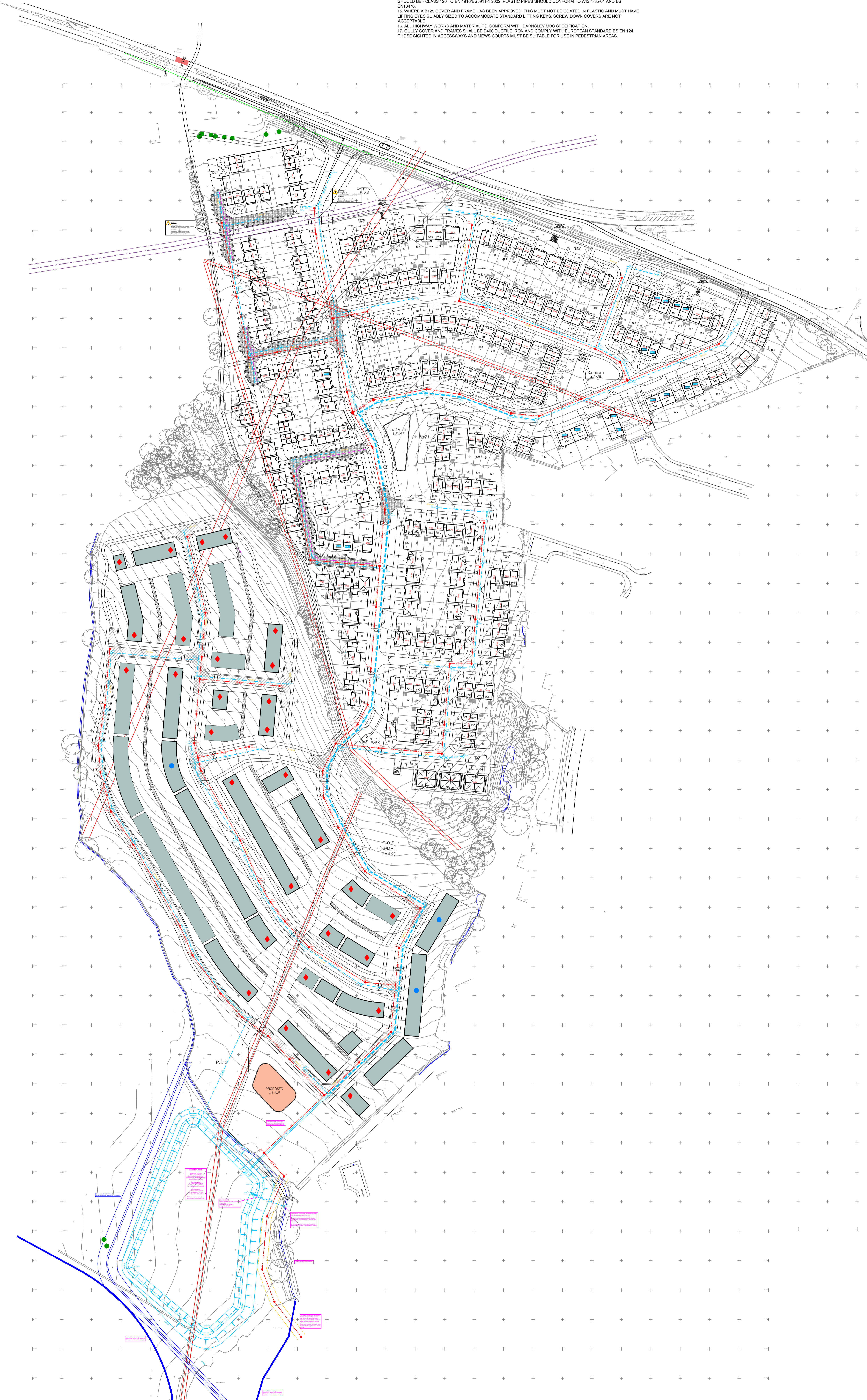


RISK ASSESSMENT	LEVEL OF RISK	SUGGESTED ACTION
DEEP EXCAVATIONS ASSOCIATED WITH ROAD DRAINAGE WORKS	HIGH	SHIELD ALL EXCAVATIONS WITH ADEQUATE FRENCH SUPPORTS
WORKING IN CLOSE PROXIMITY TO EXISTING UTILITY SERVICES	HIGH	USE CORRECT TYPE OF EQUIPMENT AND POSITIVE CONNECTIONS TO EXISTING UTILITY SERVICES. COORDINATE WITH ALL UTILITIES PRIOR TO WORKING.
CONTACT WITH SERVICES	MED	OPERATIVES TO USE CORRECT MARKING EQUIPMENT TO CORRECT PIPES
NOISE	MED	OPERATIVES TO USE CORRECT EAR PROTECTION CORRECT PPE
DRAINAGE EXCAVATIONS ADJACENT EXISTING BOUNDARY STRUCTURES	HIGH	EXCAVATION SUPPORTS TO BE PROVIDED TO REDUCE RISK OF COLLAPSE AND TO PROTECT EXISTING BOUNDARIES
DRAINAGE EXCAVATION BY HIGHWAY	HIGH	EXCAVATION SUPPORTS TO BE PROVIDED TO REDUCE RISK OF COLLAPSE AND TO PROTECT EXISTING BOUNDARIES
MANHOLE ACCESS TO ADJACENT PROPERTIES AND OCCUPERS	HIGH	EXCAVATION SUPPORTS TO BE PROVIDED TO REDUCE RISK OF COLLAPSE AND TO PROTECT EXISTING BOUNDARIES
DRAINAGE EXCAVATION NEAR TO EXISTING SERVICES	HIGH	EXCAVATION SUPPORTS TO BE PROVIDED TO REDUCE RISK OF COLLAPSE AND TO PROTECT EXISTING BOUNDARIES
WORKING IN CONFINED SPACES WORKING IN DRENDS AND MANHOLES	HIGH	EXCAVATION SUPPORTS TO BE PROVIDED TO REDUCE RISK OF COLLAPSE AND TO PROTECT EXISTING BOUNDARIES
WORKING IN HIGHWAYS / AREAS FROM VEHICLES AND PLANT	HIGH	EXCAVATION SUPPORTS TO BE PROVIDED TO REDUCE RISK OF COLLAPSE AND TO PROTECT EXISTING BOUNDARIES
ROAD AND DRAINAGE CONSTRUCTION	HIGH	EXCAVATION SUPPORTS TO BE PROVIDED TO REDUCE RISK OF COLLAPSE AND TO PROTECT EXISTING BOUNDARIES

IT IS ASSURED THAT WORKS ASSOCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON OR PERSONS WHO ARE COMPETENT AND HAVE THE REQUIRED LEVELS OF SUPERVISION AND CONTROL.

1. ALL ADAPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH "CODES FOR ADOPTION" THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATERS STANDARDS/REQUIREMENTS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED.
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.
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 DRAINLAND 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 DRAINLAND DRAINAGE RUNOFF.
5. COVER SLABS MUST CARRY THE BS 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 (C30/37) 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 0.9m FROM KERB FACES AND MARGINS.
8. SEWERS MUST HAVE 5m CLEARANCE FROM TREES AND HEDGES (PLEASE ALSO REFER TO FIGURE 2.3 ON PAGE 33 IN "CODES FOR ADOPTION" FOR RESTRICTION ON TREE PLANTING ADJACENT TO SEWERS).
9. SEWERS TO BE LAID IN CLASS "F" BEDDING (150mm GRANULAR BED AND SURROUND), WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.5m IN HIGHWAYS AND VERTICES OR LESS THAN 900mm IN HOME VEHICULAR ACCESS AREAS). THEN A CONCRETE SLAB OVER SEWER SHALL BE PROVIDED ABOVE GRANULAR BED AND SURROUND.
10. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4:08-02 (TABLE A2).
11. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND SEWERS.
12. YORKSHIRE WATER POLICY IS NOT TO ACCEPT TYPE "C" BRICK MANHOLES AND 1000mm DIAM. MANHOLE RINGS. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE "F" MANHOLE WITH 1000mm DIAM. OR 1500mm DIAM. RINGS, WITH THE OPENING SIGHTED OVER THE CHANNEL WHERE DEPTH OF COVER TO PIPE SOFFIT IS 1.1-1.5m.
13. ADAPTABLE PLASTIC SEWER PIPES TO BE BS1744 (CERTIFIED TO BS 4350-1 AND BS EN 13478). ADAPTABLE PLASTIC SEWER PIPES TO BE LAID IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND YORKSHIRE WATER WOULD PREFER CLAYWARE CHANNELS IN MANHOLES. WE HAVE FOUND THAT PLASTIC CHANNELS ARE DIFFICULT TO SET IN CONCRETE BECAUSE THEY FLAT AND A SATISFACTORY FINISH CANNOT BE OBTAINED ON THE BENCHING.
14. THE MINIMUM CRUSHING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS: 100mm DIA. 40kN/m<sup>2</sup>, 150mm DIA. 40kN/m<sup>2</sup>, 225mm DIA. 45kN/m<sup>2</sup> AND 300mm DIA. 72kN/m<sup>2</sup>. THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE: CLASS 125 TO EN 1198/BS EN 1122. PLASTIC PIPES SHOULD CONFORM TO WIS 4-35-01 AND BS EN 13478.
15. WHERE A 8125 COVER AND FRAME HAS BEEN APPROVED, THIS MUST NOT BE COATED IN PLASTIC AND MUST HAVE ACCEPTABLE LIFTING EYES SUABLY SIZED TO ACCOMMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE NOT ACCEPTABLE.
16. ALL HIGHWAY WORKS AND MATERIAL TO CONFORM WITH BARNSLEY MBC SPECIFICATION.
17. GULLY COVER AND FRAMES SHALL BE D400 DUCTILE IRON AND COMPLY WITH EUROPEAN STANDARD BS EN 124. THOSE SIGHTED IN ACCESSWAYS AND MEREY COURTS MUST BE SUITABLE FOR USE IN PEDESTRIAN AREAS.



B	Road and sewer design updated to suit latest planning layout.	09.07.25	JM
A	Road and sewer design updated to suit latest planning layout.	08.04.25	JM
Rev	Description	Date	Initials

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Client  
**SAUL CONSTRUCTION / KEEPMOAT HOMES**

Project  
**DARFIELD**

Detail  
**ENGINEERING FEASIBILITY - FULL SITE**

Dwg No.  
**E18/7309/001\_03B**

Date  
**FEB'2024**

Scale  
**1/1000 @A0**

Drawn by  
**JM**

Checked by  
**MH**

PRELIMINARY