



Engineering & External Works Key

Adoptable Drainage

Proposed adoptable Foul sewer and manhole

Proposed adoptable Storm sewer and manhole

Proposed adoptable Combined sewer and manhole

All adoptable drainage to be installed in accordance with the relevant edition of Sewers For Adoption and any regional water authority variations.

Existing public Foul sewer and manhole

Existing public Storm sewer and manhole

Existing public Combined sewer and manhole

Public Sewer Easements

Existing Public Sewer Easement Width to be Confirmed

Proposed Public Sewer Easement Width to be Confirmed

Sewer Abandonments

Foul Sewer Abandonment Sewer to be Grouted / Grubbed Up

Storm Sewer Abandonment Sewer to be Grouted / Grubbed Up

Combined Sewer Abandonment Sewer to be Grouted / Grubbed Up

Private Drainage

Private storm rodding eye

300mm dia. private inspection chamber. To be used where depth to invert is 600mm or less

600mm dia. private inspection chamber. To be used where depth to invert is 300mm or less. Reduced access fitting required at depths greater than 1200mm.

Note: All private drainage to be 100mm rigid pipe or 110mm flexible pipe unless otherwise shown. All drainage / pipe work to be installed in accordance with Building Regulations Approved Document Part H 2010, NRC standards 2015 and relative guidance documents, manufacturers installation & guidance literature and notes.

Adoptable Carriageways

Proposed cambered carriageway

Proposed crossfall carriageway

Proposed road gully & connecting pipe work. 1500 pipe unless noted otherwise

Proposed private road gully & connecting pipe work. 1500 pipe unless noted otherwise

Retaining walls, steps & external works

Proposed spot height

Proposed gradient

Existing spot height

- ALL ADAPTABLE SEWER WORKS AND MATERIALS TO BE IN ACCORDANCE WITH SEWERAGE SECTOR GUIDANCE DESIGN AND CONSTRUCTION GUIDANCE (CODE OR ADOPTION, THE RELEVANT BRITISH/EUROPEAN AND UNITED UTILITIES' STANDARD REQUIREMENTS) LOCAL PRACTICE FOR THE ADOPTION OF SMALL SUBMERSIBLE FOUL AND SW PUMPING STATIONS AND KITEMARKED ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITE MARKED.
- MANHOLE COVERS SHALL HAVE A CLEAR OPENING OF 600mm AND CLASS D400 TO BS EN 124 WITH A 150mm DEEP FRAME IN HIGHWAYS.
- CONTRACTOR TO ESTABLISH POSITION SIZE AND DEPTH OF ALL EXISTING SEWERS AND SERVICES PRIOR TO COMMENCEMENT ON SITE.
- THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT, AND TEMPORARY AND PERMANENT DIVERSION WORKS, AS NECESSARY TO ALL EXISTING SERVICES.
- THE CONTRACTOR SHALL ALLOW FOR ALL TRAFFIC MANAGEMENT IN CONNECTION WITH ROAD AND SEWER WORKS.
- THE CONTRACTOR SHALL ALLOW FOR KEEPING SEWER TRENCHES AND EXCAVATIONS AS DRY AS PRACTICABLE BY PUMPING FROM TEMPORARY SUMPS AND DE WATERING AS APPROPRIATE. THE POINT AND METHOD OF DISCHARGE TO BE AGREED WITH THE DRAINAGE AUTHORITY.
- PIPES UP TO AND INCLUDING 300mm Ø TO BE TWIN WALLED PLASTIC PIPES. PIPES 375mm Ø AND GREATER TO BE CONCRETE CLASS H.
- THE ADAPTABLE SEWERS SHOULD BE A MINIMUM OF 1m AND MANHOLES 0.5m FROM KERBS FACES AND SERVICE MARKINGS.
- SEWERS MUST HAVE 5 METERS CLEARANCE FROM TREES AND HEDGES OR THE WIDTH OF THE CANOPY AT MATURE HEIGHT.
- ADAPTABLE PLASTIC SEWER PIPES TO BE KITEMARKED (CERTIFIED TO WIS 4-35-01 AND BS EN 13476) AND TO BE LAID IN MAXIMUM 9m LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND UNITED UTILITIES WOULD PREFER CLAYWARE CHANNELS IN MANHOLES.
- COVER SLABS MUST CARRY THE BS KITE MARK OR WILL BE REJECTED BY UNITED UTILITIES INSPECTOR. WHERE THE CLEAR OPENING OF THE KITE MARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME A LOAD BEARING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO 600mmx600mm FOR THE UNITED UTILITIES SPECIFIED COVER SIZE. PLEASE REFER TO CONCRETE PIPE SYSTEMS ASSOCIATIONS TECHNICAL BULLETIN ISSUED AUTUMN 2004 FOR KITE MARKED COVER SLAB OPENING SIZES.
- SULPHATE RESISTING CEMENT (C20-02) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY..
- GULLY GRATES AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 124 AND BE OF A NON-ROCKING DESIGN WITH CAPTIVE HINGE ACCESS AND BE KITE MARKED. LOAD CLASS D400 FOR ROADS REGULARLY CARRYING FAST MOVING HEAVY VEHICLES. CLASS C250 TO BE USED IN LESSER TRAFFICKED AREAS eg. ESTATE ROADS, CUL-DE-SACS, RESIDENTIAL CAR PARKING AREAS ETC.
- 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 0.5m IN NONE VEHICULAR ACCESS AREAS) THEN A CONCRETE SLAB SHALL BE PROVIDED ABOVE THE GRANULAR BED AND SURROUND
- BACKFILLING AND REINSTATEMENT TO TRENCHES IN PUBLIC HIGHWAYS SHALL BE TYPE 1 GRANULAR MATERIAL IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE ADOPTING AUTHORITY, OR, IN THE ABSENCE OF SUCH, IN ACCORDANCE WITH THE REQUIREMENTS OF 'THE STREET WORKS REGULATIONS 1992' AND RELEVANT PROVISIONS OF 'H.A.U.C.' 'SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS' JUNE 1992, BOTH UNDER SECTION 71 OF THE NEW ROADS AND STREET WORKS ACT 1991.
- BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENTS OF WATER INDUSTRY SPECIFICATION 4-08-02 (TABLE A2)
- ALL ROAD GULLIES ARE TO BE TRAPPED GULLIES. ALL GULLY LEADS TO BE 150mm DIAMETER.
- ALL REDUNDANT EXISTING DRAINAGE TO BE GRUBBED UP OR GROUTED, ANY EXISTING LIVE DRAINAGE SHOULD BE REPORTED TO THE ENGINEER AND RECONNECTED.
- ALL ROAD GULLIES & LEADS TO BE CLEARED OF DEBRIS UPON COMPLETION OF WORKS.
- THE CONTRACTOR MUST ENSURE THAT ANY OF THE EXISTING DRAINAGE WHICH IS LIVE IS KEPT CLEAR OF DEBRIS AND SHOULD ALLOW FOR JETTING THROUGH THE NEW & EXISTING DRAINAGE UPON COMPLETION.
- CONTRACTOR TO TAKE MEASURES TO PROTECT HIS OPERATIVES WITH RESPECT TO THE PRESENCE OF GAS IN SEWER TRENCHES AND MANHOLES THROUGH THE USE OF GAS MONITORING EQUIPMENT AND BREATHING APPARATUS AS REQUIRED.

REV	DATE	DESCRIPTION	DRW	CHK
P01	25/10/2024	PRELIMINARY ISSUE	SNK	GS
C01	07/11/2024	TENDER ISSUE	SNK	GS
C02	06/01/2025	UPDATED TO SUIT CUMBERLAND COUNCIL COMMENTS	MH	SNK

HEALTH & SAFETY

1. CONTRACTOR SHOULD BE AWARE OF GENERAL CONSTRUCTION RISKS TO PREVENT SLIPS, TRIPS AND FALLS AND TAKE NECESSARY PRECAUTIONS WITHOUT SPECIAL INSTRUCTION.

ROADS & DRAINAGE

2. CONTRACTOR TO PROVIDE TRENCH SUPPORTS AS APPROPRIATE AND ENSURE THAT PLANT REMAINS A SAFE DISTANCE FROM TRENCHES PRIOR TO INSTALLING DRAINAGE.

3. THE TIME THAT EXCAVATIONS ARE OPEN ON SITE SHOULD BE KEPT TO A MINIMUM AND ALL TRENCHES SHOULD BE SURROUNDED BY A BARRIER.

4. CONNECTIONS TO EXISTING SEWERS TO BE MADE BY YORKSHIRE WATER APPROVED CONTRACTOR ONLY.

5. CONTRACTOR TO MAKE OPERATIVES AWARE OF ASSOCIATED DANGERS TO HEALTH SUCH AS LEPTOSPIROSIS (WELLS DISEASE) AND RECOMMENDED PRECAUTIONS. ADEQUATE WELFARE FACILITIES AND PROTECTIVE CLOTHING TO BE PROVIDED AS REQUIRED.

6. UNFINISHED MANHOLES MUST BE COVERED WITH LOAD BEARING MATERIALS AND SURROUNDED WITH BARRIER.

PIPES & CABLES

7. SERVICE RECORDS TO BE REFERRED TO PRIOR TO WORK COMMENCING. CONTRACTOR TO PROCEED WITH CAUTION AND SERVICES TO BE LOCATED BY HAND DIG AND PROTECTED ACCORDINGLY.

EXCAVATION/FILL

8. CONTRACTOR TO ENSURE RELEVANT MEASURES ARE TAKEN TO KEEP PLANT AND PEOPLE A SAFE DISTANCE FROM STEEP SLOPES DURING THE WORKS.

9. CONTRACTOR TO ENSURE THAT PROCEDURES ARE IN PLACE TO KEEP PEOPLE A SAFE DISTANCE FROM WORKING PLANT WHERE NECESSARY.

10. CONTRACTOR TO REFER TO GROUND INVESTIGATION REPORT FOR CONTAMINATION TESTS AND TO PROVIDE ADEQUATE WELFARE FACILITIES AND PROTECTIVE CLOTHING AS REQUIRED.

WORKS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT STANDARDS, CBC SPECIFICATION AND GUIDANCE. ANY ISSUES IDENTIFIED ON SITE ARE TO BE ADDRESSED TO THE SATISFACTION OF CBC AS LHA THROUGH THE DEVELOPMENT MANAGEMENT TEAM

UPVC PIPES TO BE CERTIFIED TO WIS 4-35-01 AND BS EN 13476

CLAY PIPE STRENGTH REQUIREMENTS

100mm DIA. MINIMUM CRUSHING STRENGTH = 40kN/m

150mm DIA. MINIMUM CRUSHING STRENGTH = 40kN/m

225mm DIA. MINIMUM CRUSHING STRENGTH = 45kN/m

300mm DIA. MINIMUM CRUSHING STRENGTH = 72kN/m

CONCRETE PIPE TO EN 1916/BS5911-1:202

STRENGTH REQUIREMENTS

ALL CONCRETE PIPES SHOULD BE CLASS 120 (TO EN 1916/BS5911-1:2002)

Client
Aldi Stores Ltd.

Project Title
Aldi - Whitehaven

Project Address
**Preston Street
Whitehaven**



Drawing Title
**S278 Proposed Levels and
Drainage Layout**

Job No.	Originator	Zone	Level	Type	Rate
79-EXXX	HYD	ZZ	XX	DR	C
System Classification	Drawing No.	Suitability	Revision		
Ro_50_20_11	-5004	D2	C02		

Drawn	Checked	Date	Scale	Site
SNK	GS	Oct 2024	1:150	A1

Hydrock

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**SUBJECT TO THE APPROVAL OF
ALL RELEVANT AUTHORITIES**