



RISK ASSESSMENT: SIGNIFICANT RISKS THAT CANNOT BE DESIGNED OUT		
RISK	LEVEL OF RISK	SUGGESTED ACTION
DEEP EXCAVATIONS ASSOCIATED WITH NEW DRAINAGE WORKS	HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS
HANDLING LARGE DIAMETER MANHOLE RINGS AND CIRCULAR PIPES	HIGH	USE CORRECT LIFTING EQUIPMENT AND ENSURE OPERATIVES WEAR APPROPRIATE PROTECTIVE CLOTHING/HARD HATS/CORRECT PPE
CONTACT WITH SEWAGE	MED	OPERATIVES TO USE CORRECT BREATHING EQUIPMENT/CORRECT PPE
NOISE	MED	OPERATIVES TO USE CORRECT EAR PROTECTION/CORRECT PPE
DRAINAGE EXCAVATIONS ADJACENT EXISTING BOUNDARY STRUCTURES	HIGH	ENSURE CORRECT SUPPORTS ARE PROVIDED TO TRENCHES AND BUILDINGS WHERE REQUIRED
DRAINAGE EXCAVATION IN PUBLIC HIGHWAY	HIGH	ENSURE CORRECT USE OF TRENCH SUPPORTS IN EXCAVATION AND SCREEN BARRIERS TO PROTECT MEMBERS OF THE PUBLIC
MAINTAIN ACCESS TO ADJACENT PROPERTIES AND OCCUPIERS	HIGH	ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE MEMBERS OF THE PUBLIC AWAY FROM THE AREA
DRAINAGE EXCAVATIONS NEAR TO EXISTING SERVICES	HIGH	ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE MEMBERS OF THE PUBLIC AWAY FROM THE AREA
DRAINAGE EXCAVATIONS BENEATH EXISTING OVERHEAD POWER LINES	HIGH	ENSURE ALL PLANT IS SELECTED OR MODIFIED SO THAT IT CANNOT REACH THE LINES
WORKING IN CONFINED SPACES, WORKING IN DRAINS AND MANHOLES	HIGH	CONFINED SPACES WORKING TRAINED PERSONNEL ONLY TO CARRY OUT WORKS UNDER A PERMIT TO WORK SCHEME SUPERVISED BY CONTRACTOR / GAS TESTING TO TAKE PLACE BEFORE ALL ENTRIES TO CONFINED SPACES
WORKING IN HIGHWAYS / RISKS FROM VEHICLE AND PLANT	HIGH	ALL WORKS TO BE SIGNED AND FENCED FROM NORMAL VEHICULAR TRAFFIC, ALL WORKERS TO WEAR HIGH VISIBILITY CLOTHING, ALL PLANT TO HAVE VISUAL AND AUDIBLE WARNING SYSTEMS
ROAD AND DRAINAGE CONSTRUCTION	HIGH	ALL EXCAVATIONS TO BE ADEQUATELY FENCED OFF AND SUPPORTED DURING CONSTRUCTION, ALL OPERATIVES TO BE TRAINED IN CORRECT METHODS OF LIFTING AND WORK IN ACCORDANCE WITH LOUIS PRESS
IT IS ASSUMED THAT WORKS ASSOCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON OR PERSONS WHO ARE COMPETANT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE		

NOTES:
a) The shared vehicle crossings to Plots 3,4,5,6,7 & 8 should be the following enhanced crossing construction :-

25mm thick 0/6mm DBM 190 Pen Surface Course Limestone to BS 4987-1:Clause 7.5
75mm thick 0/20mm DBM 190 Pen Binder Course Limestone to BS 4987-1:Clause 6.5
200mm thick Type 1 Sub-base to Specification for Highway Works Clause 803.

1. ALL ADAPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH "SEWERS FOR ADOPTION" 6th EDITION, THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER'S STANDARD/REQUIREMENTS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED. ALL ADAPTABLE SEWERS TO BE BSI KITEMARK (CERTIFIED TO WIS 4-35-01 AND BS EN 13476)
2. MANHOLE COVERS SHALL/MUST HAVE A CLEAR OPENING OF 600mm AND SHALL BE CLASS D400 TO BS EN 124 WITH 150mm DEEP FRAMES IN HIGHWAYS OR CLASS B 125 IN FOOTWAYS, PEDESTRIAN AREAS AND COMPARABLE LOCATIONS.
3. FILLED GROUND MUST BE FILLED AND CONSOLIDATED UNDER THE SUPERVISION AND TO THE SATISFACTION OF YORKSHIRE WATER BEFORE ANY SEWER WORKS ARE CARRIED OUT.
4. YORKSHIRE WATER IS **NOT** OBLIGED TO ACCEPT FILTER DRAIN/LAND DRAINAGE RUNOFF INTO THE PUBLIC SEWER NETWORK OR ADAPTABLE DRAINAGE SYSTEM (DIRECTLY OR INDIRECTLY). AN ALTERNATIVE METHOD OF DISPOSAL OF THE LAND DRAINAGE RUNOFF WILL THEREFORE BE REQUIRED AND YOU WILL HAVE TO LIAISE WITH THE LOCAL AUTHORITY, LAND DRAINAGE SECTION WITH REGARD TO THE DISPOSAL OF THE FILTER DRAIN/LAND DRAINAGE RUNOFF.
5. COVER SLABS MUST CARRY THE BSI KITEMARK OR WILL BE REJECTED BY YORKSHIRE WATER INSPECTOR, WHERE THE CLEAR OPENING OF THE KITEMARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME. A LOADING BEARING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO 600x600mm FOR THE YORKSHIRE WATER SPECIFIED COVER SIZE. PLEASE REFER TO CONCRETE PIPE SYSTEMS ASSOCIATION (CPSA), 'TECHNICAL BULLETIN' ISSUED AUTUMN 2004 FOR KITEMARKED COVER SLAB OPENING SIZES.
6. SULPHATE RESISTANT CEMENT AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
7. THE ADAPTABLE SEWERS SHOULD BE A MINIMUM OF 1m AND MANHOLES 0.5m FROM KERB FACES AND SERVICE MARGINS.
8. SEWERS MUST HAVE 5m CLEARANCE FROM TREES AND HEDGES/PLEASE ALSO REFER TO FIGURE 2.3 ON PAGE 33 IN "SEWERS FOR ADOPTION" 6th EDITION FOR RESTRICTIONS ON TREE PLANTING ADJACENT TO SEWERS).
9. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4-58-02 (TABLE A2).
10. ALL PIPEWORK 300mm DIAM. OR LESS TO BE VITRIFIED CLAY CONFORMING WITH BS 65. MINIMUM CRUSHING STRENGTHS TO BE AS FOLLOWS: 100mm DIA 40kN/m, 150mm DIA 40kN/m, 225mm DIA 45kN/m and 300mm DIA 72kN/m.
11. ALL PIPEWORK 375mm DIAM. OR GREATER TO BE CONCRETE CLASS 120, 54kN/m MINIMUM CRUSHING STRENGTH.
12. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.
13. YORKSHIRE WATER POLICY IS NOT TO ACCEPT TYPE "C" BRICK MANHOLES AND 1050mm DIAM. MANHOLE RINGS. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE "B" MANHOLE WITH 1200mm DIAM. OR 1500mm DIAM. RINGS, WITH THE OPENING SIGHTED OVER THE CHANNEL WHERE DEPTH OF COVER TO PIPE SOFFIT IS 1-1.5m.
14. ALL HIGHWAY WORKS AND MATERIAL TO CONFORM WITH SHEFFIELD CITY COUNCIL SPECIFICATION.
15. GULLY COVER AND FRAMES SHALL BE D400 DUCTILE IRON AND COMPLY WITH EUROPEAN STANDARD BS EN 124. THOSE SIGHTED IN ACCESSWAYS AND MEWS COURTS MUST BE SUITABLE FOR USE IN PEDESTRIAN AREAS.
16. SULPHATE RESISTANT CEMENT(C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
17. ADAPTABLE SEWERS TO BE LAID IN MAXIMUM 3m LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY IN LONGER LENGTHS.
18. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTED BY YORKSHIRE WATER AND CLAYWARE CHANNELS ARE TO BE USED.

IF THE PIPE MATERIAL IS NOT SHOWN ON THE INDIVIDUAL PIPE LENGTH THEN
ALL PIPEWORK 300mm DIAM OR LESS TO BE VITRIFIED CLAY CONFORMING WITH BS 65. MINIMUM CRUSHING STRENGTHS TO BE AS FOLLOWS: 100mm DIA 40kN/m, 150mm DIA 40kN/m, 225mm DIA 45kN/m and 300mm DIA 72kN/m.
ALL PIPEWORK 375mm DIAM OR GREATER TO BE CONCRETE CLASS 120 TO EN 1916 / BS 5911-1 : 2002.
ADAPTABLE SEWERS TO BE LAID IN CLASS 'S' GRANULAR BED & SURROUND.

B	Site layout updated	NJB	28.07.20	PJM
A	S38 - S278 work extents boundary amended	NJB	16.04.20	PJM
Rev	Amendment	Drawn	Date	Checked

PRELIMINARY
DRAWING

sanderson[®]
associates
(consulting engineers) ltd
Highways | Traffic | Transportation | Water
T 01924 844080 mail@sandersonassociates.co.uk
F 01924 844081 www.sandersonassociates.co.uk

Client	YGI LTD		
Project Title	STUD FARM, BARNSELEY LAND OFF SPRING LANE, CARLTON		
Drawing Title	S38 LAYOUT		
Scale	1:250	Drawn By	NJB
Drawing Size	A1	Checked By	PJM
Date	27.03.20	Approved By	PJM
Drawing Number		Rev	B
11444-010			