SW-Y\4	OnGrade	Existing Pits	Existing Gully Pit		4.5	5		0	0.3	333666.3	6249807.6	No	126689075	1 x Ku	
SW-Y\3	OnGrade	Surface Inlet Pits	Surface Inlet Pit 900x900		2.5	3.023		0	0.3	333666.1	6249806.1	No	148998533	1 x Ku	
SW-X-SP1-USC	OnGrade	Junction Pits	Junction Pit 600x600		2	3.5		0	0.3	333666	6249804.7	No	130834499	1 x Ku	
SW-X-SP1-W1	OnGrade	Junction Pits	Junction Pit 600x600		0	3.5		0	0.3	333665.6	6249804	No	130834500	1 x Ku	
SW-X-SP1-W2	OnGrade	Junction Pits	Junction Pit 600x600		1.5	3.5		0	0.3	333664.7	6249804	No	130834501	1 x Ku	
SW-X\3	OnGrade	Interallotment Pits	Interallotment Pit 600x600		0.5	3.004		0	0.3	333664.1	6249804.8	No	80431686	1 x Ku	
N336269	Node							0		333660.4	6249809.5		130834515		
N349375	Node							0		333665.2	6249809.7		135002462		
N349376	Node							0		333666.2	6249809.6		135002464		
SW-S\3	OnGrade	Interallotment Pits	Interallotment Pit 900x900		4.5	3.5		0	0.3	333629.2	6249868.1	No	143712867	1 x Ku	
SW_RG_02	Node					3.5		0		333625.8	6249867.3		143713200		
N416465	Node							0		333531.6	6249948.6		155859103		
SA-B\8	OnGrade	Existing Pits	Existing Gully Pit		0.5	3.725		0	0.3	333605	6249782.8	No	155922715	1 x Ku	
SA-B\7	OnGrade	Surface Inlet Pits	Surface Inlet Pit 600x600		0.5	3.725		0	0.3	333609.4	6249791.8	No	155922708	1 x Ku	
SA-B\6	OnGrade	Surface Inlet Pits	Surface Inlet Pit 600x600		0.5	3.725		0	0.3	333609.9	6249796.4	No	80431604	1 x Ku	
SA-B\5	Sag	Standard Pits	1.8m lintel sag	1	1	3.205	0	0	0.5	333614.5	6249798.8	No	80431603	1 x Ku	
SA-B\4	OnGrade	Junction Pits	Junction Pit 600x600		1.5	3.364		0	0.3	333614.6	6249800	No	80431602	1 x Ku	
NE-D\4	OnGrade	Interallotment Pits	Interallotment Pit 900x900		4.5	3.168		0	0.3	333816.6	6249906.6	No	166364027	1 x Ku	
NE-D\3	OnGrade	Existing City of S	Junction Pit		2.5	3.113		0	0.3	333818.3	6249906.7	No	92592065	1 x Ku	
NE-D\2	OnGrade	Existing City of S	0.30m x 0.30m Grate		0.2	3.095		0	0.3	333818	6249909.7	No	80431556	1 x Ku	
NE_SPN_W1	OnGrade	Junction Pits	Junction Pit 900x900		0	3.5		0	0.3	333818.8	6249909.8	No	94014924	1 x Ku	
NE_SPN_W2	OnGrade	Junction Pits	Junction Pit 900x900		0	3.5		0	0.3	333819.6	6249909.8	No	94014925	1 x Ku	
NE_SPN_O	OnGrade	Junction Pits	Junction Pit 900x900		2.5	3.5		0	0.3	333820.5	6249909.9	No	94014926	1 x Ku	
NE-D\1	OnGrade	NSW RTA SO V-	Single SO1 Pit		2.8	2.686		0	0.3	333823.9	6249910	No	80431555	1 x Ku	
NE-E\2	OnGrade	Junction Pits	Junction Pit 900x900		2.5	3.098		0	0.3	333819.5	6249909.3	No	166364032	1 x Ku	
NE-E\1	OnGrade	Storm Filter	Storm Filter		1.5	3.069		0	0.3	333821.5	6249909	No	166364033	1 x Ku	

DETENTION BASIN DETAILS

Name	Elev	Surf. Area	Not Used	Outlet Type	K	Dia(mm)	Centre RL	Pit Family	Pit Type	x	y	HED	Crest RL	Crest Length

SUB-CATCHMENT DETAILS

Name	Pit or	Total	Paved	Grass	Supp	Paved	Grass	Supp	Paved	Grass	Supp	Paved	Grass	Supp
	Node	Area	Area	Area	Area	Time	Time	Time	Length	Length	Length	Slope(%)	Slope	Slope
		(ha)	%	%	%	(min)	(min)	(min)	(m)	(m)	(m)	%	%	%
C SA-189\1	189\1	0.0038	100	0	0	3	5	0						
C SA-15\5	SA-15\5	0.0501	80	20	0	3	3	0						
C SA-15\4	SA-15\4	0.0501	100	0	0	3	5	0						
C NE-19\7	NE-19\7	0.9333	70	30	0	10	12	0						
C NE-72\2	NE-72\2	0.0284	100	0	0	3	5	0						
C NE-72\1	NE-72\1	0.0091	100	0	0	3	5	0						
C NE-78\1	NE-78\1	0.0847	100	0	0	3	5	0						
C NE-A\4	NE-A\4	0.0202	100	0	0	3	5	0						
C NE-A\1	NE-A\1	0.0463	100	0	0	3	5	0						
C NN-B\1	NN-B\1	0.009	100	0	0	3	3	0						
C NN-A\2	NN-A\2	0.053	100	0	0	3	5	0						
C NN-A\1	NN-A\1	0.1634	100	0	0	3	5	0						
C SW-Q\5	SW-Q\5	0.0527	100	0	0	3	5	0						
C SA-15\6	SA-15\6	0.026	100	0	0	3	5	0						
C SA-191\2	SA-191\2	0.0586	100	0	0	3	5	0						
C SA-S\2	SA-S\2	0.0105	100	0	0	1	1	0						
C 45\8	SA-45\8	3.0588	90	10	0	10	12	0						
C SA-62\3	SA-62\3	0.0873	100	0	0	3	5	0						
C SA-A\2	SA-A\2	0.0502	100	0	0	3	5	0						
C SA-D\1	SA-D\1	0.0465	100	0	0	3	5	0						
C SA-G\1	SA-G\1	0.0174	100	0	0	3	5	0						
C SA-R\2	SA-R\2	0.109	100	0	0	3	5	0						
C SA-S\5	SA-S\5	0.0442	100	0	0	3	5	0						
C SA-U\2	SA-U\2	0.0235	100	0	0	3	5	0						
C SA-T\2	SA-T\2	0.0292	100	0	0	3	5	0						
C SA-T\1	SA-T\1	0.0248	100	0	0	3	5	0						

C SE-64\2	SE-64\2	0.0096	100	0	0	1	1	0							
C SE-A\3	SE-A\3	0.0395	100	0	0	3	5	0							
C SE-C\1	SE-C\1	0.4344	100	0	0	7	5	0							
C SE-T\4	SE-T\4	0.0193	100	0	0	3	5	0							
C SE-T\3	SE-T\3	0.0196	100	0	0	3	5	0							
C SE-T\7	SE-T\7	0.0043	100	0	0	3	5	0							
C SE-T\6	SE-T\6	0.0346	100	0	0	3	5	0							
C SE-T\5	SE-T\5	0.0195	100	0	0	3	5	0							
C SE-X\4	SE-X\4	0.0553	100	0	0	3	5	0							
C SE-X\3	SE-X\3	0.0177	100	0	0	1	3	0							
C SE-X\2	SE-X\2	0.0155	100	0	0	1	3	0							
C SE-X\1	SE-X\1	0.0138	100	0	0	1	3	0							
C NN-A\4	NN-A\4	0.0168	100	0	0	3	5	0							
C NN-A\3	NN-A\3	0.0101	100	0	0	3	5	0							
C SW-180\3	SW-180\3	0.0628	100	0	0	3	5	0							
C SW-180\2	SW-180\2	0.1093	100	0	0	3	3	0							
C SW-180\1	SW-180\1	0.0485	100	0	0	3	5	0							
C SW-A\4	SW-A\4	0.0958	100	0	0	3	5	0							
C SW-C\2	SW-C\2	0.1048	100	0	0	3	5	0							
C SW-C\1	SW-C\1	0.0628	100	0	0	3	5	0							
C SW-D\4	SW-D\4	0.007	100	0	0	3	5	0							
C SW-D\2	SW-D\2	0.0357	100	0	0	3	5	0							
C SW-D\1	SW-D\1	0.0302	100	0	0	3	5	0							
C SW-E\1	SW-E\1	0.058	100	0	0	3	5	0							
C SW-F\1	SW-F\1	0.0588	100	0	0	3	5	0							
C SW-H\1	SW-H\1	0.0569	100	0	0	3	5	0							
C SW-K\4	SW-K\4	0.0238	100	0	0	3	5	0							
C SW-M\1	SW-M\1	0.0315	100	0	0	3	5	0							
C SW-R\2	SW-R\2	0.078	100	0	0	3	5	0							
C SW-S\1	SW-S\1	0.1496	100	0	0	3	5	0							
C SW-V\4	SW-V\4	0.1283	100	0	0	3	5	0							
C SW-V\3	SW-V\3	0.0226	100	0	0	3	5	0							
C SW-V\2	SW-V\2	0.0234	100	0	0	3	5	0							
C SW-Z\3	SW-Z\3	0.0139	100	0	0	3	5	0							
C SW-Z\2	SW-Z\2	0.01	100	0	0	3	5	0							
C SW-Z\1	SW-Z\1	0.0084	100	0	0	3	5	0							
C SW-Z\5	SW-Z\5	0.0129	100	0	0	3	5	0							
Cat104093	175\01	0.0086	100	0	0	3	0	0							
C 70\03	70\03	0.1542	100	0	0	3	5	0							
C NE-C\1	NE-C\1	0.3357	100	0	0	4	6	0							
C SW-X\4	SW-Y\4	0.5073	100	0	0	3	5	0							
C_Dummy_3M	N336269	0.25	100	0	0	3	5	0							
C Balance	N349375	0.2578	100	0	0	3	5	0							
C SW-S\3	SW-S\3	0.4352	100	0	0	3	5	0							
Cat195010	N416465	0.1	100	0	0	3	5	0							
C SA-B\8	SA-B\8	0.254	100	0	0	4	6	0							
C SA-B\7	SA-B\7	0.0451	100	0	0	3	5	0							
C SA-B\5	SA-B\5	0.0303	100	0	0	3	5	0							
C NE-D\4	NE-D\4	0.2096	100	0	0	4	6	0							
C NE-D\1	NE-D\1	0.0395	100	0	0	3	5	0							
PIPE DETAILS															
Name	From	To	Length	U/S IL	D/S IL	Slope	Type	Dia	I.D.	Rough	Pipe Is	No. Pipes	Chg From	At Chg	
			(m)	(m)	(m)	(%)		(mm)	(mm)						
P 5\4	5\4	5\3	20.01	1.22	0.89	1.65	RCP Class 2	375	375	0.3	NewFixed	1	5\4	0	
P 5\3	5\3	5\2	27.679	0.86	0.31	1.99	RCP Class 2	375	375	0.3	NewFixed	1	5\3	0	
P 5\2	5\2	5\1	9.95	0.22	0.12	1.01	RCP Class 2	600	600	0.3	NewFixed	1	5\2	0	
P 6\2	6\2	6\1	7.942	0.63	0.56	0.88	RCP Class 2	300	300	0.3	NewFixed	1	6\2	0	
P 6\1	6\1	5\2	3.584	0.54	0.52	0.56	RCP Class 2	450	450	0.3	NewFixed	1	6\1	0	
P 129\1	129\1	5\3	11.936	1.06	1.06	0	RCP Class 2	375	375	0.3	NewFixed	1	129\1	0	

P 189\1	189\1	SA-15\5	13.675	2.53	2.433	0.71	RCP Class 2	300	300	0.3	NewFixed	1	189\1	0
P SA-15\5	SA-15\5	SA-15\4	2.172	2.3	2.274	1.2	RCP Class 2	525	525	0.3	NewFixed	1	SA-15\5	0
P SA-15\4	SA-15\4	SA-15\3	8.598	2.274	2.2	0.86	RCP Class 2	525	525	0.3	NewFixed	1	SA-15\4	0
P SA-15\3	SA-15\3	SA-15\2	9.309	0.44	0.34	1.07	RCP Class 2	525	525	0.3	NewFixed	1	SA-15\3	0
P SA-15\2	SA-15\2	SA-15\1	7.93	0.32	-0.097	5.26	RCP Class 2	525	525	0.3	NewFixed	1	SA-15\2	0
P NE-19\7	NE-19\7	NE-19\6	2.765	1.226	1.166	2.17	uPVC	375	386	0.03	NewFixed	1	NE-19\7	0
P NE-19\6	NE-19\6	NE-19\5	2.677	1.25	1.221	1.08	uPVC	375	386	0.03	NewFixed	1	NE-19\6	0
P NE-19\5	NE-19\5	NE-19\4	7.74	1.22	1.1	1.55	uPVC	375	386	0.03	NewFixed	1	NE-19\5	0
P NE-19\4	NE-19\4	NE-19\3	29.066	1.069	0.828	0.83	RCP Class 2	750	750	0.3	NewFixed	1	NE-19\4	0
P NE-19\3	NE-19\3	NE-19\2	43.293	0.828	0.468	0.83	RCP Class 2	750	750	0.3	NewFixed	1	NE-19\3	0
P NE-19\2	NE-19\2	NE-19\1	12.844	0.468	0.361	0.83	RCP Class 2	750	750	0.3	NewFixed	1	NE-19\2	0
P NE-72\2	NE-72\2	NE-72\1	8.54	2.399	2.325	0.87	uPVC	300	303	0.03	NewFixed	1	NE-72\2	0
P NE-72\1	NE-72\1	NE-19\4	13.463	1.591	1.237	2.63	RCP Class 2	300	300	0.3	NewFixed	1	NE-72\1	0
P NE-78\1	NE-78\1	NE-19\5	10.15	2.05	1.22	8.18	RCP Class 2	225	225	0.3	NewFixed	1	NE-78\1	0
P NE-A\4	NE-A\4	NE-A\3	22.365	2.142	1.919	1	RCP Class 4	375	369	0.3	New	1	NE-A\4	0
P NE-A\3	NE-A\3	NE-A\2	2.651	1.847	1.82	1.02	RCP Class 4	600	596	0.3	New	1	NE-A\3	0
P NE SPS_USCbr	NE-A\2	NE_SPS_W1	10	1.8	1.8	0	Box Culverts	0.9W x 0.6H		0.3	Existing	1	NE-A\2	0
P NE_SPS_W1	NE_SPS_W1	NE_SPS_W2	3	1.95	1.95	0	Box Culverts	0.55W x 0.3H		0.3	NewFixed	1	NE_SPS_W	0
P NE SPS_DSCbr	NE_SPS_W2	NE_SPS_O	10	1.8	1.8	0	Box Culverts	0.9W x 0.6H		0.3	NewFixed	1	NE_SPS_W	0
P NE-A\2	NE_SPS_O	NE-A\1	5.43	1.8	1.746	0.99	RCP Class 4	600	596	0.3	New	1	NE_SPS_O	0
P NE-A\1	NE-A\1	NE-19\3	3.102	0.879	0.848	1	RCP Class 4	675	674	0.3	NewFixed	1	NE-A\1	0
P NE-B\2	NE-B\2	NE-B\1	3.664	1.8	1.763	1.01	RCP Class 4	375	369	0.3	New	1	NE-B\2	0
P NE-B\1	NE-B\1	N203717	3.627	0.935	0.899	0.99	RCP Class 4	375	369	0.3	New	1	NE-B\1	0
P NN-B\1	NN-B\1	NN-A\2	23.892	2.453	1.995	1.92	RCP Class 2	375	375	0.3	New	1	NN-B\1	0
P NN-A\2	NN-A\2	NN-A\1	24.006	1.429	1.189	1	RCP Class 2	450	450	0.3	New	1	NN-A\2	0
P NN-A\1	NN-A\1	SW-Q\5	12.375	1.169	1.045	1	RCP Class 2	525	525	0.3	New	1	NN-A\1	0
P SW-Q\5	SW-Q\5	SW-Q\4	5.013	1.025	0.975	1	RCP Class 2	525	525	0.3	New	1	SW-Q\5	0
P SW-Q\4	SW-Q\4	SW-Q\3	2.913	0.579	0.573	0.21	RCP Class 2	750	750	0.3	New	1	SW-Q\4	0
P SW-Q\3	SW-Q\3	SW-Q\2	4.031	0.553	0.545	0.2	RCP Class 2	750	750	0.3	New	1	SW-Q\3	0
P SW-Q\2	SW-Q\2	SW-Q\1	2.491	-0.052	-0.057	0.2	RCP Class 2	750	750	0.3	New	1	SW-Q\2	0
P SA-15\6	SA-15\6	SA-15\5	10.102	2.48	2.38	0.99	RCP Class 2	450	450	0.3	NewFixed	1	SA-15\6	0
P SA-190\1	SA-190\1	SA-B\3	6.528	1.9	1.83	1.07	RCP Class 2	375	375	0.3	NewFixed	1	SA-190\1	0
P SA-B\3	SA-B\3	SA-45\5	5.858	1.452	1.394	0.99	RCP Class 2	375	375	0.3	NewFixed	1	SA-B\3	0
P SA-45\5	SA-45\5	SA-45\4	4.045	0.6	0.5	2.47	RCP Class 2	900	900	0.3	New	1	SA-45\5	0
P SA-45\4	SA-45\4	SA-45\3	2.7	0.5	0.381	4.41	RCP Class 2	900	900	0.3	NewFixed	1	SA-45\4	0
P SA-45\3	SA-45\3	SA-45\2	6.885	0.381	0.207	2.53	RCP Class 2	900	900	0.3	NewFixed	1	SA-45\3	0
P SA-45\2	SA-45\2	SA-45\1	4.612	0.207	0.058	3.23	RCP Class 2	900	900	0.3	New	1	SA-45\2	0
P SA-191\2	SA-191\2	SA-191\1	4.772	1.65	1.646	0.08	RCP Class 2	300	300	0.3	NewFixed	1	SA-191\2	0
P SA-191\1	SA-191\1	SA-S\2	11.839	1.626	1.504	1.03	RCP Class 2	300	300	0.3	NewFixed	1	SA-191\1	0
P SA-S\2	SA-S\2	SA-S\1	3.964	1.458	1.4	1.46	RCP Class 2	375	375	0.3	NewFixed	1	SA-S\2	0
P SA-S\1	SA-S\1	SA-45\5	1.307	1.4	1.38	1.53	RCP Class 2	375	375	0.3	NewFixed	1	SA-S\1	0
P SA-45\8	SA-45\8	SA-45\7	40.547	6.18	4	5.38	RCP Class 2	750	750	0.3	NewFixed	1	SA-45\8	0
P SA-45\7	SA-45\7	SA-45\6	15.039	1.2	1	1.33	RCP Class 2	900	900	0.3	NewFixed	1	SA-45\7	0
P SA-45\6	SA-45\6	SA-45\5	39.901	0.9	0.6	0.75	RCP Class 2	900	900	0.3	NewFixed	1	SA-45\6	0
P SA-62\3	SA-62\3	SA-62\2A	6.412	0.254	0.221	0.51	RCP Class 2	450	450	0.3	NewFixed	1	SA-62\3	0
P SA-62\2A	SA-62\2A	SA-62\2	7.838	0.221	0.181	0.51	RCP Class 2	450	450	0.3	NewFixed	1	SA-62\2A	0
P SA-62\2	SA-62\2	SA-62\1	4.66	0.181	0.014	3.58	RCP Class 2	450	450	0.3	NewFixed	1	SA-62\2	0
P SA-A\2	SA-A\2	SA-A\1	9.451	2.965	2.475	5.18	RCP Class 2	375	375	0.3	New	1	SA-A\2	0
P SA-A\1	SA-A\1	SA-15\5	10.507	2.455	2.35	1	RCP Class 2	375	375	0.3	New	1	SA-A\1	0
P SA-B\2	SA-B\2	SA-B\1	10.395	0.775	0.079	6.7	RCP Class 2	375	375	0.3	NewFixed	1	SA-B\2	0
P SA-D\1	SA-D\1	SA-A\1	13.885	2.55	2.48	0.5	RCP Class 4	375	369	0.3	New	1	SA-D\1	0
P SA-G\1	SA-G\1	SA-B\3	9.123	2.13	2.039	1	RCP Class 4	375	369	0.3	New	1	SA-G\1	0
P SA-R\2	SA-R\2	SA-R\1	24.684	2.561	2.293	1.09	RCP Class 4	300	293	0.3	New	1	SA-R\2	0
P SA-R\1	SA-R\1	SA-191\1	14.652	2.273	2.2	0.5	RCP Class 4	300	293	0.3	New	1	SA-R\1	0
P SA-S\5	SA-S\5	SA-S\4	9.005	1.73	1.64	1	RCP Class 4	375	369	0.3	New	1	SA-S\5	0
P SA-S\4	SA-S\4	SA-S\3	7.156	1.62	1.548	1.01	RCP Class 4	375	369	0.3	New	1	SA-S\4	0
P SA-S\3	SA-S\3	SA-S\2	3.914	1.528	1.489	1	RCP Class 4	375	369	0.3	New	1	SA-S\3	0
P SA-U\2	SA-U\2	SA-U\1	5.691	2	1.943	1	RCP Class 4	375	369	0.3	New	1	SA-U\2	0
P SA-U\1	SA-U\1	SA-62\2A	1.785	1.923	1.905	1.01	RCP Class 4	375	369	0.3	New	1	SA-U\1	0
P SA-T\2	SA-T\2	SA-T\1	23.696	2.835	2.598	1	RCP Class 4	375	369	0.3	New	1	SA-T\2	0

P SA-T\1	SA-T\1	SA-62\2A	12.812	2.578	2.45	1	RCP Class 4	375	369	0.3	New	1	SA-T\1	0
P SE-64\4	SE-64\2	SE-64\1	4.642	2.027	1.981	0.99	Box Culverts	0.9W x 0.75H		0.3	NewFixed	1	SE-64\2	0
P SE-64\1	SE-64\1	SE-A\2	9.162	1.814	1.723	0.99	Box Culverts	0.9W x 0.75H		0.3	NewFixed	1	SE-64\1	0
P SE-A\2	SE-A\2	SE-A\1	11.75	1.483	1.365	1	RCP Class 2	1200	1200	0.3	New	1	SE-A\2	0
P SE-A\3	SE-A\3	SE-A\2	7.741	1.902	1.825	0.99	Box Culverts	0.9W x 0.75H		0.3	NewFixed	1	SE-A\3	0
P SE-C\1	SE-C\1	SE-T\4	4.476	1.742	1.697	1.01	RCP Class 2	525	525	0.3	New	1	SE-C\1	0
P SE-T\4	SE-T\4	SE-T\3	15.005	1.46	1.326	0.89	RCP Class 2	750	750	0.3	New	1	SE-T\4	0
P SE-T\3	SE-T\3	SE-T\2	7.364	1.306	1.259	0.64	RCP Class 2	750	750	0.3	New	1	SE-T\3	0
P SE-T\2	SE-T\2	SE-T\1	5.978	0.647	0.617	0.5	RCP Class 2	900	900	0.3	New	1	SE-T\2	0
P SE-T\7	SE-T\7	SE-T\6	14.977	2.186	2.053	0.89	RCP Class 2	450	450	0.3	New	1	SE-T\7	0
P SE-T\6	SE-T\6	SE-T\5	14.972	2.033	1.914	0.79	RCP Class 2	450	450	0.3	New	1	SE-T\6	0
P SE-T\5	SE-T\5	SE-T\4	15.022	1.835	1.701	0.89	RCP Class 2	525	525	0.3	New	1	SE-T\5	0
P SE-U\3	SE-U\3	SE-U\2	2.899	1.306	1.292	0.48	RCP Class 2	375	375	0.3	New	1	SE-U\3	0
P SE-U\2	SE-U\2	SE-U\1	3.621	1.272	1.254	0.5	RCP Class 2	375	375	0.3	New	1	SE-U\2	0
P SE-U\1	SE-U\1	SE-T\2	3.271	0.683	0.667	0.49	RCP Class 2	375	375	0.3	New	1	SE-U\1	0
P SE-X\4	SE-X\4	SE-X\3	14.652	2.529	2.382	1	RCP Class 2	375	375	0.3	New	1	SE-X\4	0
P SE-X\3	SE-X\3	SE-X\2	15	2.362	2.212	1	RCP Class 2	375	375	0.3	New	1	SE-X\3	0
P SE-X\2	SE-X\2	SE-X\1	14.74	2.192	2.045	1	RCP Class 2	375	375	0.3	New	1	SE-X\2	0
P SE-X\1	SE-X\1	NN-A\4	15.719	2.025	1.868	1	RCP Class 2	375	375	0.3	New	1	SE-X\1	0
P NN-A\4	NN-A\4	NN-A\3	13.802	1.848	1.71	1	RCP Class 2	375	375	0.3	New	1	NN-A\4	0
P NN-A\3	NN-A\3	NN-A\2	24.095	1.69	1.449	1	RCP Class 2	375	375	0.3	New	1	NN-A\3	0
P SW-180\3	SW-180\3	SW-180\2	8.576	2.07	1.89	2.1	RCP Class 2	225	225	0.3	NewFixed	1	SW-180\3	0
P SW-180\2	SW-180\2	SW-180\1	46.666	1.08	1.024	0.12	RCP Class 2	300	300	0.3	NewFixed	1	SW-180\2	0
P SW-180\1	SW-180\1	SW-A\2	4.992	1.033	1.018	0.3	RCP Class 2	300	300	0.3	NewFixed	1	SW-180\1	0
P SW-A\2	SW-A\2	SW-A\1	23.025	0.844	0.729	0.5	RCP Class 2	525	525	0.3	New	1	SW-A\2	0
P SW-A\1	SW-A\1	SW-Q\4	22.074	0.709	0.599	0.5	RCP Class 2	525	525	0.3	New	1	SW-A\1	0
P SW-A\4	SW-A\4	SW-A\3	5.386	1.032	0.976	1.04	RCP Class 2	375	375	0.3	New	1	SW-A\4	0
P SW-A\3	SW-A\3	SW-A\2	18.45	0.956	0.864	0.5	RCP Class 2	450	450	0.3	New	1	SW-A\3	0
P SW-C\2	SW-C\2	SW-C\1	7.08	1.197	1.089	1.53	RCP Class 2	375	375	0.3	New	1	SW-C\2	0
P SW-C\1	SW-C\1	SW-A\1	4.963	1.069	1.019	1.01	RCP Class 2	375	375	0.3	New	1	SW-C\1	0
P SW-D\4	SW-D\4	SW-D\3	8.953	1.901	1.856	0.5	RCP Class 4	300	293	0.3	New	1	SW-D\4	0
P SW-D\3	SW-D\3	SW-D\2	13.718	1.822	1.754	0.5	RCP Class 4	375	369	0.3	New	1	SW-D\3	0
P SW-D\2	SW-D\2	SW-D\1	15.966	1.734	1.574	1	RCP Class 4	450	445	0.3	New	1	SW-D\2	0
P SW-D\1	SW-D\1	SW-V\1A	5.001	1.554	1.504	1	RCP Class 4	450	445	0.3	New	1	SW-D\1	0
P SW-V\1A	SW-V\1A	SW-V\1	1.9	1.065	1.061	0.21	RCP Class 4	600	596	0.3	New	1	SW-V\1A	0
P-SW-GPT1-USC	SW-V\1	SW-GPT1-W1	10	1.061	1.061	0	Box Culverts	0.6W x 0.85H		0.3	Existing	1	SW-V\1	0
P SW-GPT1-W	SW-GPT1-W1	SW-GPT1-W2	10	2.061	2.061	0	Box Culverts	0.75W x 0.45H		0.3	NewFixed	1	SW-GPT1-V	0
P SW-GPT1-DSC	SW-GPT1-W2	SW-GPT1-O	10	1.061	1.061	0	Box Culverts	1.2W x 0.75H		0.3	NewFixed	1	SW-GPT1-V	0
P SW-V\1	SW-GPT1-O	SW-153\2	2.084	1.041	1.037	0.19	RCP Class 4	600	596	0.3	New	1	SW-GPT1-(	0
P SW-153\2	SW-153\2	SW-153\1	9.919	1.017	1	0.17	RCP Class 2	1050	1070	0.3	NewFixed	1	SW-153\2	0
P SW-E\1	SW-E\1	SW-D\3	7.989	1.882	1.842	0.5	RCP Class 4	300	293	0.3	New	1	SW-E\1	0
P SW-F\1	SW-F\1	SW-K\1	5.042	1.143	1.092	1.01	RCP Class 2	375	375	0.3	New	1	SW-F\1	0
P SW-K\1	SW-K\1	SW-Q\4	27.775	0.901	0.623	1	RCP Class 2	375	375	0.3	New	1	SW-K\1	0
P SW-H\1	SW-H\1	SW-K\2	5.072	1.172	1.121	1.01	RCP Class 2	375	375	0.3	New	1	SW-H\1	0
P SW-K\2	SW-K\2	SW-K\1	27.997	1.061	0.921	0.5	RCP Class 2	375	375	0.3	New	1	SW-K\2	0
P SW-K\4	SW-K\4	SW-K\3	8.233	1.25	1.209	0.5	RCP Class 2	375	375	0.3	New	1	SW-K\4	0
P SW-K\3	SW-K\3	SW-K\2	21.611	1.189	1.081	0.5	RCP Class 2	375	375	0.3	New	1	SW-K\3	0
P SW-M\1	SW-M\1	5\2	12.337	0.986	0.925	0.49	RCP Class 2	450	450	0.3	New	1	SW-M\1	0
P SW-P\2	SW-P\2	SW-P\1	4.425	0.553	0.531	0.5	RCP Class 2	375	375	0.3	New	1	SW-P\2	0
P SW-P\1	SW-P\1	SW-Q\2	5.293	-0.006	-0.032	0.49	RCP Class 2	375	375	0.3	New	1	SW-P\1	0
P SW-R\1	SW-R\2	SW-R\1	18.799	1.285	1.259	0.14	RCP Class 2	375	375	0.3	New	1	SW-R\2	0
P SW-S\2	SW-S\2	SW-S\1	2.777	1.752	1.724	1.01	RCP Class 4	450	445	0.3	New	1	SW-S\2	0
P SW-V\4	SW-V\4	SW-V\3	12.494	1.449	1.387	0.5	RCP Class 4	450	445	0.3	New	1	SW-V\4	0
P SW-V\3	SW-V\3	SW-V\2	13	1.367	1.302	0.5	RCP Class 4	450	445	0.3	New	1	SW-V\3	0
P SW-V\2	SW-V\2	SW-V\1A	7.999	1.282	1.202	1	RCP Class 4	450	445	0.3	New	1	SW-V\2	0
P SW-Y\2	SW-Y\2	SW-SF1-USC	2.805	1.5	1.486	0.5	RCP Class 4	375	369	0.3	New	1	SW-Y\2	0
P SF1-USC	SW-SF1-USC	SW-SF1-W1	10	0.704	0.704	0	Box Culverts	0.55W x 1.5H		0.3	NewFixed	1	SW-SF1-US	0
Pipe288357	SW-SF1-W1	SW-SF1-W2	10	1.404	1.404	0	Box Culverts	0.45W x 0.95H		0.3	Existing	1	SW-SF1-W	0
P SF1-DSC	SW-SF1-W2	SW-Y\1	10	0.704	0.704	0	Box Culverts	0.55W x 1.5H		0.3	NewFixed	1	SW-SF1-W	0
P SW-Y\1	SW-Y\1	SW-X\2	1.9	0.709	0.69	1	RCP Class 4	375	369	0.3	New	1	SW-Y\1	0

P SW-X\2	SW-X\2	SW-X\1	7.006	0.67	0.6	1	RCP Class 4	525	519	0.3	New	1	SW-X\2	0
P SW-Z\3	SW-Z\3	SW-Z\2	21.533	3.115	3.007	0.5	uPVC	150	154	0.03	New	1	SW-Z\3	0
P SW-Z\2	SW-Z\2	SW-Z\1	19.867	2.987	2.888	0.5	uPVC	225	242	0.03	New	1	SW-Z\2	0
P SW-Z\1	SW-Z\1	SW_RG_01	3.518	2.868	2.85	0.51	uPVC	225	242	0.03	New	1	SW-Z\1	0
P SW-Z\5	SW-Z\5	SW-Z\4	19.302	2.54	2.386	0.8	RCP Class 2	375	375	0.3	New	1	SW-Z\5	0
P SW-Z\4	SW-Z\4	SW-Q\3	20.75	1.366	1.2	0.8	RCP Class 2	375	375	0.3	New	1	SW-Z\4	0
P NE-C\1	NE-C\1	NE-A\3	2.338	2.223	2.2	0.98	RCP Class 4	450	445	0.3	New	1	NE-C\1	0
P SW-Y\4	SW-Y\4	SW-Y\3	1.727	1.945	1.928	0.98	RCP Class 4	450	445	0.3	New	1	SW-Y\4	0
P SW-Y\3	SW-Y\3	SW-X-SP1-USC	1.6	1.535	1.52	0.94	RCP Class 4	525	519	0.3	New	1	SW-Y\3	0
P SW-X-SP1-USC	SW-X-SP1-USC	SW-X-SP1-W1	10	1.525	1.525	0	Box Culverts	0.9W x 0.75H		0.3	NewFixed	1	SW-X-SP1-	0
P SW-SP1-W	SW-X-SP1-W1	SW-X-SP1-W2	10	1.8	1.8	0	Box Culverts	0.9W x 1.5H		0.3	NewFixed	1	SW-X-SP1-	0
P SW-SP1-DSC	SW-X-SP1-W2	SW-X\3	10	1.5	1.5	0	Box Culverts	0.9W x 1.5H		0.3	NewFixed	1	SW-X-SP1-	0
P SW-X\3	SW-X\3	SW-X\2	2.81	1.5	1.472	1	RCP Class 4	525	519	0.3	New	1	SW-X\3	0
P SW-S\3	SW-S\3	SW_RG_02	3.642	2.918	2.9	0.49	RCP Class 4	300	293	0.3	New	3	SW-S\3	0
P SA-B\8	SA-B\8	SA-B\7	9.866	1.88	1.829	0.52	RCP Class 2	300	300	0.3	New	1	SA-B\8	0
P SA-B\7	SA-B\7	SA-B\6	4.77	1.799	1.753	0.96	RCP Class 2	300	300	0.3	New	1	SA-B\7	0
P SA-B\6	SA-B\6	SA-B\5	5.25	1.767	1.737	0.57	RCP Class 2	375	375	0.3	NewFixed	1	SA-B\6	0
P SA-B\5	SA-B\5	SA-B\4	1.2	1.717	1.714	0.25	RCP Class 2	375	375	0.3	New	1	SA-B\5	0
P SA-B\4	SA-B\4	SA-B\3	10.58	1.694	1.473	2.09	RCP Class 2	375	375	0.3	NewFixed	1	SA-B\4	0
P NE-D\4	NE-D\4	NE-D\3	1.642	1.843	1.835	0.49	RCP Class 4	450	445	0.3	New	1	NE-D\4	0
P NE-D\3	NE-D\3	NE-D\2	3.002	1.815	1.8	0.5	RCP Class 4	450	445	0.3	New	1	NE-D\3	0
P NE SPN_USCbr	NE-D\2	NE_SPN_W1	3	1.7	1.7	0	Box Culverts	0.9W x 0.6H		0.3	Existing	1	NE-D\2	0
P NE_SPN_W1	NE_SPN_W1	NE_SPN_W2	3	1.85	1.85	0	Box Culverts	0.55W x 0.3H		0.3	NewFixed	1	NE_SPN_W	0
P NE SPN_DSCbr	NE_SPN_W2	NE_SPN_O	3	1.7	1.7	0	Box Culverts	0.9W x 0.6H		0.3	NewFixed	1	NE_SPN_W	0
P NE-D\2	NE_SPN_O	NE-D\1	5.954	1.7	1.57	2.18	RCP Class 4	450	445	0.3	New	1	NE_SPN_O	0
P NE-D\1	NE-D\1	NE-19\2	2.1	0.775	0.756	0.9	RCP Class 4	675	674	0.3	NewFixed	1	NE-D\1	0
P NE-E\2	NE-E\2	NE-E\1	1.846	1.7	1.682	0.98	RCP Class 4	375	369	0.3	New	1	NE-E\2	0
P NE-E\1	NE-E\1	NE-D\1	4.72	0.842	0.795	1	RCP Class 4	375	369	0.3	New	1	NE-E\1	0
DETAILS of SERVICES CROSSING PIPES														
Pipe	Chg	Bottom	Height of Service	Chg	Bottom	Height of S	Chg	Bottom	Height of S	etc				
	(m)	Elev (m)	(m)	(m)	Elev (m)	(m)	(m)	Elev (m)	(m)	etc				
CHANNEL DETAILS														
Name	From	To	Type	Length	U/S IL	D/S IL	Slope	Base Width	L.B. Slope	R.B. Slope	Manning	Depth	Roofed	
				(m)	(m)	(m)	(%)	(m)	(1:?)	(1:?)	n	(m)		
OVERFLOW ROUTE DETAILS														
Name	From	To	Travel	Spill	Crest	Weir	Cross	Safe Depth	SafeDepth	Safe	Bed	D/S Area		id
			Time	Level	Length	Coeff. C	Section	Major Storm	Minor Storm	DxV	Slope	Contributing		
			(min)	(m)	(m)			(m)	(m)	(sq.m/sec)	(%)	%		
F 5\4	5\4	5\3	0.3				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431910
F 5\3	5\3	5\2	0.5				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431909
F 5\2	5\2	O 5\2	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431908
F 6\2	6\2	6\1	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431912
F 6\1	6\1	5\2	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431911
F 129\1	129\1	5\3	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431913
F 189\1	189\1	SA-15\5	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1.8	0		80431914
F SA-15\5	SA-15\5	SA-15\4	0.1				Dummy used to model flow across r	0.2	0.05	0.6	0.1	0		80431939
F SA-15\4	SA-15\4	SA-15\3	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0	0		80431938
F SA-15\3	SA-15\3	SA-15\2	0.2				Dummy used to model flow across r	0.2	0.05	0.6	2	0		80431937
F SA-15\2	SA-15\2	O SA-15\2	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431936
F NE-19\7	NE-19\7	NE-19\6	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431922
F NE-19\6	NE-19\6	NE-19\5	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431921
F NE-19\5	NE-19\5	NE-19\4	0.1				Dummy used to model flow across r	0.2	0.05	0.6	5	0		80431920
F NE-19\4	NE-19\4	NE-19\3	0.5				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431919
F NE-19\3	NE-19\3	NE-19\2	0.7				Dummy used to model flow across r	0.2	0.05	0.6	0.3	0		80431918
F NE-19\2	NE-19\2	O NE-19\2	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431917
F NE-72\2	NE-72\2	NE-72\1	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431924
F NE-72\1	NE-72\1	NE-A\1	0.7				Dummy used to model flow across r	0.2	0.05	0.6	0.1	0		80431923

F NE-78\1	NE-78\1	NE-19\5	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431925
F NE-A\4	NE-A\4	NE-A\3	0.3				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431928
F NE-A\3	NE-A\3	NE-A\2	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0	170861859
F NE-A\2	NE-A\2	NE-A\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0	80431927
F NE-A\1	NE-A\1	NE-19\3	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431926
F NE-B\2	NE-B\2	NE-A\2	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431930
F NE-B\1	NE-B\1	NE-A\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0	80431929
F NN-B\1	NN-B\1	NN-A\2	0.4				Dummy used to model flow across r	0.14	0.14	0.6	2	0	80431935
F NN-A\2	NN-A\2	NN-A\1	0.4				Dummy used to model flow across r	0.14	0.14	0.6	1.2	0	80431932
F NN-A\1	NN-A\1	SW-Q\5	0.2				Dummy used to model flow across r	0.14	0.14	0.6	-0.1	0	80431931
F SW-Q\5	SW-Q\5	SW-C\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	-0.1	0	80432021
F SW-Q\4	SW-Q\4	SW-Q\3	0.1				Dummy used to model flow across r	0.14	0.14	0.6	-0.1	0	80432020
F SW-Q\3	SW-Q\3	SW-P\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0	80432019
F SW-Q\2	SW-Q\2	O SW-Q\2	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80432018
F SA-15\6	SA-15\6	SA-15\5	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1.8	0	80431940
F SA-190\1	SA-190\1	SA-B\3	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431941
F SA-B\3	SA-B\3	SA-45\5	0.2				Dummy used to model flow across r	0.2	0.05	0.6	0.2	0	80431956
F SA-45\5	SA-45\5	SA-45\4	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431947
F SA-45\4	SA-45\4	SA-45\3	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0	80431946
F SA-45\3	SA-45\3	SA-45\2	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431945
F SA-45\2	SA-45\2	O SA-45\2	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431944
F SA-191\2	SA-191\2	SA-191\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431943
F SA-191\1	SA-191\1	SA-S\2	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431942
F SA-S\2	SA-S\2	SA-S\1	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431965
F SA-S\1	SA-S\1	SA-45\5	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431964
F SA-45\8	SA-45\8	SA-45\7	0.7				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431950
F SA-45\7	SA-45\7	SA-45\6	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431949
F SA-45\6	SA-45\6	SA-S\1	0.6				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431948
F SA-62\3	SA-62\3	SA-U\2	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431952
F SA-62\2A	SA-62\2A	SA-U\1	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0	160131441
F SA-62\2	SA-62\2	O SA-62\2	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431951
F SA-A\2	SA-A\2	SA-A\1	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1.1	0	80431954
F SA-A\1	SA-A\1	SA-15\5	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1.8	0	80431953
F SA-B\2	SA-B\2	O SA-B\2	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431955
F SA-D\1	SA-D\1	SA-A\1	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1.1	0	80431960
F SA-G\1	SA-G\1	SW-E\1	0.5				Dummy used to model flow across r	0.14	0.14	0.6	0.4	0	80431961
F SA-R\2	SA-R\2	SA-R\1	0.4				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431963
F SA-R\1	SA-R\1	SA-191\1	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431962
F SA-S\5	SA-S\5	SA-S\4	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431968
F SA-S\4	SA-S\4	SA-S\3	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0	80431967
F SA-S\3	SA-S\3	SA-S\2	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431966
F SA-S\6	SA-U\2	SA-S\5	0.4				Dummy used to model flow across r	0.14	0.14	0.6	0.5	0	80431969
F SA-U\1	SA-U\1	SA-U\2	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0	160131444
F SA-T\2	SA-T\2	SA-T\1	0.4				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431971
F SA-T\1	SA-T\1	SA-62\2A	0.3				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431970
F SE-64\1	SE-64\1	SE-A\2	0.2				Dummy used to model flow across r	0.14	0.14	0.6	0	0	80431972
F SE-A\3	SE-A\3	SE-A\2	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0	0	80431977
F SE-C\1	SE-C\1	SE-T\4	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.9	0	80431978
F SE-T\4	SE-T\4	SE-U\3	0.2				Dummy used to model flow across r	0.14	0.14	0.6	0.9	0	80431984
F SE-T\3	SE-T\3	SE-T\2	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.9	0	80431983
F SE-T\2	SE-T\2	O SE-T\2	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431982
F SE-T\7	SE-T\7	SE-T\6	0.2				Dummy used to model flow across r	0.14	0.14	0.6	0.9	0	80431987
F SE-T\6	SE-T\6	O SE-T\6	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431986
F SE-T\5	SE-T\5	SE-T\4	0.3				Dummy used to model flow across r	0.14	0.14	0.6	0.9	0	80431985
F SE-U\3	SE-U\3	SE-U\2	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431990
F SE-U\2	SE-U\2	SE-U\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0	80431989
F SE-U\1	SE-U\1	SE-T\2	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.9	0	80431988
F SE-X\4	SE-X\4	SE-X\3	0.2				Dummy used to model flow across r	0.14	0.14	0.6	0.3	0	80431994
F SE-X\3	SE-X\3	SE-X\2	0.3				Dummy used to model flow across r	0.14	0.14	0.6	0.3	0	80431993
F SE-X\2	SE-X\2	SE-X\1	0.2				Dummy used to model flow across r	0.14	0.14	0.6	0.3	0	80431992

F SE-X\1	SE-X\1	NN-A\4	0.3				Dummy used to model flow across r	0.14	0.14	0.6	0.3	0		80431991
F NN-A\4	NN-A\4	NN-A\3	0.2				Dummy used to model flow across r	0.14	0.14	0.6	2.2	0		80431934
F NN-A\3	NN-A\3	NN-A\2	0.4				Dummy used to model flow across r	0.14	0.14	0.6	2	0		80431933
F SW-180\3	SW-180\3	SW-180\2	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431998
F SW-180\2	SW-180\2	SW-180\1	0.8				Dummy used to model flow across r	0.2	0.05	0.6	0.1	0		80431997
F SW-180\1	SW-180\1	SW-A\4	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80431996
F SW-A\2	SW-A\2	SW-180\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0		80432000
F SW-A\1	SW-A\1	SW-C\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0		80431999
F SW-A\4	SW-A\4	SW-M\1	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432002
F SW-A\3	SW-A\3	SW-M\1	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432001
F SW-C\2	SW-C\2	SW-C\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0		80432004
F SW-C\1	SW-C\1	SW-180\1	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432003
F SW-D\4	SW-D\4	SW-D\3	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		121114051
F SW-D\3	SW-D\3	SW-D\2	0.3				Dummy used to model flow across r	0.14	0.14	0.6	1.2	0		80432007
F SW-D\2	SW-D\2	SW-D\1	0.3				Dummy used to model flow across r	0.14	0.14	0.6	0.6	0		80432006
F SW-D\1	SW-D\1	SW-V\1A	0.2				Dummy used to model flow across r	0.14	0.14	0.6	0.6	0		80432005
F SW-V\1A	SW-V\1A	SW-V\2	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432033
F SW-V\1	SW-V\1	SW-153\2	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432032
F SW-153\2	SW-153\2	O SW-153\2	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431995
F SW-E\1	SW-E\1	SW-D\3	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		117544516
F SW-F\1	SW-F\1	SW-Q\5	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432009
F SW-K\1	SW-K\1	SW-F\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0		80432011
F SW-H\1	SW-H\1	SW-F\1	0.5				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0		80432010
F SW-K\2	SW-K\2	SW-H\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0		80432012
F SW-K\4	SW-K\4	SW-H\1	0.5				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0		80432014
F SW-K\3	SW-K\3	SW-K\4	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0		80432013
F SW-M\1	SW-M\1	5\2	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432015
F SW-P\2	SW-P\2	SW-P\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	0.1	0		80432017
F SW-P\1	SW-P\1	SW-Q\2	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432016
F SW-R\1	SW-R\2	SW-R\1	0.3				Dummy used to model flow across r	0.14	0.14	0.6	0.4	0		80432022
F SW-S\4	SW-S\2	SW-S\1	0.7				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432025
F SW-V\4	SW-V\4	O SW-V\4	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432031
F SW-V\3	SW-V\3	SW-V\4	0.2				Dummy used to model flow across r	0.14	0.14	0.6	0.2	0		80432030
F SW-V\2	SW-V\2	SW-V\3	0.2				Dummy used to model flow across r	0.14	0.14	0.6	0.5	0		80432029
F SW-Y\2	SW-Y\2	SW-Y\1	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432037
F SW-Y\1	SW-Y\1	SW-X\2	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432036
F SW-X\2	SW-X\2	O SW-X\2	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432034
F SW-Z\3	SW-Z\3	SW-Z\2	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0		143712921
F SW-Z\2	SW-Z\2	SW-Z\1	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0		143712917
F SW-Z\1	SW-Z\1	SW_RG_01	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432038
F NE-C\1	NE-C\1	NE-A\3	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		170861860
F SW-X\4	SW-Y\4	SW-Y\3	0.1				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80432035
F SW-Y\3	SW-Y\3	SW-X-SP1-USC	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		152342413
F F SW-X\3	SW-X\3	SW-X\2	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		126689092
F SW-S\3	SW-S\3	SW_RG_02	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		145609183
F SA-B\8	SA-B\8	SA-B\7	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0		155922724
F SA-B\7	SA-B\7	SA-B\6	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		155922733
F SA-B\6	SA-B\6	SA-B\5	0.1				Dummy used to model flow across r	0.2	0.05	0.6	0.6	0		80431959
F SA-B\5	SA-B\5	O SA-B\5	0.2				Dummy used to model flow across r	0.2	0.05	0.6	1	0		80431958
F SA-B\4	SA-B\4	SA-B\3	0.2				Dummy used to model flow across r	0.14	0.14	0.6	1	0		80431957
F NE-D\4	NE-D\4	NE-D\3	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		166364063
F NE-D\3	NE-D\3	NE-D\2	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1	0		92592074
F NE-D\2	NE-D\2	NE-D\1	0.1				Dummy used to model flow across r	0.2	0.05	0.6	1.1	0		80431916
F NE-D\1	NE-D\1	NE-19\2	0.1				Dummy used to model flow across r	0.2	0.05	0.6	0.3	0		80431915

PROJECT	Sydney International Convention Entertainment and Exhibition Precinct	JOB No		AA004399	
TITLE	PDA NE PLOT (DA)	PREPARED	VN	DATE	5/11/2014
		CHECKED	BC	DATE	5/11/2014

DRAINS File Path:	F:\AA004399\D-Calcs\A-Civil\A-Stormwater\A-DRAINS\2014-02-26 PDA\141103_NE_DA\AA004399_PDA_dgn_141103_01.drn
DRAINS Version:	DRAINS Version 2014.08 - 29 August 2014
Modeller's Name:	Vincent Ng
Description:	Developed conditions model

DRAINS results prepared 05 November, 2014 from Version 2014.08

RESULTS 20 YEAR ARI

PIT / NODE DETAILS — Version 8

Name	Max HGL	Max Pond HGL	Max Surface Flow Arriving (cu.m/s)	Max Pond Volume (cu.m)	Min Freeboard (m)	Overflow (cu.m/s)	Constraint
5\4	1.22		0		1.2	0	None
5\3	0.86		0		1.63	0	None
5\2	0.32		0		1.8	0	None
5\1	0.19		0				
6\2	0.63		0		1.67	0	None
6\1	0.54		0		1.55	0	None
129\1	1.06		0		1.41	0	None
189\1	2.62		0.002		1.49	0	None
SA-15\5	2.62		0.03		0.95	0.001	Inlet Capacity
SA-15\4	2.54	3.39	0.031	0.4	0.78	0	Inlet Capacity
SA-15\3	1.89		0		1.63	0	None
SA-15\2	1.84		0		1.54	0	None
SA-15\1	1.8		0				
NE-19\7	3.04		0.446		0	0.549	Outlet System
NE-19\6	3.14		0.549		0	0.529	Outlet System
NE-19\5	3.14		0.549		0	0.395	Outlet System
NE-19\4	2.96		0.395		0.02	0.008	Inlet Capacity
NE-19\3	2.79		0.031		0.05	0	None
NE-19\2	2.51		0		0.18	0	None
NE-19\1	2.24		0				
NE-72\2	2.97		0.017		0	0.015	Outlet System
NE-72\1	2.94		0.02		0	0.018	Outlet System
NE-78\1	3.14		0.051		0	0.041	Inlet Capacity
NE-A\4	2.97		0.012		0.19	0	Inlet Capacity
NE-A\3	2.95		0.051		0.17	0.045	Inlet Capacity
NE-A\2	2.91		0.045		0.21	0	None
NE_SPS_W1	2.9		0		0.3		None
NE_SPS_W2	2.9		0		0.3		None
NE_SPS_O	2.89		0		0.31		None
NE-A\1	2.82	2.83	0.045	0.9	-0.09	0.031	Outlet System
NE-B\2	1.8		0		1.32	0	None
NE-B\1	0.94		0		1.93	0	None
N203717	0.9		0				
NN-B\1	2.53		0.005		0.93	0	None
NN-A\2	1.86		0.032		1.14	0.001	Inlet Capacity
NN-A\1	1.77		0.1		0.8	0.006	Inlet Capacity
SW-Q\5	1.63		0.04		0.79	0.002	Inlet Capacity
SW-Q\4	1.52		0		0.98	0	None
SW-Q\3	1.22		0		1.33	0	None
SW-Q\2	0.52		0		2.09	0	None
SW-Q\1	0.43		0				
SA-15\6	2.64		0.016		1.52	0	None
SA-190\1	2.96		0		0.51	0	None
SA-B\3	2.96		0		0.25	0	None
SA-45\5	2.79		0		1.33	0	None
SA-45\4	2.64		0		0.83	0	None
SA-45\3	2.21		0		1.21	0	None
SA-45\2	2.16		0		1.36	0	None
SA-45\1	1.88		0				
SA-191\2	3.15	3.15	0.036	0.9	-0.5	0.043	Outlet System
SA-191\1	3.19		0.049		0.26	0.002	Inlet Capacity
SA-S\2	2.99		0.008		0.92	0	Inlet Capacity
SA-S\1	2.9		0		0.72	0	None
SA-45\8	6.56		1.55		2.02	0	None
SA-45\7	3.39		0		2.84	0	None
SA-45\6	3.16		0		2.89	0	None
SA-62\3	1.96		0.053		1.93	0	None
SA-62\2A	1.93		0		1.89	0	None
SA-62\2	1.89		0		1.72	0	None
SA-62\1	1.86		0				
SA-A\2	3.13		0.03		0.87	0	None
SA-A\1	2.69		0		1.03	0	None
SA-B\2	0.77		0		2.49	0	None
SA-B\1	0.08		0				
SA-D\1	2.75	3.42	0.028	1.1	0.61	0	Inlet Capacity
SA-G\1	2.96	3.17	0.011	0.5	0.18	0	Inlet Capacity
SA-R\2	3.53		0.066		0.02	0.001	Inlet Capacity
SA-R\1	3.23		0.001		0	0.007	Outlet System
SA-S\5	3.02	3.2	0.027	1.3	0.12	0	Inlet Capacity
SA-S\4	3.01		0		1.26	0	None
SA-S\3	3		0		1.06	0	None
SA-U\2	2.1	3.46	0.014	0.6	1.32	0	Inlet Capacity
SA-U\1	2		0		1.81	0	None
SA-T\2	2.97	3.89	0.018	0.1	0.87	0	Inlet Capacity
SA-T\1	2.72	3.8	0.015	0.1	1.05	0	Inlet Capacity
SE-64\2	2.04		0.006		1.48		None

SE-64\1	1.83		0		1.59	0	None					
SE-A\2	1.55		0.019		1.84		None					
SE-A\1	1.41		0									
SE-A\3	1.93		0.024		1.44	0.019	Inlet Capacity					
SE-C\1	2.07		0.242		0.84	0	None					
SE-T\4	1.95		0.012		0.91	0	Inlet Capacity					
SE-T\3	1.71		0.012		1.02	0	Inlet Capacity					
SE-T\2	0.98		0.001		1.68	0.001	Inlet Capacity					
SE-T\1	0.89		0									
SE-T\7	2.24		0.003		1.05	0	None					
SE-T\6	2.14		0.021		1	0.001	Inlet Capacity					
SE-T\5	1.98		0.012		1.03	0	Inlet Capacity					
SE-U\3	1.31		0		1.43	0	Inlet Capacity					
SE-U\2	1.27		0		1.47	0	Inlet Capacity					
SE-U\1	0.98		0		1.73	0	Inlet Capacity					
SE-X\4	2.71		0.034		0.83	0.001	Inlet Capacity					
SE-X\3	2.52		0.012		1.06	0	Inlet Capacity					
SE-X\2	2.37		0.01		1.22	0	Inlet Capacity					
SE-X\1	2.22		0.009		1.32	0	Inlet Capacity					
NN-A\4	2.08		0.01		1.43	0	Inlet Capacity					
NN-A\3	1.95		0.006		1.25	0	Inlet Capacity					
SW-180\3	2.35		0.038		0.01	0.022	Inlet Capacity					
SW-180\2	2.33		0.088		0.54	0.04	Inlet Capacity					
SW-180\1	2.15		0.071		0.22	0.004	Inlet Capacity					
SW-A\2	1.84		0		0.61	0	None					
SW-A\1	1.73		0		0.75	0	None					
SW-A\4	1.93		0.062		0.43	0.003	Inlet Capacity					
SW-A\3	1.86		0		0.43	0	None					
SW-C\2	1.79		0.064		0.72	0.003	Inlet Capacity					
SW-C\1	1.78		0.043		0.61	0.002	Inlet Capacity					
SW-D\4	2.34	2.83	0.004	0.1	0.46	0	Inlet Capacity					
SW-D\3	2.34		0		0.65	0	None					
SW-D\2	2.33		0.022		0.53	0.001	Inlet Capacity					
SW-D\1	2.32		0.019		0.41	0.001	Inlet Capacity					
SW-V\1A	2.3		0.001		0.35	0.001	Inlet Capacity					
SW-V\1	2.25		0		0.4	0	None					
SW-GPT1-W1	2.25		0		1.25		None					
SW-GPT1-W2	2.12		0		1.38		None					
SW-GPT1-O	2.12		0		1.38		None					
SW-153\2	2.11		0		0.59	0	None					
SW-153\1	2.11		0									
SW-E\1	2.41	2.87	0.035	0.4	0.39	0	Inlet Capacity					
SW-F\1	1.64		0.037		0.8	0.001	Inlet Capacity					
SW-K\1	1.62		0		0.91	0	None					
SW-H\1	1.68		0.035		0.79	0.001	Inlet Capacity					
SW-K\2	1.66		0		0.9	0	None					
SW-K\4	1.67		0.014		0.84	0	Inlet Capacity					
SW-K\3	1.66		0		0.93	0	None					
SW-M\1	1.12	2.12	0.022	0.6	0.96	0	Inlet Capacity					
SW-P\2	0.55		0		2	0	None					
SW-P\1	0.52		0		2.03	0	None					
SW-R\2	2.23	2.76	0.047	2.6	0.46	0	Inlet Capacity					
SW-R\1	2.18		0									
SW-S\2	1.75		0		1.75	0	None					
SW-S\1	1.72		0.091									
SW-V\4	2.35	2.63	0.078	23.5	0.19	0	Inlet Capacity					
SW-V\3	2.33		0.014		0.25	0	Inlet Capacity					
SW-V\2	2.32		0.015		0.34	0	Inlet Capacity					
SW-Y\2	2.23		0		0.81	0	None					
SW-SF1-USC	2.22		0		1.28		None					
SW-SF1-W1	2.22		0		1.28		None					
SW-SF1-W2	2.22		0		1.28		None					
SW-Y\1	2.22		0		0.84	0	None					
SW-X\2	2.21		0		0.82	0	None					
SW-X\1	1.92		0									
SW-Z\3	3.25		0.008		0.2	0	Inlet Capacity					
SW-Z\2	3.17		0.006		0.28	0	Inlet Capacity					
SW-Z\1	3.16		0.005		0.34	0	None					
SW_RG_01	3.13		0									
SW-Z\5	2.6		0.008		0.95		None					
SW-Z\4	1.43		0		2.12		None					
NE-C\1	3.16		0.204		0.01	0.051	Inlet Capacity					
SW-Y\4	3.49		0.308		1.51	0	None					
SW-Y\3	2.59		0		0.43	0	None					
SW-X-SP1-US	2.31		0		1.19		None					
SW-X-SP1-W	2.29		0		1.21		None					
SW-X-SP1-W	2.29		0		1.21		None					
SW-X\3	2.28		0		0.73	0	None					
SW-S\3	3.48		0.264		0.02	0.02	Inlet Capacity					
SW_RG_02	3.12		0.02									
SA-B\8	3.71		0.154		0.01	0.043	Inlet Capacity					
SA-B\7	3.57		0.07		0.16	0.004	Inlet Capacity					
SA-B\6	3.31		0.004		0.41	0	None					
SA-B\5	3.2	3.21	0.018	0	0	0.04	Outlet System					
SA-B\4	3.12		0		0.24	0	None					
NE-D\4	2.86		0.127		0.31	0	None					
NE-D\3	2.7		0		0.41	0	None					
NE-D\2	2.62		0		0.48	0	None					
NE_SPN_W1	2.62		0		0.88		None					
NE_SPN_W2	2.61		0		0.89		None					
NE_SPN_O	2.61		0		0.89		None					
NE-D\1	2.53		0.024		0.16	0	None					

NE-E\2	2.53		0		0.57		None					
NE-E\1	2.53		0		0.54		None					
SUB-CATCHMENT DETAILS												
Name	Max	Paved	Grassed	Paved	Grassed	Supp.	Due to Storm					
	Flow Q	Max Q	Max Q	Tc	Tc	Tc						
	(cu.m/s)	(cu.m/s)	(cu.m/s)	(min)	(min)	(min)						
C SA-189\1	0.002	0.002	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-15\5	0.03	0.024	0.005	3	3	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-15\4	0.03	0.03	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NE-19\7	0.446	0.34	0.109	10	12	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NE-72\2	0.017	0.017	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NE-72\1	0.006	0.006	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NE-78\1	0.051	0.051	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NE-A\4	0.012	0.012	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NE-A\1	0.028	0.028	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NN-B\1	0.005	0.005	0	3	3	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NN-A\2	0.032	0.032	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NN-A\1	0.099	0.099	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-Q\5	0.032	0.032	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-15\6	0.016	0.016	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-191\2	0.036	0.036	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-S\2	0.006	0.006	0	1	1	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C 45\8	1.55	1.435	0.119	10	12	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-62\3	0.053	0.053	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-A\2	0.03	0.03	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-D\1	0.028	0.028	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-G\1	0.011	0.011	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-R\2	0.066	0.066	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-S\5	0.027	0.027	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-U\2	0.014	0.014	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-T\2	0.018	0.018	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-T\1	0.015	0.015	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-64\2	0.006	0.006	0	1	1	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-A\3	0.024	0.024	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-C\1	0.242	0.242	0	7	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-T\4	0.012	0.012	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-T\3	0.012	0.012	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-T\7	0.003	0.003	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-T\6	0.021	0.021	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-T\5	0.012	0.012	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-X\4	0.034	0.034	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-X\3	0.011	0.011	0	1	3	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-X\2	0.009	0.009	0	1	3	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SE-X\1	0.008	0.008	0	1	3	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NN-A\4	0.01	0.01	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NN-A\3	0.006	0.006	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-180\3	0.038	0.038	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-180\2	0.066	0.066	0	3	3	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-180\1	0.029	0.029	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-A\4	0.058	0.058	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-C\2	0.064	0.064	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-C\1	0.038	0.038	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-D\4	0.004	0.004	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-D\2	0.022	0.022	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-D\1	0.018	0.018	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-E\1	0.035	0.035	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-F\1	0.036	0.036	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-H\1	0.035	0.035	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-K\4	0.014	0.014	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-M\1	0.019	0.019	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-R\2	0.047	0.047	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-S\1	0.091	0.091	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-V\4	0.078	0.078	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-V\3	0.014	0.014	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-V\2	0.014	0.014	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-Z\3	0.008	0.008	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-Z\2	0.006	0.006	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-Z\1	0.005	0.005	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-Z\5	0.008	0.008	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
Cat104093	0.005	0.005	0	3	0	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C 70\03	0.094	0.094	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NE-C\1	0.204	0.204	0	4	6	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-X\4	0.308	0.308	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C_Dummy_3M	0.152	0.152	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C Balance	0.156	0.156	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SW-S\3	0.264	0.264	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
Cat195010	0.061	0.061	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-B\8	0.154	0.154	0	4	6	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-B\7	0.027	0.027	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C SA-B\5	0.018	0.018	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NE-D\4	0.127	0.127	0	4	6	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
C NE-D\1	0.024	0.024	0	3	5	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1					
Outflow Volumes for Total Catchment (9.06 impervious + 0.60 pervious = 9.66 total ha)												
Storm	Total Rainfall	Total Runoff	Impervious Ru	Pervious Runoff								
	cu.m	cu.m (Runoff %	cu.m (Runoff %	cu.m (Runoff %)								
AR&R 20 yea	1682.52	1532.62 (91.1	1488.09 (94.3	44.53 (42.9%)								
AR&R 20 yea	2640.51	2479.06 (93.9	2386.99 (96.3	92.08 (56.5%)								
AR&R 20 yea	3381.14	3210.35 (94.9	3081.95 (97.1	128.40 (61.6%)								
AR&R 20 yea	3992.97	3814.71 (95.5	3656.03 (97.6	158.68 (64.4%)								

AR&R 20 yea	4508.19	4320.60 (95.8	4139.44 (97.9	181.16 (65.1%)							
AR&R 20 yea	4975.11	4779.42 (96.1	4577.61 (98.1	201.81 (65.8%							
AR&R 20 yea	6057.15	5842.15 (96.5	5592.90 (98.4	249.25 (66.7%							
AR&R 20 yea	6878.12	6648.20 (96.7	6363.24 (98.6	284.97 (67.2%							
AR&R 20 yea	8085.83	7831.40 (96.9	7496.44 (98.8	334.96 (67.2%							
AR&R 20 yea	8984.17	8709.52 (96.9	8339.24 (98.9	370.28 (66.8%							
AR&R 20 yea	10317.55	10008.25 (97.	9589.52 (99.1	418.72 (65.8%							
AR&R 20 yea	11781.1	11423.95 (97.	10963.71 (99.	460.23 (63.3%							
PIPE DETAILS											
Name	Max Q	Max V	Max U/S	Max D/S	Due to Storm						
	(cu.m/s)	(m/s)	HGL (m)	HGL (m)							
P 5\4	0	0	1.22	0.89	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P 5\3	0	0	0.86	0.319	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P 5\2	0.022	1.32	0.286	0.191	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P 6\2	0	0	0.63	0.56	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P 6\1	0	0	0.54	0.52	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P 129\1	0	0	1.06	1.06	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P 189\1	0.003	0.17	2.617	2.618	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-15\5	0.105	1.07	2.544	2.542	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-15\4	0.137	1.93	2.464	2.392	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-15\3	0.137	0.63	1.842	1.836	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-15\2	0.137	0.63	1.806	1.8	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P NE-19\7	0.191	1.64	3.044	3.138	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P NE-19\6	0.263	2.25	3.138	3.144	AR&R 20 year, 10 minutes storm, average 164 mm/h, Zone 1						
P NE-19\5	0.309	2.64	2.98	2.956	AR&R 20 year, 30 minutes storm, average 103 mm/h, Zone 1						
P NE-19\4	0.539	1.22	2.833	2.786	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1						
P NE-19\3	0.676	1.53	2.646	2.506	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P NE-19\2	0.824	1.87	2.297	2.24	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P NE-72\2	0.048	0.67	2.963	2.937	AR&R 20 year, 1 hour storm, average 71.2 mm/h, Zone 1						
P NE-72\1	0.055	0.78	2.937	2.956	AR&R 20 year, 1 hour storm, average 71.2 mm/h, Zone 1						
P NE-78\1	0.033	0.84	3.14	3.144	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1						
P NE-A\4	0.028	0.26	2.964	2.953	AR&R 20 year, 15 minutes storm, average 140 mm/h, Zone 1						
P NE-A\3	0.219	0.78	2.909	2.908	AR&R 20 year, 1 hour storm, average 71.2 mm/h, Zone 1						
P NE SPS_US	0.232	0.43	2.907	2.903	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1						
P NE_SPS_W	0.232	1.41	2.903	2.898	AR&R 20 year, 1.5 hours storm, average 55.8 mm/h, Zone 1						
P NE SPS_DS	0.228	0.42	2.898	2.889	AR&R 20 year, 1.5 hours storm, average 55.8 mm/h, Zone 1						
P NE-A\2	0.23	0.82	2.827	2.819	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P NE-A\1	0.261	0.73	2.787	2.786	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1						
P NE-B\2	0	0	1.8	1.763	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P NE-B\1	0	0	0.935	0.899	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P NN-B\1	0.005	1.04	2.488	2.033	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P NN-A\2	0.122	0.94	1.769	1.767	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P NN-A\1	0.207	0.96	1.721	1.631	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SW-Q\5	0.245	1.13	1.614	1.522	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SW-Q\4	0.617	1.53	1.415	1.217	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SW-Q\3	0.625	2.26	1.003	1.034	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SW-Q\2	0.625	2.04	0.44	0.433	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-15\6	0.016	0.4	2.614	2.618	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-190\1	0.004	0.04	2.96	2.959	AR&R 20 year, 10 minutes storm, average 164 mm/h, Zone 1						
P SA-B\3	0.184	1.66	2.819	2.792	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1						
P SA-45\5	1.811	2.85	2.668	2.64	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-45\4	1.807	2.84	2.229	2.21	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-45\3	1.809	2.84	2.21	2.159	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-45\2	1.809	2.84	1.913	1.88	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-191\2	0.038	0.53	3.15	3.186	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P SA-191\1	0.092	1.3	3.056	2.993	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1						
P SA-S\2	0.122	1.11	2.909	2.898	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1						
P SA-S\1	0.122	1.1	2.795	2.792	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1						
P SA-45\8	1.553	7.02	6.557	4.375	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-45\7	1.552	2.44	3.239	3.159	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-45\6	1.554	2.44	3.008	2.792	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-62\3	0.053	0.33	1.931	1.93	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-62\2A	0.1	0.63	1.9	1.894	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-62\2	0.1	0.63	1.866	1.86	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-A\2	0.03	2.49	3.028	2.694	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-A\1	0.059	1.16	2.63	2.618	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-B\2	0	0	0.775	0.079	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P SA-D\1	0.028	0.69	2.7	2.694	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-G\1	0.015	0.14	2.96	2.959	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P SA-R\2	0.067	1	3.314	3.226	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-R\1	0.067	0.99	3.192	3.186	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1						
P SA-S\5	0.029	0.28	3.009	3.009	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-S\4	0.028	0.26	3.004	2.996	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-S\3	0.028	0.26	2.991	2.993	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-U\2	0.014	2.99	2.033	2.009	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-U\1	0.014	1.11	1.988	1.971	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-T\2	0.018	1.18	2.908	2.717	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SA-T\1	0.033	1.42	2.677	2.549	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SE-64\4	0.002	0.34	2.034	1.988	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P SE-64\1	0.002	0.33	1.82	1.729	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1						
P SE-A\2	0.012	0.86	1.528	1.41	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SE-A\3	0.005	0.5	1.914	1.837	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SE-C\1	0.242	2.38	1.993	1.953	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SE-T\4	0.288	1.82	1.751	1.705	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SE-T\3	0.299	2.45	1.546	1.533	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SE-T\2	0.299	1.99	0.904	0.888	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SE-T\7	0.003	0.62	2.214	2.139	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SE-T\6	0.023	1.35	2.108	1.997	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SE-T\5	0.035	0.97	1.952	1.953	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1						
P SE-U\3	0	0	1.306	1.293	AR&R 20 year, 15 minutes storm, average 140 mm/h, Zone 1						
P SE-U\2	0	0	1.272	1.254	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1						

P SE-U\1	0.001	0.01	0.976	0.976	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SE-X\4	0.032	1.41	2.627	2.518	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SE-X\3	0.046	1.75	2.47	2.368	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SE-X\2	0.055	1.77	2.314	2.22	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SE-X\1	0.062	1.69	2.163	2.077	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P NN-A\4	0.072	1.77	1.997	1.948	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P NN-A\3	0.081	1.46	1.879	1.855	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-180\3	0.024	0.61	2.332	2.326	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-180\2	0.067	0.95	2.284	2.154	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-180\1	0.13	1.84	1.895	1.84	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-A\2	0.189	0.88	1.758	1.727	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-A\1	0.29	1.34	1.59	1.522	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-A\4	0.059	0.53	1.862	1.859	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-A\3	0.061	0.38	1.843	1.84	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SW-C\2	0.066	0.6	1.786	1.781	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SW-C\1	0.109	0.98	1.737	1.727	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SW-D\4	0.004	0.07	2.344	2.345	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-D\3	0.04	0.37	2.334	2.329	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-D\2	0.061	0.39	2.321	2.316	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-D\1	0.079	0.51	2.303	2.3	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-V\1A	0.154	0.55	2.254	2.253	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P-SW-GPT1-U	0.154	0.3	2.246	2.245	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-GPT1-V	0.154	1.26	2.245	2.224	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-GPT1-D	0.154	0.17	2.12	2.121	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-V\1	0.155	0.56	2.114	2.113	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-153\2	0.154	0.17	2.113	2.11	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-E\1	0.035	0.52	2.351	2.345	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-F\1	0.036	0.33	1.621	1.619	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-K\1	0.088	0.79	1.563	1.522	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1							
P SW-H\1	0.035	0.31	1.665	1.657	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1							
P SW-K\2	0.057	0.52	1.64	1.619	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SW-K\4	0.016	0.15	1.664	1.658	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1							
P SW-K\3	0.024	0.22	1.656	1.657	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SW-M\1	0.022	1.96	1.042	1.016	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-P\2	0	0	0.553	0.531	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SW-P\1	0.002	0.02	0.517	0.517	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SW-R\1	0.047	0.43	2.19	2.18	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-S\2	0	0	1.752	1.724	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SW-V\4	0.048	0.31	2.331	2.329	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-V\3	0.061	0.39	2.322	2.318	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-V\2	0.075	0.48	2.306	2.3	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-Y\2	0.003	0.03	2.227	2.222	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SF1-USC	0.022	0.03	2.222	2.221	AR&R 20 year, 1 hour storm, average 71.2 mm/h, Zone 1							
Pipe288357	0.019	0.05	2.221	2.215	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SF1-DSC	0.032	0.04	2.215	2.216	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SW-Y\1	0.037	0.35	2.216	2.215	AR&R 20 year, 5 minutes storm, average 209 mm/h, Zone 1							
P SW-X\2	0.297	1.41	1.945	1.92	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-Z\3	0.008	1.14	3.179	3.168	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-Z\2	0.014	0.41	3.161	3.155	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-Z\1	0.02	0.43	3.132	3.13	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-Z\5	0.008	2.65	2.564	2.437	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-Z\4	0.008	1.06	1.409	1.251	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P NE-C\1	0.199	1.28	2.958	2.953	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1							
P SW-Y\4	0.308	1.98	3.151	2.589	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-Y\3	0.308	1.45	2.32	2.315	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-X-SP1-	0.307	0.46	2.294	2.294	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-SP1-W	0.305	0.69	2.294	2.289	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-SP1-DS	0.302	0.43	2.281	2.276	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-X\3	0.299	1.42	2.224	2.215	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SW-S\3	0.244	1.45	3.145	3.193	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SA-B\8	0.15	2.13	3.649	3.569	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1							
P SA-B\7	0.177	2.5	3.409	3.312	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SA-B\6	0.18	1.63	3.246	3.205	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P SA-B\5	0.176	1.59	3.124	3.12	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1							
P SA-B\4	0.175	1.59	2.998	2.959	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1							
P NE-D\4	0.128	0.82	2.705	2.703	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P NE-D\3	0.128	0.82	2.621	2.616	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P NE SPN_US	0.129	0.24	2.616	2.616	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P NE_SPN_W	0.131	0.79	2.616	2.613	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P NE SPN_DS	0.131	0.24	2.613	2.612	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P NE-D\2	0.13	0.84	2.535	2.529	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P NE-D\1	0.153	0.43	2.506	2.506	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1							
P NE-E\2	0.005	0.05	2.53	2.529	AR&R 20 year, 45 minutes storm, average 83.6 mm/h, Zone 1							
P NE-E\1	0.009	0.08	2.529	2.529	AR&R 20 year, 45 minutes storm, average 83.6 mm/h, Zone 1							

CHANNEL DETAILS												
Name	Max Q	Max V			Due to Storm							
	(cu.m/s)	(m/s)										

OVERFLOW ROUTE DETAILS												
Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm				
F 5\4	0	0	7.665	0	0	0	0					
F 5\3	0	0	7.665	0	0	0	0					
F 5\2	0	0	7.665	0	0	0	0					
F 6\2	0	0	7.665	0	0	0	0					
F 6\1	0	0	7.665	0	0	0	0					
F 129\1	0	0	7.665	0	0	0	0					
F 189\1	0	0	10.284	0	0	0	0					
F SA-15\5	0.001	0.001	2.424	0.01	0	3.44	0.06	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1				
F SA-15\4	0	0	0	0	0	0	0					
F SA-15\3	0	0	10.84	0	0	0	0					
F SA-15\2	0	0	7.665	0	0	0	0					

F NE-19\7	0.549	0.549	7.665	0.068	0.06	17.56	0.82	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F NE-19\6	0.529	0.529	7.665	0.067	0.05	17.38	0.81	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1
F NE-19\5	0.395	0.395	13.138	0.044	0.06	12.71	1.3	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1
F NE-19\4	0.008	0.008	7.665	0.014	0	4.64	0.26	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F NE-19\3	0	0	4.198	0	0	0	0	
F NE-19\2	0	0	7.665	0	0	0	0	
F NE-72\2	0.015	0.015	7.665	0.018	0.01	5.84	0.29	AR&R 20 year, 20 minutes storm, average 124 mm/h, Zone 1
F NE-72\1	0.018	0.018	2.424	0.028	0	9.43	0.14	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F NE-78\1	0.041	0.041	7.665	0.026	0.01	8.53	0.38	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F NE-A\4	0	0	3.177	0	0	0	0	
F NE-A\3	0.045	0.045	7.665	0.026	0.01	8.83	0.38	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F NE-A\2	0	0	1.005	0	0	0	0	
F NE-A\1	0.031	0.031	7.665	0.023	0.01	7.63	0.36	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F NE-B\2	0	0	3.177	0	0	0	0	
F NE-B\1	0	0	1.005	0	0	0	0	
F NN-B\1	0	0	4.493	0	0	0	0	
F NN-A\2	0.001	0.001	3.48	0.007	0	2.25	0.16	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F NN-A\1	0.006	0.006	0	0.23	0	49.99	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-Q\5	0.002	0.002	0	0.23	0	49.99	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-Q\4	0	0	0	0	0	0	0	
F SW-Q\3	0	0	1.005	0	0	0	0	
F SW-Q\2	0	0	3.177	0	0	0	0	
F SA-15\6	0	0	10.284	0	0	0	0	
F SA-190\1	0	0	7.665	0	0	0	0	
F SA-B\3	0	0	3.428	0	0	0	0	
F SA-45\5	0	0	7.665	0	0	0	0	
F SA-45\4	0	0	1.005	0	0	0	0	
F SA-45\3	0	0	7.665	0	0	0	0	
F SA-45\2	0	0	3.177	0	0	0	0	
F SA-191\2	0.043	0.043	3.177	0.026	0.01	8.53	0.4	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SA-191\1	0.002	0.002	7.665	0.008	0	2.54	0.19	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SA-S\2	0	0	7.665	0	0	0	0	
F SA-S\1	0	0	7.665	0	0	0	0	
F SA-45\8	0	0	7.665	0	0	0	0	
F SA-45\7	0	0	7.665	0	0	0	0	
F SA-45\6	0	0	7.665	0	0	0	0	
F SA-62\3	0	0	3.177	0	0	0	0	
F SA-62\2A	0	0	7.665	0	0	0	0	
F SA-62\2	0	0	7.665	0	0	0	0	
F SA-A\2	0	0	3.332	0	0	0	0	
F SA-A\1	0	0	4.262	0	0	0	0	
F SA-B\2	0	0	3.177	0	0	0	0	
F SA-D\1	0	0	3.332	0	0	0	0	
F SA-G\1	0	0	2.009	0	0	0	0	
F SA-R\2	0.001	0.001	3.177	0.007	0	2.25	0.15	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SA-R\1	0.007	0.007	3.177	0.013	0	4.34	0.26	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SA-S\5	0	0	3.177	0	0	0	0	
F SA-S\4	0	0	7.665	0	0	0	0	
F SA-S\3	0	0	3.177	0	0	0	0	
F SA-S\6	0	0	2.246	0	0	0	0	
F SA-U\1	0	0	7.665	0	0	0	0	
F SA-T\2	0	0	3.177	0	0	0	0	
F SA-T\1	0	0	3.177	0	0	0	0	
F SE-64\1	0	0	0	0	0	0	0	
F SE-A\3	0.019	0.019	0	0.23	0	49.99	0	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SE-C\1	0	0	3.014	0	0	0	0	
F SE-T\4	0	0	3.014	0	0	0	0	
F SE-T\3	0	0	3.014	0	0	0	0	
F SE-T\2	0.001	0.001	3.177	0.005	0	1.65	0.14	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SE-T\7	0	0	3.014	0	0	0	0	
F SE-T\6	0.001	0.001	3.177	0.005	0	1.65	0.16	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SE-T\5	0	0	3.014	0	0	0	0	
F SE-U\3	0	0	3.177	0	0	0	0	
F SE-U\2	0	0	3.177	0	0	0	0	
F SE-U\1	0	0	3.014	0	0	0	0	
F SE-X\4	0.001	0.001	1.74	0.009	0	2.84	0.11	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SE-X\3	0	0	1.74	0	0	0	0	
F SE-X\2	0	0	1.74	0	0	0	0	
F SE-X\1	0	0	1.74	0	0	0	0	
F NN-A\4	0	0	4.712	0	0	0	0	
F NN-A\3	0	0	4.493	0	0	0	0	
F SW-180\3	0.022	0.022	7.665	0.02	0.01	6.74	0.32	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-180\2	0.04	0.04	2.424	0.038	0.01	11.63	0.17	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-180\1	0.004	0.004	3.177	0.01	0	3.44	0.21	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-A\2	0	0	1.005	0	0	0	0	
F SW-A\1	0	0	1.005	0	0	0	0	
F SW-A\4	0.003	0.003	3.177	0.009	0	3.14	0.21	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-A\3	0	0	3.177	0	0	0	0	
F SW-C\2	0.003	0.003	1.005	0.015	0	4.94	0.09	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-C\1	0.002	0.002	3.177	0.008	0	2.54	0.19	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-D\4	0	0	7.665	0	0	0	0	
F SW-D\3	0	0	3.48	0	0	0	0	
F SW-D\2	0.001	0.001	2.461	0.006	0	1.95	0.12	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-D\1	0.001	0.001	2.461	0.006	0	1.95	0.1	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-V\1A	0.001	0.001	3.177	0.005	0	1.65	0.14	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-V\1	0	0	3.177	0	0	0	0	
F SW-153\2	0	0	7.665	0	0	0	0	
F SW-E\1	0	0	7.665	0	0	0	0	
F SW-F\1	0.001	0.001	3.177	0.008	0	2.54	0.15	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-K\1	0	0	1.005	0	0	0	0	
F SW-H\1	0.001	0.001	1.005	0.011	0	3.74	0.06	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1
F SW-K\2	0	0	1.005	0	0	0	0	

F SW-K\4	0	0	1.005	0	0	0	0					
F SW-K\3	0	0	1.005	0	0	0	0					
F SW-M\1	0	0	3.177	0	0	0	0					
F SW-P\2	0	0	1.005	0	0	0	0					
F SW-P\1	0	0	3.177	0	0	0	0					
F SW-R\1	0	0	2.009	0	0	0	0					
F SW-S\4	0	0	3.177	0	0	0	0					
F SW-V\4	0	0	3.177	0	0	0	0					
F SW-V\3	0	0	1.421	0	0	0	0					
F SW-V\2	0	0	2.246	0	0	0	0					
F SW-Y\2	0	0	3.177	0	0	0	0					
F SW-Y\1	0	0	3.177	0	0	0	0					
F SW-X\2	0	0	3.177	0	0	0	0					
F SW-Z\3	0	0	7.665	0	0	0	0					
F SW-Z\2	0	0	7.665	0	0	0	0					
F SW-Z\1	0	0	3.177	0	0	0	0					
F NE-C\1	0.051	0.051	7.665	0.027	0.01	9.13	0.41	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1				
F SW-X\4	0	0	3.177	0	0	0	0					
F SW-Y\3	0	0	7.665	0	0	0	0					
F F SW-X\3	0	0	7.665	0	0	0	0					
F SW-S\3	0.02	0.02	7.665	0.019	0.01	6.44	0.32	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1				
F SA-B\8	0.043	0.043	7.665	0.026	0.01	8.53	0.39	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1				
F SA-B\7	0.004	0.004	7.665	0.01	0	3.44	0.21	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1				
F SA-B\6	0	0	5.937	0	0	0	0					
F SA-B\5	0.04	0.04	7.665	0.025	0.01	8.23	0.4	AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1				
F SA-B\4	0	0	3.177	0	0	0	0					
F NE-D\4	0	0	7.665	0	0	0	0					
F NE-D\3	0	0	7.665	0	0	0	0					
F NE-D\2	0	0	8.039	0	0	0	0					
F NE-D\1	0	0	4.198	0	0	0	0					
DETENTION BASIN DETAILS												
Name	Max WL	MaxVol	Max Q	Max Q	Max Q							
			Total	Low Level	High Level							
CONTINUITY CHECK for AR&R 20 year, 25 minutes storm, average 112 mm/h, Zone 1												
Node	Inflow	Outflow	Storage Chan	Difference								
	(cu.m)	(cu.m)	(cu.m)	%								
5\4	0	0	0	0								
5\3	0	0	0	0								
5\2	16.16	16.15	0	0								
5\1	16.15	16.15	0	0								
6\2	0	0	0	0								
6\1	0	0	0	0								
129\1	0	0	0	0								
189\1	1.74	1.73	0	0.3								
SA-15\5	78.96	78.93	0	0								
SA-15\4	101.81	101.5	0	0.3								
SA-15\3	101.5	101.74	0	-0.2								
SA-15\2	101.74	101.7	0	0								
SA-15\1	101.7	101.7	0	0								
NE-19\7	383.43	358.63	0	6.5								
NE-19\6	358.63	357.57	0	0.3								
NE-19\5	396.2	393.06	0	0.8								
NE-19\4	409.17	408.54	0	0.2								
NE-19\3	591.23	591.27	0	0								
NE-19\2	704.88	704.92	0	0								
NE-19\1	704.92	704.92	0	0								
NE-72\2	12.97	12.85	0	0.9								
NE-72\1	17	16.94	0	0.4								
NE-78\1	38.68	38.62	0	0.2								
NE-A\4	9.22	9.16	0	0.7								
NE-A\3	161.96	161.86	0	0.1								
NE-A\2	161.86	162.11	0	-0.2								
NE_SPS_W1	162.11	162.52	0	-0.3								
NE_SPS_W2	162.52	162.29	0	0.1								
NE_SPS_O	162.29	161.83	0	0.3								
NE-A\1	183.81	182.69	0	0.6								
NE-B\2	0	0	0	0								
NE-B\1	0	0	0	0								
N203717	0	0	0	0								
NN-B\1	4.11	4.1	0	0.2								
NN-A\2	87.05	86.83	0	0.3								
NN-A\1	161.45	161.21	0	0.2								
SW-Q\5	186.15	186	0	0.1								
SW-Q\4	465.76	465.1	0	0.1								
SW-Q\3	470.84	470.7	0	0								
SW-Q\2	470.65	470.53	0	0								
SW-Q\1	470.53	470.53	0	0								
SA-15\6	11.87	11.83	0	0.4								
SA-190\1	0	-0.05	0	0								
SA-B\3	140.38	140.33	0	0								
SA-45\5	1587.49	1587.38	0	0								
SA-45\4	1587.38	1586.12	0	0.1								
SA-45\3	1586.12	1587.57	0	-0.1								
SA-45\2	1587.57	1587.31	0	0								
SA-45\1	1587.31	1587.31	0	0								
SA-191\2	26.76	23.43	0	12.4								
SA-191\1	72.49	72.53	0	-0.1								
SA-S\2	97.35	97.33	0	0								
SA-S\1	97.33	97.4	0	-0.1								

SA-45\8	1350.12	1350.24	0	0								
SA-45\7	1350.24	1349.64	0	0								
SA-45\6	1349.64	1349.76	0	0								
SA-62\3	39.87	39.94	0	-0.2								
SA-62\2A	75.18	75.16	0	0								
SA-62\2	75.16	75.02	0	0.2								
SA-62\1	75.02	75.02	0	0								
SA-A\2	22.92	22.91	0	0.1								
SA-A\1	44.11	43.98	0	0.3								
SA-B\2	0	0	0	0								
SA-B\1	0	0	0	0								
SA-D\1	21.23	21.2	0	0.2								
SA-G\1	7.95	7.88	0	0.8								
SA-R\2	49.78	49.49	0	0.6								
SA-R\1	49.49	49.06	0	0.9								
SA-S\5	20.18	20.07	0	0.6								
SA-S\4	20.07	20.06	0	0.1								
SA-S\3	20.06	20.02	0	0.2								
SA-U\2	10.74	10.69	0	0.4								
SA-U\1	10.69	10.69	0	0								
SA-T\2	13.33	13.29	0	0.3								
SA-T\1	24.61	24.55	0	0.2								
SE-64\2	4.38	1.67	0	62								
SE-64\1	1.67	1.66	0	0.2								
SE-A\2	19.7	10.06	0	49								
SE-A\1	10.06	10.06	0	0								
SE-A\3	18.04	18.04	0	0								
SE-C\1	198.38	198.34	0	0								
SE-T\4	233.3	233.14	0	0.1								
SE-T\3	241.93	241.8	0	0.1								
SE-T\2	241.94	241.86	0	0								
SE-T\1	241.55	241.55	0	0								
SE-T\7	1.96	1.97	0	-0.4								
SE-T\6	17.77	17.69	0	0.5								
SE-T\5	26.21	26.14	0	0.3								
SE-U\3	0.15	0.15	0	-0.1								
SE-U\2	0.15	0.15	0	0								
SE-U\1	0.15	0.14	0	11.4								
SE-X\4	25.25	25.24	0	0.1								
SE-X\3	33.32	33.26	0	0.2								
SE-X\2	40.34	40.27	0	0.2								
SE-X\1	46.57	46.56	0	0								
NN-A\4	54.23	54.1	0	0.3								
NN-A\3	58.71	58.75	0	-0.1								
SW-180\3	28.68	28.68	0	0								
SW-180\2	78.59	78.46	0	0.2								
SW-180\1	101.68	101.45	0	0.2								
SW-A\2	142.99	142.72	0	0.2								
SW-A\1	218.97	218.4	0	0.3								
SW-A\4	45.62	45.53	0	0.2								
SW-A\3	43.69	43.42	0	0.6								
SW-C\2	47.86	47.83	0	0.1								
SW-C\1	77.45	77.33	0	0.2								
SW-D\4	3.2	3.21	0	-0.3								
SW-D\3	29.68	29.62	0	0.2								
SW-D\2	45.92	45.88	0	0.1								
SW-D\1	59.67	59.79	0	-0.2								
SW-V\1A	138.9	138.78	0	0.1								
SW-V\1	138.47	138.44	0	0								
SW-GPT1-W1	138.44	138.43	0	0								
SW-GPT1-W2	138.43	138.4	0	0								
SW-GPT1-O	138.4	138.44	0	0								
SW-153\2	138.44	138.44	0	0								
SW-153\1	138.44	138.44	0	0								
SW-E\1	26.49	26.48	0	0								
SW-F\1	27.66	27.62	0	0.2								
SW-K\1	62.54	62.29	0	0.4								
SW-H\1	26.19	26.17	0	0.1								
SW-K\2	35.99	35.8	0	0.5								
SW-K\4	10.87	10.82	0	0.4								
SW-K\3	10.62	10.64	0	-0.2								
SW-M\1	16.22	16.16	0	0.4								
SW-P\2	0	0	0	0								
SW-P\1	0	-0.04	0	0								
SW-R\2	35.62	35.45	0	0.5								
SW-R\1	35.45	35.45	0	0								
SW-S\2	0	0	0	0								
SW-S\1	68.32	68.32	0	0								
SW-V\4	58.79	57.96	0.01	1.4								
SW-V\3	68.49	68.46	0	0								
SW-V\2	79.27	79.31	0	-0.1								
SW-Y\2	0	0.04	0	0								
SW-SF1-USC	0.04	-0.07	0	287.8								
SW-SF1-W1	-0.07	-0.13	0	0								

SW-SF1-W2	-0.13	-0.25	0	0								
SW-Y\1	-0.25	-0.26	0	0								
SW-X\2	230.77	230.77	0	0								
SW-X\1	230.77	230.77	0	0								
SW-Z\3	6.35	6.34	0	0.1								
SW-Z\2	10.91	10.9	0	0.1								
SW-Z\1	14.73	14.73	0	0								
SW_RG_01	14.73	14.73	0	0								
SW-Z\5	5.89	5.8	0	1.5								
SW-Z\4	5.8	5.74	0	1.2								
O 5\2	0	0	0	0								
O NE-19\2	0	0	0	0								
O SA-15\2	0	0	0	0								
O SA-45\2	0	0	0	0								
O SA-62\2	0	0	0	0								
O SA-B\2	0	0	0	0								
O SA-B\5	1.96	1.96	0	0								
O SE-T\2	0.3	0.3	0	0								
O SE-T\6	0.38	0.38	0	0								
O SW-153\2	0	0	0	0								
O SW-180\1	0	0	0	0								
O SW-C\1	0	0	0	0								
O SW-F\1	0	0	0	0								
O SW-Q\2	0	0	0	0								
O SW-V\4	0	0	0	0								
O SW-X\2	0	0	0	0								
175\01	3.93	3.93	0	0								
70\03	70.42	70.42	0	0								
NE-C\1	153.3	152.8	0	0.3								
SW-Y\4	231.67	231.62	0	0								
SW-Y\3	231.62	231.59	0	0								
SW-X-SP1-US	231.59	231.46	0	0.1								
SW-X-SP1-W	231.46	231.29	0	0.1								
SW-X-SP1-W	231.29	231.11	0	0.1								
SW-X\3	231.11	231.03	0	0								
N336269	114.17	114.17	0	0								
N349375	117.73	117.73	0	0								
N349376	0	0	0	0								
SW-S\3	198.74	198.74	0	0								
SW_RG_02	198.74	198.74	0	0								
N416465	45.67	45.67	0	0								
SA-B\8	115.99	115.99	0	0								
SA-B\7	136.59	136.56	0	0								
SA-B\6	136.56	136.48	0	0.1								
SA-B\5	150.31	134.48	0	10.5								
SA-B\4	132.52	132.55	0	0								
NE-D\4	95.72	95.83	0	-0.1								
NE-D\3	95.83	95.81	0	0								
NE-D\2	95.81	95.46	0	0.4								
NE_SPN_W1	95.46	95.56	0	-0.1								
NE_SPN_W2	95.56	96.17	0	-0.6								
NE_SPN_O	96.17	95.56	0	0.6								
NE-D\1	113.57	113.61	0	0								
NE-E\2	0	0.04	0	0								
NE-E\1	0.04	-0.03	0	172.6								
Run Log for AA004399_PDA_dgn_141103_01.drn run at 11:40:19 on 5/11/2014Water was lost from the system at SE-A\2, SE-64\2.												
Is this correct? If this water re-enters the system further downstream you should draw an overflow route from these locations.												
Upwelling occurred at SA-R\1, SA-B\5, SA-191\2, NE-72\2, NE-72\1, NE-19\7, NE-19\6, NE-19\5												
Freeboard was less than 0.15m at SA-B\8, SW-S\3, NE-C\1, SW-180\3, SA-S\5, SA-R\2, NE-A\1, NE-78\1, NE-19\4, NE-19\3												
The maximum flow exceeded the safe value in the following overflow routes: F NN-A\1, F SE-A\3, F SW-Q\5												
The following overflow routes carried water uphill (adding energy): F NE-19\6, F NE-19\7, F NE-A\1, F SA-191\1, F SA-191\2, F SA-R\1, F SE-A\3, F SE-X\4, F SW-180\3												
These results may be invalid. You should check for water flowing round in circles at these locations. You may need to reformulate the model.												

TUFLOW MODELLING INFORMATION

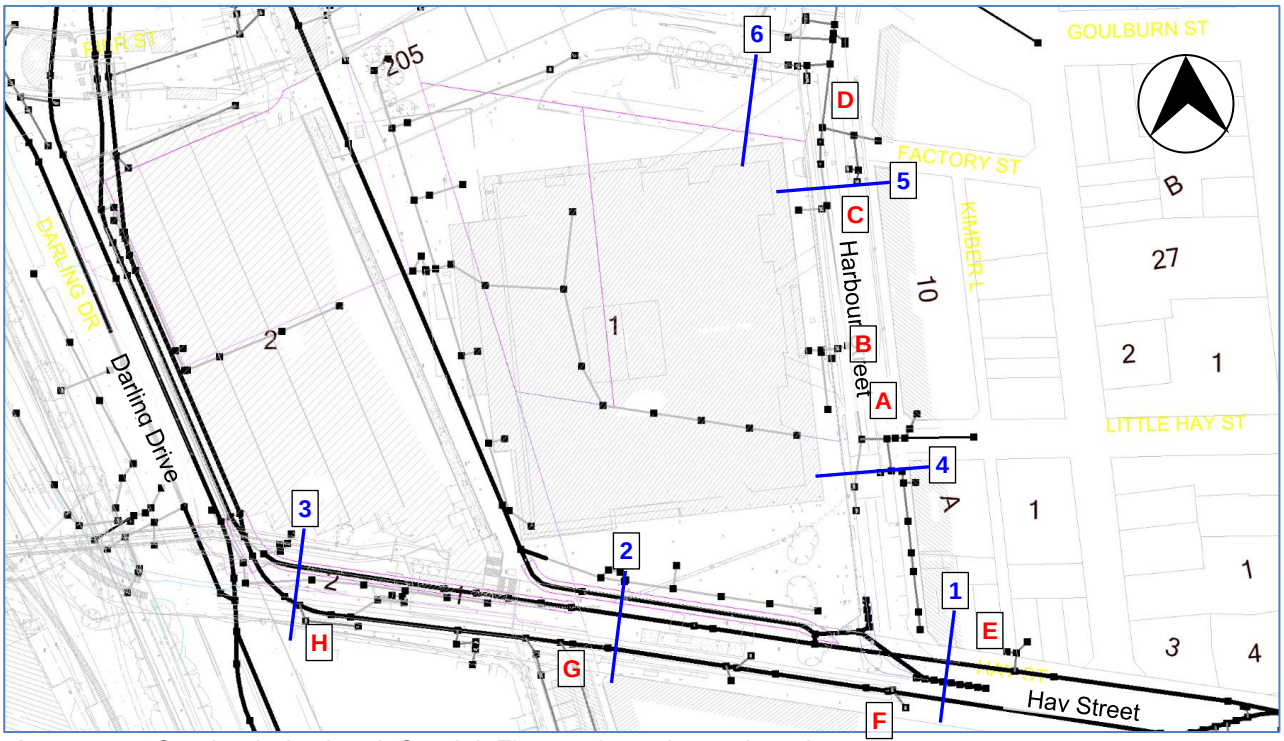


Figure C-1: 'Overland Flow' and 'Conduit Flow and HGL' Location Plan

Table C-1: Comparison of TUFLOW results Developed Conditions vs Existing Conditions

Event: 5 year 1 hour ARI

Location	Pipe Size (m)	IL (mAHD)	Ground level (mAHD)	Existing Conditions		Developed Conditions	
				Downstream Pipe Flow (m^3/s)	HGL (mAHD)	Downstream Pipe Flow (m^3/s)	HGL (mAHD)
A. Harbour St - Little Hay St	0.75 RCP	1.07	3.00	0.17	2.34	0.14	2.20
B. Harbour St - building connection (South)	0.75 RCP	0.83	2.83	0.56	2.33	0.42	2.19
C. Harbour St - building connection (North)	0.75 RCP	0.47	2.75	0.66	2.13	0.51	2.02
D. Harbour St - Factory St	0.75 RCP	0.30	2.44	0.73	1.93	0.59	1.86
E. Hay St (West of Harbour St)	2.12x1.37 Ovi-form	0.19	3.63	8.2	2.20	8.4	2.19
F. Hay St (Harbour St Intersection)	4.3x2.4 RCBC	-0.43	3.58	18.2	1.89	17.9	1.95
G. Hay St (Quay St Intersection)	4.3x2.4 RCBC	-0.68	2.72	18.2	1.73	17.9	1.80
H. Hay St (East of Darling Drive)	4.3x2.4 RCBC	-0.83	2.91	18.7	1.55	18.4	1.64
				Overland Flow (m^3/s)		Overland Flow (m^3/s)	
1. Hay Street (East)				0.0		0.0	
2. Hay Street (Boulevade)				0.0		0.0	
3. Hay Street (West)				0.1		0.0	
4. Harbour St (Little Hay St)				0.0		0.0	
5. Harbour St (Factory St)				0.2		0.2	
6. Novotel Hotel (South)				0.0		0.0	

Table C-1: Comparison of TUFLOW results Developed Conditions vs Existing Conditions

Location	Pipe Size (m)			Existing Conditions		Developed Conditions	
		IL (mAHD)	Ground level (mAHD)	Downstream Pipe Flow (m^3/s)	HGL (mAHD)	Downstream Pipe Flow (m^3/s)	HGL (mAHD)
Event: 20 year 1 hour ARI							
A. Harbour St - Little Hay St	0.75 RCP	1.07	3.00	0.29	2.60	0.25	2.52
B. Harbour St - building connection (South)	0.75 RCP	0.83	2.83	0.57	2.57	0.53	2.49
C. Harbour St - building connection (North)	0.75 RCP	0.47	2.75	0.73	2.39	0.59	2.32
D. Harbour St - Factory St	0.75 RCP	0.30	2.44	0.81	2.20	0.68	2.15
E. Hay St (West of Harbour St)	2.12x1.37 Ovi-form	0.19	3.63	9.6	2.77	10.3	2.78
F. Hay St (Harbour St Intersection)	4.3x2.4 RCBC	-0.43	3.58	23.3	2.44	22.6	2.55
G. Hay St (Quay St Intersection)	4.3x2.4 RCBC	-0.68	2.72	23.3	2.16	22.6	2.29
H. Hay St (East of Darling Drive)	4.3x2.4 RCBC	-0.83	2.91	24.1	1.86	23.1	2.01
				Overland Flow (m^3/s)		Overland Flow (m^3/s)	
1. Hay Street (East)				1.0		0.8	
2. Hay Street (Boulevade)				0.0		0.0	
3. Hay Street (West)				0.2		0.0	
4. Harbour St (Little Hay St)				0.8		0.4	
5. Harbour St (Factory St)				0.6		0.4	
6. Novotel Hotel (South)				0.1		0.1	
Event: 100 year 1 hour ARI							
A. Harbour St - Little Hay St	0.75 RCP	1.07	3.00	0.26	2.96	0.23	2.92
B. Harbour St - building connection (South)	0.75 RCP	0.83	2.83	0.54	2.92	0.45	2.87
C. Harbour St - building connection (North)	0.75 RCP	0.47	2.75	0.69	2.80	0.58	2.75
D. Harbour St - Factory St	0.75 RCP	0.30	2.44	0.74	2.69	0.65	2.63
E. Hay St (West of Harbour St)	2.12x1.37 Ovi-form	0.19	3.63	10.5	3.37	11.6	3.33
F. Hay St (Harbour St Intersection)	4.3x2.4 RCBC	-0.43	3.58	25.4	3.03	24.3	3.17
G. Hay St (Quay St Intersection)	4.3x2.4 RCBC	-0.68	2.72	25.5	2.73	24.1	2.90
H. Hay St (East of Darling Drive)	4.3x2.4 RCBC	-0.83	2.91	26.9	2.37	24.9	2.59
				Overland Flow (m^3/s)		Overland Flow (m^3/s)	
1. Hay Street (East)				10.6		9.6	
2. Hay Street (Boulevade)				5.0		3.5	
3. Hay Street (West)				4.5		3.9	
4. Harbour St (Little Hay St)				5.0		3.7	
5. Harbour St (Factory St)				5.4		4.1	
6. Novotel Hotel (South)				1.9		1.3	

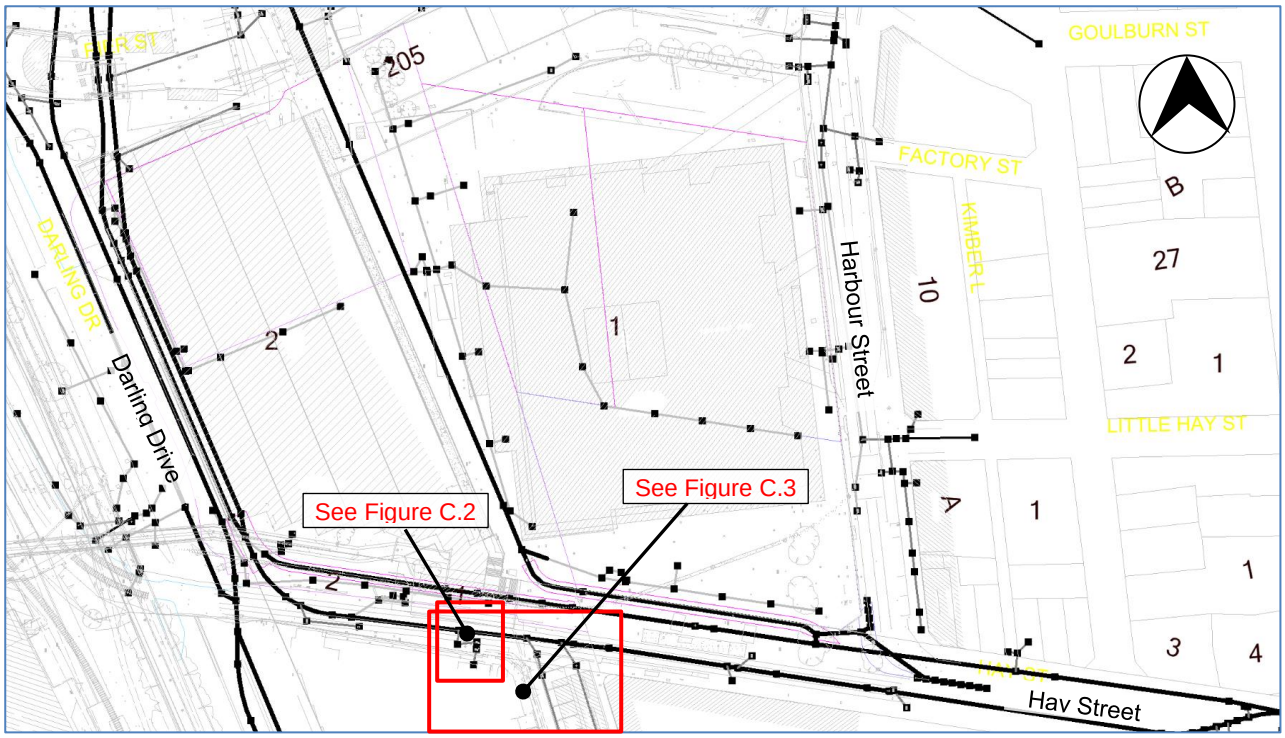


Figure C.2: Location Plan

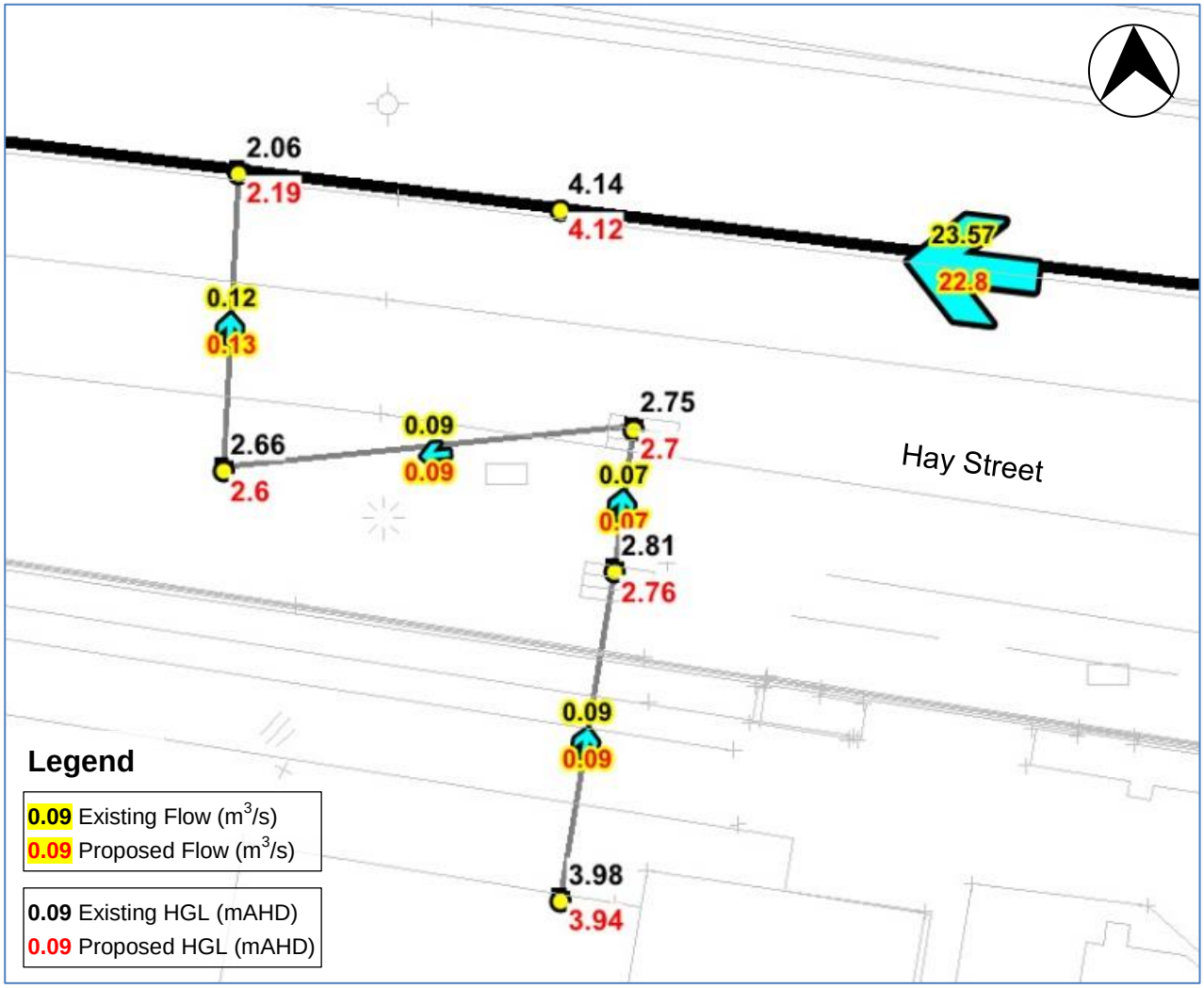


Figure C.3: 20yr ARI flows and HGLs west of Quay Street

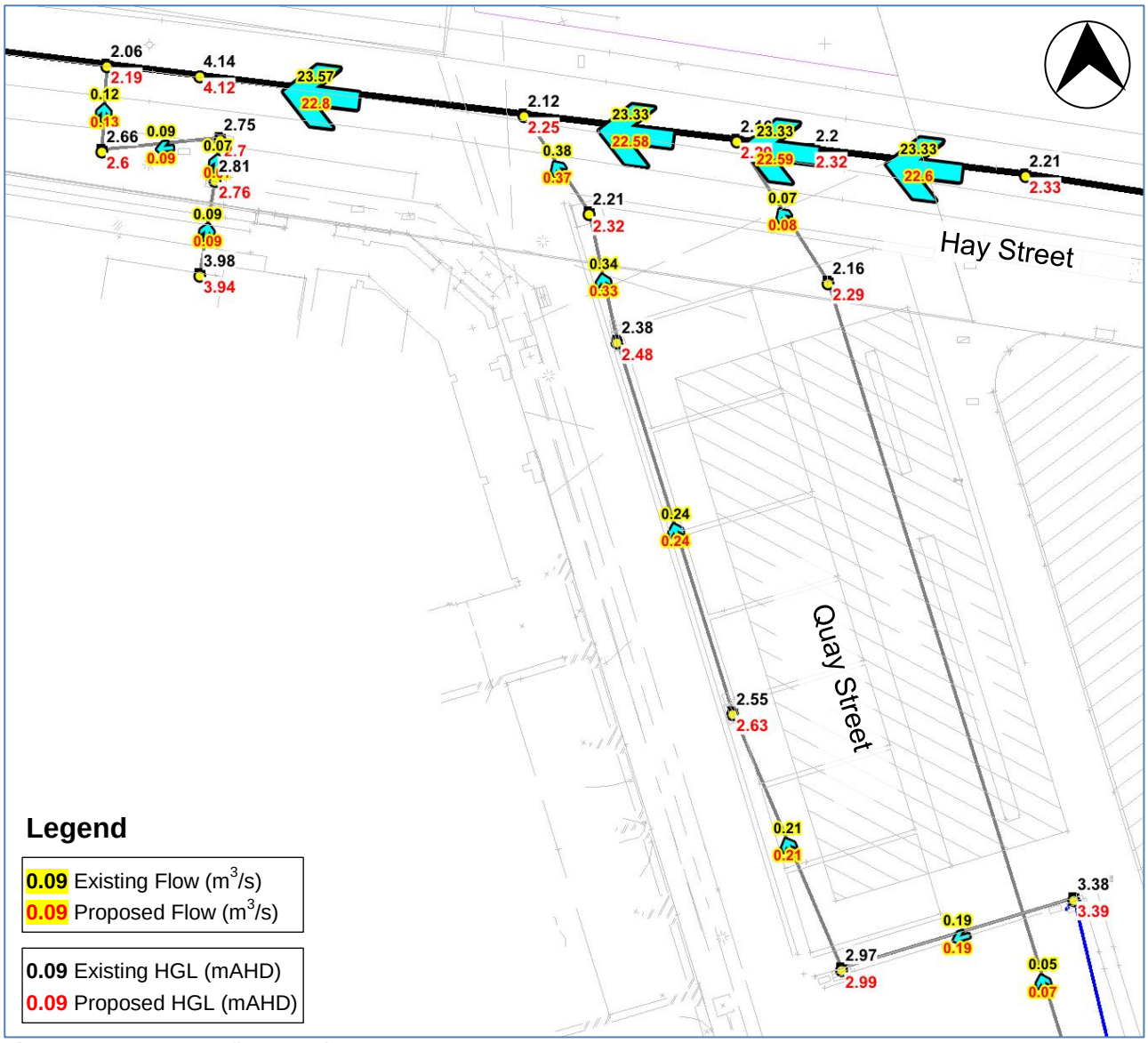


Figure C.4: 20yr ARI flows and HGLs at Quay Street

APPENDIX D

PROPOSED GRADING AND FLOOD LEVEL (INCLUDING CLIMATE CHANGE) PLAN

SYDNEY INTERNATIONAL CONVENTION, EXHIBITION AND ENTERTAINMENT PRECINCT

NOTES:
1. LEVELS SHOWN ON THIS DRAWING ARE BASED ON HYDERS 'FLOODING AND STORMWATER' REPORT DATED 18/03/2013
2. THE FLOOD LEVELS ARE SUBJECT TO THE LIMITATIONS AS PROVIDED IN THE REPORT
3. FLOOD LEVELS ARE NOT TO BE INTERPOLATED BETWEEN LOCATIONS LISTED. THESE FLOOD LEVELS HAVE BEEN BASED ON FLOOD MAPPING DRAWINGS WP-FL-121 TO WP-FL-134. SHOULD ANY DISCREPANCIES ARISE THE FLOOD MAPPING DRAWINGS WP-FL-121 TO WP-FL-134 ARE TO BE CONSIDERED MORE ACCURATE.

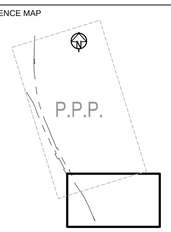
LEGEND:
- PROPOSED SURFACE CONTOURS
- EXISTING SURFACE CONTOURS
- A LOCATION

LOCATION	ADJACENT SURFACE LEVEL	CURRENT CONDITIONS (ARI)				CLIMATE CHANGE (ARI INCLUDING SEA-LEVEL RISE AND RAINFALL INTENSITY INCREASES)			
		5	20	100	PMF	5	20	100	PMF
STUDENT ACCOMMODATION									
A	4.0 #	3.7	3.7	3.7	4.4	3.7	3.7	3.7	4.4
B	4.0 #	-	-	-	4.4	-	-	-	4.4
C	4.0 #	-	-	-	4.4	-	-	-	4.4
D	4.0 #	-	-	-	4.6	-	-	-	4.6
NW PLOT									
E	2.9	-	-	-	4.4	-	-	3.2	4.4
F	2.2	2.4	2.4	2.6	4.4	2.4	2.8	3.2	4.4
G	3.1	-	-	3.2	4.5	-	3.4	3.5	4.5
H	2.6	-	-	2.8	4.4	-	2.9	3.2	4.5
SW PLOT									
I	3.1	-	-	-	4.5	-	3.4	3.5	4.5
J	2.6	-	-	2.8	4.4	-	2.9	3.2	4.5
K	3.1	-	-	3.3	4.6	-	3.4	3.6	4.7
L	2.5	-	-	3.0	4.6	2.8	3.0	3.3	4.8
N PLOT									
M	2.5	-	-	-	4.4	-	2.8	3.2	4.4
N	3.5	-	-	-	4.4	-	-	-	4.4
O	2.6	-	-	2.8	4.4	-	2.9	3.2	4.5
NE PLOT									
P	2.6	-	-	2.7	4.4	2.6	2.8	3.2	4.4
Q	2.8	-	-	-	4.4	-	-	3.2	4.6
R	3.6	-	-	-	4.4	-	-	-	4.4
S	3.1	-	-	3.3	4.4	-	3.2	3.3	4.6
NW PLOT									
T	2.6	-	-	2.9	4.4	2.7	2.9	3.2	4.6
U	3.2	-	-	3.3	4.4	-	-	3.4	4.6
V	2.6	-	-	3.0	4.6	2.8	3.0	3.3	4.6
W	3.3	-	-	3.6	4.4	-	-	3.7	4.6

NOTES:
- FLOOD DEPTHS NOT REPORTED WHEN LESS THAN 0.15m.
- # THESE LEVELS ARE INDICATIVE ONLY AND SUBJECT TO DETAILED DESIGN.

DARLING HARBOUR LIVE

REFERENCE MAP



NOTES:
1. DO NOT SCALE FROM DRAWINGS. WORK TO WRITTEN DIMENSIONS ONLY.
2. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. ALL COORDINATES TO MGA. ALL LEVELS TO AHD.
4. ALL DIMENSIONS, COORDINATES AND LEVELS TO BE VERIFIED ON SITE BEFORE PROCEEDING WITH WORK. HYDER SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES.
5. THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS AND DRAWINGS.

0 10 20 30 40 50m

1 : 500

DRAFT

REV	DESCRIPTION	DATE
05	ISSUE FOR DA STORMWATER REPORT	05/11/2014
04	EXISTING CONTOURS ADDED	17/04/2013
03	FLOOD RESULTS TABLE ADDED	02/04/2013
02	INCLUSION OF STUDENT ACCOMMODATION LEVELS	25/03/2013
01	ISSUE FOR REVIEW	20/03/2013

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Hyder

PROJECT
SICEEP
DARLING HARBOUR
PRIVATE DEVELOPMENT AREA (PDA)

DRAWING TITLE
PROPOSED GRADING AND FLOOD LEVEL (INCLUDING CLIMATE CHANGE) PLAN

STATUS
PRELIMINARY ONLY

SCALE @ A1	DRAWN	DESIGNED	REVIEWED	APPROVED
1 : 500	LC	CM	MK	-

PROJECT NUMBER	DRAWING NUMBER	REV
AA004399	SKCPD025	05

Date Plotted: 5 Nov 2014 - 02:02PM File Name: F:\AA004399\E-CAD\C-Civil\B-Sketches\SKCPD025-AA004399-NSD-00-PDA Grading And Flood Levels.dwg

Original Sheet Size A1 - 841 x 594mm

APPENDIX E

AMPLIFICATION OPTION 2B FLOOD MODELLING

SYDNEY INTERNATIONAL CONVENTION, EXHIBITION AND ENTERTAINMENT PRECINCT

NOTES

1. REFER TENDER PACKAGE DRAWINGS FOR COMBINED SERVICES DETAILS.
2. REFER TENDER PACKAGE DRAWINGS FOR STORM WATER DRAINAGE DETAILS.
3. REFER CONSTRUCTION STAGING DRAWINGS FOR CONSTRUCTION STAGING DETAILS.

LEGEND

- EXISTING PIPE/CULVERT
- PROPOSED PIPE/CULVERT
- PROPOSED STORMWATER AMPLIFICATION
- PROPOSED SHEET PILING
- PROPOSED SECANT PILE WALL
- PROPOSED TEMPORARY ROCK ANCHOR
- UNDERPINNING REQUIRED

INSET 3

EAST CULVERT

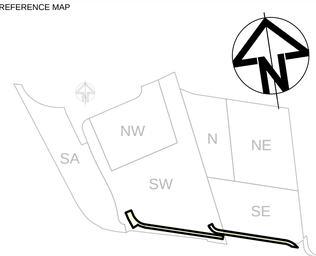
WEST CULVERT

TEMPORARY WORKS REQUIRED TO CONTROL FLOWS DURING CONSTRUCTION OF PROPOSED CULVERTS

0.9m × 1.2m GRATED INLET PIT

DARLING HARBOUR LIVE

REFERENCE MAP



NOTES:

1. DO NOT SCALE FROM DRAWINGS. USE WRITTEN DIMENSIONS ONLY.
2. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
3. ALL COORDINATES TO MGA. ALL LEVELS TO AHD.
4. ALL DIMENSIONS, COORDINATES AND LEVELS TO BE VERIFIED ON SITE BEFORE PROCEEDING WITH WORK. HYDER SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES.
5. THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS AND DRAWINGS.
6. THIS DRAWING CONTAINS COLOUR AND MUST ONLY BE PRINTED OR COPIED IN COLOUR.

0 2 4 6 8 10m

1 : 100

0 10 20 30 40 50m

1 : 500

REV	DESCRIPTION	DATE
01	ISSUE FOR DA STORMWATER REPORT	05/11/2014

CLIENT

Lend Lease — LEND LEASE BUILDING PTY. LTD.
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PROJECT

SICEEP - DARLING HARBOUR
THE HAYMARKET PRECINCT (PDA)
STORMWATER AMPLIFICATION

DRAWING TITLE

CULVERT AMPLIFICATION LAYOUT

STATUS

DEVELOPMENT APPLICATION

SCALE @ A1	DRAWN	DESIGNED	REVIEWED	APPROVED
1 : 500	LC	FL	MBK	MAK

PROJECT NUMBER	DRAWING NUMBER	REV
AA004399	SKCPD5902	01

Date Plotted: 5 Nov 2014 - 03:39PM File Name: F:\AA004399\E-CAD\C-Civil\B-Sketches\SKCPD590-CulvertAmplificationLayout.dwg

Original Sheet Size A1 - 841 x 594mm

APPENDIX F

CONSTRUCTION PHASE FLOOD MODELLING

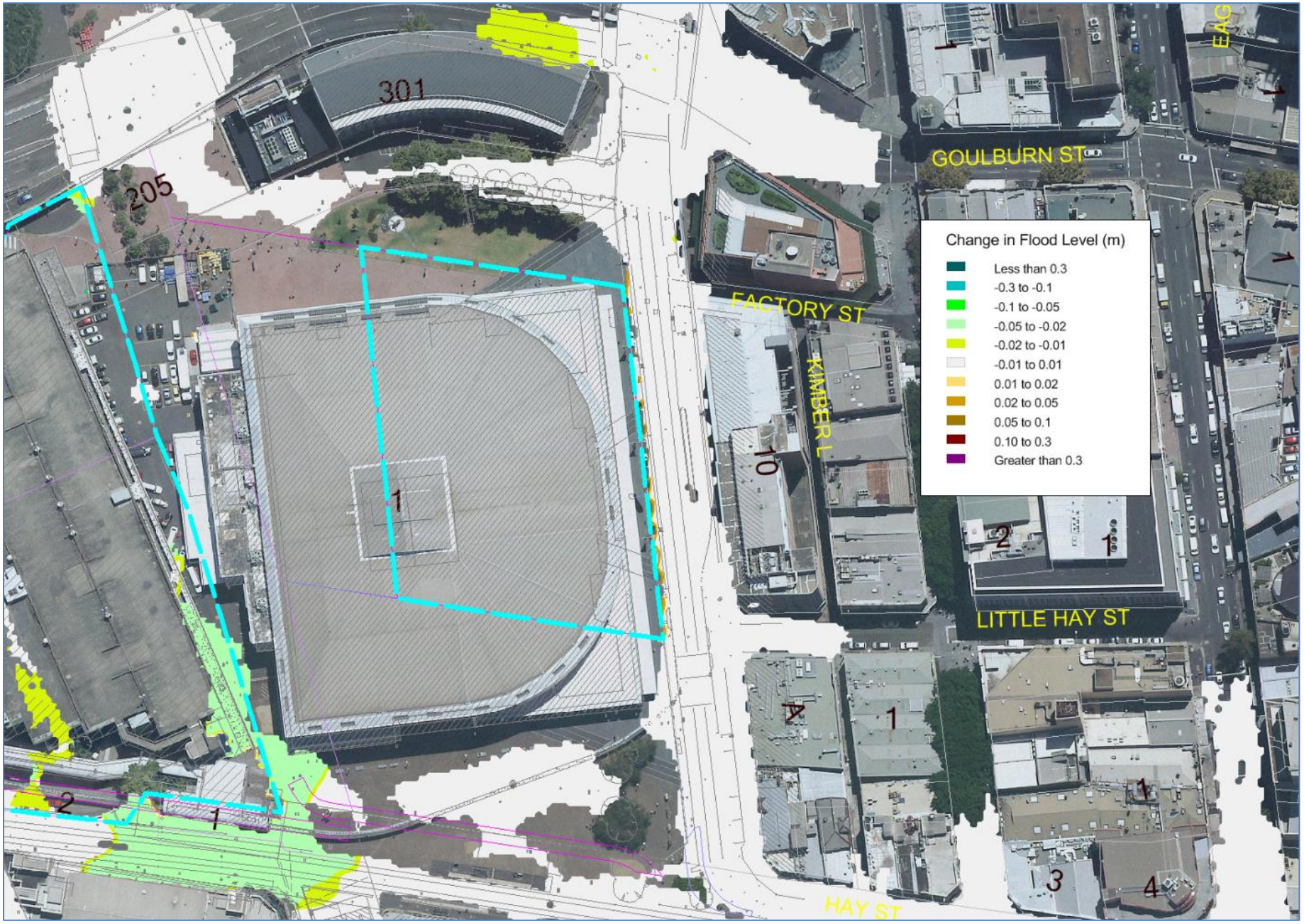

Figure F.1: 20yr ARI Construction Phase Flood Level Impact

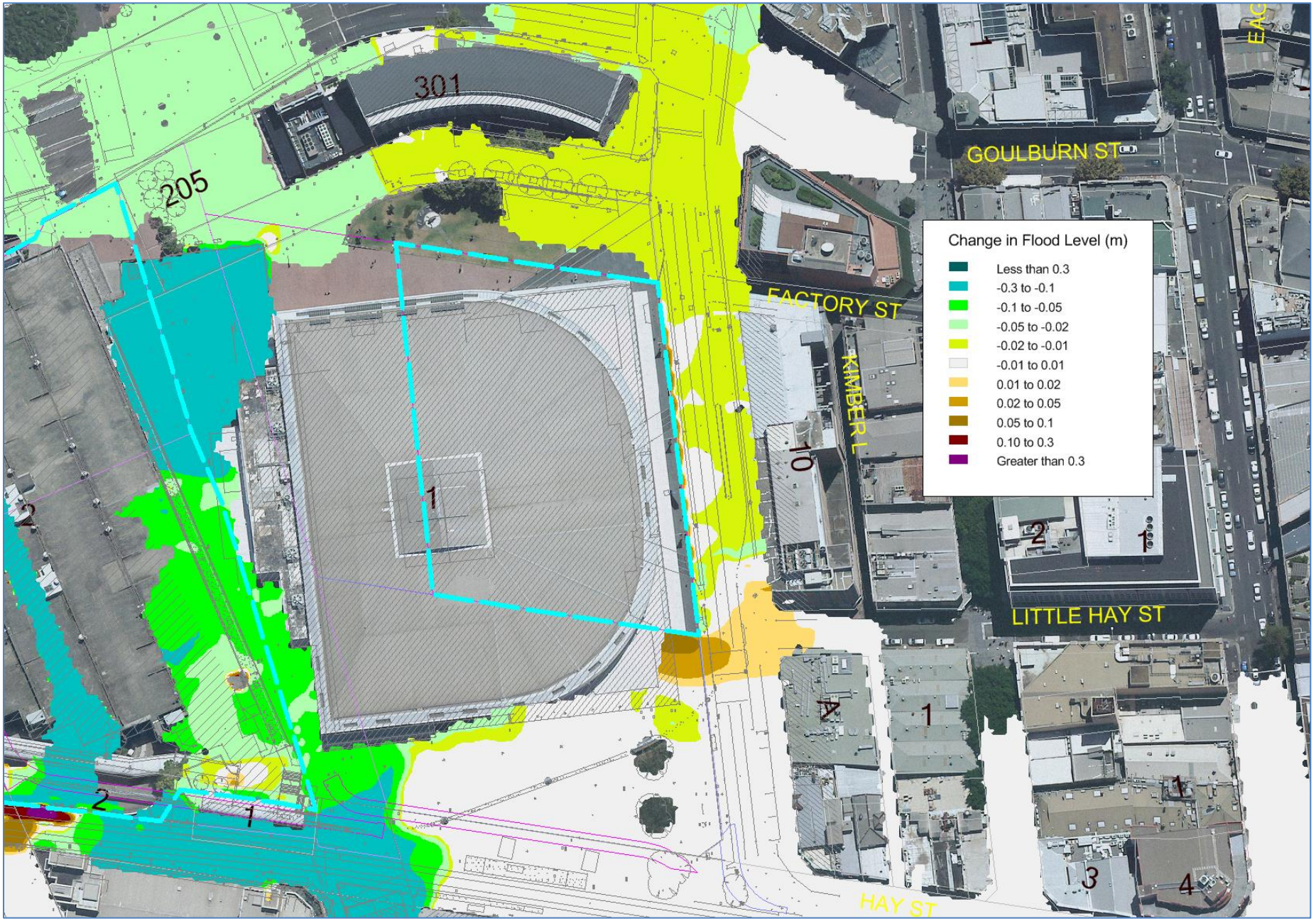

Figure F.2: 100yr ARI Construction Phase Flood Level Impact

APPENDIX G

FLOODING AND STORMWATER PLANNING REQUIREMENTS

DRAFT

FLOOD PLANNING LEVEL REQUIREMENTS

Item	Flood Planning Level
Residential Properties:	
Habitable Room Floor Level:	
Inundated by mainstream flooding	1% AEP level + 0.5 m
Inundated by local drainage flooding	1% AEP level + 0.5 m or if the depth of flow in the 1% AEP is <0.25 m then 2 x the depth of flow with a minimum of 0.3 m above the surrounding surface
All other properties	0.3 m above surrounding ground
Non-Habitable Floor Level such as a garage (excluding underground garages) or laundry for which development approval is required):	
Inundated by mainstream or local drainage flooding	1% AEP
Underground car park:	
For this purpose an underground garage or car park is where the floor of the car park is more than 1 m below the surrounding natural ground.	
Single property owner with not more than 2 car spaces:	
Inundated by mainstream or local overland flooding,	1% AEP level + 0.5 m
Car park outside floodplain	0.3 m above the surrounding surface
All others:	
Inundated by mainstream or local overland flooding	1% AEP level + 0.5 m (as a minimum) or a level that is determined based on a review of the PMF, whichever is the higher
Car park outside floodplain	0.3 m above the surrounding surface
Industrial/Commercial Properties:	
Floor level of a business	Merits approach presented by the applicant with a minimum of 1% AEP level
Floor level of schools and child care facilities	Merits approach presented by the applicant with a minimum of 1% AEP level
Residential floors within tourist establishments	1% AEP level + 0.5 m
Housing for older people or people with disabilities	1% AEP level + 0.5 m (as a minimum) or a level that is determined based on a review of the PMF, whichever is the higher
Above ground car park	1% AEP

Critical Facilities:	
These include: hospitals and ancillary service; communication centres; police, fire and SES stations; major transport facilities, sewerage and electricity plants; any installations containing infrastructure control equipment, any operational centres for use in a flood.	
Floor level	1% AEP + 0.5 m (as a minimum) or a level that is determined based on a review of the PMF, whichever is the higher.
Access to and from	1% AEP + 0.5 m (as a minimum) or a level that is determined based on a review of the PMF, whichever is the higher.
Note: The Flood Planning Level (FPL) refers to the minimum building floor levels. For underground parking or other forms of underground development, the FPL refers to the minimum level at each access point. The higher of any FPL shall prevail.	

2.11 Stormwater Drainage

2.11.1 General

(a) The Project Company must design and construct all civil and stormwater elements of the Project Works.

2.11.2 Drainage Design Parameters

(a) The Project Company must design and construct all Public Realm Works, Utility Service Works, Property Works and External Infrastructure in accordance with the current versions of the following standards and guidelines:

(i) City of Sydney Development Specification for Civil Works – Design & Construction;

(ii) NSW Floodplain Development Manual;

(iii) Managing Urban Stormwater: Soils and Construction;

(iv) NSW Coastal Planning Guideline: Adapting to Sea Level Rise;

(v) NSW Flood Risk Management Guide: Incorporating Sea Level Rise Benchmarks in Flood Risk Assessments;

(vi) NSW Coastal Risk Management Guide: Incorporating Sea Level Rise Benchmarks in Flood Risk Assessments;

(vii) AS3500.3 “National Plumbing and Drainage Code – Compendium”; and

(viii) Other statutory authority and other guidelines and requirements relevant to the Project Site.

(b) The Project Company must design and construct the minor (piped) and major (overland) drainage systems to convey all the Project Site stormwater, including accommodation of roof drainage outlets and upstream catchments, through the Precinct. The minor and major systems must be designed to convey the 5% and 1% Annual Exceedance Probability (AEP) rainfall events respectively subject to the limitations of the capacity of the existing Sydney Water drainage systems, which the project systems discharge in.

(c) The Project Company must ensure all stormwater pipes within Public Realm areas are rubber ring jointed reinforced concrete pipes with a minimum diameter of 375mm.

2.11.3 Overland Flow

(a) The Project Company must design and implement an overland flowpath through the Precinct in accordance with the NSW Floodplain Development Manual. Where possible, the Project Company shall improve on the existing overland flow conditions through the site but ensure they are no worse than existing conditions

2.11.4 Flood Levels

(a) The Project Company must undertake a Flood Risk Assessment in accordance with the procedures set out in 'NSW Floodplain Development Manual (2005) – Appendix C.

(b) The Project Company must design and construct the Project Works to comply with the requirements of the Flood Risk Assessment. This assessment must be undertaken in conjunction with that described in Section 2.11.5 and be submitted for review in accordance with the Project Deed.

(c) The Project Company must ensure that no part of the Project Works result in adverse flooding or risk of flooding for any external property or Third Party Facility.

(d) The Project Company must identify and apply Flood Planning Levels for the Facilities in accordance with the flooding and risk assessment, as described in Section 2.11.4 and the guidelines specified in Section 2.11.2. Notwithstanding these requirements, the Project Company must ensure that the following minimum flood planning levels are applied to the Facilities:

Item	**Flood Planning Level**
habitable building floor level	1% AEP + 0.5m Where habitable floor levels are below the 100yr ARI flood level, 500mm freeboard shall be applied above the 100yr ARI flood level at all points of entry. Existing ground floor levels of the Convention Centre and the Exhibition Centre car park are to remain.
underground car park	1% AEP + 0.5m Where this cannot be practicably be achieved, determination of appropriate levels shall be subject to a risk based assessment
installations containing infrastructure control equipment	1% AEP + 0.5m

Item	Flood Planning Level
other floor levels	1% AEP and subject to a risk based assessment

2.11.5 Climate Change and Sea Level Rise

(a) In accordance with requirements for planning approval, the Project Company must undertake a risk assessment of the impacts of sea level rise and climate change on the Precinct in accordance with the guidelines specified in Section 2.11.2 and submit the risk assessment report for review in accordance with the Project Deed.

2.11.6 Subsoil Drainage

(a) The Project Company must provide subsoil drainage, as required under pavement areas to ensure appropriate drainage to all areas of sub-grade, sub-base and base areas.

2.11.7 Water Quality

(a) The Project Company must provide for meeting the following performance criteria for water quality for all water falling within the areas of the Public Realm and the Facilities:

Pollutant	Reduction Requirement
Litter and Vegetation larger than 5mm	90% reduction on the baseline annual pollutant load
Total Suspended Solids	85% reduction on the baseline annual pollutant load
Total Phosphorus	65% reduction on the baseline annual pollutant load
Total Nitrogen	45% reduction on the baseline annual pollutant load

2.12 Authority Stormwater, Water and Sewerage

2.12.1 General

(a) The Project Company must undertake water, sewer and stormwater Utility Service Works in accordance with the following standards and guidelines;

(i) Sydney Water Corporation standards and requirements;

(ii) Sewerage Code of Australia WSA 02 (Sydney Water Edition);

(iii) Water Supply Code of Australia WSA 03 (Sydney Water Edition);

(iv) AS3500.2; and

(v) AS3500.3

APPENDIX H

PROPOSED STORMWATER QUALITY MANAGEMENT STRATEGY

H.1 Stormwater Quality Management Strategy Proposed for the North East Plot

FIGURE H.1

Issue	Description	Date
P2	ISSUE FOR DEVELOPMENT APPLICATION	04/11/14
P1	ISSUE FOR DEVELOPMENT APPLICATION	20/10/14

0 10 20 30 40 50m

1 : 500

100mm on Original

Client: Lend Lease

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Scales	1:500	Current Issue Signatures	
		Drawn	AZ
Original Size	A1	Designed	ER
Height Datum	AHD	Checked	BC
Grid		Approved	

Filename:

Project: SICEEP
DARLING SQUARE
DARLING HARBOUR

Title: STORMWATER QUALITY MANAGEMENT STRATEGY FOR NORTH EAST PLOT

HYDER CONSULTING PTY LTD
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Australia
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Drawing No.	Project No.	Issue
SKC668	– AA004399	– P2

Date Plotted: 4 Nov 2014 - 03:42PM File Name: F:\AA004399\E-CAD\C-Civil\B-Sketches\SKC668-AA004399-NSX-00-StormwaterQuality.dwg V1

H.2 Tank Reliability Calculation Spreadsheet for the North East Plot Rainwater Reuse Tank

CALCULATION OF TANK RELIABILITY TO SUPPY RAINWATER FOR IRRIGATION - NORTH EAST PLOT

Tank Name	NE
Roof Area (m2)	3194
Capture Efficiency (%)	85
Capture Absorption (mm)	0.1
Diverted Rain (mm)	1
Diverted Volume (m3)	3.194
Daily Water Usage (m3)	2.5
Tank Storage Volume (m3)	80
Initial Storage Available (%)	80
Critical % Volume for Mains Switch	10%
Critical Volume for Mains Switch	8

Number of days tank overflows	47
Volume of water overflowing/bypa	2226
Days in a Year with Water Left in Ta	328
Volume of mains water saved each	820
Days in a Year without Water Left i	37
% Reliability	90%

Date	Rainfall mm/Day	Rain collected for the day (m3)	Adjusted rain collected for the day (m3)	Stored rain at start of day (m3)	Stored rain at end of day (m3)	Adjusted Stored rain at end of day_No negatives (m3)	Adjusted Stored rain at end of day_Overflows (m3)	Count for Days With Rain in Tank (1,0)	Count for Days With Rain in Tank at Start of Day > Daily Demand (1,0)	Count for Days With Tank Overflowing	Overflowing Volume (m3)
1/01/1957	0.15625	-3.041286875	0	64	61.5	61.5	61.5	1	2.5	0	0
2/01/1957	0.09375	-3.210968125	0	61.5	59	59	59	1	2.5	0	0
3/01/1957	8.89	20.669971	20.669971	59	77.169971	77.169971	77.169971	1	2.5	0	0
4/01/1957	3.84	6.959726	6.959726	77.169971	81.629697	81.629697	80	1	2.5	1	1.629697
5/01/1957	0.22	-2.868212	0	80	77.5	77.5	77.5	1	2.5	0	0
6/01/1957	1.78	1.367032	1.367032	77.5	76.367032	76.367032	76.367032	1	2.5	0	0
7/01/1957	0	-3.46549	0	76.367032	73.867032	73.867032	73.867032	1	2.5	0	0
8/01/1957	0	-3.46549	0	73.867032	71.367032	71.367032	71.367032	1	2.5	0	0
9/01/1957	1.02	-0.696292	0	71.367032	68.867032	68.867032	68.867032	1	2.5	0	0
10/01/1957	0	-3.46549	0	68.867032	66.367032	66.367032	66.367032	1	2.5	0	0
11/01/1957	0	-3.46549	0	66.367032	63.867032	63.867032	63.867032	1	2.5	0	0
12/01/1957	0	-3.46549	0	63.867032	61.367032	61.367032	61.367032	1	2.5	0	0
13/01/1957	0	-3.46549	0	61.367032	58.867032	58.867032	58.867032	1	2.5	0	0
14/01/1957	0	-3.46549	0	58.867032	56.367032	56.367032	56.367032	1	2.5	0	0
15/01/1957	0	-3.46549	0	56.367032	53.867032	53.867032	53.867032	1	2.5	0	0
16/01/1957	0	-3.46549	0	53.867032	51.367032	51.367032	51.367032	1	2.5	0	0
17/01/1957	1.52	0.661158	0.661158	51.367032	49.52819	49.52819	49.52819	1	2.5	0	0
18/01/1957	0	-3.46549	0	49.52819	47.02819	47.02819	47.02819	1	2.5	0	0
19/01/1957	5.33	11.004927	11.004927	47.02819	55.533117	55.533117	55.533117	1	2.5	0	0
20/01/1957	0	-3.46549	0	55.533117	53.033117	53.033117	53.033117	1	2.5	0	0
21/01/1957	0	-3.46549	0	53.033117	50.533117	50.533117	50.533117	1	2.5	0	0
22/01/1957	29.72	77.221338	77.221338	50.533117	125.254455	125.254455	80	1	2.5	1	45.254455
23/01/1957	0	-3.46549	0	80	77.5	77.5	77.5	1	2.5	0	0
24/01/1957	0	-3.46549	0	77.5	75	75	75	1	2.5	0	0
25/01/1957	0	-3.46549	0	75	72.5	72.5	72.5	1	2.5	0	0
26/01/1957	0	-3.46549	0	72.5	70	70	70	1	2.5	0	0
27/01/1957	1.02	-0.696292	0	70	67.5	67.5	67.5	1	2.5	0	0
28/01/1957	0	-3.46549	0	67.5	65	65	65	1	2.5	0	0
29/01/1957	0	-3.46549	0	65	62.5	62.5	62.5	1	2.5	0	0
30/01/1957	0	-3.46549	0	62.5	60	60	60	1	2.5	0	0
31/01/1957	0	-3.46549	0	60	57.5	57.5	57.5	1	2.5	0	0
1/02/1957	0	-3.46549	0	57.5	55	55	55	1	2.5	0	0
23/09/1966	0	-3.46549	0	43.165875	40.665875	40.665875	40.665875	1	2.5	0	0
24/09/1966	1.25	-0.071865	0	40.665875	38.165875	38.165875	38.165875	1	2.5	0	0
25/09/1966	22.63	57.972697	57.972697	38.165875	93.638572	93.638572	80	1	2.5	1	13.638572
26/09/1966	1.02	-0.696292	0	80	77.5	77.5	77.5	1	2.5	0	0
27/09/1966	0.25	-2.786765	0	77.5	75	75	75	1	2.5	0	0
28/09/1966	0	-3.46549	0	75	72.5	72.5	72.5	1	2.5	0	0
29/09/1966	3.3	5.49368	5.49368	72.5	75.49368	75.49368	75.49368	1	2.5	0	0
30/09/1966	5.85	12.416675	12.416675	75.49368	85.410355	85.410355	80	1	2.5	1	5.410355
1/10/1966	0	-3.46549	0	80	77.5	77.5	77.5	1	2.5	0	0
2/10/1966	10.41	24.796619	24.796619	77.5	99.796619	99.796619	80	1	2.5	1	19.796619
3/10/1966	0.17	-3.003957	0	80	77.5	77.5	77.5	1	2.5	0	0
4/10/1966	0.08	-3.248298	0	77.5	75	75	75	1	2.5	0	0
5/10/1966	0	-3.46549	0	75	72.5	72.5	72.5	1	2.5	0	0
6/10/1966	0	-3.46549	0	72.5	70	70	70	1	2.5	0	0
7/10/1966	0	-3.46549	0	70	67.5	67.5	67.5	1	2.5	0	0
8/10/1966	0	-3.46549	0	67.5	65	65	65	1	2.5	0	0
9/10/1966	0	-3.46549	0	65	62.5	62.5	62.5	1	2.5	0	0
10/10/1966	0	-3.46549	0	62.5	60	60	60	1	2.5	0	0
11/10/1966	0	-3.46549	0	60	57.5	57.5	57.5	1	2.5	0	0
12/10/1966	0	-3.46549	0	57.5	55	55	55	1	2.5	0	0
13/10/1966	0	-3.46549	0	55	52.5	52.5	52.5	1	2.5	0	0
24/12/1966	0	-3.46549	0	58.188307	55.688307	55.688307	55.688307	1	2.5	0	0
25/12/1966	0	-3.46549	0	55.688307	53.188307	53.188307	53.188307	1	2.5	0	0
26/12/1966	1.01	-0.723441	0	53.188307	50.688307	50.688307	50.688307	1	2.5	0	0
27/12/1966	0	-3.46549	0	50.688307	48.188307	48.188307	48.188307	1	2.5	0	0
28/12/1966	0.23	-2.841063	0	48.188307	45.688307	45.688307	45.688307	1	2.5	0	0
29/12/1966	0	-3.46549	0	45.688307	43.188307	43.188307	43.188307	1	2.5	0	0
30/12/1966	0.77	-1.375017	0	43.188307	40.688307	40.688307	40.688307	1	2.5	0	0
31/12/1966	3.27	5.412233	5.412233	40.688307	43.60054	43.60054	43.60054	1	2.5	0	0
									8438.952319	471	22260.64773

All Years	Total 1s	Total 1s	Total 1s	3280
	Total 0s	Total 0s	Total 0s	372
	Total Days	Total Days	Total Days	3652
	% Reliability	% Reliability	% Reliability	90%
Last Nine Years	Total 1s	Total 1s	Total 1s	3028
	Total 0s	Total 0s	Total 0s	259
	Total Days	Total Days	Total Days	3291
	% Reliability	% Reliability	% Reliability	92%