water

MDPI

Supplementary Materials: Effects of Urban Non-Point Source Pollution from Baoding City on Baiyangdian Lake, China

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Section 1. The Node, Link, Sub-catchment information of Figure 4 and Figure 5.

Table S1. Parameters of drainpipe.

Pipe No.	Inlet Node	Outlet Node	Length	Roughness	Shape	Max. Depth	Bottom Width	Left Slope	Right Slope
Link_659	Node_564	Node_241	550.34	0.1	CIRCULAR	1	0	0	0
Link_658	Node_307	Node_269	154.96	0.1	CIRCULAR	1	0	0	0
Link_657	Node_525	Node_526	205.33	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_655	Node_562	Node_534	207.64	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_654	Node_536	Node_562	330.06	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_653	Node_561	Node_523	270.47	0.1	CIRCULAR	1	0	0	0
Link_652	Node_560	Node_250	241.44	0.1	CIRCULAR	1	0	0	0
Link_651	Node_259	Node_560	207.28	0.1	CIRCULAR	1	0	0	0
Link_650	Node_559	Node_560	606.49	0.1	CIRCULAR	1	0	0	0
Link_648	Node_399	Node_556	1325.21	0.04	TRAPEZOIDAL	4	14	0.6	0.6
Link_647	Node_398	Node_558	1045.57	0.04	TRAPEZOIDAL	3	14	0.5	0.5
Link_646	Node_397	Node_557	1204.21	0.06	TRAPEZOIDAL	4	13	0.5	0.5
Link_645	Node_552	Node_396	632.82	0.06	TRAPEZOIDAL	4	13	0.5	0.5
Link_644	Node_195	Node_552	300.97	0.1	CIRCULAR	1	0	0	0
Link_643	Node_551	Node_552	521.39	0.035	TRAPEZOIDAL	4	14	0.9	0.9
Link_642	Node_165	Node_552	244.02	0.1	CIRCULAR	1	0	0	0
Link_640	Node_160	Node_551	123.79	0.1	CIRCULAR	1	0	0	0
Link_639	Node_550	Node_551	179.11	0.035	TRAPEZOIDAL	4	14	0.9	0.9
Link_638	Node_191	Node_550	330.52	0.1	CIRCULAR	1	0	0	0
Link_636	Node_549	Node_550	75.24	0.035	TRAPEZOIDAL	4	14	0.9	0.9
Link_635	Node_159	Node_550	61.99	0.1	CIRCULAR	1	0	0	0
Link_633	Node_548	Node_549	74.95	0.035	TRAPEZOIDAL	4	14	0.9	0.9
Link_630	Node_1	Node_548	280.11	0.035	TRAPEZOIDAL	4	14	0.9	0.9
Link_629	Node_3	Node_547	669.55	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_628	Node_183	Node_547	227.66	0.1	CIRCULAR	1	0	0	0
Link_627	Node_547	Node_546	257.77	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_626	Node_546	Node_545	145.98	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_625	Node_545	Node_544	127.22	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_624	Node_179	Node_545	151.02	0.1	CIRCULAR	1	0	0	0
Link_623	Node_544	Node_543	114.26	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_621	Node_115	Node_544	134.74	0.1	CIRCULAR	1	0	0	0
Link_619	Node_173	Node_543	211.31	0.1	CIRCULAR	1	0	0	0
Link_618	Node_118	Node_543	84.94	0.1	CIRCULAR	1	0	0	0
Link_617	Node_543	Node_542	193.58	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_616	Node_172	Node_542	137.74	0.1	CIRCULAR	1	0	0	0
Link_615	Node_542	Node_541	338.43	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_614	Node_170	Node_541	169.44	0.1	CIRCULAR	1	0	0	0
Link_612	Node_128	Node_541	358.95	0.035	TRAPEZOIDAL	4	10	0.9	0.9

Table S1. *Cont.*

Pipe No.	Inlet Node	Outlet Node	Length	Roughness	Shape	Max. Depth	Bottom Width	Left Slope	Right Slope
Link_611	Node_541	Node_540	164.22	0.035	TRAPEZOIDAL	4	14	0.9	0.9
Link_610	Node_540	Node_1	396.88	0.035	TRAPEZOIDAL	4	14	0.9	0.9
Link_609	Node_175	Node_540	145	0.1	CIRCULAR	1	0	0	0
Link_608	Node_99	Node_539	87.12	0.1	CIRCULAR	1	0	0	0
Link_607	Node_539	Node_519	260.33	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_606	Node_517	Node_539	324.77	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_605	Node_538	Node_517	173.58	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_604	Node_518	Node_538	242.61	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_603	Node_537	Node_518	268.64	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_600	Node_2	Node_536	323.2	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_599	Node_65	Node_536	114.02	0.1	CIRCULAR	1	0	0	0
Link_596	Node_132	Node_534	65.67	0.1	CIRCULAR	1	0	0	0
Link_595	Node_534	Node_533	130.85	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_593	Node_131	Node_533	72.89	0.1	CIRCULAR	1	0	0	0
Link_591	Node_533	Node_532	95.63	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_590	Node_532	Node_528	264.93	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_589	Node_130	Node_532	63.9	0.1	CIRCULAR	1	0	0	0
Link_588	Node_508	Node_531	570	0.045	TRAPEZOIDAL	3	10	0.9	0.9
Link_587	Node_55	Node_531	215.96	0.1	CIRCULAR	1	0	0	0
Link_586	Node_531	Node_530	244.83	0.045	TRAPEZOIDAL	3	10	0.9	0.9
Link_584	Node_264	Node_530	331.33	0.1	CIRCULAR	1	0	0	0
Link_583	Node_530	Node_529	469.47	0.045	TRAPEZOIDAL	3	10	0.9	0.9
Link_582	Node_529	Node_528	1020.51	0.045	TRAPEZOIDAL	3	10	0.9	0.9
Link_581	Node_265	Node_529	292.37	0.1	CIRCULAR	1	0	0	0
Link_580	Node_42	Node_529	306.72	0.1	CIRCULAR	1	0	0	0
Link_578	Node_528	Node_3	270.57	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_576	Node_526	Node_3	205.8	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_575	Node_208	Node_526	171.04	0.1	CIRCULAR	1	0	0	0
Link_573	Node_217	Node_526	115.5	0.1	CIRCULAR	1	0	0	0
Link_572	Node_209	Node_525	184.24	0.1	CIRCULAR	1	0	0	0
Link_570	Node_523	Node_525	448.54	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_569	Node_232	Node_523	229.5	0.1	CIRCULAR	1	0	0	0
Link_567	Node_521	Node_523	569.39	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_564	Node_522	Node_521	243.66	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_563	Node_507	Node_522	215.66	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_562	Node_249	Node_521	273.15	0.1	CIRCULAR	1	0	0	0
Link_559	Node_520	Node_128	206.74	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_558	Node_101	Node_520	168.15	0.1	CIRCULAR	1	0	0	0
Link_557	Node_138	Node_520	197.5	0.1	CIRCULAR	1	0	0	0
Link_556	Node_519	Node_520	221.91	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_554	Node_100	Node_519	107.25	0.1	CIRCULAR	1	0	0	0
Link_552	Node_90	Node_518	102.91	0.1	CIRCULAR	1	0	0	0
Link_547	Node_70	Node_517	140.29	0.1	CIRCULAR	1	0	0	0
Link_546	Node_75	Node_516	258.2	0.1	CIRCULAR	1	0	0	0
Link_545	Node_516	Node_70	450.13	0.1	CIRCULAR	1	0	0	0
Link_544	Node_515	Node_516	371.55	0.1	CIRCULAR	1	0	0	0
Link_542	Node_72	Node_515	249.58	0.1	CIRCULAR	1	0	0	0
Link_541	Node_67	Node_515	290.74	0.1	CIRCULAR	1	0	0	0
Link_540	Node_514	Node_67	515.16	0.1	CIRCULAR	1	0	0	0

Table S1. *Cont.*

Pipe No.	Inlet Node	Outlet Node	Length	Roughness	Shape	Max. Depth	Bottom Width	Left Slope	Right Slope
Link_539	Node_82	Node_514	136.29	0.1	CIRCULAR	1	0	0	0
Link_538	Node_48	Node_514	187.07	0.1	CIRCULAR	1	0	0	0
Link_537	Node_513	Node_514	559.32	0.1	CIRCULAR	1	0	0	0
Link_535	Node_38	Node_513	222.77	0.1	CIRCULAR	1	0	0	0
Link_534	Node_512	Node_513	316.8	0.1	CIRCULAR	1	0	0	0
Link_533	Node_58	Node_512	123.28	0.1	CIRCULAR	1	0	0	0
Link_531	Node_32	Node_512	229.61	0.1	CIRCULAR	1	0	0	0
Link_530	Node_511	Node_512	587.87	0.1	CIRCULAR	1	0	0	0
Link_528	Node_33	Node_511	293.43	0.1	CIRCULAR	1	0	0	0
Link_527	Node_36	Node_511	385.18	0.1	CIRCULAR	1	0	0	0
Link_526	Node_510	Node_508	584.78	0.1	TRAPEZOIDAL	3	10	0.9	0.9
Link_525	Node_56	Node_510	168.42	0.1	CIRCULAR	1	0	0	0
Link_524	Node_5	Node_510	270.12	0.1	TRAPEZOIDAL	3	10	0.9	0.9
Link_523	Node_509	Node_5	510.5	0.1	TRAPEZOIDAL	3	10	0.9	0.9
Link_522	Node_22	Node_509	80.85	0.1	CIRCULAR	1	0	0	0
Link_521	Node_26	Node_509	256.26	0.1	TRAPEZOIDAL	3	10	0.9	0.9
Link_518	Node_30	Node_508	375.46	0.1	CIRCULAR	1	0	0	0
Link_516	Node_506	Node_507	146.98	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_515	Node_4	Node_506	1061.35	0.035	TRAPEZOIDAL	4	10	0.9	0.9
Link_514	Node_247	Node_506	378.02	0.1	CIRCULAR	1	0	0	0
Link_513	Node_505	Node_256	330.49	0.1	CIRCULAR	1	0	0	0
Link_512	Node_260	Node_505	383.01	0.1	CIRCULAR	1	0	0	0
Link_511	Node_261	Node_505	317.78	0.1	CIRCULAR	1	0	0	0
Link_510	Node_14	Node_504	755.72	0.1	CIRCULAR	1	0	0	0
Link_509	Node_504	Node_6	650.51	0.1	TRAPEZOIDAL	3	5	0.5	0.5
Link_508	Node_16	Node_504	802.81	0.1	CIRCULAR	1	0	0	0
Link_507	Node_7	Node_504	1121.37	0.1	TRAPEZOIDAL	3	5	0.5	0.5
Link_506	Node_10	Node_504	903.08	0.1	CIRCULAR	1	0	0	0
Link_505	Node_503	Node_7	454.18	0.1	CIRCULAR	1	0	0	0
Link_504	Node_502	Node_244	874.92	0.1	CIRCULAR	1	0	0	0
Link_503	Node_203	Node_243	192.97	0.1	CIRCULAR	1	0	0	0
Link_502	Node_254	Node_30	229.71	0.1	CIRCULAR	1	0	0	0
Link_501	Node_53	Node_54	263.75	0.1	CIRCULAR	1	0	0	0
Link_499	Node_57	Node_37	323.09	0.1	CIRCULAR	1	0	0	0
Link_490	Node_396	Node_397	743.25	0.06	TRAPEZOIDAL	4	13	0.5	0.5
Link_482	Node_107	Node_108	143.13	0.02	CIRCULAR	0.5	0	0	0
Link_481	Node_391	Node_245	398.07	0.015	CIRCULAR	0.6	0	0	0
Link_480	Node_392	Node_197	269.46	0.015	CIRCULAR	1	0	0	0
Link_479	Node_390	Node_285	417.36	0.015	CIRCULAR	1.2	0	0	0
Link_478	Node_285	Node_284	379.53	0.015	CIRCULAR	1.2	0	0	0
Link_477	Node_389	Node_271	206.1	0.015	CIRCULAR	1	0	0	0
Link_476	Node_283	Node_389	210.06	0.015	CIRCULAR	1.5	0	0	0
Link_475	Node_284	Node_389	246.36	0.015	CIRCULAR	1	0	0	0
Link_474	Node_275	Node_272	427.8	0.015	CIRCULAR	1.5	0	0	0
Link_473	Node_276	Node_275	620.13	0.015	CIRCULAR	0.8	0	0	0
Link_472	Node_274	Node_275	965.55	0.015	CIRCULAR	1	0	0	0
Link_471	Node_278	Node_280	336.45	0.015	CIRCULAR	1.5	0	0	0
Link_470	Node_277	Node_278	639.63	0.015	CIRCULAR	0.8	0	0	0
Link_469	Node_279	Node_278	668.49	0.015	CIRCULAR	1	0	0	0

Table S1. *Cont.*

Pipe No.	Inlet Node	Outlet Node	Length	Roughness	Shape	Max. Depth	Bottom Width	Left Slope	Right Slope
Link_468	Node_339	Node_278	877.23	0.015	CIRCULAR	1.4	0	0	0
Link_467	Node_359	Node_354	779.79	0.015	CIRCULAR	1.5	0	0	0
Link_466	Node_388	Node_356	318.75	0.015	CIRCULAR	1	0	0	0
Link_465	Node_355	Node_354	222.69	0.015	CIRCULAR	1.5	0	0	0
Link_464	Node_356	Node_355	405.9	0.015	CIRCULAR	1.2	0	0	0
Link_463	Node_360	Node_356	632.94	0.015	CIRCULAR	1.2	0	0	0
Link_462	Node_362	Node_361	766.26	0.015	CIRCULAR	1	0	0	0
Link_461	Node_361	Node_358	358.71	0.015	CIRCULAR	1	0	0	0
Link_460	Node_358	Node_357	222.78	0.015	CIRCULAR	1	0	0	0
Link_459	Node_357	Node_352	290.55	0.015	CIRCULAR	1	0	0	0
Link_458	Node_347	Node_349	838.2	0.015	CIRCULAR	1	0	0	0
Link_457	Node_340	Node_347	480.6	0.015	CIRCULAR	0.8	0	0	0
Link_456	Node_346	Node_347	457.26	0.015	CIRCULAR	1	0	0	0
Link_455	Node_348	Node_347	363.39	0.015	CIRCULAR	1	0	0	0
Link_454	Node_345	Node_348	452.61	0.015	CIRCULAR	0.8	0	0	0
Link_453	Node_387	Node_348	365.58	0.015	CIRCULAR	1	0	0	0
Link_452	Node_344	Node_345	897.33	0.015	CIRCULAR	0.6	0	0	0
Link_451	Node_343	Node_346	339.96	0.015	CIRCULAR	0.6	0	0	0
Link_450	Node_342	Node_343	444.27	0.015	CIRCULAR	0.6	0	0	0
Link_449	Node_304	Node_273	511.05	0.015	CIRCULAR	0.8	0	0	0
Link_448	Node_302	Node_273	228.57	0.015	CIRCULAR	2	0	0	0
Link_447	Node_303	Node_302	702.48	0.015	CIRCULAR	1.8	0	0	0
Link_446	Node_301	Node_302	365.64	0.015	CIRCULAR	1.5	0	0	0
Link_445	Node_341	Node_301	553.26	0.015	CIRCULAR	1.2	0	0	0
Link_444	Node_300	Node_301	530.19	0.015	CIRCULAR	1.5	0	0	0
Link_443	Node_299	Node_300	418.11	0.015	CIRCULAR	1	0	0	0
Link_442	Node_386	Node_287	415.77	0.015	CIRCULAR	1	0	0	0
Link_441	Node_286	Node_386	331.02	0.015	CIRCULAR	1	0	0	0
Link_440	Node_385	Node_290	636.84	0.015	CIRCULAR	1	0	0	0
Link_439	Node_384	Node_291	283.5	0.015	CIRCULAR	0.6	0	0	0
Link_438	Node_282	Node_284	315.06	0.015	CIRCULAR	1.2	0	0	0
Link_437	Node_288	Node_282	309.93	0.015	CIRCULAR	1.2	0	0	0
Link_435	Node_287	Node_284	326.91	0.015	CIRCULAR	1	0	0	0
Link_434	Node_290	Node_287	321.84	0.015	CIRCULAR	1	0	0	0
Link_433	Node_291	Node_290	369.27	0.015	CIRCULAR	1.5	0	0	0
Link_432	Node_293	Node_291	377.97	0.015	CIRCULAR	0.5	0	0	0
Link_431	Node_292	Node_291	369.63	0.015	CIRCULAR	1	0	0	0
Link_430	Node_382	Node_292	304.17	0.015	CIRCULAR	0.6	0	0	0
Link_429	Node_383	Node_289	278.97	0.015	CIRCULAR	1	0	0	0
Link_428	Node_289	Node_290	310.65	0.015	CIRCULAR	1.5	0	0	0
Link_427	Node_295	Node_289	375.24	0.015	CIRCULAR	0.8	0	0	0
Link_426	Node_294	Node_295	246.15	0.015	CIRCULAR	0.6	0	0	0
Link_425	Node_381	Node_297	283.68	0.015	CIRCULAR	1	0	0	0
Link_424	Node_380	Node_297	347.1	0.015	CIRCULAR	1	0	0	0
Link_423	Node_298	Node_297	440.16	0.015	CIRCULAR	1	0	0	0
Link_422	Node_379	Node_296	437.31	0.015	CIRCULAR	1	0	0	0
Link_421	Node_297	Node_296	398.55	0.015	CIRCULAR	1.5	0	0	0
Link_420	Node_296	Node_315	392.82	0.015	CIRCULAR	1.5	0	0	0

Table S1. *Cont.*

Pipe No.	Inlet Node	Outlet Node	Length	Roughness	Shape	Max. Depth	Bottom Width	Left Slope	Right Slope
Link_419	Node_315	Node_306	387.18	0.015	CIRCULAR	1.5	0	0	0
Link_418	Node_306	Node_305	481.14	0.015	CIRCULAR	2	0	0	0
Link_417	Node_305	Node_269	103.92	0.015	CIRCULAR	2	0	0	0
Link_416	Node_378	Node_307	455.52	0.015	CIRCULAR	0.6	0	0	0
Link_415	Node_308	Node_307	705.24	0.015	CIRCULAR	0.6	0	0	0
Link_414	Node_377	Node_267	151.29	0.015	CIRCULAR	2.2	0	0	0
Link_413	Node_320	Node_316	603.72	0.015	CIRCULAR	1.2	0	0	0
Link_412	Node_319	Node_377	617.49	0.015	CIRCULAR	1.2	0	0	0
Link_411	Node_316	Node_377	407.91	0.015	CIRCULAR	1.5	0	0	0
Link_410	Node_311	Node_316	410.61	0.015	CIRCULAR	1.5	0	0	0
Link_409	Node_376	Node_326	384.9	0.015	CIRCULAR	0.5	0	0	0
Link_408	Node_373	Node_326	273.6	0.015	CIRCULAR	0.5	0	0	0
Link_407	Node_374	Node_325	285.81	0.015	CIRCULAR	0.5	0	0	0
Link_406	Node_375	Node_313	301.29	0.015	CIRCULAR	0.5	0	0	0
Link_405	Node_310	Node_311	129.06	0.015	CIRCULAR	1	0	0	0
Link_404	Node_321	Node_310	468.99	0.015	CIRCULAR	0.5	0	0	0
Link_403	Node_312	Node_310	411.9	0.015	CIRCULAR	0.8	0	0	0
Link_402	Node_313	Node_312	381.66	0.015	CIRCULAR	0.8	0	0	0
Link_401	Node_314	Node_313	287.22	0.015	CIRCULAR	0.6	0	0	0
Link_400	Node_324	Node_312	504	0.015	CIRCULAR	0.6	0	0	0
Link_399	Node_325	Node_313	562.71	0.015	CIRCULAR	0.6	0	0	0
Link_398	Node_331	Node_35	615.96	0.015	CIRCULAR	0.5	0	0	0
Link_397	Node_326	Node_322	421.95	0.015	CIRCULAR	0.5	0	0	0
Link_396	Node_322	Node_327	416.1	0.015	CIRCULAR	1.5	0	0	0
Link_395	Node_323	Node_322	269.85	0.015	CIRCULAR	0.5	0	0	0
Link_394	Node_327	Node_318	398.67	0.015	CIRCULAR	1.5	0	0	0
Link_393	Node_318	Node_317	434.04	0.015	CIRCULAR	1.5	0	0	0
Link_392	Node_317	Node_270	469.17	0.015	CIRCULAR	2.2	0	0	0
Link_391	Node_371	Node_268	213.3	0.015	CIRCULAR	2.2	0	0	0
Link_390	Node_309	Node_371	320.04	0.015	CIRCULAR	2.2	0	0	0
Link_389	Node_332	Node_371	144.81	0.015	CIRCULAR	1.8	0	0	0
Link_388	Node_372	Node_332	515.73	0.015	CIRCULAR	0.8	0	0	0
Link_387	Node_337	Node_307	568.5	0.015	CIRCULAR	1	0	0	0
Link_386	Node_338	Node_337	767.79	0.015	CIRCULAR	1	0	0	0
Link_385	Node_334	Node_333	750.15	0.015	CIRCULAR	1.5	0	0	0
Link_384	Node_336	Node_335	680.04	0.015	CIRCULAR	1.5	0	0	0
Link_383	Node_335	Node_309	797.19	0.015	CIRCULAR	1.5	0	0	0
Link_382	Node_333	Node_332	814.62	0.015	CIRCULAR	1.5	0	0	0
Link_381	Node_370	Node_270	1108.53	0.015	CIRCULAR	1.5	0	0	0
Link_380	Node_328	Node_270	307.05	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_379	Node_329	Node_328	324.48	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_378	Node_330	Node_329	213.3	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_377	Node_369	Node_329	1050	0.015	CIRCULAR	0.6	0	0	0
Link_376	Node_368	Node_270	599.16	0.032	CIRCULAR	1	0	0	0
Link_375	Node_267	Node_269	715.59	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_374	Node_268	Node_267	521.88	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_373	Node_366	Node_268	218.67	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_372	Node_367	Node_366	206.91	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_371	Node_270	Node_367	604.38	0.04	TRAPEZOIDAL	4	10	0.6	0.6

Table S1. *Cont.*

Pipe No.	Inlet Node	Outlet Node	Length	Roughness	Shape	Max. Depth	Bottom Width	Left Slope	Right Slope
Link_370	Node_269	Node_281	703.38	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_369	Node_280	Node_271	210.45	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_368	Node_365	Node_364	424.59	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_367	Node_271	Node_365	513.15	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_366	Node_281	Node_280	457.32	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_365	Node_364	Node_272	444.75	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_364	Node_363	Node_273	547.05	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_363	Node_272	Node_363	445.08	0.04	TRAPEZOIDAL	4	10	0.6	0.6
Link_362	Node_353	Node_354	237.33	0.035	TRAPEZOIDAL	4	14	0.6	0.6
Link_361	Node_352	Node_353	564.12	0.035	TRAPEZOIDAL	4	14	0.6	0.6
Link_360	Node_349	Node_352	346.95	0.035	TRAPEZOIDAL	4	14	0.6	0.6
Link_359	Node_273	Node_351	483.03	0.035	TRAPEZOIDAL	4	14	0.6	0.6
Link_358	Node_350	Node_349	725.28	0.035	TRAPEZOIDAL	4	14	0.6	0.6
Link_357	Node_351	Node_350	574.32	0.035	TRAPEZOIDAL	4	14	0.6	0.6
Link_356	Node_354	Node_399	902.67	0.04	TRAPEZOIDAL	4	14	0.6	0.6
Link_355	Node_248	Node_260	285.87	0.015	CIRCULAR	1.5	0	0	0
Link_354	Node_266	Node_257	823.38	0.015	CIRCULAR	1.5	0	0	0
Link_351	Node_263	Node_62	405.99	0.015	CIRCULAR	0.6	0	0	0
Link_350	Node_245	Node_398	1582.74	0.04	TRAPEZOIDAL	3	14	0.5	0.5
Link_349	Node_205	Node_245	1630.47	0.04	TRAPEZOIDAL	3	14	0.5	0.5
Link_348	Node_206	Node_205	602.55	0.04	TRAPEZOIDAL	3	14	0.5	0.5
Link_347	Node_241	Node_206	322.08	0.04	TRAPEZOIDAL	3	14	0.5	0.5
Link_346	Node_216	Node_241	1180.35	0.04	TRAPEZOIDAL	3	14	0.5	0.5
Link_345	Node_222	Node_216	465.84	0.04	TRAPEZOIDAL	3	14	0.5	0.5
Link_344	Node_223	Node_222	703.71	0.04	TRAPEZOIDAL	3	14	0.5	0.5
Link_343	Node_257	Node_248	151.81	0.015	CIRCULAR	1	0	0	0
Link_342	Node_262	Node_217	210.72	0.015	CIRCULAR	1	0	0	0
Link_341	Node_251	Node_262	548.64	0.015	CIRCULAR	1	0	0	0
Link_340	Node_250	Node_251	507.9	0.015	CIRCULAR	1	0	0	0
Link_339	Node_252	Node_250	333.87	0.015	CIRCULAR	1	0	0	0
Link_338	Node_253	Node_252	349.35	0.015	CIRCULAR	1	0	0	0
Link_337	Node_256	Node_255	360.6	0.015	CIRCULAR	1	0	0	0
Link_335	Node_255	Node_253	561.45	0.015	CIRCULAR	0.6	0	0	0
Link_322	Node_258	Node_249	347.49	0.015	CIRCULAR	0.5	0	0	0
Link_319	Node_246	Node_244	906.27	0.015	CIRCULAR	1.5	0	0	0
Link_318	Node_244	Node_245	994.74	0.015	CIRCULAR	1.5	0	0	0
Link_316	Node_243	Node_206	252.36	0.015	CIRCULAR	1.5	0	0	0
Link_315	Node_231	Node_205	402.63	0.015	CIRCULAR	1.5	0	0	0
Link_314	Node_230	Node_206	224.37	0.015	CIRCULAR	1.5	0	0	0
Link_311	Node_229	Node_241	207.75	0.015	CIRCULAR	1.5	0	0	0
Link_309	Node_221	Node_216	541.77	0.015	CIRCULAR	1.5	0	0	0
Link_308	Node_219	Node_223	718.77	0.015	CIRCULAR	1.5	0	0	0
Link_307	Node_220	Node_222	582.45	0.015	CIRCULAR	1.5	0	0	0
Link_306	Node_215	Node_216	593.25	0.015	CIRCULAR	1.5	0	0	0
Link_305	Node_225	Node_222	623.73	0.015	CIRCULAR	1.5	0	0	0
Link_304	Node_224	Node_223	596.13	0.015	CIRCULAR	1.5	0	0	0
Link_302	Node_214	Node_215	288.45	0.015	CIRCULAR	0.6	0	0	0
Link_301	Node_226	Node_225	250.56	0.015	CIRCULAR	1.5	0	0	0
Link_300	Node_237	Node_225	295.68	0.015	CIRCULAR	0.6	0	0	0

Table S1. *Cont.*

Pipe No.	Inlet Node	Outlet Node	Length	Roughness	Shape	Max. Depth	Bottom Width	Left Slope	Right Slope
Link_299	Node_240	Node_228	498.3	0.015	CIRCULAR	1	0	0	0
Link_298	Node_228	Node_224	237.72	0.015	CIRCULAR	1.5	0	0	0
Link_297	Node_238	Node_224	336.93	0.015	CIRCULAR	1	0	0	0
Link_296	Node_239	Node_228	314.52	0.015	CIRCULAR	1	0	0	0
Link_295	Node_236	Node_210	173.04	0.015	CIRCULAR	0.6	0	0	0
Link_294	Node_213	Node_236	293.73	0.015	CIRCULAR	0.6	0	0	0
Link_293	Node_227	Node_226	289.77	0.015	CIRCULAR	1.5	0	0	0
Link_291	Node_233	Node_232	131.94	0.015	CIRCULAR	1	0	0	0
Link_290	Node_235	Node_233	361.74	0.015	CIRCULAR	0.6	0	0	0
Link_289	Node_234	Node_233	273.3	0.015	CIRCULAR	1	0	0	0
Link_287	Node_210	Node_209	299.97	0.015	CIRCULAR	0.5	0	0	0
Link_286	Node_204	Node_205	458.46	0.015	CIRCULAR	1.5	0	0	0
Link_284	Node_187	Node_188	274.14	0.015	CIRCULAR	1	0	0	0
Link_283	Node_188	Node_189	311.37	0.015	CIRCULAR	1	0	0	0
Link_282	Node_189	Node_170	233.01	0.015	CIRCULAR	1.5	0	0	0
Link_281	Node_199	Node_193	373.71	0.015	CIRCULAR	1	0	0	0
Link_280	Node_193	Node_194	365.67	0.015	CIRCULAR	1	0	0	0
Link_279	Node_194	Node_190	317.22	0.015	CIRCULAR	1	0	0	0
Link_278	Node_190	Node_1	112.14	0.015	CIRCULAR	1.5	0	0	0
Link_277	Node_198	Node_192	356.46	0.015	CIRCULAR	1.5	0	0	0
Link_276	Node_192	Node_191	518.94	0.015	CIRCULAR	1.5	0	0	0
Link_273	Node_196	Node_195	307.05	0.015	CIRCULAR	1	0	0	0
Link_272	Node_197	Node_196	335.1	0.015	CIRCULAR	1	0	0	0
Link_271	Node_202	Node_201	334.32	0.015	CIRCULAR	1	0	0	0
Link_270	Node_200	Node_181	673.2	0.015	CIRCULAR	1.5	0	0	0
Link_269	Node_181	Node_174	395.97	0.015	CIRCULAR	1.5	0	0	0
Link_268	Node_201	Node_185	388.8	0.015	CIRCULAR	1	0	0	0
Link_267	Node_186	Node_185	304.08	0.015	CIRCULAR	0.4	0	0	0
Link_266	Node_185	Node_182	400.2	0.015	CIRCULAR	1	0	0	0
Link_265	Node_182	Node_184	123.78	0.015	CIRCULAR	1	0	0	0
Link_264	Node_218	Node_174	222.81	0.015	CIRCULAR	0.5	0	0	0
Link_262	Node_180	Node_179	195.84	0.015	CIRCULAR	0.5	0	0	0
Link_260	Node_184	Node_183	167.01	0.015	CIRCULAR	1	0	0	0
Link_259	Node_212	Node_184	589.74	0.015	CIRCULAR	1	0	0	0
Link_258	Node_211	Node_208	334.32	0.015	CIRCULAR	0.6	0	0	0
Link_254	Node_174	Node_173	189.06	0.015	CIRCULAR	1	0	0	0
Link_249	Node_178	Node_159	73.29	0.015	CIRCULAR	1.5	0	0	0
Link_248	Node_177	Node_178	83.64	0.015	CIRCULAR	1.5	0	0	0
Link_247	Node_176	Node_177	250.89	0.015	CIRCULAR	1.5	0	0	0
Link_245	Node_171	Node_175	121.26	0.015	CIRCULAR	0.5	0	0	0
Link_243	Node_169	Node_170	262.92	0.015	CIRCULAR	1.5	0	0	0
Link_241	Node_168	Node_160	159.48	0.015	CIRCULAR	0.5	0	0	0
Link_239	Node_161	Node_160	241.44	0.015	CIRCULAR	0.6	0	0	0
Link_238	Node_163	Node_157	274.56	0.015	CIRCULAR	0.6	0	0	0
Link_237	Node_164	Node_156	230.85	0.015	CIRCULAR	0.6	0	0	0
Link_235	Node_153	Node_154	260.16	0.015	CIRCULAR	0.6	0	0	0
Link_234	Node_154	Node_155	372.87	0.015	CIRCULAR	1.5	0	0	0
Link_233	Node_147	Node_154	442.2	0.015	CIRCULAR	1.5	0	0	0
Link_232	Node_146	Node_147	369.75	0.015	CIRCULAR	1.5	0	0	0

Table S1. *Cont.*

Pipe No.	Inlet Node	Outlet Node	Length	Roughness	Shape	Max. Depth	Bottom Width	Left Slope	Right Slope
Link_231	Node_143	Node_144	202.41	0.015	CIRCULAR	0.6	0	0	0
Link_230	Node_144	Node_142	178.5	0.015	CIRCULAR	0.6	0	0	0
Link_228	Node_145	Node_146	251.31	0.015	CIRCULAR	0.8	0	0	0
Link_227	Node_152	Node_151	226.11	0.015	CIRCULAR	1	0	0	0
Link_226	Node_151	Node_150	386.28	0.015	CIRCULAR	1	0	0	0
Link_225	Node_142	Node_141	304.74	0.015	CIRCULAR	1	0	0	0
Link_224	Node_137	Node_138	211.02	0.015	CIRCULAR	0.5	0	0	0
Link_222	Node_139	Node_138	196.08	0.015	CIRCULAR	0.8	0	0	0
Link_221	Node_140	Node_139	240.93	0.015	CIRCULAR	0.8	0	0	0
Link_220	Node_149	Node_148	418.08	0.015	CIRCULAR	0.8	0	0	0
Link_219	Node_141	Node_148	344.43	0.015	CIRCULAR	1	0	0	0
Link_217	Node_150	Node_159	325.08	0.015	CIRCULAR	1.6	0	0	0
Link_216	Node_148	Node_150	323.1	0.015	CIRCULAR	1.2	0	0	0
Link_214	Node_155	Node_156	298.17	0.015	CIRCULAR	1	0	0	0
Link_213	Node_156	Node_157	269.46	0.015	CIRCULAR	1	0	0	0
Link_212	Node_157	Node_158	435.48	0.015	CIRCULAR	1	0	0	0
Link_211	Node_158	Node_165	397.47	0.015	CIRCULAR	1	0	0	0
Link_210	Node_162	Node_158	326.37	0.015	CIRCULAR	1.2	0	0	0
Link_209	Node_167	Node_158	208.8	0.015	CIRCULAR	0.5	0	0	0
Link_208	Node_166	Node_165	245.7	0.015	CIRCULAR	0.5	0	0	0
Link_204	Node_136	Node_104	155.49	0.02	CIRCULAR	0.5	0	0	0
Link_202	Node_135	Node_101	348.27	0.02	CIRCULAR	1	0	0	0
Link_201	Node_119	Node_135	149.19	0.02	CIRCULAR	1	0	0	0
Link_199	Node_120	Node_134	127.53	0.02	CIRCULAR	1	0	0	0
Link_198	Node_134	Node_100	324.3	0.02	CIRCULAR	1	0	0	0
Link_197	Node_121	Node_120	96.99	0.02	CIRCULAR	0.5	0	0	0
Link_195	Node_98	Node_99	240.84	0.02	CIRCULAR	1.5	0	0	0
Link_193	Node_89	Node_98	187.62	0.02	CIRCULAR	1.5	0	0	0
Link_190	Node_94	Node_93	192.96	0.02	CIRCULAR	0.5	0	0	0
Link_189	Node_92	Node_91	186.3	0.02	CIRCULAR	0.5	0	0	0
Link_188	Node_91	Node_90	121.98	0.02	CIRCULAR	0.5	0	0	0
Link_187	Node_93	Node_91	198.36	0.02	CIRCULAR	0.5	0	0	0
Link_186	Node_95	Node_106	221.49	0.02	CIRCULAR	0.5	0	0	0
Link_185	Node_125	Node_127	109.23	0.02	CIRCULAR	0.5	0	0	0
Link_184	Node_126	Node_125	164.82	0.02	CIRCULAR	0.5	0	0	0
Link_183	Node_106	Node_124	76.95	0.02	CIRCULAR	0.5	0	0	0
Link_182	Node_124	Node_127	79.71	0.02	CIRCULAR	0.5	0	0	0
Link_181	Node_127	Node_105	76.47	0.02	CIRCULAR	0.5	0	0	0
Link_180	Node_123	Node_107	87.27	0.02	CIRCULAR	0.6	0	0	0
Link_178	Node_96	Node_123	244.41	0.02	CIRCULAR	0.6	0	0	0
Link_176	Node_97	Node_122	254.19	0.02	CIRCULAR	0.6	0	0	0
Link_175	Node_122	Node_133	119.88	0.02	CIRCULAR	1.3	0	0	0
Link_174	Node_129	Node_130	140.81	0.02	CIRCULAR	1.3	0	0	0
Link_171	Node_133	Node_132	69.3	0.02	CIRCULAR	1.5	0	0	0
Link_167	Node_105	Node_112	148.38	0.02	CIRCULAR	1.5	0	0	0
Link_166	Node_108	Node_111	150.69	0.02	CIRCULAR	1	0	0	0
Link_165	Node_109	Node_110	157.17	0.02	CIRCULAR	1	0	0	0
Link_164	Node_110	Node_111	186.03	0.02	CIRCULAR	1	0	0	0
Link_163	Node_111	Node_112	192.24	0.02	CIRCULAR	1	0	0	0

Table S1. *Cont.*

Pipe No.	Inlet Node	Outlet Node	Length	Roughness	Shape	Max. Depth	Bottom Width	Left Slope	Right Slope
Link_162	Node_112	Node_113	255.57	0.02	CIRCULAR	1	0	0	0
Link_160	Node_116	Node_118	164.76	0.02	CIRCULAR	1	0	0	0
Link_159	Node_102	Node_116	213.03	0.02	CIRCULAR	1	0	0	0
Link_157	Node_117	Node_115	128.01	0.02	CIRCULAR	1	0	0	0
Link_156	Node_113	Node_115	191.31	0.02	CIRCULAR	1.5	0	0	0
Link_154	Node_114	Node_113	148.5	0.02	CIRCULAR	1.5	0	0	0
Link_153	Node_104	Node_114	248.28	0.02	CIRCULAR	1.5	0	0	0
Link_152	Node_103	Node_104	255.96	0.02	CIRCULAR	1	0	0	0
Link_148	Node_46	Node_82	372.54	0.015	CIRCULAR	1	0	0	0
Link_147	Node_76	Node_75	488.97	0.015	CIRCULAR	0.8	0	0	0
Link_145	Node_88	Node_85	243.96	0.015	CIRCULAR	0.5	0	0	0
Link_144	Node_86	Node_80	268.65	0.015	CIRCULAR	0.8	0	0	0
Link_143	Node_85	Node_79	267.09	0.015	CIRCULAR	0.8	0	0	0
Link_142	Node_87	Node_85	382.41	0.015	CIRCULAR	0.8	0	0	0
Link_141	Node_52	Node_49	273.69	0.015	CIRCULAR	1	0	0	0
Link_140	Node_83	Node_67	201.33	0.015	CIRCULAR	1	0	0	0
Link_137	Node_69	Node_68	213.78	0.015	CIRCULAR	1	0	0	0
Link_135	Node_78	Node_71	187.92	0.015	CIRCULAR	0.5	0	0	0
Link_133	Node_74	Node_72	242.91	0.015	CIRCULAR	0.6	0	0	0
Link_131	Node_80	Node_76	503.19	0.015	CIRCULAR	1.5	0	0	0
Link_130	Node_79	Node_80	369.24	0.015	CIRCULAR	1.5	0	0	0
Link_128	Node_81	Node_71	487.32	0.015	CIRCULAR	1.5	0	0	0
Link_127	Node_71	Node_70	263.22	0.015	CIRCULAR	1.5	0	0	0
Link_123	Node_84	Node_32	253.83	0.015	CIRCULAR	1	0	0	0
Link_122	Node_51	Node_84	263.76	0.015	CIRCULAR	1.5	0	0	0
Link_121	Node_50	Node_32	263.76	0.015	CIRCULAR	1.5	0	0	0
Link_120	Node_77	Node_74	447.42	0.015	CIRCULAR	0.5	0	0	0
Link_117	Node_73	Node_72	139.86	0.015	CIRCULAR	1.5	0	0	0
Link_115	Node_68	Node_48	555.72	0.015	CIRCULAR	1	0	0	0
Link_112	Node_49	Node_48	316.74	0.015	CIRCULAR	1	0	0	0
Link_111	Node_47	Node_48	369.36	0.015	CIRCULAR	0.5	0	0	0
Link_108	Node_64	Node_65	73.2	0.015	CIRCULAR	1	0	0	0
Link_107	Node_62	Node_64	312.63	0.015	CIRCULAR	1	0	0	0
Link_106	Node_66	Node_65	359.7	0.015	CIRCULAR	1	0	0	0
Link_105	Node_45	Node_66	204.96	0.015	CIRCULAR	1	0	0	0
Link_104	Node_60	Node_63	349.56	0.015	CIRCULAR	1	0	0	0
Link_103	Node_63	Node_62	416.94	0.015	CIRCULAR	1	0	0	0
Link_102	Node_61	Node_60	138.48	0.015	CIRCULAR	0.5	0	0	0
Link_100	Node_59	Node_44	231.15	0.015	CIRCULAR	0.5	0	0	0
Link_99	Node_44	Node_45	454.95	0.015	CIRCULAR	1	0	0	0
Link_97	Node_40	Node_41	187.89	0.015	CIRCULAR	0.5	0	0	0
Link_95	Node_43	Node_42	237.45	0.015	CIRCULAR	1	0	0	0
Link_93	Node_41	Node_42	125.43	0.015	CIRCULAR	1	0	0	0
Link_92	Node_39	Node_41	300	0.015	CIRCULAR	1	0	0	0
Link_87	Node_54	Node_57	343.24	0.015	CIRCULAR	1	0	0	0
Link_84	Node_37	Node_55	320.85	0.015	CIRCULAR	1	0	0	0
Link_79	Node_34	Node_36	290.16	0.015	CIRCULAR	1	0	0	0
Link_78	Node_35	Node_31	291	0.015	CIRCULAR	1	0	0	0
Link_73	Node_31	Node_36	240.75	0.015	CIRCULAR	1.5	0	0	0

Table S1. *Cont.*

Pipe No.	Inlet Node	Outlet Node	Length	Roughness	Shape	Max. Depth	Bottom Width	Left Slope	Right Slope
Link_72	Node_28	Node_29	422.01	0.015	CIRCULAR	1.2	0	0	0
Link_71	Node_29	Node_30	481.41	0.015	CIRCULAR	1.2	0	0	0
Link_69	Node_27	Node_15	626.25	0.015	CIRCULAR	0.8	0	0	0
Link_68	Node_15	Node_14	413.55	0.015	CIRCULAR	1	0	0	0
Link_66	Node_13	Node_11	523.71	0.015	CIRCULAR	1	0	0	0
Link_65	Node_11	Node_10	767.25	0.015	CIRCULAR	1	0	0	0
Link_63	Node_24	Node_26	286.89	0.015	TRAPEZOIDAL	3	8	0.5	0.5
Link_60	Node_25	Node_5	414.48	0.015	CIRCULAR	1	0	0	0
Link_57	Node_23	Node_22	415.95	0.015	CIRCULAR	1	0	0	0
Link_56	Node_21	Node_23	453.09	0.015	CIRCULAR	1	0	0	0
Link_53	Node_18	Node_19	527.46	0.015	CIRCULAR	1	0	0	0
Link_52	Node_19	Node_20	142.11	0.015	CIRCULAR	1	0	0	0
Link_51	Node_20	Node_7	628.92	0.032	TRAPEZOIDAL	3	5	0.5	0.5
Link_50	Node_12	Node_7	127.8	0.015	CIRCULAR	1	0	0	0
Link_48	Node_17	Node_16	1100.37	0.015	CIRCULAR	1	0	0	0
Link_45	Node_9	Node_10	601.92	0.015	CIRCULAR	1.5	0	0	0
Link_44	Node_8	Node_20	593.85	0.032	TRAPEZOIDAL	3	5	0.5	0.5
Link_42	Node_6	Node_26	326.7	0.1	TRAPEZOIDAL	3	10	0.9	0.9

Table S2. Node number and elevation.

Node No.	EL.	Node No.	EL.	Node No.	EL.	Node No.	EL.	Node No.	EL.	Node No.	EL.
Node_564	15.8	Node_277	18.5	Node_235	18.9	Node_232	18.6	Node_312	20.6	Node_125	17.9
Node_241	15.3	Node_279	18.5	Node_234	18.8	Node_521	18.9	Node_314	20.9	Node_127	17.8
Node_307	19.3	Node_339	18.7	Node_204	14.8	Node_522	19.1	Node_324	20.8	Node_126	18.1
Node_269	19.1	Node_359	14.1	Node_187	16.8	Node_507	19.3	Node_331	22.0	Node_124	17.9
Node_525	18.2	Node_354	13.9	Node_188	16.7	Node_249	19.0	Node_35	21.8	Node_105	17.7
Node_526	17.8	Node_388	14.3	Node_189	16.6	Node_520	17.0	Node_322	21.4	Node_123	18.0
Node_562	18.3	Node_356	14.2	Node_199	17.2	Node_101	17.1	Node_327	21.3	Node_96	18.3
Node_534	18.2	Node_355	14.0	Node_193	17.0	Node_138	17.1	Node_323	21.5	Node_97	18.6
Node_536	18.5	Node_360	14.5	Node_194	16.5	Node_100	17.4	Node_318	21.1	Node_122	18.5
Node_561	18.6	Node_362	15.4	Node_190	15.9	Node_90	18.3	Node_317	21.0	Node_133	18.4
Node_523	18.5	Node_361	15.2	Node_198	17.1	Node_70	18.0	Node_270	20.8	Node_129	18.2
Node_560	18.8	Node_358	15.0	Node_192	16.5	Node_75	18.4	Node_371	20.2	Node_112	17.5
Node_250	18.4	Node_357	14.9	Node_196	15.0	Node_516	18.3	Node_268	20.0	Node_111	17.6
Node_259	19.0	Node_352	14.8	Node_202	18.2	Node_515	18.6	Node_309	20.4	Node_109	17.9
Node_559	19.2	Node_347	15.4	Node_201	18.0	Node_72	18.8	Node_332	20.4	Node_110	17.7
Node_399	13.2	Node_349	15.1	Node_200	17.9	Node_67	18.8	Node_372	20.7	Node_113	17.4
Node_398	13.5	Node_340	15.6	Node_181	17.5	Node_514	20.2	Node_337	19.6	Node_116	17.2
Node_397	13.1	Node_346	15.7	Node_174	17.2	Node_82	20.3	Node_338	20.8	Node_102	17.5
Node_552	14.8	Node_348	15.6	Node_185	17.8	Node_48	20.4	Node_334	21.2	Node_117	17.4
Node_396	14.2	Node_345	15.8	Node_186	17.9	Node_513	20.6	Node_333	20.8	Node_114	17.5
Node_195	14.9	Node_387	15.8	Node_182	17.6	Node_38	20.7	Node_336	21.1	Node_103	17.8
Node_551	15.2	Node_344	16.3	Node_184	17.5	Node_512	20.9	Node_335	20.8	Node_46	20.5
Node_165	14.9	Node_343	15.9	Node_218	17.4	Node_58	21.0	Node_370	21.2	Node_76	18.7
Node_160	15.3	Node_342	16.1	Node_180	17.4	Node_32	21.2	Node_328	21.0	Node_88	19.3
Node_550	15.3	Node_304	16.0	Node_212	17.9	Node_511	21.4	Node_329	21.2	Node_85	19.2
Node_191	16.0	Node_273	15.9	Node_211	18.3	Node_33	21.6	Node_330	21.3	Node_86	19.0
Node_549	15.4	Node_302	16.0	Node_178	15.7	Node_36	21.6	Node_369	21.5	Node_80	18.9

Table S2. *Cont.*

Node No.	EL.	Node No.	EL.	Node No.	EL.	Node No.	EL.	Node No.	EL.	Node No.	EL.
Node_159	15.6	Node_303	16.4	Node_177	15.9	Node_510	20.8	Node_368	21.0	Node_79	19.0
Node_548	15.6	Node_301	16.2	Node_176	16.0	Node_56	20.9	Node_366	20.3	Node_87	19.3
Node_1	15.8	Node_341	16.4	Node_171	16.2	Node_5	21.0	Node_367	20.5	Node_52	20.9
Node_3	17.7	Node_300	16.4	Node_169	16.6	Node_509	21.3	Node_281	18.6	Node_49	20.7
Node_547	17.2	Node_299	16.5	Node_168	15.5	Node_22	21.4	Node_365	17.5	Node_83	18.9
Node_183	17.3	Node_386	18.6	Node_161	15.4	Node_26	21.4	Node_364	17.4	Node_69	20.9
Node_546	17.1	Node_287	18.4	Node_163	15.7	Node_30	20.7	Node_363	16.3	Node_68	20.8
Node_545	17.0	Node_286	18.7	Node_157	15.6	Node_506	19.4	Node_353	14.1	Node_78	18.4
Node No.	EL.	Node No.	EL.	Node No.	EL.	Node No.	EL.	Node No.	EL.	Node No.	EL.
Node_544	16.9	Node_385	18.8	Node_164	16.0	Node_4	20.0	Node_351	15.7	Node_71	18.3
Node_179	17.2	Node_290	18.6	Node_156	15.9	Node_247	19.6	Node_350	15.4	Node_74	18.9
Node_543	16.8	Node_384	18.9	Node_153	16.7	Node_505	19.8	Node_248	20.0	Node_81	18.6
Node_115	17.2	Node_291	18.8	Node_154	16.6	Node_256	19.7	Node_266	20.5	Node_84	21.3
Node_173	17.0	Node_282	18.3	Node_155	16.5	Node_260	19.9	Node_257	20.1	Node_51	21.5
Node_118	17.0	Node_288	18.5	Node_147	16.8	Node_261	19.9	Node_263	19.0	Node_50	21.5
Node_542	16.5	Node_293	19.0	Node_146	16.9	Node_14	22.0	Node_62	18.8	Node_77	20.0
Node_172	16.7	Node_292	18.8	Node_143	17.0	Node_504	21.9	Node_205	14.6	Node_73	18.9
Node_541	16.4	Node_382	19.0	Node_144	16.8	Node_6	21.6	Node_206	14.9	Node_47	20.8
Node_170	16.5	Node_383	18.9	Node_142	16.7	Node_16	22.4	Node_216	16.0	Node_64	18.7
Node_128	16.8	Node_289	18.8	Node_145	17.0	Node_7	22.6	Node_222	16.4	Node_66	18.8
Node_540	16.0	Node_295	20.0	Node_152	16.7	Node_10	22.4	Node_223	17.2	Node_45	18.9
Node_175	16.1	Node_294	20.1	Node_151	16.6	Node_503	22.7	Node_262	18.0	Node_60	20.1
Node_99	17.7	Node_381	20.9	Node_150	16.0	Node_502	14.8	Node_251	18.2	Node_63	20.0
Node_539	17.6	Node_297	20.8	Node_141	16.5	Node_244	14.5	Node_252	18.8	Node_61	20.2
Node_519	17.3	Node_380	20.9	Node_137	17.2	Node_203	15.4	Node_253	19.0	Node_59	20.1
Node_517	17.9	Node_298	20.9	Node_139	17.2	Node_243	15.2	Node_255	19.5	Node_44	20.0
Node_538	18.0	Node_379	20.7	Node_140	17.3	Node_254	20.8	Node_258	19.2	Node_40	19.7
Node_518	18.2	Node_296	20.6	Node_149	16.7	Node_53	20.8	Node_246	14.7	Node_41	19.6
Node_537	18.3	Node_315	20.5	Node_148	16.3	Node_54	20.7	Node_231	14.8	Node_43	19.6
Node_2	18.6	Node_306	20.2	Node_158	15.3	Node_57	20.6	Node_230	15.2	Node_39	19.8
Node_65	18.6	Node_305	19.4	Node_162	15.4	Node_37	20.4	Node_229	15.5	Node_34	21.7
Node_132	18.3	Node_378	19.4	Node_167	15.4	Node_107	17.9	Node_221	16.4	Node_31	21.7
Node_533	18.1	Node_308	19.6	Node_166	15.0	Node_108	17.8	Node_219	18.0	Node_28	21.0
Node_131	18.2	Node_377	20.0	Node_136	17.8	Node_391	14.3	Node_220	16.8	Node_29	20.9
Node_532	18.0	Node_267	19.8	Node_104	17.7	Node_245	14.0	Node_215	16.5	Node_27	22.4
Node_528	17.9	Node_320	20.3	Node_135	17.3	Node_392	15.3	Node_225	16.8	Node_15	22.2
Node_130	18.1	Node_316	20.2	Node_119	17.5	Node_197	15.2	Node_224	17.8	Node_13	22.7
Node_508	20.5	Node_319	20.2	Node_120	17.7	Node_390	18.5	Node_214	16.7	Node_11	22.5
Node_531	20.2	Node_311	20.4	Node_134	17.6	Node_285	18.3	Node_226	17.0	Node_24	21.5
Node_55	20.3	Node_376	21.7	Node_121	17.8	Node_284	18.1	Node_237	17.0	Node_25	21.2
Node_530	20.1	Node_326	21.6	Node_98	17.9	Node_389	17.9	Node_240	18.6	Node_23	21.6
Node_264	20.2	Node_373	21.7	Node_89	18.0	Node_271	17.8	Node_228	18.0	Node_21	21.9
Node_529	19.3	Node_374	21.0	Node_94	18.6	Node_283	18.0	Node_238	18.0	Node_18	23.2
Node_265	19.6	Node_325	20.9	Node_93	18.5	Node_275	16.7	Node_239	18.7	Node_19	23.0
Node_42	19.5	Node_375	21.0	Node_92	18.5	Node_272	16.6	Node_236	18.6	Node_20	22.9
Node_208	17.9	Node_313	20.8	Node_91	18.4	Node_276	16.9	Node_210	18.5	Node_12	22.7
Node_217	17.9	Node_310	20.5	Node_95	18.2	Node_274	16.9	Node_213	18.8	Node_17	22.8
Node_209	18.3	Node_321	20.6	Node_106	18.0	Node_278	18.4	Node_227	17.2	Node_9	22.6
Node_280	18.2	Node_233	18.7	Node_8	23.2						

Table S3. Parameters of sub-catchment.

NO.	Outfall	Area (hm^2)	Imperv (%)	Width (m)	Slope (%)	NO.	Outfall	Area (hm^2)	Imperv (%)	Width (m)	Slope (%)
S_200	Node_556	138.39	15	1128.6	0.5	S_522	Node_212	41.98	50	532.66	0.5
S_201	Node_362	292.53	15	2005.83	0.5	S_523	Node_533	3.165	90	159.03	0.34
S_202	Node_373	9.313	85	233.42	0.5	S_524	Node_532	2.747	90	135.09	0.34
S_203	Node_369	301.78	10	2084.49	0.5	S_525	Node_538	2.666	90	122.27	0.34
S_204	Node_330	440.59	10	2744.55	0.5	S_526	Node_518	3.546	90	173.57	0.34
S_205	Node_368	98.96	40	840.47	0.5	S_527	Node_188	9.129	85	204.35	0.5
S_206	Node_276	628.37	15	2989.08	0.5	S_528	Node_129	3.076	90	124.83	0.34
S_207	Node_399	178.16	10	771.21	0.5	S_529	Node_189	3.665	85	105.17	0.5
S_209	Node_374	11.52	85	244.53	0.5	S_530	Node_138	4.806	90	159.89	0.34
S_210	Node_344	27.88	85	384.75	0.5	S_531	Node_541	5.317	85	207.77	0.5
S_211	Node_387	17.07	85	309.51	0.5	S_532	Node_186	30.89	60	507.02	0.5
S_212	Node_338	122.98	10	694.26	0.5	S_533	Node_534	4.604	90	218.88	0.34
S_213	Node_375	10.68	85	259.92	0.5	S_534	Node_201	24.77	50	484.79	0.5
S_214	Node_336	52.95	10	499.32	0.5	S_535	Node_170	4.77	85	117.14	0.5
S_215	Node_334	49.92	10	420.66	0.5	S_536	Node_181	17.23	50	286.43	0.5
S_216	Node_326	15.23	85	277.02	0.5	S_537	Node_110	9.36	90	320.63	0.34
S_217	Node_275	384.14	10	2807.82	0.5	S_538	Node_111	5.828	85	313.79	0.5
S_218	Node_381	9.96	85	241.97	0.5	S_539	Node_128	8.829	90	182.12	0.34
S_219	Node_361	144.71	10	1897.25	0.5	S_540	Node_547	4.968	85	194.09	0.5
S_220	Node_322	22.67	85	353.97	0.5	S_541	Node_183	6.635	85	168.44	0.5
S_221	Node_359	75.34	40	746.42	0.5	S_542	Node_184	9.181	85	259.92	0.5
S_222	Node_360	144.22	15	1221.8	0.5	S_543	Node_185	13.54	60	230	0.5
S_223	Node_358	74.41	20	1461.2	0.5	S_544	Node_90	3.2	90	206.91	0.34
S_224	Node_274	92.91	15	1416.73	0.5	S_545	Node_99	4.508	90	159.03	0.34
S_225	Node_327	40.31	85	710.51	0.5	S_546	Node_562	5.268	90	217.17	0.34
S_226	Node_357	44.25	25	1238.04	0.5	S_547	Node_174	8.809	85	212.04	0.5
S_227	Node_382	6.188	85	207.77	0.5	S_548	Node_218	6.111	85	200.07	0.5
S_228	Node_293	12.37	85	159.03	0.5	S_549	Node_182	4.377	85	188.96	0.5
S_229	Node_370	58.88	10	523.26	0.5	S_550	Node_520	4.046	90	159.89	0.34
S_230	Node_318	42.14	50	678.87	0.5	S_551	Node_169	6.503	85	182.12	0.5
S_231	Node_304	54.04	30	894.33	0.5	S_552	Node_135	3.883	90	133.38	0.34
S_232	Node_350	88.14	10	1250.01	0.5	S_553	Node_103	4.269	90	133.38	0.34
S_233	Node_345	30.43	85	408.69	0.5	S_554	Node_92	3.965	90	103.46	0.34
S_234	Node_277	36.19	10	562.59	0.5	S_555	Node_173	4.128	85	154.76	0.5
S_235	Node_337	66.52	10	647.24	0.5	S_556	Node_91	3.699	90	120.56	0.34
S_236	Node_342	13.5	85	290.7	0.5	S_557	Node_102	4.408	90	142.79	0.34
S_237	Node_349	45.78	20	595.94	0.5	S_558	Node_116	5.189	90	161.6	0.34
S_238	Node_306	36.27	85	405.27	0.5	S_559	Node_97	3.335	90	133.38	0.34
S_239	Node_315	27.39	85	395.01	0.5	S_560	Node_93	4.195	90	131.67	0.34
S_240	Node_329	21.27	25	524.97	0.5	S_561	Node_95	3.568	90	123.98	0.34
S_241	Node_279	29.41	15	566.87	0.5	S_562	Node_101	4.384	90	153.05	0.34
S_242	Node_378	22.48	15	413.82	0.5	S_563	Node_98	4.762	90	157.32	0.34
S_243	Node_299	18.82	85	357.39	0.5	S_564	Node_134	4.524	90	161.6	0.34
S_244	Node_270	15.69	10	511.29	0.5	S_565	Node_117	4.354	90	133.38	0.34
S_245	Node_328	25.37	12	513	0.5	S_566	Node_172	3.941	85	124.83	0.5
S_246	Node_372	25.91	15	526.68	0.5	S_567	Node_536	3.109	90	163.31	0.34
S_247	Node_355	35.64	25	540.36	0.5	S_568	Node_96	3.317	90	152.19	0.34
S_248	Node_317	28.28	35	371.07	0.5	S_569	Node_118	2.536	90	114.57	0.34
S_249	Node_341	17.3	85	357.39	0.5	S_570	Node_114	3.766	90	131.67	0.34

Table S3. *Cont.*

NO.	Outfall	Area (hm^2)	Imperv (%)	Width (m)	Slope (%)	NO.	Outfall	Area (hm^2)	Imperv (%)	Width (m)	Slope (%)
S_250	Node_278	39.76	10	536.94	0.5	S_571	Node_113	2.327	90	123.98	0.34
S_251	Node_314	10.66	85	247.1	0.5	S_572	Node_100	4.591	90	165.02	0.34
S_252	Node_380	13.6	85	276.17	0.5	S_573	Node_519	3.9	90	135.95	0.34
S_253	Node_282	16.69	85	365.94	0.5	S_574	Node_125	2.555	90	117.99	0.34
S_254	Node_288	22.19	85	373.64	0.5	S_575	Node_112	2.628	90	124.83	0.34
S_255	Node_305	19.28	32	383.04	0.5	S_576	Node_105	2.271	90	113.72	0.34
S_256	Node_335	48.1	10	439.47	0.5	S_577	Node_542	5.808	90	201.78	0.34
S_257	Node_333	46.82	10	450.59	0.5	S_578	Node_546	3.141	85	126.54	0.5
S_258	Node_348	25.94	85	359.1	0.5	S_579	Node_120	2.509	90	127.4	0.34
S_259	Node_319	13.83	43	330.89	0.5	S_580	Node_121	3.826	90	159.89	0.34
S_260	Node_320	26.75	40	352.26	0.5	S_581	Node_119	2.89	90	131.67	0.34
S_261	Node_354	29.72	30	466.83	0.5	S_582	Node_107	2.129	90	111.15	0.34
S_262	Node_347	26.14	85	312.08	0.5	S_583	Node_108	2.866	90	123.98	0.34
S_263	Node_367	10.4	15	263.34	0.5	S_584	Node_89	3.542	90	165.87	0.34
S_264	Node_377	16.92	30	313.79	0.5	S_585	Node_136	2.468	90	140.22	0.34
S_265	Node_316	25.2	60	323.19	0.5	S_586	Node_180	3.202	85	125.69	0.5
S_266	Node_300	25.97	85	357.39	0.5	S_587	Node_94	3.128	90	83.79	0.34
S_267	Node_363	33.73	85	400.14	0.5	S_588	Node_179	3.565	85	108.59	0.5
S_268	Node_272	20.03	85	317.21	0.5	S_589	Node_127	1.198	90	93.19	0.34
S_269	Node_321	23.77	85	343.71	0.5	S_590	Node_126	1.988	90	94.05	0.34
S_270	Node_269	7.144	32	229.14	0.5	S_591	Node_109	2.642	90	100.89	0.34
S_271	Node_353	15.55	30	298.4	0.5	S_592	Node_124	1.37	90	76.1	0.34
S_272	Node_295	12.12	85	321.48	0.5	S_593	Node_122	2.309	90	122.27	0.34
S_273	Node_379	18.29	85	413.82	0.5	S_594	Node_123	2.473	90	123.98	0.34
S_274	Node_308	17.61	15	389.88	0.5	S_595	Node_115	2.996	90	125.69	0.34
S_275	Node_309	14.55	15	395.01	0.5	S_596	Node_543	2.116	85	114.57	0.5
S_276	Node_307	20.62	18	357.39	0.5	S_597	Node_545	1.972	85	88.07	0.5
S_277	Node_352	20.86	15	329.18	0.5	S_598	Node_106	2.151	90	125.69	0.34
S_278	Node_267	10.84	30	279.58	0.5	S_599	Node_544	1.855	85	101.75	0.5
S_279	Node_296	21.18	85	365.09	0.5	S_600	Node_133	1.067	90	59	0.34
S_280	Node_332	10.85	15	413.82	0.5	S_601	Node_130	1.296	90	76.95	0.34
S_281	Node_371	11.49	15	443.75	0.5	S_602	Node_104	3.867	90	118.85	0.34
S_282	Node_273	21.16	85	387.32	0.5	S_603	Node_131	1.094	90	76.1	0.34
S_283	Node_343	24.24	85	379.62	0.5	S_604	Node_132	1.2	90	94.91	0.34
S_284	Node_346	19.82	85	289.85	0.5	S_666	Node_87	6.041	85	182.12	0.5
S_285	Node_281	28.96	23	399.29	0.5	S_667	Node_81	16.2	85	285.57	0.5
S_286	Node_302	18.29	85	313.79	0.5	S_668	Node_263	18.02	85	330.89	0.5
S_287	Node_301	25.67	85	323.19	0.5	S_669	Node_86	7.515	85	228.29	0.5
S_288	Node_356	19.31	40	288.99	0.5	S_670	Node_52	7.589	85	220.59	0.5
S_289	Node_385	13.58	85	311.22	0.5	S_671	Node_62	7.851	85	266.76	0.5
S_290	Node_303	20.86	85	318.06	0.5	S_672	Node_70	12.26	85	383.04	0.5
S_291	Node_364	22.04	85	385.61	0.5	S_673	Node_49	15.25	85	230	0.5
S_292	Node_388	12.15	40	270.18	0.5	S_674	Node_48	14.14	85	224.87	0.5
S_293	Node_324	19.35	85	228.29	0.5	S_675	Node_71	16.37	85	314.64	0.5
S_294	Node_340	13.76	85	288.14	0.5	S_676	Node_63	7.517	85	266.76	0.5
S_295	Node_325	15.43	85	230	0.5	S_677	Node_76	19.34	85	304.38	0.5
S_296	Node_384	13.03	85	259.92	0.5	S_678	Node_516	9.487	90	210.33	0.5
S_297	Node_351	20.08	85	288.14	0.5	S_679	Node_514	8.824	85	209.48	0.5
S_298	Node_310	13.55	85	245.39	0.5	S_680	Node_82	14.06	85	305.24	0.5

Table S3. *Cont.*

NO.	Outfall	Area (hm^2)	Imperv (%)	Width (m)	Slope (%)	NO.	Outfall	Area (hm^2)	Imperv (%)	Width (m)	Slope (%)
S_299	Node_283	8.749	85	266.76	0.5	S_681	Node_515	8.949	85	206.91	0.5
S_300	Node_366	10.08	35	292.41	0.5	S_682	Node_66	6.182	90	175.28	0.5
S_301	Node_292	7.086	85	190.67	0.5	S_683	Node_45	13.21	85	298.4	0.5
S_302	Node_298	10.61	85	217.17	0.5	S_684	Node_77	11.89	85	235.13	0.5
S_303	Node_294	5.9	85	157.32	0.5	S_685	Node_80	12	85	230	0.5
S_304	Node_311	17.6	85	328.32	0.5	S_686	Node_83	10.43	90	204.35	0.5
S_305	Node_312	21.97	85	325.76	0.5	S_687	Node_88	10.37	85	221.45	0.5
S_306	Node_313	14.54	85	245.39	0.5	S_688	Node_69	9.84	85	229.14	0.5
S_307	Node_297	13.34	85	235.13	0.5	S_689	Node_79	11.67	85	230	0.5
S_308	Node_323	16.69	85	243.68	0.5	S_690	Node_67	8.012	85	212.04	0.5
S_309	Node_286	16.87	85	340.29	0.5	S_691	Node_68	9.347	85	253.94	0.5
S_310	Node_390	11.36	85	237.69	0.5	S_692	Node_75	8.087	85	220.59	0.5
S_311	Node_285	13.5	85	276.17	0.5	S_693	Node_78	9.374	85	230	0.5
S_312	Node_365	16.46	85	286.43	0.5	S_694	Node_85	8.994	85	209.48	0.5
S_313	Node_386	14.96	85	284.71	0.5	S_695	Node_74	7.231	85	207.77	0.5
S_314	Node_290	13.94	85	237.69	0.5	S_696	Node_72	5.089	85	167.58	0.5
S_315	Node_287	11.83	85	201.78	0.5	S_697	Node_73	7.924	85	199.22	0.5
S_316	Node_268	8.852	43	274.46	0.5	S_699	Node_397	92.51	10	806.27	0.5
S_317	Node_284	10.54	85	210.33	0.5	S_700	Node_155	9.966	85	317.21	0.5
S_318	Node_389	7.402	85	210.33	0.5	S_701	Node_392	18.83	23	448.02	0.5
S_319	Node_376	14.52	85	270.18	0.5	S_702	Node_193	22.78	50	312.08	0.5
S_320	Node_291	11.92	85	241.97	0.5	S_703	Node_199	24.71	25	314.64	0.5
S_321	Node_289	11.82	85	241.97	0.5	S_704	Node_146	9.375	90	216.32	0.34
S_322	Node_383	6.761	85	182.12	0.5	S_705	Node_145	5.528	90	152.19	0.34
S_323	Node_271	11.73	85	264.2	0.5	S_706	Node_139	6.354	85	165.02	0.5
S_324	Node_280	9.373	85	212.9	0.5	S_707	Node_149	8.724	85	206.91	0.5
S_326	Node_557	87.51	15	643.82	0.5	S_708	Node_156	17.37	85	412.97	0.5
S_365	Node_219	578.76	15	2085.34	0.5	S_709	Node_154	9.533	85	223.16	0.5
S_366	Node_240	520.77	15	1618.52	0.5	S_710	Node_147	9.584	85	189.81	0.5
S_367	Node_558	122.94	10	978.98	0.5	S_711	Node_396	75.32	10	894.33	0.5
S_368	Node_398	201.99	10	1358.6	0.5	S_712	Node_175	2.566	85	133.38	0.5
S_369	Node_246	179.67	15	1152.54	0.5	S_713	Node_198	22.35	15	295.83	0.5
S_372	Node_391	50.24	20	771.21	0.5	S_714	Node_197	34.83	50	635.27	0.5
S_373	Node_229	124.19	15	1393.65	0.5	S_715	Node_167	45.36	25	570.29	0.5
S_375	Node_244	134.57	15	1031.13	0.5	S_716	Node_157	21.91	85	563.45	0.5
S_376	Node_204	46.76	20	631.85	0.5	S_717	Node_196	26.47	50	746.42	0.5
S_377	Node_214	19.37	25	514.71	0.5	S_718	Node_195	22.17	50	435.2	0.5
S_378	Node_227	11.96	85	247.1	0.5	S_719	Node_194	20.45	50	310.37	0.5
S_379	Node_228	14.98	50	266.76	0.5	S_720	Node_171	9.456	85	332.6	0.5
S_380	Node_239	12.47	50	247.1	0.5	S_721	Node_166	18.07	85	334.31	0.5
S_381	Node_203	15.77	25	274.46	0.5	S_722	Node_552	13.57	85	256.5	0.5
S_382	Node_230	47.43	15	1008.9	0.5	S_723	Node_540	6.528	85	228.29	0.5
S_383	Node_245	102.28	25	789.17	0.5	S_724	Node_192	24.37	15	264.2	0.5
S_384	Node_223	66.9	24	784.89	0.5	S_725	Node_190	7.884	85	217.17	0.5
S_386	Node_205	48.63	20	686.57	0.5	S_726	Node_158	11.06	85	208.62	0.5
S_387	Node_215	37.69	25	405.27	0.5	S_727	Node_191	19.67	85	283.01	0.5
S_388	Node_216	44.84	20	468.54	0.5	S_728	Node_162	12.01	85	233.42	0.5
S_389	Node_241	22.85	25	477.95	0.5	S_729	Node_1	4.315	85	165.87	0.5
S_391	Node_238	13.76	20	296.69	0.5	S_730	Node_143	5.158	85	171.86	0.5

Table S3. *Cont.*

NO.	Outfall	Area (hm²)	Imperv (%)	Width (m)	Slope (%)	NO.	Outfall	Area (hm²)	Imperv (%)	Width (m)	Slope (%)
S_392	Node_237	15.19	25	312.08	0.5	S_731	Node_163	9.347	85	216.32	0.5
S_393	Node_222	34.19	20	395.01	0.5	S_732	Node_551	7.588	85	239.4	0.5
S_394	Node_226	13.34	70	247.1	0.5	S_733	Node_153	5.886	85	200.07	0.5
S_395	Node_243	10.97	25	243.68	0.5	S_734	Node_152	6.079	85	210.33	0.5
S_396	Node_206	10.59	25	243.68	0.5	S_735	Node_140	6.589	85	207.77	0.5
S_397	Node_225	17.04	25	288.14	0.5	S_736	Node_141	8.556	85	221.45	0.5
S_398	Node_224	15.89	25	287.28	0.5	S_737	Node_165	8.66	85	209.48	0.5
S_423	Node_5	19.33	85	435.2	0.5	S_738	Node_161	9.488	85	218.88	0.5
S_424	Node_17	89.59	40	676.31	0.5	S_739	Node_151	10.28	85	228.29	0.5
S_426	Node_13	110.83	15	784.89	0.5	S_740	Node_168	5.283	85	169.29	0.5
S_427	Node_331	36.86	85	710.51	0.5	S_741	Node_150	9.975	85	195.8	0.5
S_428	Node_27	24.26	25	374.49	0.5	S_742	Node_164	6.859	85	167.58	0.5
S_429	Node_29	31.42	85	419.81	0.5	S_743	Node_148	11.47	85	207.77	0.5
S_430	Node_18	60.17	30	682.29	0.5	S_744	Node_176	6.543	85	213.75	0.5
S_431	Node_15	50.12	25	623.3	0.5	S_745	Node_142	8.481	90	193.23	0.5
S_432	Node_9	73.39	10	655.79	0.5	S_746	Node_144	4.687	85	153.05	0.5
S_433	Node_21	72.73	30	688.28	0.5	S_747	Node_178	1.866	85	152.19	0.5
S_434	Node_11	74.2	10	657.5	0.5	S_748	Node_177	3.317	85	159.89	0.5
S_435	Node_23	37.47	85	691.7	0.5	S_749	Node_549	1.157	85	146.21	0.5
S_436	Node_20	42.32	10	537.79	0.5	S_750	Node_548	3.588	85	171.86	0.5
S_439	Node_22	13.76	85	559.17	0.5	S_751	Node_160	2.73	85	110.3	0.5
S_442	Node_14	43.96	25	536.94	0.5	S_752	Node_550	2.207	85	122.27	0.5
S_444	Node_19	26.93	30	451.44	0.5	S_753	Node_159	1.679	85	124.83	0.5
S_445	Node_28	27.49	25	360.81	0.5	S_759	Node_264	20.91	85	434.34	0.5
S_446	Node_6	22.44	40	361.67	0.5	S_760	Node_254	18.84	85	481.37	0.5
S_447	Node_24	13.76	50	349.7	0.5	S_761	Node_35	6.837	85	223.16	0.5
S_448	Node_25	16.25	85	364.23	0.5	S_762	Node_30	14.56	85	320.63	0.5
S_449	Node_26	11.99	85	361.67	0.5	S_763	Node_510	8.43	85	323.19	0.5
S_450	Node_509	3.031	85	105.17	0.5	S_764	Node_33	8.645	85	224.87	0.5
S_452	Node_266	378.06	15	1806.62	0.5	S_765	Node_530	9.197	85	238.55	0.5
S_453	Node_3	6.292	85	218.03	0.5	S_766	Node_511	14.25	85	250.52	0.5
S_454	Node_528	7.133	85	225.72	0.5	S_767	Node_57	14.03	85	266.76	0.5
S_455	Node_261	33.25	30	542.07	0.5	S_768	Node_37	11.84	85	194.94	0.5
S_456	Node_211	10.84	85	237.69	0.5	S_769	Node_34	6.407	85	204.35	0.5
S_457	Node_213	11.23	85	240.26	0.5	S_770	Node_55	9.365	85	219.74	0.5
S_458	Node_251	13.4	85	231.71	0.5	S_771	Node_531	16.48	85	349.7	0.5
S_459	Node_250	9.179	60	207.77	0.5	S_772	Node_508	22.64	85	351.41	0.5
S_460	Node_252	11.84	60	284.71	0.5	S_773	Node_31	5.896	85	207.77	0.5
S_461	Node_256	13.93	40	315.5	0.5	S_774	Node_53	9.656	85	224.87	0.5
S_462	Node_4	68.47	15	700.25	0.5	S_775	Node_36	9.095	85	200.93	0.5
S_463	Node_253	18.02	60	314.64	0.5	S_776	Node_54	12.09	85	226.58	0.5
S_464	Node_506	27.51	50	469.4	0.5	S_777	Node_56	3.881	85	143.64	0.5
S_465	Node_255	27.32	40	480.51	0.5	S_818	Node_265	15.72	85	382.19	0.5
S_466	Node_235	11.62	85	221.45	0.5	S_819	Node_59	4.613	85	161.6	0.5
S_467	Node_507	9.804	85	247.1	0.5	S_820	Node_529	12.74	85	264.2	0.5
S_468	Node_262	12.68	85	258.21	0.5	S_821	Node_61	18.18	85	630.14	0.5
S_469	Node_505	17.77	35	327.47	0.5	S_822	Node_41	9.556	85	260.77	0.5
S_470	Node_260	24.74	35	340.29	0.5	S_823	Node_42	8.546	85	263.34	0.5
S_471	Node_257	25.92	18	349.7	0.5	S_824	Node_44	5.644	85	203.49	0.5

Table S3. *Cont.*

NO.	Outfall	Area (hm²)	Imperv (%)	Width (m)	Slope (%)	NO.	Outfall	Area (hm²)	Imperv (%)	Width (m)	Slope (%)
S_472	Node_559	27.77	50	518.13	0.5	S_825	Node_40	3.812	85	186.39	0.5
S_473	Node_247	21.55	60	340.29	0.5	S_826	Node_60	3.029	85	144.5	0.5
S_474	Node_233	9.032	85	253.94	0.5	S_827	Node_43	1.824	85	116.28	0.5
S_475	Node_248	21.02	60	418.1	0.5	S_836	Node_512	9.496	85	194.94	0.5
S_476	Node_560	10.74	85	216.32	0.5	S_837	Node_58	8.445	85	271.89	0.5
S_477	Node_208	8.814	85	247.1	0.5	S_838	Node_39	10.48	85	283.01	0.5
S_478	Node_522	10.6	85	296.69	0.5	S_839	Node_47	8.117	85	238.55	0.5
S_479	Node_259	3.99	85	184.68	0.5	S_840	Node_46	4.617	85	168.44	0.5
S_480	Node_209	7.503	85	173.57	0.5	S_841	Node_38	5.156	85	160.74	0.5
S_481	Node_525	5.112	85	175.28	0.5	S_842	Node_513	6.232	85	171.86	0.5
S_482	Node_236	5.892	85	203.49	0.5	S_843	Node_51	6.78	85	217.17	0.5
S_483	Node_561	10.05	85	231.71	0.5	S_844	Node_84	9.814	85	212.9	0.5
S_484	Node_258	12.02	85	283.86	0.5	S_845	Node_50	6.847	85	223.16	0.5
S_485	Node_249	5.955	85	206.06	0.5	S_846	Node_32	9.084	85	226.58	0.5
S_486	Node_232	6.376	85	180.41	0.5	S_847	Node_231	57.53	10	1032.84	0.5
S_487	Node_521	8.411	85	177.84	0.5	S_848	Node_502	64.9	10	1014.89	0.5
S_488	Node_210	7.996	85	186.39	0.5	S_852	Node_12	51.14	25	689.99	0.5
S_489	Node_523	9.328	85	187.25	0.5	S_854	Node_7	22.13	25	389.88	0.5
S_490	Node_234	6.223	85	177.84	0.5	S_855	Node_503	36.22	25	555.75	0.5
S_491	Node_217	2.383	85	148.77	0.5	S_856	Node_16	38.65	25	570.29	0.5
S_492	Node_526	2.924	85	154.76	0.5	S_858	Node_10	60.57	15	513.86	0.5
S_514	Node_65	5.056	90	188.96	0.34	S_859	Node_504	65.15	50	558.32	0.5
S_515	Node_202	17.14	25	389.88	0.5	S_860	Node_2	6.507	90	228.29	0.34
S_516	Node_64	5.768	90	182.12	0.34	S_861	Node_537	2.03	90	105.17	0.34
S_517	Node_539	8.624	90	228.29	0.34	S_862	Node_564	48.93	25	472.82	0.5
S_518	Node_517	3.532	90	159.89	0.34	S_863	Node_339	313.7	12	1541.57	0.5
S_519	Node_200	27.96	50	295.83	0.5	S_865	Node_220	80.79	10	1341.49	0.5
S_520	Node_137	6.695	90	180.41	0.34	S_866	Node_221	137.2	10	1400.49	0.5
S_521	Node_187	16.03	50	310.37	0.5	S_867	Node_8	88.38	15	1036.26	0.5

Section 2. The Equations of the Build-up and Wash-off

(1) The Build-up Coefficients and Exponents

There is a exponential function relationship between accumulation of pollutants and time:

$$B = C_1(1 - e^{-C_2 t}) \quad (1)$$

Where, C_1 is the maximum accumulation of pollutants, quality/per unit area; C_2 is the accumulation rate constant.

(2) The Wash-off Coefficients and Exponents Determined

The erosion process is the process of surface erosion and the dissolution of pollutants.

The amount of pollutant to be washed is proportional to the amount of contaminants remaining on the surface, shows exponential relationship with the runoff:

$$P_{off} = \frac{-dP_p}{dt} = R_c \cdot r^n \cdot P_p \quad (2.1)$$

where, P_{off} is the amount of pollutant washed by runoff, kg/s; R_c is the wash-off coefficient, mm^{-1}; n is the runoff index; r is the flow rate of per unit area of sub basin at t time, mm/h; P_p is the amount of rest pollution factor at at t time, kg/ha or kg/m; R_c and n as the input parameter for the model, the corresponding values for each pollutant are different.

The formula is derived as follows:

$$-P_{off} = \frac{dP_p}{dt} = -K \cdot P_p \tag{2.2}$$

where, K is the coefficient, s^{-1}, $K = R_c \cdot r$, put the $K = R_c \cdot r$ into the Formula (2.2):

$$P_{off} = \frac{-dP_p}{dt} = R_c \cdot r \cdot P_p \tag{2.3}$$

Formula (2.3) shows, wash-off coefficient increases with the rising of runoff, the concentration of washed pollution factor:

$$C = \frac{P_{off}}{Q} = conv\frac{(-R_c \cdot r \cdot P_p)}{A \cdot r} = conv\frac{(-R_c \cdot P_p)}{A} \tag{2.4}$$

where, C is the concentration of washed pollution factor,kg/m^3; Q is the runoff ratio, m^3/s; A is the area of sub-catchment, hm; $conv$ is the conversion coefficient.

The concentration of pollutants may increase or decrease with the increase of runoff, but in the Formula (2.4), concentration of pollutants can only be reduced with the process of the rainfall. Thus, in order to solve this problem, the index of r should greater than 1. If $n = 1$, the Formula (2.1) has changed into Formula (2.3), the concentration of pollutants can decrease with the process of the rainfall, it is inversely proportional to r^{n-1}. The concentration can be increased when the runoff ratio is large enough to change the effect of P_p.

Formula (2.1) can be calculated by finite difference method.

$$P_p(t + \Delta t) = P_p(t) \cdot \exp\left\{-R_c \cdot 0.5 \cdot [r(t)^n + r(t + \Delta t)^n] \cdot \Delta t\right\} \tag{2.5}$$

where, $0.5 \cdot [r(t)^n + r(t + \Delta t)^n] \cdot \Delta t$ is the average runoff ratio during Δt, mm/s.

Section 3. Morris Screening Method for the Sensitivity Analysis

Morris screening method is a widely used local sensitivity analysis method. A variable parameter x_i was selected, other parameter values are fixed, change the selected parameter value x_i, by running the model, the value of target $y(x) = y(x_1, x_2, x_3, \ldots, x_n)$ is achieved. The influence degree of the change of the parameters on the output value is judged by the influence value e_i.

$$e_i = \left(y^* - y\right) / \Delta_i \tag{6}$$

Where y^* as the output value after the change of parameters value, Δi as the parameter variation.

Section 4. Rainfall-runoff Coefficient in "3.2.2. Rainfall-runoff Coefficient"

The rainfall-runoff coefficient is an important parameter in the design work of rainwater pipe network. While the rainfall-runoff coefficient is used in the design specification in China, which is the empirical value according to the type of underlying surface.

Table S4. The rainfall-runoff coefficient of some cities in China.

City	Rainfall-runoff Coefficient	City	rainFall-runoff Coefficient
Shanghai	0.50–0.60, Max 0.80, new residential area 0.40–0.44, Industrial area 0.40–0.50	Beijing	central area 0.70 commercial and residential areas 0.60 urban planning area 0.55
Wuxi	0.50, central area 0.70–0.75	Xian	urban 0.54, suburbs 0.43–0.47
Changzhou	0.55–0.60	Qiqihaer	0.30–0.50
Nanjing	0.50–0.70	Jiamusi	0.30–0.45
Hangzhou	residential area 0.60	Haerbin	0.35–0.45
Ningbo	0.50	Jilin	0.45
Changsha	0.6–0.90	Yingkou	suburbs 0.38, urban0.45
Chongqing	0.70, Max.0.85	Baicheng	Suburbs 0.35, urban0.38
Shashi	0.60	Siping	0.39
Chengdu	0.60	Tongliao	0.38
Guangzhou	0.50–0.90	Hunjiang	0.40
Jinan	0.60	Tangshan	0.50
Tianjin	0.30–0.90	Baoding	0.50–0.70
Lanzhou	0.60	Kunming	0.60
Guiyang	0.75	Xining	Semi built-up area0.30, Semi built-up area 0.50

Section 5

The calculations of k and u in Equation (7):

$$C(x) = C_0 \exp(-k \cdot \frac{x}{u}) \quad (7)$$

Take the logarithm of both sides of the formula and change to:

$$\ln C(x) = \ln C_0 - k \cdot \frac{x}{u}$$

Suppose the $Y = \ln C(x)$; $a = \ln C_0$, $X = x$.

$$Y = a + X$$

Then, regressive analysis is made on groups of monitoring data,

$$\begin{cases} na_0 + a_1 \sum X_i = \sum y_i \\ a_0 \sum x_i + a_1 \sum X_i^2 = \sum X_i Y_i \end{cases}$$

the value for k is 0.5 d^{-1}, C_0 is 165. u = 22.5 km/d is the mean value of the monitoring data.