

Appendix A LINSIG Output Summaries

Epping Construction Site

Table 1: AM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Beecroft Road / Carlingford Road						
Beecroft Rd (North)	1307	90147	69.0	E	0.918	214	Ahead
Beecroft Rd (South)	1679	85554	51.0	D	0.909	161	Ahead
Carlingford Rd (West)	1560	58418	37.4	C	0.890	217	Right
Total Intersection	4546	234120	51.5	D	0.918	217	
J2	Carlingford Road / Ray Road						
Ray Rd (North)	456	25955	56.9	E	0.567	62	Ahead/left
Rawson St (South)	339	25526	75.3	F	0.789	49	Ahead/left
Carlingford Rd(East)	724	11664	16.1	B	0.317	52	Ahead/left
Carlingford Rd (West)	1200	61800	51.5	D	0.849	134	Ahead/left
Total Intersection	2719	124944	75.3	F	0.849	134	

Table 2: AM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Beecroft Road / Carlingford Road						
Beecroft Rd (North)	1307	90147	69.0	E	0.918	214	Ahead
Beecroft Rd (South)	1720	101284	58.9	E	0.943	179	Ahead
Carlingford Rd (West)	1567	61815	39.4	C	0.892	219	Right
Total Intersection	4594	253247	55.1	D	0.943	219	
J2	Carlingford Road / Ray Road						
Ray Rd (North)	485	28086	57.9	E	0.582	64	Ahead/left
Rawson St (South)	339	26102	77.0	F	0.806	49	Ahead/left
Carlingford Rd(East)	724	11664	16.1	B	0.317	52	Ahead/right
Carlingford Rd (West)	1207	58961	48.8	D	0.838	128	Ahead/left
Total Intersection	2755	124812	77.0	F	0.838	128	

Table 3: PM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Beecroft Road / Carlingford Road						
Beecroft Rd (North)	864	36431	42.2	C	0.889	94	Ahead
Beecroft Rd (South)	2737	97882	35.8	C	0.911	225	Ahead
Carlingford Rd (West)	929	57716	62.1	E	0.901	114	Right/Left
Total Intersection	4530	192029	42.4	C	0.911	225	
J2	Carlingford Road / Ray Road						
Ray Rd (North)	289	15162	52.5	D	0.367	37	Ahead/left
Rawson St (South)	454	30189	66.5	E	0.663	73	Ahead/left
Carlingford Rd(East)	1312	25124	19.1	B	0.548	114	Ahead
Carlingford Rd (West)	636	118512	186.3	F	1.022	151	Ahead/right
Total Intersection	2691	188988	186.3	F	1.022	151	

Table 4: PM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Beecroft Road / Carlingford Road						
Beecroft Rd (North)	864	36431	42.2	C	0.889	94	Ahead
Beecroft Rd (South)	2778	109733	39.5	C	0.933	242	Ahead
Carlingford Rd (West)	936	58715	62.7	E	0.902	111	Right/left
Total Intersection	4578	204880	44.8	D	0.933	242	
J2	Carlingford Road / Ray Road						
Ray Rd (North)	318	17344	54.5	D	0.401	41	Ahead/left
Rawson St (South)	454	30534	67.3	E	0.680	73	Ahead/left
Carlingford Rd(East)	1312	25124	19.1	B	0.548	114	Ahead
Carlingford Rd (West)	643	129363	201.2	F	1.035	162	Ahead right
Total Intersection	2727	202365	201.2	F	1.035	162	

Table 1: AM Peak Hour Intersection Approach Summary (Construction)- 40 seconds cycle time

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Kirkham St & site access						
Kirkham St (North)	471	4616	9.8	A	0.342	52	Ahead/Left
Kirkham St (South)	231	1917	8.3	A	0.168	21	Ahead
Site Access (East)	25	1643	65.7	E	0.073	7	Right/Left
Total Intersection	727	8176	11.2	A	0.342	52	

Table 2: AM Peak Hour Intersection Approach Summary (Construction)- 60 seconds cycle time

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Kirkham St & site access						
Kirkham St (North)	471	8808	18.7	B	0.402	74	Ahead/left
Kirkham St (South)	231	3627	15.7	B	0.197	31	Ahead
Site Access (East)	25	1205	48.2	D	0.046	6	Right/left
Total Intersection	727	13639	18.8	B	0.402	74	

Table 3: PM Peak Hour Intersection Approach Summary (construction)- 40 seconds cycle time

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Kirkham St & site access						
Kirkham St (North)	308	2680	8.7	A	0.224	31	Ahead/left
Kirkham St (South)	259	2176	8.4	A	0.188	24	Ahead
Site Access (East)	25	1643	65.7	E	0.073	7	Right/left
Total Intersection	592	6498	11.0	A	0.224	31	

Table 4: PM Peak Hour Intersection Approach Summary (construction)- 60 seconds cycle time

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Kirkham St & site access						
Kirkham St (North)	308	5082	16.5	B	0.263	44	Ahead/left
Kirkham St (South)	259	4144	16.0	B	0.221	35.0	Ahead
Site Access (East)	25	1205	48.2	D	0.046	6	Right/left
Total Intersection	592	10431	17.6	B	0.263	44	

Cherrybrook Construction Site

Table1: AM Peak Hour Intersection Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2575 Edward Bennet Drive						
Edward Bennet Drive (North)	272	12458	45.8	D	0.531	34	Ahead /right
Coonara Ave (South)	204	15580	76.4	F	0.549	29	Right
Castle Hill Rd (East)	721	16994	23.6	B	0.364	52	Ahead/left
Castle Hill Rd (West)	1302	134543	103.3	F	0.998	251	Ahead/right
Total Intersection	2499	179574	71.9	F	0.998	251	
J2	Franklin Rd						
Franklin Rd (North)	19	84	4.4	A	0.044	0	Left
Castle Hill Rd (East)	684	793	1.2	A	0.220	1	Ahead
Castle Hill Rd (West)	1283	48657	37.9	C	0.932	191	Ahead
Total Intersection	1986	49533	37.9	C	0.932	191	
J3	Glenhope Rd						
Glenhope Rd (South)	115	805	7.0	A	0.308	2	Right/left
Castle Hill Rd (East)	684	821	1.2	A	0.220	1	Ahead
Castle Hill Rd (West)	1268	7373	5.8	A	0.585	174	Ahead
Total Intersection	2067	8999	7.0	A	0.585	174	
J4	Robert Rd						
Robert Rd (North)	40	176	4.4	A	0.090	0	Left
Castle Hill Rd (East)	745	937	1.3	A	0.231	1	Ahead
Castle Hill Rd (West)	1262	4257	3.4	A	0.510	96	Ahead
Total Intersection	2047	5369	4.4	A	0.510	96	
J5	TCS 2719 County Drive/Highs Rd						
County Drive (North)	817	45547	55.7	D	0.689	63	Ahead
Highs Rd (South)	311	19313	62.1	E	0.624	55	Ahead/right/left
Castle Hill Rd (East)	745	29292	39.3	C	0.559	43	Ahead/left
Castle Hill Rd (West)	1986	84969	42.8	D	0.902	188	Ahead /right
Total Intersection	3859	179120	46.4	D	0.902	188	

Table 2: AM Peak Hour Intersection Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2575 Edward Bennet Drive						
Edward Bennet Drive (North)	271	14228	52.5	D	0.616	39	Ahead/left/right
Coonara Ave (South)	204	30959	151.8	F	0.876	42	Right
Castle Hill Rd (East)	747	13945	18.7	B	0.333	47	Ahead/left
Castle Hill Rd (West)	1330	50769	38.2	C	0.865	172	Ahead/right
Total Intersection	2552	109900	43.1	D	0.876	172	
J2	Franklin Rd						
Franklin Rd (North)	47	4484	95.4	F	0.454	14	Left/right
Castle Hill Rd (East)	709	1934	2.7	A	0.254	14	Ahead
Castle Hill Rd (West)	1308	40075	30.6	C	0.866	198	Ahead/left
Total Intersection	2064	46493	22.5	B	0.866	198	
J3	Glenhope Rd						
Glenhope Rd (North)	28	1613	57.6	E	0.108	4	Left/right
Glenhope Rd (South)	115	7038	61.2	E	0.375	20	Left
Castle Hill Rd (East)	723	12543	17.3	B	0.329	60	Ahead/right
Castle Hill Rd (West)	1293	9185	7.1	A	0.507	25	Ahead/left
Total Intersection	2159	30379	14.1	A	0.507	60	
J4	Robert Rd						
Robert Rd (North)	40	140	3.5	A	0.072	0	Left
Castle Hill Rd (East)	771	970	1.3	A	0.241	1	Ahead
Castle Hill Rd (West)	1290	4052	3.1	A	0.486	93	Ahead/left
Total Intersection	2101	5162	3.5	A	0.486	93	
J5	TCS 2719 County Drive/Highs Rd						
County Drive (North)	820	57616	70.3	E	0.862	77	Ahead
Highs Rd (South)	311	18038	58.0	E	0.650	52	Ahead/left/right
Castle Hill Rd (East)	771	24922	32.3	C	0.580	45	Ahead/right
Castle Hill Rd (West)	2011	68404	34.0	C	0.870	166	Ahead/right
Total Intersection	3913	168980	43.2	D	0.870	166	

Table 3: PM Peak Hour Intersection Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2575 Edward Bennet Drive						
Edward Bennet Drive (North)	97	4200	43.3	D	0.171	10	Ahead//left/right
Coonara Ave (South)	452	49704	110.0	F	0.952	89	Ahead/left/right
Castle Hill Rd (East)	1658	67820	40.9	C	0.835	179	Ahead/right
Castle Hill Rd (West)	882	14876	16.9	B	0.479	50	Ahead/right
Total Intersection	3089	136601	44.2	D	0.952	179	
J2	Franklin Rd						
Franklin Rd (North)	16	56	3.5	A	0.031	0	Left
Castle Hill Rd (East)	1469	2427	1.7	A	0.411	2	Ahead
Castle Hill Rd (West)	866	1126	1.3	A	0.236	1	Ahead
Total Intersection	2351	3608	3.5	A	0.411	2	Ahead
J3	Glenhope Rd						
Glenhope Rd (South)	104	2028	19.5	B	0.330	14	Right/left
Castle Hill Rd (East)	1469	2427	1.7	A	0.411	2	Ahead/left
Castle Hill Rd (West)	870	2188	2.5	A	0.450	68	Ahead
Total Intersection	2443	6642	19.5	B	0.450	68	
J4	Robert Rd						
Robert Rd (North)	30	108	3.6	A	0.057	0	Left
Castle Hill Rd (East)	1563	2582	1.7	A	0.438	3	Ahead
Castle Hill Rd (West)	873	1135	1.3	A	0.252	1	Ahead
Total Intersection	2466	3825	3.6	A	0.438	3	
J5	TCS 2719 County Drive/Highs Rd						
County Drive (North)	712	49052	68.9	E	0.827	74	Right
Highs Rd (South)	465	40920	88.0	F	0.895	101	Ahead/right/left
Castle Hill Rd (East)	1563	134192	85.9	F	0.990	251	Ahead/left
Castle Hill Rd (West)	1685	59477	35.3	C	0.912	179	Ahead/left
Total Intersection	4425	283640	64.1	E	0.990	251	

Table 4: PM Peak Hour Intersection Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2575 Edward Bennet Drive						
Edward Bennet Drive (North)	97	4258	43.9	D	0.175	11	Ahead/right/left
Coonara Ave (South)	452	42850	94.8	F	0.906	79	Ahead/right/left
Castle Hill Rd (East)	1684	77832	46.2	D	0.881	196	Ahead/left
Castle Hill Rd (West)	908	31139	34.3	C	0.511	62	Ahead/right
Total Intersection	3141	156079	49.7	D	0.906	196	
J2	Franklin Rd						
Franklin Rd (North)	43	2890	67.2	E	0.208	10	Left/right
Castle Hill Rd (East)	1495	7564	5.1	A	0.514	116	Ahead
Castle Hill Rd (West)	891	1827	2.1	A	0.301	126	Ahead/left
Total Intersection	2429	12280	5.1	A	0.514	126	
J3	Glenhope Rd						
Glenhope Rd (North)	28	1296	46.3	D	0.066	3	Left/right
Glenhope Rd (South)	104	4818	46.3	D	0.272	19	Left
Castle Hill Rd (East)	1510	14435	9.6	A	0.670	76	Ahead/right
Castle Hill Rd (West)	895	28733	32.1	C	0.390	91	Ahead/right
Total Intersection	2537	49282	19.4	B	0.670	91	
J4	Robert Rd						
Robert Rd (North)	30	90	3.0	A	0.048	0	Left
Castle Hill Rd (East)	1591	2705	1.7	A	0.431	3	Ahead
Castle Hill Rd (West)	901	1171	1.3	A	0.255	1	Ahead/left
Total Intersection	2522	3966	3.0	A	0.431	3	
J5	TCS 2719 County Drive/Highs Rd						
County Drive (North)	715	52566	73.5	F	0.867	79	Right
Highs Rd (South)	465	42641	91.7	F	0.895	106	Ahead/right/left
Castle Hill Rd (East)	1591	112425	70.7	F	0.979	233	Ahead/left
Castle Hill Rd (West)	1710	97609	57.1	E	0.962	241	Ahead/left
Total Intersection	4481	305241	68.1	E	0.979	241	

Castle Hill Construction Site

Table 1: AM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2372 McMullen Ave/Old Northern Rd						
McMullen Ave (North)	1014	27087	26.7	B	0.720	78	Left/Right
Old Northern Rd (East)	2226	76971	34.6	C	0.968	184	Right/Ahead
Old Northern Rd (West)	957	53432	55.8	D	0.914	86	Ahead
Total Intersection	4197	157490	37.5	C	0.968	184	
J2	TCS 3075 Crane St/Old Northern Rd new/Terminus St						
Crane Rd (North)	198	15705	79.3	F	0.819	38	Ahead/right
Crane Rd (South)	602	52505	87.2	F	0.913	82	Right/Ahead
Old Northern Rd new (East)	1521	80262	52.8	D	0.926	158	Ahead
Old Northern Rd new (West)	855	27873	32.6	C	0.606	68	Ahead
Total Intersection	3176	176344	55.5	D	0.926	158	
J3	TCS 1174 Old Castle Hill Rd/ Castle St/Crane St						
Castle St (North)	250	8488	34.0	C	0.313	23	Left
Crane Rd (South)	573	22186	38.7	C	0.816	58	Ahead/right
Old Northern Rd (West)	403	18216	45.2	D	0.883	94	Ahead/right
Total Intersection	1226	48890	39.9	C	0.883	94	
J4	TCS 3318 Old Castle Hill Rd /Pennant St/McMullen Ave						
Pennant St (North)	523	12920	24.7	B	0.385	44	Ahead/right
McMullen Ave (South)	1111	60803	54.7	D	0.964	88	Ahead/left
Old Castle Hill Rd (East)	692	31181	45.1	D	0.886	55	Ahead/right
Old Castle Hill Rd (West)	317	30595	96.5	F	0.821	31	Right
Total Intersection	2643	135499	51.3	D	0.964	88	
J5	TCS 2494 Pennant St/Showground Rd						
Showground Rd (North)	941	15423	16.4	B	0.524	33	Ahead/left
Showground Rd (South)	510	22122	43.4	D	0.642	54	Right
Pennant St (East)	1144	19680	17.2	B	0.754	158	Right
Total Intersection	2595	57225	22.1	B	0.754	158	
J6	TCS 865 Showground Rd/Old Northern Rd						
Showground Rd (North)	437	14730	33.7	C	0.324	48	Right
Old Northern Rd (East)	91	1572	17.3	B	0.697	35	Ahead/left
Old Northern Rd (West)	833	16431	19.7	B	0.375	38	Left/right
Total Intersection	1361	32733	24.1	B	0.697	48	
J7	TCS 2624 Castle St / Pennant St						
Castle St (North)	458	30938	67.5	E	0.785	59	Ahead/left
Castle St (South)	262	16254	62.0	E	0.733	51	Ahead/left
Pennant St (East)	1025	20510	20.0	B	0.555	66	Ahead/right
Pennant St (West)	906	16296	18.0	B	0.672	46	Ahead/left
Total Intersection	2651	83997	31.7	C	0.785	66	
J8	Old Northern Rd Bus/Terminus St						
Old Northern Rd new (Terminus St) (South)	949	1341	1.4	A	0.364	2	Ahead
Old Northern Rd (East)	1583	6408	4.0	A	0.717	173	Ahead
Old Northern Rd Bus Lane (West)	8	29	3.6	A	0.016	0	Ahead
Total Intersection	2540	7778	4.0	A	0.717	173	

Table 2: AM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2372 McMullen Ave/Old Northern Rd						
McMullen Ave (North)	1033	31531	30.5	C	0.783	97	Left
Old Northern Rd (East)	2240	77930	34.8	C	0.973	0	Ahead/right
Old Northern Rd (West)	988	80892	81.9	F	0.983	190	Ahead/left
Total Intersection	4261	190353	44.7	D	0.983	161	
J2	TCS 3075 Crane St/Old Northern Rd new/Terminus St						
Crane Rd (North)	180	12874	71.5	F	0.679	28	Ahead/right
Crane Rd (South)	598	50328	84.2	F	0.897	89	Ahead/right
Old Northern Rd new (East)	1517	64972	42.8	D	0.894	139	Ahead/left
Old Northern Rd new (West)	888	26422	29.8	C	0.607	74	Ahead/left
Total Intersection	3183	154596	48.6	D	0.897	139	
J3	TCS 1174 Old Castle Hill Rd/ Castle St/Crane St						
Castle St (North)	251	14260	56.8	E	0.557	31	Left
New Bus interchange (North East)	62	3627	58.5	E	0.274	13	Ahead/left
Crane Rd (South)	568	14944	26.3	B	0.553	41	Ahead/right
Old Northern Rd (East)	19	960	50.5	D	0.073	4	left
Old Northern Rd (West)	364	8882	24.4	B	0.695	68	Ahead/left
Total Intersection	1264	42672	33.8	C	0.695	68	
J4	TCS 3318 Old Castle Hill Rd /Pennant St/McMullen Ave						
Pennant St (North)	542	15083	27.8	B	0.416	46	Ahead/right
McMullen Ave (South)	1188	47719	40.2	C	0.879	75	Ahead /left
Old Castle Hill Rd (East)	693	27883	40.2	C	0.828	53	Ahead/right
Old Castle Hill Rd (West)	324	19640	60.6	E	0.502	29	Ahead/left
Total Intersection	2747	110325	40.2	C	0.879	75	
J5	TCS 2494 Pennant St/Showground Rd						
Showground Rd (North)	943	13857	14.7	B	0.512	29	Ahead/left
Showground Rd (South)	509	23003	45.2	D	0.723	57	Right
Pennant St (East)	1146	24427	21.3	B	0.759	175	Right
Total Intersection	2598	61287	23.6	B	0.759	0	
J6	TCS 865 Showground Rd/Old Northern Rd						
Showground Rd (North)	439	8103	18.5	B	0.346	36	Right
Old Northern Rd (East)	86	954	11.1	A	0.099	5	Ahead/right
Old Northern Rd (West)	794	12501	15.7	B	0.645	28	Ahead/left
Total Intersection	1319	21558	16.3	B	0.645	36	
J7	TCS 2624 Castle St / Pennant St						
Castle St (North)	459	28190	61.4	E	0.742	65	Ahead/left
Castle St (South)	263	11501	43.7	D	0.554	41	Ahead/left
Pennant St(East)	1025	26924	26.3	B	0.614	76	Ahead/right
Pennant St (West)	905	26054	28.8	C	0.809	74	Ahead/left
Total Intersection	2652	92669	34.9	C	0.809	76	
J8	Old Northern Rd Bus/Terminus St						
Old Northern Rd Bus Lane (North)	17	383	22.5	B	0.022	2	Ahead/right
Old Northern Rd (East)	1553	20749	13.4	A	0.896	183	Ahead
Old Northern Rd new (Terminus St) (West)	971	22379	23.0	B	0.718	79	Ahead
Total Intersection	2541	43510	17.1	B	0.896	183	

J9	McMullen Ave Construction Access						
Construction access (West)	21	95	4.5	A	0.046	1	Left
Total Intersection	21	95	4.5	A	0.046	1	

Table 3: PM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2372 McMullen Ave/Old Northern Rd						
McMullen Ave (North)	1412	56889	40.3	C	0.740	176	Left/Right
Old Northern Rd (East)	1824	30927	17.0	B	0.783	90	Ahead/right
Old Northern Rd (West)	997	32631	32.7	C	0.811	103	Ahead/left
Total Intersection	4233	120446	28.5	B	0.811	176	
J2	TCS 3075 Crane St/Old Northern Rd new/Terminus St						
Crane Rd (North)	304	26875	88.4	F	0.871	54	Ahead/right
Crane Rd (South)	333	19496	58.5	E	0.607	40	Ahead/right
Old Northern Rd new (East)	1471	70890	48.2	D	0.931	175	Ahead/right
Old Northern Rd new (West)	976	37131	38.0	C	0.745	95	Ahead
Total Intersection	3084	154392	50.1	D	0.931	175	
J3	TCS 1174 Old Castle Hill Rd/ Castle St/Crane St						
Castle St (North)	376	16070	42.7	D	0.553	45	Ahead
Crane Rd (South)	502	17778	35.4	C	0.689	37	Ahead left
Old Northern Rd (East)	48	1402	29.2	C	0.082	9	Ahead/left
Old Northern Rd (West)	349	9144	26.2	B	0.657	62	Ahead/left/right
Total Intersection	1275	44393	34.8	C	0.689	62	
J4	TCS 3318 Old Castle Hill Rd /Pennant St/McMullen Ave						
Pennant St (North)	849	28628	33.7	C	0.653	73	Ahead/right
McMullen Ave (South)	779	63454	81.5	F	0.965	181	Ahead/left
Old Castle Hill Rd (East)	280	11550	41.3	C	0.700	21	Ahead/right
Old Castle Hill Rd (West)	982	95970	97.7	F	0.961	99	Right
Total Intersection	2890	199602	69.1	E	0.965	181	
J5	TCS 2494 Pennant St/Showground Rd						
Showground Rd (North)	1041	24005	23.1	B	0.829	55	Ahead/Left
Showground Rd (South)	545	28677	52.6	D	0.785	55	Right
Pennant St (East)	1364	45869	33.6	C	0.932	308	Right
Total Intersection	2950	98551	33.4	C	0.932	308	
J6	TCS 865 Showground Rd/Old Northern Rd						
Showground Rd (North)	556	12111	21.8	B	0.451	59	Ahead/right
Old Northern Rd (East)	97	1048	10.8	A	0.094	6	Ahead/right
Old Northern Rd (West)	777	10772	13.9	A	0.608	25	Ahead/left
Total Intersection	1430	23931	16.7	B	0.608	59	
J7	TCS 2624 Castle St / Pennant St						
Castle St (North)	371	24105	65.0	E	0.843	56	Ahead/right
Castle St (South)	366	16829	46.0	D	0.589	43	Ahead/left
Pennant St (East)	1150	49095	42.7	D	0.821	118	Ahead/right
Pennant St (West)	967	27913	28.9	C	0.706	53	Ahead/right
Total Intersection	2854	117942	41.3	C	0.843	118	
J8	Old Northern Rd Bus/Terminus St						
Old Northern Rd new (Terminus St) (South)	989	1383	1.4	A	0.354	2	Ahead
Old Northern Rd (East)	1519	2897	1.9	A	0.521	101	Ahead
Old Northern Rd Bus Lane (West)	8	30	3.7	A	0.016	0	Ahead
Total Intersection	2516	4310	3.7	A	0.521	101	

Table 4: PM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2372 McMullen Ave/Old Northern Rd						
McMullen Ave (North)	1415	30045	21.2	B	0.777	168	Right/left
Old Northern Rd (East)	1841	35651	19.4	B	0.840	101	Ahead/right
Old Northern Rd (West)	1043	31012	29.7	C	0.822	108	Ahead/left
Total Intersection	4299	96708	22.5	B	0.840	168	
J2	TCS 3075 Crane Rd/Old Northern Rd new/Terminus St						
Crane Rd (North)	296	24625	83.2	F	0.701	34	Ahead/right
Crane Rd (South)	333	19496	58.5	E	0.607	40	Ahead/right
Old Northern Rd new (East)	1469	49078	33.4	C	0.842	132	Ahead/right
Old Northern Rd new (West)	977	27878	28.5	C	0.611	76	Ahead/left
Total Intersection	3075	121078	39.4	C	0.842	132	
J3	TCS 1174 Old Castle Hill Rd/ Castle St/Crane St						
Castle St (North)	376	20365	54.2	D	0.686	51	Ahead
New Bus interchange (North East)	48	2837	59.1	E	0.227	10	Ahead/left
Crane Rd (South)	502	12664	25.2	B	0.470	31	Ahead/right
Old Northern Rd (East)	36	1854	51.5	D	0.138	7	Left
Old Northern Rd (West)	304	6566	21.6	B	0.582	58	Ahead/left
Total Intersection	1266	44287	35.0	C	0.686	58	
J4	TCS 3318 Old Castle Hill Rd /Pennant St/McMullen Ave						
Pennant St (North)	868	32977	38.0	C	0.724	77	Ahead/right
McMullen Ave (South)	824	127993	155.3	F	1.018	221	Ahead/left
Old Castle Hill Rd (East)	280	12830	45.8	D	0.700	23	Ahead/right
Old Castle Hill Rd (West)	990	126372	127.6	F	1.017	128	Right
Total Intersection	2962	300174	101.3	F	1.018	221	
J5	TCS 2494 Pennant St/Showground Rd						
Showground Rd (North)	1043	18493	17.7	B	0.724	46	Ahead/left
Showground Rd (South)	545	29656	54.4	D	0.803	56	Right
Pennant St (East)	1361	35088	25.8	B	0.888	232	Right
Total Intersection	2949	83238	28.2	B	0.888	232	
J6	TCS 865 Showground Rd/Old Northern Rd						
Showground Rd (North)	555	5926	10.7	A	0.421	51	Right
Old Northern Rd (East)	97	1448	14.9	B	0.089	6	Ahead/right
Old Northern Rd (West)	732	9962	13.6	A	0.605	23	Ahead/left
Total Intersection	1384	17337	12.5	A	0.605	51	
J7	TCS 2624 Castle St / Pennant St						
Castle St (North)	370	31357	84.7	F	0.937	69	Ahead/right
Castle St (South)	366	14249	38.9	C	0.512	39	Ahead/left
Pennant St (East)	1148	40524	35.3	C	0.749	105	Ahead/right
Pennant St (West)	968	78714	81.3	F	0.982	193	Ahead/left
Total Intersection	2852	164844	57.8	E	0.982	193	
J8	Old Northern Rd Bus/Terminus St						
Old Northern Rd Bus Lane (North)	17	621	36.5	C	0.035	3	Ahead/right
Old Northern Rd (East)	1505	8048	5.3	A	0.612	118	Ahead
Old Northern Rd new (Terminus St) (West)	1026	10620	10.4	A	0.522	51	Ahead
Total Intersection	2548	19288	7.6	A	0.612	118	

J9	McMullen Ave Construction Access						
Construction access (West)	21	74	3.5	A	0.039	0	Left
Total Intersection	21	74	3.5	A	0.039	0	

Showground Construction Site

Table 1: AM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2666 Carrington Rd/Showground Rd						
Carrington Rd (South)	201	16948	84.3	F	0.662	36	Right
Showground Rd (East)	1187	13673	11.5	A	0.538	77	Ahead
Showground Rd (West)	1302	31179	23.9	B	0.883	68	Ahead
Total Intersection	2690	61799	23.0	B	0.883	77	
J2	TCS 2844 Gilbert Rd/Showground Rd						
Gilbert Rd (North)	1117	121301	108.6	F	0.989	188	Right/left
Showground Rd (East)	775	25152	32.5	C	0.937	50	Ahead
Showground Rd (West)	1921	39567	20.6	B	0.817	309	Ahead/left
Total Intersection	3813	186020	48.8	D	0.989	309	
J3	TCS 2701 Green Rd/Victoria Ave/Showground Rd						
Green Rd (North)	1083	130491	120.5	F	0.998	204	Ahead/right
Victoria Ave (South)	477	29783	62.4	E	0.671	66	Ahead/left
Showground Rd (East)	1664	218438	131.3	F	0.998	262	Ahead/left
Showground Rd (West)	1494	129114	86.4	F	0.961	300	Ahead/right
Total Intersection	4718	507826	107.6	F	0.998	300	
J4	TCS 1279 Windsor Rd/Showground Rd						
Windsor Rd (North)	2573	57065	22.2	B	0.797	174	Ahead
Windsor Rd (South)	774	39659	51.2	D	0.881	76	Right
Showground Rd (East)	1408	45135	32.1	C	0.763	173	Left
Total Intersection	4755	141859	29.8	C	0.881	174	
J5	Middleton Ave/Carrington Rd (Roundabout)						
Carrington Rd (North)	705	2468	3.5	A	0.567	32	Left
Carrington Rd (South)	318	2321	7.3	A	0.565	4	Ahead
Middleton Ave (East)	198	4198	21.2	B	0.696	17	Ahead
Middleton Ave (West)	13	26	2.0	A	0.014	0	
Total Intersection	1234	9013	21.2	B	0.696	32	
J6	Doran Ave/Carrington Rd (Give-Way)						
Carrington Rd (North)	739	1256	1.7	A	0.408	2	Ahead/right
Carrington Rd (South)	581	872	1.5	A	0.321	1	Ahead/left
Private driveway(East)	105	420	4.0	A	0.190	1	Left
Doran Ave(West)	0	0	0.0	A	0.000	0	
Total Intersection	1425	2548	4.0	A	0.408	2	
J7	Victoria Ave/Carrington Rd (Roundabout)						
Victoria Ave (North)	851	13066	15.4	B	0.796	12	Left
Victoria Ave (South)	927	8807	9.5	A	0.724	8	Ahead
Carrington East (East)	844	10114	12.0	A	0.843	33	Left
Private Driveway (West)	51	7273	142.6	F	0.854	17	Left
Total Intersection	2673	39260	142.6	F	0.854	33	

Table 2: AM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2666 Carrington Rd/Showground Rd						
Carrington Rd (South)	213	14462	67.9	E	0.507	34	Right
Showground Rd (East)	1189	22669	19.1	B	0.584	92	Ahead
Showground Rd (West)	1287	11786	9.2	A	0.697	122	Ahead/Right
Total Intersection	2689	48918	18.2	B	0.697	122	
J2	TCS 2844 Gilbert Rd/Showground Rd						
Gilbert Rd (North)	1117	72881	65.2	E	0.894	139	Right
Showground Rd (East)	878	14936	17.0	B	0.764	34	Ahead/Right
Showground Rd (West)	2006	43589	21.7	B	0.913	201	Ahead/Left
Total Intersection	4001	131406	32.8	C	0.913	201	
J3	TCS 2701 Green Rd/Victoria Ave/Showground Rd						
Green Rd (North)	1083	139091	128.4	F	0.998	196	Ahead/Right
Victoria Ave (South)	491	37784	77.0	F	0.895	66	Ahead/Left
Showground Rd (East)	1767	231923	131.3	F	1.006	302	Ahead/Left
Showground Rd (West)	1603	88938	55.5	D	0.816	108	Ahead/Right
Total Intersection	4944	497735	100.7	F	1.006	302	
J4	TCS 1279 Windsor Rd/Showground Rd						
Windsor Rd (North)	2577	80319	31.2	C	0.894	206	Ahead
Windsor Rd (South)	879	36189	41.2	C	0.775	73	Right
Showground Rd (East)	1525	41741	27.4	B	0.782	80	Left
Total Intersection	4981	158249	31.8	C	0.894	206	
J5	Middleton Ave/Carrington Rd (Roundabout)						
Carrington Rd (North)	654	1962	3.0	A	0.525	19	Left
Carrington Rd (South)	255	1377	5.4	A	0.432	3	Ahead
Middleton Ave (East)	190	3097	16.3	B	0.623	16	Ahead
Middleton Ave (West)	0	0	0.0	A	0.000	0	Ahead
Total Intersection	1099	6436	16.3	B	0.623	19	
J6	Cattai Creek Access/Carrington Rd						
Carrington Rd (North)	752	1278	1.7	A	0.415	3	Ahead/Right
Carrington Rd (South)	265	318	1.2	A	0.146	1	Ahead/Left
Private driveway (East)	104	416	4.0	A	0.190	1	Left
Cattai Creek (West)	28	106	3.8	A	0.056	0	Left/Right
Total Intersection	1149	2119	4.0	A	0.415	3	
J7	Victoria Ave/Carrington Rd (Roundabout)						
Victoria Ave (North)	840	11088	13.2	A	0.760	9	Left
Victoria Ave (South)	887	7852	8.9	A	0.723	8	Ahead
Carrington East (East)	846	7072	8.4	A	0.733	52	Left
Private Driveway (West)	50	3740	74.8	F	0.692	10	Left
Total Intersection	2623	29753	74.8	F	0.760	52	
J9	Showground Road Construction Access						
Construction Access(South)	118	2490	21.1	B	0.113	12	Right/left
Showground Rd (East)	798	26747	33.5	C	0.650	87	Ahead
Showground Rd (West)	1387	5193	3.7	A	0.519	78	Ahead
Total Intersection	2303	34430	14.9	B	0.650	87	

Table 3: PM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2666 Carrington Rd/Showground Rd						
Carrington Rd (South)	694	99173	142.9	F	0.998	156	Right
Showground Rd (East)	1346	34559	25.7	B	0.724	137	Ahead
Showground Rd (West)	1057	32153	30.4	C	0.944	99	Ahead
Total Intersection	3097	165884	53.6	D	0.998	156	
J2	TCS 2844 Gilbert Rd/Showground Rd						
Gilbert Rd (North)	853	40442	47.4	D	0.702	76	Right/Left
Showground Rd (East)	1317	33539	25.5	B	0.883	89	Ahead
Showground Rd (West)	1780	24689	13.9	A	0.694	306	Ahead/left
Total Intersection	3950	98669	25.0	B	0.883	306	
J3	TCS 2701 Green Rd/Victoria Ave/Showground Rd						
Green Rd (North)	613	44815	73.1	F	0.729	65	Right/Ahead
Victoria Ave (South)	1354	80494	59.4	E	0.861	121	Left/Ahead
Showground Rd (East)	1660	297650	179.3	F	0.994	220	Ahead/left
Showground Rd (West)	1417	146112	103.1	F	0.997	217	Ahead/left
Total Intersection	5044	569071	112.8	F	0.997	220	
J4	TCS 1279 Windsor Rd/Showground Rd						
Windsor Rd (North)	1105	28334	25.6	B	0.588	60	Ahead
Windsor Rd (South)	2223	65155	29.3	C	0.792	109	Ahead
Showground Rd (East)	1355	81376	60.1	E	0.919	132	Right
Total Intersection	4683	174865	37.3	C	0.919	132	
J5	Middleton Ave/Carrington Rd (Roundabout)						
Carrington Rd (North)	421	1263	3.0	A	0.396	29	Left
Carrington Rd (South)	779	17839	22.9	B	0.919	31	Ahead
Middleton Ave (East)	170	5695	33.5	C	0.760	21	Ahead
Middleton Ave (West)	120	3540	29.5	C	0.670	6	Ahead
Total Intersection	1490	28337	33.5	C	0.919	31	
J6	Doran Ave/Carrington Rd (Give-Way)						
Carrington Rd (North)	530	742	1.4	A	0.293	1	Ahead/right
Carrington Rd (South)	909	1818	2.0	A	0.502	3	Ahead/left
Private driveway(East)	274	1507	5.5	A	0.458	3	Left
Doran Ave (West)	0	0	0.0	A	0.000	0	
Total Intersection	1713	4067	5.5	A	0.502	3	
J7	Victoria Ave/Carrington Rd (Roundabout)						
Victoria Ave (North)	1032	33824	32.8	C	0.919	29	Left
Victoria Ave (South)	1325	27112	20.5	B	0.904	27	Ahead
Carrington East (East)	804	16151	20.1	B	0.840	32	Left
Private Driveway (West)	84	3108	37.0	C	0.642	6	Left
Total Intersection	3245	80195	37.0	C	0.919	32	

Table 4: PM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 2666 Carrington Rd/Showground Rd						
Carrington Rd (South)	670	41540	62.0	E	0.777	88	Right
Showground Rd (East)	1373	55502	40.4	C	0.826	164	Ahead
Showground Rd (West)	1079	17349	16.1	B	0.745	35	Ahead
Total Intersection	3122	114391	36.6	C	0.826	164	
J2	TCS 2844 Gilbert Rd/Showground Rd						
Gilbert Rd (North)	853	81835	95.9	F	0.943	111	Right/Left
Showground Rd (East)	1422	27703	19.5	B	0.920	202	Ahead/right
Showground Rd (West)	1882	35240	18.7	B	0.819	274	Ahead/left
Total Intersection	4157	144779	34.8	C	0.943	274	
J3	TCS 2701 Green Rd/Victoria Ave/Showground Rd						
Green Rd (North)	613	36993	60.3	E	0.648	65	Ahead/left
Victoria Ave (South)	1366	262355	192.1	F	1.045	271	Ahead/left
Showground Rd (East)	1765	368319	208.7	F	1.028	299	Ahead/left
Showground Rd (West)	1533	67395	44.0	D	0.777	153	Ahead/left
Total Intersection	5277	735063	139.3	F	1.045	299	
J4	TCS 1279 Windsor Rd/Showground Rd						
Windsor Rd (North)	1118	41456	37.1	C	0.825	73	Ahead
Windsor Rd (South)	2326	73927	31.8	C	0.846	118	Ahead
Showground Rd (East)	1478	64015	43.3	D	0.889	138	Right
Total Intersection	4922	179397	36.4	C	0.889	138	
J5	Middleton Ave/Carrington Rd (Roundabout)						
Carrington Rd (North)	432	1253	2.9	A	0.396	28	Left
Carrington Rd (South)	787	19518	24.8	B	0.927	34	Ahead
Middleton Ave (East)	170	4182	24.6	B	0.698	16	Ahead
Middleton Ave (West)	0	0	0.0	A	0.000	0	Ahead
Total Intersection	1389	24952	24.8	B	0.927	34	
J6	Cattai Creek Access/Carrington Rd						
Carrington Rd (North)	473	615	1.3	A	0.261	1	Ahead/right
Carrington Rd (South)	777	1321	1.7	A	0.429	3	Ahead/left
Private driveway (East)	265	1405	5.3	A	0.439	3	Left
Cattai Creek (West)	48	235	4.9	A	0.115	1	Left/Right
Total Intersection	1563	3576	5.3	A	0.439	3	
J7	Victoria Ave/Carrington Rd (Roundabout)						
Victoria Ave (North)	1042	34478	33.1	C	0.922	31	Left
Victoria Ave (South)	1321	24331	18.4	B	0.894	24	Ahead
Carrington East (East)	748	11536	15.4	B	0.780	28	Left
Private Driveway (West)	84	2596	30.9	C	0.597	4	Left
Total Intersection	3195	72941	33.1	C	0.922	31	
J9	Showground Road Construction Access						
Construction Access(South)	138	4292	31.1	C	0.165	17	Right/left
Showground Rd (East)	1322	26854	20.3	B	0.762	129	Ahead/Left
Showground Rd (West)	1159	4380	3.8	A	0.381	20	Ahead/Right
Total Intersection	2619	35526	13.6	A	0.762	129	

Norwest Construction Site

Table 1: AM Peak Hour Intersection Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 561 Norwest Blvd/Windsor Rd						
Windsor Rd (North)	2593	132808	51.2	D	0.998	192	Right turn
Windsor Rd (South)	1009	78590	77.9	F	0.974	116	Ahead/left
Norwest Blvd (West)	919	92219	100.3	F	0.993	145	Left/right
Total Intersection	4521	303617	67.2	E	0.998	192	
J2	TCS Brookhollow Ave East/Columbia Cct /Norwest Blvd (Roundabout)						
Columbia Cct (North)	65	234	3.6	A	0.114	1	Left turn
Brookhollow Ave (South)	185	1499	8.1	A	0.452	13	Left turn
Norwest Blvd (East)	2113	9720	4.6	A	0.714	93	Ahead
Norwest Blvd (West)	821	2722	3.3	A	0.460	3	Ahead
Total Intersection	3184	14175	8.1	A	0.714	93	
J3	Solent Cct E/Norwest Blvd						
Solent Cct (North)	0	0	0.0	A	0.000	0	
Norwest Blvd (East)	1560	2652	1.7	A	0.433	3	Ahead/right
Norwest Blvd (West)	1108	1640	1.5	A	0.367	2	Ahead/left
Total Intersection	2668	4292	1.7	A	0.433	3	
J4	Brookhollow Ave West/Century Cct /Norwest Blvd (Roundabout)						
Century Cct (North)	184	866	4.7	A	0.207	1	Left turn
Brookhollow Ave (South)	199	1313	6.6	A	0.421	3	Left turn
Norwest Blvd (East)	1412	7075	5.0	A	0.707	8	Ahead
Norwest Blvd (West)	1256	4019	3.2	A	0.529	4	Ahead
Total Intersection	3051	13274	6.6	A	0.707	8	

Table 2: AM Peak Hour Intersection Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 561 Norwest Blvd/Windsor Rd						
Windsor Rd (North)	2593	133733	51.6	D	0.998	189	Right turn
Windsor Rd (South)	1028	113025	109.9	F	1.009	160	Ahead/left
Norwest Blvd (West)	937	53599	57.2	E	0.903	101	Left/right
Total Intersection	4558	300357	65.9	E	1.009	189	N/A
J2	TCS Brookhollow Ave East/Columbia Circuit /Norwest Blvd (Roundabout)						
Columbia Cct (North)	65	234	3.6	A	0.115	1	Left turn
Brookhollow Ave (South)	184	1509	8.2	A	0.455	12	Left turn
Norwest Blvd (East)	2132	10021	4.7	A	0.719	92	Ahead
Norwest Blvd (West)	839	2781	3.3	A	0.466	3	Ahead
Total Intersection	3220	14544	8.2	A	0.719	92	-
J3	Solent Circuit E/Norwest Blvd						
Solent Cct (North)							
Norwest Blvd (East)	1579	2684	1.7	A	0.438	3	Ahead/right
Norwest Blvd (West)	1126	1667	1.5	A	0.374	2	Ahead/left
Total Intersection	2705	4351	1.7	A	0.438	3	-
J4	Brookhollow Ave West/Century Circuit /Norwest Blvd (Roundabout)						
Century Cct (North)	183	888	4.9	A	0.206	1	Left turn
Brookhollow Ave (South)	237	1801	7.6	A	0.501	3	Left turn
Norwest Blvd (East)	1431	7387	5.2	A	0.717	8	Ahead
Norwest Blvd (West)	1275	4208	3.3	A	0.537	4	Ahead
Total Intersection	3126	14284	7.6	A	0.717	8	

Table 3: PM Peak Hour Intersection Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 561 Norwest Blvd/Windsor Rd						
Windsor Rd (North)	1290	61599	47.8	D	0.934	82	Right turn
Windsor Rd (South)	1578	114314	72.4	F	0.959	202	Ahead
Norwest Blvd (West)	1916	140396	73.3	F	0.991	273	Left/right
Total Intersection	4784	316308	66.1	E	0.991	273	
J2	TCS Brookhollow Ave East/Columbia Cct /Norwest Blvd (Roundabout)						
Columbia Cct (North)	274	12659	46.2	D	0.895	33	Left turn
Brookhollow Ave (South)	348	2262	6.5	A	0.512	18	Left turn
Norwest Blvd (East)	1065	2076	1.9	A	0.363	36	Ahead
Norwest Blvd (West)	1472	11555	7.9	A	0.768	10	Ahead
Total Intersection	3159	28553	46.2	D	0.895	36	
J3	Solent Cct E/Norwest Blvd						
Solent Cct (North)	218	1766	8.1	A	0.496	3	
Norwest Blvd (East)	898	1167	1.3	A	0.256	1	Ahead/right
Norwest Blvd (West)	1304	2021	1.5	A	0.360	2	Ahead/left
Total Intersection	2420	4954	8.1	A	0.496	3	
J4	Brookhollow Ave West/Century Cct /Norwest Blvd (Roundabout)						
Century Cct (North)	454	4042	8.9	A	0.540	4	Left turn
Brookhollow Ave (South)	216	1145	5.3	A	0.389	2	Left turn
Norwest Blvd (East)	874	2812	3.2	A	0.470	3	Ahead
Norwest Blvd (West)	1476	5021	3.4	A	0.597	4	Ahead
Total Intersection	3020	13020	8.9	A	0.597	4	

Table 4: PM Peak Hour Intersection Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 561 Norwest Blvd/Windsor Rd						
Windsor Rd (North)	1290	72938	56.5	E	0.962	91	Right turn
Windsor Rd (South)	1597	131807	82.5	F	0.981	218	Ahead
Norwest Blvd (West)	1935	115302	59.6	E	0.971	236	Left/right
Total Intersection	4822	320047	66.4	E	0.981	236	
J2	TCS Brookhollow Ave East/Columbia Cct /Norwest Blvd (Roundabout)						
Columbia Cct (North)	274	14604	53.3	D	0.914	38	Left turn
Brookhollow Ave (South)	348	2297	6.6	A	0.517	18	Left turn
Norwest Blvd (East)	1084	2168	2.0	A	0.371	35	Ahead
Norwest Blvd (West)	1491	12227	8.2	A	0.778	11	Ahead
Total Intersection	3197	31296	53.3	D	0.914	38	
J3	Solent Cct E/Norwest Blvd						
Solent Cct (North)	219	1314	6.0	A	0.422	3	
Norwest Blvd (East)	918	1193	1.3	A	0.261	1	Ahead/right
Norwest Blvd (West)	1322	2049	1.5	A	0.363	2	Ahead/left
Total Intersection	2459	4556	6.0	A	0.422	3	
J4	Brookhollow Ave West/Century Cct /Norwest Blvd (Roundabout)						
Century Cct (North)	454	4291	9.5	A	0.553	4	Left turn
Brookhollow Ave (South)	254	1524	6.0	A	0.458	5	Left turn
Norwest Blvd (East)	894	2923	3.3	A	0.481	3	Ahead
Norwest Blvd (West)	1494	5232	3.5	A	0.607	5	Ahead
Total Intersection	3096	13970	9.5	A	0.607	5	

Bella Vista Construction Site

Table 1: AM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 3273 Old Windsor Rd/Norwest Blvd						
Old Windsor Rd (North)	141	4701	33.3	C	0.476	23	Ahead
Old Windsor Rd (South)	492	22104	44.9	D	0.607	42	Right/left
Norwest Blvd (East)	889	37429	42.1	C	0.643	81	Ahead/right
Norwest Blvd (West)	1464	41948	28.7	C	0.527	71	Ahead/left
Total Intersection	2986	106182	35.6	C	0.643	81	
J2	TCS 3438 Celebration Drive / Old Windsor Rd						
Old Windsor Rd (North)	2714	129475	47.7	D	0.964	277	Left
Old Windsor Rd (South)	1397	152078	108.9	F	0.707	71	Ahead
Celebration Drive (East)	290	13396	46.2	D	0.378	29	Right
Total Intersection	4401	294949	67.0	E	0.964	277	
J3	TCS 4097 Balmoral Rd / Old Windsor Rd						
T-Way Bus(North)	32	285	8.9	A	0.025	3	Ahead
T-Way Bus (South)	32	285	8.9	A	0.025	3	Right/ahead
Balmoral Rd (East)	129	6463	50.1	D	0.302	27	Ahead
Balmoral Rd (West)	5	288	57.5	E	0.012	1	Ahead
Total Intersection	198	7320	37.0	C	0.302	27	
J4	TCS 3578 Miami St / Old Windsor Rd						
Old Windsor Rd (North)	2014	80130	39.8	C	0.857	470	Ahead/right
Old Windsor Rd (South)	1203	20627	17.1	B	0.606	108	Ahead
Miami St (West)	841	59842	71.2	F	0.863	103	Right/left
Total Intersection	4058	160599	39.6	C	0.863	470	
J5	TCS 3113 Memorial Ave/Sunnyholt Rd / Old Windsor Rd						
Old Windsor Rd (North)	1629	209173	128.4	F	0.983	235	Ahead/left
Old Windsor Rd (South)	1285	39882	31.0	C	0.677	83	Ahead/right
Memorial Ave (East)	707	31466	44.5	D	0.639	48	Ahead/right
Sunnyholt Rd (West)	1881	149089	79.3	F	0.959	169	Ahead
Total Intersection	5502	429610	78.1	F	0.983	235	
J7	Celebration Drive (Roundabout)						
Lexington Drive (North)	133	452	3.4	A	0.202	1	Left
Lexington Drive (South)	250	650	2.6	A	0.265	1	Left
Celebration Drive(East)	189	643	3.4	A	0.264	1	Ahead
Celebration Drive (West)	1354	78667	58.1	E	0.998	320	Ahead
Total Intersection	1926	80412	58.1	E	0.998	320	
J8	Burns Road / T-Way						
T-Way Bus (North)	26	1318	50.7	D	0.070	6	Ahead
T-Way Bus (South)	32	1562	48.8	D	0.082	6	Ahead/left

Burns Rd (East)	709	12562	17.7	B	0.418	63	Ahead/left
Burns Rd (West)	1283	4627	3.6	A	0.491	8	Ahead
Total Intersection	2050	20069	9.8	A	0.491	63	

Table 2: AM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 3273 Old Windsor Rd/Norwest Blvd						
Old Windsor Rd (North)	141	7291	51.7	D	0.442	26	Ahead
Old Windsor Rd (South)	492	24912	50.6	D	0.670	43	Right/left
Norwest Blvd (East)	888	30501	34.3	C	0.544	67	Ahead/right
Norwest Blvd (West)	1462	29227	20.0	B	0.634	86	Right
Total Intersection	2983	91931	30.8	C	0.670	86	
J2	TCS 3438 Celebration Drive / Old Windsor Rd						
Old Windsor Rd (North)	2948	101727	34.5	C	0.928	237	Left
Old Windsor Rd (South)	1524	164146	107.7	F	0.729	49	Ahead
Celebration Drive (East)	273	16204	59.4	E	0.536	26	Right
Total Intersection	4745	282076	59.4	E	0.928	237	
J3	TCS 4097 Balmoral Rd / Old Windsor Rd						
T-Way Bus (North)	32	1389	43.4	D	0.067	6	Ahead
T-Way Bus (South)	32	1389	43.4	D	0.067	6	Ahead/right
Balmoral Rd (East)	310	3720	12.0	A	0.261	32	Ahead
Balmoral Rd (West)	135	243	1.8	A	0.109	1	Ahead
Total Intersection	509	6741	13.2	A	0.261	32	
J4	TCS 3578 Miami St / Old Windsor Rd						
Old Windsor Rd (North)	2197	40752	18.5	B	0.813	459	Ahead/right
Old Windsor Rd (South)	1260	26377	20.9	B	0.564	103	Ahead
Miami St (West)	841	60207	71.6	F	0.867	107	Right
Total Intersection	4298	127336	29.6	C	0.867	459	
J5	TCS 3113 Memorial Ave/Sunnyholt Rd / Old Windsor Rd						
Old Windsor Rd (North)	1825	400721	219.6	F	1.078	417	Ahead/left
Old Windsor Rd (South)	1343	134760	100.3	F	1.052	276	Ahead
Memorial Ave (East)	719	43087	59.9	E	0.802	81	Ahead
Sunnyholt Rd (West)	1870	343718	183.8	F	1.086	263	Ahead/left
Total Intersection	5757	922286	160.2	F	1.086	417	
J7	Burns Road / T-Way						
T-Way Bus (North)	26	1269	48.8	D	0.066	5	Ahead
T-Way Bus (South)	46	2019	43.9	D	0.097	6	Ahead/left
Burns Rd (East)	707	11437	16.2	B	0.362	52	Ahead/left
Burns Rd (West)	1279	5287	4.1	A	0.480	8	Ahead
Total Intersection	2058	20013	9.7	A	0.480	52	
J8	Celebration Drive (Roundabout)						
Lexington Drive (North)	14	41	2.9	A	0.022	0	Left
Lexington Drive (South)	237	593	2.5	A	0.249	1	Left
Celebration Drive (East)	180	576	3.2	A	0.243	1	Ahead
Celebration Drive	1441	82137	57.0	E	0.993	314	Ahead

(West)							
Total Intersection	1872	83346	44.5	D	0.993	314	

Table 3: PM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 3273 Old Windsor Rd/Norwest Blvd						
Old Windsor Rd on ramp (North)	253	8267	32.7	C	0.420	47	Ahead
Old Windsor Rd (South)	1009	56188	55.7	D	0.835	141	Right/left
Norwest Blvd (East)	1554	68404	44.0	D	0.868	138	Ahead/right
Norwest Blvd (West)	876	23034	26.3	B	0.409	54	Ahead/left
Total Intersection	3692	155892	42.2	C	0.868	141	
J2	TCS 3438 Celebration Drive / Old Windsor Rd						
Old Windsor Rd (North)	1552	37581	24.2	B	0.869	68	Ahead
Old Windsor Rd (South)	1791	103164	57.6	E	0.907	206	Ahead
Celebration Drive (East)	1171	89888	76.8	F	0.993	241	Right
Total Intersection	4514	230634	51.1	D	0.993	241	
J3	TCS 4097 Balmoral Rd / Old Windsor Rd						
T-Way Bus(North)	38	148	3.9	A	0.025	2	Ahead
T-Way Bus (South)	26	101	3.9	A	0.017	1	Ahead/right
Balmoral Rd (East)	53	3721	70.2	E	0.273	13	Ahead
Balmoral Rd (West)	13	573	44.1	D	0.067	2	Ahead
Total Intersection	130	4544	35.0	C	0.273	13	
J4	TCS 3578 Miami St / Old Windsor Rd						
Old Windsor Rd (North)	1570	30417	19.4	B	0.514	504	Ahead/right
Old Windsor Rd (South)	2524	87638	34.7	C	0.922	249	Ahead
Miami St (West)	212	11771	55.5	D	0.373	21	Right/left
Total Intersection	4306	129825	30.1	C	0.922	504	
J5	TCS 3113 Memorial Ave/Sunnyholt Rd / Old Windsor Rd						
Old Windsor Rd (North)	1405	174992	124.5	F	0.930	173	Ahead/left
Old Windsor Rd (South)	2311	134616	58.3	E	0.972	226	Left
Memorial Ave (East)	952	90586	95.2	F	0.966	141	Ahead
Sunnyholt Rd (West)	1651	103574	62.7	E	0.943	146	Ahead/left
Total Intersection	6319	503768	79.7	F	0.972	226	
J7	Celebration Drive (Roundabout)						
Lexington Drive (North)	190	475	2.5	A	0.212	1	Left
Lexington Drive (South)	725	13993	19.3	B	0.894	24	Left
Celebration Drive(East)	534	2723	5.1	A	0.601	5	Ahead
Celebration Drive (West)	373	970	2.6	A	0.281	1	Ahead
Total Intersection	1822	18161	19.3	B	0.894	24	
J8	Burns Road / T-Way						
T-Way Bus (North)	38	1623	42.7	D	0.078	8	Ahead
T-Way Bus (South)	30	1170	39.0	C	0.056	4	Ahead/left
Burns Rd (East)	950	22420	23.6	B	0.480	75	Ahead

Burns Rd (West)	909	3184	3.5	A	0.376	74	Ahead/left
Total Intersection	1927	28397	14.7	B	0.480	75	

Table 4: PM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	TCS 3273 Old Windsor Rd/Norwest Blvd						
Old Windsor Rd (North)	251	11478	45.7	D	0.503	47	Ahead
Old Windsor Rd (South)	1009	53163	52.7	D	0.792	109	Right/left
Norwest Blvd (East)	1553	61536	39.6	C	0.861	139	Ahead/left
Norwest Blvd (West)	876	18795	21.5	B	0.316	39	Ahead/left
Total Intersection	3689	144972	39.3	C	0.861	139	
J2	TCS 3438 Celebration Drive / Old Windsor Rd						
Old Windsor Rd (North)	1797	99333	55.3	D	0.961	213	Ahead
Old Windsor Rd (South)	1924	149072	77.5	F	0.955	257	Ahead
Celebration Drive (East)	1184	67068	56.6	E	0.937	159	Right
Total Intersection	4905	315474	64.3	E	0.961	257	
J3	TCS 4097 Balmoral Rd / Old Windsor Rd						
T-Way Bus (North)	38	1588	41.8	C	0.076	7	Ahead
T-Way Bus (South)	26	1079	41.5	C	0.052	5	Right/ahead
Balmoral Rd (East)	239	2916	12.2	A	0.205	24	Ahead
Balmoral Rd (West)	143	529	3.7	A	0.123	3	Left
Total Intersection	446	6112	13.7	A	0.205	24	
J4	TCS 3578 Miami St / Old Windsor Rd						
Old Windsor Rd (North)	1760	54013	30.7	C	0.581	476	Ahead/right
Old Windsor Rd (South)	2551	58378	22.9	B	0.898	278	Ahead
Miami St (West)	211	13767	65.2	E	0.438	25	Right
Total Intersection	4522	126158	27.9	B	0.898	476	
J5	TCS 3113 Memorial Ave/Sunnyholt Rd / Old Windsor Rd						
Old Windsor Rd (North)	1604	171810	107.1	F	0.901	196	Ahead/left
Old Windsor Rd (South)	2343	136646	58.3	E	0.962	235	Ahead/right
Memorial Ave (East)	964	88022	91.3	F	0.969	149	Ahead
Sunnyholt Rd (West)	1644	117471	71.5	F	0.944	148	Ahead/left
Total Intersection	6555	513949	78.4	F	0.969	235	
J7	Celebration Drive (Roundabout)						
Lexington Drive (North)	14	31	2.2	A	0.017	0	Left
Lexington Drive (South)	693	9910	14.3	A	0.852	17	Left
Celebration Drive (East)	512	2458	4.8	A	0.576	4	Ahead
Celebration Drive (West)	576	1843	3.2	A	0.425	3	Ahead
Total Intersection	1795	14242	14.3	A	0.852	17	
J8	Burns Road / T-Way						
T-Way Bus (North)	38	1151	30.3	C	0.054	6	Ahead
T-Way Bus (South)	44	1140	25.9	B	0.054	4	Ahead/left
Burns Rd (East)	948	32965	34.8	C	0.654	109	Ahead/left

Burns Rd (West)	916	4529	4.9	A	0.539	102	Ahead
Total Intersection	1946	39785	20.4	B	0.654	109	

Kellyville Construction Site

Table 1: AM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J2	TCS 3366 Samantha Riley Drive/Newbury Ave & Old Windsor Rd						
Old Windsor Rd (North)	1105	80136	72.5	F	0.928	178	Ahead/left
Old Windsor Rd (South)	1068	87528	82.0	F	0.817	85	Ahead
Samantha Riley Drive (East)	664	22012	33.2	C	0.507	61	Ahead/left
Newbury Ave (West)	781	72586	92.9	F	0.965	179	Ahead/left
Total Intersection	3618	262261	72.5	F	0.965	179	
J3	TCS 3367 Windsor Rd & Old Windsor Rd						
Old Windsor Rd (North)	2143	35363	16.5	B	0.737	54	Left
Old Windsor Rd (South)	905	7573	8.4	A	0.277	23	Ahead
Windsor Rd (East)	533	28347	53.2	D	0.604	45	Right
Total Intersection	3581	71283	19.9	B	0.737	54	

Table 2: AM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J2	TCS 3366 Samantha Riley Drive/Newbury Ave & Old Windsor Rd						
Old Windsor Rd (North)	1299	104959	80.8	F	0.966	210	Ahead/right
Old Windsor Rd (South)	1160	93010	80.2	F	0.812	77	Ahead
Samantha Riley Drive (East)	760	28117	37.0	C	0.501	60	Ahead/left
Newbury Ave (West)	781	95922	122.8	F	0.989	198	Ahead/left
Total Intersection	4000	322008	80.5	F	0.989	210	
J3	TCS 3367 Windsor Rd & Old Windsor Rd						
Old Windsor Rd (North)	2366	32169	13.6	A	0.688	55	Ahead
Old Windsor Rd (South)	1026	11958	11.7	A	0.353	49	Ahead
Windsor Rd (East)	533	32286	60.6	E	0.677	49	Right
Total Intersection	3925	76413	19.5	B	0.688	55	

Table 3: PM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J2	TCS 3366 Samantha Riley Drive/Newbury Ave & Old Windsor Rd						
Old Windsor Rd (North)	1108	34285	30.9	C	0.748	129	Ahead/left
Old Windsor Rd (South)	2070	277825	134.2	F	0.997	303	Ahead
Samantha Riley Drive (East)	632	37251	58.9	E	0.825	85	Ahead/left
Newbury Ave (West)	347	29331	84.5	F	0.893	50	Ahead/left
Total Intersection	4157	378691	91.1	F	0.997	303	
J3	TCS 3367 Windsor Rd & Old Windsor Rd						
Old Windsor Rd (North)	1706	34209	20.1	B	0.473	55	Ahead
Old Windsor Rd (South)	1475	41540	28.2	B	0.507	136	Ahead
Windsor Rd (East)	1029	66780	64.9	E	0.882	123	Right
Total Intersection	4210	142530	33.9	C	0.882	136	

Table 4: PM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J2	TCS 3366 Samantha Riley Drive/Newbury Ave & Old Windsor Rd						
Old Windsor Rd (North)	1302	67715	52.0	D	0.803	171	Ahead/left
Old Windsor Rd (South)	2162	334051	154.5	F	0.988	295	Ahead
Samantha Riley Drive (East)	727	55903	76.9	F	0.968	85	Ahead/left
Newbury Ave (West)	347	22975	66.2	E	0.669	50	Ahead/left
Total Intersection	4538	480644	105.9	F	0.988	295	
J3	TCS 3367 Windsor Rd & Old Windsor Rd						
Old Windsor Rd (North)	1929	43531	22.6	B	0.494	74	Ahead
Old Windsor Rd (South)	1595	31089	19.5	B	0.699	186	Ahead
Windsor Rd (East)	1039	61447	59.1	E	0.858	117	Right
Total Intersection	4563	136066	29.8	C	0.858	186	

Rouse Hill Construction Site

Table 1: AM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles (pcu)	Vehicle (pcu) Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Windsor Road – Rouse Hill Drive						
Windsor Rd (North)	1960	63829	33	C	0.82	169	Ahead
Windsor Rd (South)	1442	23852	17	B	0.52	188	Ahead/Right
Rouse Hill Dr (East)	95	7202	76	F	0.31	7	Ahead/Right
Schofields Rd (West)	488	38378	79	F	0.76	38	Ahead/Right
Total Intersection	3985	133261	33	C	0.82	188	
J2	Windsor Road – White Hart Drive						
Windsor Rd (North)	1923	21020	11	A	0.66	188	Ahead/Right
Windsor Rd (South)	1656	25160	15	B	0.44	57	Ahead
White Hart Drive (east)	64	2995	47	D	0.11	7	Left
Castlebrook Cemetery (West)	7	541	77	F	0.05	7	Ahead/Right
Total Intersection	3650	49716	14	A	0.66	188	

Table 2: AM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles (pcu)	Vehicle (pcu) Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Windsor Road – Rouse Hill Drive						
Windsor Rd (North)	2004	49694	25	B	0.63	88	Ahead
Windsor Rd (South)	1442	23805	17	B	0.52	188	Ahead/Right
Rouse Hill Dr (East)	87	5712	66	E	0.22	7	Ahead/Right
Schofields Rd (West)	494	43898	89	F	0.84	44	Ahead/Right
Total Intersection	4027	123109	31	C	0.84	188	
J2	Windsor Road – White Hart Drive						
Windsor Rd (North)	1943	26114	13	A	0.63	207	Ahead/Left
Windsor Rd (South)	1698	29586	17	B	0.49	57	Ahead
White Hart Drive (east)	64	2995	47	D	0.11	7	Left
Castlebrook Cemetery (West)	7	541	77	F	0.05	7	Ahead/Right
Total Intersection	3712	59235	16	B	0.63	207	

Table 3: PM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles (pcu)	Vehicle (pcu) Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Windsor Road – Rouse Hill Drive						
Windsor Rd (North)	1487	47507	32	C	0.67	100	Ahead
Windsor Rd (South)	2158	45960	21	B	0.70	219	Ahead/Right
Rouse Hill Dr (East)	543	39373	73	F	0.82	63	Ahead/Left
Schofields Rd (West)	458	28599	62	E	0.64	38	Ahead/Left
Total Intersection	4646	161438	35	C	0.82	219	
J2	Windsor Road – White Hart Drive						
Windsor Rd (North)	1612	30130	19	B	0.71	150	Ahead/Left
Windsor Rd (South)	2374	43439	18	B	0.62	100	Ahead/Left
White Hart Drive (east)	308	16686	54	D	0.66	32	Left
Castlebrook Cemetery (West)	7	608	87	F	0.08	7	Ahead/Right
Total Intersection	4301	90864	21	B	0.71	150	

Table 4: PM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles (pcu)	Vehicle (pcu) Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Windsor Road – Rouse Hill Drive						
Windsor Rd (North)	1529	45120	30	C	0.58	75	Ahead
Windsor Rd (South)	2158	45955	21	B	0.70	219	Ahead/Right
Rouse Hill Dr (East)	577	43700	76	F	0.87	75	Ahead/Left
Schofields Rd (West)	460	28870	63	E	0.65	38	Ahead/Left
Total Intersection	4724	163644	35	C	0.87	219	
J2	Windsor Road – White Hart Drive						
Windsor Rd (North)	1658	31441	19	B	0.71	132	Ahead/Left
Windsor Rd (South)	2382	43906	18	B	0.63	100	Ahead/Left
White Hart Drive (east)	308	16686	54	D	0.66	32	Left
Castlebrook Cemetery (West)	7	608	87	F	0.08	7	Ahead/Right
Total Intersection	4355	92641	21	B	0.71	132	

Schofields Road Construction Site

Table 1: AM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Schofields Rd/ The Ponds Blvd						
The Ponds Blvd (South)	160	6188	38.7	C	0.221	22	Right
Schofields Rd (East)	389	6207	16.0	B	0.174	21	Ahead
Schofields Rd (West)	542	5152	9.5	A	0.311	16	Ahead / right
Total Intersection	1091	17547	16.1	B	0.311	22	
J2	Schofields Rd/ Cudgegong Road						
Cudgegong Rd (North)	94	4691	49.9	D	0.326	15	Right/left
Schofields Rd (East)	369	4365	11.8	A	0.124	14	Ahead/right
Schofields Rd (West)	611	3085	5.0	A	0.293	26	Ahead
Total Intersection	1074	12141	11.3	A	0.326	26	
J3	Schofields Rd/ Tallawong Road						
Tallawong Rd (North)	103	5961	57.9	E	0.227	13	Ahead/left
Tallawong Rd (South)	144	9113	63.3	E	0.325	18	Right
Schofields Rd (East)	372	5460	14.7	B	0.233	24	Ahead/left
Schofields Rd (West)	608	17013	28.0	B	0.328	42	Ahead/left
Total Intersection	1227	37548	30.6	C	0.328	42	

Table 2: AM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Schofields Rd / The Ponds Blvd						
The Ponds Blvd (South)	160	8656	54.1	D	0.464	29	Right
Schofields Rd (East)	559	22724	40.7	C	0.461	53	Ahead/right
Schofields Rd (West)	712	15654	22.0	B	0.465	157	Ahead/right
Total Intersection	1431	47033	32.9	C	0.465	157	
J2	Schofields Rd/ Cudgegong Road						
Cudgegong Rd (North)	128	4762	37.2	C	0.326	16	Right/left
South	0	0	0.0	A	0.000	0	
Schofields Rd (East)	539	6013	11.2	A	0.199	24	Ahead/right
Schofields Rd (West)	747	21312	28.5	C	0.421	73	Ahead/left
Total Intersection	1414	32086	22.7	B	0.421	73	
J3	Schofields Rd/ Tallawong Road						
Tallawong Rd (North)	239	10041	42.0	C	0.257	24	Ahead/left
Tallawong Rd (South)	144	10264	71.3	F	0.464	22	Right
Schofields Rd (East)	508	14694	28.9	C	0.397	153	Ahead/right
Schofields Rd (West)	608	21481	35.3	C	0.460	61	Ahead/left
Total Intersection	1499	56480	37.7	C	0.464	153	

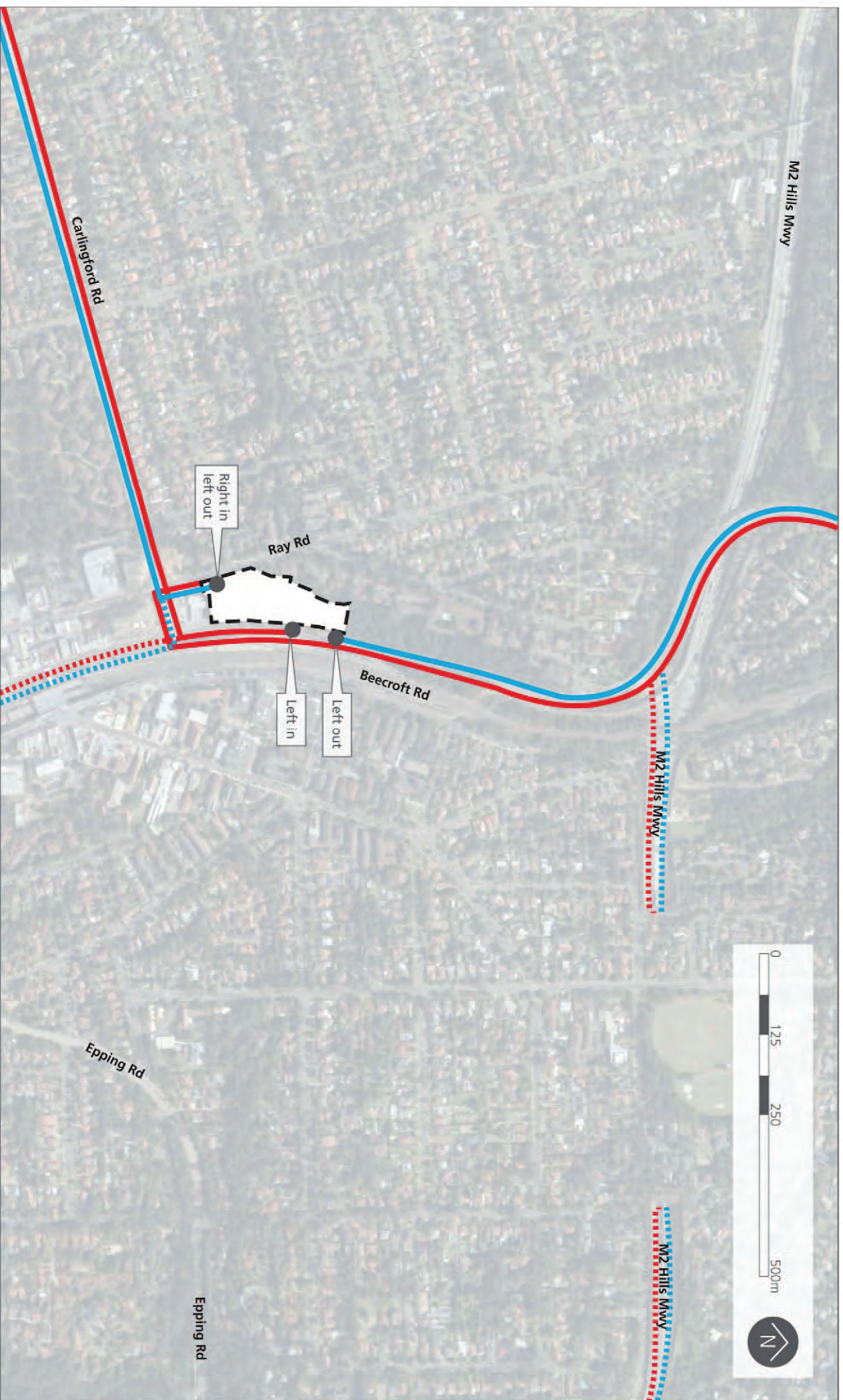
Table 3: PM Peak Hour Intersection Approach Summary (Existing)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Schofields Rd /The Ponds Blvd						
The Ponds Blvd (South)	60	3738	62.3	E	0.232	13	Right
Schofields Rd (East)	705	10986	15.6	B	0.321	40	Ahead/left
Schofields Rd (West)	429	7313	17.0	B	0.306	21	Ahead
Total Intersection	1194	22037	18.5	B	0.321	40	
J2	Schofields Rd/ Cudgegong Road						
Cudgegong Rd (North)	41	2235	54.5	D	0.177	7	Right/left
Schofields Rd (East)	645	5138	8.0	A	0.269	189	Right/ahead
Schofields Rd (West)	500	2203	4.4	A	0.260	29	Ahead/left
Total Intersection	1186	9575	8.1	A	0.269	189	
J3	Schofields Rd/ Tallawong Road						
Tallawong Rd (North)	33	2195	66.5	E	0.116	3	Right
Tallawong Rd (South)	90	6351	70.6	F	0.290	13	Ahead/left
Schofields Rd (East)	654	3950	6.0	A	0.296	33	Ahead/left
Schofields Rd (West)	504	7123	14.1	A	0.233	27	Ahead/left
Total Intersection	1281	19619	15.3	B	0.296	33	

Table 4: PM Peak Hour Intersection Approach Summary (Construction)

Approach	No. of Vehicles	Vehicle Delay (s)	Average Delay (s)	LoS	DoS	Queue (m)	Movement
J1	Schofields Rd/ The Ponds Blvd						
The Ponds Blvd (South)	60	3738	62.3	E	0.232	14	Right
Schofields Rd (East)	875	30857	35.3	C	0.570	83	Ahead/left
Schofields Rd (West)	599	16094	26.9	B	0.568	175	Ahead/right
Total Intersection	1534	50689	33.0	C	0.570	175	
J2	Schofields Rd/ Cudgegong Road						
Cudgegong Rd (North)	75	2183	29.1	C	0.165	8	Right/left
Schofields Rd (East)	815	4170	5.1	A	0.345	240	Right/ahead
Schofields Rd (West)	636	6858	10.8	A	0.345	23	Ahead
Total Intersection	1526	13210	8.7	A	0.345	240	
J3	Schofields Rd/ Tallawong Road						
Tallawong Rd (North)	169	6854	40.6	C	0.261	24	Ahead/left
Tallawong Rd (South)	90	7227	80.3	F	0.464	14	Ahead/left
Schofields Rd (East)	790	9759	12.4	A	0.568	29	Ahead/right
Schofields Rd (West)	504	12574	24.9	B	0.296	38	Ahead/left
Total Intersection	1553	36414	23.4	B	0.568	38	

Appendix B Heavy Vehicle Route Maps



- Legend**
- Proposed worksite
 - Heavy vehicle routes
 - Inbound
 - Alternative inbound
 - Outbound
 - Alternative outbound
 - Access intersection type
 - All movements
 - Left in – Left out or as noted

Figure 1 Epping service facility – heavy vehicle routes

Date: 24th September, 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.

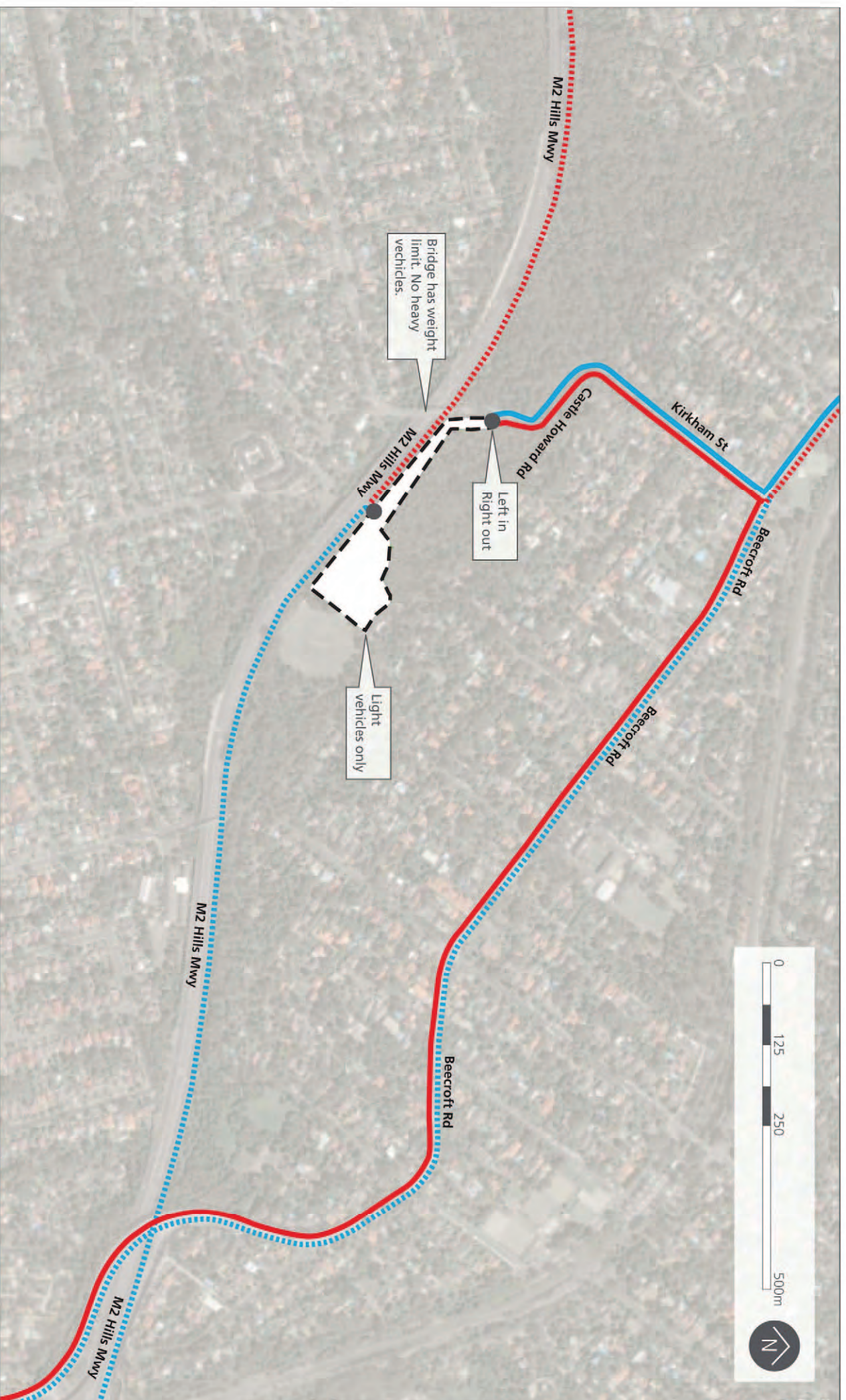


Figure 2 Cheltenham service facility – heavy vehicle routes (EIS 2 works)

Date: 25th September, 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.



- Legend**
-  Proposed worksite
 - Heavy vehicle routes**
 -  Inbound
 -  Alternative inbound
 -  Outbound
 -  Alternative outbound
 - Access intersection type**
 -  All movements
 -  Left in – Left out or as noted

Figure 3 Cherrybrook station – heavy vehicle routes

Date: 24th September, 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.

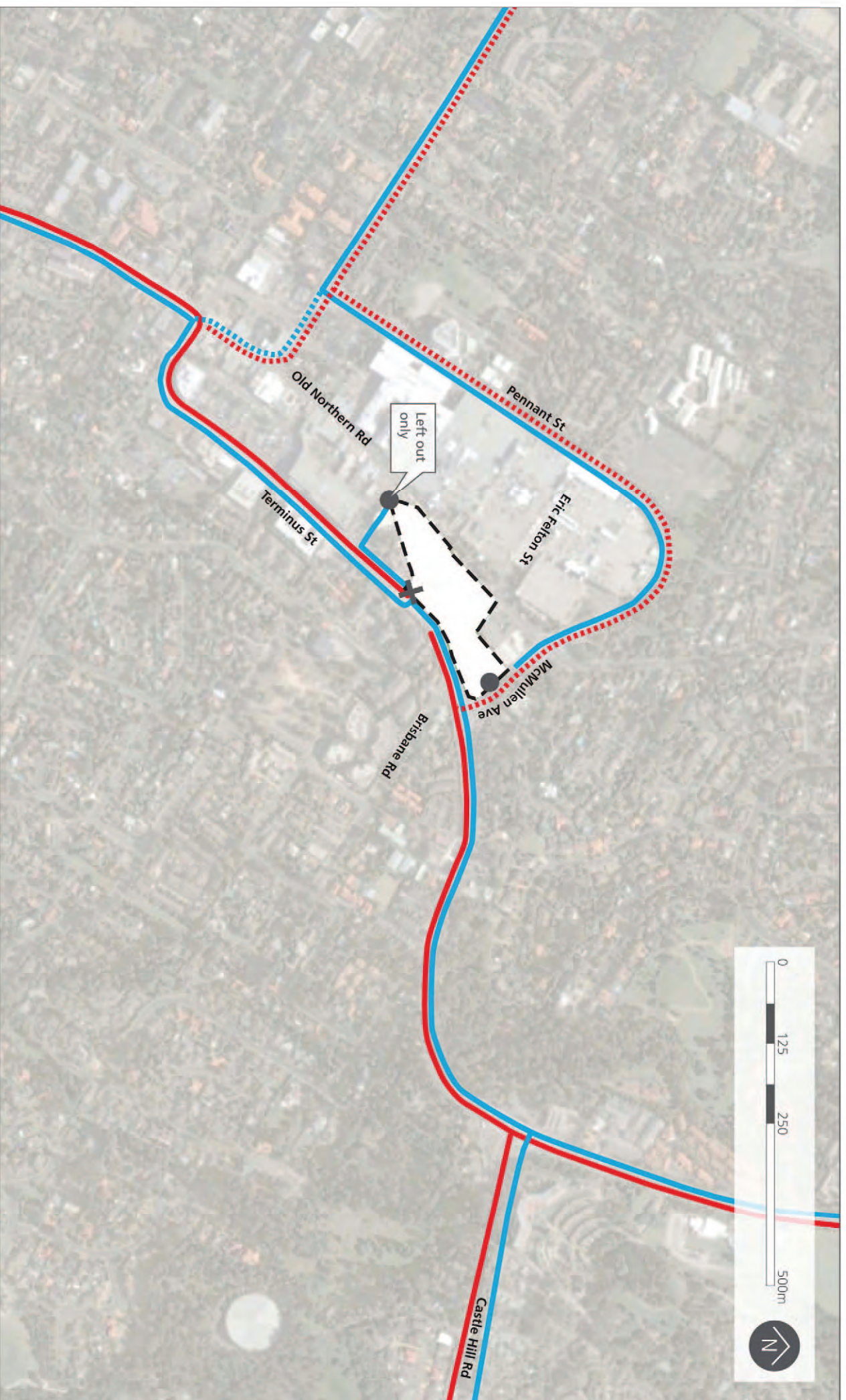


Figure 4 Castle Hill station – heavy vehicle routes

Date: 24th September, 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.

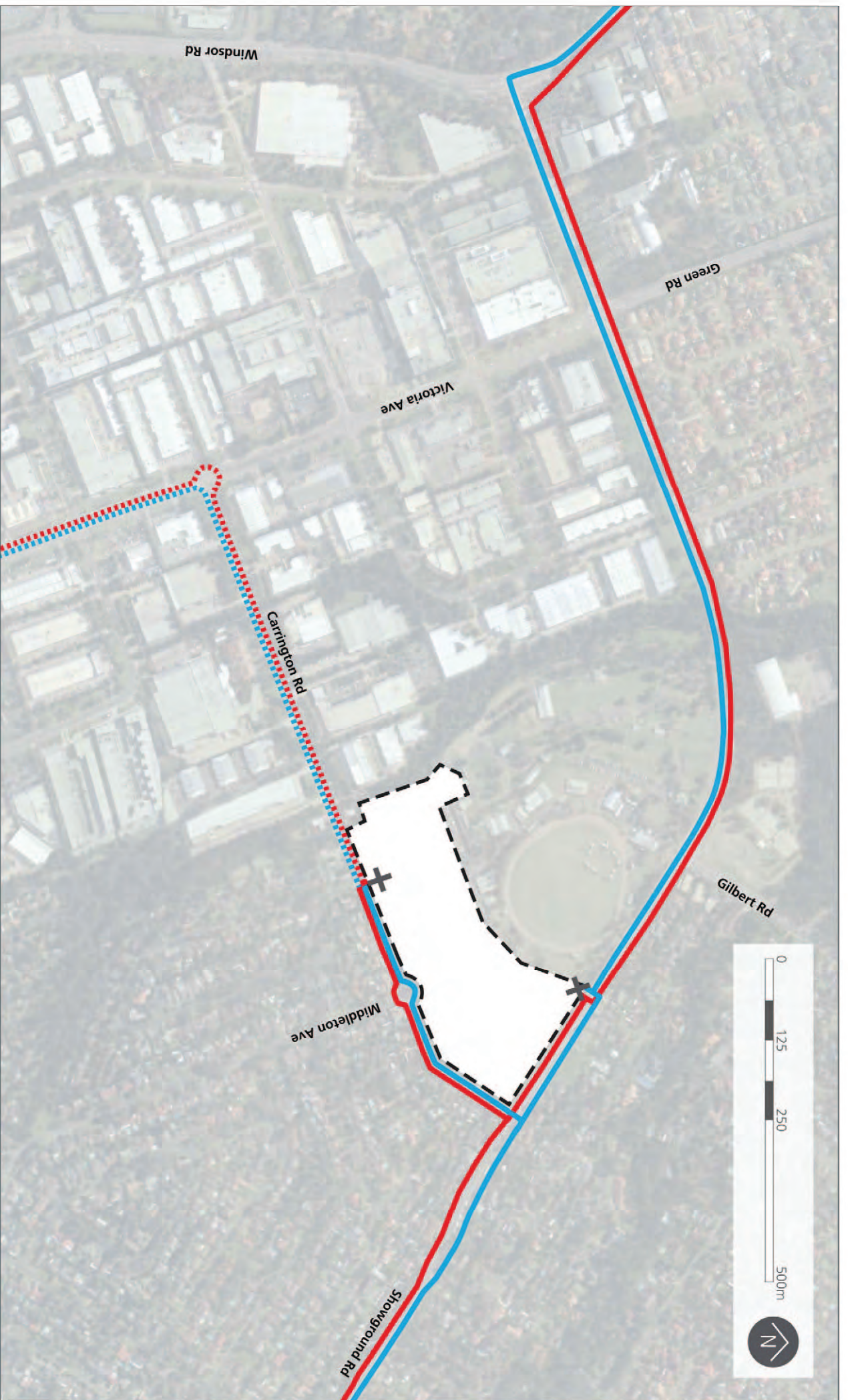
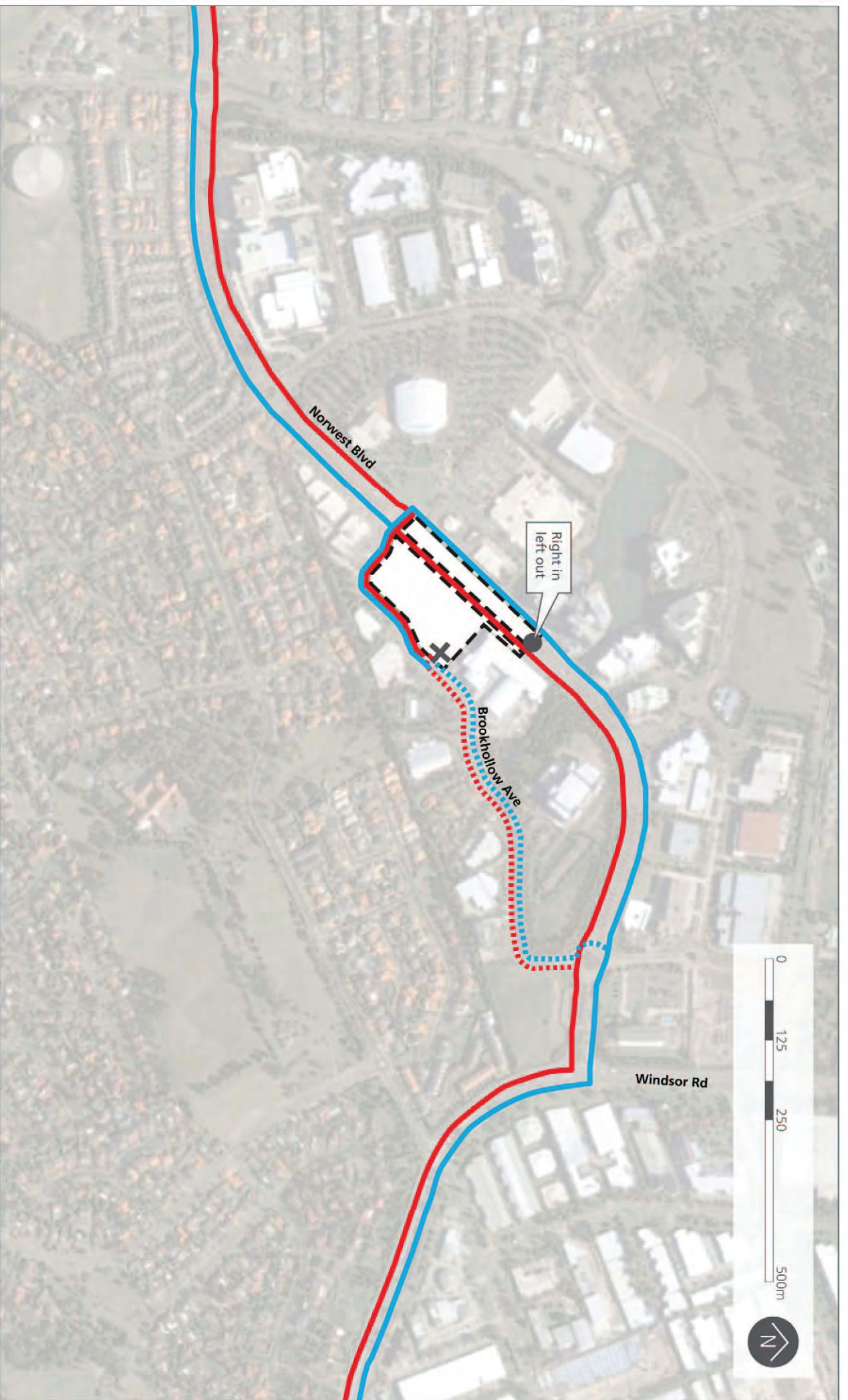


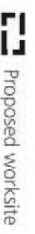
Figure 5 Hills Centre station – heavy vehicle routes

Date: 24th September, 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.



Legend



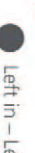
Proposed worksite



Heavy vehicle routes



Alternative inbound



Alternative outbound



Access intersection type



Left in - Left out or as noted



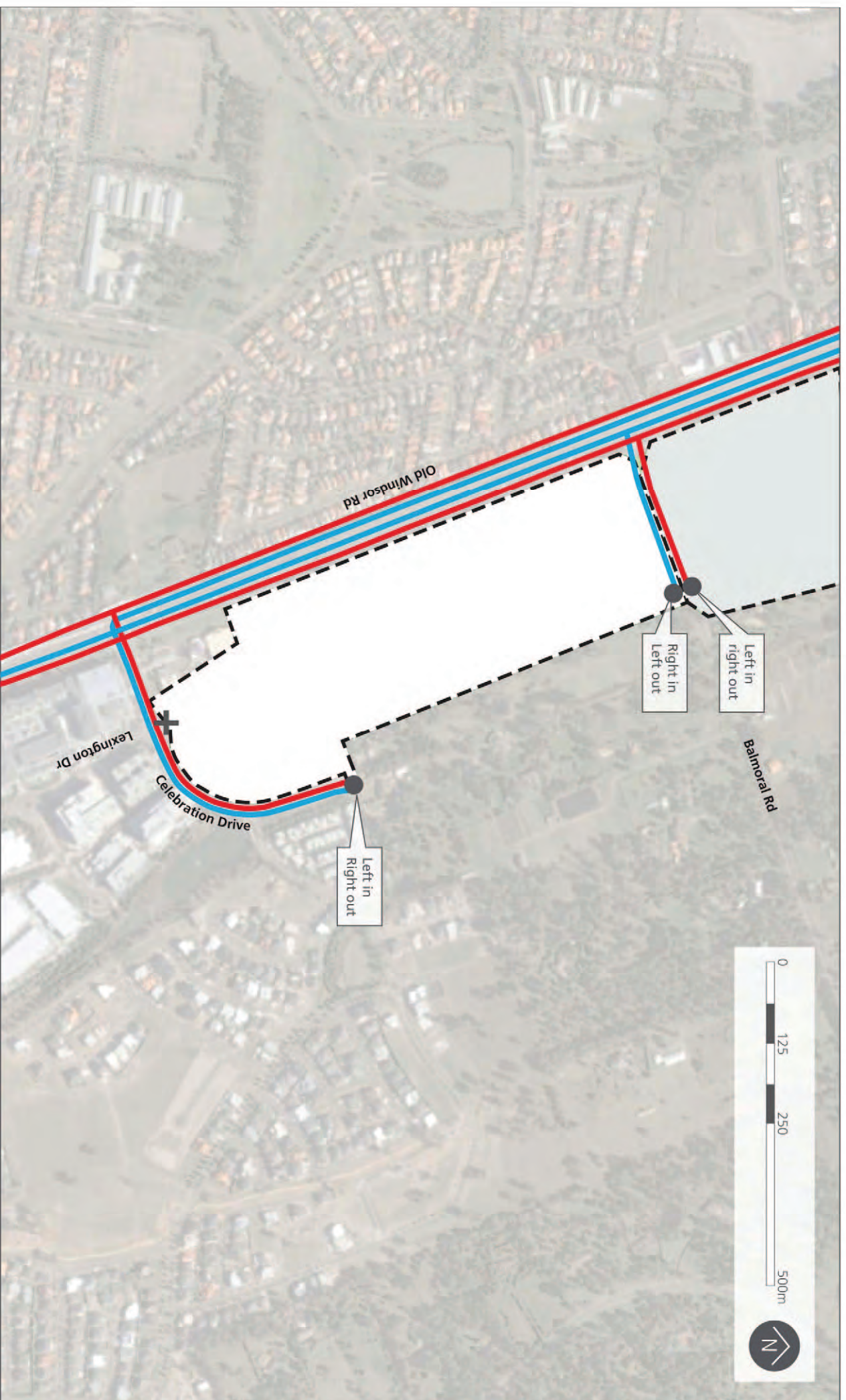
Transport for NSW

northwestrailink

Figure 6 Norwest station – heavy vehicle routes

Date: 24th September, 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.



Legend

[] Proposed worksite

Heavy vehicle routes

— Inbound

- - - Alternative inbound

— Outbound

- - - Alternative outbound

Access intersection type

+ All movements

● Left in – Left out or as noted



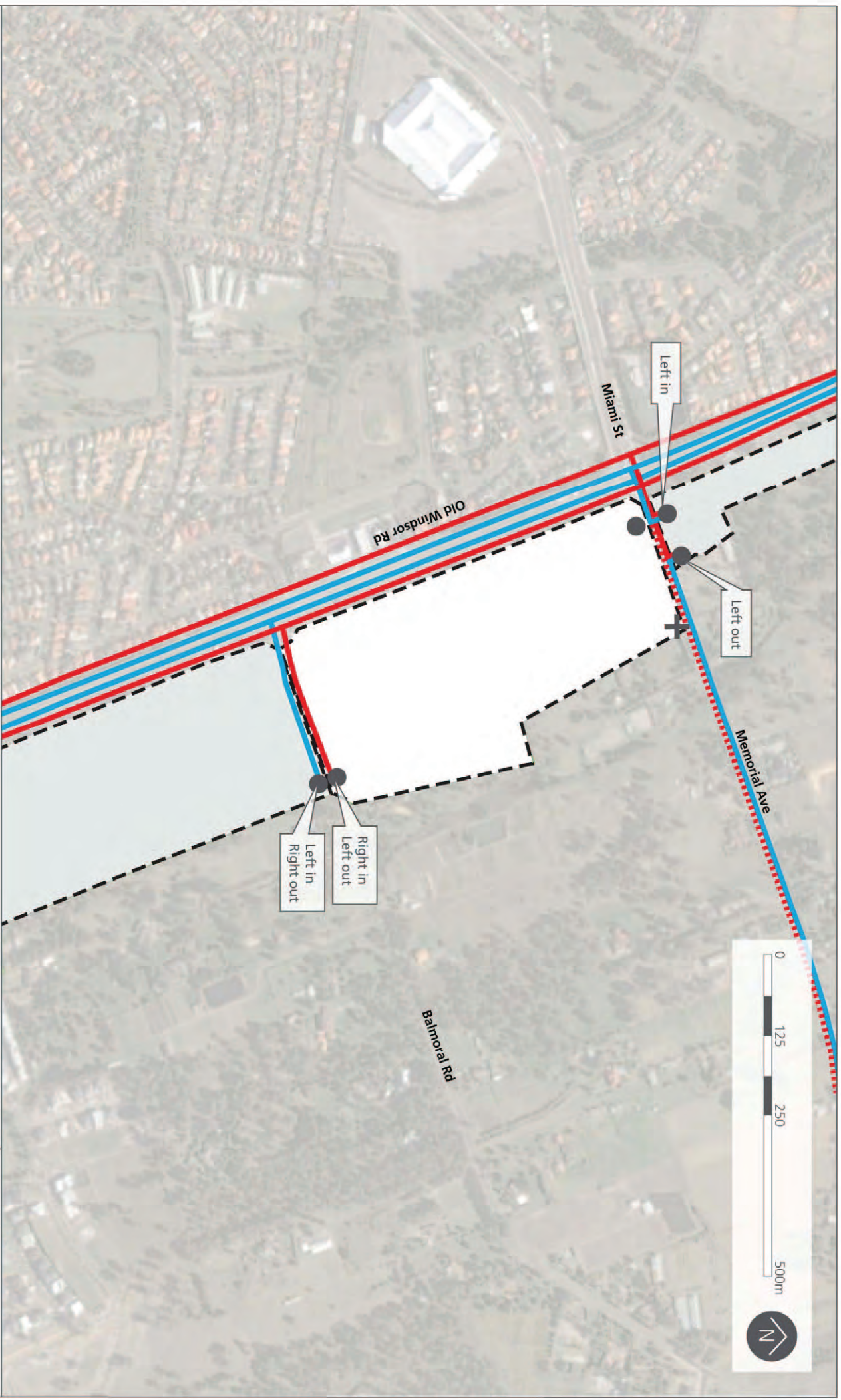
Transport
for NSW

northwestrailink

Figure 7 Bella Vista station – heavy vehicle routes

Date: 24th September, 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.



- Legend**
- Proposed worksite
 - Heavy vehicle routes**
 - Inbound
 - Alternative inbound
 - Outbound
 - Alternative outbound
 - Access intersection type**
 - All movements
 - Left in – Left out or as noted

Figure 8 Balmoreal Road to Memorial Ave – heavy vehicle routes

Date: 24th September, 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.

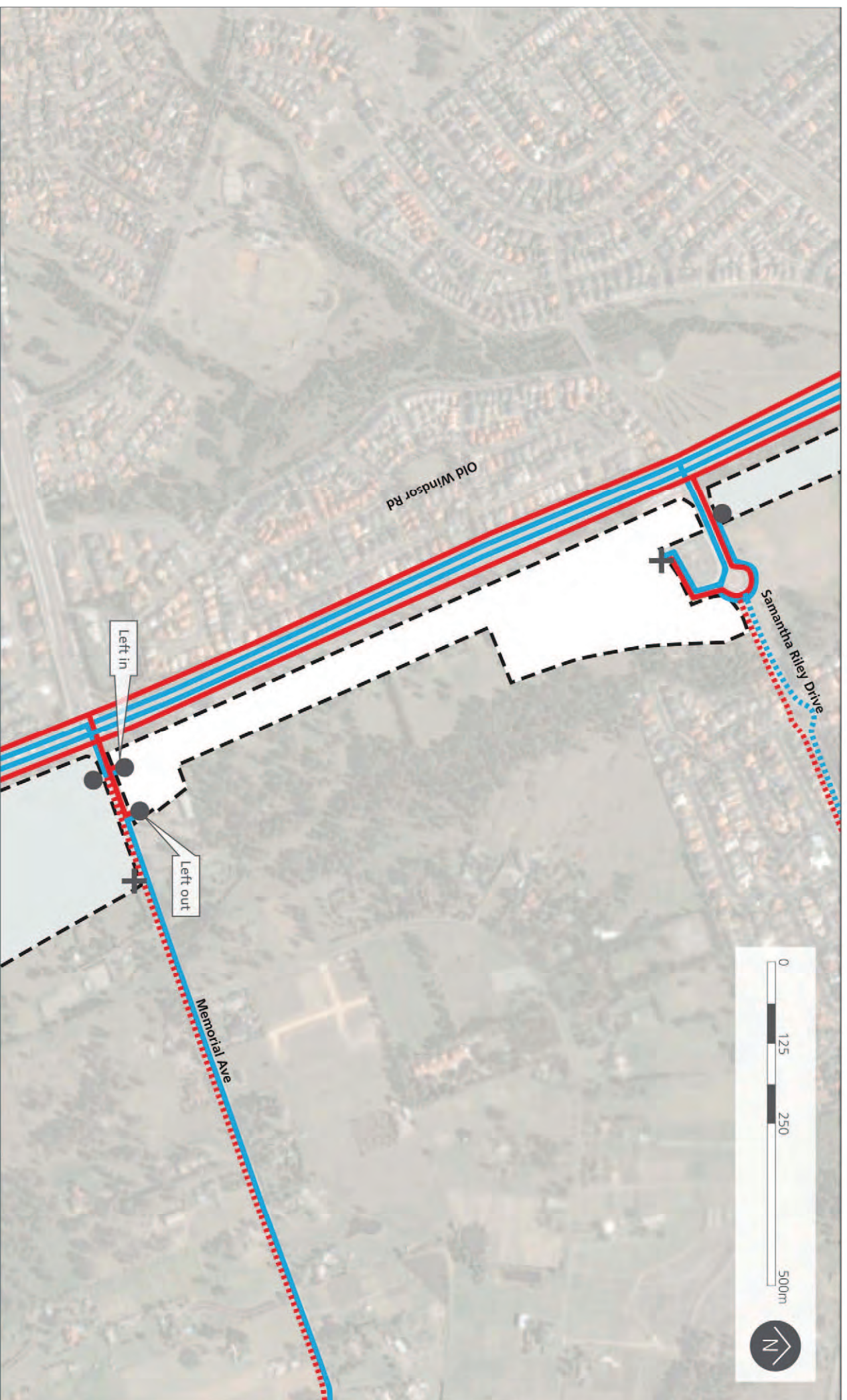
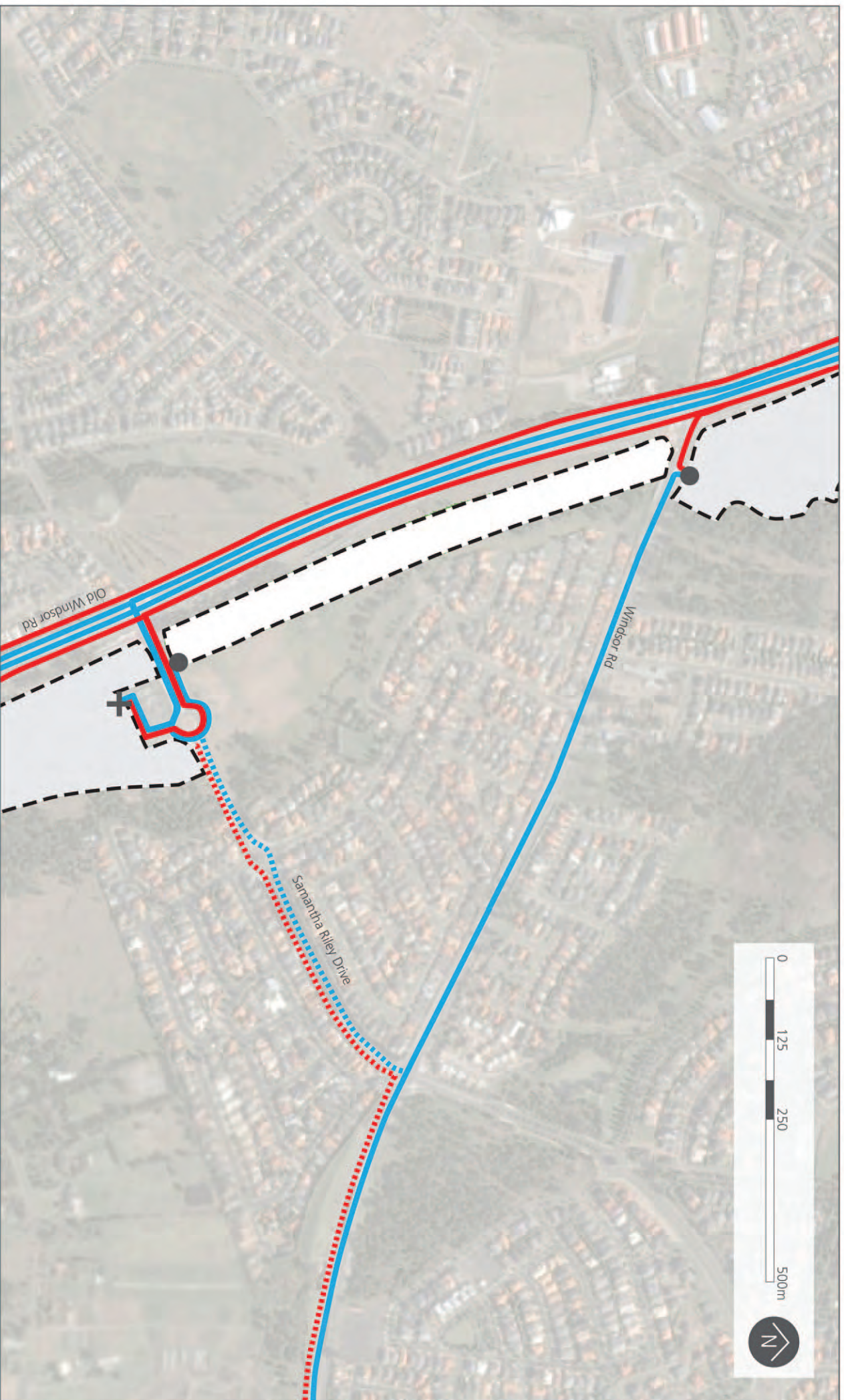


Figure 9 Kellyville station – heavy vehicle routes

Date: 24th September, 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.



Proposed worksite

Heavy vehicle routes

Inbound

Alternative inbound

Outbound

Alternative outbound

Access intersection type

All movements

Left in - Left out or as noted

NSW Government

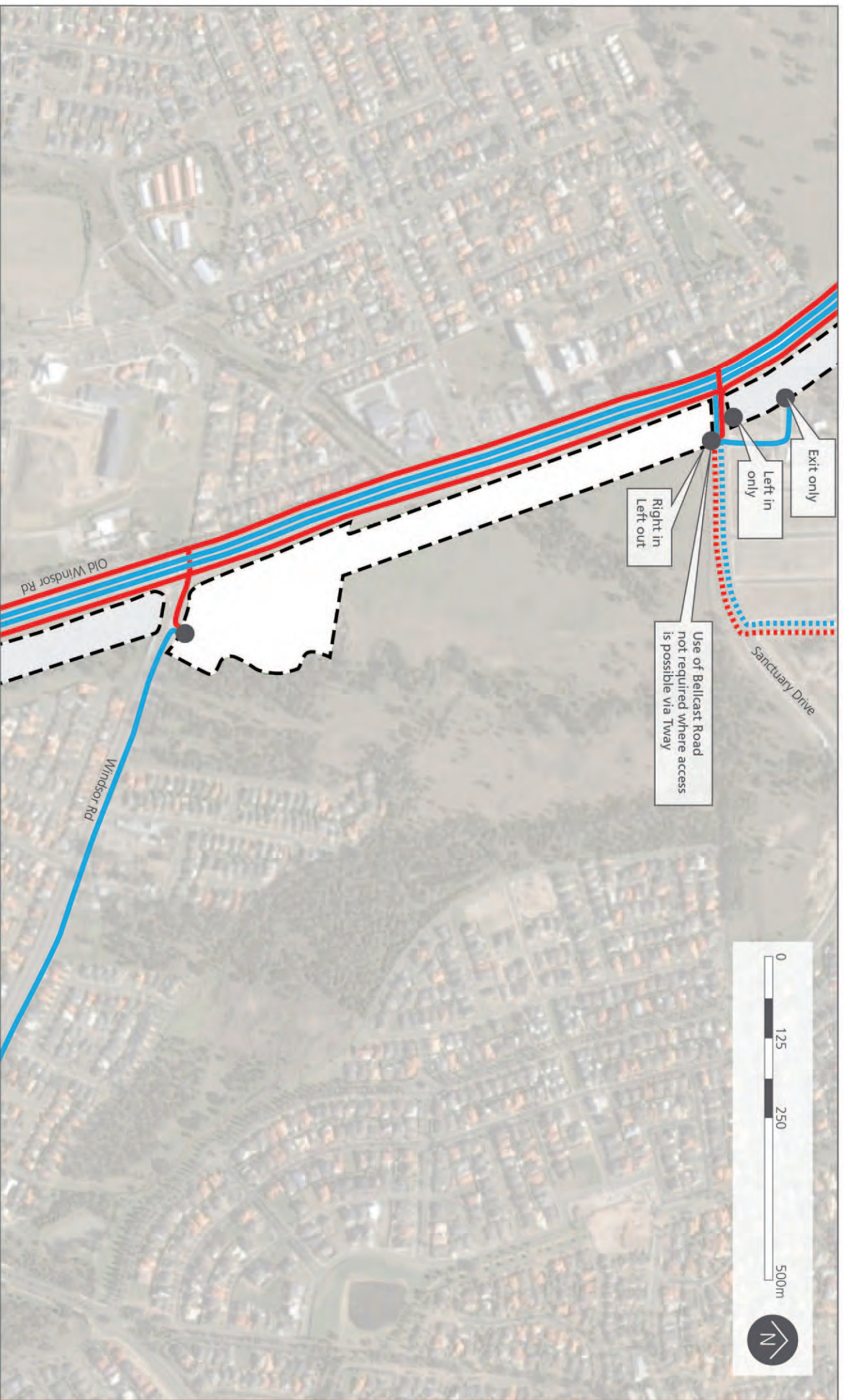
Transport for NSW

northwestrailink

Figure 10 Samantha Riley Drive to Windsor Road – heavy vehicle routes (EIS 2 works)

Date: August 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.



- Legend**
- Proposed worksite
- Heavy vehicle routes**
- Inbound
- Alternative inbound
- Outbound
- Alternative outbound

- Access intersection type**
- All movements
- Left in – Left out or as noted

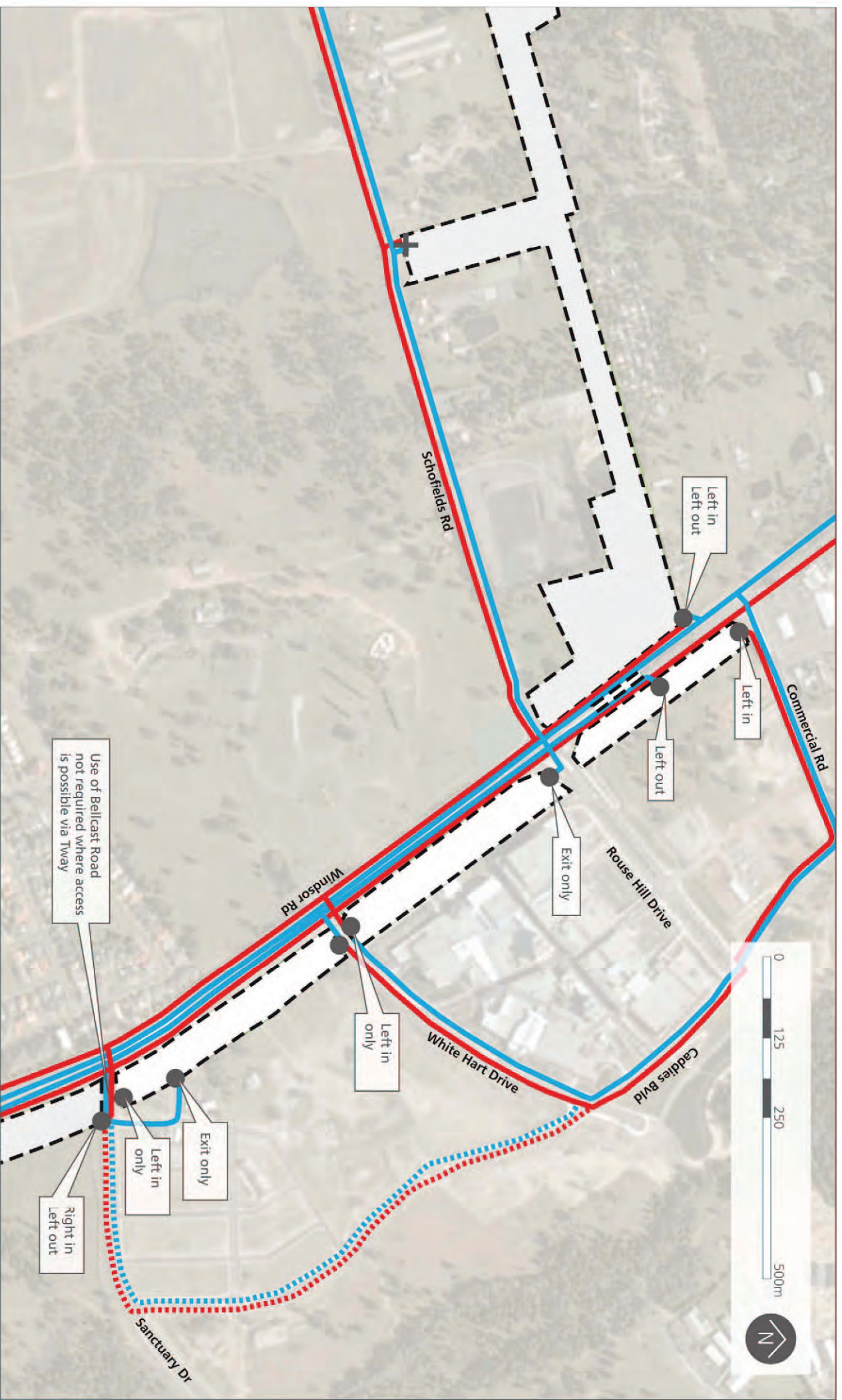


northwestrailink

Figure 11 Windsor Road to Sanctuary Drive – heavy vehicle routes (EIS 2 works)

Date: August 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.



- Legend**
- Proposed worksite
 - Heavy vehicle routes**
 - Inbound
 - Outbound
 - Alternative inbound
 - Alternative outbound

- Access intersection type**
- All movements
 - Left in – Left out or as noted

Figure 12 Rouse Hill – heavy vehicle routes

Date: 24th August, 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.

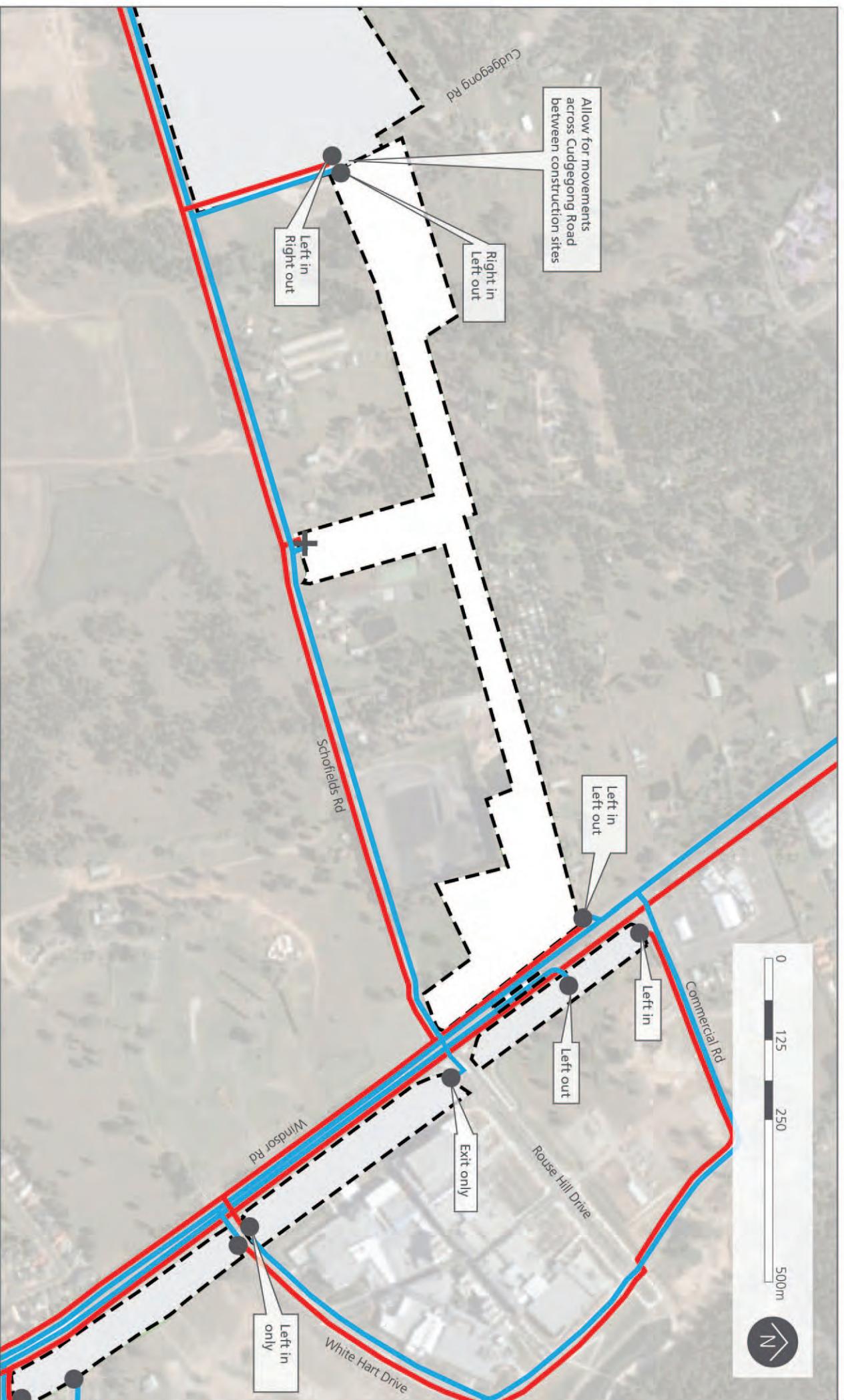


Figure 13 Schofields Road – heavy vehicle routes (EIS 2 works)

Date: August 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.

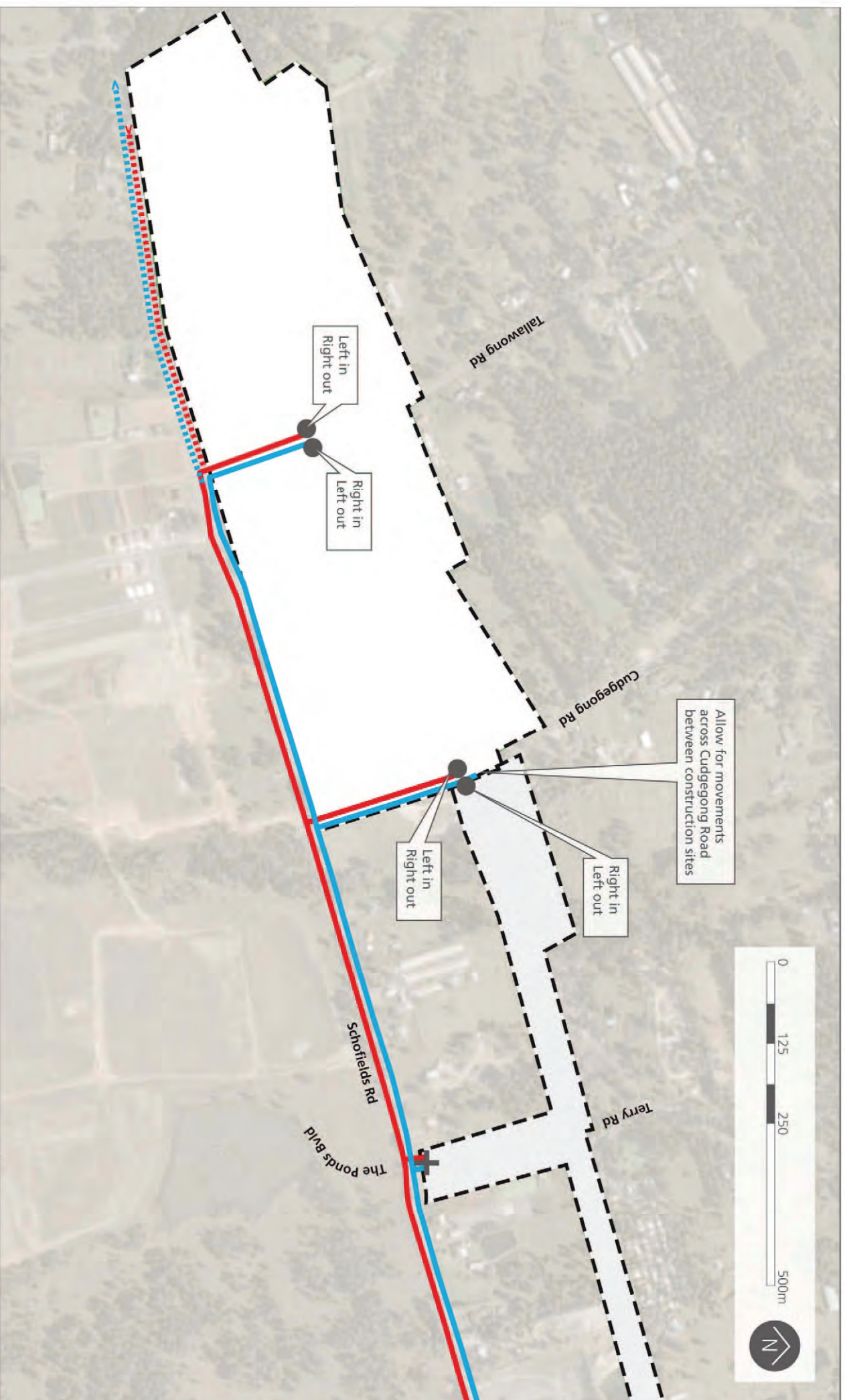


Figure 14 Cudgegong Road and Tallawong Road – heavy vehicle routes

Date: September 24th, 2012

Note: Detail shown is indicative only, final layouts to be determined by contractor.

