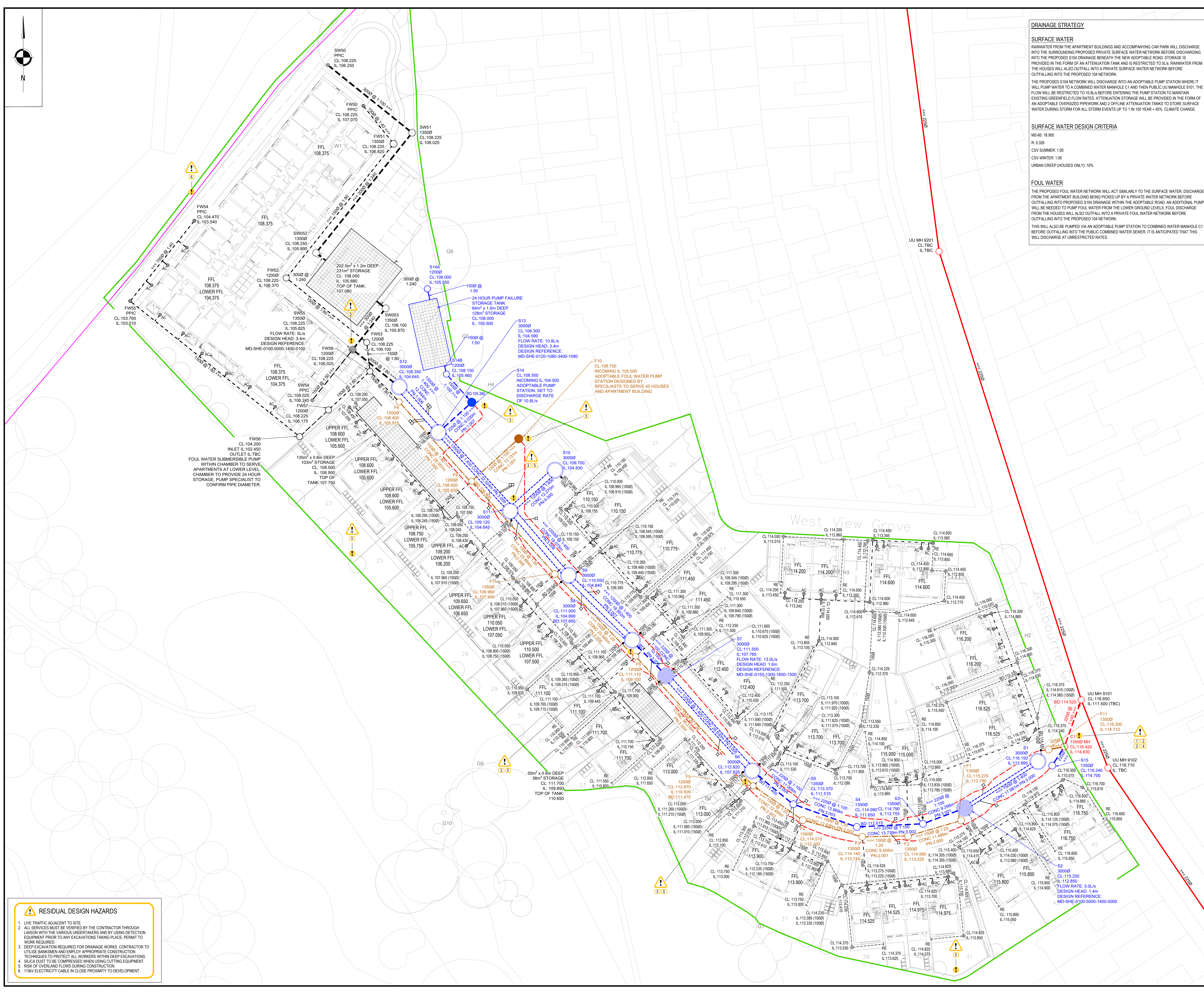




DRAINAGE STRATEGY

SURFACE WATER

RAINWATER FROM THE APARTMENT BUILDINGS AND ACCOMPANYING CAR PARK WILL DISCHARGE INTO THE SURROUNDING PROPOSED PRIVATE SURFACE WATER NETWORK BEFORE DISCHARGING INTO THE PROPOSED S104 DRAINAGE BENEATH THE NEW ADAPTABLE ROAD. STORAGE IS PROVIDED IN THE FORM OF AN ATTENUATION TANK AND IS RESTRICTED TO S104. RAINWATER FROM THE HOUSES WILL ALSO OUTFALL INTO A PRIVATE SURFACE WATER NETWORK BEFORE OUTFALLING INTO THE PROPOSED S104 NETWORK.

THE PROPOSED S104 NETWORK WILL DISCHARGE INTO AN ADAPTABLE PUMP STATION WHERE IT WILL PUMP WATER TO A COMBINED WATER MANHOLE C1 AND THEN PUBLIC UU MANHOLE 9101. THE FLOW WILL BE RESTRICTED TO 10.8L/s BEFORE ENTERING THE PUMP STATION TO MAINTAIN EXISTING GREENFIELD FLOW RATES. ATTENUATION STORAGE WILL BE PROVIDED IN THE FORM OF AN ADAPTABLE OVERSIZED PREWORK AND 2 OFFLINE ATTENUATION TANKS TO STORE SURFACE WATER DURING STORM FOR ALL STORM EVENTS UP TO 1 IN 100 YEAR + 45% CLIMATE CHANGE.

SURFACE WATER DESIGN CRITERIA

MS 40: 18.900
R 0.306
CSV SUMMER: 1.00
CSV WINTER: 1.00
URBAN CREEP (HOUSES ONLY): 10%

FOUL WATER

THE PROPOSED FOUL WATER NETWORK WILL ACT SIMILARLY TO THE SURFACE WATER. DISCHARGE FROM THE APARTMENT BUILDING BEING PICKED UP BY A PRIVATE WATER NETWORK BEFORE OUTFALLING INTO PROPOSED S104 DRAINAGE WITHIN THE ADAPTABLE ROAD. AN ADDITIONAL PUMP WILL BE NEEDED TO PUMP FOUL WATER FROM THE LOWER GROUND LEVELS. FOUL DISCHARGE FROM THE HOUSES WILL ALSO OUTFALL INTO A PRIVATE FOUL WATER NETWORK BEFORE OUTFALLING INTO THE PROPOSED S104 NETWORK.

THIS WILL ALSO BE PUMPED VIA AN ADAPTABLE PUMP STATION TO COMBINED WATER MANHOLE C1 BEFORE OUTFALLING INTO THE PUBLIC COMBINED WATER SEWER. IT IS ANTICIPATED THAT THIS WILL DISCHARGE AT UNRESTRICTED RATES.

GENERAL NOTES

- SETTING OUT SHALL BE UNDERTAKEN USING ONLY THE INFORMATION GIVEN. DISTANCES SHOULD NOT BE SCALED FROM THIS DRAWING.
 - ALL SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DESIGN AND CONSTRUCTION GUIDANCE AND UNITED UTILITIES DETAILS & GUIDELINES.
 - THE MINIMUM GRAVITY PIPE DIAMETER UNDER ADAPTABLE HIGHWAYS SHALL BE 150mm.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION GIVEN WITH REGARDS TO EXISTING SERVICES AND DRAINAGE CONNECTIONS ETC. PRIOR TO COMMENCING THE WORKS. THE RATES SHALL INCLUDE FOR HAND DIG AROUND SERVICES WHERE NECESSARY. THE CONTRACTOR SHALL ADHERE TO THE CDM REGULATIONS AT ALL TIMES.
 - THE OUTSIDES OF ALL SEWERS SHALL BE A MINIMUM OF 1.0m FROM KERB LINES AND THE OUTSIDE OF MANHOLES SHALL BE A MINIMUM OF 0.5m FROM KERB LINES.
 - EXISTING FLOWS IN WATERCOURSES, SEWERS AND LAND DRAINS SHALL BE MAINTAINED AT ALL TIMES.
 - ONLY TRAINED PERSONNEL SHALL BE PERMITTED TO ENTER CONFINED SPACES.
 - ALL MATERIALS TO BEAR THE RELEVANT B.S. KITEMARK AND COMPLY FULLY WITH THE SPECIFICATIONS. ALL CONCRETE & CONCRETE PRODUCTS MUST USE SULPHATE RESISTANT CEMENT UNLESS THE SITE INVESTIGATION REPORT PROVES THAT SULPHATE ATTACK FROM SOILS AND GROUNDWATER WILL NOT OCCUR TO WITHSTAND A CLASS.
 - ALL OPENING NOTICES ETC. AS REQUIRED UNDER HIGHWAYS ACTS ETC. ARE TO BE OBTAINED PRIOR TO COMMENCEMENT OF WORKS. ALL WORKS ARE TO BE INSPECTED BY L.A., NHEB OR THE NETWORK OPERATOR AS APPLICABLE.
 - WHERE 'ULTRA RIB' UPVC PIPES (OR SIMILAR APPROVED) ARE USED IN ADAPTABLE DRAINAGE THEY SHALL STILL BE HANDLED AND LAID IN ACCORDANCE WITH THE SPECIFICATION AND GUIDANCE ISSUED BY THE HIGH PERFORMANCE PIPE ASSOCIATION.
 - A CLASS 3 BED AND SURROUND MUST BE USED FOR SUCH PIPES. TRENCH BACKFILL IN HIGHWAYS TO WITHIN 1M OF HIGHWAY SHALL, AS DIRECTED BY THE HIGHWAY AUTHORITY BE A SUITABLE GRANULAR MATERIAL ALL IN ACCORDANCE WITH SEWERS FOR ADOPTION CL 4.3.4.
 - SLAB LEVELS SHALL NOT BE VARIED WITHOUT REFERENCE TO THE ENGINEER FOR GUIDANCE.
 - DOMESTIC DRAINAGE SHALL BE TO BUILDING REGULATIONS APPROVED DOCUMENT H: 110mm U.P.V.C. PIPES LAID TO THE FOLLOWING MINIMUM FALLS UNLESS OTHERWISE SHOWN.
- | | FOUL | S.W. |
|-----------|---------|----------|
| HEAD RUN | 1 IN 40 | 1 IN 60 |
| ELSEWHERE | 1 IN 80 | 1 IN 100 |
- ALL HIGHWAY GULLY CONNECTIONS TO BE 150mm VITRIFIED CLAY UNLESS NOTED OTHERWISE.
 - ALL PRIVATE GULLY CONNECTIONS TO BE 100mm VITRIFIED CLAY UNLESS NOTED OTHERWISE.
 - MINIMUM COVER TO DRAINAGE SOFFIT LEVEL & ACCESS CHAMBERS:
LANDSCAPING: 0.500m
TRAFFICKED AREAS: 1.200m
HIGHWAYS: 1.500m
 - CLASS 3 BEDDING AND SURROUND TO BE USED WHERE MINIMUM COVER IS ACHIEVED.
*WHERE MINIMUM COVER IS NOT ACHIEVED CLASS 2 BEDDING AND SURROUND (CONCRETE ENCASMENT) IS TO BE USED.
 - FOUNDATIONS WITHIN CLOSE PROXIMITY TO PROPOSED DRAINAGE WILL NEED TO BE AT THE SAME DEPTH AS DRAINAGE TO AVOID THE POTENTIAL FOR UNDERMINING.

DRAINAGE NOTES

- FOUL AND SURFACE WATER CONNECTIONS ARE TO BE CONFIRMED
- ALL FOUL WATER CONNECTIONS TO APARTMENT BUILDING ARE TO HAVE RODDABLE ACCESS FROM ABOVE GROUND
- ALL POP-UP SETTING OUT IS TO BE PROVIDED BY THE ARCHITECT

REFER TO UNITED UTILITIES STANDARD DRAWINGS FOR CONSTRUCTION DETAILS

- STND/19001 - TYPE 1 MANHOLE
- STND/19002 - TYPE 2 MANHOLE & INVERT ACCESS DETAIL
- STND/19003 - SHALLOW MANHOLE DETAIL FOR SMALL DIAMETER PIPES
- STND/19004 - SHALLOW SW MANHOLE DETAIL
- STND/19007 - EXTERNAL AND INTERNAL BACKDROPS
- STND/19008 - PIPE EMBEDMENT DETAILS
- STND/19010 - VARIABLE MANHOLE GUIDANCE NOTES

LEGEND

- PROPOSED S104 SURFACE WATER SEWER SUBJECT TO UNITED UTILITIES AGREEMENT
- PROPOSED SURFACE WATER FLOW CONTROL CHAMBER
- PROPOSED S104 FOUL WATER SEWER SUBJECT TO UNITED UTILITIES AGREEMENT
- PROPOSED SURFACE WATER PUMP STATION
- PROPOSED FOUL WATER PUMP STATION
- PROPOSED S104 COMBINED WATER SEWER SUBJECT TO UNITED UTILITIES AGREEMENT
- PROPOSED SURFACE/FOUL WATER RISING MAIN SUBJECT TO UNITED UTILITIES AGREEMENT
- PROPOSED HIGHWAY GULLY SUBJECT TO S38 AGREEMENT
- PROPOSED PRIVATE SURFACE WATER
- PROPOSED SURFACE WATER ACCESS CHAMBER (MIN 6000 CHAMBER)
- PROPOSED PRIVATE SURFACE WATER ROOFTOP EYE
- ATTENUATION TANK
- 24 HOUR STORAGE ATTENUATION TANK
- PROPOSED PRIVATE FOUL WATER SEWER
- PROPOSED FOUL ACCESS CHAMBER MIN 6000 CHAMBER 0.850m DEEP. ANY AC DEEPER THAN 1.2m WILL REQUIRE A REDUCED ACCESS SHAFT.
- EXISTING UNITED UTILITIES COMBINED WATER SEWER
- 110KV ELECTRICITY CABLE
- SITE BOUNDARY

P02 30 JUN 2025		REVISED SITE LEVELS		JAR	JP	KOB
P01 15/08/2025		PRELIMINARY ISSUE		JAR	JP	KOB
REV	DATE	DESCRIPTION		BY	CHK	APP
DRAWING STATUS: PRELIMINARY						
CLIENT: WESTSHIELD						
ARCHITECT: PADDOCK JOHNSON						
PROJECT: STAND GOLF CLUB ASHBORNE GROVE MANCHESTER						
TITLE: SITE A - BELOW GROUND DRAINAGE OUTLINE DRAINAGE STRATEGY						
STATUS:	PROJECT No:	PROJECT ORIGINATOR:	VOLUMES:	TYPE:	ROLE:	REV:
S2	224-181	SGC - AJP - XX - 00 - DR - C - 0900	P02			
SCALE: A3	DESIGNED:	DRAWN:	CHECKED:	APPROVED:	DATE:	
1:250	JAR	JAR	JP	KOB	AUG 2025	
AJP consulting engineers 0151 227 1462 85info@ajped.co.uk 91 Dale Street, Liverpool, L2 2ET						

RESIDUAL DESIGN HAZARDS

- LIVE TRAFFIC ADJACENT TO SITE
- ALL SERVICES MUST BE VERIFIED BY THE CONTRACTOR THROUGH LIAISON WITH THE VARIOUS UNDERTAKERS AND BY USING DETECTION EQUIPMENT PRIOR TO ANY EXCAVATIONS TAKING PLACE. PERMIT TO WORK REQUIRED
- DEEP EXCAVATION REQUIRED FOR DRAINAGE WORKS. CONTRACTOR TO UTILISE BANKSMEN AND EMPLOY APPROPRIATE CONSTRUCTION TECHNIQUES TO PROTECT ALL WORKERS WITHIN DEEP EXCAVATIONS
- SILICA DUST TO BE COMPRESSED WHEN USING CUTTING EQUIPMENT
- RISK OF OVERLAND FLOWS DURING CONSTRUCTION
- 110KV ELECTRICITY CABLE IN CLOSE PROXIMITY TO DEVELOPMENT