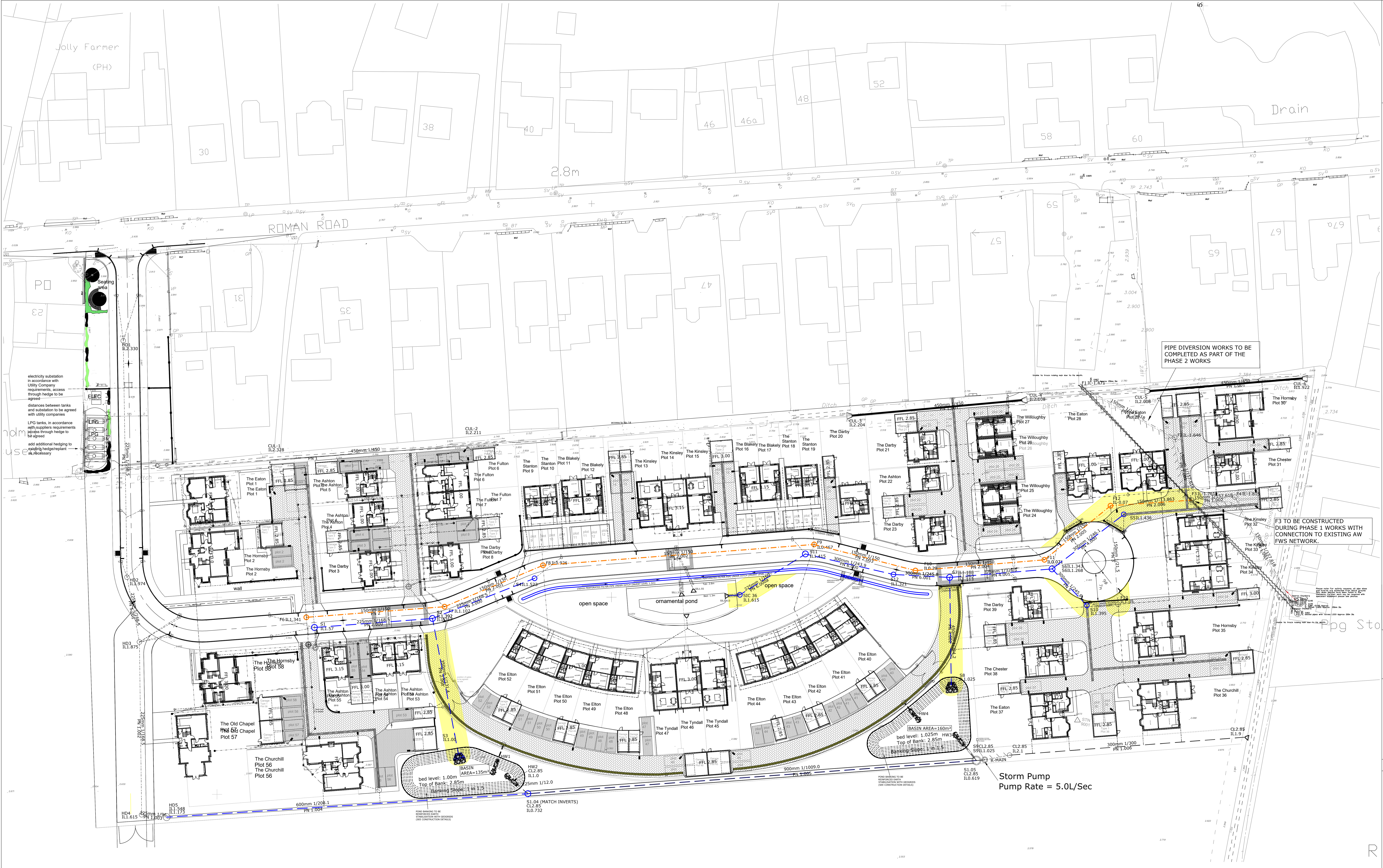


PRELIMINARY DESIGN

NOT FOR CONSTRUCTION

GENERAL NOTES

1. THIS DRAWING IS COPYRIGHT ©.
2. ALL DIMENSIONS IN METRES UNLESS OTHERWISE STATED.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS.
4. ALL WORK SHALL COMPLY WITH THE BUILDING REGULATIONS AND THE REQUIREMENTS OF THE LOCAL AUTHORITY, CURRENT CODES OF PRACTICE AND BRITISH STANDARDS.
5. 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.
6. 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.

DRAINAGE NOTES

1. ALL PRIVATE DRAINAGE WORKS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OFBUILDING REGULATIONS 2010, PART H, "DRAINAGE AND WASTE DISPOSAL", (01ST OCTOBER 2015).
2. 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.
3. 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.
4. ALL PIPES, CHAMBERS AND FITTINGS TO BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
5. PIPES WHICH RUN ADJACENT TO BUILDINGS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PART H, CLAUSES 2.23 TO 2.25 AND DIAGRAM 8.
6. ALL PRIVATE MANHOLES, INSPECTION CHAMBERS AND DRAINAGE CHANNELS TO COMPLY WITH BS EN124. COVER STRENGTHS TO BE:
   - 6.1. CLASS D400 IN HEAVY TRAFFICKED AREAS (ACCESS ROADS, SERVICE YARDS ETC.)
   - 6.2. CLASS C250 IN LIGHTLY TRAFFICKED AREAS (CAR PARKS, DRIVEWAYS ETC)
   - 6.3. CLASS B125 IN NON TRAFFICKED AREAS
   - 6.4. CLASS A15 IN LANDSCAPING AREAS
7. ALL DRAINS IN THE VICINITY OF EXISTING OR PROPOSED TREES TO BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF NHBC PRACTICE NOTE 3.
8. 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.
9. ALL EXISTING LAND DRAINS ENCOUNTERED ON SITE DURING CONSTRUCTION TO BE RE-CONNECTED.
10. 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.

STORM WATER

11. ALL RUN-OFF FROM DOMESTIC ROOFS SHALL DRAIN VIA A SERIES OF SURFACE DRAINAGE SYSTEMS WITH EACH OUTFALL TO CELLULAR SOAKAWAYS. THE SOAKAWAYS AND DRAINAGE SYSTEMS ARE TO REMAIN PRIVATE AND HAVE BEEN DESIGNED TO ACCOMMODATE ALL STORMS UP TO AND INCLUDING THE 100YR + 40% EVENT.
12. ALL PRIVATE DRIVEWAYS AND SHARED ACCESSES SHALL DRAIN VIA PERMEABLE PAVING. THE PAVING SHALL BE DESIGNED BASED ON CBR RESULTS AND TO ACCOMMODATE THE REQUIRED LOADING.
13. THE DESIGN OF EACH SOAKAWAY HAS BEEN UNDERTAKEN ON THE BASIS OF INFILTRATION RATES ESTABLISHED ON SITE BY BRE 365 TESTING. THE RATE USED IN DESIGN IS 0.036 M/HR.

FOUL WATER DRAINAGE

14. DOMESTIC FOUL SEWERAGE FROM ALL PROPERTIES SHALL DRAIN VIA A PRIVATE GRAVITY FOUL WATER DRAINAGE SYSTEM WHICH SHALL DISCHARGE TO THE EXISTING PUBLIC FOUL SEWER AT THE EXISTING MANHOLE CHAMBER F5. CONNECTION WILL BE SUBJECT TO A S106 CONNECTION AGREEMENT WITH THE WATER AUTHORITY.

PRIVATE DRAINAGE KEY

- FOUL / STORM INSPECTION CHAMBER (DEPTH <0.6m [1 SIDE CONNECTION])
- FOUL / STORM INSPECTION CHAMBER (DEPTH <1.2m [2 SIDE CONNECTIONS])
- FOUL / STORM BR MANHOLE PCC RING (1.2-1.5m)
- FOUL / STORM BR MANHOLE PCC RING (1.50-2.7m)
- BACKDROP ON FW / SW CHAMBER
- RE ⊢ RE ⊢ RODDING EYE WITH INVERT LEVEL
- DDC DISHED DRAINAGE CHANNEL WITH GULLY.
- ACO ACO CHANNEL OR SIMILAR WITH GULLY AND RODDING POINT.
- FILTER DRAIN / FRENCH DRAIN
- PRIVATE GULLY
- ROAD GULLY
- EXISTING GULLY TO REMAIN. (CLEAR DEBRIS)
- HIGHWAY DRAINAGE LATERAL CONNECTIONS
- LOW POINT
- HIGH POINT
- EXISTING DITCH
- PROPOSED DITCH
- FFL 12.50 FIRST FLOOR LEVEL

ADOPTABLE DRAINAGE KEY

- F1 150mm 1/150 PN 1.000 — FOUL SEWER WITH PIPE DIA. & GRADIENT INCL. ADOPTABLE FWMH WITH REFERENCE & INVERT.
- S1 150mm 1/150 PN 1.000 — STORM SEWER WITH PIPE DIA. & GRADIENT INCL. ADOPTABLE SWMH WITH REFERENCE & INVERT.
- Ø 100mm VACUUM MAIN DIVERSION UNDER SECTION 185 AGREEMENT. REFER TO DRAWING 2351-10 FOR DETAILS.
- SECTIONS OF EXISTING DRAINAGE PIPES TO BE REMOVED / GROUTED, SEALED AND ABANDONED
- ANGLIAN WATER 6m EASEMENT

Anglian Water Notes

All S.104 adoptable drainage shall conform to the design and construction guide for developers, Sewers for Adoption 6th Edition published by WRc plc and any AWSL additions & deletions current at the time of execution.

All covers and frames on adoptable AW sewers are to be D400, kitemarked and be badged 'FW' or 'SW' accordingly. Suppliers shall be Stanton, Paul Savage, Norinco or Wrekin.

Adoptable pipework shall be to the following specification:

Clayware: BS EN 295-1:1991
150 dia. Crushing Strength 34kN/m
225 dia. Class 160

Concrete: BS EN 5911-1:2002
>300 dia. Class 120

Plastic: BS EN 13476-1
FOUL WATER - FUNKE HS PIPEWORK 16kN/m²
SURFACE WATER - HDPE TWIN WALL PIPEWORK SN8

REV	DATE	DESCRIPTION/REASON FOR ISSUE	APPR
G	18/02/21	POND OUTFALL PIPE ADDED	MRF
F	28/10/20	PIPE NUMS UPDATED AFTER HW COMMENTS	MRF
E	26/10/20	HDRAIN ADDED, ALL PN UPDATED	MRF
D	4/09/20	UPDATED TO NEW LAYOUT	MRF
C	25/08/20	UPDATED MH F3 LOC AS PER S185	AO
B	29/07/20	ADDED FLOOD ROUTING AS PER AW COMMENTS	AO
A	06/07/20	UPDATED AS PER AW COMMENTS (23/06/2020)	AO

MTC ENGINEERING
MTC Engineering (Cambridge) Ltd.
Ground Floor, 24 High Street
Whittlesford, Cambridgeshire, CB22 4LT
Tel (01223) 837270, fax (01223) 835648
E-mail office@mtcengineering.co.uk

PROJECT
CHAPEL WALK, MOULTON CHAPEL, LINCOLNSHIRE, PE12 0XQ

TITLE
S104 DRAINAGE LAYOUT

ORIG	DATE
J.T.C	MAY 2020
CHKD	SCALE 1:500 @ A1
APPR	DRAWING NO 2351-15 REV G

©This drawing and the works depicted are the copyright of MTC Engineering (Cambridge) Ltd and may not be reproduced or amended except by written permission. No liability will be accepted for amendments made by other persons.