



PETROL INTERCEPTOR FOR NEW ROUNDABOUT

EXISTING HIGHWAY DITCH

PETROL INTERCEPTOR FOR NEW ROUNDABOUT

DITCH DIVERTED FOR ROUNDABOUT

NORTH CATCHMENT	
GROSS CATCHMENT AREA = 38.3 HA	
ENGINEERED CATCHMENT = 25.6 HA	
HARD STANDING = 19.4 HA	
ALLOWABLE DISCHARGES FROM ENGINEERED CATCHMENT:	
RETURN PERIOD	FLOW (l/s)
2	82
10	151
30	212
100+30%	388

DO NOT SCALE

KEY:

INFRASTRUCTURE PROVISIONS:

- SURFACE WATER FLOW DIRECTION
- RETAINED EXISTING DITCHES
- NEW OR RELOCATED DITCHES
- INDICATIVE SURFACE WATER DRAIN ROUTES
- NORTHERN GROSS CATCHMENT BOUNDARY
- NORTHERN ENGINEERED CATCHMENT AREA DRAINING TO BASINS
- SOUTHERN GROSS CATCHMENT BOUNDARY
- SOUTHERN ENGINEERED CATCHMENT AREA DRAINING TO BASINS
- DETENTION BASINS
- DB S903
- DB S116
- DB S903
- PARCEL CONNECTION MANHOLE
- PARCEL BOUNDARY

NOTE 1: THE INDICATIVE ON-PLOT STORAGE VOLUME EQUATES TO APPROXIMATELY 100m³ PER HECTARE OF GROSS PARCEL AREA. THIS STORAGE IS DESIGNED TO ATTENUATE THE 1 IN 10 YEAR EVENT ON-PLOT. THE STORAGE CAN INCLUDE SOMMERS WHERE APPROPRIATE.

NOTE 2: INFILTRATION AND STORAGE FOR EACH PLOT SHALL ATTENUATE AT LEAST THE 1 IN 10 YEAR EVENT AND MUST MEET THE Q10 MAX FLOW GIVEN IN THE TABLE ON THIS DRAWING. EVENTS IN EXCESS OF THE 1 IN 10 YEAR WILL OVERFLOW TO THE STRATEGIC SURFACE WATER NETWORK AND BE ATTENUATED WITHIN THE BASINS LOCATED AT THE OUTFALLS.

CHANGES SINCE THE FRA: THE PARCEL LAYOUTS AND SIZES HAVE CHANGED SINCE THE FRA WAS COMPLETED. THIS HAS THEREFORE CHANGED THE ENGINEERED CATCHMENT AREAS AND THEREFORE THE ALLOWABLE DISCHARGE RATES FOR THE CATCHMENTS.

Northern Catchment Details

Engineered Catchment	Note 1			Note 2		Site Wide Limits						
	Gross Area (ha)	Imp Factor	Imp Area (ha)	On-Plot Storage Vol (m ³)	MH No. Connection	MH Connection (L/m)	Downstream Pipe No.	Downstream Pipe Size (mm)	Q2 l/s	Q10 l/s	Q30 l/s	Q100 +30% l/s
Draining to Basins												
KM1a	1.849	0.750	1.387	184.9	S228	75.228	19.004	450	5.9	10.8	15.2	27.76
KM1b	0.689	0.750	0.652	68.9	S235	74.165	19.006	450	2.8	5.1	7.1	13.06
KM2	1.782	0.750	1.337	178.2	S216	73.847	23.005	450	5.7	10.5	14.6	26.76
KM3	2.828	0.750	2.121	282.8	S233	72.587	23.007	525	9.0	16.6	23.2	42.46
KM4	3.089	0.750	2.317	308.9	S208	73.424	19.008	450	9.9	18.1	25.3	46.36
C	2.637	0.750	1.976	263.7	S266	71.159	11.002	450	8.4	15.5	21.6	39.59
D	3.945	0.750	2.959	394.5	S3	70.066	19.002	750	12.6	23.1	32.4	56.23
E	2.344	0.750	1.758	234.4	S268	71.159	11.002	450	7.5	13.8	19.2	35.20
F	0.671	0.750	0.503	67.1	S245	69.713	16.002	375	2.1	3.9	5.5	10.08
Highway	0.788	1.000	0.788	--	--	--	--	--	3.3	6.0	8.4	15.34
Highway	20.790		15.777						67.1	123.4	172.6	315.8
Draining Directly to Pingle Brook												
KM6	1.273	0.750	0.954	127.3	--	--	--	--	4.1	7.5	10.4	19.1
KM21	0.651	0.750	0.486	65.1	--	--	--	--	2.1	3.8	5.3	9.8
Health Centre	2.866	0.750	2.149	286.6	--	--	--	--	9.1	16.8	23.5	43.0
Health Centre	4.789		3.692						15.3	28.1	39.3	71.9

*KM6, KM21 and the Health Centre in the east of the northern catchment will need to drain via parcel attenuation to Pingle Brook and therefore require on plot storage

Northern Catchment Totals

Engineered Catchment	Gross Area (ha)	Imp Factor	Imp Area (ha)	On-Plot Storage Vol (m ³)	MH No. Connection	MH Connection (L/m)	Downstream Pipe No.	Downstream Pipe Size (mm)	Q2 l/s	Q10 l/s	Q30 l/s	Q100 +30% l/s
Engineered Catchment	25.569	Varies	19.368	On Plot	--	--	--	--	82.4	151.5	211.9	367.8
Retained Open Space	12.688	--	0.000	N/A	--	--	--	--	0.0	0.0	0.0	0.0
Retained Open Space	38.257		19.368						82.4	151.5	211.9	367.8

Southern Catchment Details

Engineered Catchment	Note 1			Note 2		Site Wide Limits						
	Gross Area (ha)	Imp Factor	Imp Area (ha)	On-Plot Storage Vol (m ³)	MH No. Connection	MH Connection (L/m)	Downstream Pipe No.	Downstream Pipe Size (mm)	Q2 l/s	Q10 l/s	Q30 l/s	Q100 +30% l/s
KM5	2.578	0.750	1.934	257.8	S17	72.234	1.015	825	8.2	15.1	21.2	39
KM7	1.888	0.750	1.477	188.8	S118	65.963	26.002	450	6.3	11.6	16.2	30
KM6*	0.921	0.750	0.691	92.1	S85	69.290	7.014	600	2.9	5.4	7.6	14
KM9a	1.503	0.750	1.127	150.3	S122	65.524	26.004	525	4.8	8.8	12.3	23
KM9b	0.689	0.750	0.502	68.9	S123	65.288	26.005	525	2.1	3.9	5.5	10
A	3.147	0.750	2.360	314.7	S31	70.892	4.002	450	10.0	18.5	25.8	47
B	3.146	0.750	2.360	314.6	S53	69.782	7.009	600	10.0	18.5	25.8	47
					S85	70.890	15.002	450	0.0	0.0	0.0	0.0
					S55	69.550	7.011	600				
					S37	69.040	1.025	Ditch	10.7	19.6	27.5	50
					S67	68.960	7.017	600				
					S90	70.223	15.003	450	8.7	16.0	22.4	41
					S100	67.522	15.007	600	0.0	0.0	0.0	0.0
					S123	67.849	20.002	525	12.8	23.8	33.0	60
					S104	65.750	15.009	600	2.9	5.2	7.3	13
					S154	73.864	1.011	Ditch	5.4	9.9	13.9	25
					--	--	--	--	9.4	17.2	24.1	44
					S108	68.395	23.002	300	3.5	6.4	8.9	16
					S118	65.975	26.002	450	4.4	8.1	11.3	21
					N/A*	66.871	N/A**	900	6.0	11.1	15.5	28
					S130	66.302	26.002	300	3.6	6.6	9.2	17
					S90	70.223	15.003	450	3.3	6.0	8.4	15
					S50	70.818	7.007	525	1.2	2.2	3.0	6
Highway	38.729		27.311						116.2	213.6	298.8	546.8
Southern Catchment Totals												
Engineered Catchment	38.729	--	27.311	Varies	--	--	--	--	116.2	213.6	298.8	546.8
Retained Open Space	42.381	--	0.000	--	--	--	--	--	0.0	0.0	0.0	0.0
Retained Open Space	81.110		27.311						116.2	213.6	298.8	546.8

*Areas for KM7 & 8 based on original boundary

** CONNECTION IS TO A BRANCH SPUR NOT A MANHOLE
** THE DOWNSIDE PIPE IS THE INCOMING PIPE FOR MANHOLE W/ FROM BRECHENY AS BUILT DRAINAGE LAYOUT

SOUTH CATCHMENT

GROSS CATCHMENT AREA = 81.1 HA	
ENGINEERED CATCHMENT = 38.3 HA	
HARD STANDING = 27.0 HA	
ALLOWABLE DISCHARGES FROM ENGINEERED CATCHMENT:	
RETURN PERIOD	FLOW (l/s)
2	115
10	212
30	296
100+30%	542

Northern Catchment Details

Engineered Catchment	Gross Area (ha)	Imp Factor	Imp Area (ha)	On-Plot Storage Vol (m ³)	MH No. Connection	MH Connection (L/m)	Downstream Pipe No.	Downstream Pipe Size (mm)	Q2 l/s	Q10 l/s	Q30 l/s	Q100 +30% l/s
Engineered Catchment	25.569	Varies	19.368	On Plot	--	--	--	--	82.4	151.5	211.9	367.8
Retained Open Space	12.688	--	0.000	N/A	--	--	--	--	0.0	0.0	0.0	0.0
Retained Open Space	38.257		19.368						82.4	151.5	211.9	367.8

REV	DATE	BY	DESCRIPTION	CHK	APP
U	16/07/14	TSH	COMMERCIAL AREA BOUNDARY CHANGE	JMH	U
T	01/08/13	RAU	ALTERNATIVE CONNECTION FOR PARCEL 13 REMOVED	JMH	T
S	06/02/13	RAU	DRAWING ISSUED IN LINE WITH NEW PARCEL BOUNDARIES	JMH	S
R	22/02/13	RAU	AS BUILT LEVELS ADDED FOR SWM & MINOR UPDATES	JMH	R
Q	17/09/13	RAU	TABLE 1.6 FOR PARCELS 7 & 9 UPDATED TO AS BUILT LEVELS	JMH	Q
P	12/07/12	RAU	KM9 MANHOLE CONNECTION CHANGE	JMH	P
N	03/07/12	RAU	KM11/12 BOUNDARY REVISED & AS BUILT UPDATE TO CONNECTIONS	JMH	N

FOR TECHNICAL APPROVAL

WSP

Mountbatten House, Basin Way, Basingstoke, Hampshire RG21 4HJ
Tel: +44 (0)1256 318800 Fax: +44 (0)1256 318700
http://www.wspgroup.com

COUNTRYSIDE PROPERTIES

SOUTH WEST BICESTER BICESTER, OXFORDSHIRE

SURFACE WATER STRATEGY AND CATCHMENT LAYOUT

SCALE: A3	CHECKED: JMH	APPROVED: JMH
1:2000		
CAD FILE: 1903-D-006	DESIGN/ISSUED: JMH	DATE: January 2008
PROJECT No: 11011903	DRAWING No: 1903/D/006	REV: U

© WSP Group plc