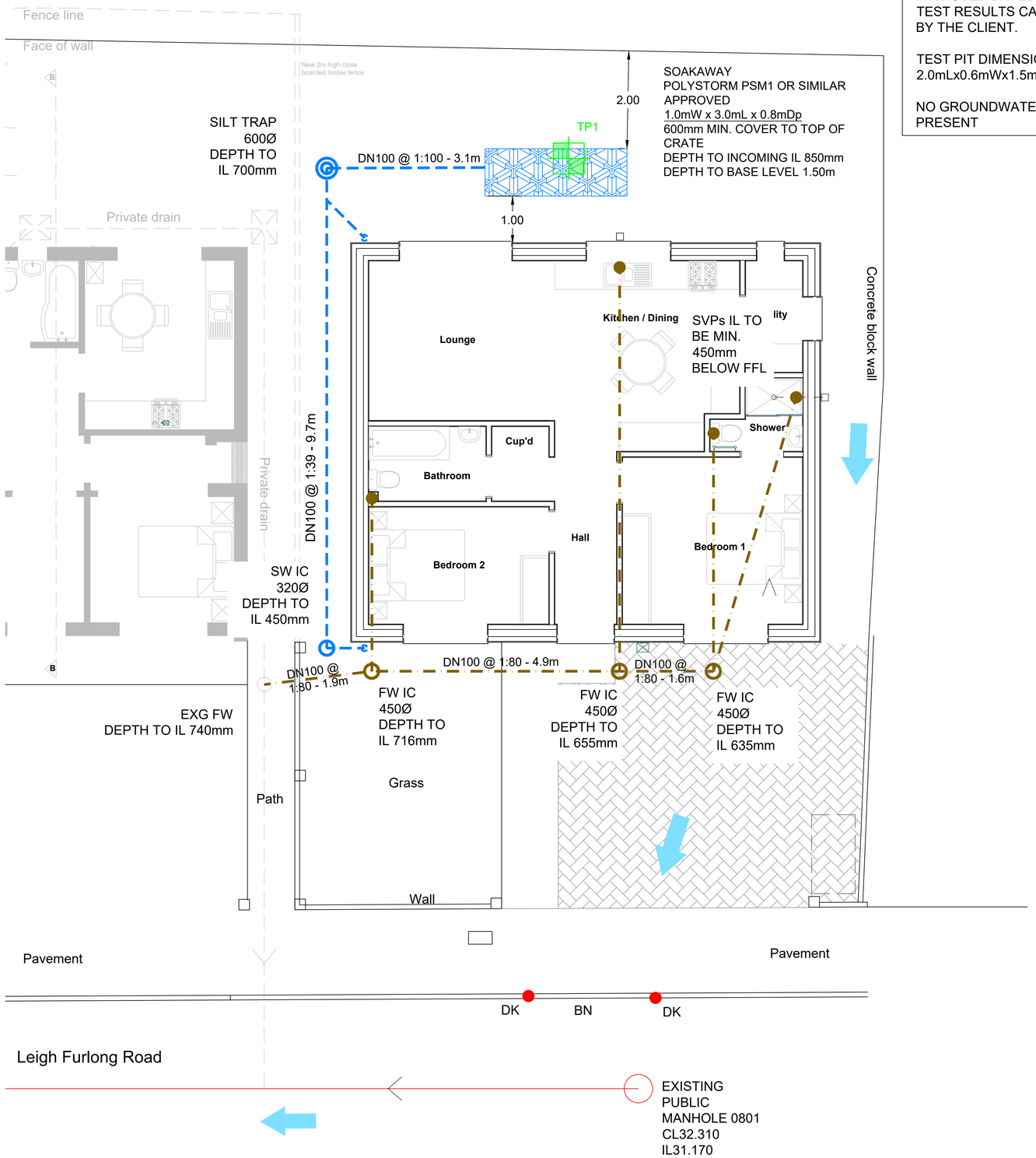

INFILTRATION RATE 0.54m/hr WAS USED BASED ON 3No. TEST RESULTS CARRIED OUT BY THE CLIENT.

TEST PIT DIMENSIONS 2.0mLx0.6mWx1.5mDp

NO GROUNDWATER WAS PRESENT

INTRODUCTION

THE PURPOSE OF THIS DRAWING IS TO PROVIDE SUFFICIENT TECHNICAL INFORMATION TO SATISFY PLANNING CONDITION 2022/2405/FUL CONDITION 3.

PROPOSED SURFACE WATER

THE SITE IS LOCATED WITHIN THE MENDIP DISTRICT , 45 LEIGH FURLONG ROAD, STREET, SOMERSET, BA16 0LF.

THE PROPOSED SURFACE WATER WILL BE DESIGNED IN CONJUNCTION TO NPPF AND TECHNICAL STANDARDS PROVIDED BY LOCAL AUTHORITIES, WHICH INCLUDES A HIERARCHY OF DRAINAGE OPTIONS. THE AIM SHOULD BE TO DISCHARGE SURFACE RUNOFF AS HIGH UP THE HIERARCHY OF DRAINAGE OPTIONS AS REASONABLY PRACTICAL WITH INFILTRATION TO GROUND THE MOST PREFERRED AND CONNECTION TO A COMBINED SEWER THE LEAST PREFERRED.

INFILTRATION TESTING WAS CARRIED OUT ON THE 16th JANUARY 2024 BY THE CLIENT AND YIELDED FEASIBLE SOAKAGE RESULTS AND THE WORST CASE RESULT FROM THE NEAREST TRIAL PIT WAS USED TO SIZE THE SOAKAWAYS FOR THIS DEVELOPMENT. MICRODRAINAGE SOFTWARE HAS BEEN USED TO SIZE THE STORAGE REQUIRED TO DRAIN THE IMPERMEABLE AREAS FROM THE PLOTS, HARDSTANDING AND ROADS. THESE CALCULATIONS ARE BASED ON MODULAR INFILTRATION UNITS WITH A 95% VOID RATIO TO ACCOMMODATE THE WORST CASE STORM WITH RAINFALL INTENSITIES INCREASED BY 50% TO ALLOW THE EFFECTS OF CLIMATE CHANGE AS REQUIRED BY LOCAL DRAINAGE GUIDANCE FOR THIS AREA.

THE SURFACE WATER INFILTRATION SYSTEMS HAS BEEN DESIGNED IN ACCORDANCE TO THE FOLLOWING CRITERIA:

- 1 IN 100 YEAR RETURN PERIOD WITH 10080MIN DURATION
- PLUS 50% CLIMATE CHANGE
- FACTOR OF SAFETY - 2.0
- REFER TO THE MICRODRAINAGE RESULTS FOR DETAILED CALCULATIONS
- REFER TO LAYOUT FOR DIMENSIONS

THE HYDRAULIC CALCULATIONS ARE RECORDED IN DOCUMENT J-1166 MD SOAKAWAY CALC RESULTS REV A.

ALL PIPEWORK AND SOAKAWAYS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS.

IT IS ESSENTIAL THAT THE DEPTHS AND LOCATIONS OF ALL EXISTING SERVICES ALONG THE ROUTE OF PROPOSED SOAKAWAY ARE CONFIRMED ON SITE PRIOR TO CONSTRUCTION, AND REPORTED TO THE ENGINEER.

ANY PROPOSED STORM PIPEWORK TO BE DESIGNED IN ACCORDANCE TO BUILDING REGS PART H AND ADEQUATE TO TAKE THE SURFACE WATER FLOWS FROM THE RELEVANT IMPERMEABLE AREAS. THEREFORE, UNTIL THE EXISTING STORM NETWORK IS CONFIRMED RUNNING CLEAR, PWS 10 LTD DOES NOT TAKE ANY LIABILITY FOR ANY INTERNAL FLOODING EVENTS.

PROPOSED FOUL WATER DRAINAGE DESIGN

IT IS PROPOSED THE FOUL DRAINAGE WILL REMAIN PRIVATE AND TO BE CONVEYED BY GRAVITY TO THE EXISTING CHAMBER ON-SITE. THIS THEN CONVEYS TO THE PUBLIC SEWER WITHIN FURLONG ROAD.

TIMETABLE FOR CONSTRUCTION

IT IS PROPOSED THE DEVELOPMENT WOULD TAKE PLACE IN A SINGLE CONSTRUCTION PHASE. DATE TO BE CONFIRMED BY CONTRACTOR.

CONSTRUCTION WORKS ARE TO TAKE PLACE IN AN ORDER TO REDUCE THE RISK OF POLLUTION AND OVERLAND FLOW TO ADJACENT ROAD ARE KEPT TO A MINIMUM.

STRAW BALES OR SILT FENCES TO BE INCORPORATED TO HELP CONTROL SURFACE WATER RUNOFF AND PREVENT SILT BEING TRANSFERRED OUTSIDE DEVELOPMENT SITE.

WHEN DRAINAGE WORKS COMPLETED PROVISION SHOULD BE MADE TO ENSURE ALL CONSTRUCTION DEBRIS TO BE CLEANED AND EMPTIED STRAIGHT AWAY.

FUTURE MAINTENANCE AND MANAGEMENT OF THE SYSTEMS

SURFACE WATER

INFILTRATION SYSTEMS WILL REQUIRE REGULAR MAINTENANCE TO ENSURE CONTINUING OPERATIONS TO DESIGN PERFORMANCE STANDARDS, AND THIS SECTION WILL PROVIDE THE GUIDANCE FOR THIS DEVELOPMENT SITE.

THE SOAKAWAYS WILL INCLUDE MONITORING POINTS WHERE THE WATER LEVEL IN THE SYSTEM CAN BE OBSERVED.

MAINTENANCE WILL USUALLY BE CARRIED OUT ANNUALLY, ALTHOUGH A SUCTION TANKER CAN BE USED FOR SEDIMENT/DEBRIS REMOVAL. THIS NEEDS TO BE ANNUAL IF LONGER THE DEPOSITS WILL BECOME HARD-PACKED AND WILL REQUIRE FURTHER EFFORT AND COSTS TO REMOVE.

ALL SILT TRAPS ARE TO BE EMPTIED A MINIMUM ONCE A YEAR, AND ALL GULLY TRAPS EVERY SIX MONTHS.

REPLACEMENT OF THE MODULAR UNITS (CRATES) WILL BE NECESSARY IF THE SYSTEM BECOMES BLOCKED WITH SILT. THEREFORE, MONITORING IS KEY TO VIEW ANY CHANGES IN INFILTRATION RATE AND PROVIDE WARNING OF POTENTIAL FAILURE LONG TERM.

ROADS AND PARKING AREAS DRAINING TO THE CRATES SHOULD BE REGULARLY SWEPT TO PREVENT SILT BEING WASHED OFF THE SURFACE.

MAINTENANCE RESPONSIBILITY WILL BE WITH THE INDIVIDUAL WHO PURCHASES THE PROPERTY OR THE LANDOWNER IF RENTED.

FOUL WATER

THE PROPOSED FOUL WATER DRAINAGE SYSTEM WILL REMAIN PRIVATE AND WILL BE OPERATED AND MAINTAINED BY THE PROPERTY OWNER. THE GRAVITY DRAINAGE SYSTEM WILL REQUIRE ROUTINE INSPECTION AND MAINTENANCE TO REMAIN FREE FLOWING.

CONSTRUCTION QUALITY CONTROL PROCEDURE

BUILDING REGULATIONS PARK H COVERS THE DESIGN AND INSTALLATION OF BOTH SURFACE AND FOUL WATER SYSTEMS. ALL PRIVATE DRAINAGE SYSTEMS SHOULD BE INSTALLED IN ACCORDANCE WITH THIS DRAWING AND NOTES.

THE SITE WILL BE STRIPPED OF TOPSOIL AND PARTIALLY LEVELED. THE STRIPPED TOPSOIL WILL CREATE APPROX. 300mm LEVEL DIFFERENCE TO THE NEIGHBOURING PROPERTIES WHICH WILL ENSURE SURFACE WATER RUN-OFF IS FULLY CONTAINED WITHIN THE SITE. THE GROUND UNDERLYING THE SITE HAS GOOD INFILTRATION CHARACTERISTICS ENSURING THAT RAINFALL IS READILY DIRECTED TO GROUND. ANY SURFACE WATER RUN-OFF OVER AND ABOVE WHICH CAN INFILTRATE TO GROUND, AND/OR WATER FROM THE DE-WATERING OF SERVICE TRENCHES ETC WOULD BE DIRECTED TO THE WESTERN BOUNDARY TO TEMPORARY SWALE IF REQUIRED DURING HEAVY RAINFALL EVENTS. SURFACE WATER WITHIN THE SWALE WILL BE CONTAINED WITHIN THE SITE UNTIL SUCH TIME WATER CAN BE DIRECTED TO THE FINAL SURFACE WATER DRAINAGE SCHEME.

DURING THE COURSE OF THE CONSTRUCTION WORKS, AREAS WHERE SURFACE WATER COLLECTS WILL BE MONITORED, AND IN THE EVENT OF SILT BUILDING UP THIS WILL BE REMOVED TO ENSURE CONTINUING INFILTRATION. THE TIMING OF THIS WILL DEPEND UPON THE AMOUNT OF RAINFALL ON THE SITE AND THE EXTENT OF SILT CARRIED INTO THE SWALE.

THE SOAKAWAYS FORMING THE FINAL SURFACE WATER DRAINAGE SYSTEM ARE TO BE PROTECTED DURING THE COURSE OF THE CONSTRUCTION WORKS. TO PREVENT SILT FROM ENTERING THE SYSTEM THE GULLY POTS ARE TO BE SEALED UNTIL THE EXTERNAL WORKS ARE COMPLETED AND THE PARKING AREAS CLEANED AND GIVEN THEIR FINAL SURFACE.

IMMEDIATELY PRIOR TO HANDOVER, MANHOLES, INSPECTION CHAMBERS AND ACCESS POINTS WILL BE INSPECTED FOR THE REMOVAL OF WRAPPINGS, MORTAR DROPPINGS AND ANY OTHER DEBRIS AS REQUIRED. THE SURFACE WATER SYSTEM WILL BE THOROUGHLY FLUSHED WITH WATER TO REMOVE SILT AND CHECK FOR BLOCKAGES. PIPELINES WILL BE RODDED BETWEEN ACCESS POINTS IF THERE IS ANY INDICATION THAT THEY MAY BE OBSTRUCTED. REMEDIAL WORK TO BE COMPLETED AS REQUIRED.

OVERLAND EXCEEDANCE FLOW

THE SITE STEADILY SLOPES NORTHERLY.

OVERLAND AND EXCEEDANCE FLOWS ALONG THE PUBLIC ROAD AND HIGHWAY DRAINAGE AWAY FROM THE SITE BY THE LOCAL TOPOGRAPHY AND HIGHWAY DRAINS NORTHWARDS.

IF IN THE UNLIKELY EVENT THAT FLOWS EXCEED THE 100 YEAR EVENT PLUS CLIMATE CHANGE RAINFALL EVENT OR THE DRAINAGE SYSTEM WERE TO BECOME BLOCKED, THE OVERLAND FLOW ROUTES FOR THE DEVELOPMENT ARE SHOWN BY THE FLOOD FLOW PATH ARROWS WHERE THE FLOWS ARE DIRECTED DOWNHILL ALONG FURLONG ROAD.

IF REGULAR MAINTENANCE OF THE DRAINAGE SYSTEM IS CARRIED OUT REGULAR THIS WOULD BE HIGHLY UNLIKELY TO OCCUR. IN ANY EVENT, THE STORAGE PROVIDED IN THE PROPOSED SURFACE WATER DRAINAGE SYSTEM, AND DESIGN CRITERIA USED, ANY EXCEEDANCE FLOWS WOULD BE LOWER THAN THE SITE IN THE PRE-DEVELOPMENT SCENARIO FOR A SIMILAR STORM EVENT.

PROPOSED DRAINAGE KEY:

- RWP — RAINWATER DOWN PIPE CONNECTION WITH 100mmØ SURFACE WATER PIPE PVCu/PP/PE
- SVP — SOIL OR VENT PIPEPIPE CONNECTION WITH 100mmØ FOUL WATER PIPE PVCu/PP/PE
- 320mmØ MINI INSPECTION CHAMBER POLYPIPE OR SIMILAR APPROVED
- 450mmØ INSPECTION CHAMBER POLYPIPE OR SIMILAR APPROVED
- SURFACE WATER CATCHPIT CHAMBER 600mmØ WITH 300mm SUMP
- DWELLING SOAKAWAYS POLYSTORM INFILTRATION CRATES OR SIMILAR APPROVED WRAPPED WITH GEOTEXTILE
- TRIAL PIT LOCATION
- DK — DROPPER KERB 125 x 255mm
- BN — BULLNOSE KERB 125mm x 150mm WITH 25mm UPSTAND
- DENOTES APPROXIMATE LOCATION OF EXISTING PUBLIC COMBINED SEWER 150mmØ
- DENOTES PERMEABLE PAVING DESIGN CARRIED OUT BY MARSHALLS. REFER TO MARSHALLS REPORT & CALCULATIONS (TBC)
- DENOTES DIRECTION OF FLOOD FLOW PATH
- ** DENOTES EXTRAPOLATED PROPOSED COVER LEVELS ARCHITECT/CONTRACTOR TO CONFIRM BACK TO DESIGN ENGINEER
- REFER TO THE ARCHITECT'S SETTING OUT PLANS FOR ACCURATE SVP & RWP POSITIONS

NOTES

This drawing is copyright. Refer details above.

This drawing is only to be used for the purposes described in the status box below. Work to figured dimensions only, do not scale.

This drawing is to be read in conjunction with all other drawings, details and specifications pertaining to the work described.

Materials and workmanship shall comply to the appropriate British Standards and Codes of Practice unless otherwise stated.

The activities required to construct the work, shown on drawings clearly marked FOR CONSTRUCTION, may be subject to the provisions of the Construction (Design & Management) Regulations 2015. The Contractor and Client must ensure that they are adequately conversant with these regulations and that the appropriate procedures required under the regulations are observed at all times.

If groundwater is encountered during excavation, the engineer is to be notified immediately.

Refer to all notes prior to construction and direct any queries to the design engineer.

Design Risk Assessment:

Refer to the Contractor's Health & Safety File

DATE.	DRWN.	CHKD.	REV.	NOTES.
06.02.24	JR	JR	P1	ISSUED FOR PLANNING

PROJECT MANAGER:-	JESSICA REED
PROJECT ENGINEER:-	JESSICA REED
DRAWN DATE:-	JAN 2024
SCALE & SHEET SIZE:-	1 : 100 @ A1

PLANNING

Premier Water Solutions Ltd
7 Mellingey Fields, Station Road,
Perranwell Station, Truro, TR3 7FA
www.premierwatersolutions.co.uk
info@premierwatersolutions.co.uk

CLIENT
MR M. DOBLE

PROJECT
NEW BUILD ADJACENT 45 LEIGH FURLONG ROAD, STREET, SOMERSET

DRAWING TITLE
PROPOSED DRAINAGE LAYOUT

PROJECT No.	DRAWING No.	REV.
J-1166	1000	P1