HYDROLOGY - MAJOR 100 YEAR STORM EVENT

Pit Name	Pit Type	Catch ID	Time Tc	Intensity I	Runoff C	Area A	Full CA	Full Sum CA	Full Qc=CIA	Partial CA	Partial Sum CA	Partial Qc=CIA	Catchment Flow Qc	Approach Flow Qa	Flooded Depth	Flooded Width	Flooded Vel.Dep	Max Pond Depth	Inlet Flow Qg	Bypass Flow Qb	Bypass Pit
(-)	(-)	(-)	(min)	(mm/hr)	(-)	(ha)	(ha)	(ha)	(L/s)	(ha)	(ha)	(L/s)	(L/s)	(L/s)	(m)	(m)	(sq.m/s)	(m)	(L/s)	(L/s)	(-)
1/13	1.8 m lintel	1P	6.00	204.98	1.00	0.0037	0.0037	0.0336	19.1	0.0012	0.0311	17.7	19.1	19.1	0.042	2.07	0.02		15.3	3.8	1/12
		1I	2.00	204.98	0.90	0.0332	0.0299			0.0299											
1/12	1.8 m lintel	1P	6.00	204.98	1.00	0.0041	0.0041	0.0377	21.5	0.0014	0.0350	19.9	21.5	25.3	0.034	1.74	0.03		19.4	5.9	1/11
		1I	2.00	204.98	0.90	0.0373	0.0336			0.0336											
1/11	1.8 m lintel	1P	6.00	204.98	1.00	0.0030	0.0030	0.0269	15.3	0.0010	0.0249	14.2	15.3	21.2	0.033	1.99	0.02		16.8	4.4	1/10
		1I	2.00	204.98	0.90	0.0266	0.0239			0.0239											
1/10	Dish Drain Inlet	1P	6.00	204.98	1.00	0.0022	0.0022	0.0198	11.3	0.0007	0.0184	10.5	11.3	15.7	0.050	1.59	0.03		6.6	9.1	1/09
		1I	2.00	204.98	0.90	0.0196	0.0177			0.0177											
1/09	Dish Drain Inlet	1P	6.00	204.98	1.00	0.0028	0.0028	0.0259	14.7	0.0009	0.0240	13.7	14.7	23.8	0.055	2.14	0.04		9.2	14.6	1/08
		1I	2.00	204.98	0.90	0.0256	0.0230			0.0230											
1/08	1.8 m lintel	1P	6.00	204.98	1.00	0.0032	0.0032	0.0290	16.5	0.0011	0.0269	15.3	16.5	31.1	0.067	1.49	0.07		22.9	8.3	1/07
		1I	2.00	204.98	0.90	0.0287	0.0258			0.0258											
1/07	1.8 m lintel	1P	6.00	204.98	1.00	0.0022	0.0022	0.0204	11.6	0.0007	0.0189	10.8	11.6	21.9	0.060	1.09	0.07		17.2	4.7	1/06
		1I	2.00	204.98	0.90	0.0202	0.0182			0.0182											
1/06	1.8 m lintel	1P	6.00	204.98	1.00	0.0017	0.0017	0.0151	8.6	0.0006	0.0140	8.0	8.6	13.3	0.033	0.55	0.04		10.6	2.7	1/05
		1I	2.00	204.98	0.90	0.0149	0.0134			0.0134											
1/05	1.8 m lintel	1P	6.00	204.98	1.00	0.0027	0.0027	0.0242	13.8	0.0009	0.0224	12.8	13.8	16.4	0.023	1.41	0.02		13.1	3.3	1/04
		1I	2.00	204.98	0.90	0.0239	0.0215			0.0215											
1/04	1.8 m lintel	1P	6.00	204.98	1.00	0.0026	0.0026	0.0233	13.3	0.0009	0.0216	12.3	13.3	16.6	0.023	1.46	0.02		13.3	3.3	1/03
		1I	2.00	204.98	0.90	0.0231	0.0208			0.0208											
1/03	1.8 m lintel	1P	6.00	204.98	1.00	0.0020	0.0020	0.0178	10.1	0.0007	0.0165	9.4	10.1	13.5	0.043	0.48	0.06		10.8	2.7	1/02
		1I	2.00	204.98	0.90	0.0176	0.0159			0.0159											
1/02	1.8 m lintel	1P	6.00	204.98	1.00	0.0020	0.0020	0.0182	10.4	0.0007	0.0169	9.6	10.4	13.0	0.009	3.70	0.00		10.4	2.6	1/01
		1I	2.00	204.98	0.90	0.0180	0.0162			0.0162											
1/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0037	0.0037	0.0336	19.1	0.0012	0.0312	17.7	19.1	21.7	0.073	2.45	0.03		17.1	4.6	16/02
		1I	2.00	204.98	0.90	0.0332	0.0299			0.0299											
2/07	1.8 m lintel	1P	6.00	204.98	1.00	0.0044	0.0044	0.0400	22.8	0.0015	0.0371	21.1	22.8	41.8	0.068	2.56	0.04		26.8	15.0	2/06
		1I	2.00	204.98	0.90	0.0396	0.0356			0.0356											
2/06	1.8 m lintel	1P	6.00	204.98	1.00	0.0022	0.0022	0.0196	11.2	0.0007	0.0182	10.4	11.2	26.2	0.059	2.10	0.03		20.0	6.2	2/05
		1I	2.00	204.98	0.90	0.0194	0.0175			0.0175											
2/05	1.8 m lintel	1P	6.00	204.98	1.00	0.0021	0.0021	0.0195	11.1	0.0007	0.0181	10.3	11.1	17.3	0.052	1.74	0.03		13.9	3.5	2/03
		1I	2.00	204.98	0.90	0.0193	0.0173			0.0173											
2/04	Junction Pit 600x600																				-
2/03	1.8 m lintel	1P	6.00	204.98	1.00	0.0022	0.0022	0.0199	11.3	0.0007	0.0184	10.5	11.3	14.8	0.050	1.63	0.02		11.8	3.0	2/02
		1I	2.00	204.98	0.90	0.0197	0.0177			0.0177											
2/02	1.8 m lintel	1P	6.00	204.98	1.00	0.0022	0.0022	0.0196	11.2	0.0007	0.0182	10.4	11.2	14.1	0.049	1.58	0.02		11.3	2.8	2/01
		1I	2.00	204.98	0.90	0.0194	0.0175			0.0175											
2/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0022	0.0022	0.0196	11.2	0.0007	0.0182	10.4	11.2	14.0	0.049	1.58	0.02		11.2	2.8	17/01
		1I	2.00	204.98	0.90	0.0194	0.0175			0.0175											
3/08	1.8 m lintel	1P	6.00	204.98	1.00	0.0082	0.0082	0.0747	42.5	0.0027	0.0692	39.4	42.5	61.9	0.095	2.31	0.07		31.6	30.2	3/07
		1I	2.00	204.98	0.90	0.0739	0.0665			0.0665											
3/07	1.8 m lintel	1P	6.00	204.98	1.00	0.0026	0.0026	0.0233	13.3	0.0009	0.0216	12.3	13.3	43.5	0.085	1.92	0.06		27.2	16.3	3/06
		1I	2.00	204.98	0.90	0.0231	0.0207			0.0207											
3/06	1.8 m lintel	1P	6.00	204.98	1.00	0.0017	0.0017	0.0155	8.9	0.0006	0.0144	8.2	8.9	25.1	0.063	1.28	0.05		19.3	5.8	3/05
		1I	2.00	204.98	0.90	0.0154	0.0138			0.0138											
3/05	1.8 m lintel	1P	6.00	204.98	1.00	0.0054	0.0054	0.0491	28.0	0.0018	0.0455	25.9	28.0	33.8	0.068	1.38	0.07		23.9	9.9	3/04
		1I	2.00	204.98	0.90	0.0486	0.0437			0.0437											
3/04	2.4 m lintel sag	1P	6.00	204.98	1.00	0.0050	0.0050	0.0457	26.0	0.0017	0.0424	24.1	26.0	60.0	0.088			0.088	45.1	14.9	3/03
		1I	2.00	204.98	0.90	0.0452	0.0407			0.0407											
3/03	2.4 m lintel sag	1P	6.00	204.98	1.00	0.0022	0.0022	0.0204	11.6	0.0007	0.0189	10.8	11.6	34.0	0.074			0.088	34.0		3/02
		1I	2.00	204.98	0.90	0.0202	0.0182			0.0182											
3/02	GPT													0.0					0.0		-
3/01	HW 1050																				-
4/06	1.8 m lintel	1P	6.00	204.98	1.00	0.0058	0.0058	0.0529	30.1	0.0019	0.0491	27.9	30.1	33.4	0.033	1.94	0.03		23.8	9.6	4/05
		1I	2.00	204.98	0.90	0.0524	0.0471			0.0471											
4/05	1.8 m lintel	1P	6.00	204.98	1.00	0.0043	0.0043	0.0389	22.2	0.0014	0.0361	20.5	22.2	31.8	0.037	1.37	0.05		23.1	8.7	4/04
		1I	2.00	204.98	0.90	0.0385	0.0347			0.0347											
4/04	1.8 m lintel	1P	6.00	204.98	1.00	0.0054	0.0054	0.0496	28.2	0.0018	0.0459	26.2	28.2	36.9	0.027	1.71	0.03		-178.9	215.8	4/03
		1I	2.00	204.98	0.90	0.0490	0.0441			0.0441											
4/03	1.8 m lintel	1P	6.00	204.98	1.00	0.0043	0.0043	0.0389	22.1	0.0014	0.0360	20.5	22.1	237.9	0.103	2.41	0.25		49.6	188.3	EX4/02
		1I	2.00	204.98	0.90	0.0384	0.0346			0.0346											
4/02	1.8 m lintel	1P	6.00	204.98	1.00	0.0012	0.0012	0.0113	6.4	0.0004	0.0104	5.9	6.4	9.8	0.037	0.38	0.05		-25.0	34.9	EX4/01
		1I	2.00	204.98	0.90	0.0111	0.0100			0.0100											
4/01	HW 600																				-
5/01	Stub Connection													0.0					0.0		-
6/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0023	0.0023	0.0212	12.1	0.0008	0.0196	11.2	12.1	15.1	0.050	1.64	0.02		12.1	3.0	40/01
		1I	2.00	204.98	0.90	0.0209	0.0188			0.0188											
7/01	Dish Drain Inlet	1P	6.00	204.98	1.00	0.0019	0.0019	0.0169	9.6	0.0006	0.0157	8.9	9.6	30.7	0.052	1.85	0.06		11.4	19.3	3/08
		1I	2.00	204.98	0.90	0.0167	0.0150			0.0150											
8/06	Dish Drain Inlet Sag	1P	6.00	204.98	1.00	0.0028	0.0028	0.0255	14.5	0.0009	0.0237	13.5	14.5	443.2	0.150			0.150	109.2	333.9	8/02
		1I	2.00	204.98	0.90	0.0253	0.0227			0.0227											
8/05	Junction Pit 900x900																				-
8/04	Junction Pit 900x900																				-
8/03	Junction Pit 900x900																				-
8/02	1.8 m lintel	1P	6.00	204.98	1.00	0.0026	0.0026	0.0237	13.5	0.0009	0.0220	12.5	13.5	347.4					-38.9	386.3	-

CAMDEN COUNCIL
Approved by the Council of Camden under the provisions of the Environment Planning and Assessment Act 1979
APPROVAL
27/06/2016
CONSTRUCTION CERTIFICATE
CC 16.2015.1230.1

Issue	Description	Date
06	ISSUE FOR CONSTRUCTION CERTIFICATE	13/06/16
05	ISSUE FOR CONSTRUCTION CERTIFICATE	02/06/16
04	ISSUE FOR CONSTRUCTION CERTIFICATE	23/05/16
03	ISSUE FOR CONSTRUCTION CERTIFICATE	11/04/16
02	ISSUE FOR CONSTRUCTION CERTIFICATE	07/04/16
01	ISSUE FOR CONSTRUCTION CERTIFICATE	26/02/16

100mm on Original

Client: SEKISUI HOUSE

Status: CONSTRUCTION CERTIFICATE
NOT TO BE USED FOR CONSTRUCTION

Scales	N.T.S.	Current Issue Signatures	
		Drawn J. VARGAS	
Original Size	A1	Designed A. MALABUYOC	
Height Datum	AHD	Checked A. KALAJZICH	
Grid	MGA	Approved R. SMITH	

Filename:

Project: THE HERMITAGE
HERMITAGE WAY

Title: STORMWATER DRAINAGE CALCULATION SHEET 4

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Drawing No.	Project No.	Issue
TRHW-CI-323	AA007442CC	06

Edit by: JVHN0894

Date Plotted: 10 Jun 2016 - 04:27PM File Name: K:\MP000909-The_Hermitage_BBS\E-OurDrawings\C-Civil\D-Final\B-CC\TURNER ROAD\Hermitage Way\TRHW-CI-323-StormwaterDrainageCalculationSheet4.dwg V1

HYDROLOGY - MAJOR 100 YEAR STORM EVENT

Pit Name	Pit Type	Catch ID	Time Tc	Intensity I	Runoff C	Area A	Full CA	Full Sum CA	Full Qc=CIA	Partial CA	Partial Sum CA	Partial Qc=CIA	Catchment Flow Qc	Approach Flow Qa	Flooded Depth	Flooded Width	Flooded Vel.Dep	Max Pond Depth	Inlet Flow Qg	Bypass Flow Qb	Bypass Pit
(-)	(-)	(-)	(min)	(mm/hr)	(-)	(ha)	(ha)	(ha)	(L/s)	(ha)	(ha)	(L/s)	(L/s)	(L/s)	(m)	(m)	(sq.m/s)	(m)	(L/s)	(L/s)	(-)
		11	2.00	204.98	0.90	0.0234	0.0211			0.0211											
8/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0011	0.0011	0.0100	5.7	0.0004	0.0093	5.3	5.7	5.7					5.7		-
		11	2.00	204.98	0.90	0.0099	0.0089			0.0089											
9/01	Dish Drain Inlet	1P	6.00	204.98	1.00	0.0030	0.0030	0.0272	15.5	0.0010	0.0252	14.3	15.5	33.0	0.053	1.92	0.06		11.9	21.1	7/01
		11	2.00	204.98	0.90	0.0269	0.0242			0.0242											
10/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0036	0.0036	0.0326	18.5	0.0012	0.0302	17.2	18.5	29.9	0.064	1.44	0.06		22.3	7.6	3/03
		11	2.00	204.98	0.90	0.0322	0.0290			0.0290											
11/07	1.8 m lintel	1P	6.00	204.98	1.00	0.0008	0.0008	0.0075	4.3	0.0003	0.0070	4.0	4.3	4.3	0.061	0.70	0.01		3.4	0.9	11/06
		11	2.00	204.98	0.90	0.0074	0.0067			0.0067											
11/06	1.8 m lintel	1P	6.00	204.98	1.00	0.0033	0.0033	0.0303	17.2	0.0011	0.0280	16.0	17.2	18.1	0.042	2.50	0.02		14.5	3.6	11/05
		11	2.00	204.98	0.90	0.0299	0.0269			0.0269											
11/05	1.8 m lintel	1P	6.00	204.98	1.00	0.0044	0.0044	0.0398	22.7	0.0015	0.0369	21.0	22.7	26.3	0.034	1.72	0.04		20.0	6.3	11/04
		11	2.00	204.98	0.90	0.0394	0.0354			0.0354											
11/04	1.8 m lintel	1P	6.00	204.98	1.00	0.0047	0.0047	0.0424	24.1	0.0016	0.0393	22.3	24.1	30.4	0.035	1.79	0.04		22.6	7.8	11/03
		11	2.00	204.98	0.90	0.0419	0.0377			0.0377											
11/03	1.8 m lintel	1P	6.00	204.98	1.00	0.0048	0.0048	0.0432	24.6	0.0016	0.0401	22.8	24.6	32.5	0.034	1.68	0.04		23.4	9.1	11/02
		11	2.00	204.98	0.90	0.0428	0.0385			0.0385											
11/02	1.8 m lintel	1P	6.00	204.98	1.00	0.0050	0.0050	0.0453	25.8	0.0017	0.0420	23.9	25.8	34.9	0.036	1.53	0.05		24.3	10.5	11/01
		11	2.00	204.98	0.90	0.0448	0.0403			0.0403											
11/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0034	0.0034	0.0308	17.5	0.0011	0.0285	16.3	17.5	28.0	0.064	1.04	0.08		21.1	6.9	18/03
		11	2.00	204.98	0.90	0.0305	0.0274			0.0274											
12/01	Grated Drain	1P	6.00	204.98	1.00	0.0046	0.0046	0.0418	23.8	0.0015	0.0388	22.1	23.8	98.6	0.063	0.60	0.38		98.6		25/01
		11	2.00	204.98	0.90	0.0414	0.0372			0.0372											
13/06	1.8 m lintel	1P	6.00	204.98	1.00	0.0016	0.0016	0.0146	8.3	0.0005	0.0135	7.7	8.3	8.3	0.048	1.01	0.02		6.7	1.7	13/04
		11	2.00	204.98	0.90	0.0144	0.0130			0.0130											
13/05	Junction Pit 600x600																				-
13/04	1.8 m lintel	1P	6.00	204.98	1.00	0.0033	0.0033	0.0302	17.2	0.0011	0.0280	15.9	17.2	18.9	0.061	1.73	0.03		15.1	3.8	13/03
		11	2.00	204.98	0.90	0.0299	0.0269			0.0269											
13/03	1.8 m lintel	1P	6.00	204.98	1.00	0.0024	0.0024	0.0218	12.4	0.0008	0.0202	11.5	12.4	16.2	0.059	1.57	0.03		13.0	3.2	13/02
		11	2.00	204.98	0.90	0.0216	0.0194			0.0194											
13/02	Dish Drain Inlet	1P	6.00	204.98	1.00	0.0017	0.0017	0.0152	8.6	0.0006	0.0141	8.0	8.6	17.8	0.024	0.92	0.03		8.1	9.7	-
		11	2.00	204.98	0.90	0.0150	0.0135			0.0135											
13/01	HW 525																				-
14/01	Interallotment Pit 600x600	1P	6.00	204.98	1.00	0.0354	0.0354	0.3222	183.4	0.0177	0.3045	173.4	183.4	183.4	0.142	2.70	0.10		183.4		22/01
		11	3.00	204.98	0.90	0.3186	0.2868			0.2868											
15/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0026	0.0026	0.0233	13.3	0.0009	0.0216	12.3	13.3	14.4	0.035	1.87	0.02		11.5	2.9	30/01
		11	2.00	204.98	0.90	0.0231	0.0208			0.0208											
16/02	1.8 m lintel	1P	6.00	204.98	1.00	0.0038	0.0038	0.0345	19.6	0.0013	0.0320	18.2	19.6	24.3	0.034	5.59	0.02		18.7	5.5	23/02
		11	2.00	204.98	0.90	0.0341	0.0307			0.0307											
16/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0014	0.0014	0.0123	7.0	0.0005	0.0114	6.5	7.0	7.0	0.050	0.86	0.02		5.6	1.4	CP/03
		11	2.00	204.98	0.90	0.0122	0.0110			0.0110											
17/01	Dish Drain Inlet Sag	1P	6.00	204.98	1.00	0.0027	0.0027	0.0247	14.1	0.0009	0.0229	13.0	14.1	523.6	0.150			0.150	109.2	414.3	8/06
		11	2.00	204.98	0.90	0.0245	0.0220			0.0220											
18/03	2.4 m lintel sag	1P	6.00	204.98	1.00	0.0077	0.0077	0.0700	39.9	0.0026	0.0649	37.0	39.9	49.1	0.093			0.150	49.1		18/02
		11	2.00	204.98	0.90	0.0693	0.0623			0.0623											
18/02	2.4 m lintel	1P	6.00	204.98	1.00	0.0014	0.0014	0.0126	7.2	0.0005	0.0117	6.6	7.2	9.6	0.031	0.79	0.02		7.7	1.9	18/01
		11	2.00	204.98	0.90	0.0124	0.0112			0.0112											
18/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0029	0.0029	0.0268	15.3	0.0010	0.0249	14.2	15.3	17.2	0.046	0.49	0.07		13.8	3.4	4/02
		11	2.00	204.98	0.90	0.0265	0.0239			0.0239											
19/01	Dish Drain Inlet	1P	6.00	204.98	1.00	0.0017	0.0017	0.0150	8.6	0.0006	0.0139	7.9	8.6	11.3	0.053	1.89	0.02		5.4	5.9	13/02
		11	2.00	204.98	0.90	0.0149	0.0134			0.0134											
20/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0010	0.0010	0.0090	5.1	0.0003	0.0084	4.8	5.1	5.1	0.038	0.58	0.02		4.1	1.0	34/01
		11	2.00	204.98	0.90	0.0089	0.0080			0.0080											
22/01	Interallotment Pit 600x600	1P	6.00	204.98	1.00	0.0201	0.0201	0.1833	104.3	0.0101	0.1732	98.6	104.3	104.3	0.106	2.27	0.06		104.3		13/02
		11	3.00	204.98	0.90	0.1812	0.1631			0.1631											
23/02	2.4 m lintel sag	1P	6.00	204.98	1.00	0.0021	0.0021	0.0187	10.7	0.0007	0.0173	9.9	10.7	41.1	0.083			0.150	41.1		23/01
		11	2.00	204.98	0.90	0.0185	0.0167			0.0167											
23/01	2.4 m lintel sag	1P	6.00	204.98	1.00	0.0064	0.0064	0.0580	33.0	0.0021	0.0537	30.6	33.0	58.6	0.101			0.150	58.6		-
		11	2.00	204.98	0.90	0.0573	0.0516			0.0516											
24/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0058	0.0058	0.0532	30.3	0.0019	0.0493	28.1	30.3	30.3	0.037	1.77	0.04		22.5	7.8	28/01
		11	2.00	204.98	0.90	0.0526	0.0474			0.0474											
25/02	1.8 m lintel	1P	6.00	204.98	1.00	0.0045	0.0045	0.0411	23.4	0.0015	0.0381	21.7	23.4	27.3	0.057	1.53	0.05		20.7	6.6	25/01
		11	2.00	204.98	0.90	0.0406	0.0366			0.0366											
25/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0018	0.0018	0.0167	9.5	0.0006	0.0155	8.8	9.5	16.2	0.030	0.73	0.04		12.9	3.2	4/06
		11	2.00	204.98	0.90	0.0165	0.0149			0.0149											
26/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0019	0.0019	0.0169	9.6	0.0006	0.0157	8.9	9.6	9.6					7.7	1.9	1/07
		11	2.00	204.98	0.90	0.0167	0.0151			0.0151											
27/01	Dish Drain Inlet	1P	6.00	204.98	1.00	0.0054	0.0054	0.0495	28.2	0.0027	0.0468	26.6	28.2	28.2	0.051	1.72	0.06		10.6	17.6	9/01
		11	3.00	204.98	0.90	0.0489	0.0440			0.0440											
28/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0029	0.0029	0.0265	15.1	0.0010	0.0246	14.0	15.1	22.9	0.035	2.05	0.02		17.8	5.0	43/01
		11	2.00	204.98	0.90	0.0262	0.0236			0.0236											
29/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0021	0.0021	0.0192	10.9	0.0007	0.0178	10.1	10.9	10.9	0.033	1.13	0.03		8.8	2.2	31/01
		11	2.00	204.98	0.90	0.0190	0.0171			0.0171											
30/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0024	0.0024	0.0218	12.4	0.0008	0.0202	11.5	12.4	15.3	0.050	1.65	0.02		12.2	3.1	6/01
		11	2.00	204.98	0.90	0.0216	0.0194			0.0194											

CAMDEN COUNCIL
Approved by the Council of Camden under the provisions of the Environment Planning and Assessment Act 1979
APPROVAL
27/06/2016
CONSTRUCTION CERTIFICATE
CC 16.2015.1230.1

Issue	Description	Date
07	ISSUE FOR CONSTRUCTION CERTIFICATE	15/06/16
06	ISSUE FOR CONSTRUCTION CERTIFICATE	13/06/16
05	ISSUE FOR CONSTRUCTION CERTIFICATE	02/06/16
04	ISSUE FOR CONSTRUCTION CERTIFICATE	23/05/16
03	ISSUE FOR CONSTRUCTION CERTIFICATE	11/04/16
02	ISSUE FOR CONSTRUCTION CERTIFICATE	07/04/16
01	ISSUE FOR CONSTRUCTION CERTIFICATE	26/02/16

100mm on Original

Client: SEKISUI HOUSE

Status: CONSTRUCTION CERTIFICATE
NOT TO BE USED FOR CONSTRUCTION

Scales	N.T.S.	Current Issue Signatures	
		Drawn J. VARGAS	
Original Size	A1	Designed A. MALABUYOC	
Height Datum	AHD	Checked A. KALAJZICH	
Grid	MGA	Approved R. SMITH	

Filename:

Project: THE HERMITAGE
HERMITAGE WAY

Title: STORMWATER DRAINAGE CALCULATION SHEET 5

ARCADIS
76 104 485 289
Level 5, 141 Walker St
North Sydney NSW 2060
Australia
Tel: +61 (0)2 8907 9000
Fax: +61 (0)2 8907 9001

Drawing No.	Project No.	Issue
TRHW-CI-324	—AA007442CC—	07

Edit by RCMN1199

HYDROLOGY - MAJOR 100 YEAR STORM EVENT

Pit Name	Pit Type	Catch ID	Time Tc	Intensity I	Runoff C	Area A	Full CA	Full Sum CA	Full Qc=CIA	Partial CA	Partial Sum CA	Partial Qc=CIA	Catchment Flow Qc	Approach Flow Qa	Flooded Depth	Flooded Width	Flooded Vel.Dep	Max Pond Depth	Inlet Flow Qg	Bypass Flow Qb	Bypass Pit
(-)	(-)	(-)	(min)	(mm/hr)	(-)	(ha)	(ha)	(ha)	(L/s)	(ha)	(ha)	(L/s)	(L/s)	(L/s)	(m)	(m)	(sq.m/s)	(m)	(L/s)	(L/s)	(-)
31/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0034	0.0034	0.0307	17.5	0.0011	0.0284	16.2	17.5	19.7	0.031	1.51	0.03		15.7	3.9	25/02
		1I	2.00	204.98	0.90	0.0304	0.0273			0.0273											
32/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0024	0.0024	0.0214	12.2	0.0008	0.0198	11.3	12.2	15.3	0.050	1.64	0.02		12.2	3.1	8/06
		1I	2.00	204.98	0.90	0.0212	0.0190			0.0190											
34/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0022	0.0022	0.0197	11.2	0.0007	0.0182	10.4	11.2	12.2	0.054	1.33	0.03		9.8	2.4	42/01
		1I	2.00	204.98	0.90	0.0195	0.0175			0.0175											
35/01	Dish Drain Inlet	1P	6.00	204.98	1.00	0.0021	0.0021	0.0188	10.7	0.0007	0.0174	9.9	10.7	30.3	0.059	1.88	0.05		11.3	19.0	2/07
		1I	2.00	204.98	0.90	0.0186	0.0167			0.0167											
36/02	1.8 m lintel	1P	6.00	204.98	1.00	0.0011	0.0011	0.0100	5.7	0.0004	0.0093	5.3	5.7	5.7	0.019	1.28	0.01		4.6	1.1	36/01
		1I	2.00	204.98	0.90	0.0099	0.0089			0.0089											
36/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0021	0.0021	0.0195	11.1	0.0007	0.0181	10.3	11.1	12.3	0.043	0.83	0.04		9.8	2.5	18/02
		1I	2.00	204.98	0.90	0.0193	0.0174			0.0174											
37/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0010	0.0010	0.0094	5.3	0.0003	0.0087	5.0	5.3	5.3	0.036	0.91	0.01		4.3	1.1	15/01
		1I	2.00	204.98	0.90	0.0093	0.0084			0.0084											
38/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0021	0.0021	0.0189	10.8	0.0007	0.0175	10.0	10.8	11.9	0.042	0.76	0.04		9.5	2.4	18/03
		1I	2.00	204.98	0.90	0.0187	0.0169			0.0169											
39/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0010	0.0010	0.0095	5.4	0.0003	0.0088	5.0	5.4	5.4	0.019	1.10	0.01		4.3	1.1	38/01
		1I	2.00	204.98	0.90	0.0094	0.0085			0.0085											
40/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0024	0.0024	0.0217	12.4	0.0008	0.0201	11.5	12.4	15.4	0.050	1.65	0.02		12.3	3.1	32/01
		1I	2.00	204.98	0.90	0.0215	0.0193			0.0193											
41/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0070	0.0070	0.0637	36.3	0.0023	0.0591	33.6	36.3	36.3	0.081	1.88	0.05		24.9	11.4	10/01
		1I	2.00	204.98	0.90	0.0630	0.0567			0.0567											
42/01	1.8 m lintel	1P	6.00	204.98	1.00	0.0022	0.0022	0.0197	11.2	0.0007	0.0183	10.4	11.2	13.7	0.056	1.43	0.03		11.0	2.7	19/01
		1I	2.00	204.98	0.90	0.0195	0.0176			0.0176											
43/01	Dish Drain Inlet	1P	6.00	204.98	1.00	0.0025	0.0025	0.0229	13.1	0.0008	0.0212	12.1	13.1	18.1	0.052	1.81	0.04		7.4	10.7	44/01
		1I	2.00	204.98	0.90	0.0227	0.0204			0.0204											
44/01	Dish Drain Inlet	1P	6.00	204.98	1.00	0.0039	0.0039	0.0358	20.4	0.0013	0.0332	18.9	20.4	31.1	0.059	2.51	0.04		11.5	19.6	35/01
		1I	2.00	204.98	0.90	0.0354	0.0318			0.0318											
CP/04	Raised Grate Inlet 2400x2100	1P	10.00	167.31	0.69	1.4494	0.9998	1.8694	868.8	0.6999	1.5695	843.0	868.8	868.8	0.150			0.150	868.8		23/02
		1I	7.00	193.37	0.90	0.9663	0.8696			0.8696											
CP/03	1.8 m lintel	1P	6.00	204.98	1.00	0.0005	0.0005	0.0046	2.6	0.0002	0.0042	2.4	2.6	4.0	0.046	0.64	0.01		3.2	0.8	23/01
		1I	2.00	204.98	0.90	0.0045	0.0041			0.0041											
CP/02	GPT													0.0					0.0		-
CP/01	HW 1050																				-
Z1/01	Interallotment Pit 900x900	1P	6.00	204.98	1.00	0.1977	0.1977	1.7987	1024.2	0.1647	1.7658	1005.4	1024.2	1024.2	0.259	4.11	0.25		650.0	374.2	Z2/01
		1I	5.00	204.98	0.90	1.7789	1.6011			1.6011											
Z2/01	Interallotment Pit 900x900	1P	6.00	204.98	1.00	0.1170	0.1170	1.0651	606.5	0.0975	1.0456	595.3	606.5	980.6	0.228	3.74	0.21		487.6	493.0	17/01
		1I	5.00	204.98	0.90	1.0534	0.9481			0.9481											
Z3/01	Interallotment Pit 900x900	1P	7.00	193.37	0.69	0.3093	0.2133	0.3989	214.3	0.1829	0.3684	209.8	214.3	214.3	0.153	2.84	0.11		167.9	46.4	Z4/01
		1I	6.00	204.98	0.90	0.2062	0.1856			0.1856											
Z4/01	Interallotment Pit 900x900	1P	7.00	193.37	0.69	0.4615	0.3184	0.5953	319.8	0.2729	0.5498	313.1	319.8	366.2	0.198	3.38	0.17		347.4	18.8	Z5/01
		1I	6.00	204.98	0.90	0.3077	0.2769			0.2769											
Z5/01	Interallotment Pit 600x600	1P	7.00	193.37	0.69	0.6982	0.4816	0.9005	483.7	0.4128	0.8317	473.6	483.7	502.5	0.23	3.76	0.21		478.4	24.1	3/04
		1I	6.00	204.98	0.90	0.4655	0.4189			0.4189											
Z6/02	Interallotment Pit 900x900	1P	6.00	204.98	1.00	0.0710	0.0710	0.6463	368.0	0.0592	0.6345	361.3	368.0	368.0	0.199	3.39	0.17		293.2	74.8	12/01
		1I	5.00	204.98	0.90	0.6392	0.5753			0.5753											
Z6/01	Junction Pit 600x600																				-

CAMDEN COUNCIL
Approved by the Council of Camden under the provisions of the Environment Planning and Assessment Act 1979
APPROVAL
27/06/2016
CONSTRUCTION CERTIFICATE
CC 16.2015.1230.1

Issue	Description	Date
07	ISSUE FOR CONSTRUCTION CERTIFICATE	15/06/16
06	ISSUE FOR CONSTRUCTION CERTIFICATE	13/06/16
05	ISSUE FOR CONSTRUCTION CERTIFICATE	02/06/16
04	ISSUE FOR CONSTRUCTION CERTIFICATE	23/05/16
03	ISSUE FOR CONSTRUCTION CERTIFICATE	11/04/16
02	ISSUE FOR CONSTRUCTION CERTIFICATE	07/04/16
01	ISSUE FOR CONSTRUCTION CERTIFICATE	26/02/16

100mm on Original

Client: SEKISUI HOUSE

Status: CONSTRUCTION CERTIFICATE
NOT TO BE USED FOR CONSTRUCTION

Scales	N.T.S.	Current Issue Signatures	
		Drawn J. VARGAS	
Original Size	A1	Designed A. MALABUYOC	
Height Datum	AHD	Checked A. KALAJZICH	
Grid	MGA	Approved R. SMITH	
Filename:			

Project: THE HERMITAGE
HERMITAGE WAY

Title: STORMWATER DRAINAGE
CALCULATION SHEET 6

ARCADIS
76 104 485 289
Level 5, 141 Walker St
North Sydney NSW 2060
Australia
Tel: +61 (0)2 8907 9000
Fax: +61 (0)2 8907 9001

Drawing No.	Project No.	Issue
TRHW-CI-325	—AA007442CC—	07

Edit by RCMN1199

HYDRAULICS - MINOR 10 YEAR STORM EVENT

Pipe	Pipe	Pipe	Full Pipe	Pipe	Full-area	Full-area	Full-area	Full-area	Part-area	Part-area	Part-area	Part-area	Peak	Net Bypass	Pipe	Capacity	Full Pipe	Norm Depth	Crit Depth	Capacity Vel	US Pit	Colebrook k	F'board
ID	Length	Size	Area Af	Grade	Tct	I	Sum CA	Qc=CIA	Tct	I	Sum CA	Qc=CIA	Flow Qrat	Flow Qb	Flow Q	Flow Qcap	Vel Vf=Q/Af	Vel Vn=Q/An	Vel Vc=Q/Ac	Vcap=Qcap/Af	Ku	Roughness	US
(-)	(m)	(mm)	(sq.m)	(%)	(min)	(mm/hr)	(ha)	(L/s)	(min)	(mm/hr)	(ha)	(L/s)	(L/s)	(L/s)	(L/s)	(L/s)	(m/s)	(m/s)	(m/s)	(m/s)	(-)	(mm)	(m)
1/13 to 1/12	20.89	375	0.110	1.00	6.00	136.04	0.0330	12.5	6.00	136.04	0.0330	12.5	12.5		12.5	216.4	0.11	1.09	0.74	1.96	4.50	0.6	0.71
1/12 to 1/11	17.64	375	0.110	1.62	6.32	133.43	0.1224	45.4	6.00	136.04	0.1221	46.1	46.1		46.1	275.9	0.42	1.88	1.07	2.50	2.00	0.6	0.74
1/11 to 1/10	14.11	375	0.110	3.43	6.48	132.21	0.1749	64.2	6.00	136.04	0.1742	65.8	65.8		65.8	403.3	0.60	2.73	1.20	3.65	1.25	0.6	0.66
1/10 to 1/09	19.92	375	0.110	2.56	6.56	131.55	0.2170	79.3	6.00	136.04	0.2159	81.6	81.6	-6.1	75.5	347.7	0.68	2.54	1.26	3.15	0.80	0.6	0.76
1/09 to 1/08	20.80	375	0.110	3.28	6.69	130.57	0.2776	100.7	6.00	136.04	0.2760	104.3	104.3	-13.4	90.9	394.4	0.82	2.93	1.34	3.57	0.90	0.6	0.67
1/08 to 1/07	16.99	375	0.110	5.29	6.81	129.70	0.3246	116.9	6.00	136.04	0.3224	121.8	121.8	-6.9	114.9	501.8	1.04	3.72	1.47	4.54	1.00	0.6	0.62
1/07 to 1/06	13.78	375	0.110	6.44	6.89	129.15	0.3613	129.6	6.00	136.04	0.3587	135.6	135.6	-6.9	128.7	554.0	1.16	4.12	1.55	5.02	0.70	0.6	0.73
1/06 to 1/05	21.38	375	0.110	8.06	6.94	128.75	0.3762	134.5	6.00	136.04	0.3732	141.0	141.0	-6.9	134.2	620.1	1.21	4.53	1.57	5.61	0.50	0.6	0.70
1/05 to 1/04	20.92	375	0.110	8.12	7.02	128.20	0.4486	159.7	6.00	136.04	0.4451	168.2	168.2	-15.9	152.3	622.4	1.38	4.70	1.68	5.64	0.70	0.6	0.66
1/04 to 1/03	17.19	375	0.110	7.89	7.10	127.68	0.4982	176.7	6.00	136.04	0.4941	186.7	186.7	-16.4	170.4	613.4	1.54	4.79	1.78	5.55	0.70	0.6	0.65
1/03 to 1/02	17.64	375	0.110	5.83	7.16	127.26	0.5323	188.2	6.00	136.04	0.5277	199.4	199.4	-14.3	185.1	527.1	1.68	4.37	1.87	4.77	1.70	0.6	0.52
1/02 to 1/01	23.57	375	0.110	1.83	7.22	126.80	0.5502	193.8	6.00	136.04	0.5451	206.0	206.0	-14.3	191.6	294.1	1.74	2.83	1.91	2.66	0.50	0.6	0.66
1/01 to 16/02	25.89	375	0.110	1.03	7.36	125.86	0.5832	203.9	6.00	136.04	0.5769	218.0	218.0	-14.3	203.7	219.5	1.84	2.24	1.99	1.99	0.80	0.6	0.46
2/07 to 2/06	21.40	375	0.110	1.00	6.16	134.71	0.0486	18.2	6.00	136.04	0.0486	18.4	18.4	6.5	24.9	216.4	0.23	1.32	0.89	1.96	2.50	0.6	0.74
2/06 to 2/05	21.00	375	0.110	1.00	6.43	132.57	0.0908	33.4	6.00	136.04	0.0906	34.2	34.2	6.9	41.1	216.4	0.37	1.52	1.03	1.96	1.45	0.6	0.62
2/05 to 2/04	17.33	375	0.110	1.00	6.66	130.82	0.1315	47.8	6.00	136.04	0.1308	49.4	49.4	6.9	56.3	216.4	0.51	1.66	1.14	1.96	1.30	0.6	0.43
2/04 to 2/03	3.67	825	0.535	1.00	6.83	129.54	1.8997	683.6	6.00	136.04	1.8978	717.1	717.1	6.9	724.0	1707.8	1.35	3.07	2.07	3.19	1.17	0.6	0.28
2/03 to 2/02	21.00	825	0.535	1.00	6.85	129.40	1.9400	697.3	6.00	136.04	1.9375	732.2	732.2	6.9	739.1	1707.8	1.38	3.09	2.09	3.19	2.00	0.6	0.36
2/02 to 2/01	21.00	825	0.535	1.00	6.97	128.59	1.9807	707.5	6.00	136.04	1.9746	746.2	746.2	6.9	753.1	1707.8	1.41	3.10	2.10	3.19	0.50	0.6	0.39
2/01 to 17/01	18.62	825	0.535	1.00	7.08	127.79	2.0210	717.4	6.00	136.04	2.0113	760.1	760.1	6.9	767.0	1707.8	1.43	3.11	2.12	3.19	0.50	0.6	0.27
3/08 to 3/07	30.25	375	0.110	1.22	6.00	136.04	0.0734	27.7	6.00	136.04	0.0734	27.7	27.7	2.9	30.6	239.4	0.28	1.51	0.95	2.17	4.50	0.6	0.67
3/07 to 3/06	19.79	375	0.110	1.14	6.33	133.33	0.1590	58.9	6.00	136.04	0.1585	59.9	59.9	6.7	66.6	230.9	0.60	1.82	1.20	2.09	1.70	0.6	0.72
3/06 to 3/05	63.04	375	0.110	2.93	7.03	128.16	0.5376	191.4	6.03	135.80	0.5114	192.9	192.9	6.7	199.6	372.6	1.81	3.43	1.97	3.37	1.70	0.6	0.43
3/05 to 3/04	32.12	600	0.283	1.24	7.33	126.06	1.1602	406.2	6.82	129.64	1.1394	410.3	410.3	7.4	417.7	828.5	1.48	2.94	1.96	2.93	2.00	0.6	0.54
3/04 to 3/03	7.16	900	0.636	1.00	7.52	124.85	2.0253	702.4	7.02	128.19	2.0059	714.2	714.2	7.4	721.7	2143.9	1.13	3.06	1.99	3.37	1.25	0.6	0.56
3/03 to 3/02	4.65	1050	0.866	1.00	7.87	122.62	5.1947	1769.3	6.07	135.49	4.9851	1876.2	1876.2	30.6	1906.8	3206.4	2.20	3.85	2.74	3.70	1.00	0.6	1.24
3/02 to 3/01	3.83	1050	0.866	1.66	7.89	122.49	5.1947	1767.5	6.09	135.32	4.9851	1873.9	1873.9	30.6	1904.5	4147.4	2.20	4.68	2.74	4.79	0.20	0.6	1.07
4/06 to 4/05	17.02	375	0.110	5.43	6.00	136.04	0.0520	19.7	6.00	136.04	0.0520	19.7	19.7		19.7	508.6	0.18	2.28	0.83	4.60	4.50	0.6	0.79
4/05 to 4/04	21.39	375	0.110	7.90	6.12	135.01	0.0903	33.9	6.00	136.04	0.0902	34.1	34.1		34.1	613.7	0.31	3.06	0.98	5.56	1.60	0.6	0.71
4/04 to 4/03	21.02	375	0.110	7.39	6.24	134.07	0.1390	51.8	6.00	136.04	0.1388	52.4	169.4		169.4	593.6	1.53	4.67	1.78	5.37	2.00	0.6	0.86
4/03 to 4/02	14.18	375	0.110	6.44	6.32	133.47	0.1773	65.7	6.00	136.04	0.1768	66.8	183.8		183.8	553.8	1.66	4.53	1.86	5.01	0.85	0.6	0.55
4/02 to 4/01	13.43	600	0.283	1.00	7.40	125.65	1.3705	478.4	6.00	136.04	1.3613	514.4	631.4		631.4	745.0	2.23	2.93	2.45	2.63	1.85	0.6	0.40
5/01 to 4/04	14.22	450	0.159	1.00									117.0		117.0	349.2	0.74	1.99	1.37	2.20	0.50	0.6	2.76
6/01 to 2/03	7.20	375	0.110	1.00	6.00	136.04	0.0208	7.9	6.00	136.04	0.0208	7.9	7.9		7.9	216.4	0.07	0.95	0.65	1.96	4.50	0.6	0.36
7/01 to 1/03	9.11	375	0.110	2.85	6.00	136.04	0.0166	6.3	6.00	136.04	0.0166	6.3	6.3	2.0	8.3	367.6	0.08	1.40	0.66	3.33	4.50	0.6	0.67
8/06 to 8/05	9.35	825	0.535	1.00	7.21	126.87	3.1174	1098.6	6.00	136.04	3.1025	1172.4	1172.4	23.1	1195.6	1707.8	2.24	3.44	2.61	3.19	0.50	0.6	0.68
8/05 to 8/04	70.09	825	0.535	6.48	7.26	126.56	3.1174	1095.9	6.00	136.04	3.1003	1171.6	1171.6	23.1	1194.7	4371.0	2.23	7.03	2.61	8.18	0.50	0.6	1.14
8/04 to 8/03	79.61	825	0.535	6.85	7.43	125.45	3.1174	1086.3	6.00	136.04	3.0921	1168.5	1168.5	23.1	1191.6	4495.2	2.23	7.18	2.60	8.41	0.50	0.6	0.54
8/03 to 8/02	6.71	825	0.535	6.98	7.61	124.24	3.1174	1075.9	6.00	136.04	3.0831	1165.1	1165.1	23.1	1188.2	4538.3	2.22	7.22	2.60	8.49	0.50	0.6	0.72
8/02 to 8/01	7.10	900	0.636	1.00	7.63	124.14	3.1407	1083.0	6.00	136.04	3.1056	1173.6	1173.6	23.1	1196.7	2143.9	1.88	3.46	2.44	3.37	0.50	0.6	0.28
8/01 to 3/03	42.93	1050	0.866	1.00	7.66	123.92	3.1493	1084.1	6.00	136.04	3.1124	1176.1	1176.1	23.1	1199.3	3206.4	1.39	3.45	2.25	3.70	2.50	0.6	0.39
9/01 to 1/04	10.19	375	0.110	1.02	6.00	136.04	0.0267	10.1	6.00	136.04	0.0267	10.1	10.1	-0.4	9.6	219.1	0.09	1.02	0.69	1.98	4.50	0.6	0.65
10/01 to 3/05	7.47	450	0.159	1.00	6.00	136.04	0.0320	12.1	6.00	136.04	0.0320	12.1	12.1	0.7	12.8	349.2	0.08	1.07	0.72	2.20	4.50	0.6	0.60
11/07 to 11/06	22.20	375	0.110	1.00	6.00	136.04	0.0074	2.8	6.00	136.04	0.0074	2.8	2.8		2.8	216.4	0.03	0.70	0.50	1.96	4.50	0.6	0.71
11/06 to 11/05	20.98	375	0.110	1.00	6.53	131.80	0.0560	20.5	6.00	136.04	0.0559	21.1	21.1		21.1	216.4	0.19	1.26	0.85	1.96	2.00	0.6	0.84
11/05 to 11/04	20.98	375	0.110	1.88	6.81	129.73	0.1253	45.2	6.00	136.04	0.1249	47.2	47.2		47.2	298.2	0.43	2.00	1.08	2.70	1.80	0.6	0.80
11/04 to 11/03	21.00	375	0.110	3.60	6.98	128.48	0.1670	59.6	6.00	136.04	0.1662	62.8	62.8		62.8	413.3	0.57	2.74	1.18	3.74	1.10	0.6	0.72
11/03 to 11/02	21.23	450	0.159	2.63	7.11	127.58	0.9428	334.1	6.00	136.04	0.9393	354.9	354.9		354.9	568.7	2.23	3.76	2.35	3.58	2.00	0.6	0.73
11/02 to 11/01	14.75	450	0.159	6.22	7.21	126.93	0.9873	348.1	6.00	136.04	0.9824	371.2	371.2		371.2	878.1	2.33	5.30	2.44	5.52	0.50	0.6	0.57
11/01 to 18/01	40.51	450	0.159	8.40	7.25	126.61	1.0176	357.9	6.00	136.04	1.0119	382.4	382.4		382.4	1020.6	2.40	5.98	2.49	6.42	0.50	0.6	0.55
12/01 to 25/01	13.42	450	0.159	8.54	6.08	135.41	0.6765	254.4	6.00	136.04	0.6757	255.3	255.3		255.3	1029.5	1.61	5.42	1.90	6.47	0.50	0.6	0.74

CAMDEN COUNCIL
Approved by the Council of Camden under the provisions of the Environment Planning and Assessment Act 1979
APPROVAL
27/06/2016
CONSTRUCTION CERTIFICATE
CC 16.2015.1230.1

Issue	Description	Date
06	ISSUE FOR CONSTRUCTION CERTIFICATE	13/06/16
05	ISSUE FOR CONSTRUCTION CERTIFICATE	02/06/16
04	ISSUE FOR CONSTRUCTION CERTIFICATE	23/05/16
03	ISSUE FOR CONSTRUCTION CERTIFICATE	11/04/16
02	ISSUE FOR CONSTRUCTION CERTIFICATE	07/04/16
01	ISSUE FOR CONSTRUCTION CERTIFICATE	26/02/16

100mm on Original

Client: SEKISUI HOUSE

Status: CONSTRUCTION CERTIFICATE
NOT TO BE USED FOR CONSTRUCTION

Scales	N.T.S.	Current Issue Signatures	
		Drawn J. VARGAS	
Original Size	A1	Designed A. MALABUYOC	
Height Datum	AHD	Checked A. KALAJZICH	
Grid	MGA	Approved R. SMITH	
Filename:			

Project: THE HERMITAGE
HERMITAGE WAY

Title: STORMWATER DRAINAGE CALCULATION SHEET 7

ARCADIS
76 104 485 289
Level 5, 141 Walker St
North Sydney NSW 2060
Australia
Tel: +61 (0)2 8907 9000
Fax: +61 (0)2 8907 9001

Drawing No.	Project No.	Issue
TRHW-CI-326	AA007442CC	06

Edit by: JVYMO894

Date Plotted: 10 Jun 2016 - 04:27PM File Name: K:\MP000909-The_Hermitage_BBS\E-OurDrawings\C-Civil\D-Final\B-CC\TURNER ROAD\Hermitage Way\TRHW-CI-326-StormwaterDrainageCalculationSheet7.dwg V1

HYDRAULICS - MINOR 10 YEAR STORM EVENT

Pipe	Pipe	Pipe	Full Pipe	Pipe	Full-area	Full-area	Full-area	Full-area	Part-area	Part-area	Part-area	Part-area	Peak	Net Bypass	Pipe	Capacity	Full Pipe	Norm Depth	Crit Depth	Capacity Vel	US Pit	Colebrook k	F'board
ID	Length	Size	Area Af	Grade	Tct	I	Sum CA	Qc=CIA	Tct	I	Sum CA	Qc=CIA	Flow Qrat	Flow Qb	Flow Q	Flow Qcap	Vel Vf=Q/Af	Vel Vn=Q/An	Vel Vc=Q/Ac	Vcap=Qcap/Af	Ku	Roughness	US
(-)	(m)	(mm)	(sq.m)	(%)	(min)	(mm/hr)	(ha)	(L/s)	(min)	(mm/hr)	(ha)	(L/s)	(L/s)	(L/s)	(L/s)	(L/s)	(m/s)	(m/s)	(m/s)	(m/s)	(-)	(mm)	(m)
13/06 to 13/05	16.50	375	0.110	1.00	6.14	134.88	0.0232	8.7	6.00	136.04	0.0232	8.8	8.8		8.8	216.4	0.08	0.98	0.67	1.96	2.50	0.6	0.74
13/05 to 13/04	4.50	375	0.110	1.00	6.42	132.65	0.3399	125.3	6.00	136.04	0.3396	128.3	128.3		128.3	216.4	1.16	2.04	1.54	1.96	1.46	0.6	0.68
13/04 to 13/03	21.00	375	0.110	1.00	6.46	132.36	0.3890	143.0	6.00	136.04	0.3884	146.8	146.8		146.8	216.4	1.33	2.10	1.64	1.96	2.00	0.6	0.76
13/03 to 13/02	16.93	375	0.110	6.40	6.63	131.09	0.4298	156.5	6.00	136.04	0.4282	161.8	161.8		161.8	552.2	1.47	4.37	1.73	5.00	0.70	0.6	0.88
13/02 to 13/01	6.60	450	0.159	1.00	6.69	130.61	0.6397	232.1	6.00	136.04	0.6375	240.9	240.9	-2.2	238.7	350.5	1.50	2.35	1.83	2.20	0.39	0.6	1.77
14/01 to 13/05	9.55	375	0.110	6.93	6.00	136.04	0.3167	119.7	6.00	136.04	0.3167	119.7	119.7		119.7	574.5	1.08	4.15	1.50	5.20	4.50	0.6	0.69
15/01 to 2/06	7.20	375	0.110	1.00	6.00	136.04	0.0229	8.7	6.00	136.04	0.0229	8.7	8.7		8.7	216.4	0.08	0.98	0.67	1.96	4.50	0.6	0.62
16/02 to 16/01	11.54	450	0.159	1.00	7.56	124.60	0.6171	213.6	6.00	136.04	0.6090	230.1	230.1	-14.3	215.8	349.2	1.36	2.30	1.74	2.20	1.50	0.6	0.38
16/01 to CP/03	4.99	450	0.159	1.00	7.64	124.06	0.6293	216.9	6.00	136.04	0.6203	234.4	234.4	-14.3	220.1	349.2	1.38	2.31	1.76	2.20	2.50	0.6	0.48
17/01 to 8/06	7.02	825	0.535	1.00	7.18	127.10	3.0923	1091.8	6.00	136.04	3.0791	1163.6	1163.6	15.8	1179.4	1707.8	2.21	3.43	2.59	3.19	1.90	0.6	0.21
18/03 to 18/02	11.21	375	0.110	1.00	6.00	136.04	0.0688	26.0	6.00	136.04	0.0688	26.0	26.0		26.0	216.4	0.24	1.34	0.90	1.96	4.50	0.6	0.63
18/02 to 18/01	15.84	375	0.110	6.42	6.50	132.06	0.1382	50.7	6.00	136.04	0.1379	52.1	52.1		52.1	553.0	0.47	3.21	1.11	5.01	1.75	0.6	0.68
18/01 to 4/02	11.55	450	0.159	9.22	7.37	125.85	1.1822	413.3	6.00	136.04	1.1742	443.7	443.7		443.7	1069.6	2.79	6.43	2.84	6.72	0.80	0.6	0.38
19/01 to 13/02	6.08	375	0.110	20.33	6.00	136.04	0.0148	5.6	6.00	136.04	0.0148	5.6	5.6	-1.4	4.2	986.6	0.04	2.30	0.55	8.93	4.50	0.6	0.65
20/01 to 13/06	6.20	375	0.110	1.00	6.00	136.04	0.0089	3.4	6.00	136.04	0.0089	3.4	3.4		3.4	216.4	0.03	0.74	0.52	1.96	4.50	0.6	0.66
22/01 to 13/02	8.53	375	0.110	14.94	6.00	136.04	0.1801	68.1	6.00	136.04	0.1801	68.1	68.1		68.1	845.4	0.62	4.69	1.21	7.65	4.50	0.6	0.49
23/02 to 23/01	10.30	600	0.283	1.00	6.57	131.54	0.1043	38.1	6.00	136.04	0.1036	39.1	222.1	-16.2	205.9	742.4	0.73	2.26	1.50	2.63	2.50	0.6	1.40
23/01 to CP/03	7.50	600	0.283	1.00	6.64	130.97	0.1613	58.7	6.00	136.04	0.1604	60.6	243.6		243.6	742.4	0.86	2.36	1.59	2.63	2.50	0.6	1.49
24/01 to 1/12	12.55	375	0.110	1.00	6.00	136.04	0.0523	19.8	6.00	136.04	0.0523	19.8	19.8		19.8	216.4	0.18	1.24	0.84	1.96	4.50	0.6	0.65
25/02 to 25/01	14.59	375	0.110	3.79	6.00	136.04	0.0404	15.3	6.00	136.04	0.0404	15.3	15.3		15.3	424.0	0.14	1.86	0.78	3.84	4.50	0.6	0.69
25/01 to 11/03	13.66	450	0.159	1.00	6.13	134.96	0.7333	274.9	6.00	136.04	0.7320	276.6	276.6		276.6	349.2	1.74	2.42	1.98	2.20	1.75	0.6	0.56
26/01 to 1/07	9.69	375	0.110	1.00	6.00	136.04	0.0166	6.3	6.00	136.04	0.0166	6.3	6.3		6.3	216.4	0.06	0.89	0.61	1.96	4.50	0.6	0.63
27/01 to 1/05	10.66	375	0.110	2.48	6.00	136.04	0.0486	18.4	6.00	136.04	0.0486	18.4	18.4	-9.0	9.4	342.7	0.08	1.38	0.68	3.10	4.50	0.6	0.66
28/01 to 1/11	13.17	375	0.110	1.00	6.00	136.04	0.0261	9.9	6.00	136.04	0.0261	9.9	9.9		9.9	216.4	0.09	1.01	0.69	1.96	4.50	0.6	0.65
29/01 to 11/06	12.79	375	0.110	1.00	6.00	136.04	0.0189	7.1	6.00	136.04	0.0189	7.1	7.1		7.1	216.4	0.06	0.92	0.63	1.96	4.50	0.6	0.66
30/01 to 2/05	7.20	375	0.110	1.00	6.00	136.04	0.0215	8.1	6.00	136.04	0.0215	8.1	8.1		8.1	216.4	0.07	0.96	0.66	1.96	4.50	0.6	0.42
31/01 to 11/05	13.33	375	0.110	1.00	6.00	136.04	0.0302	11.4	6.00	136.04	0.0302	11.4	11.4		11.4	216.4	0.10	1.06	0.72	1.96	4.50	0.6	0.66
32/01 to 2/01	7.20	375	0.110	1.00	6.00	136.04	0.0210	7.9	6.00	136.04	0.0210	7.9	7.9		7.9	216.4	0.07	0.95	0.65	1.96	4.50	0.6	0.27
34/01 to 13/04	6.20	375	0.110	1.00	6.00	136.04	0.0194	7.3	6.00	136.04	0.0194	7.3	7.3		7.3	216.4	0.07	0.93	0.64	1.96	4.50	0.6	0.66
35/01 to 1/08	16.98	375	0.110	2.69	6.00	136.04	0.0185	7.0	6.00	136.04	0.0185	7.0	7.0	0.9	7.9	356.6	0.07	1.36	0.65	3.23	4.50	0.6	0.68
36/02 to 36/01	21.00	375	0.110	4.13	6.14	134.90	0.0192	7.2	6.00	136.04	0.0192	7.3	7.3		7.3	443.2	0.07	1.54	0.64	4.01	2.50	0.6	0.74
36/01 to 18/02	13.60	375	0.110	2.27	6.37	133.08	0.0570	21.1	6.00	136.04	0.0569	21.5	21.5		21.5	327.8	0.19	1.71	0.86	2.97	1.95	0.6	0.73
37/01 to 2/07	7.20	375	0.110	1.00	6.00	136.04	0.0092	3.5	6.00	136.04	0.0092	3.5	3.5		3.5	216.4	0.03	0.74	0.53	1.96	4.50	0.6	0.65
38/01 to 36/01	6.20	375	0.110	1.00	6.00	136.04	0.0186	7.0	6.00	136.04	0.0186	7.0	7.0		7.0	216.4	0.06	0.92	0.63	1.96	4.50	0.6	0.66
39/01 to 36/02	6.20	375	0.110	1.00	6.00	136.04	0.0094	3.5	6.00	136.04	0.0094	3.5	3.5		3.5	216.4	0.03	0.75	0.53	1.96	4.50	0.6	0.66
40/01 to 2/02	7.20	375	0.110	1.00	6.00	136.04	0.0213	8.1	6.00	136.04	0.0213	8.1	8.1		8.1	216.4	0.07	0.96	0.66	1.96	4.50	0.6	0.39
41/01 to 3/07	7.37	375	0.110	1.00	6.00	136.04	0.0627	23.7	6.00	136.04	0.0627	23.7	23.7	-0.7	22.9	216.4	0.21	1.29	0.87	1.96	4.50	0.6	0.63
42/01 to 13/03	6.20	375	0.110	1.00	6.00	136.04	0.0194	7.3	6.00	136.04	0.0194	7.3	7.3		7.3	216.4	0.07	0.93	0.64	1.96	4.50	0.6	0.66
43/01 to 1/10	12.80	375	0.110	1.00	6.00	136.04	0.0225	8.5	6.00	136.04	0.0225	8.5	8.5	-3.1	5.4	216.4	0.05	0.85	0.59	1.96	4.50	0.6	0.65
44/01 to 1/09	12.40	375	0.110	1.00	6.00	136.04	0.0352	13.3	6.00	136.04	0.0352	13.3	13.3	-4.7	8.6	216.4	0.08	0.97	0.67	1.96	4.50	0.6	0.65
CP/04 to CP/03	30.43	900	0.636	2.00	10.00	111.11	1.7027	525.5	7.00	128.36	1.4528	518.0	525.5		525.5	3039.4	0.73	3.52	1.72	4.78	4.50	0.6	0.74
CP/03 to CP/02	77.06	1050	0.866	2.00	10.14	110.44	2.4978	766.2	7.14	127.35	2.2469	794.9	977.9	-76.4	901.5	4544.9	1.04	4.15	2.03	5.25	2.00	0.6	1.62
CP/02 to CP/01	2.62	1050	0.866	2.93	10.45	109.03	2.4978	756.5	7.45	125.27	2.2469	781.8	964.8	-76.4	888.5	5524.8	1.03	4.76	2.02	6.38	0.21	0.6	0.66
Z1/01 to 2/04	9.17	825	0.535	3.22	6.00	136.04	1.7682	668.2	6.00	136.04	1.7682	668.2	668.2		668.2	3074.6	1.25	4.66	2.01	5.75	4.50	0.6	0.21
Z2/01 to 17/01	8.11	600	0.283	5.09	6.00	136.04	1.0470	395.7	6.00	136.04	1.0470	395.7	395.7		395.7	1685.6	1.40	4.92	1.91	5.96	4.50	0.6	0.24
Z3/01 to 3/06	6.78	375	0.110	5.84	7.00	128.36	0.3633	129.6	6.00	136.04	0.3379	127.7	129.6		129.6	527.2	1.17	3.98	1.55	4.77	4.50	0.6	0.36
Z4/01 to 3/05	6.67	525	0.216	5.85	7.00	128.36	0.5422	193.3	6.00	136.04	0.5043	190.6	193.3		193.3	1274.2	0.89	4.32	1.54	5.89	4.50	0.6	0.49
Z5/01 to 3/04	7.51	525	0.216	6.83	7.00	128.36	0.8202	292.5	6.00	136.04	0.7629	288.3	292.5		292.5	1377.0	1.35	5.11	1.81	6.36	4.50	0.6	0.26
Z6/02 to Z6/01	7.79	450	0.159	10.60	6.00	136.04	0.6353	240.1	6.00	136.04	0.6353	240.1	240.1		240.1	1147.4	1.51	5.77	1.84	7.21	4.50	0.6	0.26
Z6/01 to 12/01	7.62	450	0.159	1.00	6.02	135.85	0.6353	239.8	6.00	136.04	0.6351	240.0	240.0		240.0	349.2	1.51	2.36	1.83	2.20	0.50	0.6	2.05

CAMDEN COUNCIL
Approved by the Council of Camden under the provisions of the Environment Planning and Assessment Act 1979
APPROVAL
27/06/2016
CONSTRUCTION CERTIFICATE
CC 16.2015.1230.1

Issue	Description	Date
06	ISSUE FOR CONSTRUCTION CERTIFICATE	13/06/16
05	ISSUE FOR CONSTRUCTION CERTIFICATE	02/06/16
04	ISSUE FOR CONSTRUCTION CERTIFICATE	23/05/16
03	ISSUE FOR CONSTRUCTION CERTIFICATE	11/04/16
02	ISSUE FOR CONSTRUCTION CERTIFICATE	07/04/16
01	ISSUE FOR CONSTRUCTION CERTIFICATE	26/02/16

100mm on Original

Client: SEKISUI HOUSE

Status: CONSTRUCTION CERTIFICATE
NOT TO BE USED FOR CONSTRUCTION

Scales	N.T.S.	Current Issue Signatures	
		Drawn J. VARGAS	
Original Size	A1	Designed A. MALABUYOC	
Height Datum	AHD	Checked A. KALAJZICH	
Grid	MGA	Approved R. SMITH	
Filename:			

Project: THE HERMITAGE
HERMITAGE WAY

Title: STORMWATER DRAINAGE CALCULATION SHEET 8

ARCADIS
76 104 485 289
Level 5, 141 Walker St
North Sydney NSW 2060
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Tel: +61 (0)2 8907 9000
Fax: +61 (0)2 8907 9001

Drawing No.	Project No.	Issue
TRHW-CI-327	AA007442CC	06

Edit by: JVMN8894

Date Plotted: 10 Jun 2016 - 04:27PM File Name: K:\MP000909-The_Hermitage_BBS\E-OurDrawings\C-Civil\D-Final\B-CC\TURNER ROAD\Hermitage Way\TRHW-CI-327-StormwaterDrainageCalculationSheet8.dwg V1