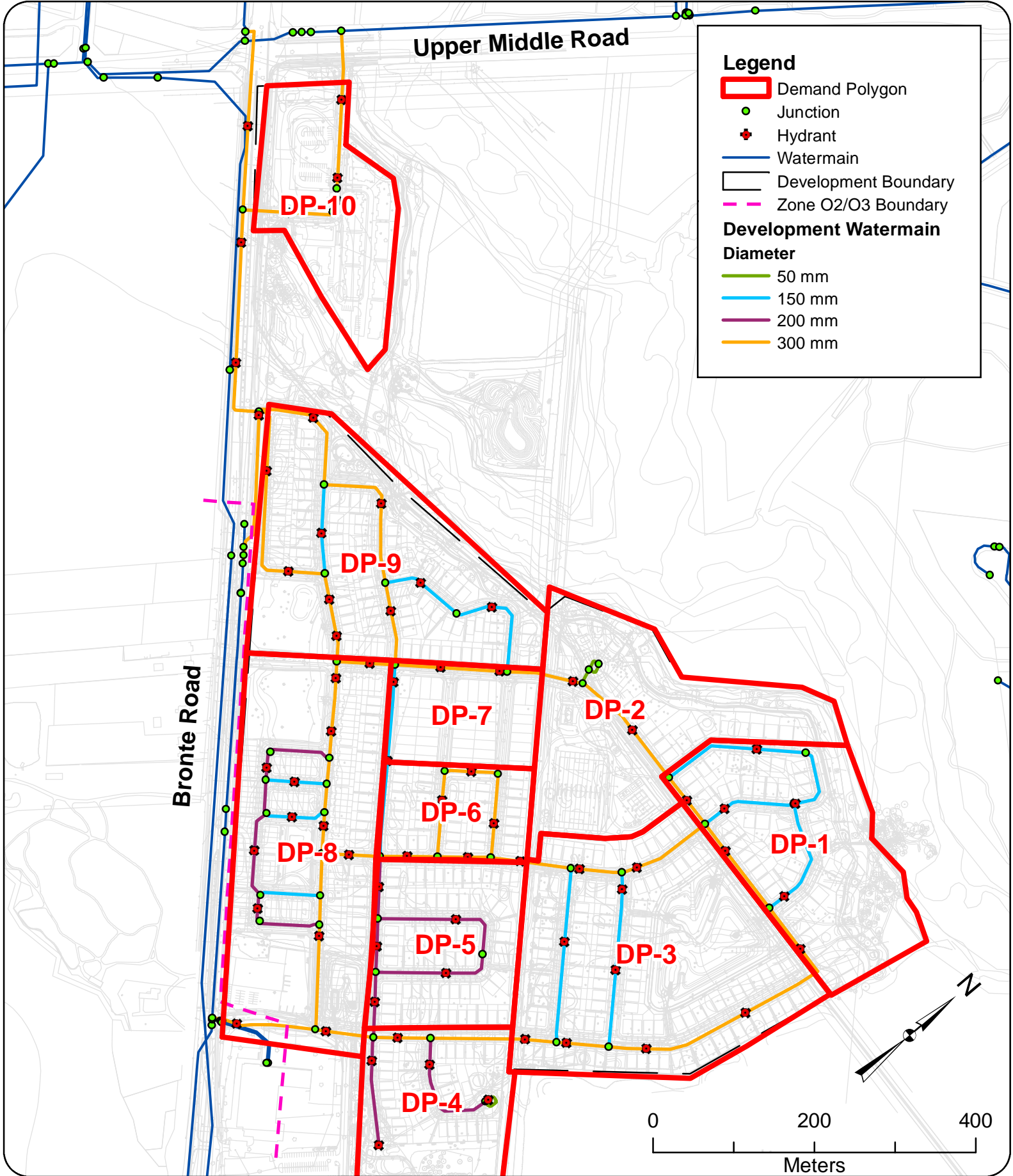




Appendix A Demand Calculations



Demand Polygon	Dwelling Type	Number of Units	Population		Average Day Demand			Max Day 2.25 x Avg Day (L/s)	Peak Hour 4.0 x Avg Day (L/s)
			Persons per Unit	Population	L/c/d	L/d	L/s		
DP-1	Detached Residential	48	3.472	166.7	275	45,830	0.53	1.19	2.12
DP-2	Detached Residential	22	3.472	76.4	275	21,006	0.24	0.55	0.97
DP-3	Detached Residential	114	3.472	395.8	275	108,847	1.26	2.83	5.04
DP-4	Detached Residential	41	3.472	142.4	275	39,147	0.45	1.02	1.81
DP-5	Detached Residential	72	3.472	250.0	275	68,746	0.80	1.79	3.18
DP-6	Detached Residential	41	3.472	142.4	275	39,147	0.45	1.02	1.81
DP-8	Detached Residential*	32	3.472	111.1	275	30,554	0.35	0.80	1.41
	Future Residential	2	3.472	6.9	275	1,910	0.02	0.05	0.09
	Townhouse*	95	2.555	242.7	275	66,749	0.77	1.74	3.09
	Back to back	48	2.555	122.6	275	33,726	0.39	0.88	1.56
	Residential Condominium	316	2.555	807.4	275	222,030	2.57	5.78	10.28
DP-9	Detached Residential	80	3.472	277.8	275	76,384	0.88	1.99	3.54
	Townhouse	33	2.555	84.3	275	23,187	0.27	0.60	1.07
	Residential Condominium	144	2.555	367.9	275	101,178	1.17	2.63	4.68
DP-10	Residential Condominium	272	2.555	695.0	275	191,114	2.21	4.98	8.85
	Common Element Condomium	76	2.555	194.2	275	53,400	0.62	1.39	2.47
Total		1436		4,083.5		1,122,953	13.00	29.24	51.99

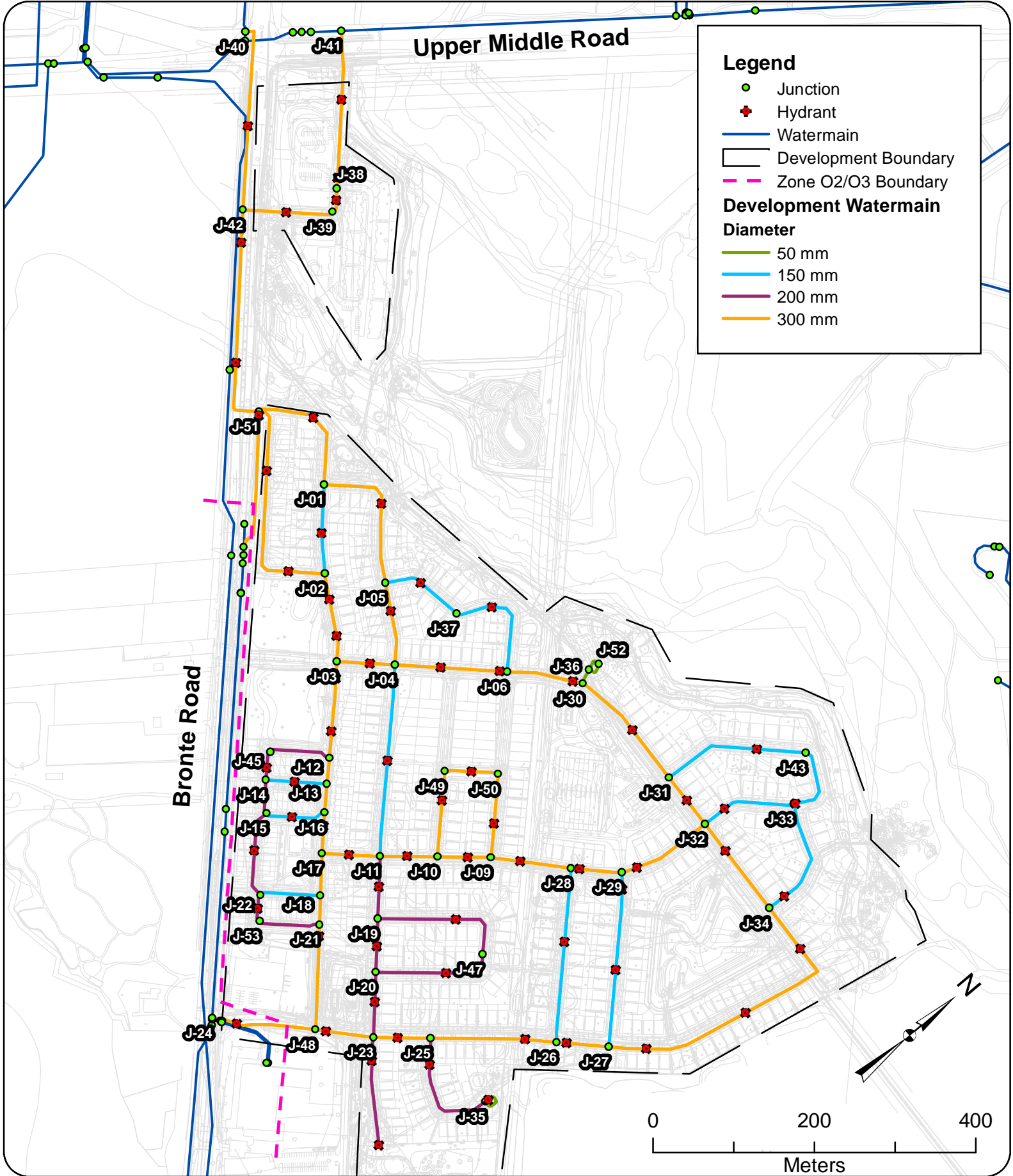
*Includes Part 4 future residential development of 0.44 ha (12 Townhouse units and 7 Detached Residential units)

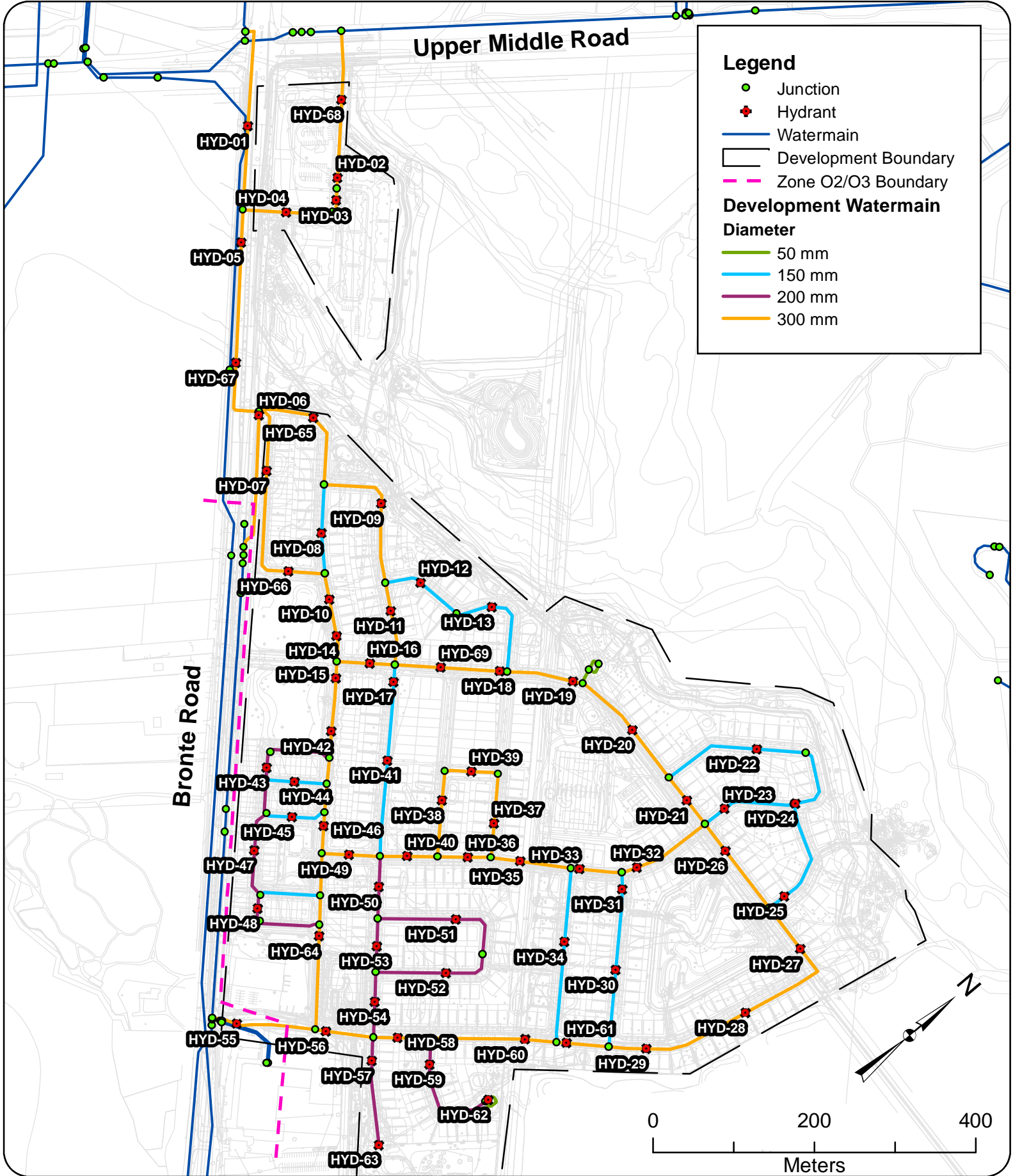
Demand Polygon	Dwelling Type	Area (ha)	Average Day Demand				Max Day 2.25 x Avg Day (L/s)	Peak Hour 2.25 x Avg Day (L/s)
			L/ha/d	L/d	L/s			
DP-2	Park	2.13		11,000	23,430	0.27	0.61	0.61
DP-4	Open Space	0.73		11,000	8,030	0.09	0.21	0.21
DP-7	Future School/Street	0.744		11,000	8,184	0.09	0.21	0.21
	Future School/Residential	1.116		11,000	12,276	0.14	0.32	0.32
DP-8	Future Commercial*	0.99		24,750	24,503	0.28	0.64	0.64
	Park	0.3		11,000	3,300	0.04	0.09	0.09
DP-9	Urban Square	0.19		11,000	2,090	0.02	0.05	0.05
Total		6.20			81,813	0.95	2.13	2.13

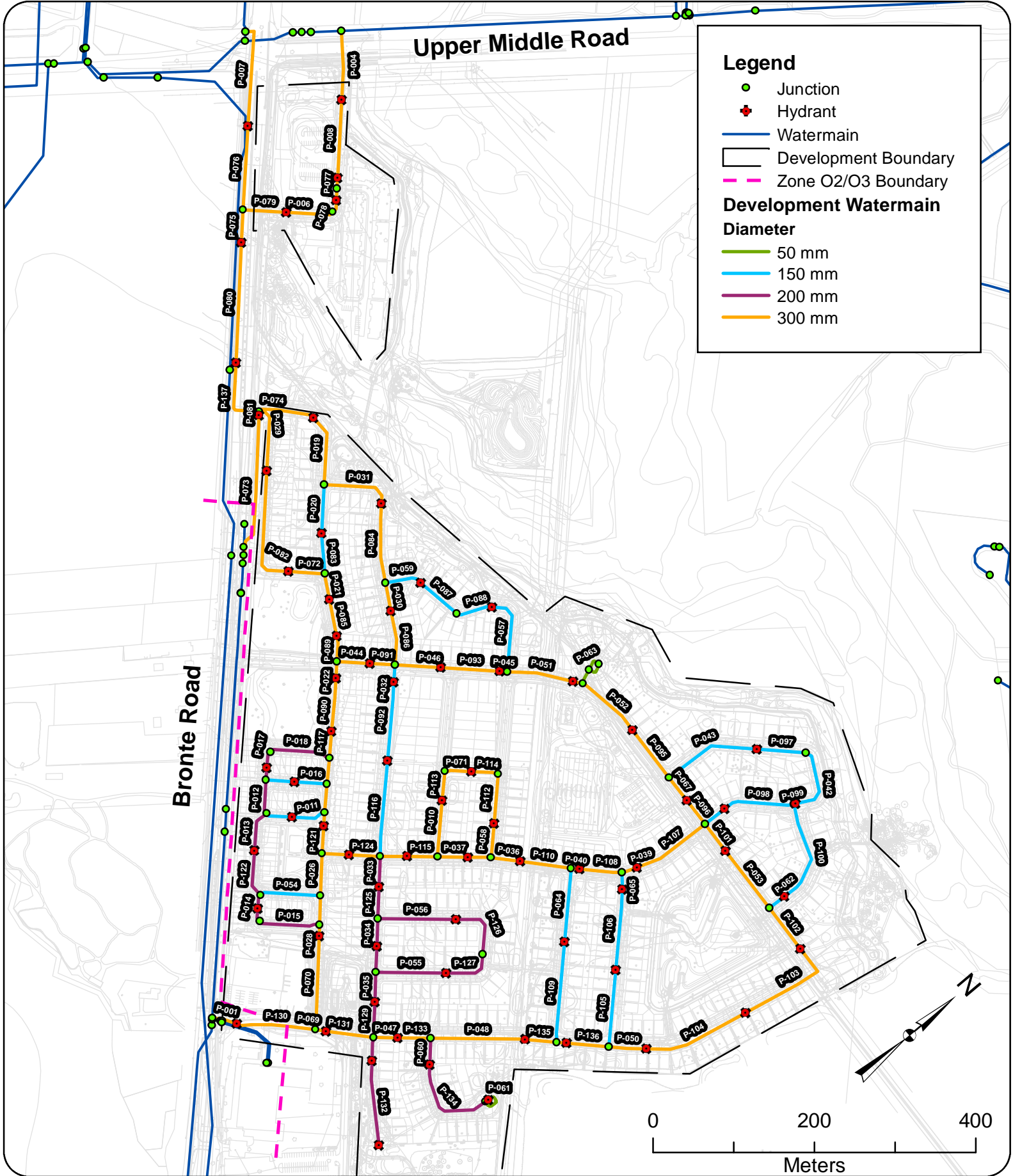
*Includes Part 2 future commercial development of 0.9 ha.



Appendix B Modeling Schematics – Pipe and Junction Tables







Project: **Hydraulic Capacity and Modeling Analysis
Bronte Green Development**
 Client: **David Schaeffer Engineering Ltd.**
 Date: **April 2019**
 Created by: **Ad'A**
 Reviewed by: **WdS**

DISCLAIMER: GeoAdvice does not warrant in any way the accuracy and completeness of the information shown on this map. Field verification of the accuracy and completeness of the information shown on this map is the sole responsibility of the user.

Pipe IDs
Figure B.3

Model Inputs

ID	From Node	To Node	Length (m)	Diameter (mm)	Roughness (/)
P-001	J-24	HYD-55	31.64	300	120
P-002	J-52	J-36	19.74	50	100
P-003	J-30	J-36	19.32	50	100
P-004	J-41	HYD-68	85.55	300	120
P-005	J-38	HYD-03	14.78	300	120
P-006	J-39	HYD-04	58.57	300	120
P-007	J-40	HYD-01	129.08	300	120
P-008	HYD-68	HYD-02	97.40	300	120
P-009	J-23	HYD-57	29.64	200	110
P-010	J-10	HYD-38	70.31	300	120
P-011	J-16	HYD-45	43.53	150	100
P-012	J-14	J-15	42.31	200	110
P-013	J-15	HYD-47	52.64	200	110
P-014	J-22	HYD-48	17.71	200	110
P-015	J-21	J-53	76.08	200	110
P-016	J-13	HYD-44	40.42	150	100
P-017	J-45	HYD-43	21.03	200	110
P-018	J-12	J-45	77.56	200	110
P-019	HYD-65	J-01	88.99	300	120
P-020	J-01	HYD-08	60.89	150	100
P-021	J-02	HYD-10	32.25	300	120
P-022	J-03	HYD-15	21.00	300	120
P-023	J-12	J-13	32.05	300	120
P-024	J-16	J-13	35.77	300	120
P-025	J-16	HYD-46	16.73	300	120
P-026	J-17	J-18	52.37	300	120
P-027	J-21	J-18	36.13	300	120
P-028	J-21	HYD-64	14.37	300	120
P-029	J-51	HYD-07	82.52	300	120
P-030	J-05	HYD-11	35.48	300	120
P-031	J-01	HYD-09	86.55	300	120
P-032	J-04	HYD-17	20.99	150	100
P-033	J-11	HYD-50	38.28	200	110
P-034	J-19	HYD-53	34.32	200	110
P-035	J-20	HYD-54	36.91	200	110
P-036	J-09	HYD-35	36.76	300	120
P-037	J-10	HYD-36	37.54	300	120
P-038	J-17	HYD-49	33.21	300	120
P-039	J-29	HYD-32	19.84	300	120
P-040	J-28	HYD-33	10.64	300	120
P-041	J-32	HYD-23	30.75	150	100
P-042	J-43	HYD-24	88.36	150	100
P-043	J-31	HYD-22	122.65	150	100
P-044	J-03	HYD-16	41.12	300	120
P-045	J-06	HYD-18	8.98	300	120
P-046	J-04	HYD-69	57.36	300	120
P-047	J-23	HYD-58	29.89	300	120
P-048	J-25	HYD-60	117.13	300	120
P-049	J-26	HYD-61	12.30	300	120
P-050	J-27	HYD-29	46.73	300	120
P-051	J-06	HYD-19	82.96	300	120

Model Inputs

ID	From Node	To Node	Length (m)	Diameter (mm)	Roughness (/)
P-052	J-30	HYD-20	85.17	300	120
P-053	J-34	HYD-26	89.55	300	120
P-054	J-18	J-22	75.67	150	100
P-055	J-20	HYD-52	87.25	200	110
P-056	J-19	HYD-51	97.02	200	110
P-057	J-06	HYD-13	98.90	150	100
P-058	J-09	HYD-37	42.35	300	120
P-059	J-05	HYD-12	46.46	150	100
P-060	J-25	HYD-59	32.51	200	110
P-061	HYD-62	J-35	31.89	50	100
P-062	J-34	HYD-25	23.85	150	100
P-063	J-36	J-52	19.73	50	100
P-064	J-28	HYD-34	91.78	150	100
P-065	J-29	HYD-31	21.18	150	100
P-066	J-11	HYD-40	33.52	300	120
P-067	J-31	HYD-21	36.41	300	120
P-068	J-35	HYD-62	4.16	200	110
P-069	J-48	HYD-56	13.42	300	120
P-070	HYD-64	J-48	116.04	300	120
P-071	J-49	HYD-39	33.65	300	120
P-072	HYD-66	J-02	45.27	300	120
P-073	WCV5164	HYD-06	189.27	300	120
P-074	J-51	HYD-65	71.74	300	120
P-075	J-42	HYD-05	40.54	300	120
P-076	HYD-01	J-42	103.76	300	120
P-077	HYD-02	J-38	13.22	300	120
P-078	HYD-03	J-39	16.03	300	120
P-079	HYD-04	J-42	54.10	300	120
P-080	HYD-05	HYD-67	149.52	300	120
P-081	HYD-06	J-51	4.18	300	120
P-082	HYD-07	HYD-66	152.82	300	120
P-083	HYD-08	J-02	49.93	150	100
P-084	HYD-09	J-05	98.71	300	120
P-085	HYD-10	HYD-14	46.53	300	120
P-086	HYD-11	J-04	67.54	300	120
P-087	HYD-12	J-37	58.97	150	100
P-088	HYD-13	J-37	45.35	150	100
P-089	HYD-14	J-03	31.85	300	120
P-090	HYD-15	HYD-42	66.21	300	120
P-091	HYD-16	J-04	30.92	300	120
P-092	HYD-17	HYD-41	97.90	150	100
P-093	HYD-18	HYD-69	73.14	300	120
P-094	HYD-19	J-30	12.53	300	120
P-095	HYD-20	J-31	74.20	300	120
P-096	HYD-21	J-32	36.39	300	120
P-097	HYD-22	J-43	60.52	150	100
P-098	HYD-23	J-33	89.42	150	100
P-099	HYD-24	J-33	2.17	150	100
P-100	HYD-25	J-33	130.43	150	100
P-101	HYD-26	J-32	41.85	300	120
P-102	HYD-27	J-34	63.77	300	120

Model Inputs

ID	From Node	To Node	Length (m)	Diameter (mm)	Roughness (/)
P-103	HYD-28	HYD-27	138.52	300	120
P-104	HYD-29	HYD-28	133.76	300	120
P-105	HYD-30	J-27	95.87	150	100
P-106	HYD-31	HYD-30	100.43	150	100
P-107	HYD-32	J-32	100.64	300	120
P-108	HYD-33	J-29	52.58	300	120
P-109	HYD-34	J-26	125.04	150	100
P-110	HYD-35	J-28	63.75	300	120
P-111	HYD-36	J-09	28.61	300	120
P-112	HYD-37	J-50	61.52	300	120
P-113	HYD-38	J-49	36.08	300	120
P-114	HYD-39	J-50	33.58	300	120
P-115	HYD-40	J-10	37.58	300	120
P-116	HYD-41	J-11	119.20	150	100
P-117	HYD-42	J-12	33.00	300	120
P-118	HYD-43	J-14	15.26	200	110
P-119	HYD-44	J-14	35.39	150	100
P-120	HYD-45	J-15	32.96	150	100
P-121	HYD-46	J-17	34.13	300	120
P-122	HYD-47	J-22	59.76	200	110
P-123	HYD-48	J-53	16.63	200	110
P-124	HYD-49	J-11	38.90	300	120
P-125	HYD-50	J-19	39.21	200	110
P-126	HYD-51	J-47	75.54	200	110
P-127	HYD-52	J-47	63.17	200	110
P-128	HYD-53	J-20	32.13	200	110
P-129	HYD-54	J-23	43.77	200	110
P-130	HYD-55	J-48	98.03	300	120
P-131	HYD-56	J-23	59.66	300	120
P-132	HYD-57	HYD-63	104.99	200	110
P-133	HYD-58	J-25	40.79	300	120
P-134	HYD-59	J-35	117.55	200	110
P-135	HYD-60	J-26	39.41	300	120
P-136	HYD-61	J-27	52.59	300	120
P-137	HYD-67	J-51	89.08	300	120

Model Inputs

ID	Elevation (m)	ADD (L/s)
J-01	129	0.59
J-02	129	0.59
J-03	129	0.34
J-04	128	0.12
J-05	127	0.59
J-06	126	0.12
J-09	126	0.09
J-10	126	0.09
J-11	126	0.09
J-12	129	0.34
J-13	129	0.34
J-14	129	0.34
J-15	129	0.34
J-16	128	0.34
J-17	128	0.34
J-18	129	0.34
J-19	127	0.27
J-20	127	0.27
J-21	130	0.34
J-22	130	0.34
J-23	126	0.18
J-24	129	0.00
J-25	126	0.18
J-26	126	0.31
J-27	125	0.31
J-28	125	0.31
J-29	125	0.31
J-30	126	0.17
J-31	126	0.11
J-32	125	0.11
J-33	126	0.11
J-34	125	0.11
J-35	127	0.18
J-36	126	0.17
J-37	127	0.59
J-38	131	1.42
J-39	131	1.42
J-40	131	0.00
J-41	131	0.00
J-42	130	0.00
J-43	127	0.11
J-45	129	0.34
J-47	128	0.27
J-48	127	0.34
J-49	127	0.09
J-50	126	0.09
J-51	129	0.00
J-52	126	0.17
J-53	130	0.34

ID	Elevation (m)	Required Fire Flow (L/s)
HYD-01	131	283
HYD-02	131	283
HYD-03	131	283
HYD-04	131	283
HYD-05	129	283
HYD-06	129	283
HYD-07	129	283
HYD-08	129	150
HYD-09	128	150
HYD-10	129	150
HYD-11	127	150
HYD-12	127	150
HYD-13	127	150
HYD-14	129	150
HYD-15	129	317
HYD-16	128	317
HYD-17	126	273
HYD-18	127	273
HYD-19	126	167
HYD-20	126	150
HYD-21	126	150
HYD-22	126	150
HYD-23	126	150
HYD-24	127	167
HYD-25	126	167
HYD-26	125	150
HYD-27	125	150
HYD-28	125	150
HYD-29	125	167
HYD-30	125	150
HYD-31	125	150
HYD-32	125	150
HYD-33	125	150
HYD-34	126	150
HYD-35	125	150
HYD-36	126	150
HYD-37	126	150
HYD-38	126	150
HYD-39	126	273
HYD-40	126	150
HYD-41	126	150
HYD-42	129	317
HYD-43	129	283
HYD-44	129	283
HYD-45	129	283
HYD-46	128	283
HYD-47	129	283
HYD-48	130	283
HYD-49	127	283
HYD-50	127	150
HYD-51	127	167

Model Inputs

ID	Elevation (m)	Required Fire Flow (L/s)
HYD-52	127	167
HYD-53	127	150
HYD-54	127	150
HYD-55	127	273
HYD-56	126	273
HYD-57	127	150
HYD-58	126	150
HYD-59	127	150
HYD-60	126	167
HYD-61	125	167
HYD-62	127	150
HYD-63	127	150
HYD-64	129	273
HYD-65	129	283
HYD-66	129	283
HYD-67	129	283
HYD-68	131	283
HYD-69	127	273