31	16.44	0.15	0	1	0	0.01	0.01

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_200	Zone A	1.34	1.26	16.19	0.6	0	1	0.15	0.19	0.2
City_201	Zone A	1.11	1.02	7.98	0.38	0	1	0.25	0.26	0.24
City_202	Zone A	-0.22	-0.28	6.83	1.5	0	1	1.46	2.18	1.84
City_203	Zone A	-0.28	-0.29	7.11	1.5	0	1	2.4	2.97	3.11
City_204	Zone A	0.45	0.4	14.71	0.9	0	1	0.99	1.32	1.26
City_205	Zone A	1.61	-0.22	21.54	0.6	0	1	0.25	0.21	0.25
City_206	Zone A	1.61	1.61	38.99	0.6	0	1	0.25	0.22	0.24
City_207	Zone A	1.61	1.6	43.18	0.6	0	1	0.26	0.21	0.21
City_208	Zone A	1.6	1.59	8.58	0.6	0	1	0.33	0.33	0.26
City_209	Zone A	1.93	1.43	9.38	0.3	0	1	0.16	0.14	0.12
City_210	Zone A	1.43	-0.55	9.14	0.9	0	1	1.45	1.51	1.37
City_211	Zone A	2	1.43	5.81	0.3	0	1	0.12	0.14	0.1
City_213	Zone A	-0.55	-0.66	66.45	2.1	0	1	7.87	9.09	8.2
City_217	Zone A	-0.66	-0.81	72.95	2.1	0	1	9.51	9.02	9.84
City_222	Zone A	1.01	0.5	67.81	0.75	0	1	0.23	0.29	0.27
City_223	Zone A	-0.53	-0.55	12.01	2.1	0	1	5.87	6.24	6.34
City_224	Zone A	1.26	1.25	24.31	1.5	0	1	2.81	2.66	3.1
City_225	Zone A	1.25	1.2	14.3	1.5	0	1	3.08	3.57	4.01
City_226	Zone A	1.2	1.1	3.54	1.5	0	1	2.99	3.48	2.99
City_227	Zone A	1.05	1	28.2	1.5	0	1	2.2	2.82	3.29
City_228	Zone A	1.25	1.2	3.63	0.3	0	1	0.19	0.19	0.15
City_229	Zone A	1.1	1.05	9.88	0.3	0	1	0.09	0.1	0.14
City_230	Zone A	1.28	1.27	38.76	1.35	0	1	1.09	0.88	0.67
City_231	Zone A	2.13	1.98	3.32	0.3	0	1	0.05	0.05	0.04
City_232	Zone A	2	1.95	1.99	0.3	0	1	0.05	0.05	0.04
City_233	Zone A	2.19	2.05	5.08	0.3	0	1	0.02	0.03	0.03

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_234	Zone A	2.05	1.28	26.13	0.3	0	1	0.05	0.05	0.04
City_235	Zone A	1.29	1.28	44.99	1.35	0	1	0.86	0.66	0.62
City_236	Zone A	2.23	2.05	5.06	0.15	0	1	0.01	0.01	0.01
City_237	Zone A	2.01	2.01	1.62	0.3	0	1	0.09	0.04	0.03
City_238	Zone A	1.29	1.29	1.31	1.2	0	1	0.74	0.59	0.49
City_239	Zone A	1.92	1.3	5.03	0.3	0	1	0.16	0.09	0.06
City_240	Zone A	2.01	1.3	9.01	0.3	0	1	0.09	0.06	0.05
City_241	Zone A	2.23	1.92	14.84	0.3	0	1	0.03	0.02	0.02
City_242	Zone A	2.42	2.24	4.37	0.1	0	1	0	0	0
City_243	Zone A	2.03	2.01	22.85	0.3	0	1	0.09	0.04	0.03
City_244	Zone A	2.17	2.03	9.78	0.15	0	1	0.02	0.01	0.01
City_245	Zone A	2.18	2.17	13.24	0.15	0	1	0.01	0.01	0
City_246	Zone A	2.18	2.03	38.8	0.23	0	1	0.03	0.02	0.01
City_247	Zone A	2.22	2.18	8.46	0.1	0	1	0.01	0	0
City_248	Zone A	2.23	2.18	37.02	0.23	0	1	0.03	0.02	0.01
City_249	Zone A	2.43	2.25	9.92	0.1	0	1	0.01	0	0
City_250	Zone A	2.3	2.25	9.18	0.23	0	1	0.03	0.02	0.02
City_251	Zone A	3.62	2.92	9.15	0.15	0	1	0.02	0.01	0.01
City_252	Zone A	3.77	3.62	8.36	0.15	0	1	0.02	0.01	0.01
City_253	Zone A	3.9	3.8	3.53	0.15	0	1	0.02	0.02	0.03
City_254	Zone A	1.35	1.3	30.93	0.75	0	1	0.2	0.18	0.17
City_255	Zone A	1.29	1.28	14.43	0.75	0	1	0.51	0.46	0.52
City_256	Zone A	1.7	1.3	3.78	0.3	0	1	0.05	0.06	0.04
City_257	Zone A	1.3	1.29	15.85	0.75	0	1	0.31	0.3	0.3
City_258	Zone A	2.05	1.76	10.08	0.2	0	1	0.01	0.01	0.01
City_259	Zone A	1.7	1.3	4.92	0.3	0	1	0.05	0.06	0.04

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_260	Zone A	1.82	1.8	3.46	0.3	0	1	0.01	0.02	0.01
City_261	Zone A	1.8	1.57	3.42	0.3	0	1	0.06	0.06	0.04
City_262	Zone A	1.79	1.57	4.49	0.3	0	1	0.06	0.06	0.04
City_263	Zone A	1.64	1.64	9.41	0.3	0	1	0.07	0.06	0.06
City_264	Zone A	1.64	1.64	9.39	0.3	0	1	0.07	0.06	0.06
City_265	Zone A	6.35	1.76	9.85	0.3	0	1	0	0	0
City_266	Zone A	4.34	1.75	10.51	0.3	0	1	0	0	0
City_267	Zone A	6.36	2.49	2.88	0.15	0	1	0	0	0
City_268	Zone A	2.4	1.64	8.16	0.15	0	1	0	0	0
City_269	Zone A	3	2.49	3.69	0.15	0	1	0	0	0.01
City_270	Zone A	4.52	1.65	9.64	0.15	0	1	0	0	0
City_271	Zone A	1.89	1.41	6.98	0.3	0	1	0.01	0.02	0.01
City_272	Zone A	2.02	1.42	6.47	0.15	0	1	0.01	0.01	0.01
City_273	Zone A	2.03	1.42	9.42	0.15	0	1	0.01	0.01	0.01
City_274	Zone A	1.91	1.41	6.86	0.23	0	1	0.04	0.02	0.01
City_275	Zone A	1.94	1.43	4.1	0.3	0	1	0.01	0.01	0.01
City_276	Zone A	1.91	1.91	2.41	0.23	0	1	0.01	0.01	0.01
City_277	Zone A	1.25	1.25	3.48	0.3	0	1	0.06	0.03	0.05
City_278	Zone A	1.26	1.25	17.32	0.38	0	1	0.04	0.03	0.04
City_279	Zone A	1.35	1.32	10.54	0.3	0	1	0.01	0.02	0.01
City_280	Zone A	1.4	1.32	26	0.3	0	1	0.02	0.02	0.02
City_281	Zone A	1.43	1.4	10.18	0.3	0	1	0.02	0.01	0.01
City_282	Zone A	2.18	1.35	5.01	0.15	0	1	0.01	0	0.01
City_283	Zone A	2.06	2.05	2.07	0.23	0	1	0	0.02	0.02
City_284	Zone A	1.55	1.49	27.48	0.38	0	1	0.02	0.04	0.02
City_285	Zone A	1.49	1.45	13.34	0.38	0	1	0.03	0.04	0.03

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_286	Zone A	1.4	1.36	17.98	0.6	0	1	0.07	0.08	0.06
City_287	Zone A	1.57	1.54	8.19	0.38	0	1	0.02	0.07	0.05
City_288	Zone A	1.68	1.65	9.2	0.3	0	1	0.02	0.06	0.05
City_289	Zone A	2.05	1.68	3.11	0.23	0	1	0	0.02	0.02
City_290	Zone A	2.14	1.57	3.36	0.15	0	2	0	0	0
City_291	Zone A	2.05	2.05	12.97	0.23	0	1	0	0.02	0.02
City_292	Zone A	2.1	2.05	2.83	0.23	0	1	0	0	0
City_293	Zone A	1.68	1.63	9.68	0.3	0	1	0.01	0.02	0.02
City_294	Zone A	2.11	1.68	6.16	0.23	0	1	0	0	0
City_295	Zone A	2.03	1.55	3.17	0.23	0	1	0.01	0.01	0.01
City_296	Zone A	2.03	2.03	1.15	0.23	0	1	0.01	0.01	0.01
City_297	Zone A	2.09	2.03	3.19	0.23	0	1	0	0	0.01
City_298	Zone A	2.14	2.03	3.17	0.23	0	1	0	0	0
City_299	Zone A	1.53	1.35	14.69	0.45	0	1	0.11	0.12	0.15
City_300	Zone A	1.24	1.17	29.89	0.9	0	1	0.41	0.34	0.44
City_301	Zone A	1.17	-0.03	49.57	0.9	0	1	0.44	0.51	0.55
City_302	Zone A	1.67	1.66	10.93	0.45	0	1	0.06	0.06	0.06
City_303	Zone A	1.95	1.27	5.64	0.3	0	1	0.11	0.1	0.07
City_304	Zone A	1.98	1.27	4.63	0.3	0	1	0.11	0.07	0.07
City_305	Zone A	1.31	1.3	6.9	1.2	0	1	0.53	0.82	0.8
City_306	Zone A	2.4	2.3	5.62	0.23	0	1	0	0.01	0
City_307	Zone A	2.14	1.93	4.45	0.15	0	1	0.01	0.01	0
City_308	Zone A	1.89	1.16	11.97	0.38	0	1	0.04	0.05	0.04
City_309	Zone A	1.99	1.93	5.36	0.3	0	1	0.01	0.02	0.02
City_310	Zone A	1.89	1.89	3.4	0.38	0	1	0.06	0.1	0.08
City_311	Zone A	1.96	1.95	14.01	0.3	0	1	0.01	0.04	0.04

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City_312	Zone A	2.16	1.97	4.57	0.15	0	1	0	0.02	0.02
City_313	Zone A	2.18	1.95	4.32	0.15	0	1	0	0.01	0
City_314	Zone A	2.17	1.95	4.68	0.15	0	1	0	0.01	0.01
City_315	Zone A	2.09	1.5	16.81	0.3	0	1	0.05	0.05	0.04
City_316	Zone A	1.81	1.45	14.79	0.45	0	1	0.14	0.17	0.13
City_317	Zone A	1.16	1.02	15.13	0.45	0	1	0.1	0.18	0.15
City_318	Zone A	2	1.79	2.86	0.23	0	1	0.01	0.01	0.01
City_320	Zone A	1.85	1.63	7.23	0.3	0	1	0.03	0.03	0.01
City_321	Zone A	1.85	1.57	6.63	0.23	0	1	0.03	0.03	0.02
City_322	Zone A	1.11	1.01	26.51	0.75	0	1	0.23	0.25	0.24
City_323	Zone A	1.23	1.11	94.88	0.45	0	1	0.22	0.18	0.18
City_324	Zone A	2.2	2.07	12.81	0.38	0	1	0.01	0.08	0.07
City_325	Zone A	2.07	2.06	5.87	0.38	0	1	0.01	0.06	0.06
City_326	Zone A	2.07	1.53	11.01	0.38	0	1	0.01	0.01	0.01
City_327	Zone A	1.25	1.24	48.75	0.38	0	1	0.12	0.11	0.11
City_328	Zone A	1.24	1.23	54.09	0.45	0	1	0.19	0.15	0.15
City_329	Zone A	1.76	1.5	10.55	0.3	0	1	0.06	0.05	0.05
City_330	Zone A	1.98	1.53	8.74	0.45	0	1	0.02	0.06	0.06
City_333	Zone A	1.96	1.7	20.42	0.23	0	1	0.03	0.03	0.04
City_334	Zone A	1.35	1.21	18.65	0.6	0	1	0.12	0.14	0.2
City_335	Zone A	2.52	1.35	10.49	0.3	0	1	0.02	0.05	0.04
City_336	Zone A	2.47	1.35	55.54	0.53	0	1	0.04	0.05	0.06
City_337	Zone A	3	2.52	23.44	0.45	0	1	0.02	0.04	0.06
City_338	Zone A	1.21	0.73	63.1	0.6	0	1	0.12	0.18	0.14
City_339	Zone A	2.18	1.77	13.99	0.3	0	1	0.02	0.02	0.02
City_340	Zone A	2.32	2.18	7.16	0.3	0	1	0.01	0.01	0.01

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City_341	Zone A	1.38	1.37	48.36	0.38	0	1	0.05	0.05	0.04
City_342	Zone A	1.39	1.38	51.28	0.38	0	1	0.04	0.03	0.03
City_343	Zone A	2.25	1.72	10.81	0.3	0	1	0	0	0.02
City_344	Zone A	1.36	1.35	15.01	0.38	0	1	0.07	0.08	0.07
City_345	Zone A	1.37	1.36	50.23	0.38	0	1	0.05	0.05	0.04
City_347	Zone A	1.43	1.42	7.48	0.23	0	1	0.03	0.03	0.04
City_348	Zone A	1.72	1.48	10.79	0.3	0	1	0.04	0.01	0.01
City_349	Zone A	1.48	1.46	11.15	0.45	0	1	0.04	0.02	0.01
City_350	Zone A	1.62	1.46	6.53	0.15	0	1	0.01	0.01	0.01
City_351	Zone A	1.46	1.45	33.84	0.6	0	1	0.14	0.05	0.05
City_352	Zone A	1.45	1.43	8.14	0.23	0	1	0.01	0.01	0.01
City_353	Zone A	1.44	1.43	6.71	0.23	0	1	0.02	0.02	0.01
City_354	Zone A	1.43	1.42	25.42	0.6	0	1	0.14	0.08	0.07
City_355	Zone A	1.43	1.42	7.7	0.23	0	1	0.01	0.02	0.02
City_356	Zone A	1.47	1.46	9.69	0.45	0	1	0.1	0.04	0.04
City_357	Zone A	2.01	1.06	2.09	0.23	0	1	0.01	0.01	0.01
City_358	Zone A	2.57	2.18	12.1	0.15	0	1	0	0	0
City_359	Zone A	2.3	2.17	13.01	0.15	0	1	0.01	0.01	0
City_360	Zone A	1.69	0.69	94.52	0.9	0	1	0.32	0.34	0.26
City_361	Zone A	1.43	1.42	25.84	0.68	0	1	0.28	0.26	0.22
City_362	Zone A	1.42	1.06	68.21	0.68	0	1	0.28	0.26	0.19
City_363	Zone A	2.18	1.98	16.99	0.23	0	1	0.03	0.03	0.02
City_364	Zone A	1.06	1.05	22.3	0.68	0	1	0.29	0.26	0.19
City_365	Zone A	2.17	1.69	19.56	0.23	0	1	0.01	0.01	0
City_366	Zone A	0.69	0.64	22.82	0.9	0	1	0.33	0.33	0.25
City_367	Zone A	0.73	0.67	6.18	0.6	0	1	0.14	0.15	0.12

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City_368	Zone A	1.84	1.72	4.79	0.23	0	1	0.04	0.04	0.03
City_369	Zone A	2.16	0.69	4.53	0.15	0	1	0.03	0.02	0.01
City_370	Zone A	2.52	1.43	14.76	0.23	0	1	0.01	0.01	0.01
City_371	Zone A	2.18	1.71	5.37	0.3	0	1	0.02	0.02	0.02
City_372	Zone A	2.5	2.34	37.8	0.15	0	1	0.02	0.01	0.01
City_373	Zone A	2.21	1.43	5.88	0.3	0	1	0.04	0.03	0.02
City_374	Zone A	2.26	1.71	4.29	0.23	0	1	0.05	0.03	0.01
City_375	Zone A	1.7	1.69	104.49	0.9	0	1	0.27	0.38	0.34
City_376	Zone A	1.71	1.7	2.15	0.9	0	1	0.25	0.36	0.34
City_377	Zone A	2.46	1.43	19.18	0.23	0	1	0.01	0.01	0.01
City_378	Zone A	2.52	2.52	14.13	0.3	0	1	0.01	0.01	0.01
City_379	Zone A	2.52	1.43	9.12	0.23	0	1	0	0.01	0.01
City_380	Zone A	0.65	0.63	4.19	0.15	0	1	0.03	0.04	0.04
City_381	Zone A	1.34	1.33	2.63	0.38	0	1	0.07	0.05	0.04
City_382	Zone A	1.33	1.32	2.11	0.3	0	1	0.07	0.05	0.04
City_383	Zone A	1.05	1.04	47.42	0.75	0	1	0.29	0.26	0.19
City_384	Zone A	0.63	0.56	19.78	0.9	0	1	0.5	0.42	0.33
City_385	Zone A	0.64	0.63	24.78	0.9	0	1	0.49	0.39	0.36
City_386	Zone A	1.32	1.31	49.56	0.3	0	1	0.07	0.05	0.04
City_387	Zone A	1.8	1.29	27.48	0.6	0	1	0.17	0.13	0.14
City_388	Zone A	2.29	2.02	3.05	0.3	0	1	0.01	0	0
City_389	Zone A	2.45	2.44	19.63	0.15	0	1	0	0	0
City_390	Zone A	2.17	2	4.57	0.3	0	1	0	0	0
City_391	Zone A	2.02	1.39	10.07	0.3	0	1	0.02	0.01	0.01
City_392	Zone A	1.86	1.39	15.17	0.43	0	1	0.02	0.03	0.02
City_393	Zone A	2	1.39	3.43	0.3	0	1	0.03	0.01	0.01

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City_394	Zone A	4.06	1.94	16.27	0.15	0	1	0	0	0
City_395	Zone A	2.1	1.98	15.74	0.3	0	1	0.03	0.04	0.04
City_396	Zone A	1.43	1.3	72.26	0.3	0	1	0.05	0.03	0.03
City_409	Zone A	2.46	2.27	5.26	0.1	0	1	0.01	0	0
City_411	Zone A	2.27	2.15	13.84	0.23	0	1	0.01	0.01	0
City_413	Zone A	2.31	2.23	30.74	0.23	0	1	0.04	0.02	0.01
City_414	Zone A	1.1	0.5	19.62	0.6	1.2	1	0.32	0.29	0.29
City_415	Zone A	1.2	1.1	3.92	0.6	1.2	1	0.32	0.31	0.28
City_416	Zone A	2.11	0.46	10.13	0.38	0	1	0.06	0.06	0.06
City_417	Zone A	0.5	0.46	12.73	0.9	0	1	0.34	0.37	0.34
City_418	Zone A	2.23	2.15	29.39	0.23	0	1	0.02	0.02	0.01
City_419	Zone A	2.17	1.1	6.38	0.23	0	1	0.04	0.02	0.02
City_420	Zone A	2.53	2.35	10.97	0.23	0	1	0.03	0.03	0.03
City_421	Zone A	1.79	1.74	13.55	0.3	0	1	0.03	0.02	0.02
City_422	Zone A	1.95	1.89	12.81	0.3	0	1	0.02	0	0
City_423	Zone A	1.4	1.3	17.99	0.45	0	1	0.22	0.22	0.18
City_424	Zone A	1.3	1.2	28.56	0.6	0	1	0.23	0.22	0.2
City_425	Zone A	2.3	1.79	41.82	0.23	0	1	0.04	0.03	0.02
City_426	Zone A	2	1.74	9.67	0.15	0	1	0.01	0.01	0.01
City_427	Zone A	2.03	1.74	9.4	0.15	0	1	0.01	0.01	0.01
City_428	Zone A	2.12	1.75	8.82	0.15	0	1	0.01	0	0
City_429	Zone A	1.75	1.74	32.24	0.45	0	1	0.1	0.07	0.04
City_430	Zone A	1.78	1.75	28.34	0.45	0	1	0.09	0.06	0.04
City_439	Zone A	2.11	1.78	9.73	0.15	0	1	0.01	0.01	0.01
City_440	Zone A	2.06	2.05	3.83	0.15	0	1	0.01	0.01	0.01
City_441	Zone A	2.08	2.05	4.96	0.15	0	1	0.01	0.01	0.01

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City_442	Zone A	2.28	2.12	20.54	0.15	0	1	0	0.01	0.01
City_443	Zone A	1.42	1.03	6.78	0.3	0	1	0.04	0.04	0.04
City_444	Zone A	1.66	1.42	9.17	0.3	0	1	0.01	0.02	0.03
City_445	Zone A	2.11	1.42	36.33	0.3	0	1	0.02	0.02	0.02
City_446	Zone A	2.15	2.12	7.25	0.1	0	1	0	0.01	0.01
City_447	Zone A	2.08	1.57	6.57	0.15	0	1	0.01	0.01	0.01
City_448	Zone A	1.95	1.57	10.91	0.23	0	1	0.01	0.02	0.01
City_449	Zone A	1.25	1.24	17	0.75	0	1	0.2	0.15	0.24
City_450	Zone A	1.31	1.3	36.82	0.3	0	1	0.07	0.05	0.05
City_451	Zone A	1.04	1	45.68	0.75	0	1	0.3	0.26	0.28
City_452	Zone A	0.56	0.47	47.1	0.9	0	1	0.5	0.39	0.36
City_453	Zone A	2.61	2.5	14.11	0.23	0	1	0	0.01	0.01
City_454	Zone A	2.17	1.31	33.13	0.3	0	1	0.05	0.04	0.03
City_455	Zone A	2.36	2.2	15.33	0.23	0	1	0.03	0.03	0.02
City_456	Zone A	2.4	2.36	12.25	0.23	0	1	0.02	0.01	0.01
City_457	Zone A	2.5	2.4	16.42	0.23	0	1	0.01	0.02	0.01
City_458	Zone A	2.3	2.25	6.45	0.23	0	1	0.03	0.02	0.01
City_459	Zone A	2.45	2.4	2.68	0.23	0	1	0	0	0
City_460	Zone A	1.73	1.37	1.93	0.23	0	1	0.02	0.02	0.02
City_461	Zone A	1.88	1.82	5.3	0.23	0	1	0.03	0.02	0.03
City_462	Zone A	2.02	1.88	17.17	0.23	0	1	0.01	0.01	0.01
City_463	Zone A	2.01	1.17	1.89	0.23	0	1	0.04	0.03	0.03
City_464	Zone A	1.85	1.8	3.45	0.23	0	1	0.03	0.02	0.03
City_465	Zone A	1.98	1.39	3.6	0.3	0	1	0.06	0.04	0.03
City_466	Zone A	1.98	1.26	7.29	0.3	0	1	0.03	0.04	0.04
City_467	Zone A	1.49	1.2	11.19	0.3	0	1	0.07	0.07	0.07

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City_468	Zone A	1.44	1.37	15.55	0.6	0	1	0.1	0.09	0.1
City_469	Zone A	1.37	1.26	15.89	0.6	0	1	0.13	0.11	0.16
City_470	Zone A	1.2	0.03	5.33	0.6	0	1	0.31	0.4	0.38
City_471	Zone A	1.26	1.25	8.7	0.9	0	1	0.23	0.21	0.27
City_472	Zone A	7.5	4.99	89.04	0.38	0	1	0.22	0.26	0.26
City_473	Zone A	4.99	4.76	4.18	0.38	0	1	0.22	0.26	0.26
City_474	Zone A	10.5	7.82	57.57	0.35	0	1	0.06	0.08	0.1
City_475	Zone A	8.15	8.09	5.31	0.23	0	1	0.05	0.07	0.07
City_476	Zone A	7.82	7.5	7.72	0.35	0	1	0.18	0.21	0.23
City_477	Zone A	11.02	11	6.68	0.23	0	1	0.01	0	0.03
City_478	Zone A	10.99	10.5	26.36	0.23	0	1	0.02	0.03	0.06
City_479	Zone A	11	10.99	1.97	0.23	0	1	0.02	0.03	0.06
City_480	Zone A	10.55	10.54	6.32	0.23	0	1	0.05	0.04	0.05
City_481	Zone A	10.54	10.52	2.78	0.23	0	1	0.05	0.05	0.05
City_482	Zone A	10.52	10.5	64.77	0.23	0	1	0.05	0.05	0.05
City_483	Zone A	10.56	10.55	7.04	0.23	0	1	0.03	0.03	0.03
City_484	Zone A	2.4	2.39	68.91	0.23	0	1	0.04	0.04	0.04
City_501	Zone A	1.79	1.63	46.23	0.23	0	1	0.03	0.02	0.02
City_502	Zone A	1.63	1.4	46.53	0.23	0	1	0.04	0.04	0.03
City_503	Zone A	4.82	4.63	9.37	0.23	0	1	0.01	0.02	0.02
City_504	Zone A	4.8	4.53	5.67	0.23	0	1	0.01	0.01	0.02
City_505	Zone A	4.63	4.53	19.55	0.38	0	1	0.04	0.05	0.07
City_506	Zone A	4.45	4.42	8.36	0.45	0	1	0.05	0.06	0.08
City_507	Zone A	4.85	4.63	5.02	0.23	0	1	0	0.01	0.01
City_508	Zone A	4.76	4.63	11.56	0.38	0	1	0.01	0.01	0.02
City_509	Zone A	4.42	4.37	6.03	0.45	0	1	0.09	0.13	0.16

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City_510	Zone A	4.53	4.53	1.74	0.38	0	1	0.01	0	0.01
City_511	Zone A	4.53	4.37	9.76	0.38	0	1	0.01	0.01	0.03
City_512	Zone A	4.64	4.53	4.77	0.38	0	1	0	0.01	0.02
City_513	Zone A	4.7	4.64	3.35	0.38	0	1	0	0	0.01
City_514	Zone A	4.83	4.7	6.53	0.38	0	1	0	0	0.01
City_515	Zone A	4.92	4.7	7.75	0.23	0	1	0	0	0.01
City_516	Zone A	0.9	-0.22	24.44	1.2	0	1	0.79	1.13	1.09
City_517	Zone A	0.28	-0.22	17.5	0.9	0	1	0.53	0.76	0.8
City_518	Zone A	2.14	1.95	56.84	0.38	0	1	0.04	0.01	0.01
City_519	Zone A	1.96	1.96	6.51	0.38	0	1	0.01	0	0
City_520	Zone A	1.95	1.87	27.11	0.38	0	1	0.03	0.01	0.01
City_521	Zone A	2.15	2.14	2.03	0.3	0	1	0.03	0.02	0.01
City_522	Zone A	2.15	2.15	8.3	0.23	0	1	0	0	0.01
City_523	Zone A	2.16	2.15	7.14	0.3	0	1	0	0	0.01
City_524	Zone A	3.28	2.47	20.93	0.23	0	1	0	0	0.01
City_525	Zone A	1.61	0.12	1.2	0.23	0	1	0.04	0.04	0.03
City_526	Zone A	0.43	0.42	16.56	1.5	0	1	1.87	1.85	1.76
City_527	Zone A	4.68	3.88	6.42	0.23	0	1	0	0	0
City_528	Zone A	6.06	5.95	8.51	0.1	0	1	0	0	0
City_529	Zone A	2.21	1.46	113.24	0.6	0	1	0.23	0.2	0.2
City_530	Zone A	2.68	2.63	31.29	0.23	0	1	0.02	0.02	0.02
City_531	Zone A	3.12	2.81	16.01	0.38	0	1	0.13	0.18	0.18
City_532	Zone A	3.48	3.12	11	0.23	0	1	0.01	0.02	0.02
City_533	Zone A	3.88	3.12	20.13	0.38	0	1	0.11	0.15	0.19
City_534	Zone A	2.81	2.12	18.95	0.38	0	1	0.13	0.17	0.15
City_535	Zone A	2.84	2.81	5.39	0.3	0	1	0	0.01	0.01

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City_536	Zone A	2.62	1.94	2.61	0.23	0	1	0.02	0.03	0.02
City_537	Zone A	2.56	1.46	17.82	0.3	0	1	0.04	0.05	0.06
City_538	Zone A	1.72	1.71	109.66	0.75	0	1	0.16	0.24	0.22
City_539	Zone A	5.04	4.99	6.3	0.15	0	1	0	0	0
City_540	Zone A	4.03	3.28	5.93	0.23	0	1	0.01	0.01	0.02
City_541	Zone A	4.99	4.03	25.55	0.23	0	1	0	0.01	0.01
City_542	Zone A	4.36	4.03	26.05	0.23	0	1	0	0	0.01
City_543	Zone A	5.9	5.55	20.11	0.15	0	1	0.01	0.01	0.02
City_544	Zone A	5.47	5.04	16.93	0.23	0	1	0.02	0.03	0.04
City_545	Zone A	5.27	5.21	16.02	0.15	0	1	0	0	0
City_546	Zone A	5.32	5.04	10.83	0.15	0	1	0	0	0
City_547	Zone A	5.21	5.04	4.98	0.15	0	1	0	0	0.01
City_548	Zone A	4.97	4.42	24.6	0.3	0	1	0.02	0.04	0.05
City_549	Zone A	4.37	3.88	57.9	0.38	0	1	0.1	0.14	0.17
City_550	Zone A	2.22	2.21	91.04	0.6	0	1	0.28	0.23	0.23
City_551	Zone A	2.32	2.32	39.82	0.3	0	1	0.1	0.09	0.08
City_552	Zone A	2.82	2.32	13.52	0.23	0	1	0	0	0
City_553	Zone A	2.48	2.11	20.96	0.23	0	1	0.03	0.08	0.07
City_554	Zone A	2.38	2.35	13.68	0.23	0	1	0.03	0.07	0.06
City_555	Zone A	3.28	3.27	4.29	0.23	0	1	0.01	0.01	0.02
City_556	Zone A	3.27	2.48	43.25	0.23	0	1	0.02	0.02	0.02
City_557	Zone A	3	2.48	9.54	0.23	0	1	0	0.02	0.01
City_558	Zone A	2.25	2.22	67.05	0.6	0	1	0.26	0.23	0.23
City_559	Zone A	2.92	2.91	7.29	0.23	0	1	0.02	0.02	0.02
City_560	Zone A	2.44	2.34	17.28	0.23	0	1	0.09	0.07	0.05
City_561	Zone A	2.31	2.26	8.27	0.45	0	1	0.2	0.17	0.16

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City_562	Zone A	2.26	2.25	12.19	0.45	0	1	0.2	0.17	0.16
City_563	Zone A	2.47	2.27	48.71	0.6	0	1	0.09	0.15	0.15
City_564	Zone A	2.5	2.4	37.06	0.3	0	1	0.1	0.09	0.09
City_565	Zone A	2.4	2.31	61.94	0.45	0	1	0.1	0.09	0.09
City_566	Zone A	5.25	5.12	11.56	0.23	0	1	0.05	0.05	0.04
City_567	Zone A	2.89	2.66	13.14	0.23	0	1	0.08	0.09	0.08
City_568	Zone A	5.92	5.8	31.27	0.23	0	1	0.01	0.01	0.02
City_569	Zone A	2.6	2.5	22	0.3	0	1	0.1	0.09	0.09
City_570	Zone A	2.89	2.47	187.81	0.45	0	1	0.07	0.12	0.12
City_572	Zone A	4.22	2.47	9.06	0.23	0	1	0.02	0.03	0.04
City_573	Zone A	-0.41	-0.65	11.39	0.9	0	3	3.45	3.93	4.63
City_577	Zone A	-0.4	-0.41	2.95	1.8	0	1	4.36	4.34	4.45
City_578	Zone A	-0.38	-0.38	60.54	1.8	0	1	5.41	6.61	6.43
City_579	Zone A	0.6	0.1	41.98	0.75	0	1	0.98	1	1
City_580	Zone A	0.1	-1.18	141.31	1.5	0	1	3.39	3.28	3.42
City_581	Zone A	0.42	0.36	45.16	1.2	0	1	1.81	1.7	1.51
City_582	Zone A	1.56	0.17	3.63	0.1	0	1	0.01	0.01	0.01
City_583	Zone A	1.65	0.17	6.29	0.15	0	1	0.02	0.02	0.02
City_587	Zone A	0.58	0.57	57.17	0.6	0	1	0.3	0.3	0.36
City_588	Zone A	0.45	0.44	6.22	0.75	0	1	0.54	0.38	0.41
City_589	Zone A	0.45	0.45	70.31	0.75	0	1	0.39	0.31	0.34
City_590	Zone A	0.53	0.45	50.57	0.75	0	1	0.37	0.24	0.25
City_591	Zone A	2.28	2.09	4.95	0.15	0	1	0	0.01	0
City_592	Zone A	2.21	2.09	12.36	0.15	0	1	0.01	0.01	0.01
City_593	Zone A	2.25	2.09	10.61	0.38	0	1	0.03	0.03	0.02
City_594	Zone A	2.09	1.86	19.1	0.38	0	1	0.05	0.04	0.02

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City_595	Zone A	2.4	2.25	18.98	0.38	0	1	0.01	0.01	0.01
City_596	Zone A	2.62	2.55	8.84	0.23	0	1	0.01	0.01	0.01
City_597	Zone A	2.68	2.62	8.91	0.23	0	1	0	0	0
City_598	Zone A	2.65	2.65	6.25	0.1	0	1	0.01	0.01	0.01
City_599	Zone A	2.48	2.25	5.69	0.15	0	1	0	0	0
City_646	Zone A	1.89	1.88	2.09	0.38	0	1	0.07	0.08	0.08
City_647	Zone A	1.96	1.13	1.08	0.45	0	1	0.06	0.02	0.03
City_648	Zone A	1.13	1.11	57.36	0.45	0	1	0.1	0.06	0.06
City_649	Zone A	2.02	1.99	87.64	0.38	0	1	0.07	0.08	0.08
City_651	Zone A	2.62	2.6	7.1	0.23	0	1	0.01	0	0
City_652	Zone A	2.71	2.65	12.71	0.15	0	1	0	0	0
City_653	Zone A	18.64	18.45	53.19	0.23	0	1	0	0	0.01
City_654	Zone A	18.6	18.45	2.04	0.23	0	1	0.04	0.05	0.05
City_655	Zone A	18.8	18.6	6.53	0.23	0	1	0.02	0.02	0.03
City_656	Zone A	18.45	18.1	112.77	0.3	0	1	0.04	0.05	0.05
City_657	Zone A	18.2	18.1	1.8	0.23	0	1	0.06	0.06	0.06
City_658	Zone A	18.1	18.08	32.54	0.3	0	1	0.08	0.08	0.08
City_659	Zone A	18.08	14.08	137.83	0.3	0	1	0.08	0.08	0.08
City_660	Zone A	14.08	13.76	6.69	0.3	0	1	0.08	0.08	0.08
City_661	Zone A	13.3	12.94	34.83	0.57	0	1	0.19	0.29	0.34
City_662	Zone A	13.76	12.94	10.46	0.3	0	1	0.09	0.1	0.12
City_663	Zone A	13.17	12.94	11.49	0.23	0	1	0.02	0.02	0.03
City_664	Zone A	15.36	13.17	30.48	0.23	0	1	0.01	0.01	0.01
City_665	Zone A	2.59	2.43	7.93	0.15	0	1	0.01	0	0
City_666	Zone A	2.35	2.3	6.09	0.15	0	1	0	0	0
City_667	Zone A	2.3	2.3	35.38	0.23	0	1	0.01	0.01	0.01

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City_668	Zone A	2.38	2.3	5.78	0.15	0	1	0	0	0
City_669	Zone A	2.38	2.3	37.41	0.23	0	1	0.02	0.02	0.01
City_670	Zone A	2.43	2.38	43.58	0.23	0	1	0.02	0.02	0.02
City_671	Zone A	2.58	2.43	12.59	0.23	0	1	0.01	0	0
City_672	Zone A	2.48	2.43	46.71	0.23	0	1	0.02	0.01	0.01
City_673	Zone A	2.64	2.48	6.17	0.15	0	1	0	0	0
City_674	Zone A	2.81	2.68	4.58	0.15	0	1	0.01	0.01	0.01
City_675	Zone A	10.89	10.8	1.46	0.23	0	1	0.07	0.07	0.08
City_676	Zone A	1.3	1.27	5.05	0.3	0	1	0.07	0.06	0.05
City_677	Zone A	16.28	15.43	11.02	0.23	0	1	0.01	0.01	0.01
City_678	Zone A	19.65	17.05	11.68	0.15	0	1	0	0	0
City_681	Zone A	13.67	13.32	16.98	0.3	0	1	0.01	0.01	0.02
City_682	Zone A	13.32	13.18	10.05	0.3	0	1	0.01	0.01	0.02
City_683	Zone A	12.52	2.28	37.95	0.23	0	1	0.1	0.1	0.11
City_684	Zone A	3.21	3.02	13.89	0.23	0	1	0.01	0	0
City_685	Zone A	2.9	2.89	10.59	0.23	0	1	0.03	0.03	0.03
City_686	Zone A	2.89	2.62	33.29	0.23	0	1	0.03	0.03	0.02
City_687	Zone A	2.9	2.89	1.79	0.23	0	1	0.01	0.01	0.01
City_688	Zone A	2.9	2.9	17	0.23	0	1	0.02	0.02	0.02
City_689	Zone A	2.72	2.7	24.39	0.23	0	1	0.01	0.01	0.01
City_690	Zone A	3	2.9	10.05	2.5	0	1	0.03	0.02	0.03
City_691	Zone A	2.01	1.91	3.8	0.23	0	1	0.01	0.01	0.01
City_701	Zone A	1.87	1.69	17.06	0.38	0	1	0.07	0.04	0.04
City_702	Zone A	2.18	1.87	14.91	0.3	0	1	0.02	0.02	0.01
City_735	Zone A	16.9	16.28	12.29	0.3	0	1	0	0	0.01
City_760	Zone A	1.57	1.56	37.96	0.45	0	1	0.08	0.09	0.12

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City_780	Zone A	1.32	1.31	5.4	0.6	0	1	0.04	0.11	0.1
City_781	Zone A	1.39	1.38	32.38	0.6	0	1	0.08	0.09	0.08
City_782	Zone A	1.26	1.25	49	0.6	0	1	0.15	0.17	0.14
City_783	Zone A	1.31	1.26	7.07	0.6	0	1	0.13	0.15	0.12
City_784	Zone A	2.08	1.31	2.83	0.23	0	1	0.04	0.03	0.03
City_785	Zone A	1.71	1.31	66.82	0.6	0	1	0.1	0.14	0.12
City_786	Zone A	2.49	2.08	65.02	0.23	0	1	0.04	0.03	0.03
City_787	Zone A	1.95	1.71	43.61	0.6	0	1	0.09	0.14	0.12
City_788	Zone A	3	2.57	29.86	0.23	0	1	0.04	0.04	0.04
City_789	Zone A	2.51	2.49	6.96	0.3	0	1	0.01	0.01	0.03
City_790	Zone A	3.18	2.58	22.79	0.23	0	1	0	0.01	0.01
City_791	Zone A	3.27	3.22	6.97	0.3	0	1	0.03	0.03	0.03
City_792	Zone A	3.27	3	16.86	0.23	0	1	0.01	0.02	0.02
City_793	Zone A	2.13	1.95	28.29	0.45	0	1	0.09	0.14	0.12
City_794	Zone A	2.58	2.23	10.84	0.3	0	1	0.09	0.14	0.12
City_795	Zone A	1.93	1.43	9.05	0.23	0	1	0.01	0.01	0.01
City_796	Zone A	1.78	1.43	14.2	0.45	0	1	0.05	0.04	0.03
City_797	Zone A	2	1.78	5.29	0.15	0	1	0.01	0	0.01
City_798	Zone A	2.02	1.62	2.78	0.1	0	1	0	0	0
City_799	Zone A	1.93	1.45	11.1	0.15	0	1	0.01	0	0.01
City_800	Zone A	2.1	1.45	2.09	0.15	0	1	0	0	0.01
City_801	Zone A	1.45	1.44	10.2	0.23	0	1	0.01	0.01	0.01
City_802	Zone A	2.17	1.44	15.32	0.23	0	1	0	0	0.01
City_803	Zone A	1.76	1.7	18.01	0.3	0	1	0.09	0.11	0.09
City_804	Zone A	1.02	1.01	85.08	0.6	0	1	0.21	0.1	0.13
City_805	Zone A	1.55	1.43	79.85	0.3	0	1	0.04	0.02	0.02

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City_806	Zone A	0.54	0.53	12.35	0.75	0	1	0.34	0.2	0.19
City_807	Zone A	0.57	0.54	19.88	0.75	0	1	0.3	0.18	0.17
City_808	Zone A	1.57	1.43	4.53	0.23	0	1	0.03	0.02	0.02
City_809	Zone A	1.77	1.57	26.77	0.23	0	1	0.03	0.02	0.02
City_810	Zone A	1.74	1.55	4.75	0.3	0	1	0.03	0.02	0.02
City_811	Zone A	2.08	2.02	5.52	0.2	0	1	0	0	0.01
City_812	Zone A	2.02	1.86	1.83	0.2	0	1	0.01	0.01	0.01
City_813	Zone A	2.01	2	21.68	0.3	0	1	0.06	0.06	0.06
City_814	Zone A	2	2	30.28	0.3	0	1	0.11	0.11	0.11
City_815	Zone A	2	1.9	11.19	0.3	0	1	0.11	0.11	0.11
City_816	Zone A	2.03	2.02	29.62	0.3	0	1	0.05	0.05	0.05
City_817	Zone A	2.18	2.03	60.03	0.3	0	1	0.05	0.05	0.05
City_818	Zone A	2.07	2.03	10.24	0.23	0	1	0.02	0.02	0.03
City_819	Zone A	2.46	2.18	7.15	0.23	0	1	0	0	0
City_820	Zone A	1.47	1.39	16.51	0.38	0	1	0.14	0.11	0.1
City_821	Zone A	1.39	1.29	28.68	0.38	0	1	0.14	0.11	0.11
City_822	Zone A	1.93	1.83	7.25	0.23	0	1	0	0	0
City_823	Zone A	1.77	1.35	36.42	0.38	0	1	0.23	0.23	0.23
City_824	Zone A	2.02	1.77	48.52	0.3	0	1	0.07	0.08	0.1
City_825	Zone A	1.79	1.77	12.07	0.3	0	1	0.11	0.1	0.1
City_826	Zone A	1.8	1.79	24.88	0.3	0	1	0.08	0.08	0.08
City_827	Zone A	1.8	1.79	20.69	0.23	0	1	0.02	0.02	0.02
City_828	Zone A	1.82	1.8	31.3	0.23	0	1	0.02	0.02	0.02
City_829	Zone A	1.83	1.82	22.25	0.23	0	1	0.02	0.02	0.02
City_830	Zone A	2	1.86	14	0.23	0	1	0.01	0.01	0.01
City_831	Zone A	1.83	1.83	5.84	0.23	0	1	0.02	0.02	0.02

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City_832	Zone A	2.4	1.96	18.57	0.57	0	1	0.32	0.46	0.55
City_833	Zone A	2.26	1.96	14.37	0.3	0	1	0.11	0.12	0.12
City_834	Zone A	2.25	2.15	26.12	0.3	0	1	0.07	0.07	0.07
City_835	Zone A	1.96	1.9	36.57	0.57	0	1	0.29	0.3	0.32
City_836	Zone A	2.2	2.15	3.92	0.23	0	1	0.1	0.1	0.1
City_837	Zone A	2.27	1.96	3.13	0.3	0	1	0.15	0.16	0.15
City_838	Zone A	2.15	1.9	21.23	0.3	0	1	0.13	0.13	0.13
City_839	Zone A	1.9	1.6	33.92	0.57	0	1	0.46	0.47	0.47
City_840	Zone A	2.3	2.25	20.92	0.3	0	1	0.04	0.04	0.05
City_841	Zone A	5.35	4.87	20.99	0.3	0	1	0	0	0
City_842	Zone A	4.87	3.02	60.52	0.3	0	1	0	0	0.01
City_843	Zone A	3.3	3.02	20.94	0.23	0	1	0.06	0.06	0.06
City_844	Zone A	3.02	2.33	52.6	0.3	0	1	0.06	0.06	0.06
City_845	Zone A	2.52	2.33	20.98	0.23	0	1	0.01	0.01	0.01
City_846	Zone A	2.33	2.25	36.8	0.3	0	1	0.01	0.01	0.01
City_849	Zone A	2.09	2.02	39.38	0.3	0	1	0.07	0.07	0.08
City_850	Zone A	5.66	4.94	33.73	0.53	0	1	0	0	0
City_851	Zone A	5.47	5.45	12.19	0.23	0	1	0.01	0.01	0.01
City_852	Zone A	5.5	5.49	3.4	0.23	0	1	0.03	0.03	0.03
City_853	Zone A	5.5	5.45	11.12	0.23	0	1	0.06	0.05	0.06
City_854	Zone A	5.4	5.1	57.37	0.23	0	1	0.05	0.05	0.05
City_855	Zone A	5.59	5.5	11.5	0.23	0	1	0.07	0.07	0.07
City_856	Zone A	3.16	2.66	32.49	0.3	0	1	0.06	0.06	0.06
City_857	Zone A	4.39	3.24	60.76	0.23	0	1	0.06	0.06	0.06
City_858	Zone A	5.1	4.39	56.95	0.23	0	1	0.05	0.05	0.05
City_859	Zone A	5.93	5.59	108.97	0.23	0	1	0.07	0.07	0.07

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City_860	Zone A	2.46	2.18	61.99	0.45	0	1	0.09	0.05	0.05
City_861	Zone A	2.66	2.54	32.4	0.3	0	1	0.06	0.05	0.05
City_862	Zone A	3.47	2.54	37.54	0.38	0	1	0.01	0.01	0.02
City_863	Zone A	3.82	3.47	15.19	0.3	0	1	0	0	0
City_864	Zone A	4.44	3.47	37.82	0.38	0	1	0.01	0.01	0.02
City_865	Zone A	5.1	4.44	13.66	0.23	0	1	0.01	0.01	0.01
City_866	Zone A	4.94	4.44	33.73	0.53	0	1	0	0	0
City_867	Zone A	2.11	0.56	9.27	0.23	0	1	0.01	0.02	0.02
City_868	Zone A	2.25	2.16	21.21	0.15	0	1	0	0.01	0.01
City_871	Zone A	1.28	1.07	58.57	0.3	0	1	0.07	0.05	0.06
City_872	Zone A	1.69	1.55	82.17	0.45	0	1	0.04	0.04	0.02
City_873	Zone A	1.7	1.69	11.63	0.45	0	1	0.08	0.03	0.03
City_874	Zone A	1.04	1.03	91.2	0.45	0	1	0.1	0.07	0.12
City_875	Zone A	1.68	1.03	9.39	0.23	0	1	0.04	0.02	0.02
City_876	Zone A	1.85	1.7	9.31	0.45	0	1	0.08	0.02	0.02
City_877	Zone A	1.87	1.85	14.06	0.45	0	1	0.06	0.03	0.03
City_878	Zone A	1.69	1.68	102.59	0.45	0	1	0.08	0.04	0.04
City_879	Zone A	1.11	1.04	30.9	0.45	0	1	0.1	0.06	0.08
City_880	Zone A	2.7	2.69	2.44	0.15	0	1	0	0	0
City_933	Zone A	1.88	1.87	57.89	0.38	0	1	0.07	0.04	0.04
City_934	Zone A	2.45	2.37	8.24	0.3	0	1	0.01	0.02	0.02
City_938	Zone A	2.03	2.02	9.72	0.38	0	1	0.07	0.07	0.07
City_939	Zone A	2.37	2.03	24.94	0.3	0	1	0.01	0.03	0.03
City_950	Zone A	10.9	10.89	6.71	0.23	0	1	0.01	0.01	0.02
City_951	Zone A	10.1	5.93	3.6	0.23	0	1	0.01	0.02	0.02
City_952	Zone A	10.26	10.1	6.81	0.23	0	1	0	0.01	0.01

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City_953	Zone A	10	5.93	11.99	0.23	0	1	0.06	0.06	0.06
City_954	Zone A	10.8	10	54.29	0.23	0	1	0.06	0.06	0.06
City_961	Zone A	15.5	15.4	3.15	0.23	0	1	0.06	0.09	0.12
City_962	Zone A	15.5	15.4	40.45	0.57	0	1	0.14	0.2	0.21
City_963	Zone A	15.56	15.5	19.75	0.3	0	1	0.14	0.2	0.21
City_964	Zone A	15.88	15.56	18.61	0.3	0	1	0.14	0.2	0.21
City_965	Zone A	17.8	17.78	15.19	0.23	0	1	0.03	0.04	0.05
City_968	Zone A	16.59	16.58	87.61	0.38	0	1	0.06	0.1	0.11
City_969	Zone A	16.6	16.59	28.47	0.38	0	1	0.06	0.1	0.12
City_970	Zone A	18.01	18	2.37	0.23	0	1	0.03	0.03	0.04
City_971	Zone A	18.12	18.03	14.27	0.23	0	1	0.03	0.03	0.03
City_972	Zone A	18	17.9	8.72	0.23	0	1	0.06	0.08	0.08
City_973	Zone A	18.12	18.12	2.26	0.23	0	1	0.03	0.03	0.03
City_974	Zone A	18.13	18.12	10.98	0.23	0	1	0.03	0.03	0.03
City_975	Zone A	18.13	18.13	28.85	0.23	0	1	0.03	0.03	0.03
City_976	Zone A	18.13	18.13	2.42	0.23	0	1	0.03	0.04	0.04
City_977	Zone A	18.13	18.13	7.06	0.23	0	1	0.03	0.04	0.04
City_978	Zone A	1.63	1.62	65.81	0.3	0	1	0.07	0.06	0.06
City_979	Zone A	1.56	1.28	2.1	0.3	0	1	0.02	0.03	0.03
City_980	Zone A	1.23	1.23	29.6	0.3	0	1	0.11	0.11	0.11
City_981	Zone A	1.23	1.22	53.18	1.2	0	1	0.73	0.56	0.7
City_982	Zone A	1.25	1.2	7.95	0.38	0	1	0.07	0.09	0.11
City_983	Zone A	1.3	1.25	96.99	0.38	0	1	0.07	0.08	0.09
City_984	Zone A	1.2	1.2	8.17	0.38	0	1	0.27	0.25	0.24
City_985	Zone A	1.13	1.12	35.63	1.2	0	1	1.66	1.75	1.68
City_986	Zone A	1.2	1.13	68.82	1.2	0	1	1.14	1.08	1.16

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City_987	Zone A	0.23	0.1	105.41	1.2	0	1	1.51	1.76	1.68
City_988	Zone A	0.1	-0.01	48.55	1.2	0	1	1.23	1.31	1.31
City_989	Zone A	1.7	1.5	26.2	0.38	0	1	0.05	0.06	0.06
City_990	Zone A	1.55	1.5	9.38	0.3	0	1	0.03	0.03	0.04
City_991	Zone A	1.57	1.55	1.36	0.3	0	1	0	0	0
City_992	Zone A	1.72	1.72	19.7	0.23	0	1	0.02	0.02	0.02
City_993	Zone A	1.74	1.72	24.42	0.3	0	1	0.02	0.02	0.03
City_994	Zone A	1.92	1.78	58.14	0.3	0	1	0.02	0.02	0.03
City_995	Zone A	1.77	1.77	1.48	0.3	0	1	0.03	0.03	0.03
City_996	Zone A	1.77	1.73	7.59	0.3	0	1	0.03	0.04	0.04
City_997	Zone A	1.71	1.71	24.83	0.6	0	1	0.06	0.1	0.1
City_998	Zone A	1.66	1.66	10.55	0.23	0	1	0.02	0.02	0.02
City_999	Zone A	1.3	1.2	53.66	0.45	0	1	0.09	0.09	0.09
City_1000	Zone A	1.55	1.5	12.05	0.3	0	1	0.09	0.09	0.09
City_1001	Zone A	1.59	1.55	33.95	0.45	0	1	0.06	0.06	0.06
City_1002	Zone A	1.56	1.55	36.8	0.23	0	1	0.01	0.01	0.01
City_1003	Zone A	1.2	1.1	1.31	0.15	0	1	0.02	0.03	0.03
City_1004	Zone A	1.1	1	3.87	0.15	0	1	0.02	0.02	0.02
City_1005	Zone A	1.36	1.34	40.3	0.45	0	1	0.09	0.12	0.11
City_1006	Zone A	1.34	1.33	34.25	0.45	0	1	0.17	0.16	0.15
City_1007	Zone A	1.33	1.32	15.8	0.45	0	1	0.11	0.1	0.09
City_1008	Zone A	1.34	1.33	14.27	0.3	0	1	0.04	0.04	0.04
City_1009	Zone A	1.33	1.32	9.61	0.45	0	1	0.05	0.04	0.08
City_1010	Zone A	1.28	1.08	21.22	0.6	0	1	0.07	0.06	0.12
City_1011	Zone A	1.34	1.33	16.64	0.23	0	1	0.02	0.02	0.02
City_1012	Zone A	0.79	0.76	11.93	0.75	0	1	0.24	0.31	0.49

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City_1013	Zone A	1.15	1.08	35.88	0.45	0	1	0.11	0.11	0.11
City_1014	Zone A	0.75	0.73	72.09	0.75	0	1	0.2	0.18	0.29
City_1015	Zone A	0.73	0.72	84.27	0.75	0	1	0.16	0.12	0.15
City_1016	Zone A	1.35	1.34	8.15	0.3	0	1	0.02	0.01	0.01
City_1017	Zone A	1.7	1.6	5.07	0.3	0	1	0.02	0.02	0.02
City_1018	Zone A	1.45	1.34	4.5	0.3	0	1	0.02	0.02	0.01
City_1019	Zone A	1.31	1.29	17.16	0.45	0	1	0.07	0.09	0.1
City_1020	Zone A	1.34	1.31	16.62	0.45	0	1	0.02	0.03	0.03
City_1021	Zone A	1.29	1.25	21.78	0.45	0	1	0.07	0.1	0.11
City_1022	Zone A	1.25	1.2	4.56	0.45	0	1	0.09	0.11	0.13
City_1023	Zone A	1.34	1.32	15.47	0.3	0	1	0.04	0.05	0.05
City_1024	Zone A	1.32	1.31	41.01	0.3	0	1	0.04	0.06	0.06
City_1025	Zone A	1.47	1.34	14.94	0.3	0	1	0.03	0.06	0.06
City_1026	Zone A	1.5	1.47	4.6	0.3	0	1	0.02	0.02	0.01
City_1027	Zone A	1.6	1.47	21.5	0.3	0	1	0.03	0.04	0.03
City_1029	Zone A	1.73	1.65	28.81	0.3	0	1	0.03	0.02	0.02
City_1031	Zone A	1.65	1.51	35.22	0.45	0	1	0.05	0.05	0.04
City_1032	Zone A	1.54	1.51	1.5	0.3	0	1	0.02	0.02	0.02
City_1033	Zone A	1.46	1.36	6.43	0.45	0	1	0.08	0.06	0.05
City_1034	Zone A	1.25	1.2	39.94	0.38	0	1	0.05	0.07	0.05
City_1035	Zone A	1.2	1.15	24.8	0.45	0	1	0.11	0.11	0.09
City_1036	Zone A	1.3	1.25	17.63	0.3	0	1	0.03	0.02	0.03
City_1037	Zone A	1.44	1.3	21.65	0.3	0	1	0.02	0.02	0.01
City_1039	Zone A	1.89	1.77	4.63	0.23	0	1	0.01	0.01	0.01
City_1040	Zone A	1.5	1.4	7.25	0.23	0	1	0	0.01	0.01
City_1041	Zone A	1.4	1.39	14.03	0.23	0	1	0.01	0.04	0.04

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City_1042	Zone A	1.6	1.5	21.14	0.13	0	1	0	0	0
City_1043	Zone A	1.8	1.73	34.22	0.3	0	1	0.04	0.02	0.02
City_1044	Zone A	1.73	1.38	27.85	0.45	0	1	0.07	0.1	0.1
City_1045	Zone A	1.68	1.61	12.26	0.3	0	1	0.03	0.02	0.02
City_1046	Zone A	1.61	1.38	25.38	0.3	0	1	0.03	0.04	0.04
City_1047	Zone A	1.38	1.38	15.34	0.45	0	1	0.1	0.11	0.11
City_1048	Zone A	1.55	1.37	13.57	0.38	0	1	0.06	0.07	0.07
City_1049	Zone A	1.37	1.36	57.18	0.6	0	1	0.12	0.12	0.11
City_1050	Zone A	1.38	1.37	27.26	0.6	0	1	0.12	0.12	0.11
City_1051	Zone A	1.32	1.31	30.81	0.6	0	1	0.12	0.12	0.12
City_1052	Zone A	1.6	1.46	13.63	0.3	0	1	0.1	0.08	0.07
City_1053	Zone A	1.31	1.3	38.36	0.6	0	1	0.13	0.13	0.13
City_1054	Zone A	1.3	1.26	69.86	0.6	0	1	0.27	0.28	0.28
City_1055	Zone A	1.26	1.25	13.56	0.3	0	1	0.1	0.1	0.1
City_1154	Zone A	0.91	0.67	6.48	0.23	0	1	0.06	0.07	0.09
City_1155	Zone A	1.94	1.9	16.46	0.23	0	1	0.01	0.01	0.01
City_1156	Zone A	2.07	1.94	14.02	0.23	0	1	0.01	0.01	0.01
City_1157	Zone A	2.15	2.14	17.91	0.23	0	1	0.01	0.01	0.01
City_1158	Zone A	2.15	2.15	43.57	0.23	0	1	0.01	0.01	0
City_1159	Zone A	2.19	2.15	11.13	0.23	0	1	0	0	0
City_1160	Zone A	2.4	2.3	34.09	0.23	0	1	0.03	0.03	0.03
City_1161	Zone A	2.28	2.07	11.76	0.23	0	1	0.14	0.13	0.16
City_1162	Zone A	2.32	2.21	66.98	0.23	0	1	0.07	0.07	0.08
City_1164	Zone A	12.43	12.41	5.02	0.23	0	1	0.03	0.03	0.03
City_1165	Zone A	12.47	12.43	9.69	0.23	0	1	0.02	0.02	0.02
City_1167	Zone A	13.37	13.35	59.57	0.57	0	1	0.19	0.28	0.33

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City_1168	Zone A	16.94	16.6	72.35	0.38	0	1	0.07	0.1	0.13
City_1170	Zone A	1.69	1.5	6.36	0.6	0	1	0.11	0.06	0.06
City_1171	Zone A	2.04	2.04	4.56	0.23	0	1	0.04	0.02	0.01
City_1172	Zone A	0.94	0.94	2.75	0.15	0	1	0.03	0.03	0.04
City_1174	Zone A	2.2	2.12	6.74	0.3	0	1	0.01	0.01	0.03
City_1177	Zone A	1.07	1	7.34	0.3	0	1	0.08	0.06	0.07
City_1178	Zone A	1	0.99	32.22	0.9	0	1	0.38	0.3	0.39
City_1179	Zone A	2.3	2.2	10.08	0.23	0	1	0.04	0.04	0.04
City_1180	Zone A	2.12	2.1	15.18	0.3	0	1	0.02	0.04	0.03
City_1182	Zone A	1.42	1.41	60.56	0.6	0	1	0.16	0.1	0.11
City_1206	Zone A	1.94	1.94	6.64	0.23	0	1	0.02	0.02	0.01
City_1207	Zone A	1.95	1.94	8.83	0.23	0	1	0.01	0.01	0.01
City_1208	Zone A	1.58	1.44	5.33	0.15	0	1	0.01	0.02	0.02
City_1209	Zone A	0.95	0.85	23.28	0.6	0	1	0.46	0.49	0.47
City_1210	Zone A	0.67	0.63	8.04	0.6	0	1	0.27	0.27	0.28
City_1211	Zone A	1.66	1.6	29.33	0.15	0	1	0	0	0.01
City_1212	Zone A	2.3	2.26	15.9	0.15	0	1	0.01	0.01	0.01
City_1213	Zone A	2.4	2.3	12.96	0.23	0	1	0.01	0.01	0.01
City_1214	Zone A	1.26	1.25	20.49	0.6	0	1	0.17	0.19	0.22
City_1215	Zone A	-0.29	-0.38	62.33	1.8	0	1	4.83	5.39	5.19
City_1216	Zone A	1.61	1.61	40.36	0.6	0	1	0.25	0.2	0.21
City_1217	Zone A	1.6	1.6	31	0.6	0	1	0.28	0.25	0.23
City_1218	Zone A	1.59	1.43	59.91	0.9	0	1	0.58	0.71	0.75
City_1219	Zone A	2	2	20.62	0.3	0	1	0.05	0.05	0.03
City_1220	Zone A	1.27	1.26	25.92	1.5	0	1	1.73	1.5	1.24
City_1221	Zone A	2.2	2.13	22.86	0.3	0	1	0.04	0.05	0.03

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City_1222	Zone A	1.3	1.29	25.26	1.2	0	1	0.64	0.53	0.42
City_1223	Zone A	2.04	2.03	15.24	0.23	0	1	0.04	0.01	0.01
City_1224	Zone A	2.03	2.03	40.53	0.3	0	1	0.06	0.03	0.02
City_1225	Zone A	2.03	2.03	8.85	0.3	0	1	0.06	0.03	0.02
City_1226	Zone A	2.04	2.03	4.61	0.23	0	1	0.02	0.01	0.01
City_1227	Zone A	2.18	2.18	10.15	0.15	0	1	0.01	0	0
City_1228	Zone A	2.24	2.23	11.28	0.1	0	1	0	0	0
City_1229	Zone A	2.25	2.23	37.65	0.23	0	1	0.03	0.02	0.02
City_1230	Zone A	2.17	2.17	14.63	0.15	0	1	0.01	0.01	0
City_1231	Zone A	2.2	2.18	14.07	0.15	0	1	0.01	0.01	0
City_1232	Zone A	3.77	3.77	5.08	0.15	0	1	0.02	0.02	0.02
City_1233	Zone A	1.76	1.7	11.68	0.3	0	1	0.04	0.05	0.03
City_1234	Zone A	1.76	1.7	11.91	0.3	0	1	0.05	0.05	0.03
City_1235	Zone A	1.57	1.35	1.52	0.53	0	1	0.09	0.11	0.1
City_1236	Zone A	1.6	1.57	22.16	0.53	0	1	0.08	0.08	0.06
City_1237	Zone A	1.61	1.61	14	0.45	0	1	0.07	0.07	0.06
City_1238	Zone A	1.63	1.61	8.56	0.45	0	1	0.07	0.06	0.06
City_1239	Zone A	1.64	1.63	30.4	0.45	0	1	0.07	0.06	0.06
City_1240	Zone A	1.65	1.64	15.53	0.45	0	1	0.06	0.06	0.06
City_1241	Zone A	2.49	2.4	3.87	0.15	0	1	0	0	0
City_1242	Zone A	1.65	1.65	26.29	0.45	0	1	0.06	0.06	0.06
City_1243	Zone A	1.66	1.65	21.43	0.45	0	1	0.06	0.06	0.06
City_1244	Zone A	1.41	1.4	27.81	0.6	0	1	0.17	0.13	0.14
City_1245	Zone A	1.41	1.41	65.13	0.6	0	1	0.16	0.12	0.13
City_1246	Zone A	1.84	1.72	9.21	0.3	0	1	0.03	0.04	0.03
City_1247	Zone A	1.25	1.25	10.99	0.45	0	1	0.09	0.12	0.08

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_1248	Zone A	1.54	1.36	9.51	0.38	0	1	0.04	0.08	0.06
City_1249	Zone A	2.03	2.03	2.34	0.23	0	1	0	0.01	0.01
City_1250	Zone A	2.03	2.03	4.13	0.23	0	1	0	0.01	0.01
City_1251	Zone A	1.93	1.89	3.71	0.3	0	1	0.02	0.03	0.03
City_1252	Zone A	1.94	1.9	3.49	0.3	0	1	0.03	0.06	0.05
City_1253	Zone A	1.95	1.94	17.39	0.3	0	1	0.02	0.04	0.04
City_1254	Zone A	1.97	1.96	10.11	0.3	0	1	0.01	0.04	0.04
City_1255	Zone A	2.1	2.09	4.93	0.3	0	1	0.04	0.03	0.02
City_1256	Zone A	1.02	1.01	8.83	0.68	0	1	0.37	0.39	0.33
City_1259	Zone A	2.6	2.52	34.13	0.3	0	1	0.02	0.05	0.04
City_1260	Zone A	2.65	2.62	30.98	0.15	0	1	0	0	0
City_1261	Zone A	2.62	2.61	4.55	0.3	0	1	0.01	0.03	0.02
City_1262	Zone A	1.46	1.43	104.03	0.68	0	1	0.25	0.25	0.25
City_1263	Zone A	2.95	2.89	3.48	0.15	0	1	0.01	0	0
City_1264	Zone A	1.35	1.34	5.72	0.38	0	1	0.07	0.05	0.04
City_1265	Zone A	1.87	1.8	7.78	0.3	0	1	0.08	0.08	0.04
City_1266	Zone A	2	1.8	7.04	0.3	0	1	0.06	0.06	0.03
City_1267	Zone A	2.5	2.44	7.85	0.15	0	1	0.01	0	0
City_1268	Zone A	1.94	1.93	32.9	0.3	0	1	0.04	0.03	0.02
City_1276	Zone A	2.3	2.23	18.86	0.3	0	1	0.03	0.03	0.01
City_1277	Zone A	2.31	2.31	6.94	0.3	0	1	0.04	0.02	0.01
City_1278	Zone A	2.3	2.23	10.75	0.3	0	1	0.01	0.02	0.01
City_1279	Zone A	2.35	2.3	5.78	0.23	0	1	0.04	0.03	0.02
City_1280	Zone A	1.9	1.89	10.43	0.3	0	1	0.07	0.05	0.04
City_1281	Zone A	1.95	1.95	2.71	0.3	0	1	0.02	0	0
City_1282	Zone A	1.58	1.57	12.03	0.3	0	1	0.01	0.02	0.03

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_1283	Zone A	1.89	1.57	54.13	0.3	0	1	0.08	0.06	0.05
City_1284	Zone A	1.56	1.4	23.85	0.45	0	1	0.22	0.22	0.18
City_1285	Zone A	1.6	1.56	17.61	0.45	0	1	0.18	0.19	0.17
City_1286	Zone A	1.74	1.74	26.67	0.45	0	1	0.11	0.08	0.05
City_1287	Zone A	1.62	1.6	34.66	0.45	0	1	0.15	0.13	0.11
City_1289	Zone A	2.12	2.1	16.38	0.15	0	1	0	0.02	0.01
City_1290	Zone A	2.31	2.3	21.64	0.15	0	1	0	0	0
City_1291	Zone A	2.2	2.11	19.93	0.3	0	1	0.02	0.02	0.02
City_1292	Zone A	2.1	2.08	10.12	0.15	0	1	0	0.01	0.01
City_1293	Zone A	1.4	1.38	12.87	0.6	0	1	0.17	0.18	0.17
City_1294	Zone A	2.2	2.17	29.72	0.3	0	1	0.05	0.04	0.03
City_1295	Zone A	2.36	2.36	17.84	0.23	0	1	0.03	0.03	0.02
City_1296	Zone A	1.82	1.26	31.1	0.6	0	1	0.09	0.15	0.13
City_1297	Zone A	1.26	1.2	11.78	0.6	0	1	0.18	0.16	0.23
City_1298	Zone A	2.88	2.4	7.87	0.23	0	1	0.05	0.04	0.04
City_1308	Zone A	0.99	0.9	46.84	1.2	0	1	0.53	0.43	0.55
City_1309	Zone A	1.95	1.95	4.34	0.38	0	1	0.05	0.02	0.01
City_1310	Zone A	1.95	1.95	4.21	0.38	0	1	0.04	0.01	0.01
City_1311	Zone A	2.15	2.14	28.42	0.38	0	1	0.01	0.03	0.01
City_1312	Zone A	2.25	2.2	2.17	0.23	0	1	0.02	0.02	0.01
City_1313	Zone A	0.44	0.43	19.34	0.9	0	1	0.88	0.96	0.81
City_1314	Zone A	1.7	1.69	1.33	0.15	0	1	0	0	0.01
City_1315	Zone A	2.69	2.68	14.4	0.23	0	1	0.01	0.02	0.02
City_1316	Zone A	2.6	2.56	15.71	0.3	0	1	0.04	0.05	0.06
City_1317	Zone A	2.62	2.62	10.1	0.23	0	1	0.02	0.03	0.02
City_1318	Zone A	4.99	4.99	15.13	0.15	0	1	0	0	0

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_1319	Zone A	4.99	4.99	3.01	0.15	0	1	0	0	0.01
City_1320	Zone A	5.21	5.21	4.01	0.15	0	1	0	0	0.01
City_1321	Zone A	2.39	2.32	5.85	0.23	0	1	0.04	0.04	0.04
City_1322	Zone A	2.4	2.32	3.5	0.23	0	1	0.02	0.01	0.01
City_1323	Zone A	2.35	2.32	11.06	0.23	0	1	0.08	0.08	0.08
City_1324	Zone A	3	3	4.05	0.23	0	1	0	0.01	0.01
City_1325	Zone A	3.3	3.28	8.98	0.23	0	1	0.01	0.01	0.02
City_1326	Zone A	2.35	2.32	9.98	0.23	0	1	0.03	0.07	0.06
City_1327	Zone A	2.21	2.2	3.3	0.3	0	1	0.13	0.11	0.1
City_1328	Zone A	5.3	5.25	7.76	0.23	0	1	0.05	0.05	0.04
City_1329	Zone A	2.7	2.6	116.64	0.3	0	1	0.1	0.09	0.09
City_1330	Zone A	3	2.7	13.13	0.23	0	1	0.06	0.06	0.05
City_1331	Zone A	5.12	2.7	8.85	0.23	0	1	0.06	0.06	0.06
City_1332	Zone A	4.79	3	6.96	0.23	0	1	0.06	0.06	0.1
City_1333	Zone A	2.7	2.69	5.37	0.23	0	1	0.01	0.02	0.02
City_1334	Zone A	-0.38	-0.4	7.04	1.8	0	1	4.62	5.64	5.37
City_1335	Zone A	0.63	0.6	13.87	0.75	0	1	0.75	0.76	0.81
City_1336	Zone A	0.16	0.1	65.65	1.5	0	1	4.17	4.21	4.01
City_1337	Zone A	0.36	0.3	12.2	1.2	0	1	2.94	2.89	2.98
City_1339	Zone A	2.32	2.3	11.74	0.15	0	1	0.02	0.01	0.01
City_1345	Zone A	1.99	1.89	11.28	0.38	0	1	0.07	0.08	0.08
City_1346	Zone A	2.3	2.3	43.11	0.23	0	1	0.03	0.02	0.02
City_1347	Zone A	2.82	2.81	30.13	0.15	0	1	0.01	0.01	0.01
City_1348	Zone A	2.1	2.01	8.78	0.23	0	1	0.01	0	0.01
City_1349	Zone A	2.61	2.6	20.75	0.3	0	1	0.02	0.05	0.03
City_1363	Zone A	3.3	3.27	13.1	0.23	0	1	0.02	0.03	0.02

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
City_1364	Zone A	3.3	3.27	1.84	0.23	0	1	0	0	0
City_1365	Zone A	2.1	2.08	4.89	0.23	0	1	0.01	0.01	0.01
City_1366	Zone A	2.65	2.62	4.21	0.23	0	1	0.01	0.01	0.01
City_1367	Zone A	1.5	1.4	12.46	0.6	0	1	0.11	0.11	0.12
City_1369	Zone A	2.2	2.02	5.01	0.2	0	1	0	0	0
City_1370	Zone A	1.03	1.02	30.78	0.6	0	1	0.13	0.07	0.09
City_1389	Zone A	2.04	2.03	18.14	0.3	0	1	0.07	0.06	0.06
City_1390	Zone A	1.25	1.25	47.29	0.3	0	1	0.1	0.08	0.09
Rail_1	Zone A	1.31	1.3	27.62	0.53	0	1	0.12	0.11	0.11
Rail_2	Zone A	1.32	1.31	25.38	0.53	0	1	0.11	0.09	0.08
Rail_3	Zone A	1.33	1.32	39.47	0.3	0	1	0.05	0.06	0.06
Rail_4	Zone A	1.4	1.39	4.21	0.2	0	1	0	0	0.02
Rail_5	Zone A	1.4	1.39	4.46	0.2	0	1	0	0	0.02
Rail_6	Zone A	1.4	1.39	4.04	0.2	0	1	0	0	0.02
Rail_7	Zone A	1.39	1.38	9.72	0.45	0	1	0.01	0.01	0.02
Rail_8	Zone A	1.36	1.35	16.76	0.53	0	1	0.08	0.06	0.05
Rail_9	Zone A	1.37	1.36	30.24	0.45	0	1	0.08	0.05	0.05
Rail_10	Zone A	1.38	1.37	12.21	0.45	0	1	0.02	0.02	0.02
Rail_11	Zone A	1.39	1.38	3.59	0.2	0	1	0	0	0.02
Rail_12	Zone A	1.38	1.37	5.3	0.2	0	1	0.02	0.01	0.02
Rail_13	Zone A	1.38	1.37	3.96	0.2	0	1	0	0	0.02
Rail_14	Zone A	1.38	1.37	3.81	0.2	0	1	0.03	0.02	0.02
Rail_15	Zone A	1.38	1.37	4.18	0.2	0	1	0.03	0.02	0.02
Rail_16	Zone A	1.37	1.36	5.5	0.2	0	1	0	0	0.02
Rail_17	Zone A	1.37	1.36	4.43	0.15	0	1	0	0	0.01
Rail_18	Zone A	1.37	1.36	4.31	0.23	0	1	0	0	0.03

ID	Zone	Upstream Invert (mAHD)	Downstream Invert (mAHD)	Length (m)	Diameter or Width (m)	Height (m)	Number of Pipes	Maximum 20% AEP Flow (m^3/s)	Maximum 1% AEP Flow (m^3/s)	Maximum 0.2% AEP Flow (m^3/s)
Rail_19	Zone A	1.37	1.36	2.82	0.2	0	1	0	0	0.02
Rail_20	Zone A	1.37	1.36	3.58	0.2	0	1	0	0	0.02
Rail_21	Zone A	1.35	1.34	3.44	0.2	0	1	0	0	0.03
Rail_22	Zone A	1.35	1.34	2.93	0.23	0	1	0.01	0.01	0.03
Rail_23	Zone A	1.34	1.33	13.18	0.53	0	1	0.09	0.07	0.06
Rail_24	Zone A	1.34	1.33	4.52	0.2	0	1	0	0	0.03
Rail_25	Zone A	1.34	1.33	4.88	0.2	0	1	0	0	0.03
Rail_26	Zone A	1.34	1.33	2.71	0.2	0	1	0.03	0.02	0.03
Rail_27	Zone A	1.34	1.33	4.27	0.45	0	1	0.06	0.04	0.05
Rail_28	Zone A	1.33	1.32	30.11	0.53	0	1	0.11	0.09	0.08
Rail_29	Zone A	1.6	1.5	30.12	1.2	0	1	0.59	0.63	0.61
Rail_30	Zone A	1.5	1.4	73	1.35	0	1	0.6	0.64	0.75
Rail_31	Zone A	1.4	1.35	75.26	1.3	0	1	0.61	0.69	0.78
Rail_32	Zone A	1.36	1.35	6.06	0.3	0	1	0.05	0.08	0.1
Rail_33	Zone A	1.35	1.34	45.12	1.05	0	1	0.68	0.85	0.96
Rail_34	Zone A	1.35	1.34	92.66	1.3	0	1	0.94	1.51	1.46
Rail_35	Zone A	1.34	1.33	56.44	1.5	0	1	1.44	1.97	2.53
Rail_36	Zone A	1.33	1.32	36.73	1.8	0	1	3.82	4.75	5.16
Rail_37	Zone A	1.3	1.2	12.98	0.3	0	1	0.2	0.21	0.21
Rail_38	Zone A	1.25	1.2	43.04	1.8	0	1	4.54	5.08	5.76
Rail_39	Zone A	1.32	1.3	40.9	1.1	0	1	1.99	2.26	2.46
Rail_40	Zone A	1.2	1.1	33.13	2.1	0	1	6.36	7.24	6.76
Rail_41	Zone A	1.1	1	9.54	2.1	0	1	2.98	5.61	5.43
Rail_42	Zone A	1.2	1.1	3	0.3	0	1	0.13	0.15	0.17

3 Lot Level Results

In order for the City to exert planning control for all lots within Zone A, the 0.2% AEP flood level has been identified for each lot. For each lot within Zone A Table 3-1 identifies whether is subject to inundation in the 0.2% AEP event, the maximum flood level within the lot in the 0.2% AEP event and the recommended minimum flood level for each lot affected by the 0.2% AEP event based on a nominal 100mm freeboard. Mapping is provided in Appendix A showing the length of time flooding is above 300 mm in depth.

Each building footprint was raised above the surrounding topography in the model. This coupled with the rain on grid modelling approach adopted could produce artificially high flood levels for each lot; the reported levels are within the reminder of the lot (i.e within the lot, but **not** within the building footprint).

Table 3-1 Lot Based Results

Parcel PI		Lot Inundated (Yes/No)	0.2% AEP Flood Level (mAHD)	Nominal Freeboard (mm)	Recommended Minimum Floor Level (mAHD)
D000219	1	Yes	6.88	0.1	6.98
D000352	1	Yes	3.54	0.1	3.64
D000353	1	Yes	3.99	0.1	4.09
D000353	2	Yes	4.5	0.1	4.6
D000863	1	Yes	3.54	0.1	3.64
D000863	2	Yes	3.54	0.1	3.64
D002717	67	Yes	3.56	0.1	3.66
D003154	1	Yes	4.92	0.1	5.02
D003154	2	Yes	5.1	0.1	5.2
D003154	3	Yes	6.16	0.1	6.26
D003154	4	Yes	6.16	0.1	6.26
D003154	66	Yes	6.16	0.1	6.26
D003159	6	Yes	3.54	0.1	3.64
D003160	3	Yes	3.54	0.1	3.64
D003161	66	Yes	5.7	0.1	5.8
D003163	1	Yes	3.54	0.1	3.64
D003352	1	Yes	3.55	0.1	3.65
D003637	4	Yes	18.97	0.1	19.07

D003671	1	Yes	8	0.1	8.1
D003671	2	Yes	10.25	0.1	10.35
D003671	3	Yes	8.35	0.1	8.45
D004161	123	Yes	3.59	0.1	3.69
D004205	124	Yes	3.54	0.1	3.64
D004243	123	Yes	3.69	0.1	3.79
D004368	1	Yes	3.59	0.1	3.69
D004368	2	Yes	3.56	0.1	3.66
D004368	3	Yes	3.69	0.1	3.79
D004368	66	Yes	3.59	0.1	3.69
D004689	123	Yes	3.75	0.1	3.85
D004689	123	Yes	3.75	0.1	3.85
D004690	124	Yes	3.73	0.1	3.83
D004690	124	Yes	3.73	0.1	3.83
D005349	50	Yes	3.54	0.1	3.64
D005544	1	Yes	6.98	0.1	7.08
D006523	1	Yes	3.74	0.1	3.84
D006523	3	Yes	3.57	0.1	3.67
D006523	4	Yes	3.92	0.1	4.02
D006523	66	Yes	3.92	0.1	4.02
D007102	123	Yes	3.56	0.1	3.66
D010327	1782	Yes	3.54	0.1	3.64
D010929	12	Yes	15.1	0.1	15.2
D011135	1	Yes	14.32	0.1	14.42
D011135	2	Yes	14.57	0.1	14.67
D011135	2	Yes	14.57	0.1	14.67
D011545	12	Yes	3.54	0.1	3.64
D011545	13	Yes	3.54	0.1	3.64
D011992	2	Yes	3.86	0.1	3.96

D011992	3	Yes	3.55	0.1	3.65
D012302	8	Yes	3.55	0.1	3.65
D012302	66	Yes	3.55	0.1	3.65
D012478	11	No	-	-	-
D012478	12	Yes	3.54	0.1	3.64
D012478	13	No	-	-	-
D012825	15	Yes	3.54	0.1	3.64
D012825	16	Yes	3.54	0.1	3.64
D012825	17	Yes	3.54	0.1	3.64
D012825	18	Yes	3.54	0.1	3.64
D012825	69	No	-	-	-
D012826	70	Yes	3.54	0.1	3.64
D013264	6	Yes	6.46	0.1	6.56
D013264	7	Yes	4.67	0.1	4.77
D014012	21	Yes	3.67	0.1	3.77
D014012	22	Yes	3.66	0.1	3.76
D014012	23	Yes	3.66	0.1	3.76
D014012	24	Yes	3.66	0.1	3.76
D014019	10	Yes	3.77	0.1	3.87
D014019	11	Yes	6.25	0.1	6.35
D014019	123	Yes	3.83	0.1	3.93
D014019	123	Yes	3.83	0.1	3.93
D014122	5	Yes	7.69	0.1	7.79
D014122	7	Yes	7.71	0.1	7.81
D014269	1	Yes	8.93	0.1	9.03
D014269	2	Yes	7.42	0.1	7.52
D014269	3	No	-	-	-
D014269	4	Yes	11.52	0.1	11.62
D015075	17	Yes	11.82	0.1	11.92

D015075	17	Yes	11.82	0.1	11.92
D015075	18	Yes	12.48	0.1	12.58
D016305	10	Yes	3.55	0.1	3.65
D016305	123	Yes	3.55	0.1	3.65
D017144	2	Yes	3.54	0.1	3.64
D017244	1	Yes	4.1	0.1	4.2
D017244	2	Yes	4.84	0.1	4.94
D017244	3	Yes	4.11	0.1	4.21
D017244	4	Yes	5.97	0.1	6.07
D017244	5	Yes	5.97	0.1	6.07
D017244	5	Yes	5.97	0.1	6.07
D017314	8	Yes	7.6	0.1	7.7
D017314	9	Yes	7.73	0.1	7.83
D017522	4	Yes	4.07	0.1	4.17
D018413	1	Yes	3.81	0.1	3.91
D018413	2	Yes	3.71	0.1	3.81
D019045	10	Yes	3.54	0.1	3.64
D019708	10	No	-	-	-
D019708	11	Yes	5.9	0.1	5.99
D019711	11	Yes	3.54	0.1	3.64
D019711	12	Yes	3.54	0.1	3.64
D019711	13	No	-	-	-
D019711	14	No	-	-	-
D021012	51	Yes	3.59	0.1	3.69
D021012	53	Yes	3.61	0.1	3.71
D021012	54	Yes	3.57	0.1	3.67
D022077	6	Yes	4.2	0.1	4.3
D024611	28	Yes	3.93	0.1	4.03
D024760	40	Yes	3.56	0.1	3.66

D024760	41	Yes	3.56	0.1	3.66
D024761	123	Yes	3.55	0.1	3.65
D025801	23	Yes	3.54	0.1	3.64
D025843	70	Yes	9.51	0.1	9.61
D025843	71	Yes	10.9	0.1	11
D026070	11	Yes	19.25	0.1	19.35
D026379	13	Yes	3.54	0.1	3.64
D026379	14	Yes	3.54	0.1	3.64
D027402	28	Yes	3.54	0.1	3.64
D027402	29	Yes	3.54	0.1	3.64
D028471	14	Yes	3.54	0.1	3.64
D028471	67	Yes	3.54	0.1	3.64
D028779	18	Yes	13.13	0.1	13.23
D029035	25	Yes	3.54	0.1	3.64
D029035	26	Yes	3.54	0.1	3.64
D029035	27	Yes	3.54	0.1	3.64
D029035	67	Yes	3.54	0.1	3.64
D029072	21	Yes	3.55	0.1	3.65
D029073	19	Yes	3.55	0.1	3.65
D029073	20	Yes	3.55	0.1	3.65
D030026	19	Yes	3.89	0.1	3.99
D030519	21	No	-	-	-
D030581	50	Yes	3.56	0.1	3.66
D032021	15	Yes	4.82	0.1	4.92
D032951	19	No	-	-	-
D032952	20	No	-	-	-
D032953	21	Yes	12.13	0.1	12.23
D035158	15	Yes	12.35	0.1	12.45
D036845	10	Yes	3.69	0.1	3.79

D036845	11	Yes	3.59	0.1	3.69
D037162	44	Yes	19.49	0.1	19.59
D037162	45	Yes	19.49	0.1	19.59
D037162	48	Yes	6.14	0.1	6.24
D037162	49	Yes	16.57	0.1	16.67
D037885	16	Yes	13.13	0.1	13.23
D038306	51	Yes	19.76	0.1	19.86
D038730	30	Yes	5.25	0.1	5.35
D039290	51	No	-	-	-
D040222	18	Yes	17.71	0.1	17.81
D040222	19	Yes	17.71	0.1	17.81
D040222	20	Yes	18.63	0.1	18.73
D040222	21	Yes	18.42	0.1	18.52
D040222	22	Yes	17.48	0.1	17.58
D040222	23	Yes	12.58	0.1	12.68
D040603	53	Yes	6.14	0.1	6.24
D041772	24	Yes	3.95	0.1	4.05
D042817	1	Yes	14.42	0.1	14.52
D042825	31	Yes	7.13	0.1	7.23
D042837	16	Yes	3.55	0.1	3.65
D042837	18	Yes	3.55	0.1	3.65
D042837	19	Yes	3.74	0.1	3.84
D042968	31	Yes	4.67	0.1	4.76
D045253	52	Yes	8.48	0.1	8.57
D045253	53	No	-	-	-
D045256	32	Yes	5.4	0.1	5.5
D045256	33	Yes	3.54	0.1	3.64
D045256	66	Yes	3.54	0.1	3.64
D047608	32	Yes	6.18	0.1	6.28

D047721	35	No	-	-	-
D047721	36	No	-	-	-
D047721	37	No	-	-	-
D047721	38	No	-	-	-
D047721	39	No	-	-	-
D047721	40	Yes	3.54	0.1	3.64
D047721	41	Yes	3.54	0.1	3.64
D047721	42	Yes	3.54	0.1	3.64
D047721	43	Yes	3.54	0.1	3.64
D048879	67	Yes	3.55	0.1	3.65
D048880	50	Yes	3.54	0.1	3.64
D048881	51	Yes	3.55	0.1	3.65
D048882	52	Yes	3.55	0.1	3.65
D048883	53	Yes	3.55	0.1	3.65
D050140	40	Yes	3.55	0.1	3.65
D050140	41	Yes	3.55	0.1	3.65
D050357	17	Yes	3.54	0.1	3.64
D050357	18	Yes	3.54	0.1	3.64
D052227	2	Yes	5.63	0.1	5.73
D052438	28	Yes	20.36	0.1	20.46
D053667	35	Yes	3.54	0.1	3.64
D054737	12	No	-	-	-
D054737	19	Yes	8.21	0.1	8.31
D055601	19	No	-	-	-
D055601	20	Yes	4.09	0.1	4.19
D055675	11	Yes	8.29	0.1	8.39
D057481	19	Yes	3.55	0.1	3.65
D057482	30	Yes	14.25	0.1	14.35
D057770	1	Yes	6.87	0.1	6.97

D058197	53	Yes	9.19	0.1	9.29
D058197	54	Yes	19.66	0.1	19.76
D058327	21	Yes	4.57	0.1	4.67
D058328	22	Yes	3.55	0.1	3.65
D058708	23	Yes	3.55	0.1	3.65
D058708	24	Yes	4.02	0.1	4.12
D059081	31	Yes	10.45	0.1	10.55
D059081	32	Yes	8.51	0.1	8.61
D059182	14	Yes	3.54	0.1	3.64
D060269	31	Yes	3.54	0.1	3.64
D060270	30	Yes	3.54	0.1	3.64
D060270	123	Yes	3.55	0.1	3.65
D061947	25	Yes	3.83	0.1	3.93
D062100	59	Yes	18.07	0.1	18.17
D062247	22	Yes	3.55	0.1	3.65
D062790	26	Yes	3.54	0.1	3.64
D062790	27	Yes	3.55	0.1	3.65
D063601	44	Yes	3.56	0.1	3.66
D063685	17	Yes	12.27	0.1	12.37
D064635	54	Yes	5.84	0.1	5.94
D066014	1	Yes	3.55	0.1	3.65
D066642	105	Yes	14.87	0.1	14.97
D067981	21	Yes	9.36	0.1	9.46
D068359	45	Yes	5.61	0.1	5.71
D070952	42	Yes	5.05	0.1	5.15
D071397	23	Yes	4.08	0.1	4.18
D074882	40	Yes	3.67	0.1	3.77
D074882	41	Yes	3.69	0.1	3.79
D077080	24	Yes	3.55	0.1	3.65

D079537	33	Yes	18.83	0.1	18.93
D079538	34	Yes	18.83	0.1	18.93
D079538	35	No	-	-	-
D079538	36	Yes	18.97	0.1	19.07
D079538	37	Yes	18.97	0.1	19.07
D080015	30	Yes	3.94	0.1	4.04
D080762	10	Yes	3.54	0.1	3.64
D082305	20	Yes	3.55	0.1	3.65
D083122	61	Yes	6.86	0.1	6.96
D083741	4	Yes	9.02	0.1	9.12
D084688	3	Yes	3.55	0.1	3.65
D085045	20	Yes	3.54	0.1	3.64
D085130	200	Yes	19.58	0.1	19.68
D085618	15	Yes	27.21	0.1	27.31
D085618	16	Yes	27.21	0.1	27.31
D086361	22	Yes	3.55	0.1	3.65
D087288	40	Yes	18.98	0.1	19.08
D087289	41	No	-	-	-
D087818	56	Yes	8.19	0.1	8.29
D087818	57	Yes	6.69	0.1	6.79
D087975	25	Yes	6.64	0.1	6.74
D089707	148	Yes	19.76	0.1	19.86
D090668	25	Yes	3.67	0.1	3.77
D091036	2	Yes	3.58	0.1	3.68
D091923	100	Yes	5.55	0.1	5.65
D093543	100	Yes	3.54	0.1	3.64
D093562	40	Yes	4.1	0.1	4.2
D093564	43	Yes	4.1	0.1	4.2
D093774	38	Yes	12.01	0.1	12.11

D093774 39	Yes	12.01	0.1	12.11
D093774 40	Yes	9.1	0.1	9.2
D093774 41	Yes	12.2	0.1	12.3
D094045 100	Yes	3.55	0.1	3.65
D094045 101	Yes	3.58	0.1	3.68
D094367 160	Yes	5.05	0.1	5.15
D094367 161	Yes	26.99	0.1	27.09
D094367 162	No	-	-	-
D096445 100	Yes	3.54	0.1	3.64
D096729 44	Yes	3.55	0.1	3.65
D096729 45	Yes	3.55	0.1	3.65
D096918 60	Yes	3.55	0.1	3.65
D097539 100	Yes	6.69	0.1	6.79
GERALT 00797	Yes	3.54	0.1	3.64
GERALT 00814	Yes	3.56	0.1	3.66
GERALT 00815	Yes	3.54	0.1	3.64
GERALT 00816	Yes	3.56	0.1	3.66
GERALT 00817	Yes	3.59	0.1	3.69
GERALT 02358	Yes	10.94	0.1	11.04
LRO M235876	Yes	3.96	0.1	4.06
P000134 1	Yes	14.63	0.1	14.73
P000134 2	Yes	18.15	0.1	18.25
P000134 3	Yes	18.73	0.1	18.83
P000134 4	Yes	18.55	0.1	18.65
P000134 5	Yes	18.56	0.1	18.66
P000134 6	Yes	18.59	0.1	18.69
P000134 7	Yes	18.66	0.1	18.76
P000134 9	Yes	18.02	0.1	18.12
P000134 10	Yes	17.95	0.1	18.05

P000134	11	Yes	17.82	0.1	17.92
P000134	12	Yes	17.77	0.1	17.87
P000134	13	Yes	18.24	0.1	18.34
P000134	14	Yes	18.24	0.1	18.34
P000134	15	Yes	18.23	0.1	18.33
P000760	6	Yes	3.96	0.1	4.06
P000760	7	Yes	3.96	0.1	4.06
P000760	9	Yes	7.36	0.1	7.46
P000760	10	Yes	20.36	0.1	20.46
P000760	11	Yes	21.3	0.1	21.4
P000760	12	Yes	20.6	0.1	20.7
P000760	13	Yes	5.68	0.1	5.78
P000760	14	Yes	4.32	0.1	4.42
P000760	16	Yes	14.84	0.1	14.94
P000760	17	Yes	11.03	0.1	11.13
P000760	18	Yes	5.97	0.1	6.07
P000760	19	Yes	4	0.1	4.1
P000760	26	No	-	-	-
P000760	27	No	-	-	-
P000760	28	Yes	15.73	0.1	15.83
P000760	31	Yes	6.14	0.1	6.24
P000760	32	Yes	3.66	0.1	3.76
P000760	33	Yes	7.5	0.1	7.6
P000760	34	Yes	4.2	0.1	4.3
P000760	35	Yes	3.55	0.1	3.65
P000760	36	Yes	3.71	0.1	3.81
P000760	37	Yes	4.25	0.1	4.35
P000784	2	Yes	3.61	0.1	3.71
P000837	9	Yes	7.77	0.1	7.87

P000837	10	Yes	7.67	0.1	7.77
P000837	11	Yes	6.22	0.1	6.32
P000837	12	Yes	4.54	0.1	4.64
P000837	13	Yes	5.29	0.1	5.39
P000837	14	Yes	6.26	0.1	6.36
P000838	1	Yes	12.8	0.1	12.9
P000838	2	No	-	-	-
P000838	3	Yes	11.7	0.1	11.8
P000838	4	Yes	10.33	0.1	10.43
P000838	5	Yes	11.06	0.1	11.16
P000838	6	Yes	10.63	0.1	10.73
P000838	11	Yes	12.07	0.1	12.17
P000838	12	Yes	12.34	0.1	12.44
P000838	13	Yes	12.1	0.1	12.2
P000838	14	Yes	12.41	0.1	12.51
P000838	15	Yes	12.41	0.1	12.51
P000838	16	Yes	14.7	0.1	14.8
P000838	17	No	-	-	-
P000838	18	No	-	-	-
P000838	19	Yes	17.33	0.1	17.43
P000838	21	Yes	16.54	0.1	16.64
P000838	24	Yes	11.9	0.1	12
P000838	25	Yes	17.21	0.1	17.31
P000838	26	No	-	-	-
P000838	27	Yes	20.15	0.1	20.25
P000838	28	Yes	19.98	0.1	20.08
P000838	30	Yes	14.89	0.1	14.99
P000838	66	No	-	-	-
P000838	66	Yes	16.07	0.1	16.17

P001017	3	Yes	3.54	0.1	3.64
P001017	4	Yes	4.09	0.1	4.19
P001017	5	Yes	4.09	0.1	4.19
P001017	6	Yes	3.55	0.1	3.65
P001017	9	Yes	3.55	0.1	3.65
P001017	10	Yes	4.37	0.1	4.47
P001017	11	Yes	4.51	0.1	4.61
P001017	12	Yes	7.81	0.1	7.9
P001017	13	Yes	10.38	0.1	10.48
P001051	10	Yes	3.56	0.1	3.66
P001051	11	Yes	3.56	0.1	3.66
P001051	12	Yes	3.56	0.1	3.66
P001074	2	Yes	3.54	0.1	3.64
P001074	3	Yes	3.54	0.1	3.64
P001269	1	Yes	3.73	0.1	3.83
P001269	3	Yes	5.63	0.1	5.73
P001269	4	Yes	6.51	0.1	6.61
P001288	4	Yes	3.69	0.1	3.79
P001288	5	Yes	3.74	0.1	3.84
P001288	10	No	-	-	-
P001288	11	Yes	4.07	0.1	4.17
P001288	12	Yes	4.07	0.1	4.17
P001288	15	Yes	4.52	0.1	4.62
P001288	16	Yes	4.52	0.1	4.62
P001327	1	Yes	3.55	0.1	3.65
P001327	2	Yes	3.54	0.1	3.64
P001327	3	Yes	3.58	0.1	3.68
P001327	4	Yes	3.58	0.1	3.68
P001327	7	Yes	3.72	0.1	3.82

P001327	8	Yes	3.72	0.1	3.82
P001327	9	Yes	3.55	0.1	3.65
P001327	10	Yes	3.55	0.1	3.65
P001327	11	Yes	3.55	0.1	3.65
P001327	12	Yes	3.55	0.1	3.65
P001327	13	Yes	3.55	0.1	3.65
P001327	14	Yes	3.65	0.1	3.75
P001360	6	No	-	-	-
P001423	5	Yes	3.54	0.1	3.64
P001687	1	Yes	3.54	0.1	3.64
P001687	2	No	-	-	-
P001687	3	Yes	3.55	0.1	3.65
P001687	8	Yes	3.56	0.1	3.66
P001687	12	Yes	3.55	0.1	3.65
P001687	60	Yes	3.55	0.1	3.65
P001779	1	Yes	3.55	0.1	3.65
P001779	2	Yes	3.54	0.1	3.64
P001779	3	Yes	3.55	0.1	3.65
P001779	4	Yes	3.55	0.1	3.65
P001779	5	Yes	3.55	0.1	3.65
P001779	6	Yes	3.55	0.1	3.65
P001779	8	Yes	3.54	0.1	3.64
P001779	9	Yes	3.55	0.1	3.65
P001779	10	Yes	4.55	0.1	4.65
P001779	11	Yes	3.55	0.1	3.65
P001779	12	Yes	3.59	0.1	3.69
P001779	15	Yes	6.18	0.1	6.28
P001795	1	No	-	-	-
P001795	2	No	-	-	-

P001795	3	No	-	-	-
P001795	4	Yes	23.38	0.1	23.48
P001795	5	Yes	15.11	0.1	15.21
P001795	6	Yes	14.78	0.1	14.88
P001795	7	Yes	14.75	0.1	14.85
P001795	8	Yes	14.65	0.1	14.75
P001795	9	Yes	14.7	0.1	14.8
P001795	10	Yes	14.81	0.1	14.91
P001795	11	Yes	14.93	0.1	15.03
P001795	12	Yes	14.94	0.1	15.04
P001795	13	Yes	15	0.1	15.1
P001795	16	Yes	22.1	0.1	22.2
P001795	17	Yes	22.33	0.1	22.43
P001795	18	Yes	15.21	0.1	15.31
P001795	19	Yes	15.03	0.1	15.13
P001795	20	Yes	15.03	0.1	15.13
P001795	21	Yes	15.03	0.1	15.13
P001795	22	Yes	15.19	0.1	15.29
P002032	1	Yes	23.4	0.1	23.5
P003065	1	Yes	3.54	0.1	3.64
P003065	2	Yes	3.54	0.1	3.64
P003065	3	Yes	3.58	0.1	3.68
P003065	4	Yes	3.71	0.1	3.81
P003065	5	Yes	3.7	0.1	3.8
P003065	6	Yes	3.54	0.1	3.64
P003065	9	Yes	3.54	0.1	3.64
P003065	66	Yes	3.65	0.1	3.75
P003072	0	Yes	3.55	0.1	3.65
P003072	5	Yes	3.55	0.1	3.65

P003072	6	Yes	3.55	0.1	3.65
P003072	7	Yes	3.75	0.1	3.85
P003072	8	Yes	3.75	0.1	3.85
P003072	9	Yes	3.55	0.1	3.65
P003072	10	Yes	3.55	0.1	3.65
P003072	11	Yes	3.55	0.1	3.65
P003075	1	Yes	3.54	0.1	3.64
P003075	2	Yes	3.55	0.1	3.65
P003075	3	Yes	3.55	0.1	3.65
P003075	5	Yes	3.55	0.1	3.65
P003075	66	Yes	3.54	0.1	3.64
P003075	66	Yes	3.54	0.1	3.64
P003182	1	Yes	7.15	0.1	7.25
P003182	2	Yes	7.15	0.1	7.25
P003182	3	Yes	5.96	0.1	6.06
P003182	4	Yes	5.91	0.1	6.01
P003182	5	Yes	6.69	0.1	6.79
P003182	6	Yes	6.69	0.1	6.79
P003182	7	Yes	6.69	0.1	6.79
P003182	8	Yes	6.72	0.1	6.82
P003182	10	Yes	7.44	0.1	7.54
P003182	11	Yes	8.02	0.1	8.12
P003182	12	Yes	9.88	0.1	9.98
P003182	13	No	-	-	-
P003182	14	No	-	-	-
P003182	15	Yes	10.8	0.1	10.9
P003182	16	Yes	11.64	0.1	11.74
P003182	17	Yes	13.05	0.1	13.15
P003182	66	Yes	9.63	0.1	9.73

P006547	11	Yes	3.55	0.1	3.65
P006547	12	Yes	3.6	0.1	3.7
P006547	13	No	-	-	-
P006547	14	No	-	-	-
P006547	15	Yes	3.56	0.1	3.66
P006547	16	Yes	3.55	0.1	3.65
P006547	17	Yes	3.56	0.1	3.66
P006547	18	Yes	3.62	0.1	3.72
P006547	19	No	-	-	-
P006547	20	No	-	-	-
P006547	21	No	-	-	-
P006547	22	No	-	-	-
P006547	23	No	-	-	-
P006547	24	No	-	-	-
P006547	25	No	-	-	-
P006547	26	No	-	-	-
P006547	27	No	-	-	-
P006547	28	No	-	-	-
P006547	29	No	-	-	-
P006547	30	No	-	-	-
P006547	31	Yes	3.55	0.1	3.65
P006547	66	Yes	3.59	0.1	3.69
P007333	50	Yes	3.58	0.1	3.68
P007333	51	Yes	3.55	0.1	3.65
P007333	53	Yes	3.55	0.1	3.65
P007333	54	Yes	3.59	0.1	3.69
P007333	55	Yes	3.64	0.1	3.74
P007333	56	Yes	3.63	0.1	3.73
P007371	35	Yes	3.54	0.1	3.64

P007371	38	No	-	-	-
P007371	39	No	-	-	-
P007371	40	No	-	-	-
P007371	41	No	-	-	-
P007371	44	No	-	-	-
P007371	66	Yes	3.55	0.1	3.65
P009111	20	Yes	28.03	0.1	28.13
P009111	21	Yes	28.6	0.1	28.7
P009111	22	Yes	29.1	0.1	29.2
P009111	25	No	-	-	-
P009111	26	No	-	-	-
P009111	27	No	-	-	-
P009111	28	No	-	-	-
P009111	29	No	-	-	-
P009111	30	No	-	-	-
P009111	31	No	-	-	-
P009111	32	Yes	25.64	0.1	25.74
P009111	33	No	-	-	-
P009111	34	No	-	-	-
P009111	35	No	-	-	-
P009111	42	No	-	-	-
P011937	2	Yes	14.25	0.1	14.35
P011937	3	Yes	19.8	0.1	19.9
P011937	4	Yes	20.02	0.1	20.12
P011937	5	Yes	19.34	0.1	19.44
P011937	6	Yes	19.2	0.1	19.3
P011937	7	Yes	17.9	0.1	18
P011937	8	Yes	16.4	0.1	16.5
P011937	9	Yes	15.26	0.1	15.36

P011937	10	No	-	-	-
P011937	21	No	-	-	-
P011937	24	Yes	14.58	0.1	14.68
P011937	25	Yes	14.46	0.1	14.56
P011937	26	Yes	15.27	0.1	15.37
P011937	27	Yes	15.45	0.1	15.55
P011937	29	Yes	20.83	0.1	20.93
P012799	8	Yes	19.67	0.1	19.77
P012799	9	Yes	19.67	0.1	19.77
P012799	10	Yes	19.5	0.1	19.6
P012799	11	Yes	19.61	0.1	19.71
P012799	12	Yes	19.66	0.1	19.76
P012799	13	Yes	19.66	0.1	19.76
P012799	14	Yes	20.42	0.1	20.52
P012799	15	Yes	20.42	0.1	20.52
P012799	16	Yes	19.34	0.1	19.44
P012799	17	Yes	19.17	0.1	19.27
P012799	18	No	-	-	-
P012799	19	No	-	-	-
P012799	21	No	-	-	-
P012799	22	No	-	-	-
P012799	23	No	-	-	-
P012799	24	No	-	-	-
P012799	25	Yes	20.19	0.1	20.29
P012799	26	No	-	-	-
P012799	27	Yes	19.84	0.1	19.94
P012799	28	Yes	20.07	0.1	20.17
P012799	29	Yes	19.9	0.1	20
P012799	30	Yes	19.72	0.1	19.82

P012799	31	Yes	20.24	0.1	20.34
P012799	32	Yes	20.09	0.1	20.19
P012799	33	Yes	20.46	0.1	20.56
P012799	34	Yes	21.17	0.1	21.27
P012799	35	Yes	21.17	0.1	21.27
P012799	36	Yes	21.29	0.1	21.39
P012799	37	Yes	21.23	0.1	21.33
P012799	38	Yes	21.91	0.1	22.01
P012799	39	Yes	21.92	0.1	22.02
P012799	40	Yes	21.74	0.1	21.84
P012799	41	No	-	-	-
P012799	42	Yes	21.13	0.1	21.23
P012799	43	Yes	20.64	0.1	20.74
P012799	44	Yes	20.69	0.1	20.79
P012799	45	Yes	20.28	0.1	20.38
P012799	46	Yes	19.8	0.1	19.9
P012799	47	Yes	19.97	0.1	20.07
P012799	48	Yes	19.88	0.1	19.98
P012799	49	Yes	18.86	0.1	18.96
P012799	50	Yes	19.17	0.1	19.27
P012799	51	Yes	19.14	0.1	19.24
P012799	52	Yes	19.48	0.1	19.58
P012799	53	Yes	18.45	0.1	18.55
P012799	58	Yes	19.74	0.1	19.84
P019753	1	Yes	3.54	0.1	3.64
P019753	2	Yes	3.54	0.1	3.64
P019753	3	Yes	3.54	0.1	3.64
P019753	4	Yes	3.53	0.1	3.63
P019753	5	Yes	3.53	0.1	3.63

P019753	6	Yes	3.53	0.1	3.63
P019753	7	Yes	3.53	0.1	3.63
P019753	8	Yes	3.53	0.1	3.63
P019753	9	Yes	3.53	0.1	3.63
P019753	10	Yes	3.53	0.1	3.63
P019753	12	Yes	3.55	0.1	3.65
P019753	13	Yes	3.54	0.1	3.64
P019753	14	Yes	3.53	0.1	3.63
P019753	15	Yes	3.53	0.1	3.63
P019753	16	Yes	3.54	0.1	3.64
P019753	17	Yes	3.54	0.1	3.64
P019753	19	Yes	3.56	0.1	3.66
P019753	20	Yes	3.54	0.1	3.64
P019753	21	Yes	3.54	0.1	3.64
P019753	22	Yes	3.55	0.1	3.65
P019753	23	Yes	3.55	0.1	3.65
P019753	24	Yes	3.56	0.1	3.66
P019753	25	Yes	3.57	0.1	3.67
P019753	26	Yes	3.54	0.1	3.64
P019753	27	Yes	3.54	0.1	3.64
P019753	28	Yes	3.54	0.1	3.64
P019753	29	Yes	3.54	0.1	3.64
P019753	30	Yes	3.54	0.1	3.64
P019753	31	Yes	3.57	0.1	3.67
P019753	32	Yes	4.41	0.1	4.51
P019753	33	Yes	4.41	0.1	4.51
P019753	34	Yes	3.54	0.1	3.64
P019753	35	Yes	3.54	0.1	3.64
P019753	36	Yes	3.54	0.1	3.64

P019753	37	Yes	3.54	0.1	3.64
P019753	38	Yes	3.54	0.1	3.64
P019753	39	Yes	3.54	0.1	3.64
P019753	40	Yes	3.54	0.1	3.64
P019753	41	Yes	3.53	0.1	3.63
P019753	42	Yes	3.53	0.1	3.63
P019753	43	Yes	3.53	0.1	3.63
P019753	44	Yes	3.53	0.1	3.63
P019753	45	Yes	3.53	0.1	3.63
P019753	55	Yes	3.54	0.1	3.64
P019753	55	Yes	3.57	0.1	3.67
P022971	100	No	-	-	-
P022971	101	Yes	25.88	0.1	25.98
P022971	108	Yes	25.19	0.1	25.29
P022971	500	Yes	26.37	0.1	26.47
P022971	3081	Yes	25.87	0.1	25.97
P022971	3082	Yes	25.05	0.1	25.15
P022971	3083	Yes	25.05	0.1	25.15
P022971	3084	No	-	-	-
P022971	3085	Yes	25.19	0.1	25.29
P024105	55	Yes	3.83	0.1	3.93
P024105	63	Yes	3.54	0.1	3.64
P024105	64	No	-	-	-
P024105	67	Yes	3.54	0.1	3.64
P024105	68	Yes	3.54	0.1	3.64
P024105	69	Yes	3.54	0.1	3.64
P024105	70	Yes	3.54	0.1	3.64
P024105	72	Yes	3.54	0.1	3.64
P024105	74	Yes	3.54	0.1	3.64

P024105	75	Yes	3.54	0.1	3.64
P024105	76	No	-	-	-
P024105	77	Yes	3.54	0.1	3.64
P024105	78	Yes	3.54	0.1	3.64
P024105	82	Yes	3.55	0.1	3.65
P024105	83	Yes	3.55	0.1	3.65
P024105	84	Yes	3.56	0.1	3.66
P024105	85	Yes	3.7	0.1	3.8
P024105	86	Yes	3.54	0.1	3.64
P024105	87	Yes	3.54	0.1	3.64
P024105	88	No	-	-	-
P024105	89	Yes	3.61	0.1	3.71
P024105	101	Yes	3.6	0.1	3.7
P024105	166	Yes	3.57	0.1	3.67
P024105	166	Yes	3.54	0.1	3.64
P024422	70	Yes	3.55	0.1	3.65
P024664	104	Yes	15.1	0.1	15.2
P025813	23	Yes	3.56	0.1	3.66
P026574	9	Yes	3.55	0.1	3.65
P027930	2907	Yes	3.59	0.1	3.69
P028661	70	Yes	3.54	0.1	3.64
P028661	71	Yes	3.54	0.1	3.64
P028956	18	Yes	3.54	0.1	3.64
P028956	81	Yes	3.54	0.1	3.64
P028958	201	Yes	18.25	0.1	18.35
P028958	3185	Yes	19.29	0.1	19.39
P033084	200	Yes	10.07	0.1	10.17
P035271	47	Yes	3.55	0.1	3.65
P035588	800	Yes	4.08	0.1	4.18

P040801	25	Yes	3.55	0.1	3.65
P044487	50	Yes	3.55	0.1	3.65
P047184	10	Yes	4.32	0.1	4.42
P049899	50	Yes	9.6	0.1	9.7
P049899	51	Yes	16.94	0.1	17.04
P052410	200	Yes	4.11	0.1	4.21
P053384	400	Yes	18.78	0.1	18.88
P054391	500	Yes	3.54	0.1	3.64
P054391	500	Yes	3.54	0.1	3.64
P055422	301	Yes	4.11	0.1	4.21
P055466	20	Yes	3.54	0.1	3.64
P055466	21	Yes	3.55	0.1	3.65
P056031	503	Yes	4.17	0.1	4.27
P057283	200	Yes	3.66	0.1	3.76
P057283	201	Yes	3.66	0.1	3.76
P057283	202	Yes	3.66	0.1	3.76
P057283	203	Yes	3.66	0.1	3.76
P057283	204	Yes	3.66	0.1	3.76
P057283	205	Yes	3.66	0.1	3.76
P057283	206	Yes	3.66	0.1	3.76
P057283	207	Yes	3.66	0.1	3.76
P057283	208	Yes	3.67	0.1	3.77
P057283	209	Yes	3.85	0.1	3.95
P057283	210	Yes	4.38	0.1	4.48
P057283	211	Yes	4.09	0.1	4.19
P057283	212	Yes	3.72	0.1	3.82
P057283	213	Yes	4.38	0.1	4.48
P057283	214	No	-	-	-
P057283	215	No	-	-	-

P057283	216	No	-	-	-
P057283	217	No	-	-	-
P057283	218	No	-	-	-
P057283	219	No	-	-	-
P057283	220	Yes	3.66	0.1	3.76
P057283	221	Yes	3.66	0.1	3.76
P057803	506	Yes	4.31	0.1	4.41
P058242	60	Yes	3.55	0.1	3.65
P058468	300	Yes	4.13	0.1	4.23
P062176	600	Yes	3.55	0.1	3.65
P062176	601	Yes	3.56	0.1	3.66
P062176	602	Yes	3.59	0.1	3.69
P063442	71	Yes	3.55	0.1	3.65
P063442	72	Yes	3.55	0.1	3.65
P063449	26	Yes	3.61	0.1	3.71
P065762	27	Yes	3.89	0.1	3.99
P067166	150	Yes	3.54	0.1	3.64
P067166	151	Yes	3.54	0.1	3.64
P067166	152	Yes	3.54	0.1	3.64
P067166	153	Yes	3.54	0.1	3.64
P069356	12	Yes	3.54	0.1	3.64
P069389	73	Yes	3.82	0.1	3.92
P074103	100	Yes	3.58	0.1	3.68
P074104	15	Yes	8.99	0.1	9.09
P077064	200	Yes	5.12	0.1	5.22
P077377	32	Yes	3.59	0.1	3.69
P103054	745	Yes	3.61	0.1	3.71
P152068	796	Yes	3.55	0.1	3.65
P152803	1144	Yes	3.71	0.1	3.81

P152803 1145	Yes	3.61	0.1	3.71
P156787 998	Yes	3.86	0.1	3.96
P156787 1118	Yes	3.85	0.1	3.95
P157717 1238	Yes	4.11	0.1	4.21
P157717 1239	Yes	4.33	0.1	4.43
P167316 1722	Yes	3.82	0.1	3.92
P168633 1772	No	-	-	-
P170626 251	Yes	3.57	0.1	3.67
P171532 2398	Yes	4.32	0.1	4.42
P174595 2558	Yes	3.54	0.1	3.64
P180146 2600	Yes	14.9	0.1	15
P182889 3068	Yes	3.74	0.1	3.84
P183739 2749	Yes	3.67	0.1	3.77
P185298 2841	Yes	3.55	0.1	3.65
P185298 2842	Yes	3.54	0.1	3.64
P190453 2959	Yes	4.01	0.1	4.11
P190454 2960	Yes	3.81	0.1	3.91
P192073 3007	No	-	-	-
P193571 3062	Yes	5.94	0.1	6.04
P193814 3064	Yes	3.56	0.1	3.66
P218038 2989	Yes	20.83	0.1	20.93
P219160 938	Yes	6.16	0.1	6.26
P219949 3067	Yes	3.82	0.1	3.92
P222469 27	Yes	4.97	0.1	5.07
P222469 28	Yes	4.97	0.1	5.07
P222469 29	Yes	4.16	0.1	4.26
P222469 227	Yes	3.56	0.1	3.66
P222469 228	Yes	3.55	0.1	3.65
P222470 571	Yes	3.55	0.1	3.65

P222470	592	Yes	7.2	0.1	7.3
P222470	668	Yes	5.46	0.1	5.56
P222470	692	Yes	5.41	0.1	5.51
P222470	696	Yes	3.59	0.1	3.69
P222471	363	No	-	-	-
P222471	370	Yes	4.04	0.1	4.14
P222471	374	Yes	6.37	0.1	6.47
P222471	384	Yes	3.55	0.1	3.65
P222471	565	Yes	4.31	0.1	4.41
P222471	566	Yes	4.02	0.1	4.12
P222476	1	Yes	4.31	0.1	4.41
P222476	2	Yes	3.55	0.1	3.65
P222476	8	Yes	3.54	0.1	3.64
P222476	13	Yes	3.54	0.1	3.64
P222476	16	Yes	3.55	0.1	3.65
P222476	17	Yes	3.59	0.1	3.69
P222476	18	Yes	3.59	0.1	3.69
P222476	22	Yes	3.54	0.1	3.64
P222476	23	Yes	3.54	0.1	3.64
P222476	44	Yes	3.54	0.1	3.64
P222476	50	Yes	3.55	0.1	3.65
P222476	51	Yes	3.55	0.1	3.65
P222477	208	Yes	3.55	0.1	3.65
P222477	210	Yes	5.8	0.1	5.9
P222477	211	Yes	4.09	0.1	4.18
P222477	212	No	-	-	-
P222477	214	Yes	4.46	0.1	4.56
P222477	215	Yes	4.45	0.1	4.55
P222477	217	Yes	3.71	0.1	3.81

P222478	34	Yes	3.55	0.1	3.65
P222481	219	Yes	5.8	0.1	5.9
P222483	2	Yes	3.94	0.1	4.04
P222483	73	Yes	23.67	0.1	23.77
P222483	74	Yes	22.3	0.1	22.4
P222483	75	Yes	20.51	0.1	20.61
P222483	364	Yes	3.67	0.1	3.77
P300701	410	Yes	3.6	0.1	3.7
P300701	411	No	-	-	-
P300912	600	Yes	3.92	0.1	4.02
P300912	601	Yes	6.13	0.1	6.23
P300935	400	Yes	3.55	0.1	3.65
P300935	401	Yes	3.54	0.1	3.64
P300935	402	Yes	3.54	0.1	3.64
P300937	401	Yes	3.54	0.1	3.64
P300938	400	Yes	3.54	0.1	3.64
P300939	400	Yes	3.54	0.1	3.64
P300939	401	No	-	-	-
P300977	620	Yes	3.77	0.1	3.87
P300977	621	Yes	6.51	0.1	6.61
P301102	801	Yes	5.92	0.1	6.02
P301102	802	Yes	5.55	0.1	5.65
P302338	200	Yes	16.68	0.1	16.78
P302338	201	Yes	17.32	0.1	17.42
P401021	29	No	-	-	-
P409876	110	Yes	15.27	0.1	15.37
P412632	50	Yes	3.74	0.1	3.84
P412778	103	Yes	3.55	0.1	3.65
P412778	104	Yes	3.55	0.1	3.65

P415628 100	Yes	8.48	0.1	8.57
P415633 46	Yes	3.54	0.1	3.64
P415633 47	Yes	3.54	0.1	3.64
P417468 509	Yes	3.53	0.1	3.63
P418714 302	Yes	3.57	0.1	3.67
P418883 22	Yes	7.01	0.1	7.11
Parcel PI	Lot Inundated (Yes/No)	0.2% AEP Flood Level (mAHD)	Nominal Freeboard (mm)	Recommended Minimum Floor Level (mAHD)
R 2043	Yes	3.86	0.1	3.96
R 2500	Yes	4.55	0.1	4.65
R 4111	Yes	5.56	0.1	5.66
R 22481	Yes	3.56	0.1	3.66
R 22481	Yes	3.55	0.1	3.65
R 22528	Yes	4.76	0.1	4.86
R 24062	Yes	3.55	0.1	3.65
R 29330	Yes	3.55	0.1	3.65
R 30845	Yes	7.66	0.1	7.76
R 32732	Yes	5.88	0.1	5.98
R 34871	Yes	14.58	0.1	14.68
R 36415	Yes	3.72	0.1	3.82
R 36863	Yes	3.75	0.1	3.85
R 39307	Yes	14.89	0.1	14.99
R 39670	Yes	3.56	0.1	3.66
R 42460	Yes	4.29	0.1	4.39
R 43181	Yes	33.26	0.1	33.36
R 46001	No	-	-	-
R 46192	Yes	3.55	0.1	3.65
R 50048	Yes	11.33	0.1	11.43
R 50048	Yes	13.46	0.1	13.56
R 50048	Yes	11.56	0.1	11.66

R 50100	Yes	4.31	0.1	4.41
R 51482	Yes	3.64	0.1	3.74
R 51482	Yes	3.64	0.1	3.74
R 53644	Yes	3.53	0.1	3.63
S003098	Yes	19.3	0.1	19.4
S004690	Yes	16.11	0.1	16.21
S004957	Yes	20.28	0.1	20.38
S005029	Yes	3.38	0.1	3.48
S005029	Yes	3.38	0.1	3.48
S005029	Yes	3.71	0.1	3.81
S005231	Yes	15.49	0.1	15.59
S009001	Yes	3.55	0.1	3.65
S017774	Yes	6.97	0.1	7.07
S023456	Yes	18.19	0.1	18.29
S023663	Yes	3.54	0.1	3.64
S023992	Yes	3.92	0.1	4.02
S025078	Yes	3.54	0.1	3.64
S025865	Yes	19.24	0.1	19.34
S027301	Yes	12.35	0.1	12.45
S029101	Yes	3.54	0.1	3.64
S035974	Yes	28.88	0.1	28.98
S038741	Yes	3.89	0.1	3.99
S041030	Yes	3.54	0.1	3.64
S043190	No	-	-	-
S045163	Yes	3.54	0.1	3.64
S045163	Yes	3.55	0.1	3.65
S045213	Yes	25.19	0.1	25.29
S045213	No	-	-	-
S045213	No	-	-	-

S050608	Yes	3.54	0.1	3.64
S053052	Yes	11.58	0.1	11.68
S053052	Yes	11.87	0.1	11.97
S053052	Yes	10.03	0.1	10.13
S053052	Yes	16.94	0.1	17.04
S053052	Yes	10.05	0.1	10.15
S053052	Yes	10.38	0.1	10.48
S053052	Yes	10.16	0.1	10.26
S053052	Yes	10.16	0.1	10.26
S053052	Yes	10.08	0.1	10.18
S053052	No	-	-	-
S053052	Yes	10.23	0.1	10.33
S057001	Yes	3.54	0.1	3.64
S057011	Yes	3.55	0.1	3.65
S057011	Yes	3.55	0.1	3.65
S057011	Yes	3.55	0.1	3.65
S057678	Yes	5.94	0.1	6.04
S062441	Yes	25.87	0.1	25.97
S062441	Yes	25.05	0.1	25.15
S062441	No	-	-	-
S064031	No	-	-	-
S070463	Yes	3.69	0.1	3.79
V CROWN LAND	Yes	3.54	0.1	3.64
V CROWN LAND	No	-	-	-

4 Areas for Drainage Infrastructure Upgrades

Cardno has identified areas for investigation for potential drainage infrastructure upgrades. Due to external factors (such as residents' complaints, major infrastructure works etc.) the City may wish to expand on this list and/or pursue other areas for investigation.

The areas that Cardno have identified for drainage upgrades have been judged on the following criteria

- Existing Flood Depth
  - Areas of greater flood depth generally cause greater inconvenience to the community.
- Area Flooded
  - The larger the extent of flooding the greater the chance for damage to infrastructure
- Existing Flood Hazard
  - The greater the flood hazard the more dangerous to life the flooding is.
- Effects of Existing Flooding
  - The appetite for drainage upgrades depends on what the flooding is affecting, e.g. if it is affecting a park drainage upgrades are not normally recommended, compared to if it is affecting private property.
- Condition of the Current Drainage Infrastructure
  - How the existing drainage infrastructure performing in the vicinity of the area recommended for investigation.

4.1 Pipe Upgrades

While drainage networks are typically designed for frequent events such as the 20% or 10% AEP events, the areas for investigation for pipe upgrade have been recommended based on the results from the hydraulic model for the 5% AEP event. This is due to this being the smallest event that has been hydraulically modelled and, in the areas, identified inundation may not be present in a 20% AEP event.

Table 4-1 Areas recommended for investigation for pipe upgrades

ID	Location	Reasoning
1	Fitzgerald Street between Augustus Street and Lester Avenue	There is significant ponding of overland flows occurring along Fitzgerald Street between Lester Avenue and Augusts Street due to a trapped low point. The flooding stretches for over 300m along Fitzgerald Street, and reaches depths of over 0.5m. This flooding affects the Geraldton Primary School along the western boundary There are 2 existing pipes (600mm and 450mm) located along Fitzgerald Street. These culverts are controlled by the sea levels within the harbor, significantly reducing their capacity, resulting in the existing culverts running full in the 5% AEP event.
2	Foreshore Drive between Cathedral Avenue and Fitzgerald Street	There is a significant ponding of overland flows occurring along Foreshore Drive between Cathedral Avenue and Fitzgerald Street due to a trapped low point. The flooding stretches for over 200m along Foreshore Drive, and reaches depths of over 0.6m. This flooding impacts the entrances to all buildings located along Foreshore Drive. There are 2 existing pipes (600mm) located along Foreshore Drive. These culverts are controlled by the sea levels within the harbor, significantly reducing the culverts capacity, resulting in the existing culverts running full in the 5% AEP event.
3	Chapman Road between Snowdon Street and Lewis Street.	There is a significant ponding of overland flows occurring along Chapman Road between Snowdon Street and Lewis Street due to a trapped low point. The flooding stretches for over 100m in the vicinity of Chapman Road, and reaches depths of over 0.6m. This flooding impacts the trafficability of Chapman Road.

		There is an existing pipe (375m) draining the area. This culvert is controlled by the sea levels within the harbor, significantly reducing the culverts capacity, resulting in the existing culverts running full in the 5% AEP event.
4	Intersection of Bayly Street and Chapman Road	The intersection of Bayly Street and Chapman Road is significantly affected by flooding in the 5% AEP event The flooding stretches for over 150m along Chapman Road, and reaches depths of over 0.5m. There is an existing pipe (525mm) draining the area. This culvert is controlled by sea levels within the harbor, significantly reducing the culverts capacity, resulting in the existing culverts running full in the 5% AEP event.
5	Chapman Road between Phelps Street and Mark Street	There is a significant ponding of overland flows occurring along Chapman Road between Phelps Street and Mark Street due to a trapped low point. The flooding stretches for over 250m along Chapman Road, and reaches depths of over 0.7m. There is an existing pipe (1200mm) and a significant overland flow path west of Chapman Road draining this area. This culvert is controlled by sea levels within the harbor, significantly reducing the culverts capacity, resulting in the existing culverts running full in the 5% AEP event.

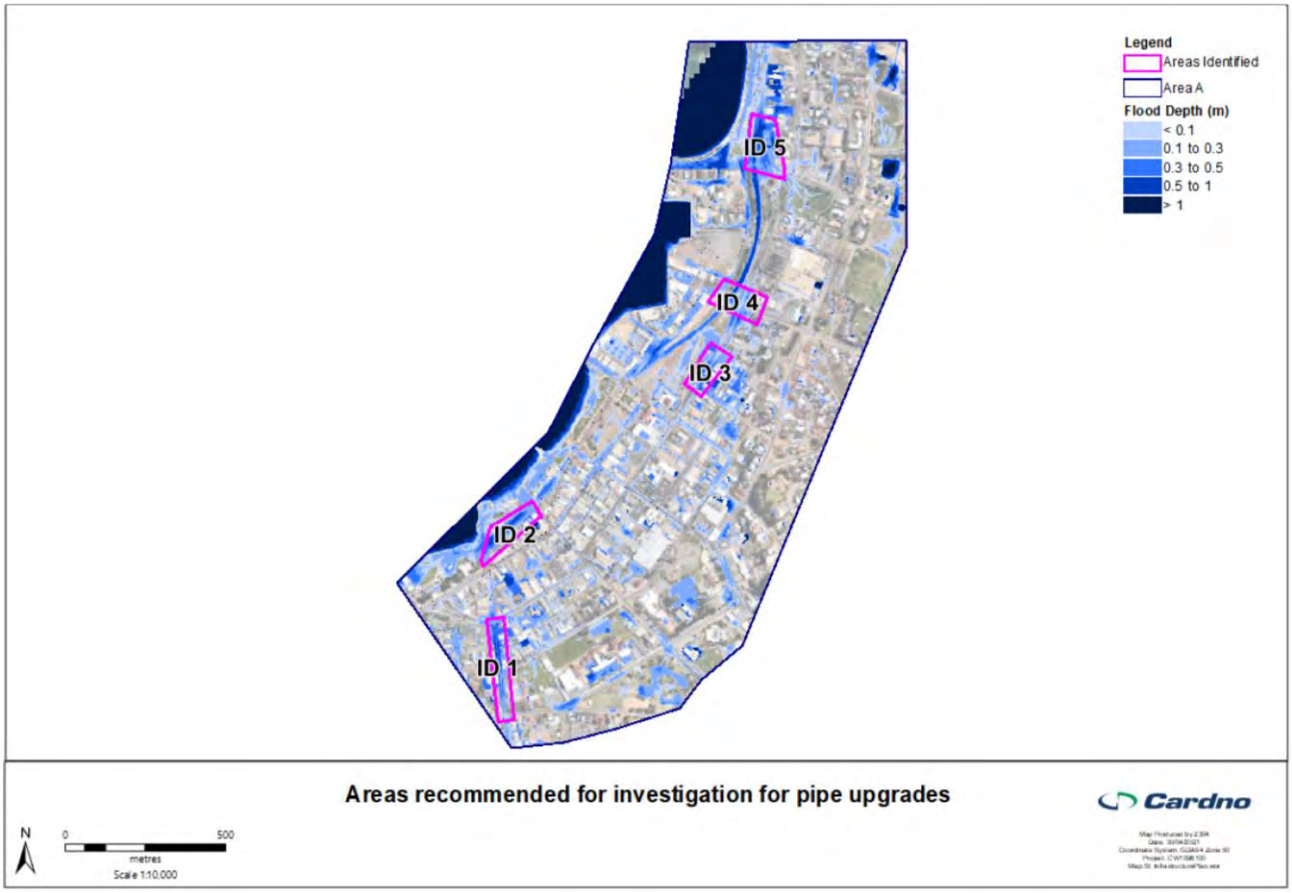


Figure 4-1 Areas recommended for investigation for pipe upgrades

4.2 Levees/Retention Locations & Defined Overland Flow Paths

Areas for investigation for levees/retention upgrade have been recommended based on the 1% AEP results, this is due to the fact that these type of infrastructure are able to provide a greater level of protection than pipes for the less frequent events.

Table 4-2 Areas recommended for investigation for levees or formalisation of overland flow path

ID	Location	Reasoning
1	Formalisation of the overland Flow Path East of Chapman Road between Phelps Street and Forrest Street (to the harbor).	There is a significant overland flow path east of Chapman Road running from Phelps Street and Forrest Street, which is also engaged in the 5% AEP event. This overland flow path extends for over 1,000m with depths exceeding 0.8m. While along the flow path depths greater than 0.8m occur, at each of the roads along the overland flow path there is currently no allowance for the continuation of the overland flow path i.e culvert below the road, resulting in the overland flows backing up behind the road before weiring over the road. This overland flow path would need to extended past Forrest Street to allow for it to discharge into the harbour.
2	Creation of an overland flow path between the Chapman Road and Phelps Street intersection and the harbor	There is a significant ponding of overland flows occurring along Chapman Road between Phelps Street and Mark Street due to a trapped low point. The flooding stretches for over 250m along Chapman Road, and reaches depths of over 0.7m. The harbor is located approximately 100m north-west of the intersection, with predominantly parkland located in-between. This will allow for less complexity in implementing the formalised overland flow path.

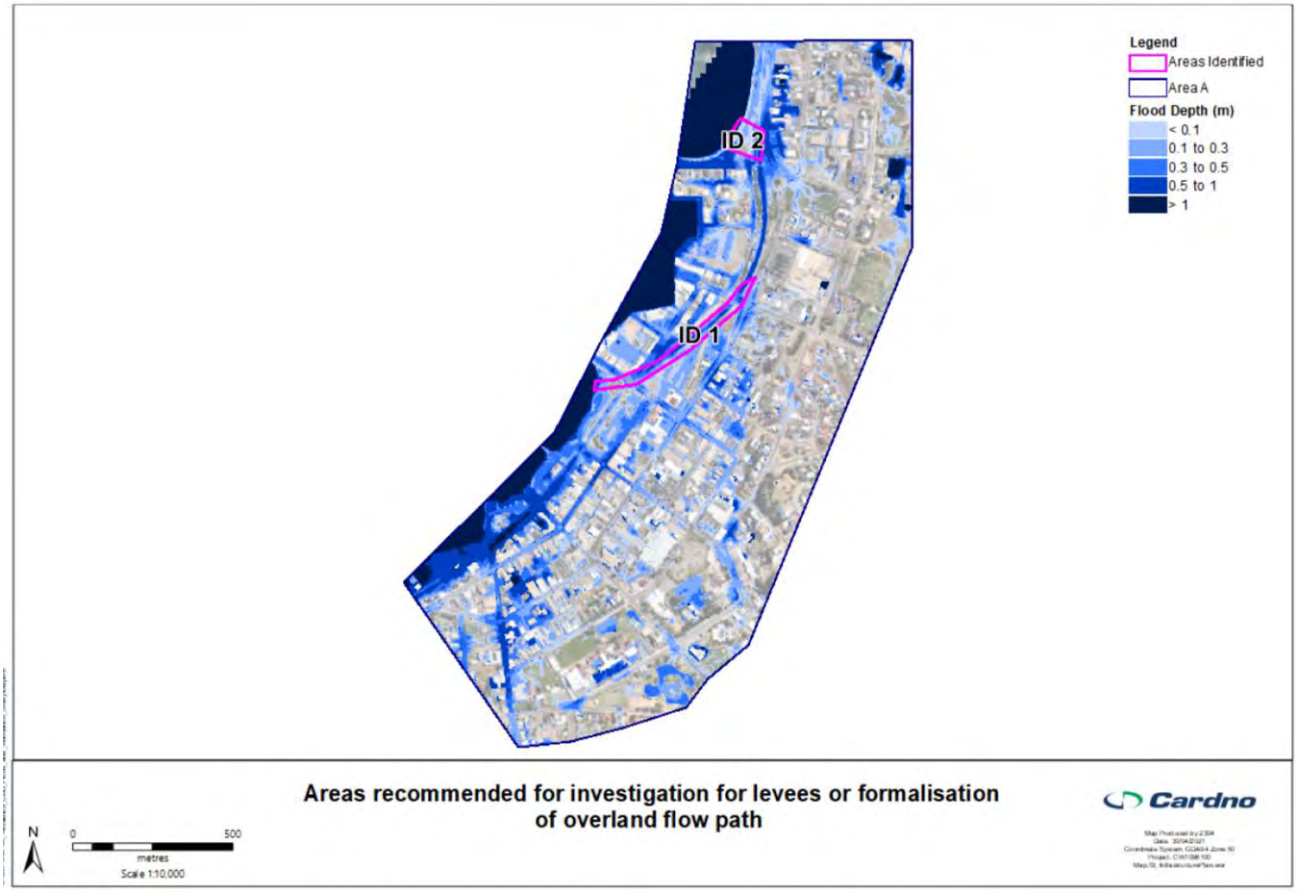


Figure 4-2 Areas recommended for investigation for levees or formalisation of overland flow path

4.3 Further Works – Mitigation Options Assessment

For the locations identified in sections 4.1 and 4.2 it is recommended that the City undertakes option analysis including a multi criteria assessment to support the identification of the optimum solution. Before any mitigation investigation work is performed, design criteria, scenario, and design AEP events should be stated for each location. Consideration will also need to be given to the scenario(s) that are the most likely.

Generally, this section of work should include the following steps.

- Review existing documentation, including anectodical evidence of the issues.
- Site inspection(s).
- Delineate catchments contributing to the individual study areas.
- Develop a detailed 1d/2d hydraulic model of the existing drainage network to confirm the existing issue. Survey and CCTV maybe required for this step.
- Identify up to 3 upgrade solutions. The 3 solutions should vary in cost from say low (~<100k), medium (~100-300k), and likely high (~1m) depending on the immunity to be achieved. (Costs indictive only, Council will need to confirm cost brackets)
- Quantities for the structure(s) and pipe solutions and earthworks for any channel solutions should be calculated and an engineering opinion of cost undertaken in a format provided by Council.
- Document the 3 solutions in 3 separate high level plans showing flow directions, proposed infrastructure, expected stormwater design immunity and approximate cost.
- Drainage structure geometry and constraints identified on sketch plan drawings in 2D and text annotation for the quantities and costing.
- Produce a preliminary set of concept drawings of the preferred solution(s).
- Provide a concise report for each mitigation area.

4.3.1 Reporting for mitigation option assessment

Reporting should consist of a concise, detailed report for each area that includes as a minimum all points above, within sections as shown below.

The following sections (at minimum) should be included in the draft and final reports for each catchment

- Introduction
- Catchment description
- Data sources
- Fine scale hydrologic model development (if required)
- Fine scale hydraulic model development (if required)
- Validation and Verification
- Design Event Analysis/Selection
- Mitigation Options
- Costing/Rank
- Results and commentary around key areas/concerns
- Limitations/Assumptions
- Appendices

Contained within the above sections should be the following points,

- Table detailing pipe flow and overland flow for 1% and 20% AEP depending on location,
- Peak depths for design AEP events/scenarios at affected residences/locations,
- A3 figure(s) showing the catchment boundaries,
- Details of residents/stakeholder experiences and photos,
- Development of up to 3 options noting that ‘do nothing’ or property resumption maybe considered options,
- Plan showing each option and detailing proposed,
  - Overland channels, size, materials, shape and capacity,
  - Manhole locations and size,
  - Pipe sizes,
  - Location and type of gullies structures,
  - Proposed civil works such as embankments, roadworks driveway redesigns,

- 2D plan sketches in PDF format,
- 2D CAD files of the xrefs incorporated in the sketches in 2D DWG format,
- 3D ALS contours in 2D and 3D DWG format as required,
- Engineering opinion of cost in supplied BOQ format provided in excel and PDF of supply and construct of the proposed infrastructure.

5 Conclusion

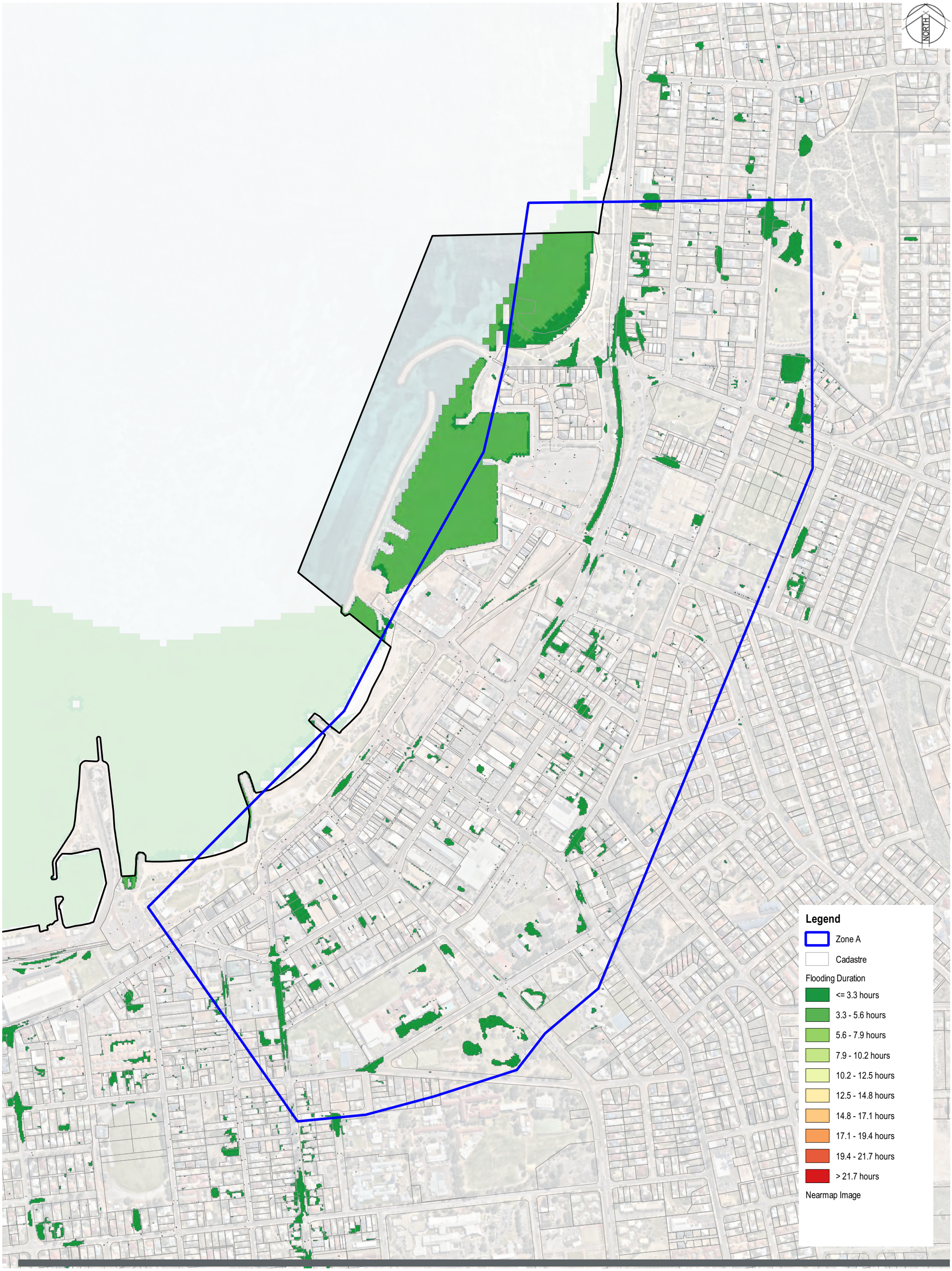
Cardno was commissioned by the City of Greater Geraldton (The City) to undertake an inundation study for the Geraldton CBD. As part of this study Cardno were engaged to develop a high-level infrastructure management plan for Zone A, which is centred on the Geraldton CBD.

This report has identified the peak flow through all assets located within the Geraldton CBD, as well as the recommended minimum floor levels for all flood affected lots within the CBD.

Furthermore, seven potential areas for investigation for flood mitigation works have been identified. But due to external council factors (such as residents' complaints, major infrastructure works etc.) council may wish to expand on this list and/or pursue other areas for investigation.

APPENDIX A

FLOODING DURATION



DATE PLOTTED: 2021-2-4 BY: AB
Flood_Map_A.qgz

Date
4/2/2021

Size
A3

Scale
1:8,000

0 0.5 1 km

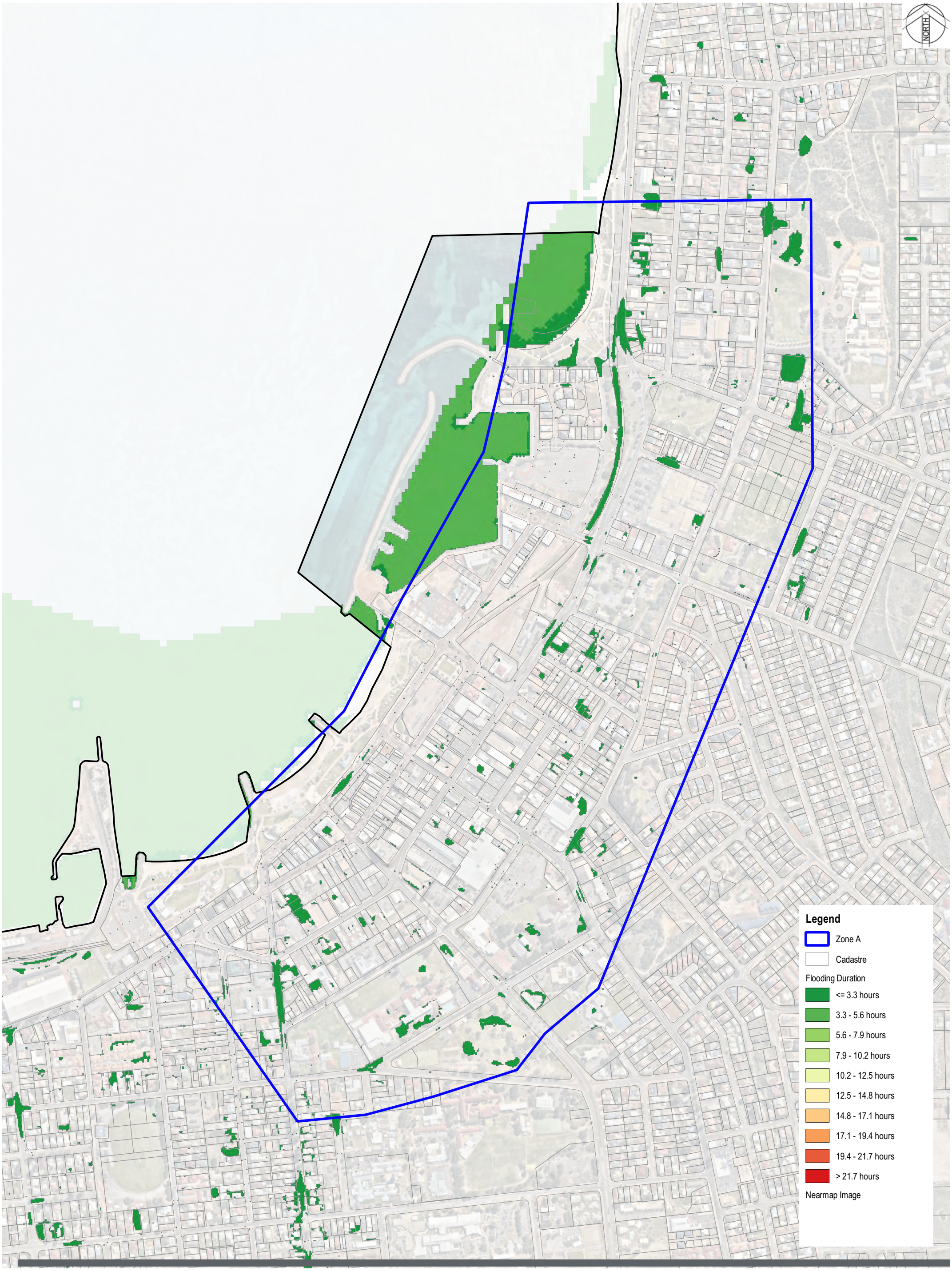
Figure B.1

0.2% AEP Duration Depth >0.3 m (2030 - Rain)

Geraldton

Geraldton City Council

Revision 1



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Date
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Scale
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0 0.5 1 km

Figure B.2

1% AEP Duration Depth >0.3 m (2030 - Rain)

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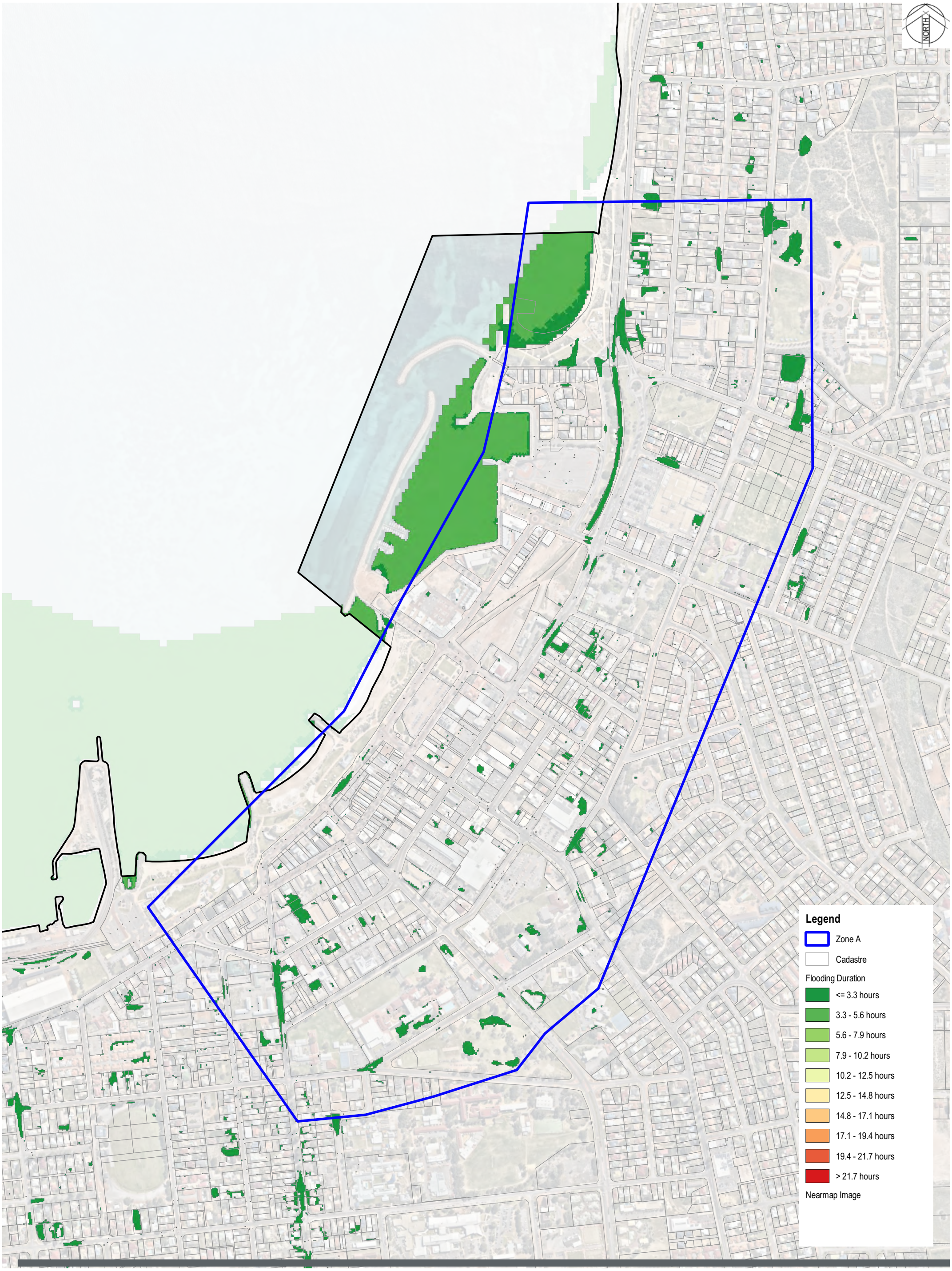
Revision 1



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Size
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0 0.5 1 km

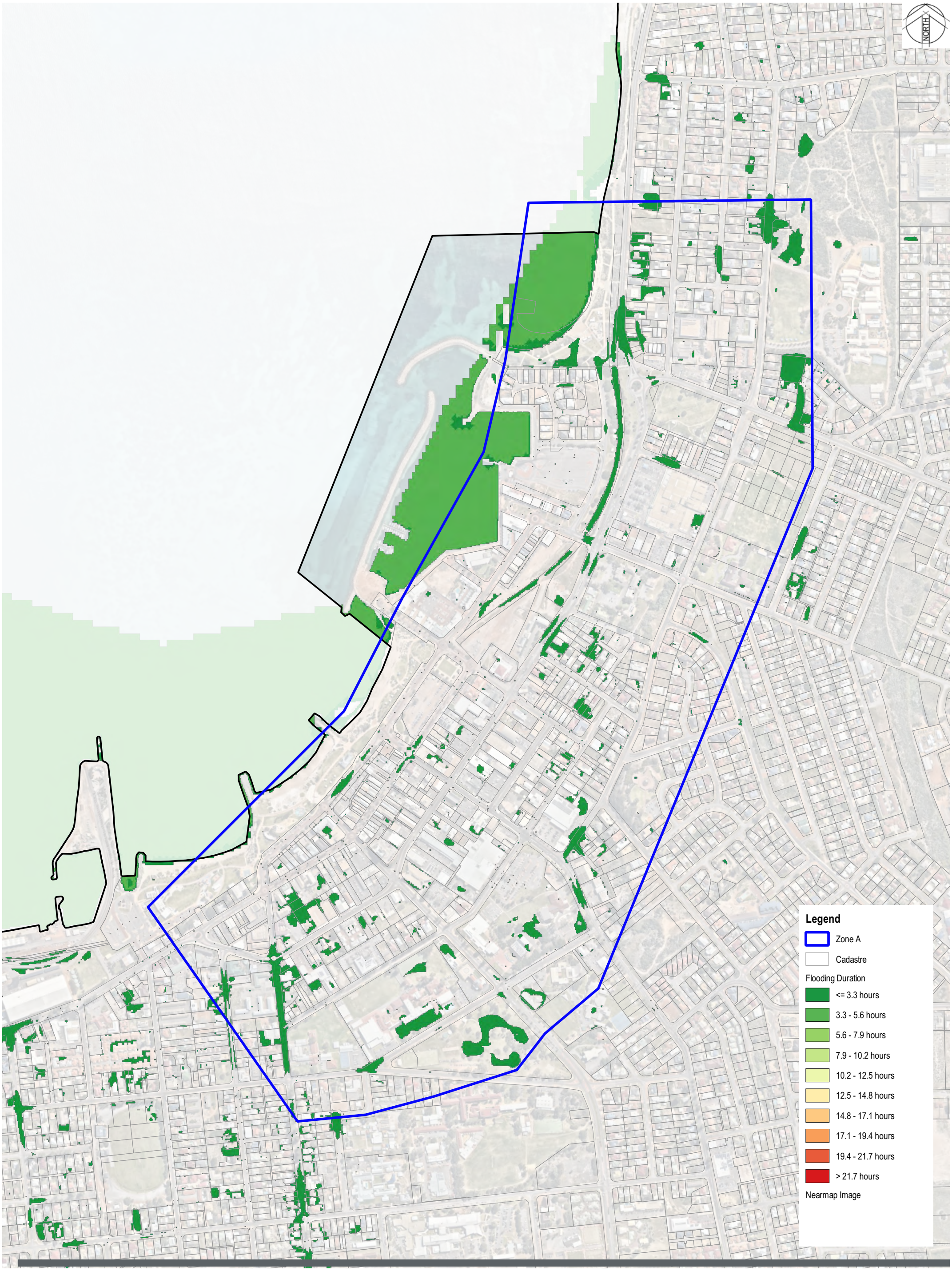
Figure B.3

5% AEP Duration Depth >0.3 m (2030 - Rain)

Geraldton

Geraldton City Council

Revision 1



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Date
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Size
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0 0.5 1 km

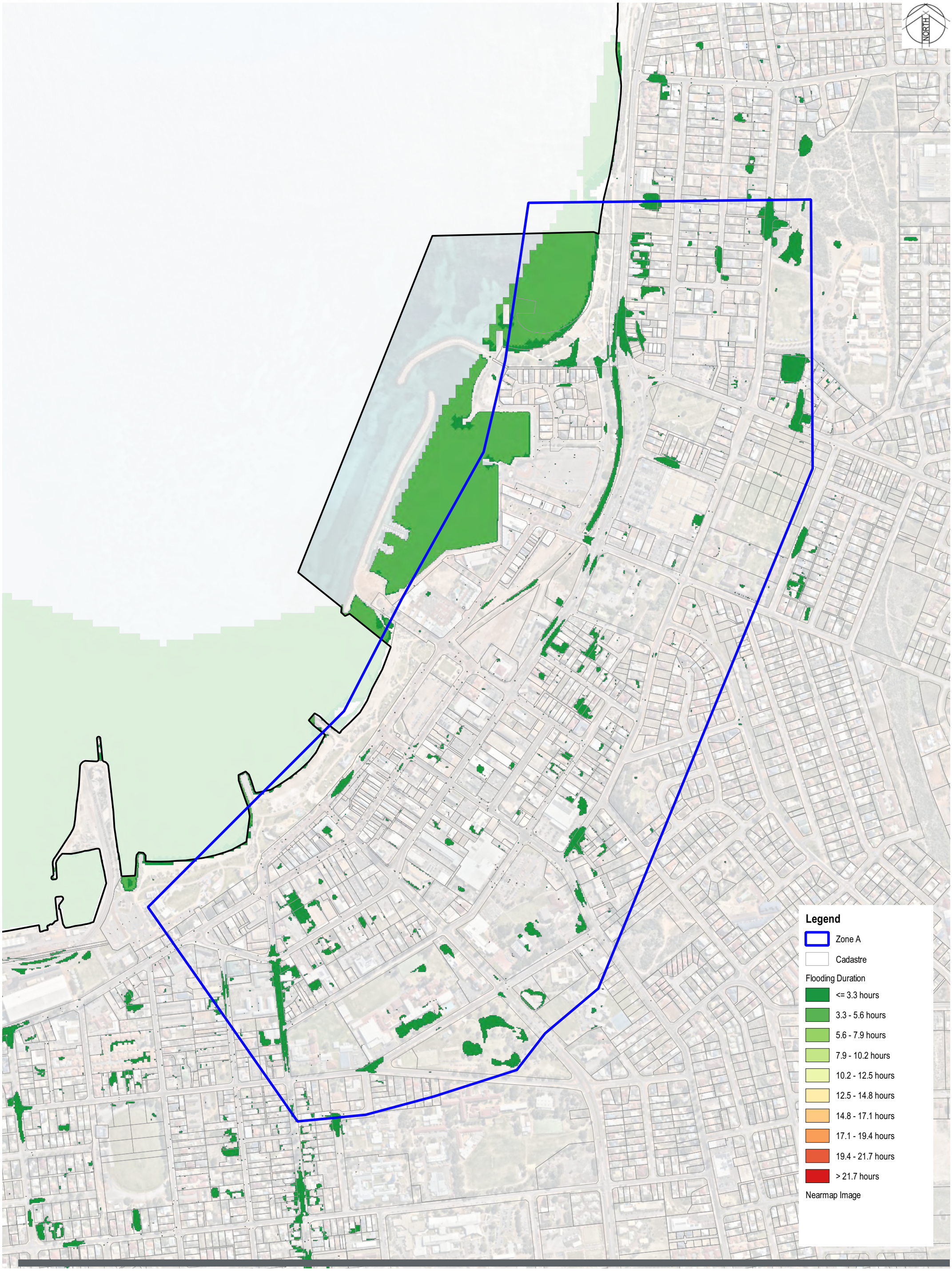
Figure B.4

0.2% AEP Duration Depth >0.3 m (2070 - Rain)

Geraldton

Geraldton City Council

Revision 1



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Flood_Map_A.qgz

Cardno

Date
4/2/2021

Size
A3

Scale
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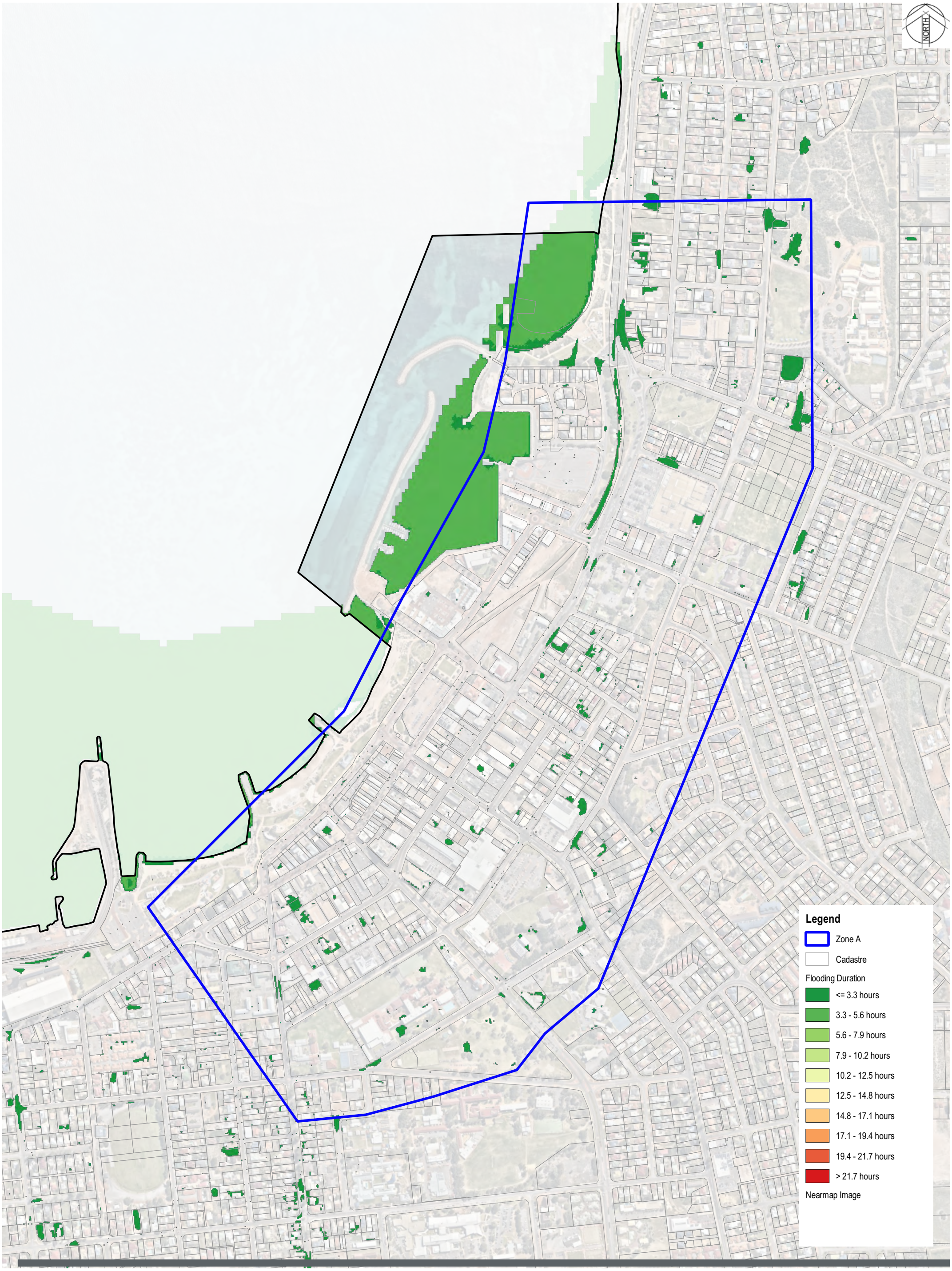
Figure B.5

1% AEP Duration Depth >0.3 m (2070 - Rain)

Geraldton

Geraldton City Council

Revision 1



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Scale
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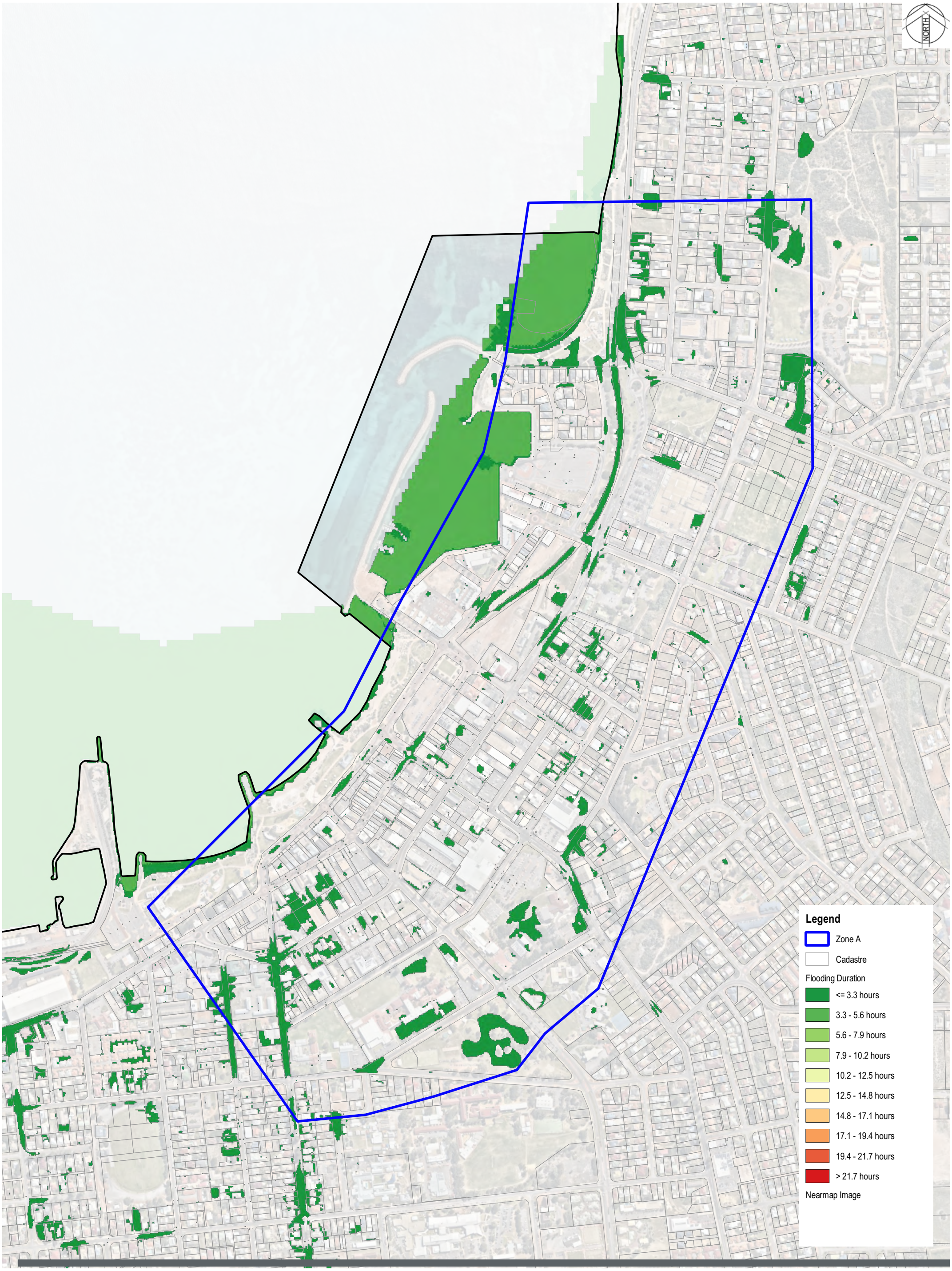
Figure B.6

5% AEP Duration Depth >0.3 m (2070 - Rain)

Geraldton

Geraldton City Council

Revision 1



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Flood_Map_A.qgz

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Date
4/2/2021

Size
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Scale
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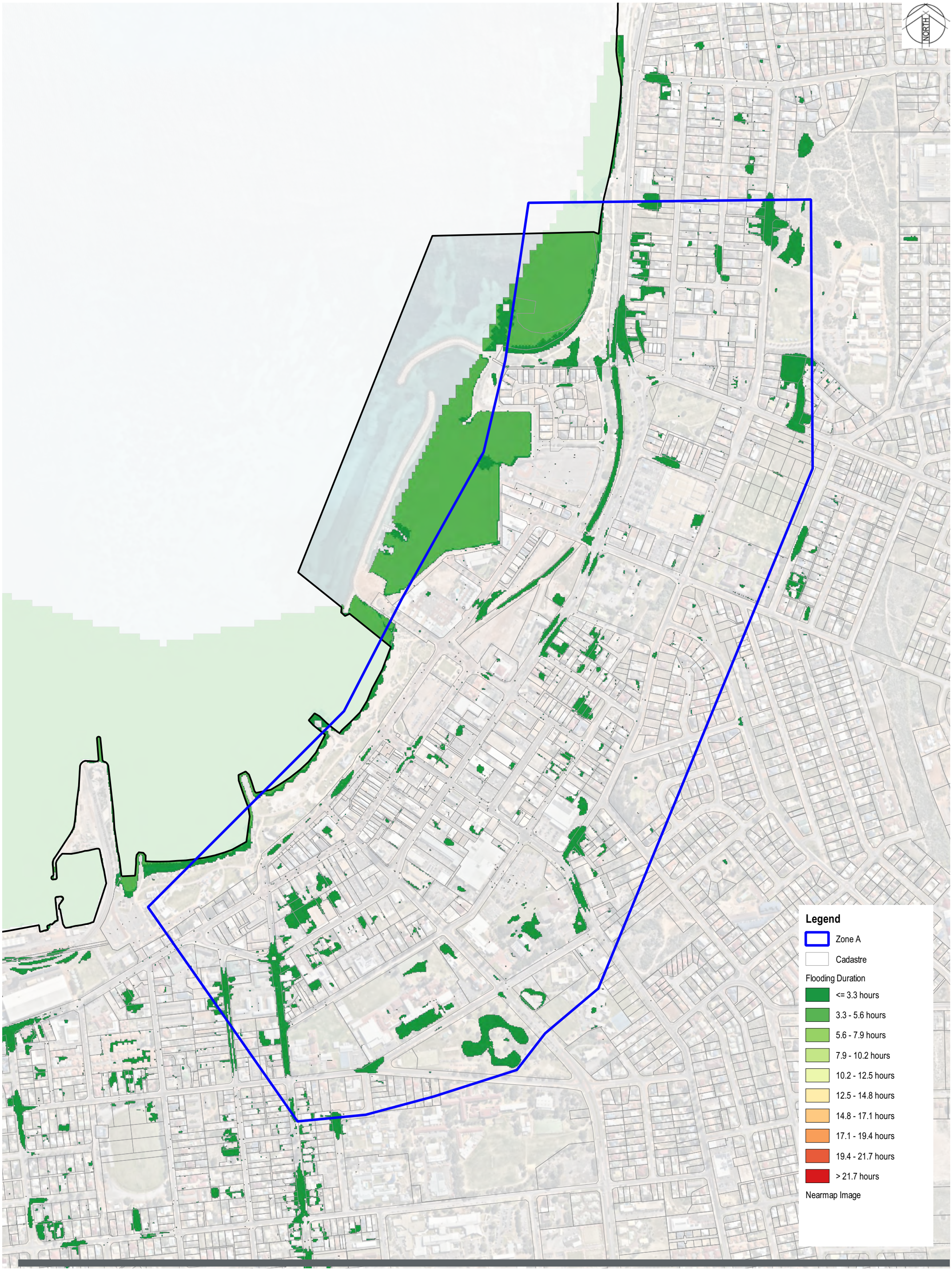
Figure B.7

0.2% AEP Duration Depth >0.3 m (2110 - Rain)

Geraldton

Geraldton City Council

Revision 1



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Flood_Map_A.qgz

Date
4/2/2021

Size
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Scale
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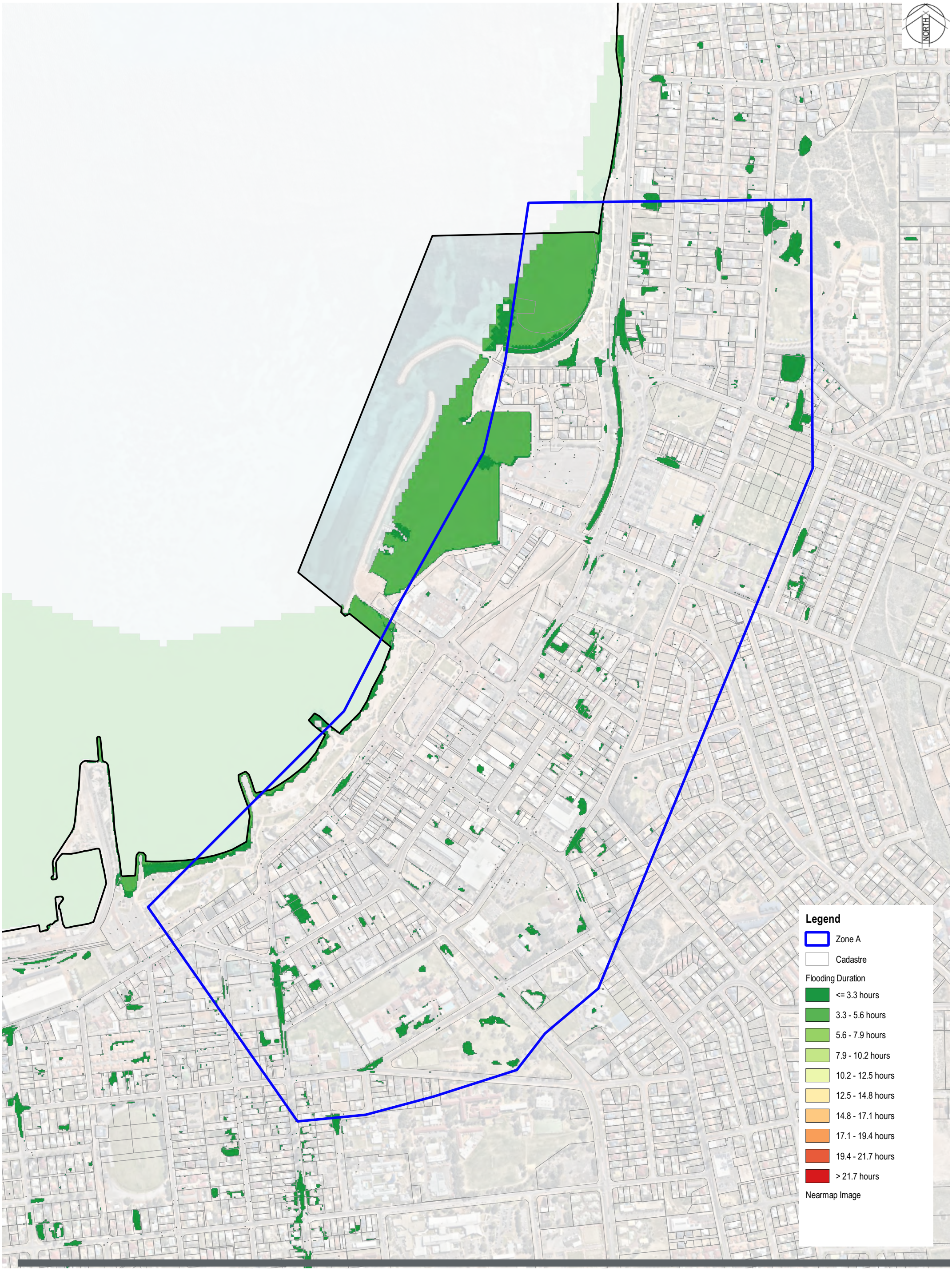
Figure B.8

1% AEP Duration Depth >0.3 m (2110 - Rain)

Geraldton

Geraldton City Council

Revision 1



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Flood_Map_A.qgz

Date
4/2/2021

Size
A3

Scale
1:8,000

Figure B.9

5% AEP Duration Depth >0.3 m (2110 - Rain)

Geraldton

Geraldton City Council

Revision 1

NORTH

Legend

- Zone A
- Cadastre

Flooding Duration

- <= 3.3 hours
- 3.3 - 5.6 hours
- 5.6 - 7.9 hours
- 7.9 - 10.2 hours
- 10.2 - 12.5 hours
- 12.5 - 14.8 hours
- 14.8 - 17.1 hours
- 17.1 - 19.4 hours
- 19.4 - 21.7 hours
- > 21.7 hours

Nearmap Image

DATE PLOTTED: 2021-2-4 BY: AB
Flood_Map_A.qgz

Date
4/2/2021

Size
A3

Scale
1:8,000

0 0.5 1 km

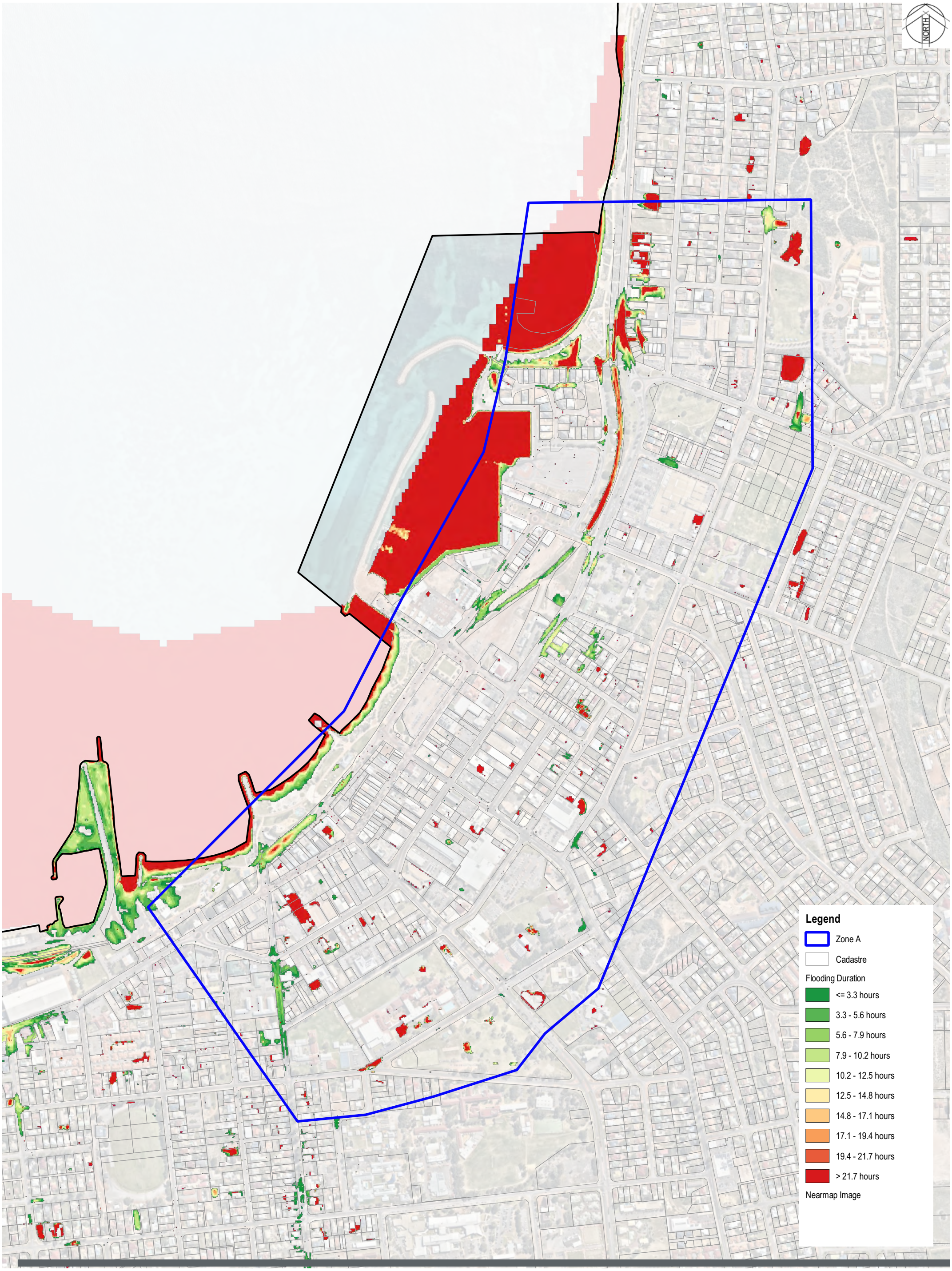
Figure B.10

0.2% AEP Duration Depth >0.3 m (2030 - Storm Tide)

Geraldton

Geraldton City Council

Revision 1



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Flood_Map_A.qgz

Date
4/2/2021

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Scale
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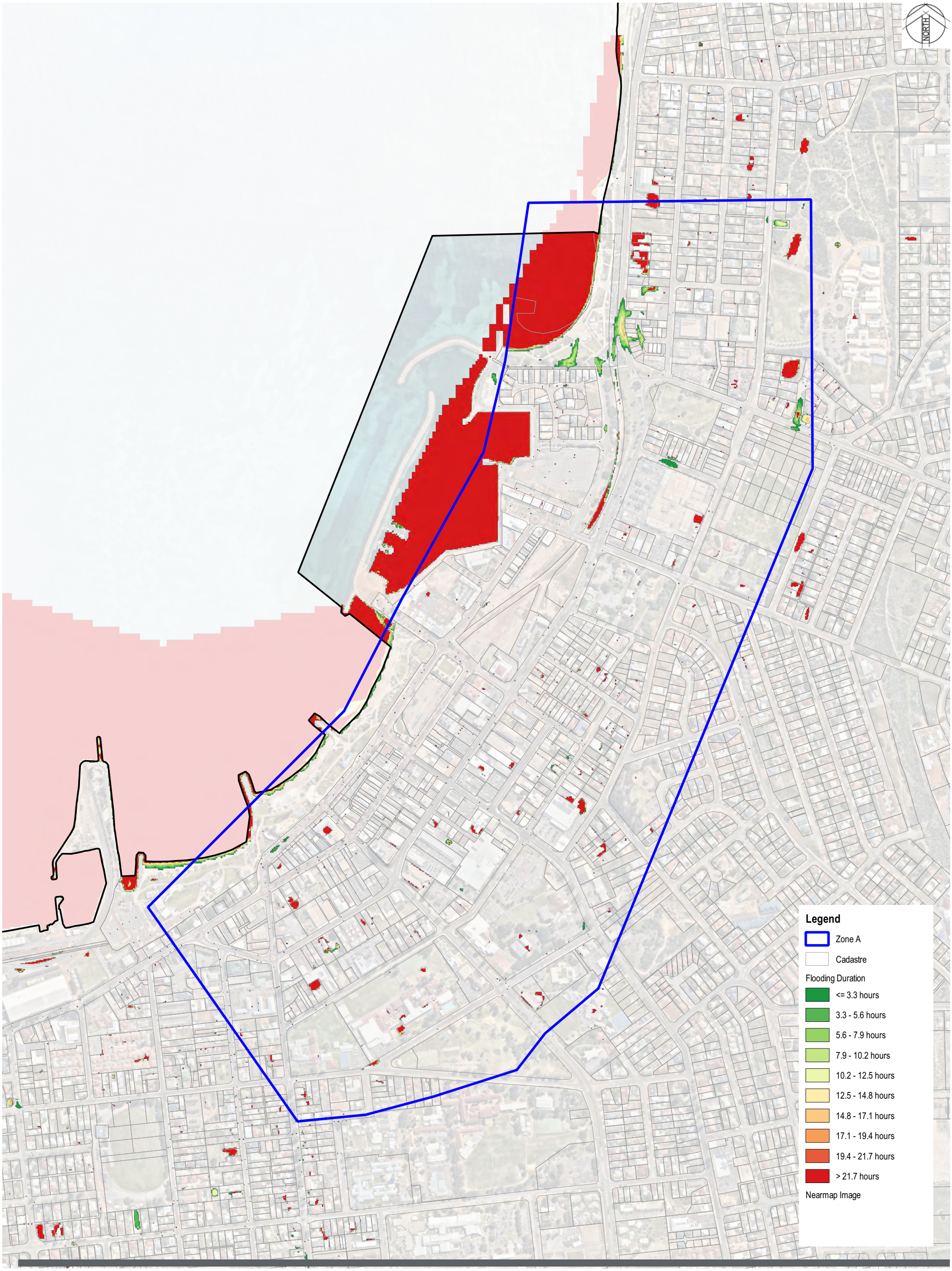
Figure B.11

1% AEP Duration Depth >0.3 m (2030 - Storm Tide)

Geraldton

Geraldton City Council

Revision 1



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Flood_Map_A.qgz

Date
4/2/2021

Size
A3

Scale
1:8,000

Figure B.12

5% AEP Duration Depth >0.3 m (2030 - Storm Tide)

Geraldton

Geraldton City Council

Revision 1

NORTH

Legend

- Zone A
- Cadastre

Flooding Duration

- <= 3.3 hours
- 3.3 - 5.6 hours
- 5.6 - 7.9 hours
- 7.9 - 10.2 hours
- 10.2 - 12.5 hours
- 12.5 - 14.8 hours
- 14.8 - 17.1 hours
- 17.1 - 19.4 hours
- 19.4 - 21.7 hours
- > 21.7 hours

Nearmap Image

DATE PLOTTED: 2021-2-4 BY: AB
Flood_Map_A.qgz

Cardno

Date
4/2/2021

Size
A3

Scale
1:8,000

0 0.5 1 km

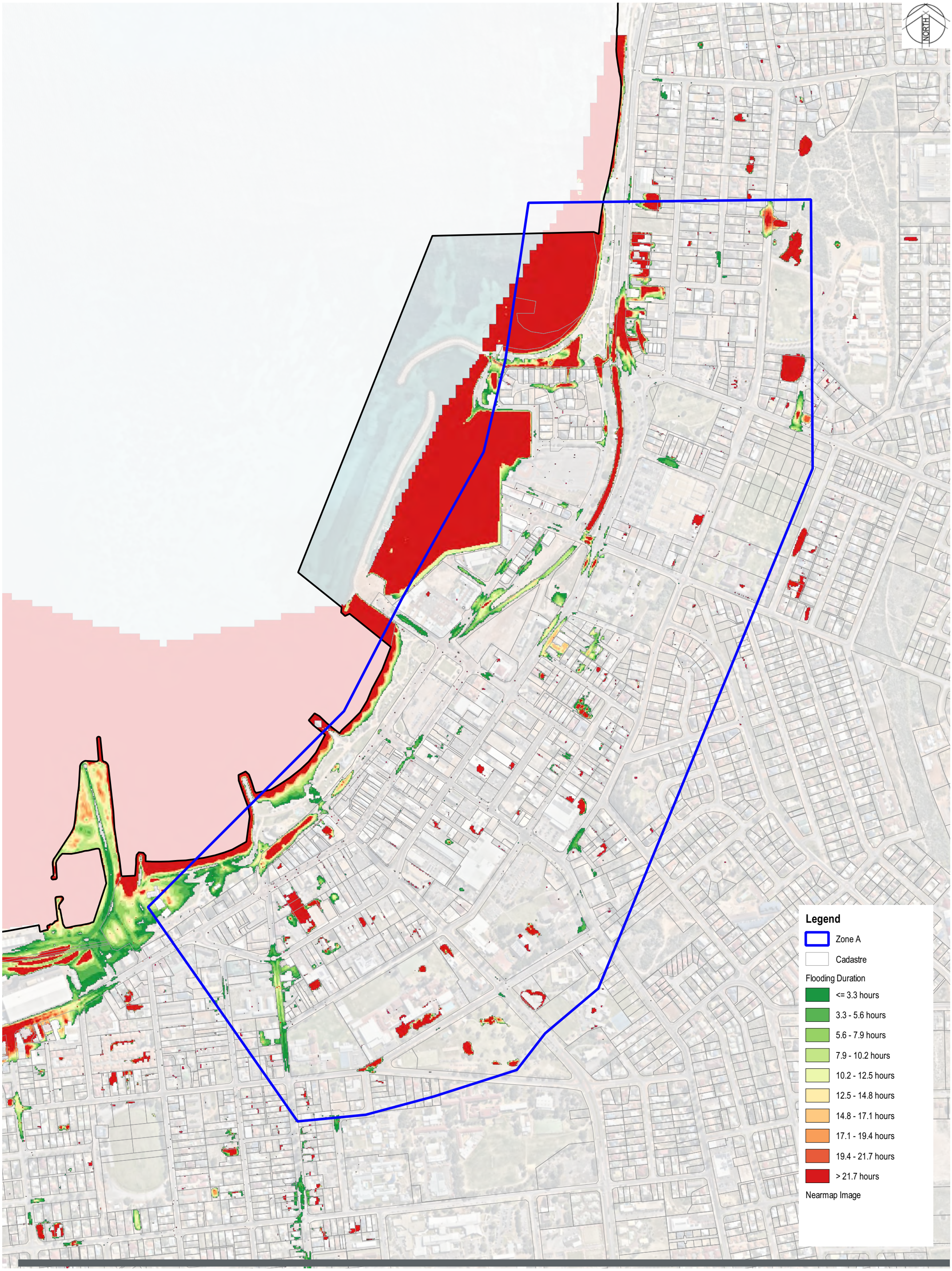
Figure B.13

0.2% AEP Duration Depth >0.3 m (2070 - Storm Tide)

Geraldton

Geraldton City Council

Revision 1



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Flood_Map_A.qgz

Date
4/2/2021

Size
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Scale
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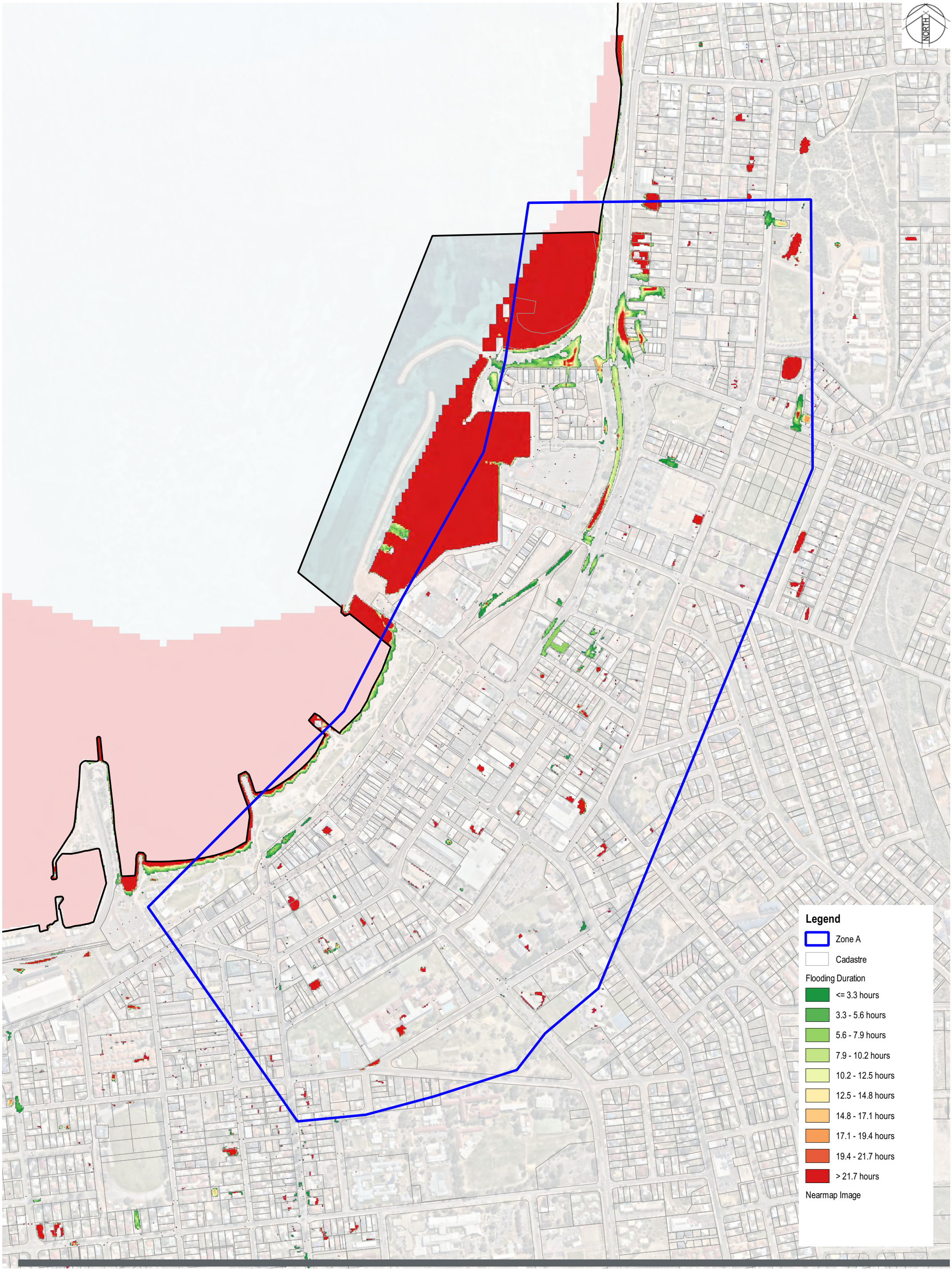
Figure B.14

1% AEP Duration Depth >0.3 m (2070 - Storm Tide)

Geraldton

Geraldton City Council

Revision 1



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Flood_Map_A.qgz

Date
4/2/2021

Size
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Scale
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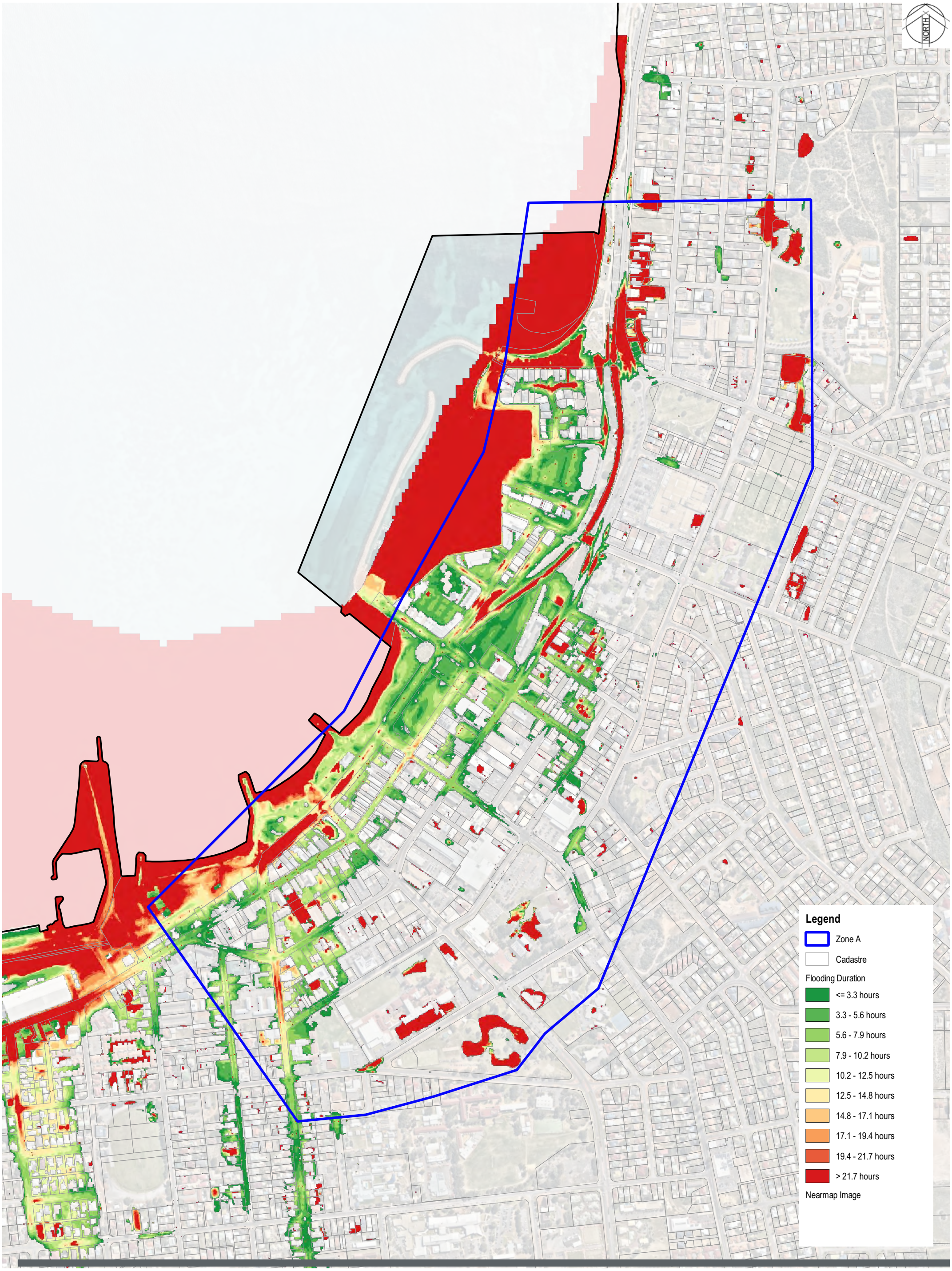
Figure B.15

5% AEP Duration Depth >0.3 m (2070 - Storm Tide)

Geraldton

Geraldton City Council

Revision 1



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Date
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Size
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Scale
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0 0.5 1 km

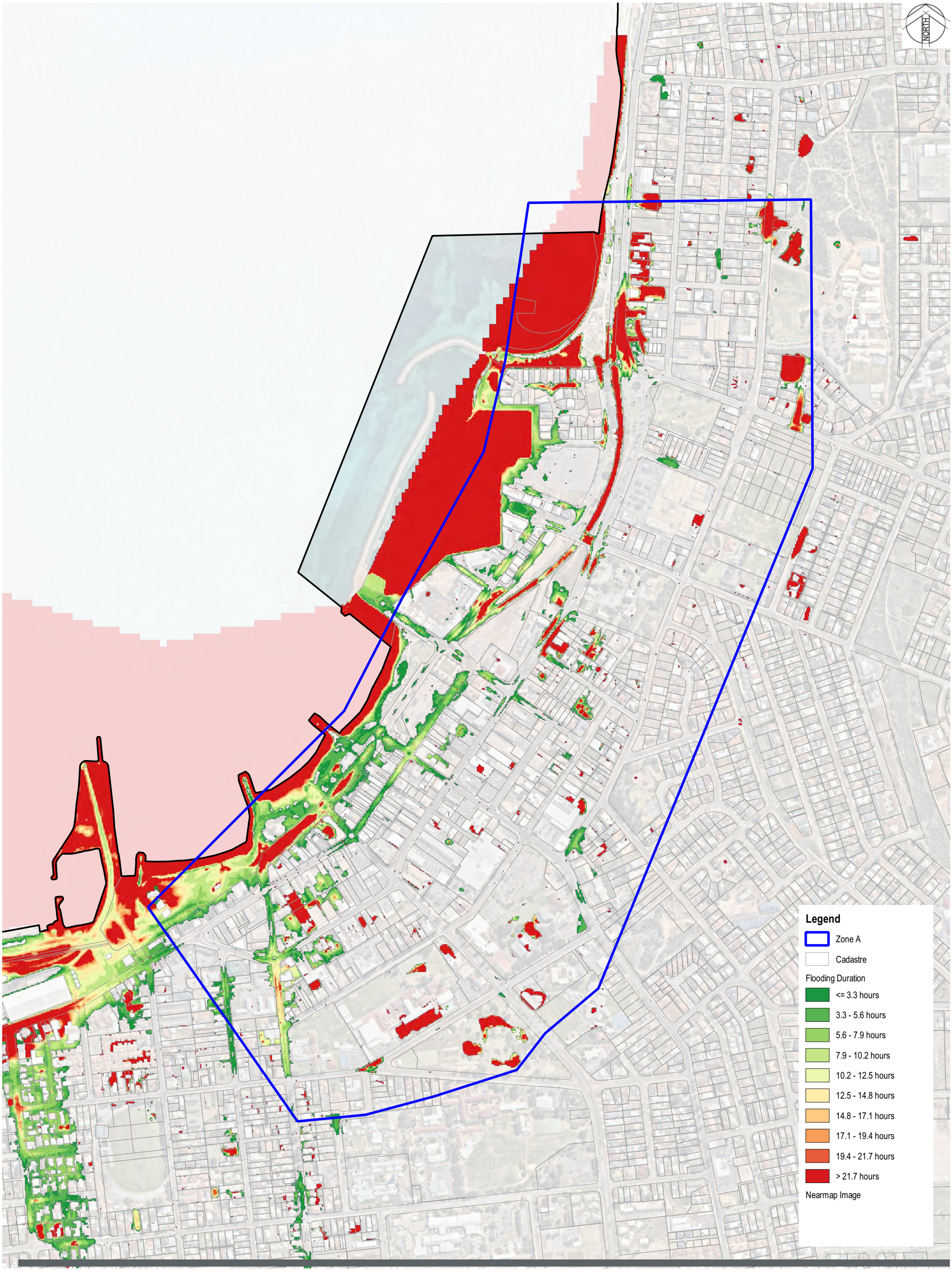
Figure B.16

0.2% AEP Duration Depth >0.3 m (2110 - Storm Tide)

Geraldton

Geraldton City Council

Revision 1



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Flood_Map_A.qgz

Date
4/2/2021

Size
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Scale
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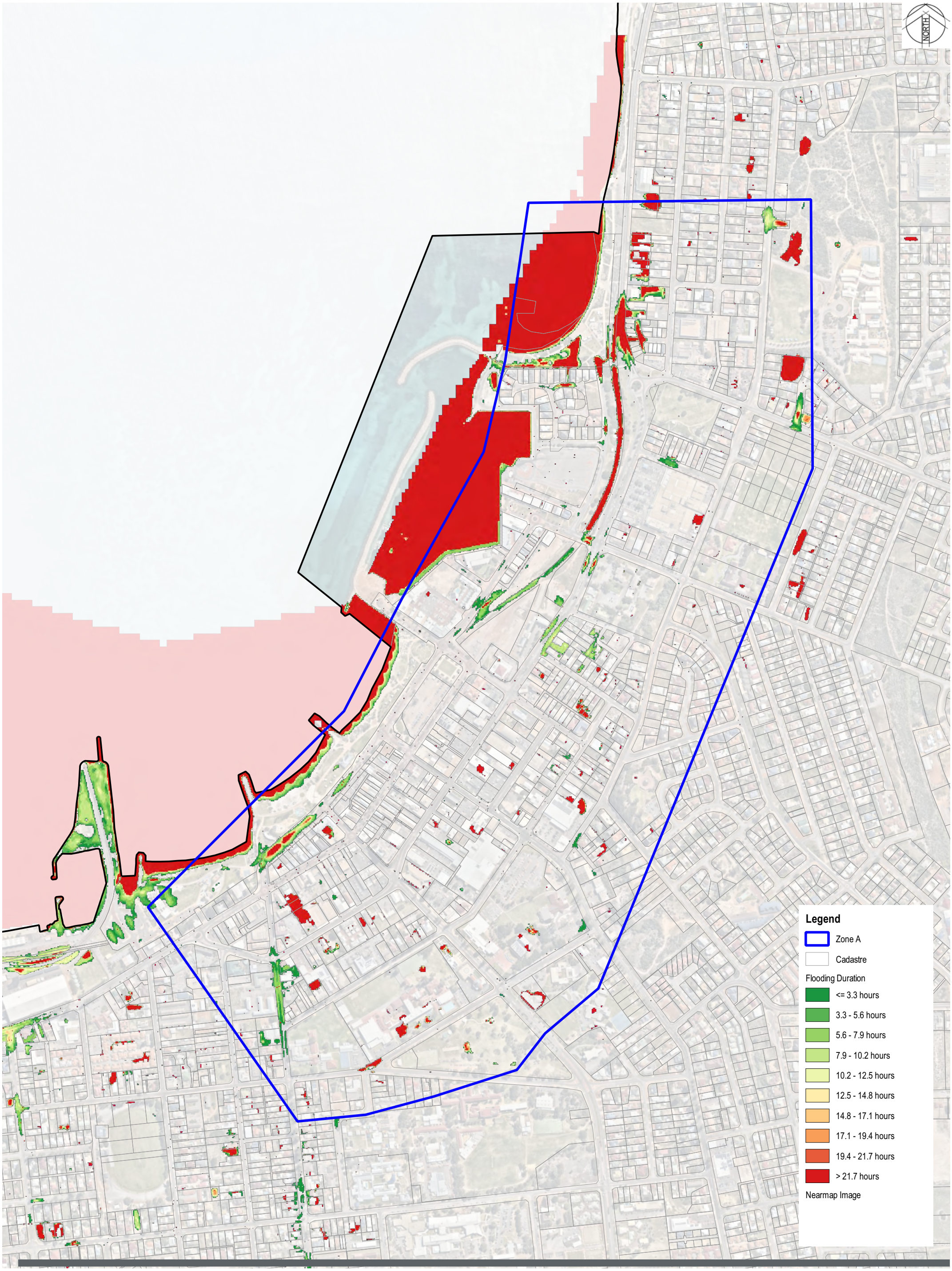
Figure B.17

1% AEP Duration Depth >0.3 m (2110 - Storm Tide)

Geraldton

Geraldton City Council

Revision 1



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Date
4/2/2021

Size
A3

Scale
1:8,000

Figure B.18

5% AEP Duration Depth >0.3 m (2110 - Storm Tide)

Geraldton

Geraldton City Council

Revision 1