

THE DEVELOPER MUST SELF-VET AND CERTIFY THAT THE DESIGN CRITERIA, MATERIAL STANDARDS AND WORKMANSHIP SPECIFICATIONS FOR THE PROPOSED ADOPTABLE SEWERS ARE IN ACCORDANCE WITH THOSE SET OUT IN "SEWERS FOR ADOPTION 7TH ADDITION" AND THE REQUIREMENTS OF WELSH WATER.

- NOTES
1. ALL DIMENSIONS IN METERS UNLESS STATED OTHERWISE.
 2. ALL PRIVATE DRAINAGE WORKS ARE TO COMPLY WITH THE REQUIREMENTS OF BS 752 BUILDING DRAINAGE AND BUILDING REGULATIONS 2000 APPROVED DOCUMENT H 2002 EDITION. ALL ADOPTABLE DRAINAGE TO COMPLY WITH WELSH MINISTERS STANDARDS AND SEWERS FOR ADOPTION (7th EDITION), INCLUDING THE RELEVANT PROVISIONS OF THE COMBINED ADDENDUM.
 3. ALL MATERIALS, UNLESS SPECIFIED OTHERWISE, SHALL COMPLY WITH THE RELEVANT BRITISH STANDARD. SOURCES OF MATERIALS ARE TO BE AGREED WITH THE EMPLOYER'S REPRESENTATIVE/ENGINEER IN ADVANCE OF THE WORKS.
 4. ANY DISCREPANCIES IN THE DETAILS SHOWN TO BE REPORTED TO THE EMPLOYER'S REPRESENTATIVE/ENGINEER PRIOR TO CONSTRUCTION.
 5. LOCATION AND LEVELS OF EXISTING DRAINAGE RUNS ARE BASED UPON SEWER RECORD PLANS AND MUST BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF ANY DRAINAGE WORKS.
 6. ALL EXISTING SERVICES TO BE LOCATED PRIOR TO THE COMMENCEMENT OF ANY DRAINAGE WORKS WHERE NECESSARY PROTECTION OR DIVERSIONS TO BE UNDERTAKEN TO AVOID CONFLICT WITH THE PROPOSED WORKS.
 7. ALL ADOPTABLE DRAINAGE AND FITTINGS TO BE FLEXIBLY JOINTED CLAYWARE TO BS EN295 OR CONCRETE TO BS5911 PART 100. FLEXIBLY JOINTED UPVC PIPES AND FITTINGS TO WIS No 4-13-05 MAY BE USED FOR PRIVATE BUILDING DRAINAGE SYSTEMS ONLY.
 8. TYPICAL PIPE BEDDING TO DRAINAGE WHERE DEPTH TO SOFFIT IS GREATER THAN 600mm IN LANDSCAPED AREAS AND GREATER THAN 1200mm IN ADOPTABLE HIGHWAYS AND 900mm IN OTHER TRAFFICKED AREAS IS TO BE CLASS S (I.E. 10-14mm GRADED IMPORTED GRANULAR BED AND SURROUND FOR PIPES UP TO 525 Dia. AND 20-40mm GRADED IMPORTED GRANULAR BED AND SURROUND FOR PIPES GREATER THAN 525 Dia)
 9. BACKFILL TO DRAINAGE TRENCHES UNDER CARRIAGEWAYS TO BE TYPE 1 SUB-BASE MATERIAL ELSEWHERE BACKFILL TO BE FREE DRAINING READILY COMPATIBLE MATERIAL, FREE FROM RUBBISH AND ORGANIC MATTER, FROZEN SOIL, CLAY LUMPS AND LARGE STONES, TO BE COMPACTED IN LAYERS NOT EXCEEDING 150mm THICK.
 10. CONCRETE MIXES INDICATED ON THIS DRAWING ARE DESIGNATED MIXES CONFORMING TO BS 8500-1: 2002.
 11. A FLEXIBLE JOINT SHALL BE PROVIDED AS CLOSE AS IS FEASIBLE TO OUTSIDE FACE OF ANY STRUCTURE INTO WHICH A PIPE IS BUILT, COMPATIBLE WITH THE SATISFACTORY COMPLETION AND SUBSEQUENT MOVEMENT OF THE JOINT. THE LENGTH OF THE NEXT PIPE (ROCKER PIPE) AWAY FROM THE STRUCTURE SHALL BE AS SHOWN IN THE TABLE BELOW.
 12.

NOMINAL DIAMETER (mm)	EFFECTIVE LENGTH (m)
150-600	0.6
 13. THE DEVELOPER MUST SELF-VET AND CERTIFY THAT THE DESIGN CRITERIA, MATERIAL STANDARDS AND WORKMANSHIP SPECIFICATIONS FOR THE PROPOSED ADOPTED SEWERS ARE IN ACCORDANCE WITH THOSE SET OUT IN "SEWERS FOR ADOPTION 7TH EDITION, THE WELSH MINISTERS STANDARDS AND THE REQUIREMENT OF DCWW AS THE STATUTORY SEWERAGE UNDERTAKER.
 14. SUBJECT TO A SECTION 104 ADOPTION AGREEMENT BEING COMPLETE, A SECTION 106 APPLICATION TO CONNECT MUST BE MADE TO DCWW THE DEVELOPER SHALL GIVE 21 DAYS' NOTICE PRIOR TO CONNECTION. THE WORKS MAY ONLY BE UNDERTAKEN BY AN SSIP HEALTH & SAFETY APPROVED CONTRACTOR.
 15. ALL THERMOPLASTIC STRUCTURED WALL PIPES AND MATERIALS SHOULD COMPLY WITH SFA 7TH EDITION CLAUSE E2.22.
 16. PLOT DRAINAGE IS TO CONFORM TO SEWERS FOR ADOPTION 7TH EDITION, B3 AND FIGURES B.1 AND B.2 AS FOUNDATION DEPTHS MAY VARY AS DESIGNED BY OTHERS.

Amendments made to suite Welsh Water's comments	RJS /JJM	14.04.15	C
Amendments made to suite Welsh Water's comments	RJS /JJM	13.03.15	B
Amendments made to suite Welsh Water's comments	RJS /JJM	24.02.15	A
Revision	Details	By	Date
	Check		Suffix

Drawing Number
J01212/A1/013

**BRYN-Y-GROS
GRESFORD
WREXHAM**

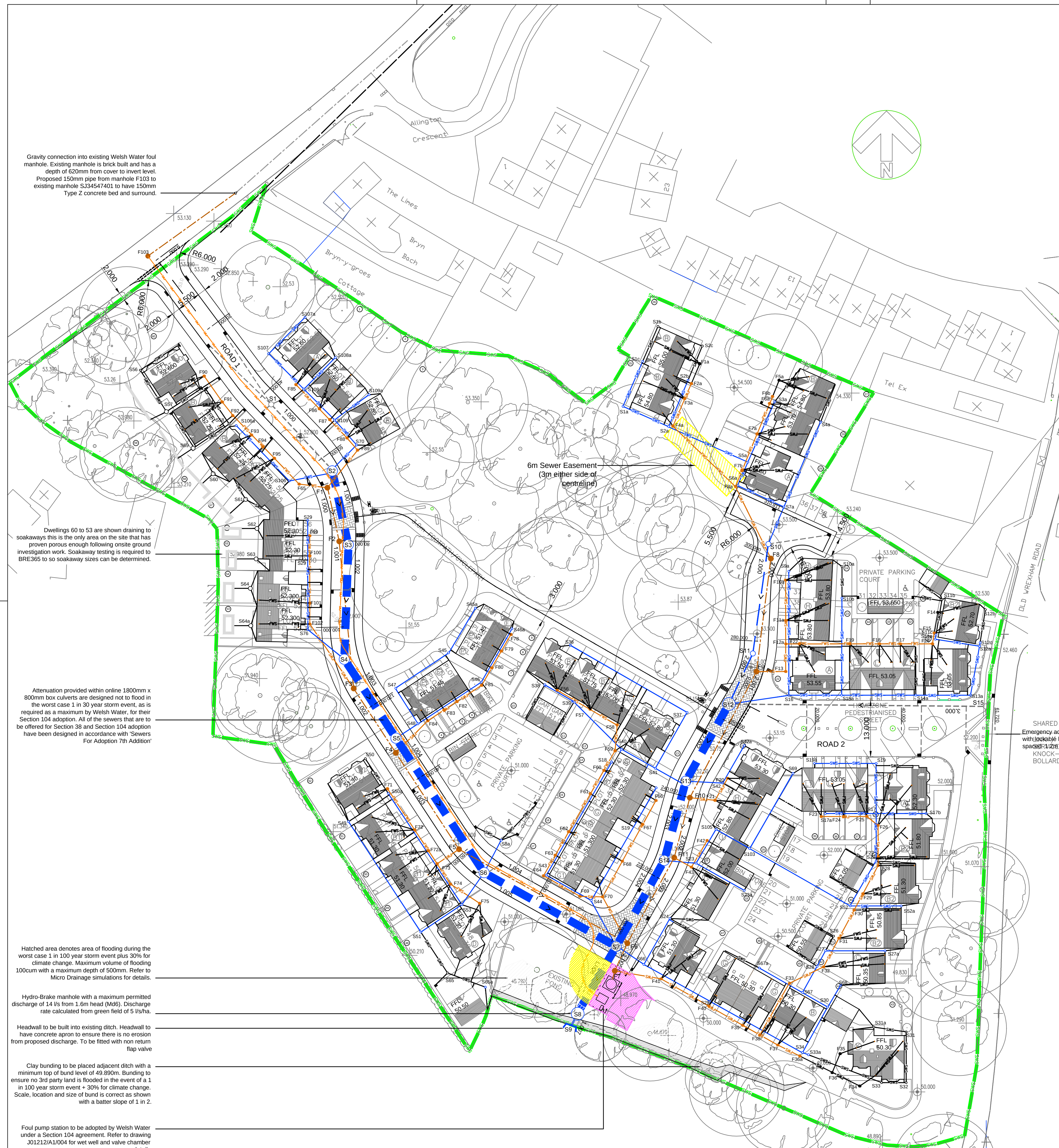
Drawing Title

**SECTION 104 SEWERAGE
LAYOUT**

Scale at A1	Detailed	Approved
NTS		James Mewis
Drawn	Tech Chk	Date
RJS	JJM	20.01.15

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STORM Network 1									
Pipe Code	Diameter (mm)	Gradient (1:)	Pipe Length	Upstream Manhole Number	Invert	Cover	Downstream Manhole Number	Invert	Cover
1.000	225	41	20.959	S1	50.168	52.093	S2	49.658	52.244
1.001	225	34	17.534	S2	49.658	52.244	S3	49.149	52.326
1.002	1800 x 800	403	26.596	S3	48.574	52.326	S4	48.508	51.758
1.003	1800 x 800	427	21.925	S4	48.508	51.758	S5	48.457	51.204
1.004	1800 x 800	401	37.323	S5	48.457	51.204	S6	48.364	50.300
1.005	1800 x 800	399	35.121	S6	48.364	50.300	S7	48.276	50.300
1.006	1800 x 800	400	18.021	S7	48.276	50.300	S8	48.221	50.300
1.007	225	204	3.467	S8	48.221	50.300	S9	48.214	48.618
2.000	225	16	25.661	S10	51.500	53.559	S11	49.940	53.749
2.001	225	15	12.988	S11	49.940	53.749	S12	49.084	53.363
2.002	1800 x 800	402	20.510	S12	48.509	53.363	S13	48.458	52.359
2.003	1800 x 800	398	19.084	S13	48.458	52.359	S14	48.410	51.418
2.004	1800 x 800	170	22.872	S14	48.410	51.418	S7	48.276	50.300
3.000	225	62	59.593	S15	50.048	51.973	S12	49.084	53.363

FOUL Network 1									
Pipe Code	Diameter (mm)	Gradient (1:)	Pipe Length	Upstream Manhole Number	Invert	Cover	Downstream Manhole Number	Invert	Cover
1.000	150	60	12.755	F1	50.609	52.259	F2	50.396	52.330
1.001	150	33	34.325	F2	50.396	52.330	F3	49.364	51.571
1.002	150	13	17.846	F3	49.364	51.571	F4	48.032	51.129
1.003	150	135	26.767	F4	48.032	51.129	F5	47.834	50.458
1.004	150	135	44.763	F5	47.834	50.458	F6	47.502	50.300
1.005	150	135	7.024	F6	47.502	50.300	F7	47.450	50.300
2.000	150	20	26.452	F8	51.969	53.619	F9	50.646	53.653
2.001	150	26	33.112	F9	50.646	53.653	F10	49.390	52.193
2.002	150	11	14.379	F10	49.390	52.193	F11	48.121	51.472
2.003	150	37	22.673	F11	48.121	51.472	F6	47.502	50.300