

MH REFERENCE	ROOF AREA	URBAN CREEP 10%	EXTERNAL AREA	TOTAL AREA (M2)	TOTAL AREA (ha)
SW1	0.000	0.000	799.616	799.616	0.080
SW2	411.111	41.111	453.472	905.694	0.091
SW3	0.000	0.000	199.976	199.976	0.020
SW4	442.801	44.280	762.291	1249.372	0.125
SW5	278.649	27.865	428.750	735.264	0.074
SW6	497.814	49.781	568.935	1116.530	0.112
SW7	443.374	44.337	1163.838	1651.549	0.165
SW8	479.990	47.999	651.113	1179.102	0.118
SW9	500.912	50.091	453.698	1004.701	0.100
SW10	0.000	0.000	527.501	527.501	0.053
SW11	200.667	20.067	475.193	695.927	0.070
SW12	475.955	47.596	458.054	981.605	0.098
SW13	257.323	25.732	285.188	568.243	0.057
SW14	128.202	12.820	464.056	605.078	0.061
SW15	489.505	48.951	757.383	1295.839	0.130
SW16	95.675	9.568	778.068	883.311	0.088
SW17	671.102	67.110	520.287	1258.499	0.126
SW18	0.000	0.000	683.917	683.917	0.068
SW19	957.968	95.797	938.948	1992.713	0.199
SW20	913.106	91.311	1847.651	2852.068	0.285
SW21	531.276	53.128	211.818	796.222	0.080
SW22	0.000	0.000	1157.69	1157.69	0.116
SW23	631.437	63.144	693.186	1387.767	0.139
SW24	0.000	0.000	982.671	982.671	0.098
SW24A	0.000	0.000	199.669	199.669	0.020
SW24B	0.000	0.000	199.902	199.902	0.020
SW25	323.997	32.400	385.261	741.658	0.074
SW27	481.067	48.107	1796.831	2326.005	0.233
SW28	1027.308	102.731	1106.131	2236.171	0.224
SW29	266.354	26.635	468.458	761.447	0.076
SW30	0.000	0.000	292.027	292.027	0.029
SW31	414.857	41.486	987.331	1443.674	0.144
SW32	257.443	25.744	460.646	743.833	0.074
SW33	418.299	41.830	674.564	1134.693	0.113

GENERAL SAFETY NOTES

1. WHERE THE BASE (ROAD BASE) HAS BEEN USED AS A TEMPORARY RUNNING SURFACE DURING THE CONTRACT IT SHALL BE THOROUGHLY CLEANED AND POWER WASHED AS NECESSARY. AFTER DRYING AND IMMEDIATELY BEFORE THE BINDER COURSE IS LAID A TACK COAT OF BITUMEN EMULSION CLASS A1-40 OR K1-40 TO BS434 SHALL BE APPLIED AT A RATE OF 0.35-0.55 LITRES/SQ METER.
2. ALL RADIUS KERBS WITH A RADIUS OF 12m OR LESS SHALL BE FORMED WITH PROPRIETARY RADIUS KERBS.

HEALTH & SAFETY

1. CONTRACTOR SHOULD BE AWARE OF GENERAL CONSTRUCTION RISKS TO PREVENT SLIPS, TRIPS AND FALLS AND TAKE NECESSARY PRECAUTIONS WITHOUT SPECIAL INSTRUCTION.

ROADS & DRAINAGE

2. CONTRACTOR TO PROVIDE TRENCH SUPPORTS AS APPROPRIATE AND ENSURE THAT PLANT REMAINS A SAFE DISTANCE FROM TRENCHES PRIOR TO INSTALLING DRAINAGE
3. THE TIME THAT EXCAVATIONS ARE OPEN ON SITE SHOULD BE KEPT TO A MINIMUM AND ALL TRENCHES SHOULD BE SURROUNDED BY A BARRIER.
4. CONNECTIONS TO EXISTING SEWERS TO BE MADE BY APPROVED CONTRACTOR ONLY.
5. CONTRACTOR TO MAKE OPERATIVES AWARE OF ASSOCIATED DANGERS TO HEALTH SUCH AS LEPTOSPIROSIS,WEILS DISEASE) AND RECOMMENDED PRECAUTIONS. ADEQUATE WELFARE FACILITIES AND PROTECTIVE CLOTHING TO BE PROVIDED AS REQUIRED.
6. UNFINISHED MANHOLES MUST BE COVERED WITH LOAD BEARING MATERIALS AND SURROUNDED WITH BARRIER.

PIPES & CABLES

7. CONTRACTOR TO OBTAIN ALL SERVICE RECORDS PRIOR TO WORKS COMMENCING.
8. SERVICE RECORDS TO BE REFERRED TO PRIOR TO WORK COMMENCING. CONTRACTOR TO PROCEED WITH CAUTION AND SERVICES TO BE LOCATED BY HAND DIG AND PROTECTED ACCORDINGLY.

EXCAVATIONS

9. CONTRACTOR TO ENSURE RELEVANT MEASURES ARE TAKEN TO KEEP PLANT AND PEOPLE A SAFE DISTANCE FROM STEEP SLOPES DURING THE WORKS.
10. CONTRACTOR TO ENSURE THAT PROCEDURES ARE IN PLACE TO KEEP PEOPLE A SAFE DISTANCE FROM WORKING PLANT WHERE NECESSARY.
11. CONTRACTOR TO REFER TO GROUND INVESTIGATION REPORT FOR CONTAMINATION TESTS AND TO PROVIDE ADEQUATE WELFARE FACILITIES AND PROTECTIVE CLOTHING AS REQUIRED.

DRAINAGE NOTES

1. ALL ADOPTABLE DRAINAGE WORKS AND MATERIALS TO BE IN ACCORDANCE WITH "CODE FOR ADOPTION", THE RELEVANT BRITISH/EUROPEAN AND NORTHUMBRIAN WATER'S STANDARDS/REQUIREMENTS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED.
2. MANHOLE COVERS SHALL/MUST HAVE A CLEAR OPENING OF 600MM AND SHALL BE CLASS D400 TO BS EN 124 WITH 150MM DEEP FRAMES IN HIGHWAYS.
3. FILLED GROUND MUST BE FILLED AND CONSOLIDATED UNDER THE SUPERVISION AND TO THE SATISFACTION OF NORTHUMBRIAN WATER BEFORE ANY SEWER WORKS ARE CARRIED OUT.
4. ALL ADOPTABLE SEWERS TO BE KITEMARKED (CERTIFIED TO WIS-4-35-01 AND BS/EN/ETC).
5. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND THE WATER AUTHORITY PREFER CLAYWARE CHANNEL IN MANHOLES. PLASTIC CHANNELS ARE DIFFICULT TO SET IN CONCRETE BECAUSE THEY FLOAT AND A SATISFACTORY FINISH CANNOT BE OBTAINED ON THE BENCHING.
6. SULPHATE RESISTANT CEMENT (C35-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
7. THE ADOPTABLE SEWERS SHOULD BE A MINIMUM OF 1M AND MANHOLES 0.5M FROM KERB FACES AND SERVICE MARKING.
8. SEWERS MUST HAVE 5 METRES CLEARANCE FROM TREES AND HEDGES.
9. SEWERS TO BE LAID IN CLASS "S" BEDDING (150MM GRANULAR BED AND SURROUND). WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.0M IN HIGHWAYS AND VERGES OR LESS THAN 900MM IN NONE VEHICULAR ACCESS AREAS) THEN A CLASS "Z" BEDDING(CONCRETE SURROUND) SHOULD BE PROVIDED.
10. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION NO.A-050 TABLE 4.
11. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.
12. ALL PRIVATE DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BUILDING REGULATIONS 2013 EDITION.
13. CONTRACTOR TO ESTABLISH POSITION SIZE AND DEPTH OF ALL EXISTING SEWERS AND SERVICES PRIOR TO COMMENCEMENT ON SITE.
14. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT, AND TEMPORARY AND PERMANENT DIVERSION WORKS, AS NECESSARY TO ALL EXISTING SERVICES.
15. THE CONTRACTOR SHALL ALLOW FOR ALL TRAFFIC MANAGEMENT IN CONNECTION WITH ROAD AND SEWER WORKS.
16. THE CONTRACTOR SHALL ALLOW FOR KEEPING SEWER TRENCHES AND EXCAVATIONS AS DRY AS PRACTICABLE BY PUMPING FROM TEMPORARY SUMPS AND DEWATERING AS APPROPRIATE. THE POINT AND METHOD OF DISCHARGE TO BE AGREED WITH THE DRAINAGE AUTHORITY.
17. FOR PIPE SPECIFICATION PLEASE REFER TO ADDITIONAL NOTES.
18. WITHIN BUILDING PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN295 AND BE KITEMARKED. WHERE PIPES ARE ENCASED IN CONCRETE SHALL BE EXTRA STRENGTH TO BS 65 OR EQUIVALENT OR EN/DIN/ISO CRUSHING STRENGTH.
19. STRUCTURED WALL PLASTIC PIPES TO WIS-4-35-01 MAY BE USED FOR FOUL & SURFACE WATER DRAINAGE, SUBJECT TO ADOPTING AUTHORITY APPROVAL.
20. PRECAST CONCRETE PRODUCTS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS 5911 AND BE KITEMARKED. CONCRETE PIPES TO BE CLASS 120 UNLESS NOTED OTHERWISE.
21. GULLY GRATES AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN124 AND BE OF A NON-ROCKING DESIGN WITH CAPTIVE HINGE ACCESS AND BE KITEMARKED. LOAD CLASS D400 FOR ROADS AND SERVICE YARD AREAS, CLASS C250 TO BE USED IN CAR PARKING AREAS.
22. BACKFILLING AND REINSTATEMENT TO TRENCHES IN PUBLIC HIGHWAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE ADOPTING AUTHORITY, OR, IN THE ABSENCE OF SUCH, IN ACCORDANCE WITH THE REQUIREMENTS OF "THE STREET WORKS REGULATIONS 1992" AND RELEVANT PROVISIONS OF A.U.C. "SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS" JUNE 1992, BOTH UNDER SECTION 71 OF THE NEW ROADS AND STREET WORKS ACT 1991.
23. ALL TRADITIONAL RAINWATER PIPE DOWN COMERS TO DISCHARGE TO TRAPPED GULLIES.
24. ALL ROAD GULLIES ARE TO BE TRAPPED GULLIES.
25. ALL RODDING EYES TO BE KITEMARKED.
26. ALL REDUNDANT EXISTING DRAINAGE TO BE GRUBBED UP OR GROUTED. ANY EXISTING LIVE DRAINAGE SHOULD BE REPORTED TO THE ENGINEER AND RECONNECTED.
27. ALL ROAD GULLIES & LEADS TO BE CLEARED OF DEBRIS UPON COMPLETION OF WORKS.
28. THE CONTRACTOR MUST ENSURE THAT ANY OF THE EXISTING DRAINAGE WHICH IS LIVE IS KEPT CLEAR OF DEBRIS AND SHOULD ALLOW FOR JETTING THROUGH THE NEW & EXISTING DRAINAGE UPON COMPLETION.
29. CONTRACTOR TO TAKE MEASURES TO PROTECT HIS OPERATIVES WITH RESPECT TO THE PRESENCE OF GAS IN SEWER TRENCHES AND MANHOLES THROUGH THE USE OF GAS MONITORING EQUIPMENT AND BREATHING APPARATUS AS REQUIRED.
30. CONTRACTOR TO APPLY FOR SEWER PERMITS AND ROAD OPENING PERMITS AS NECESSARY FROM THE APPROPRIATE AUTHORITIES, PRIOR TO COMMENCING WORKS.
31. ADOPTABLE PLASTIC SEWER PIPES TO BE LAID IN MAXIMUM 3m LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS.
32. WHERE PLASTIC PIPES ARE INSTALLED PRIOR TO GETTING APPROVAL THEN A LIGHT LINE CCTV SURVEY AND MANDREL TEST MAY BE REQUIRED.
33. WHERE A D/S COVER AND FRAME HAS BEEN APPROVED, THIS MUST NOT BE COATED IN PLASTIC AND MUST HAVE LIFTING EYES SUITABLY SIZED TO ACCOMMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE NOT ACCEPTABLE.
34. THERE SHOULD BE ENOUGH CLEARANCE TO ACCOMMODATE THE BEDDING FOR BOTH PIPES. APPROX 100MM (4" CROSSOVER IS NEAR THE ROCKER THEN THE CLEARANCE NEEDED MAY BE INCREASED
35. THE MINIMUM CRUSHING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS; - 100MM DIA. 40KN/M, 150MM DIA. 40KN/M, 225MM DIA. 60KN/M AND 300MM DIA. 72KN/M. THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE :- CLASS '120 TO EN 976/BS911-1 2002). PLASTIC PIPES SHOULD CONFORM TO WIS-4-35-01 AND BS EN3476.

SUBJECT TO LOCAL AUTHORITY & WATER AUTHORITY APPROVAL

Date	Revisions	Drawn	Checked	Rev
07/09/2026	UPDATED TO SUIT NEW LAYOUT	SR	AE	3
02/07/2026	MINOR CHANGES TO DRAINAGE	SR	AE	2
04/03/2026	FIRST ISSUE	SR	AE	1

Dwg Status: TENDER

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Title: IMPERMEABLE AREA PLAN

DO NOT SCALE	Scale @ A3: 1:500	Drawn SR	Checked AE	Date 03.03.2026
Job No 24307		Dwg No D205		Rev 03