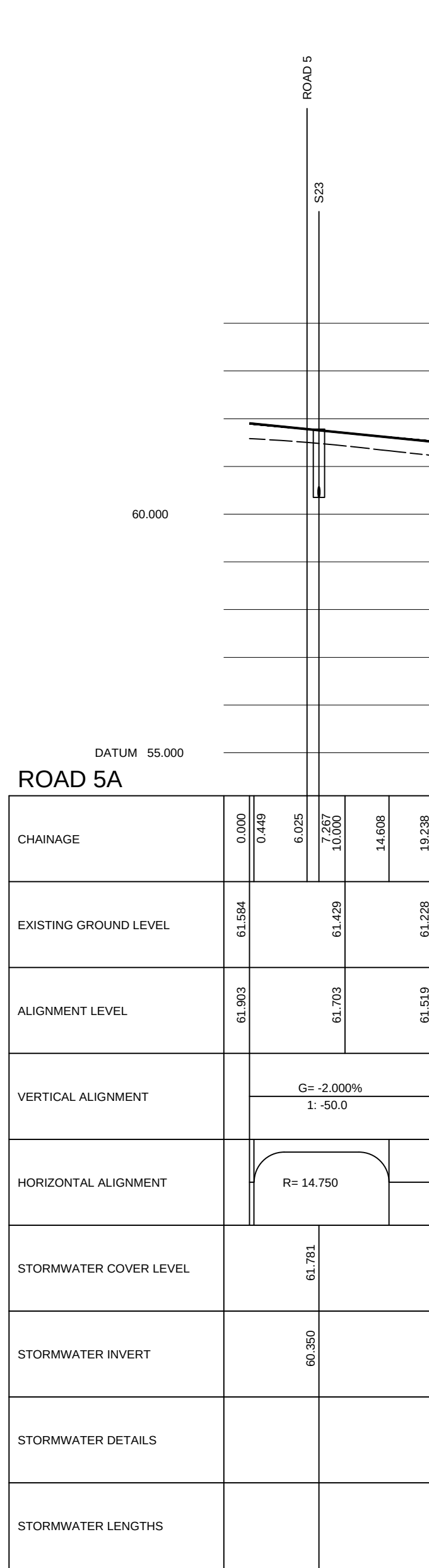
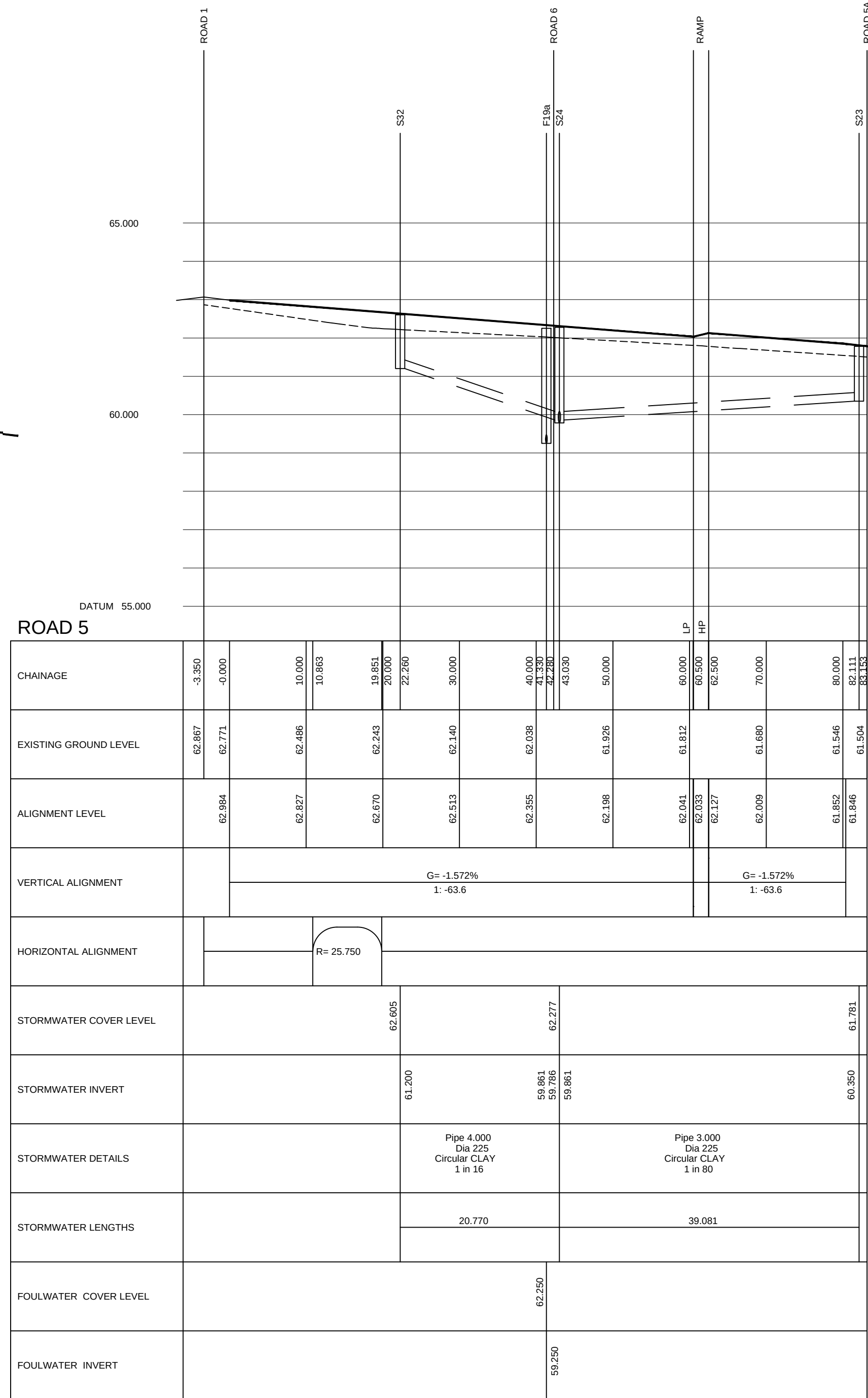
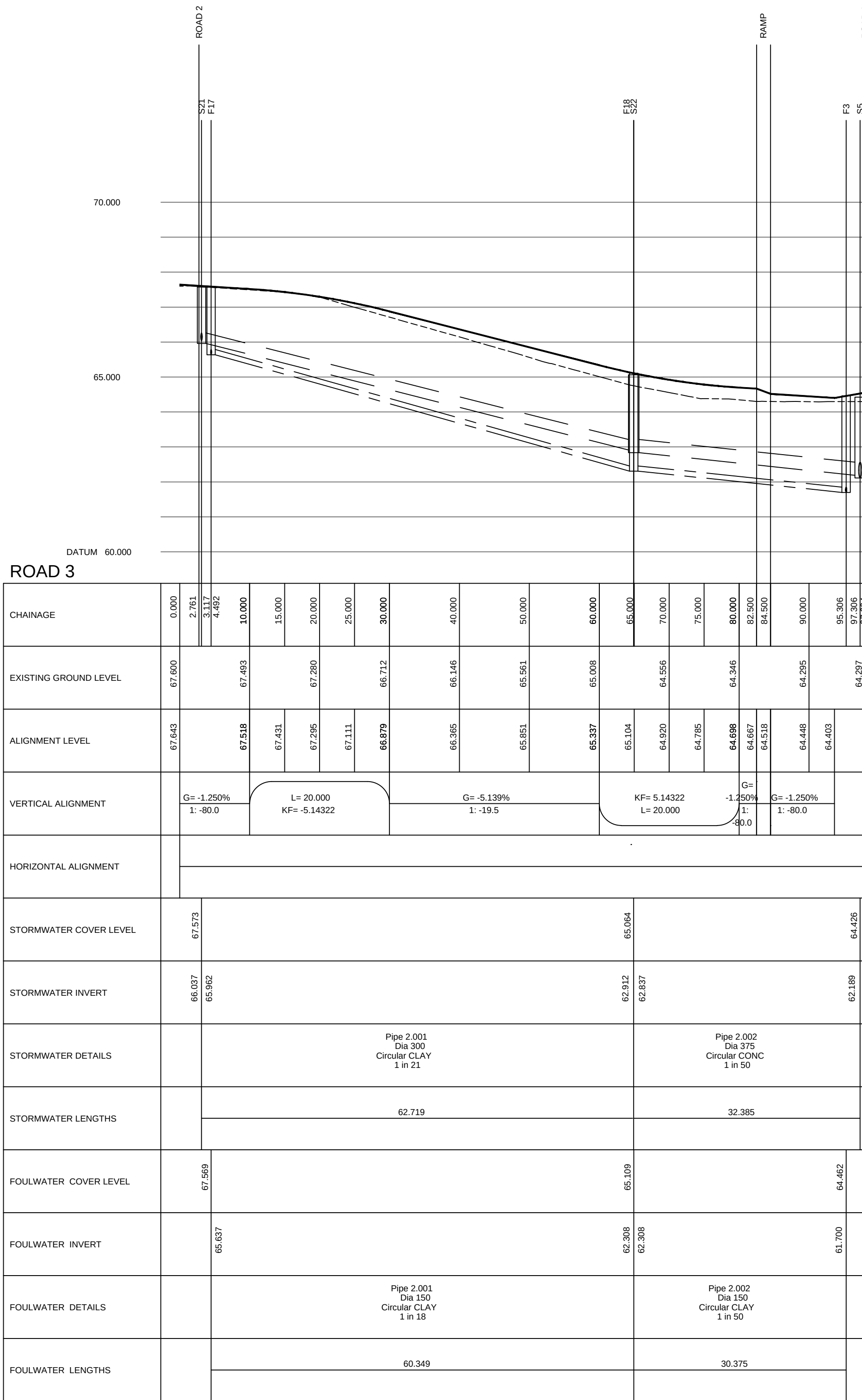


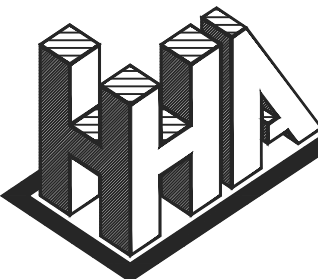


1. ALL ADAPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH 'SEWERS FOR ADOPTION' 6TH EDITION, THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER'S STANDARD SPECIFICATIONS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED.
2. MANHOLE COVERS SHALL MUST HAVE A CLEAR OPENING OF 600mm AND SHALL BE CLASS D400 TO BS EN 124 WITH 150mm deep FRAMES IN HIGHWAYS
3. 50% OF THE FILLED AND UNFILLED AREAS SHALL BE COVERED UNDER THE SUPERVISION AND IN 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 DRAINAGE SYSTEM (LAND DRAINAGE) MUST BE PROVIDED TO THE SURFACE AS 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. ONCE THE SEWER HAS BEEN Laid, THE KITEMARKED COVER SHALL BE FITTED BY A 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 REFERENCE THE CPD (CONCRETE PAVING ASSOCIATION) CPISA 'TECHNICAL BULLETIN' ISSUED JANUARY 2004 FOR KITEMARKED COVER SLAB OPENING SIZES.
6. SULPHATE RESISTANT CEMENT (C20-C22) AND PRECAST CONCRETE PRODUCTS MUST BE USED FOR ALL ADAPTABLE SEWER WORKS.
7. THE ADAPTABLE SEWERS SHOULD BE A MINIMUM OF 1m AND MANHOLES 0.5m FROM KERB FACES.
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 RESTRICTION ON TREE PLANTING).
9. SEWERS TO BE LAID IN CLASS 'S' BEDDING (150mm GRANULAR BED AND SURROUND), WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.2m IN HIGHWAYS AND VERGES (OR LESS THAN 1.5m IN NON-VEHICULAR AREAS) THEN A 375mm CONCRETE SLAB COVER OVER SEWER SHALL BE PROVIDED.
10. ALL PIPEWORK 300mm DIA. 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 40kN/m.
11. ALL PIPEWORK 375mm DIA. OR GREATER TO BE CONCRETE CLASS 120, 54kN/m MINIMUM CRUSHING STRENGTH.
12. THE MINIMUM 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 DIA. MANHOLE RINGS. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE 'B' MANHOLE WITH 1200mm DIA. MANHOLE RINGS. ALONG 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 BARNESLEY M&E SPECIFICATION FOR HIGHWAYS AND ADAPTABLE SEWERS SHALL BE IN ACCORDANCE WITH THE STANDARD BS EN 124. THOSE SIGHTED IN ACCESSWAYS AND MEWS COURTS MUST BE SUITABLE FOR USE IN PEDESTRIAN AREAS.
15. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY REGULATIONS 1989.
16. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND YORKSHIRE WATER WOULD PREFER PLASTICWARE CHANNELS IN MANHOLES. YORKSHIRE WATER HAVE FOUND THAT THE USE OF CONCRETE IN MANHOLES IS NOT ACCEPTABLE AS IT DOES NOT PROVIDE A SATISFACTORY FINISH CANNOT BE OBTAINED ON CHANNEL.

RISK ASSESSMENT: RISKS THAT CANNOT BE DESIGNED OUT		
RISK	LEVEL OF RISK (HIGH/MED/LOW)	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 HATE/ 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 BUILDINGS 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 BARRIER SYSTEMS TO PROTECT MEMBERS OF THE PUBLIC
MAINTAIN ACCESS TO ADJACENT PROPERTIES AND OCCUPIERS	HIGH	ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUARD THE AREA AHEAD OF THE EXCAVATION
DRAINAGE EXCAVATIONS NEAR TO EXISTING SERVICES	HIGH	ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUARD THE AREA AHEAD OF THE EXCAVATION
WORKING IN CONFINED SPACES: WORKING IN DRAINS AND MANHOLES	HIGH	CONFINED SPACES WORKING TRAINED PERSONNEL ONLY TO CARRY OUT WORK UNDER A PERMIT TO WORK SCHEME IMPLEMENTED BY COMPETENT GAS TESTING TO TAKE PLACE BEFORE ALL ENTRIES TO CONFINED SPACES
WORKING IN HIGHWAYS/ A RISKS FROM VEHICLE AND PLANT	HIGH	ALL WORKERS MUST 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 LOLER REGS

IT IS ASSUMED THAT WORKS ASSOCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON OR PERSONS WHO ARE COMPETENT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE

Rev B Manhole F19a added to Road 5 long section to suit latest sewer design 02.06.17 MT
Rev A Proposed road & sewer design amended to suit BMBC highway & YW comments 29.11.16 HH



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Client
BARRATT DAVID WILSON HOMES

Project
DEARNE HALL ROAD, LOW BARUGH

Detail

ROAD & SEWER LONG SECTIONS - ROAD 2, 3 & 5

Dwn Ckcd Date Scale Dwg No.
DG Jul'16 1:500hor @A1 E14/6120/005-02B
1:100ver