ATTENUATION	AT-01
Lowest Cover Level (m)	25.244
Level top of Cells (m)	24.444
Base level of Cells (m)	23.244
Pipe invert (m)	23.244
Contributing area (m2)	2580
Dimension on Plan (m)	40x6.0x1.2m(d)
Cell Thickness (m)	1.2
Void Space (%)	95
Maximum Storage Volume (m3)	273.6

Private Drainage Key

- Foul Inspection Chamber (Depth <0.6m [1 side connection])
- Foul Inspection Chamber (Depth <1.2m [2 side connections])
- Foul.BR manhole PCC Ring (1.2-1.5m)
- Storm Inspection Chamber (Depth <0.6m [1 side connection])
- Storm Inspection Chamber (Depth <1.2m [2 side connections])
- Storm BR manhole PCC Ring (1.2-1.5m)
- French drain / Filter trench
- ACO Qmax 150/225 similar with access chamber and outlet. D400 Cover
- Existing Storm Drainage

Management Company Sewer Key

- 150Ø@2.5 — F1(1.80) — Foul sewer with pipe dia. & gradient incl. adoptable FWMH with reference & Invert.
- 225Ø@150 — S1(2.23) — Storm sewer with pipe dia. & gradient incl. adoptable SWMH with reference & Invert.

Surface Water Attenuation

Wavin "Aquacell" Storm Water Management System
Cellular storage tanks suitable for vehicular loading (where applicable) with 95% voids wrapped in a permeable geo-membrane

Permeable Block Paving
Load Category 4 permeable paving (infiltration) on subgrade 5% soaked CBR. 80mm Permeable Block, 50mm laying course material comprising mostly passing 6.3mm sieve and mostly retained on a 3mm sieve. 70mm dense bitumen macadam hole punched with 75mm Dia holes at 750mm centres. 300mm Type 3 aggregate laid in layers not exceeding 100mm thick, each layer to be well compacted.

North Arrow

N / W / E / S

NOTES

1. The contractor shall check all tie-ins for line and level with existing before commencing any works. The Engineer shall be notified immediately, in writing, should any errors be found.
2. Any discrepancies, 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 2010, Part H, "Drainage and waste disposal", (01st October 2015).
4. All pipes to be bedded and backfilled in accordance with Part H, Diagram 10. Shallow pipes shall be protected in accordance with Part H, Diagram 11.
5. Unless otherwise stated, all private drainage to be 100mm diameter. Gradients have been shown where there are pipe capacity issues and these should be regarded as minimums. Unless there are constraints dictating otherwise, gradients shall generally be 1 in 60. 100mm diameter pipes shall not be laid flatter than 1 in 80, 150mm diameter pipes shall not be laid flatter than 1 in 150.
6. All pipes, chambers and fittings to be installed strictly 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 and Diagram 8.
8. All private manholes, inspection chambers and drainage channels to comply with BS EN124. Cover strengths to be:
   Class D400 in heavy trafficked areas (access roads, service yards etc.)
   Class C250 in lightly trafficked areas (car parks, driveways etc)
   Class B125 in Non trafficked areas
   Class A15 in landscaping areas
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 (e.g. Polypipe ref. FRK500 fixing kit and FRK501 black ties.) The ground works contractor will be held fully responsible for any accidents due to incorrect fitting or failure to use the correct manufacturers fixing equipment.
11. All existing land drains encountered on site during construction to be re-connected.
12. Should any departure from the slab level be considered, agreement shall be sought from the 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 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 75mm ramp up to the garage slab.
15. Maximum gradients of gardens to be 1 in 6 (unless stated otherwise), except for designed banking works.
16. All dimensions in metres unless otherwise stated.
17. As underlying ground conditions may be variable across the site the Contractor shall undertake onsite porosity tests at the location and depth of each soakaway. Tests should be undertaken in accordance with BRE365 and results forwarded to the Engineers to allow verification of designs.
18. All existing services, sewers and drains indicated on this drawing and any other related drawings are shown only indicatively, and shall have their positions and level confirmed on site by the Contractor.
19. The invert levels of all existing sewers, drains, ditches, tanks or other features and apparatus where a new connection is to be made shall have their precise position and level confirmed on site by the Contractor prior to commencement of any construction work. The results of the investigations shall be confirmed to MTC Engineering (Cambridge) Ltd so that the design can be verified.

SOAKAWAY PROTECTION:
Please ensure that during the construction phase all soakaways, gullies and gully laterals are protected from the ingress of silt or grit from the site. Placing a fine heavy duty geotextile under the gully grating, between it and the frame should suffice.

NOTE:
At the location of the proposed lateral connection the contractor shall establish the position and depth of any existing services to prevent any clash in level and abortive costs.

FOR APPROVAL

REV	DATE	DESCRIPTION/REASON FOR ISSUE	APPR

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Whittlesford, Cambridgeshire, CB22 4LT
Tel (01223) 837270, fax (01223) 835648
E-mail office@mtcengineering.co.uk

PROJECT
Manor Farm, Great Raveley, Huntingdon, PE28 2QX

TITLE
Detailed Drainage Design

ORIG	DATE
JTC	10.01.25
CHKD	SCALE 1:200 @A1
APPR	DRAWING NO 3239-05 REV -

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MH No.	MANHOLE DIAMETER (mm)	MANHOLE TYPE	COVER TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
EXISTING	1200	Type E		24.470	23.070	1.250	525568.015	281936.571
S1	1200	Type B		26.697	24.324	2.223	525591.023	280993.863
S2	1200	Type B	D400	25.244	23.244	1.850	525557.190	281020.970
S3	1200	Type E	D400	23.675	22.308	1.217	525575.671	281048.829
S4	1200	Type E	D400	23.450	22.028	1.272	525571.075	281053.481
S6	1200	Type B	D400	25.201	23.303	1.748	525542.548	281022.382
F1	900x675	Type D		24.200	23.418	0.632	525564.933	281040.086
F2	1200	Type E	D400	25.307	23.839	1.368	525552.750	281019.723
F3	1200	Type E	D400	25.802	24.500	1.202	525569.172	281007.258

PHASE: 0 (PRIVATE)

MH No.	MANHOLE DIAMETER (mm)	MANHOLE TYPE	COVER TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
PS1	450	450 Inspection		26.400	25.036	1.264	525600.931	281002.637
PS2	250	250 Inspection		26.400	25.935	0.365	525608.101	281019.122
PS3	450	450 Inspection		26.400	25.800	0.500	525590.857	281016.976
PS4	250	250 Inspection		26.400	25.934	0.366	525593.564	281024.534
PS5	450	450 Inspection		26.469	25.368	1.001	525592.613	280999.697
PS6	250	250 Inspection		26.313	25.859	0.354	525589.603	281024.967
PS7	450	450 Inspection	D400	26.306	25.706	0.500	525586.311	281016.428
PS8	450	450 Inspection	D400	25.505	24.505	0.900	525572.934	281022.796
PS9	450	450 Inspection		26.350	25.636	0.614	525569.860	280976.006
PS10	450	450 Inspection		26.350	25.425	0.825	525575.336	280982.451
PS11	450	450 Inspection	D400	27.117	25.183	1.834	525584.408	280979.097
PS12	250	250 Inspection		25.161	24.661	0.400	525567.980	281032.672
PS13	450	450 Inspection		25.291	24.044	1.147	525562.363	281021.683
PS14	250	250 Inspection		25.350	24.834	0.416	525574.557	281030.478
PS15	250	250 Inspection		26.350	26.052	0.198	525562.988	280978.581
PS16	250	250 Inspection		26.350	25.906	0.344	525561.025	280987.111
PS17	250	250 Inspection		26.096	25.709	0.287	525565.581	280998.009
PS18	450	450 Inspection	D400	26.261	25.661	0.500	525568.267	280996.879
PS19	250	250 Inspection		25.900	25.490	0.310	525560.479	280989.400
PS20	450	450 Inspection		25.900	25.187	0.613	525543.535	280995.924
PS21	450	450 Inspection		25.495	24.895	0.500	525549.279	281012.445
PS26	250	250 Inspection		25.150	24.698	0.352	525531.978	281027.699
PS27	450	450 Inspection		25.150	24.044	1.006	525538.508	281027.987
PS28	450	450 Inspection		25.150	24.281	0.769	525538.538	281037.487
PS29	250	250 Inspection		-999.000	24.670	-1023.770	525557.590	281037.324
PS30	250	250 Inspection		24.990	24.483	0.408	525557.690	281029.826
PS31	450	450 Inspection	D400	25.931	24.931	0.900	525555.552	280999.447
PS32	450	450 Inspection		25.718	24.743	0.875	525558.637	281009.020
PS33	450	450 Inspection		25.185	24.227	0.858	525564.006	281024.954
PF1	450	450 Inspection		26.454	25.700	0.654	525595.870	281013.773
PF2	450	450 Inspection	C250	26.400	25.457	0.843	525591.309	281015.419
PF4	450	450 Inspection	D400	26.183	24.856	1.228	525579.293	281016.031
PF5	450	450 Inspection	D400	26.291	25.076	1.115	525577.875	281020.198
PF6	250	250 Inspection		26.350	25.666	0.584	525565.287	280984.177
PF7	450	450 Inspection		26.350	25.549	0.701	525561.964	280987.453
PF8	450	450 Inspection		26.296	25.301	0.896	525565.596	280996.700
PF9	450	450 Inspection		26.539	25.509	0.930	525573.389	280993.729
PF10	450	450 Inspection		25.900	25.119	0.681	525546.816	281003.469
PF11	450	450 Inspection	D400	25.966	25.095	0.772	525557.163	281000.855
PF12	450	450 Inspection	D400	25.908	24.947	0.862	525558.505	281005.051
PF13	450	450 Inspection		25.150	24.153	0.897	525539.497	281029.173
PF14	450	450 Inspection		25.260	23.943	1.217	525547.899	281029.026
PF15	450	450 Inspection		25.150	23.851	1.199	525551.584	281029.117
PF16-Sampling Chamber	450	450 Inspection		24.000	23.280	0.620	525568.797	281046.623