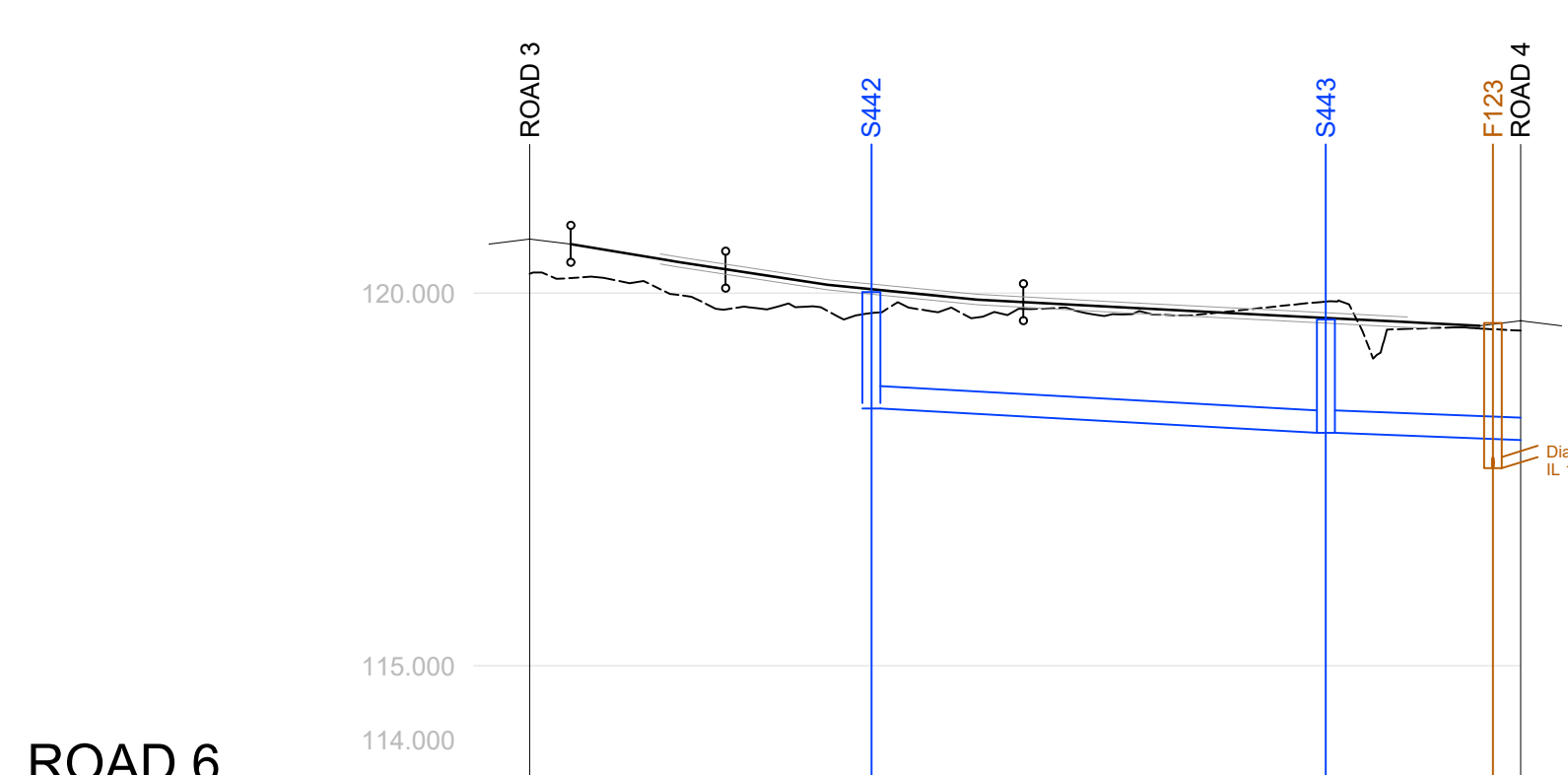
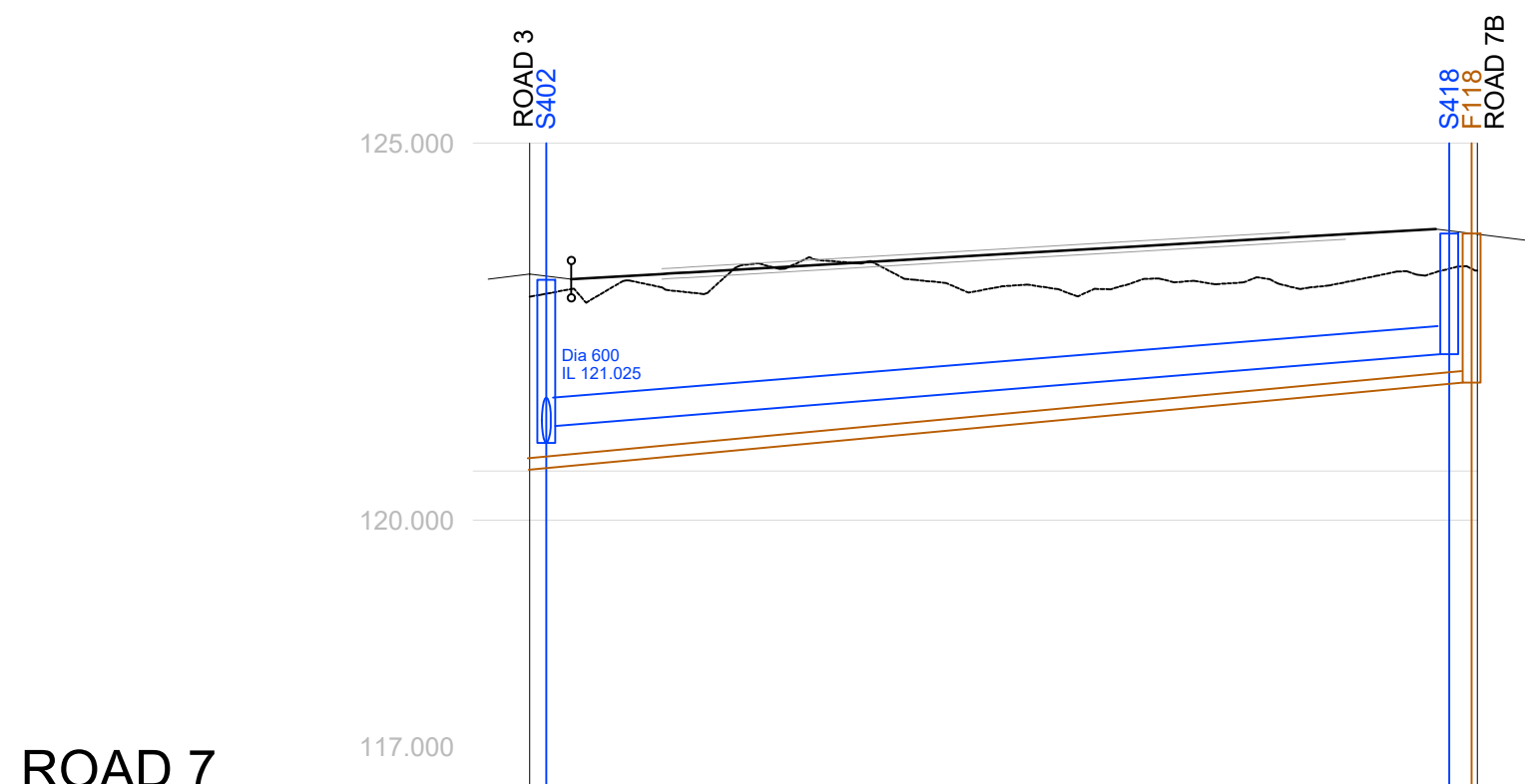
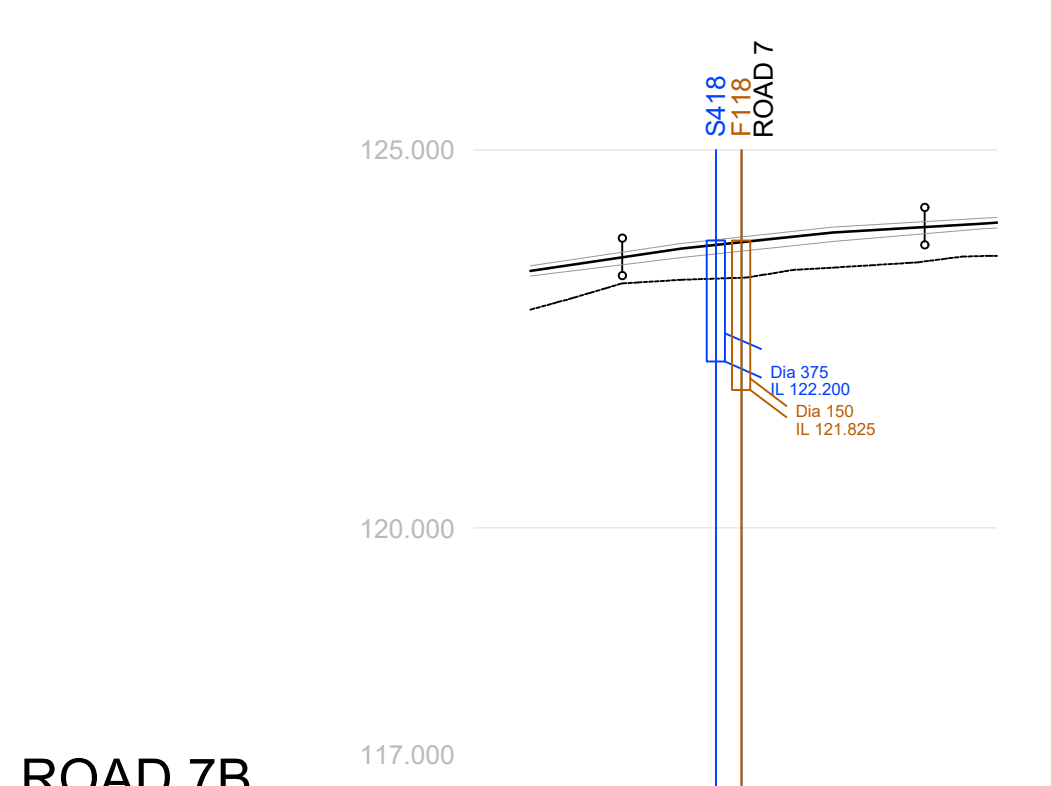




EXISTING GROUND LEVEL	120.286	118.973	119.756	119.872	119.810	119.597	119.695
LEFT HAND CHANNEL		120.456	120.526	120.485	120.388	120.347	120.416
CENTRE LINE		120.416	120.456	120.416	120.388	120.347	120.416
RIGHT HAND CHANNEL		120.416	120.456	120.416	120.388	120.347	120.416
ALIGNMENT LEVEL	120.084	120.416	120.456	120.416	120.388	120.347	120.416
HORIZONTAL ALIGNMENT		R=12.750			R=12.750		
VERTICAL ALIGNMENT		G=-3.333% 1:-30.0	R=868.490 L=20.000	G=-1.030% 1:-97.1			
CROSSFALLS		LH=-2.50%					
CHAINAGE	0.000	2.750	8.750	10.000	12.447	13.125	20.000
STORMWATER COVER LEVEL	120.014	118.845	118.125	118.000	117.974	117.974	118.000
STORMWATER INVERT		Pipe 6.000 Dia 300 Circular HDPE 1 in 132 30.367 Bedding TYPE S	Pipe 6.001 Dia 300 Circular HDPE 1 in 132 30.367 Bedding TYPE S				
FOULWATER COVER LEVEL							
FOULWATER INVERT							



EXISTING GROUND LEVEL	122.863	123.032	123.032	123.032	123.032	123.032	123.032
LEFT HAND CHANNEL		123.032	123.032	123.032	123.032	123.032	123.032
CENTRE LINE		123.032	123.032	123.032	123.032	123.032	123.032
RIGHT HAND CHANNEL		123.032	123.032	123.032	123.032	123.032	123.032
ALIGNMENT LEVEL	123.195	123.270	123.270	123.270	123.270	123.270	123.270
HORIZONTAL ALIGNMENT							
VERTICAL ALIGNMENT		G=1.164% 1: 85.9					
CROSSFALLS		RH=-2.50%					
CHAINAGE	0.000	2.750	8.750	10.000	12.447	13.125	20.000
STORMWATER COVER LEVEL	123.182	123.220	123.220	123.220	123.220	123.220	123.220
STORMWATER INVERT		Pipe 2.000 Dia 375 Circular CONC 1 in 63 60.158 Bedding TYPE S					
FOULWATER COVER LEVEL							
FOULWATER INVERT		Pipe 2.000 Dia 375 Circular CONC 1 in 63 60.158 Bedding TYPE S					



EXISTING GROUND LEVEL	122.887	123.331	123.262	123.443	123.443	123.443	123.443
LEFT HAND CHANNEL		123.443	123.443	123.443	123.443	123.443	123.443
CENTRE LINE		123.443	123.443	123.443	123.443	123.443	123.443
RIGHT HAND CHANNEL		123.443	123.443	123.443	123.443	123.443	123.443
ALIGNMENT LEVEL	123.400	123.400	123.400	123.400	123.400	123.400	123.400
HORIZONTAL ALIGNMENT		R=18.250		R=40.750			
VERTICAL ALIGNMENT		G=3.041% 1: 32.9	L=20.000 R=-979.969	G=1.000% 1: 100.0			
CROSSFALLS		RH=-2.50%					
CHAINAGE	0.000	1.784	6.083	7.106	13.983	13.983	20.000
STORMWATER COVER LEVEL	123.860	123.860	123.860	123.860	123.860	123.860	123.860
STORMWATER INVERT							
FOULWATER COVER LEVEL							
FOULWATER INVERT							

RISK ASSESSMENT

EXISTING SERVICES:

OPEN FIELD AREAS OVERHEAD SERVICES PRESENT - CLIENT TO PROVIDE INFORMATION FOR ANY EXISTING, INCLUDING OVERHEAD SERVICES.

EXISTING DOMESTIC SERVICES TO EXISTING FARMS IN CENTRE AND EASTERN BOUNDARY

THE POTENTIAL AREA FOR CONFLICT IS THE CONSTRUCTION OF THE ROAD ACCESS AND OUTFALL SEWERS WHICH MAY INTERFERE WITH UTILITY PIPES: RISK OF ELECTROCUTION, RISK OF EXPOSURE, RISK OF FLOOD, ALSO HIGHWAY AND RESIDENTIAL ACCESS FOR WESTFIELD FARM AND TRACK, OUTFALL SEWER WILL NEED TO CROSS A47, TRAFFIC MANAGEMENT AND EXISTING SERVICES TO BE CONSIDERED.

EXISTING GROUND CONDITIONS:

SITE INVESTIGATION

SOFT TOPSOIL 0.2M-0.4M

In general, the intrusive investigation has confirmed the geology comprising variable granular and cohesive materials interpreted as drift deposits across the site. Granular drift deposits were encountered centrally and in particular centrally in the south that could be interpreted as the Weston Sand and Gravel. Further to this, granular materials were locally encountered in the north-east that could be interpreted as the Dunmore Gravel. However, the drift deposits were found to be variable in nature. Due to the difficulties in interpreting the materials encountered, all drift deposits have been interpreted as the Weston Glacialic Formation. Please see report for details.

FROM REPORT - ASL Report No. 092-24-087-10

FURTHER TO THIS, COLLAPSE WAS RECORDED AT SEVERAL TRIAL HOLES AND WAS TYPICALLY RECORDED IN ASSOCIATION WITH GRANULAR MATERIALS AND THE PRESENCE OF GROUNDWATER. THE FINDINGS OF THE INVESTIGATION HAVE LOCALLY SHOWN THE SHALLOW GROUND CONDITIONS TO BE SUBJECT TO SPALLING AND COLLAPSE, PARTICULARLY IN ASSOCIATION WITH GRANULAR MATERIALS AND GROUNDWATER INFLOWS.

SHALLOW EXCAVATIONS SHOULD REMAIN STABLE IN THE SHORT TERM HOWEVER, DEEPER EXCAVATIONS MAY BE PRONE TO COLLAPSE, PARTICULARLY IN ASSOCIATION WITH INFLOWS OF WATER WITH GRANULAR SOILS. CONSEQUENTLY, TEMPORARY SUPPORT SHOULD BE CONSIDERED FOR ALL EXCAVATIONS WHERE COLLAPSE IS TO BE AVOIDED, PARTICULARLY WHERE EXCAVATIONS EXTEND BEYOND 1.30 M IN DEPTH. IN ACCORDANCE WITH CURRENT HEALTH AND SAFETY REGULATIONS, WHERE NECESSARY, TEMPORARY SHORING SHOULD BE PROVIDED FOR ANY EXCAVATION WHERE MAN ENTRY IS NECESSARY, IN COMPLIANCE WITH STATUTORY REQUIREMENTS, TO ENSURE SAFE WORKING CONDITIONS.

GROUND WATER - DURING THE INTRUSIVE INVESTIGATION, GROUNDWATER WAS RECORDED AT APPROXIMATELY HALF OF THE EXPLORATORY LOCATIONS AT DEPTHS OF APPROXIMATELY 0.8M AND 1.1M BGL. GROUNDWATER WAS TYPICALLY RECORDED IN ASSOCIATION WITH GRANULAR MATERIALS OR GRANULAR POCKETS WITHIN TYPICALLY COHESIVE MATERIALS. DURING THE SUBSEQUENT MONITORING PROGRAMME, GROUNDWATER WAS RECORDED AT ALL OF THE MONITORING INSTALLATIONS AT DEPTHS BETWEEN APPROXIMATELY 0.4M AND 1.6M BGL. AT WS16 AND WS162 RESPECTIVELY.

PERCHED WATER - Not known

RISK TO EXISTING STRUCTURES - NO KNOWN STRUCTURES WITHIN THE DEVELOPMENT SITE. ADDITIONAL RISKS - THE SITE HAS MANY LARGE MATURE HEDGEROWS AND SOME TREES ON THE BOUNDARIES WHICH COULD FORM POTENTIAL FALL HAZARDS IF THEIR ROOT SYSTEMS ARE INTERFERED WITH OR EXCAVATIONS REMOVE GROUND SUPPORT.

SEWERS / DRAINS - PUBLIC SEWERS EXIST IN THE ADJACENT ROAD ADJACENT TO THE SITE. SOME LOCAL LAND DRAINAGE MAY BE ENCOUNTERED AND THERE ARE EXISTING SEWERS IN NORMANDY WAY. THE SITE IS CROSSED BY EXISTING LAND DRAINS. HIGHWAYS - THERE IS ONE ACCESS POINT FOR THE SITE, A PROPOSED NEW S278 ROUNDABOUT ON NORMANDY WAY.

TOPOGRAPHY - THE SITE FALLS FROM EAST TO WEST.

FALL RISKS - THOSE DETAILED BELOW

RISK TO EXISTING STRUCTURES - NO KNOWN STRUCTURES WITHIN THE DEVELOPMENT SITE. ADDITIONAL RISKS - THE SITE HAS MANY LARGE MATURE HEDGEROWS AND SOME TREES ON THE BOUNDARIES WHICH COULD FORM POTENTIAL FALL HAZARDS IF THEIR ROOT SYSTEMS ARE INTERFERED WITH OR EXCAVATIONS REMOVE GROUND SUPPORT.

THE MAIN WATERCOURSE RUNS THROUGH THE SITE FROM SOUTH TO NORTH WITH ASSOCIATED DITCH COURSES AND THE RISK OF FALLS THERETO.

IDENTIFIED UNAVOIDABLE HAZARDS OR WORK SEQUENCES:

CONTACT WITH LIVE UTILITY SERVICES DURING ACCESS CONSTRUCTION AND OUTFALL SEWER CONSTRUCTION.

PLANT AND DELIVERY MOVEMENTS ON SITE AND WITHIN CONSTRAINED SITE ACCESS AREA.

THE TRAFFIC LEVEL ON THE ADJACENT ROADS SIGNIFICANTLY NORMANDY WAY, AND THE EXTENT TO WHICH TURNING CONSTRUCTION PLANT MAY CAUSE INCREASED ACCIDENT POTENTIAL.

ADVERSE TOPOGRAPHY - RISKS TO PLANT AND MATERIAL STABILITY GENERAL 1:15 GRADIENT.

WATER INGRESS INTO EXCAVATIONS FROM PERCHED LENSES.

TRENCH SUPPORT ADEQUATE TO DEAL WITH EXCAVATIONS THROUGH MADE GROUND AND VARIABLE SOIL PROFILES, ABNORMALLY DEEP FOUL SEWERAGE CONSTRUCTION NEAR TO PUMP STATION.

TRENCH CONTROL REQUIRED TO DEAL WITH WATER BEARING STRATA.

POSSIBLE UNKNOWN BASEMENTS CELLARS TROUGHS OR OTHER UNDERGROUND STRUCTURES. ASSOCIATED WITH FORMER BUILDINGS.

WORKING IN CONFINED SPACES. SPECIFIC RISKS IN ALL TRENCHES - AND ESPECIALLY WITHIN DEEP ON SITE SEWERS INCLUDING THE PUMP STATION WET WELL, AND CONNECTIONS TO EXISTING SEWERS. RISK OF ELEVATED CO₂ RISK OF SUDDEN WATER OR FLOWING SOLIDS OR GASEOUS INGRESS.

WORKING IN PROXIMITY TO OR CROSSING EXISTING STRUCTURES. RISK OF PLANT INSTABILITY AND STRUCTURAL COLLAPSE.

DISEASE AND CONTAMINATION RISK ASSOCIATED WITH CONTACT WITH EXISTING SEWERAGE.

DISEASE RISK ASSOCIATED WITH WORKS ADJACENT TO WATERCOURSES (LEPTOSPIROSIS).

COSHH CONTROL MEASURES REQUIRED FOR ROAD AND SEWERAGE CONSTRUCTION RISK OF BURN, CHEMICAL BURN, CONTAMINATION, DISEASE, ASPHYXIAZATION, POISONING.

- GENERAL NOTES**
- THE CONTRACTOR SHALL CHECK ALL THE INS FOR LINE AND LEVEL WITH EXISTING BEFORE COMMENCING ANY WORKS SHOULD ANY ERRORS BE FOUND, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY IN WRITING. IT IS ESSENTIAL THAT ALL PIPE CONNECTIONS ARE CHECKED FOR LINE, LEVEL AND DIAMETER PRIOR TO COMMENCING WORKS. AS DATA ON THESE PIPES HAS BEEN OBTAINED FROM A VARIETY OF SOURCES WHICH MAY NOT BE NECESSARILY ACCURATE OR COMPLETE.
 - THE DEPICTION OF ANY SERVICE APPARATUS ON THIS DRAWING HAS BEEN OBTAINED FROM THIRD PARTY SOURCES, AND IS NOT NECESSARILY ACCURATE OR COMPLETE. AT NO TIME DOES THE INFERRED POSITION ON THE DRAWING ABSOLUTELY THE CONTRACTOR FROM TAKING ALL NECESSARY STEPS TO LOCATE SERVICE PLANT IN ACCORDANCE WITH THE METHODS SUGGESTED BY THE RELEVANT AUTHORITY. STEPHEN DAYKIN CONSULTING LTD WILL ACCEPT NO CLAIMS WHATSOEVER IN RESPECT OF ANY LOSSES OR DAMAGE CAUSED IN RESPECT OF SUCH APPARATUS, HOWEVER CAUSED.
 - SEWERS TO BE CONSTRUCTED IN ACCORDANCE WITH THE W.S.A PUBLICATION "SEWERS FOR ADOPTION", 6TH EDITION AND COMMON WATER COMPANY ADDENDUM AND STW SPECIFIC ADDENDUM.
 - ALL BURIED CONCRETE PRODUCTS AND MORTAR TO BE MADE USING SULPHATE RESISTING CEMENT.
 - IMPORTED GRANULAR BACKFILL TO SEWER TRENCHES UNDER ROADS WILL BE REQUIRED, AND SHALL BE GS81 OR SIMILAR APPROVED.
 - ALL PIPE BEDS SHALL BE CLASS 5 GRANULAR BED AND SURROUND UNLESS OTHERWISE SPECIFIED. D.B.F. 2.5 ALL MATERIAL FOR GRANULAR BED AND SURROUND SHALL BE SINGLE SIZE ROUNDED GRANULAR MATERIAL.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXECUTE THE WORKS AT ALL TIMES IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE 1974 HEALTH AND SAFETY AT WORK ACT AND THE 2015 CDM REGULATIONS. THE CONTRACTOR WILL BE DEEMED TO HAVE ALLOWED FOR FULL COMPLIANCE WITH THE SAME WITHIN HIS RATES, INCLUDING FULL LIAISON WITH THE PRINCIPAL DESIGNER.
 - THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SATISFACTORY MANNER AND SHALL BE DEEMED TO HAVE INCLUDED FOR THE SAME WITHIN HIS RATES.
 - ALL CONNECTIONS TO PUBLIC OR PROSPECTIVELY PUBLIC SEWERS SHALL BE: A) FOR PIPES UP TO AND INCLUDING 450MM DIA - BY PURPOSE MADE JUNCTIONS, OR B) FOR PIPES EXCEEDING 450MM NOMINAL INTERNAL DIAMETER - BY PURPOSE MADE SADDLES.
 - ALL PIPES TO BE LAID WITH SOFFITS LEVEL.
 - NO DEEP ROOTED TREES OR SHRUBS TO BE PLANTED WITHIN 5M OF A PUBLIC OR PROSPECTIVELY PUBLIC SEWER.
 - ALL SEWERS WITH LESS THAN 1.0M OF COVER SHALL HAVE A FULL CONCRETE BED AND SURROUND OR A PROTECTIVE CONCRETE SLAB SUBJECT TO THE PREFERENCE OF THE WATER COMPANY.
 - THE CONTRACTOR MUST ENSURE THAT THE GRADIENTS INDICATED ON THE LONG SECTIONS ARE CHECKED BETWEEN THE LEVELS SHOWN, PRIOR TO LAYING PIPES. AT NO TIME MUST THE CONTRACTOR PROCEED WITH PIPE LAYING BY GUESSING IN THE GRADIENT SHOWN INTO THE LASER WITHOUT CHECKING ANY DISCREPANCY IN THIS RESPECT MUST BE REPORTED TO THE ENGINEER PRIOR TO PIPE LAYING.
 - IN THE EVENT OF THE ABOVE PROCEDURE NOT BEING FOLLOWED THE CLIENT WILL NOT ACCEPT RESPONSIBILITY WHATSOEVER FOR ANY CONSEQUENTIAL LOSS OR DAMAGES.
- INWL NOTES**
- ALL DRAINAGE OFFERED TO INWL FOR ADOPTION HAS BEEN DESIGNED NOT TO ATTENUATE FLOWS IN EXCESS OF THE 130 YEAR RETURN STORM PERIOD.
 - A SECTION 106 CONNECTION APPLICATION WILL BE SOUGHT AND APPROVED PRIOR TO ANY CONNECTIONS TO THE PUBLIC NETWORK BEING MADE.
 - NO USE OF INFILL COVERS AND FRAMES IN BLOCK PAVED AREAS (SEE 2.6.6 S186 P25).
 - CATCHPITS SHALL NOT BE ADOPED.
 - EASEMENTS AT ANY CHANGE IN WIDTH SHOULD BE 2.5M TO EITHER SIDE OF THE PIPE FOR PIPE SIZE UP TO 300MM DIA AND 5M EACH SIDE OF THE CENTRE PIPELINE FOR PIPES 300MM DIA GREATER.
 - PROTECTIVE CONCRETE COVER SLABS TO BE USED ON PIPES IN NON TRAFFIC AREAS WHICH DO NOT ACHIEVE 0.9M/900MM COVER LEVEL AND 1.2M/1200MM COVER IN TRAFFIC AREA.
 - WHERE PIPES ARE CROSSING, PLASTIC MEMBRANE TO BE USED FOR PROTECTION TO ELIMINATE ANY CHANCES OF CROSS CONTAMINATION.
 - ALL MANHOLE COVERS TO BE 670X700MM COVER AND FRAME TO MAINTAIN A CLEAR 600X600MM CLEAR OPENING, UNLESS OTHERWISE STATED, IN ACCORDANCE WITH BS EN 124 CLASS D400 AND EMBOSSED FW OR SW AS APPROPRIATE, WHERE APPLICABLE.
 - PRECAST CONCRETE MANHOLE RINGS WILL NOT BE CUT UNDER ANY CIRCUMSTANCES. OTHER OPTIONS ARE TO BUILD UP THE MANHOLE WITH CONCRETE OR BRICK WORK TO THE TOP OF THE PIPE.
 - ALL COVERS AND FRAMES TO BE KITEMARKED.
 - PIPES OF DIFFERENT DIAMETERS ENTERING MANHOLES SHOULD BE INSTALLED WITH SOFFITS AT THE SAME LEVEL.
 - THE OUTSIDE OF THE SEWER SHOULD BE IN THE CARRIAGEWAY (NOT THE FOOTWAY) AND BE AT LEAST 1M FROM THE KERB LINE. THE OUTSIDE EDGE OF THE MANHOLE SHOULD BE AT LEAST 0.5M FROM THE KERB LINE.
 - NON DEGRADABLE MARKER TAPE IS TO BE LAID 300MM ABOVE THE TOP OF THE PIPE. RISING MAN SHOULD BE LAID IN STRAIGHT LINES, WHERE BENDS ARE USED, THEY SHOULD BE PERFORMED AND SECURELY ANCHORED WITH THRUST BLOCKS, IF REQUIRED.
- PIPE MATERIAL NOTES**
- ALL ADAPTABLE SEWERS 300MM DIAMETER AND LESS SHALL BE HDPE PIPE SYSTEMS TO BS EN 14018 AND RECORDED IN ACCORDANCE WITH BS EN 12056.
 - ALL CONCRETE PIPES SHALL BE CLASS 120 - TO EN 1916BS 5011-1: 2002. ALL CONCRETE MANHOLES SHALL BE TO BS EN 1917 AND BS5911-3.
 - ALL PIPE BEDDING SHALL BE CLASS 5 COMPLETE GRANULAR SURROUND UNLESS OTHERWISE SPECIFIED. REFER TO SEWER STANDARD CONSTRUCTION DETAILS FOR CONFIRMATION OF ACCEPTABLE AGGREGATE SIZES.
 - ADAPTABLE PLASTIC SEWER PIPES SHOULD BE TO BSI KITEMARKED (CERTIFIED TO WS 4-3541).
 - SHOULD THE CONTRACTOR WISH TO CHANGE ANY MATERIAL, THIS WILL REQUIRE THE APPROVAL FROM THE ADOPTING AUTHORITY IN WRITING AND ANY PROPOSED CHANGE SHOULD SEEK APPROVAL PRIOR TO THE ORDERING OF ANY MATERIALS.

