DRAINS PRE-DEVELOPMENT MODEL INPUT DETAILS

PIT / NODE DETAILS			Version 9										
Name	Type	Family	Size	Ponding	Pressure	Surface	Max Pond	Base	Blocking	x	y	Bolt-down	id
				Volume	Change	Elev (m)	Depth (m)	Inflow	Factor			lid	
				(cu.m)	Coeff. Ku			(cu.m/s)					
C1pre-node	Node					NA		0		60.671	93.454		53061608
C2pre-node	Node					NA		0		132.57	91.736		53061856
C3pre-node	Node					NA		0		198.089	91		53061857
C4pre-node	Node					NA		0		274.405	89.527		53061858
DETENTION BASIN DETAILS													
Name	Elev	Surf. Area	Init Vol. (c	Outlet Typ	K	Dia(mm)	Centre RL	Pit Family	Pit Type	x	y	HED	Crest RL
SUB-CATCHMENT DETAILS													
Name	Pit or	Total	Paved	Grass	Supp	Paved	Grass	Supp	Paved	Grass	Supp	Paved	Grass
	Node	Area	Area	Area	Area	Time	Time	Time	Length	Length	Length	Slope(%)	Slope
		(ha)	%	%	%	(min)	(min)	(min)	(m)	(m)	(m)	%	%
C1 - pre-dev	C1pre-node	0.647	0	100	0	0	10	0					
C2 - pre-dev	C2pre-node	2.597	0	100	0	0	11.4	0					
C3 - pre-dev	C3pre-node	2.954	0	100	0	0	11.96	0					
C4 - pre-dev	C4pre-node	0.352	0	100	0	0	5.33	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
			(m)	(m)	(m)	(%)		(mm)	(mm)				
DETAILS of SERVICES CROSSING PIPES													
Pipe	Chg	Bottom	Height of	Chg	Bottom	Height of	Chg	Bottom	Height of	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 Widt	L.B. Slope	R.B. Slope	Manning	Depth	Roofed
				(m)	(m)	(m)	(%)	(m)	(1:?)	(1:?)	n	(m)	

DRAINS RESULTS FOR 1 IN 100 YR ARI STORM (PRE-DEVELOPMENT)

DRAINS results prepared 22 June, 2009 from Version 2008.07									
PIT / NODE DETAILS				Version 8					
Name	Max HGL	Max Pond	Max Surface	Max Pond	Min	Overflow	Constraint		
		HGL	Flow Arriving	Volume	Freeboarc	(cu.m/s)			
			(cu.m/s)	(cu.m)	(m)				
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)			
C1 - pre-dev	0.434	0	0.434	0	10	0	AR&R 100 year, 20 minutes stor		
C2 - pre-dev	1.613	0	1.613	0	11.4	0	AR&R 100 year, 20 minutes stor		
C3 - pre-dev	1.835	0	1.835	0	11.96	0	AR&R 100 year, 20 minutes stor		
C4 - pre-dev	0.259	0	0.259	0	5.33	0	AR&R 100 year, 20 minutes stor		
Outflow Volumes for Total Catchment (0.00 impervious + 6.55 pervious = 6.55 total ha)									
Storm	Total Rain	Total Runoff	Impervious Runoff	Pervious Runoff					
	cu.m	cu.m (Runoff %)	cu.m (Runoff %)	cu.m (Runoff %)					
AR&R 100 year, 15 minutes storm, average 200 mm/h, Zone 1	3275	2805.15 (85.7%)	0.00 (0.0%)	2805.15 (85.7%)					
AR&R 100 year, 20 minutes storm, average 177 mm/h, Zone 1	3864.5	3360.66 (87.0%)	0.00 (0.0%)	3360.66 (87.0%)					
AR&R 100 year, 25 minutes storm, average 161 mm/h, Zone 1	4393.96	3855.69 (87.7%)	0.00 (0.0%)	3855.69 (87.7%)					
AR&R 100 year, 30 minutes storm, average 148 mm/h, Zone 1	4847	4275.10 (88.2%)	0.00 (0.0%)	4275.10 (88.2%)					
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)					
CHANNEL DETAILS									
Name	Max Q	Max V	Chainage	Max	Due to Storm				
	(cu.m/s)	(m/s)	(m)	HGL (m)					
DETENTION BASIN DETAILS									
Name	Max WL	MaxVol	Max Q	Max Q	Max Q				
			Total	Low Level	High Level				
CONTINUITY CHECK for AR&R 100 year, 20 minutes storm, average 177 mm/h, Zone 1									
Node	Inflow	Outflow	Storage Change	Difference					
	(cu.m)	(cu.m)	(cu.m)	%					
C1pre-node	332.43	332.43	0	0					
C2pre-node	1331.78	1331.78	0	0					
C3pre-node	1514.86	1514.86	0	0					
C4pre-node	181.59	181.59	0	0					
Run Log for P0601504JX03_V2.drn run at 10:16:03 on 22/6/2009									

EXHIBIT 08I EASTERN CATCHMENTS (REPRODUCED FROM SHEET 8 OF 11 MARTENS & ASSOCIATES REPORT APPENDIX D).

REV.	DESCRIPTION	DATE	ISSUED
1.0	DRAFT	26.06.09	DMM

BAR SCALE

DESIGNED: DMM | DATUM: NA
DRAWN/REVIEWED: BR | HORIZONTAL RATIO: NA
PAPER SIZE: A1/A3 | VERTICAL RATIO: NA

CLIENT/ PROJECT: HASTINGS COUNCIL

THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY
All measurements in mm unless otherwise specified.

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TITLE: DRAINS MODEL
PRE-DEVELOPMENT INPUTS AND OUTPUT

PROJECT MANAGER: DR D. MARTENS
DRAWING NUMBER: P0601504JD04-V1.TCW

SHEET 8
OF 11 SHEETS