LEGEND

- SOAKAWAY COMPRISING OF D-RAINTANK CRATES OR SIMILAR APPROVED (TO GIVE SAME STORAGE AND SURFACE AREA PROPERTIES)
  EXAMPLE: PRIVATE 1 x 64 x 1 CRATES 0.81m x 55.04mx 0.4m
- POROUS PAVING AREA TO DRAIN SURFACE AREA ONLY WITHOUT FURTHER CONTRIBUTING AREAS. CONSISTS OF BLOCK PAVOIRS ON 30mm THICK SHARP SAND ON 150mm OF GRANULAR MATERIAL
- ADOPTABLE FOUL SEWER (SECTION 104 WATER INDUSTRY ACT)
- PRIVATE FOUL DRAINAGE LATERAL CONNECTION TO ADOPTABLE SEWER
- 99.99 (500) FOUL DRAIN (INVERT LEVEL AND DEPTH SHOWN)
- 99.99 (650) SURFACE WATER DRAIN (INVERT LEVEL AND DEPTH SHOWN)
- DEEP PRIVATE FOUL IC (1.2M TO 6M DEPTH) USING 460MM DIA. PREFORMED MH BASE. (750MM DIA. PREFORMED BASE TO BE USED IF 150MM PIPES REQUIRED, 1200MM DIA WITH IN SITU BENCHING FOR >225MM DIA PIPES)
- 460MM DIA. FOUL UNIVERSAL INSPECTION CHAMBER (UP TO 1.2M DEEP)
- 320MM DIA. SHALLOW FOUL INSPECTION POT (UP TO 600MM DEEP)
- DEEP CONCRETE PRIVATE STORM MANHOLE (1.0M TO 6M DEPTH) USING PREFORMED MANHOLE BASES –SEE FOUL MH.
- 460MM DIA. PRIVATE SURFACE WATER MANHOLE (UP TO 1.2M DEEP)
- RE SEALED RODDING EYE WITH INVERT LEVEL MIN. 500MM BELOW GROUND LEVEL.
- YG TRAPPED YARD GULLY
- VR CONNECTION POINT WHICH REQUIRES ADDITIONAL VENTING BY AIR ADMITTANCE VALVE OR SIMILAR.
- GB 0.3m GRAVEL BOARD RETAINING FEATURE (EXAMPLE SHOWS SINGLE BOARD AT 0.3M)
- 1.2m Rt W STRUCTURAL RETAINING WALL (EXAMPLE SHOWS MAX. HEIGHT OF 1.2 M) HEIGHTS OVER 1.2M NEED SPECIFIC DESIGN CALCULATIONS
- Scribed 4C EXTERNAL WALL WHERE SHOWING MORE THAN 150MM BRICKWORK (EG. 4C = 4 COURSES PLUS 150MM)
- XXXXXXX EXTERNAL WALL PROTECTED BY MEANS OF TANKING FACE BRICKWORK TO 150MM ABOVE RETENTION LEVEL
- 159.7 x PROPOSED LEVEL
- 1/15 DRIVE GRADIENT

NOTES:

1. THE CONTRACTOR SHALL CHECK ALL TIE–INS FOR LINE AND LEVEL WITH EXISTING BEFORE COMMENCING ANY WORKS.
2. ANY DISCREPENCIES, OF WHATEVER NATURE, MUST BE REPORTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OR CONTINUANCE OF ANY FURTHER WORKS.
3. ALL PRIVATE DRAINAGE WORKS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF BUILDING REGULATIONS 2000, PART H, "DRAINAGE AND WASTE DISPOSAL", (1ST APRIL 2002).
4. PIPES WITH LESS THAN 600MM COVER TO BE PROTECTED IN ACCORDANCE WITH PART H, DIAGRAM 11.
5. ALL PIPES TO BE 100 OR 110MM DIA. AND LAID AT 1 IN 80 UNLESS STATED OTHERWISE.
6. ALL PIPES, CHAMBERS AND FITTINGS TO BE INSTALLED, BEDDED AND BACKFILLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
7. PIPES WHICH RUN ADJACENT TO BUILDINGS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PART H, CLAUSES 2.23 TO 2.25.
8. ALL MANHOLES AND INSPECTION CHAMBERS SITUATED IN AREAS SUBJECT TO VEHICULAR LOADING TO HAVE CLASS C250 (SHARED ACCESS AND PARKING AREAS) AND B125 (SINGLE DRIVES) COVERS AND FRAMES TO BS EN124 AND THOSE NOT SUBJECT TO VEHICULAR LOADING TO HAVE CLASS A15 COVERS AND FRAMES.
9. ALL DRAINS IN THE VICINITY OF EXISTING OR PROPOSED TREES TO BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF NHBC PRACTICE NOTE 3.
10. PRIVATE DRAINAGE FRAMES MUST BE TIED TO MANHOLE RISERS BY USE OF MANUFACTURERS TIES (EG. POLYPIPE REF FRK500 FIXING KIT AND FRK501 BLACK TIES.)
11. ALL EXISTING LAND DRAINS ENCOUNTERED ON SITE DURING CONSTRUCTION TO BE MAINTAINED BUT NOT CONNECTED TO ANY NEW DRAINAGE SYSTEM SHOWN ON THIS DRAWING UNLESS SHOWN AS SUCH.
12. SHOULD ANY DEPARTURE FROM THE SLAB LEVEL BE CONSIDERED, AGREEMENT SHALL BE SOUGHT FROM THE CLIENTS COMPANY ENGINEER IMMEDIATELY AND PRIOR TO COMMENCEMENT OR CONTINUANCE OF ANY WORKS, AND SHOULD TAKE FULL ACCOUNT OF ALL RESTRICTIONS TO THE SLAB LEVEL.
13. GARAGE SLABS ARE GIVEN AS LOWEST SLAB LEVEL (LSL) AND RELATE TO THE FINISHED LEVEL OF THE CONCRETE AT THE FRONT ENTRANCE OF THE GARAGE.
14. WHERE A DRIVE SLOPES TOWARDS A GARAGE THERE IS TO BE A 20MM UPSTAND TO THE GARAGE SLAB.
15. MAXIMUM GRADIENTS OF GARDENS TO BE 1 IN 10 (UNLESS STATED OTHERWISE), EXCEPT FOR DESIGNED BANKING WORKS.
16. ALL DIMENSIONS IN METRES UNLESS OTHERWISE STATED.

FLOW ROUTE NOTES

1. FLOW ROUTES ARE REQUIRED TO FACILITATE THE POTENTIAL ROUTE OF FLOOD FLOW IN RAINFALL EVENTS EXCEEDING THE STORM SEWER DESIGN CRITERIA AS REQUIRED BY SEWERS FOR ADOPTION 5TH EDITION AND PPG25.
2. FLOW ROUTES ILLUSTRATED ON THE DRAWINGS SHALL BE KEPT CLEAR OF PERMANENT PHYSICAL OBSTRUCTIONS WHICH MAY IMPEDE THE FLOW OF SURFACE WATER (IE. WALLS, RETAINING WALLS). FAILURE TO DO THIS WILL INCREASE THE RISK OF FLOODING TO PROPERTIES.
3. HOUSE SLAB LEVELS, EXTERNAL WORKS, DRIVE AND GARDEN GRADIENTS HAVE BEEN DESIGNED IN SUCH A WAY AS TO MINIMISE THE RISK OF FLOODING TO PROPERTIES IMMEDIATELY ADJACENT TO FLOW ROUTES. THE ENGINEER SHALL BE CONSULTED IN THE EVENT OF ANY CHANGES TO THE DESIGN IN ORDER TO ASSESS THE IMPACT ON FLOOD RISK.

FOUL WATER HOUSE DRAINAGE DETAILS

DRAIN RUN	DISTANCE (m)	GRADIENT 1/*	FALL (m)	PIPE SIZE (mm)
f100 – f101	18.843	80	0.24	100
f102 – f101	5.376	22	0.19	100
f101 – f103	10.579	80	0.13	100
f104 – f103	4.988	16	0.32	100
f103 – f105	15.694	68	0.23	100
f106 – f105	4.904	10	0.48	100
f105 – f107	20.617	80	0.25	100
f107a– f105	20.617	80	0.05	100
f108 – f109	4.617	80	0.06	100
f109 – f110	16.568	26	0.64	100
f112 – f111	3.344	80	0.05	100
f111 – f110	7.159	14	0.52	100
f113 – f114	7.794	80	0.1	100
f114 – f110	22.483	48	0.47	100
f115 – f116	5.239	80	0.07	100
f116 – f117	36.798	80	0.46	100
f118 – f117	6.404	43	0.15	100
f117 – f119	2.849	5	0.56	100
f120 – f121	28.61	80	0.36	100
f121 – f122	13.74	80	0.17	100
f123 – f124	20.995	80	0.26	100
f124 – f122	7.273	80	0.09	150
f122 – f119	10.723	80	0.13	100
f125 – f126	37.827	80	0.48	100
f127 – f128	20.793	80	0.26	100
f128 – f129	10.052	80	0.13	100
f129 – f130	10.593	80	0.13	100
f130 – f126	24.865	41	0.61	100

U/S	ACCESS TYPE	COVER LEVEL	INVERT LEVELS U/S	INVERT LEVELS D/S
f100	i/c	50.850	50.400	50.160
f101	i/c	50.960	50.160	50.030
f102	i/c	50.850	50.350	50.160
f103	i/c	50.950	50.030	49.800
f104	i/c	50.850	50.350	50.030
f105	i/c	50.750	49.800	50.050
f106	i/c	50.780	50.280	49.800
f107a	i/c	50.550	50.050	49.800
f107	i/c	51.250	49.750	49.690
f108	i/c	50.930	50.430	50.370
f109	i/c	50.950	50.370	49.730
f110	i/c	51.400	49.730	49.690
f111	i/c	50.800	50.250	49.730
f112	i/c	50.800	50.300	50.250
f113	i/c	50.800	50.300	50.200
f114	i/c	50.850	50.200	49.730
f115	i/c	50.880	50.380	50.310
f116	i/c	51.010	50.310	49.850
f117	i/c	50.700	49.850	49.290
f118	i/c	50.600	50.000	49.850
f119	i/c	50.750	49.290	49.250
f120	i/c	50.400	49.950	49.590
f121	i/c	50.250	49.590	49.420
f122	i/c	50.320	49.420	49.290
f123	i/c	50.270	49.770	49.510
f124	i/c	50.410	49.510	49.420
f125	i/c	50.200	49.700	49.220
f126	i/c	50.150	49.220	49.080
f127	i/c	50.850	50.350	50.090
f128	i/c	50.840	50.090	49.960
f129	i/c	50.660	49.960	49.830
f130	i/c	50.680	49.830	49.220

SURFACE WATER HOUSE DRAINAGE DETAILS

U/S	ACCESS TYPE	COVER LEVEL	INVERT LEVELS U/S	INVERT LEVELS D/S
re100	rodding eye	50.850	50.200	–
c100	crates	–	–	–
re101	rodding eye	50.850	50.200	49.960
s100	i/c	50.760	49.960	–
s101	i/c	50.930	50.280	–
s102	i/c	50.850	50.200	–
re102	rodding eye	51.000	50.350	49.980
s103	i/c	50.930	49.980	–
re103	rodding eye	50.780	50.130	49.980
re104	rodding eye	50.480	49.980	49.860
s104	i/c	50.480	49.860	–
re105	rodding eye	50.930	50.280	50.180
s105	i/c	50.980	50.180	49.970
s106	i/c	50.800	49.970	49.940
s107	i/c	50.890	49.940	49.800
s108	i/c	50.800	49.800	49.630
s109	i/c	50.730	49.630	–
re108	i/c	50.700	50.050	49.550
s110	i/c	50.200	49.550	–
re107	rodding eye	50.700	50.050	49.930
s111	i/c	50.700	49.930	49.720
s112	i/c	50.670	49.720	49.600
s113	i/c	50.600	49.600	–
re108	rodding eye	51.050	50.400	50.210
s114	i/c	50.930	50.210	50.040
s115	i/c	50.690	50.040	–
re109	rodding eye	50.700	50.050	49.920
s116	i/c	50.700	49.920	–
re110	rodding eye	50.250	49.600	49.440
s117	i/c	50.250	49.440	49.290
s118	i/c	50.250	49.290	–
re111	rodding eye	50.250	49.600	49.500
s119	i/c	50.250	49.500	49.290
s120	i/c	50.240	49.290	49.190
s121	i/c	50.190	49.190	–

DRAIN RUN	DISTANCE (m)	GRADIENT 1/*	FALL (m)	PIPE (mm)
re100 – c100	14.346	–	–	100
re101 – s100	19.539	80	0.240	100
s100 – c101	15.227	–	–	100
s101 – c101	2.242	–	–	100
s102 – c101	2.818	–	–	100
re102 – s103	8.917	24	0.370	100
re103 – s103	12.288	80	0.150	100
s103 – c102	15.643	–	–	100
re104 – s104	9.880	80	0.120	100
s104 – c102	6.410	–	–	100
re105 – s105	7.647	80	0.100	100
s105 – s106	16.816	80	0.210	100
s106 – s107	2.275	80	0.030	100
s107 – s108	11.540	80	0.140	100
s108 – s109	13.375	80	0.170	100
s109 – c103	5.674	–	–	100
re106 – s110	14.210	80	1.050	100
s110 – c104	18.476	–	–	100
re107 – s111	9.362	80	0.120	100
s111 – s112	17.067	80	0.210	100
s112 – s113	9.577	80	0.120	100
s113 – c104	4.706	–	–	100
re108 – s114	15.566	80	0.190	100
s114 – s115	13.867	80	0.170	100
s115 – c104	3.035	–	–	100
re109 – s116	10.486	80	0.130	100
s116 – c105	15.833	–	–	100
re110 – s117	13.077	80	0.160	100
s117 – s118	12.192	80	0.150	100
s118 – c106	13.693	–	–	100
re111 – s119	8.183	80	0.100	100
s119 – s120	17.020	80	0.210	100
S120 – S121	8.289	80	0.100	100
S121 – C106	5.524	–	–	100

CRATE NO.	NUMBER OF CRATES	SIZE OF CRATES
C100	1x12x1	0.81x10.32x0.4m
C101	1x24x1	0.81x20.64x0.4m
C102	1x42x1	0.81x44.72x0.8m
C103	1x36x1	0.81x30.96x0.4m
C104	2x14x1	1.62x12.04x0.4m
C105	2x10x1	1.62x8.6x0.4m
C106	4x15x1	3.24x12.9x0.4m

REV	AMENDMENT DETAILS	DRAWN	APPROVED	DATE

PROJECT: St THOMAS'S ROAD SPALDING	DESIGNED AND DRAWN BY: WW	APPROVED BY	CHECKED BY: EM	SCALE: 1:250
DRAWING TITLE: PRIVATE DRAINAGE & EXTERNAL WORKS LAYOUT	DRAWING STATUS: PRELIMINARY		DATE: 13.01.06	
	CAD REFERENCE FILE NUMBER: 3759_02_006.dwg			
CLIENT: WESTLEIGH DEVELOPMENTS	DRAWING NUMBER: 3759/02/006		REVISION: –	

T A Millard Midlands Limited
Heron House Newdegate Street Nuneaton Warwickshire CV11 4EL
telephone 024 76328843 facsimile 024 76326899 email nuneaton@tamillard.co.uk
www.tamillard.co.uk

Millard Consulting Engineers
offices at Perth, Ipswich, Norwich and Sevenoaks

DETERMINED PLAN

* Plan cleared by Tom Clayton 8/2/06.

Plan cleared with letter 7/2/06.

ORIGINAL SHEET SIZE A1V