

KEY	
	SITE BOUNDARY
	PROPOSED PRIVATE SURFACE WATER DRAINAGE 100mm @ 1:100min
	PROPOSED PRIVATE FOUL SEWER/RAIN 100mm @ 180 MIN (WHERE NO WC'S 1:4.0 MIN)
	ACO DRAIN
	PROPOSED PRIVATE SOAKAWAY CONSTRUCTED USING MODULAR INFILTRATION UNITS
	PROPOSED PRIVATE FOUL WATER DRAINAGE FIELD
	PROPOSED PACKAGE TREATMENT PLANT (WPL DMS2 OR SIMILAR)
	PROPOSED PRIVATE SURFACE WATER POLYPROPYLENE INSPECTION CHAMBER (475Ø/450Ø P.P.I.C) (W/AVIN SILT TRAP)
	PROPOSED CATCHPIT WITH LEAF AND DEBRIS FILTER
	PROPOSED PRIVATE FOUL WATER POLYPROPYLENE INSPECTION CHAMBER (475Ø/450Ø P.P.I.C)
	PROPOSED PRIVATE FOUL MINI ACCESS CHAMBER (MAC) 600mm MAX DEPTH
	AIR LINE IN DUCT
	PROPOSED AIR BLOWER COMPARTMENT
	POWER SUPPLY DESIGNED BY OTHERS
	VP PERCOLATION TEST LOCATION

DRAINAGE FIELD		
Regular maintenance	Inspect for sediment and debris in pre-treatment components and floor of inspection tube or chamber. Trimming any roots that may be causing blockages	Annually Annually (or as required)
Occasional maintenance	Remove sediment and debris from pre-treatment components and floor of inspection tube or chamber.	As Required, based on inspections
Remedial actions	Reconstruct drainage field and/or replace or clean void fill if performance deteriorates or failure occurs	As required
Monitoring	Check drainage field to ensure emptying is occurring	Annually
	Inspect chambers and note rate of sediment accumulation	Monthly in the first year then annually

SOAKAWAYS		
Regular maintenance	Inspect for sediment and debris in pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings Cleaning of gutters and any filters on downpipes Trimming any roots that may be causing blockages	Annually Annually (or as required based on inspections) Annually (or as required)
Occasional maintenance	Remove sediment and debris from pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	As required, based on inspections
Remedial actions	Reconstruct soakaway and/or replace or clean void fill, if performance deteriorates or failure occurs Replacement of clogged geotextile (will require reconstruction of soakaway)	As required As required
Monitoring	Inspect silt traps and note rate of sediment accumulation Check soakaway to ensure emptying is occurring	Monthly in the first year then annually Annually

FOUL WATER

THERE ARE NO MAINS SEWERS OR WATERCOURSES LOCATED CLOSE TO THE SITE. THEREFORE A NON MAINS SOLUTION FOR FOUL DISCHARGE IS REQUIRED. THE PROPOSAL HAS THE FOLLOWING POPULATION EQUIVALENT IN LINE WITH BRITISH STANDARD FLOWS AND LOADS 4:

1 X 4 BEDROOM DWELLING ALLOW 6 PEOPLE (PE) @ 150/hd/day PER PERSON

DU TO RAPID PERCOLATION ($V_p = 12.40\text{ s/mm}$) THE DRAINAGE FIELD HAS BEEN DESIGNED USING A RATE OF 15s/mm AND IT IS PROPOSED THAT A 700mm DEEP BED OF WASHED SAND BE PLACED BENEATH THE TYPICAL INFILTRATION TRENCH CONSTRUCTION

THE TOTAL LENGTH OF SOAKAWAY TRENCH REQUIRED TO SERVE THE PROPOSED DEVELOPMENT WAS CALCULATED AS FOLLOWS (WHERE PE = POPULATION EQUIVALENT AND VP = PERCOLATION VALUE).

$$A = VP \times PE \times 0.2$$

$$A = 15.00 \times 6 \times 0.2$$

$$= 18 \text{ m}^2$$

OR $18 \text{ m}^2 / 0.9 = 20 \text{ LINEAR METRES OF } 900\text{mm WIDE TRENCH}$

A PACKAGE TREATMENT PLANT SUCH AS A WPL DMS2 OR SIMILAR WOULD BE SUITABLE.

THE TREATMENT PLANT SHALL BE SITED A MINIMUM OF 7m FROM ANY DWELLING.

PLEASE NOTE DUE TO RAPID PERCOLATION RATES, AN ENVIRONMENTAL PERMIT FROM THE ENVIRONMENT AGENCY WILL BE REQUIRED.

THE DRAINAGE FIELD AS PROPOSED DOES NOT ACHIEVE 15m CLEARANCE FROM THE PROPOSED BUILDING BUT DOES ACHIEVE IN EXCESS 7m CLEARANCE. WHILST THIS DOES NOT COMPLY WITH THE GUIDANCE 'CONTAINED WITHIN BUILDING REGULATIONS IT DOES ACHIEVE THE REQUIREMENT' THAT IT IS NOT PREJUDICIAL TO THE HEALTH OF ANY PERSON.

THIS IS DEMONSTRATED BY COMPLIANCE WITH THE MINIMUM 7m CLEARANCE SPECIFIED WITHIN BS 6297:2007 TABLE 2 - AS COPIED TO THE RIGHT.

SURFACE WATER

VP PERCOLATION TESTS WERE UNDERTAKEN AND CONVERTED TO Q RATES TO DETERMINE WHETHER THE IMPERMEABLE AREAS CREATED BY THE PROPOSED DEVELOPMENT COULD BE DRAINED BY INFILTRATION. PERCOLATION TESTS SHOWED THAT INFILTRATION COULD BE USED AS A MEANS TO DISPOSE OF SURFACE WATER. A RATE OF 0.096m/hr HAS BEEN USED FOR THE CALCULATION.

THE PROPOSED DRAINAGE LAYOUT IN THIS DRAWING SHOWS THE PROPOSED LAYOUT OF THE SURFACE WATER INFILTRATION SYSTEM AT THE SITE.

MICRO-DRAINAGE SOFTWARE HAS BEEN USED TO SIZE THE STORAGE REQUIRED TO DRAIN THE IMPERMEABLE AREAS FROM THE PROPOSED DEVELOPMENT. THIS CALCULATION IS BASED ON MODULAR INFILTRATION UNITS WITH A 95% VOID RATIO TO ACCOMMODATE THE WORST CASE DESIGN STORM (100-YEAR) WITH RAINFALL INTENSITIES INCREASED BY 50% TO ALLOW FOR THE EFFECTS OF CLIMATE CHANGE AS REQUIRED BY THE LOCAL DRAINAGE GUIDANCE FOR THIS AREA.

FUTURE MANAGEMENT PLAN & MAINTENANCE OF THE SYSTEM

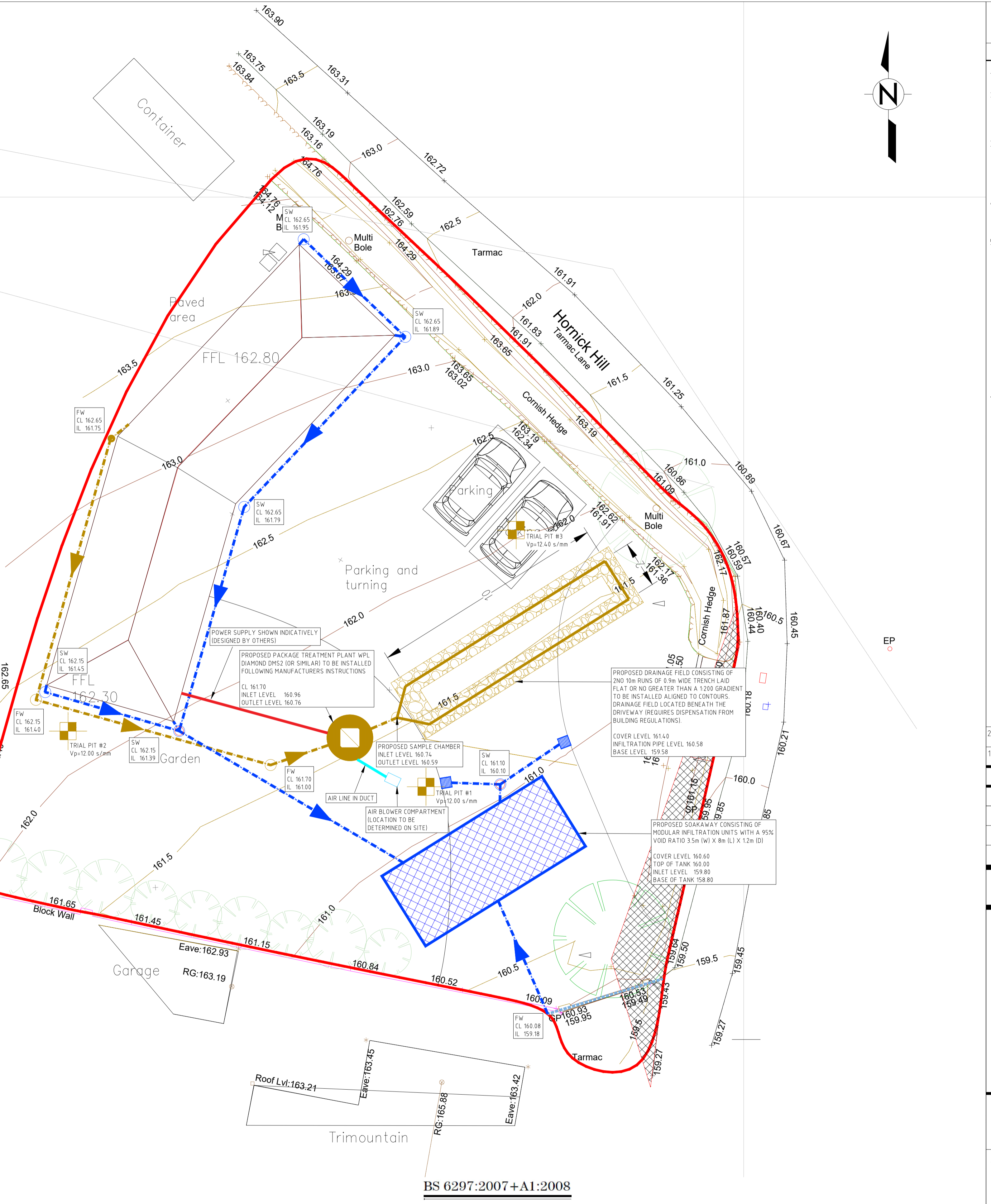
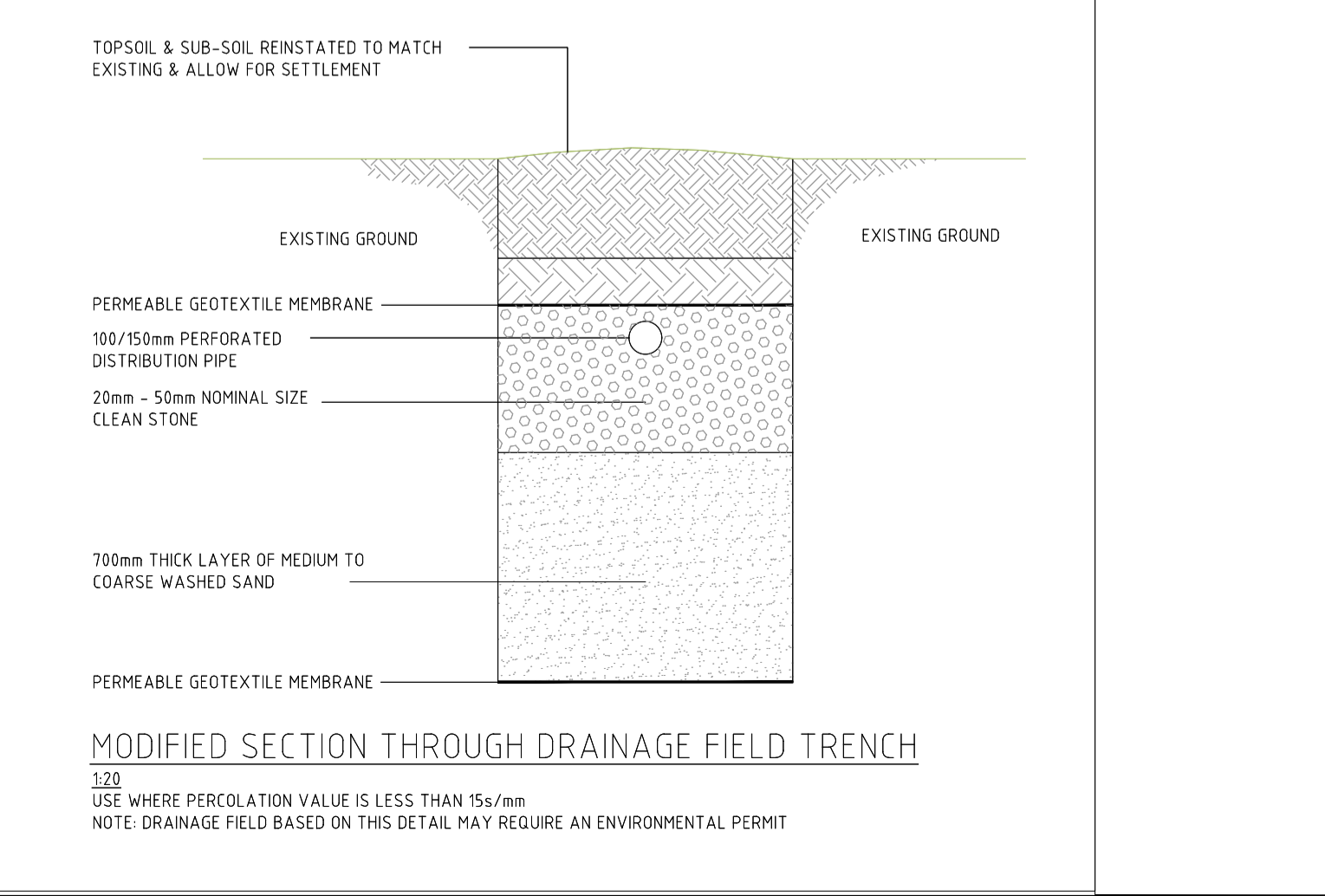
THE PROPOSED SURFACE WATER SYSTEM WILL REMAIN PRIVATE AND WILL BE OPERATED AND MAINTAINED BY THE SITE OWNER.

REGULAR INSPECTION AND CLEANING OF THE DRAINAGE INFRASTRUCTURE INCLUDING GUTTERING, DOWN-PIPE/GULLY NETWORKS SHOULD BE CARRIED OUT FREQUENTLY TO PREVENT BUILD-UP OF SILT AND DEBRIS, WHICH WILL REDUCE THE SYSTEM CONVEYANCE CAPACITY. VISUAL INSPECTION SHOULD IDEALLY BE CARRIED OUT AFTER ANY HEAVY RAINFALL EVENT DURING THE FIRST YEAR OF OPERATION, THEN SIX-MONTHLY AFTER THAT. PARTICULAR ATTENTION SHOULD BE PAID DURING THE AUTUMN MONTHS WHEN LEAF LITTER AND OTHER DEAD PLANT MATERIAL MAY CAUSE OBSTRUCTION.

INSPECTION OF UPSTREAM CATCH-PITS, UPSTREAM GULLIES AND PIPEWORK TO INCLUDE REMOVAL OF DEBRIS SHOULD BE UNDERTAKEN AS NECESSARY. OPTIONAL CCTV INSPECTION AND DE-SILT SHOULD BE UNDERTAKEN IF REQUIRED ON A TEN-YEARLY BASIS.

ROUTINE INSPECTION OF THE ATTENUATION TANK AND DRAINAGE FIELD SHOULD OCCUR TO ENSURE THAT IT REMAINS EFFICIENT. SILT REMOVAL MAY BE NEEDED FROM TIME TO TIME.

ANY ISSUES OR FAILURES IDENTIFIED WITH THE SYSTEM SHOULD BE RECTIFIED IMMEDIATELY BY A SUITABLE CONTRACTOR, OBSERVING SUITABLE WORKING PRACTICES AND FOLLOWING THE GUIDANCE AND PROCEDURES AS IDENTIFIED IN THE MAINTENANCE TABLES TO THE RIGHT.



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NOTES	
1.	This drawing is copyright. Refer to details above.
2.	This drawing is only to be used for the purposes described in the status box below. Work to figured dimensions only, do not scale for construction purposes.
3.	This drawing is to be read in conjunction with all other drawings, details and specifications pertaining to the work described. It should only be used for the purpose marked in the status box below, and shall not be used for construction unless clearly marked CONSTRUCTION.
4.	Materials and workmanship shall comply to the appropriate British Standards and Codes of Practice unless otherwise stated.
5.	The activities required to construct the work, shown on drawings clearly marked 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.
6.	The contractor is responsible for locating services prior to excavation. Any services shown on the drawing should be considered 'indicative' only. Where no services are shown on the drawing it does not necessarily mean there are no services present, only that a services search has not been undertaken. Where in doubt refer to HSE booklet "avoiding danger from underground services"
7.	Design Risk Assessment
	A risk assessment relating to potential hazards associated with the works described within this drawing, in so far as they have been designed by EDS Ltd, has been undertaken. Risks identified have been eliminated by design wherever practicable. The status with regard to residual risks is as follows:
	The work is of low complexity with low level of risk, it is considered that there are no significant residual risks that would not be readily foreseeable by a competent contractor, observing good working practices.
	Designer - EDS Drawing revision - B Date - 25/09/23

DATE	DRWN	CHKD	REV	NOTES
25/09/23	LT	BD	B	REVISED LAYOUT
15/08/23	LT	AW	A	DRAFT ISSUE
PROJECT MANAGER-				JAN CLARK
PROJECT ENGINEER-				LEILA THOMPSON
DRAWN DATE-				SEPTEMBER 2023
SCALE & SHEET SIZE-				1:100 @ A1

PRELIMINARY

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CLIENT MRS WENDY JAMES		
PROJECT NEW DWELLING AND ASSOCIATED WORKS AT LAND SOUTH OF WYNROE, HORNICK HILL, ST AUSTELL		
DRAWING TITLE SURFACE AND FOUL WATER DRAINAGE DESIGN		
PROJECT No. J-3126	DRAWING No. 3001	REV. B

Table 2 Features influencing the location of wastewater treatment equipment, drainage fields for a single dwelling, good practice and guidelines

Item	Good practice
Habitable buildings	Position as far away as is practical, consider prevailing wind direction. Recommended minimum: 7 m.