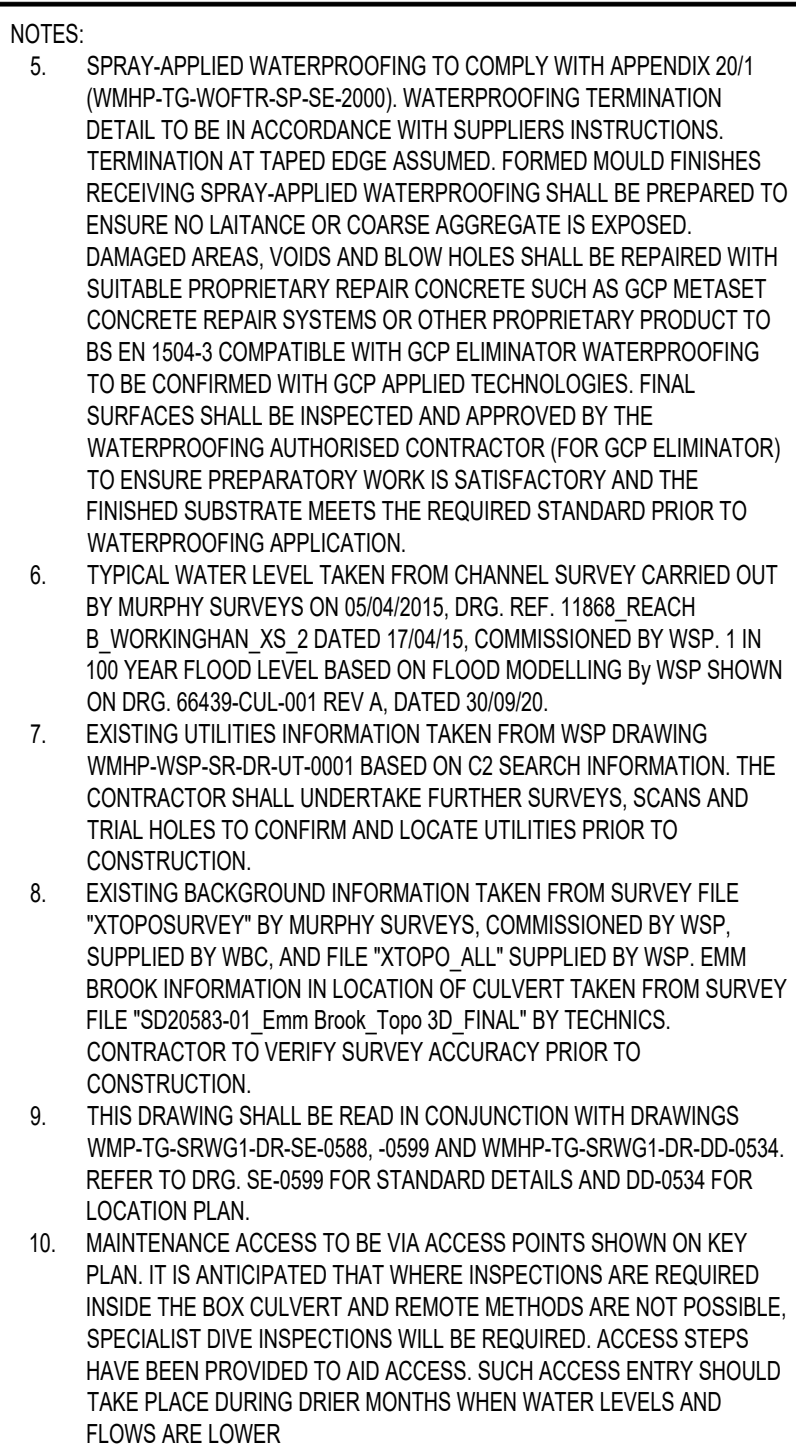
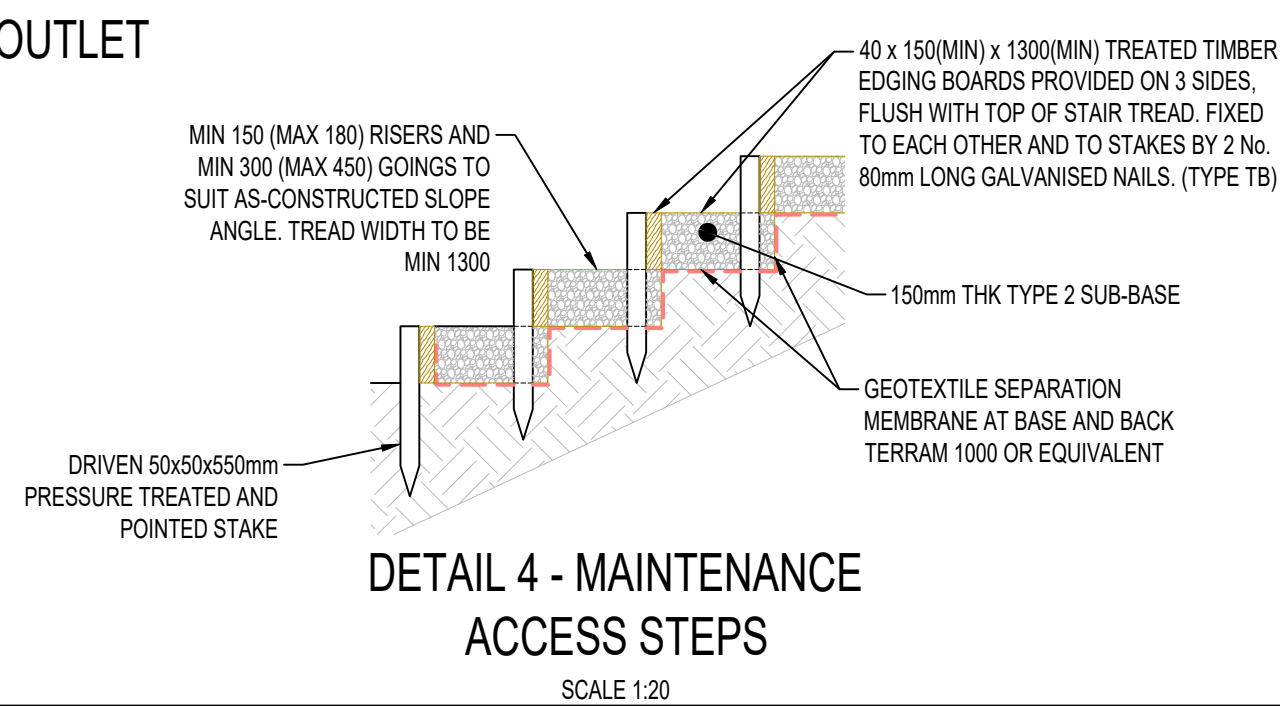
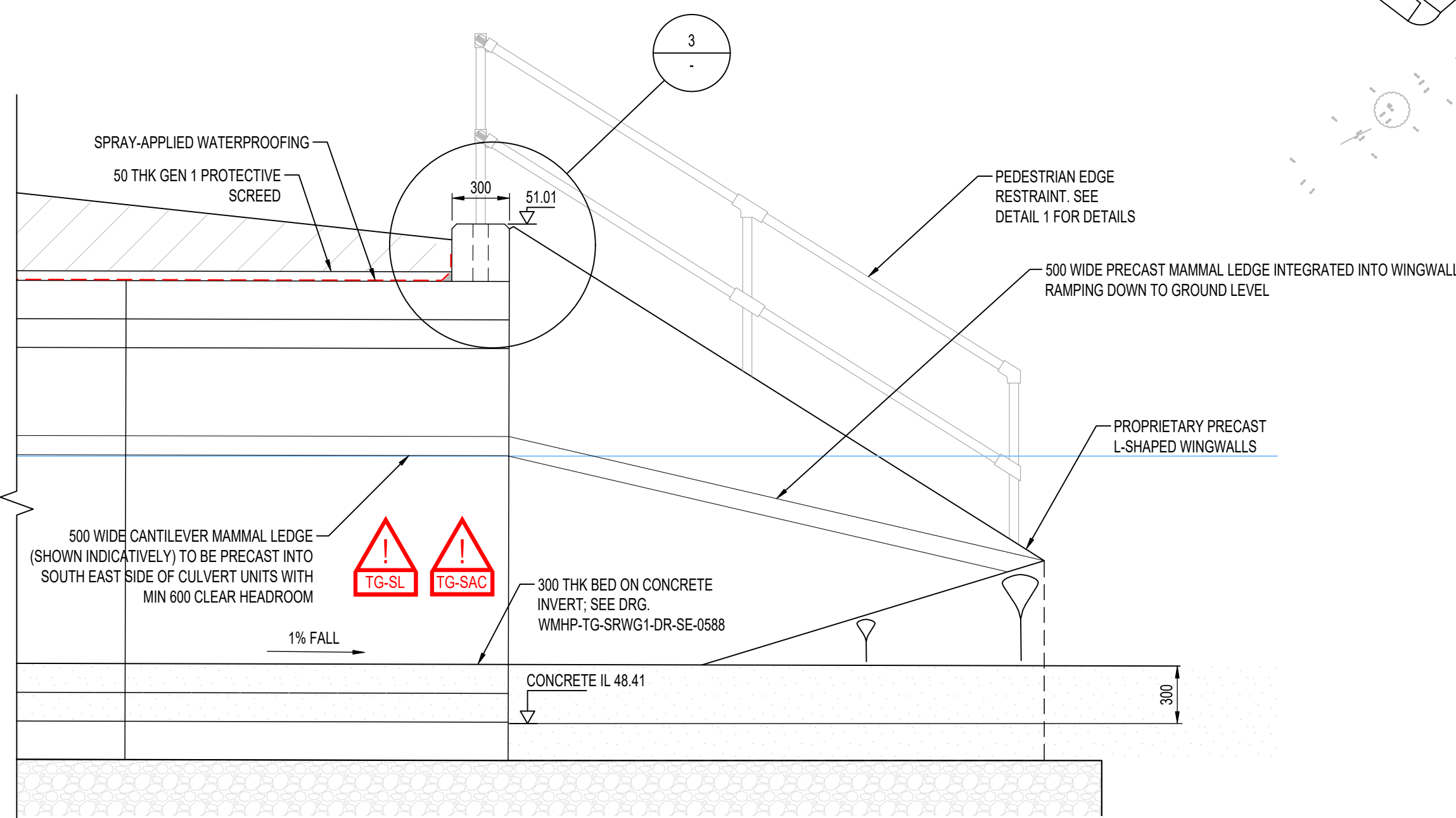
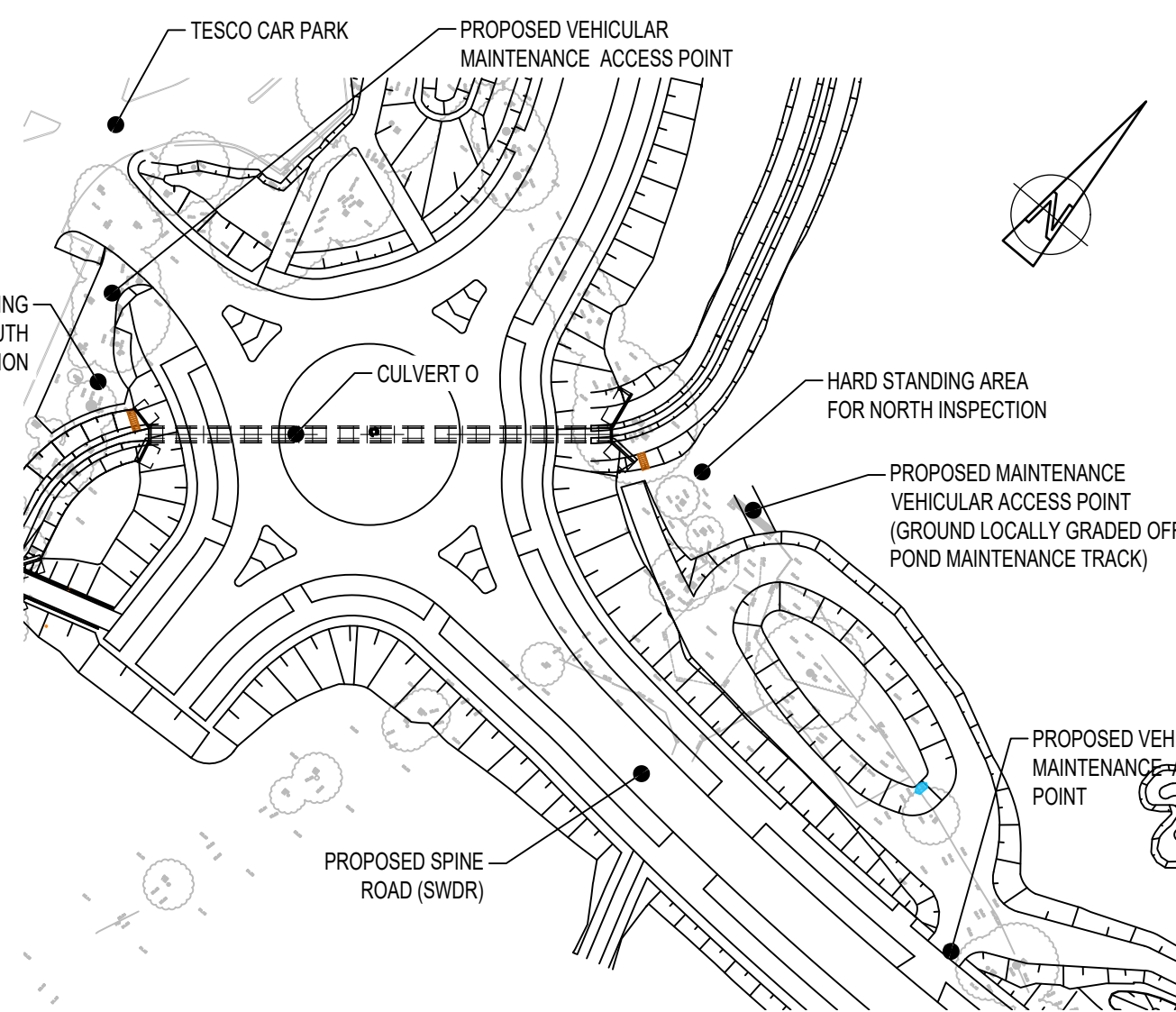




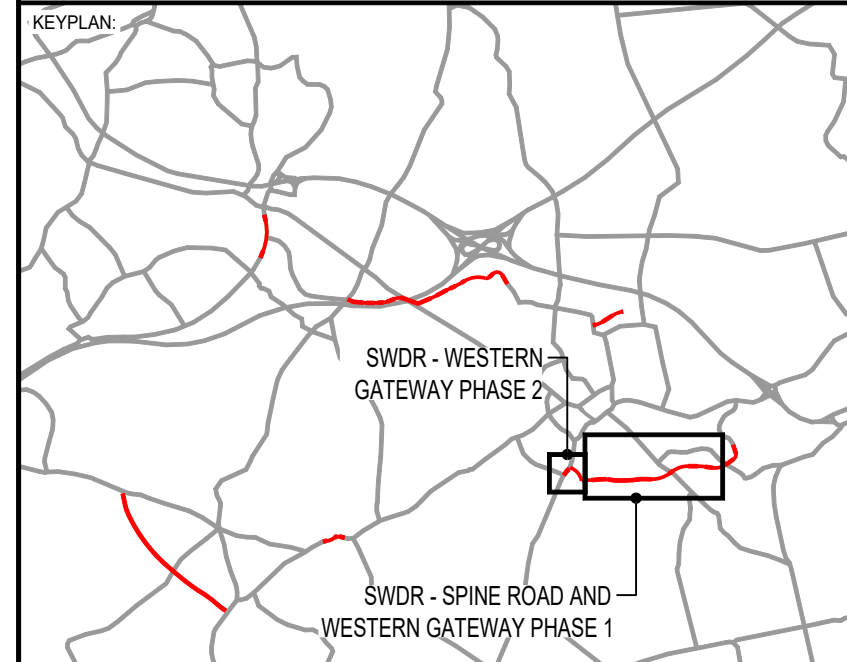
DO NOT SCALE

NOTES:	
1.	ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2.	ALL LEVELS ARE IN METRES AD UNLESS NOTED OTHERWISE.
3.	(a) CULVERT UNITS TO BE C-E-MARKED TO BS EN 14844 WITH SPIGOT AND SOCKET JOINING BETWEEN UNITS. PRECAST WINGWALL UNITS TO BE C-E-MARKED TO BS EN 12528. UNITS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DESIGN SHALL BE IN ACCORDANCE WITH THIS DRAWING AND DGRS. WMHP-C-DR-SRWGI-DR-SE-0589 AND -0599. (b) ALL PRECAST ELEMENTS TO HAVE A MIN COMPRESSIVE STRENGTH OF C40.50. ALL FACES TO BE DESIGNED FOR EXPOSURE CLASSES XC34, XD3 AND XF3. CONCRETE MIXES TO BE IN ACCORDANCE WITH MCHW VOL.1 SPECIFICATION FOR HIGHWAY WORKS, SERIES 1700 AND BS EN 13369. (c) ALL FINISHES TO BE IN ACCORDANCE WITH BS EN 13369. UNIFORMED SURFACES TO HAVE A U1 FINISH. FORMED SURFACES TO HAVE A F3 FINISH. SEE 5 FOR U4 FINISH TO FACES RECEIVING SPRAY-APPLIED WATERPROOFING. (d) ALL BURRED SURFACES TO HAVE TWO COATS OF CUT-BACK BITUMEN WATERPROOFING OR EQUIVALENT TO SHW CLAUSE 2004. FOR INTERFACE WITH SPRAY-APPLIED WATERPROOFING, SEE DETAILS ON DGR. -0599. (e) ALL PRECAST CONCRETE EDGES TO HAVE 25 x 25 CHAMFERS UNLESS NOTED OTHERWISE. (f) PRECAST BOX CULVERT UNITS TO BE DESIGNED FOR LM1 + LM3 SV 80, SV 100 IN ACCORDANCE WITH BS EN 1991-2, THE UK N A TO BS EN 1992-1 AND PD 6694-1 WITH COVER DEPTHS AS SHOWN IN SECTION A-A ON DGR -0587. WINGWALLS TO BE DESIGNED FOR RETAINED HEIGHTS SHOWN PLUS MIN 50mm SURCHARGE LOADING ON TOP AND FULL WATER PRESSURE BEHIND. MIN $\phi = 35^\circ$ FOR CLASS B BACKFILL. 4. FORMATION LEVEL TO BE INSPECTED AND ANY SOFT AREAS (WHERE UNDRAINED SHEAR STRENGTH $C_u < 10$ kPa) TESTED IN ACCORDANCE WITH EARTHWORKS SPECIFICATION WMHP-T-SRWGI-SP-GE-0801 WITH HAND SHAKE VANE TESTING. SOFT AREAS TO BE DUG AND REPLACED WITH MIN 300 THICK CLASS 6A SELF-COMPACTING GRANULAR FILL WHERE WORKING IN GROUND WATER. OTHERWISE CLASS 6B GRANULAR FILL TO EARTHWORKS SPECIFICATION WMHP-T-SRWGI-SP-GE-0601 GENERALLY. THIS IS TO BE OVERLAIN BY 300 THICK CLASS 6B BEDDING UNDERMIN CULVERT AND WINGWALLS.



SIGNIFICANT RESIDUAL HAZARDS		
RESIDUAL HAZARD	STAGE	SUGGESTED CONTROL MEASURE
PLACING FILL INSIDE CULVERT- CONFINED SPACE 	C	CONTRACTOR TO PLACE FILL SEGMENTALLY AS THE CULVERT UNITS ARE PLACED.
UNEXPLODED ORDNANCE 	C	"LOW RISK" CATEGORY IDENTIFIED BY "1ST LINE DEFENCE" DESK STUDY RA. UXO RISK MANAGEMENT PLAN AND SITE SPECIFIC UXO AWARENESS BRIEFINGS TO BE GIVEN TO ALL PERSONNEL. CONDUCTING INTRUSIVE WORKS
POSSIBLE PRESENCE OF BURIED SERVICES 	C	SEARCH RESULTS HAVE INDICATED NO SERVICES IN CULVERT LOCATION (SEE NOTE 7). HOWEVER, CONTRACTOR TO CONFIRM VIA LATEST STATUTORY UNDERTAKERS' SEARCHES AND SCAN AREA PRIOR TO CONSTRUCTION.
ENCOUNTERING GROUND WATER IN EXCAVATION 	C/D	CONTRACTOR TO IMPLEMENT SUITABLE WATER MANAGEMENT AS NECESSARY.
UNBALANCED BACKFILL TO CULVERT WALLS CAUSING CULVERT INSTABILITY 	C/D	BACKFILL CULVERTS IN UNIFORM AND BALANCED MANNER, WITH NO MORE THAN 200mm LEVEL DIFFERENCE BETWEEN THE 2 OPPOSING WALLS. ENSURE THE SAME PLAN EXTENT / WIDTH OF FILL ON BOTH WALLS IN DIRECTION PARALLEL TO WALLS AND PLAN WIDTHS ARE ALIGNED IN DIRECTION PERPENDICULAR TO WALL FACE.
ACCESS INSIDE BOX CULVERTS FOR INSPECTION / MAINTENANCE 	M	INSPECTIONS TO BE CARRIED OUT FROM OUTSIDE OF THE CULVERT OR USING REMOTE METHODS WHEREVER POSSIBLE. WHERE ACCESS INTO THE CULVERT IS REQUIRED, WORKS ARE TO BE CARRIED OUT BY OPERATIVES SUITABLY TRAINED AND EQUIPPED TO WORK IN WATER, E.G. DIVING PERSONNEL. SEE NOTE 10

NOTE: The above hazards do not include every hazard or assumption, but identify significant residual construction hazards that are not likely to be obvious to a competent contractor and those that could be difficult to manage effectively. Refer also to the designer's risk documentation.



0	0	0	0	0	0
0	0	0	0	0	0
P05	13/06/2025	NL	UPDATED TO ADDRESS PLANNING COMMENTS		WA KL
REV	DATE	BY	DESCRIPTION		CHK APP

SUITABLE FOR APPROVAL S5

DESIGNER:



Tony Gee
Consulting Civil, Structural and Geotechnical Engineers

Tony Gee and Partners LLP
Hardy House
140 High Street
Esher, Surrey
KT10 9QJ
Tel: 01372 461600

www.tonygee.com

CLIENT:



**WOKINGHAM
BOROUGH COUNCIL**

Shute End, Wokingham, Berkshire RG40 1BN
Tel: (0118) 974 6000 Web: www.wokingham.gov.uk

PROJECT: SPINE ROAD AND WESTERN GATEWAY PHASE 1

TITLE: CULVERT O - LUCKLEY BROOK
STRUCTURE REFERENCE: 3109
GENERAL ARRANGEMENT

SCALE @ A1: AS SHOWN		CHECKED:	KL	APPROVED:	CMF
PROJECT NO: C118047	DESIGNED: WA	DRAWN: TCH	DATE:	Aug 21	
DRAWING No: WMHP-TG-SRWG1-DR-SE-0587					REV: P05