CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Land of High Street, Great Houghton, Barnsley.

Ref: AVH/ATD/CEMP – 09/08/2025 Rev A

INTRODUCTION

This document has been prepared to enable construction activities in accordance with the planning permission **2024/0917** associated with the development to the land east off high street, Great Houghton for 104 plots.

The purpose of the CEMP as described in the British Standard 5228: 2009 "refers to the need for the protection against noise and vibration of persons living and working in the vicinity of, and those working on, construction and open sites. It recommends procedures for noise and vibration control in respect of construction operations and aims to assist architects, contractors and site operatives, designers, developers, engineers, local authority environmental health officers and planners."

CONSTRUCTION MANAGEMENT PLAN

1. Site Location
Land east off high street, Great Houghton. Postcode close to the site S72 0AY.

2. Site Management
Contact details for the site management team will be posted on the gate of the site office and entrance to the site compound. An F10 will be submitted prior to commencement on site, which will contain the contact details below which will be updated as available for the project.

During work hours the site team will be contactable directly by telephone and email. Out of hours, a voicemail message will provide emergency contact details.

Site Contact Details:

Site Manager	TBC		
Contracts Manager	TBC		
Construction Director	Andy Smith		andy.smith@avanthomes.co.uk
Health & Safety Manager	Ian Hunter	07779 869305	ian.hunter@avanthomes.co.uk
Planner	Charlotte Hatton	01924 248442	charlotte.hatton@avanthomes.co.uk
Technical Director	Gareth Uttley	07967 841972	gareth.uttley@avanthomes.co.uk

3. Restriction of Vehicular Traffic

The housing site will benefit from access direct from existing highway network. Road safety audits have been conducted and are included in Appendix 7.

Regular site deliveries pose no threat to the condition of the proposed access road to the site. Proposed delivery routes are included in Appendix 3.

Oversized loads will be infrequent. However, in the event that an oversized load is required, a site survey to assess the best means of delivery will be undertaken. This will consider:

- Width of access road
- Condition of road way
- Possible pinch points
- Flow of traffic
- Volume of traffic
- Duration of passage

Oversized loads that fall into the abnormal load category must be pre-approved via the Electronic Service Delivery for Abnormal Loads (ESDAL) system.

Tracking has been provided to show that all vehicles we will have operating on site will be able to manoeuvre comfortably in the space provided. The tracking is contained within Appendix 4.

A comprehensive review of access to ensure that site material can be delivered and be dropped off without damaging the existing infrastructure will be undertaken prior to commencement of construction works on site. If in the unlikely event that damage occurs to the roadway, reinstatement work will take place in accordance with the requirements of the Highway Authority and Barnsley MBC.

All loads delivered to site will be within the loading capacity of the roads.

All site traffic will be directed to the construction site access using directional signage. All signage will be reviewed throughout the construction phase and adjustments made as necessary and further agreed as appropriate. Directional signage to site will not be permitted from the strategic road network (SRN).

Suppliers and sub-contractors will be notified in advance of the desired location for delivery. Direction and access point maps with site delivery rules and times will be sent out to suppliers and sub-contractors.

All gates on site open inwards and will not impede the public highway or footpaths at any time.

During Mobilisation stage there will be HGV articulated wagons infrequently to deliver machinery and larger drainage material. In addition to this we would anticipate approximately 8 loads of stone every other day and 2 loads of concrete per day.

During the Construction phase the average vehicle movements will be estimated at the below in addition to operatives vehicles:

- 10 rigid 32 ton wagons (concrete or stone or tarmac)
- 1 rigid Hiab wagon delivering from a merchant such as Keyline
- 1 articulated flat back truck with material
- Diesel delivery 1-2 visit per week
- 1-2 delivery of small tools on Pick ups

4. Protection of Buried Services

Works outside of the site perimeter will be undertaken by Northern Power Grid (lowering of LV main) and Openreach (lowering of BT cable). Within the site GTC will provide multi utility services comprising of Gas, Water, Electric (new substation), Fibre and connections to public sewers.

5. Waste, Recycling and Contaminated Materials

The developer will establish a dedicated Waste Management Contractor team who will be tasked with the removal of all waste from site.

The developer will implement a re-cycling regime for materials and packaging.
The Waste Management Contractor will compile a report quantifying the materials recovered.

It is planned that site waste will be reduced through segregation and recycling. As per Avant Homes Environmental Policy Statement and Environmental Management Policy and Guidelines (See appendix 2).

The developer will segregate the following materials in the material recovery programme:

- Timber
- Plastics
- Metal
- Plasterboard

- Pallets and cable drums

All contractors working on site will be supplied with refuse bins by the waste management team. Once the bins are filled, the waste management team will consolidate the waste and remove from site.

The consolidated waste will be collected from the site by a licensed waste carrier.

Waste certificates will be collated for all waste deposited at Environmentally Controlled Waste Reception Centres.

Any hazardous waste that is removed from site will be monitored to record compliance with the Site Waste Management Plan. Records will be gathered about the waste generated on site including:

- Volume - Quantity to landfill/recycled.
- Type
- Cost

6. Public Footpaths/Highways
Where works are to be undertaken outside the boundary of the site, measures will be put in place to ensure public footpaths remain open or are subject to clear and safe diversions in accordance with the requirements of the local authority.

No property on site will be occupied until a clear and safe access has been provided from the home to the site boundary.

7. Welfare
The developer will construct a welfare which shall provide sanitary convenience for both male and female workers. There will be a canteen to cater for workers and changing/drying rooms.

The maintenance of the workers canteen, toilets and changing rooms will be maintained to high standard to ensure the hygiene of the facilities.

8. Logistics
All vehicle movements will be controlled by the site construction team who shall co-ordinate all construction traffic to and from site and in accordance with the Avant Homes Traffic Management Policy Guidelines in appendix 6.

All vehicles will be parked on site in holding areas set aside from the construction works. The compound location and temporary compound for the construction of the roundabout areas are included in appendix 3.

9. Controlling Sediment Runoff
From the onset of works, all contractors will be required to use all possible means to ensure that the least amount of debris are carried out onto the external carriageway.

When the construction of dwellings commences the site roads will be brought up to binder course. Delivery vehicles will not leave hard standing areas. The site roads will be regularly cleaned using a mechanical road sweep attachment. In addition, a mechanical road sweeper will be hired and used if the requirement is there.

Road sweeping activity will be kept to a minimum and only used in exceptional circumstances. Road sweeping to be continually monitored through active and ongoing dialogue with Barnsley Metropolitan Borough Council Highways Department.

The site management team and contractors are to undertake routine inspections throughout each working day to confirm no mud or sediment on the site roads.
Should internal roads become contaminated Avant Homes will immediately instruct road sweepers to cleanse the internal roads.

Should there be a risk to the public highway, Avant Homes will inform Barnsley MBC with a view to instructing them to undertake a cleanse of the adjacent public highway network. No road sweeper employed by Avant Homes will be allowed to work on the public highway at any time unless an emergency situation arises and after contacting BMBC.
All vehicle movements will cease if mud on the roads cannot be controlled with measures/mitigation put in place as above.

A Surface Water Management Plan has been prepared. This is enclosed in appendix 1. Contractors must ensure they adhere with the full requirements and recommendations in this document.

In Accordance with Part H of the building regulations all road and yard gullies will contain a Gully guard or similar silt trap to prevent solids and grits entering the surface water drainage system.

10. Site access during works period

Construction traffic will access the site from High Street, west of the site. These are shown on the Construction Plan & Build Phasing Plan in appendix 4

Operatives will only be permitted to access the site working areas after receiving an induction.

Site notice boards will be displayed at the site entrance and will display the project particulars, contact details, access and egress procedure, site rules and all necessary health and safety information.

11. Noise and Vibration
The developer will adhere to the key legislation on noise and vibration as detailed in the:

1. Control of Pollution Act 1974
2. Environmental Protection Act 01990 (ss79-82)
3. BS 5228: 2009, Code of Practice on Construction and Open Site.

Site operations will be controlled so that all plant and machinery noise emissions (including the provision of ventilation, heating and cooling) shall be designed, installed and operated at noise levels that do not cause noise nuisance to the nearest adjoining residential properties.

The developer shall ensure that disruptive sound levels will be kept to a minimum.
A variety of measures will be used to effect the reduction of noise transmitted from site, this will include:

- Co-ordinated delivery times and efficient traffic management to prevent queues of traffic accessing the site.
- Ensuring all plant has sound reduction measures (mufflers, baffles or silencers).
- Utilising construction techniques that minimise the production of noise.
- Strict adherence to the site working hours.
- Using acoustic hoarding where necessary.
- Positioning plant away from properties
- Machines in use will be throttled down a to a minimum
- Cutting operations will be kept off site as much as possible by pre-fabrication.
- Localised shrouding of plant in accordance with BS5228-2:2009
- Use of mains electrical power wherever possible with the use of generators kept to a minimum

- Where practicable, works will be carried out to ensure that the ground vibrations are contained within the target limits set out below. Any works expected to exceed these limits will be discussed and agreed with the Environmental Control office of Barnsley Metropolitan Borough Council.
- Any reversing warnings that are necessary should be of the white noise type, subject to H&S considerations.

  - A peak particle velocity of 1mm/s at any occupied residential property
  - Peak particle velocity of 3mm/s at any other property in any orthogonal direction

12. Air Quality and Dust Management Plan

The developer will adhere to the key legislation on noise and vibration as detailed in the:

1. BRE (2003a): Guidance on the Control of Dust from Construction and Demolition Activities
2. BRE (2003b): Controlling Particulates, Vapours and Noise Pollution from Construction Sites
3. Greater London Councils (2014): The control of dust and emissions from construction and demolition: Supplementary Planning Guidance

All care will be taken not to cause the primary environmental nuisances of noise and dust pollution. Below are some actions that will be carried out to abate these problems:

- Ensure that all materials transported to and from site are in enclosed containers or fully sheeted.
- An MMP will be prepared for the site prior to import of any material and all donor sites are identified.
- Ensure stockpiles of topsoil etc are kept below hoarding heights and kept damp in dry windy conditions.
- During dry periods the works are to be damped down to control the generation of dust.
- Ensuring materials have a minimum of packaging.
- Ensuring all polystyrene and similar lightweight materials are weighted down.
- Making sure all dust generating materials are adequately packaged.
- Ensuring all vehicles leaving the site have loads covered where spoil or demolition material is being removed.
- Provide regular road cleaning using road sweepers or brushes to control dust and must.
- Keeping the loading drop heights of spoil into trucks as low as possible.
- Implementing an effective procedure to deal with complaints from third parties to ensure issues are dealt with efficiently and quickly.
- Ensuring all contaminants kept on site are safely stored with the necessary procedures put in place for leaks and spillages etc.
- Use of mains electrical power wherever possible with the use of generators kept to a minimum.
- A waste management system will be implemented on site.
- Use of suitable hard bonded surface to temporary haul roads such as tarmacadam to keep dust levels to a minimum during dry periods.
- The burning of rubbish or surplus materials on site will be strictly prohibited.
- The developer should provide hard surfacing and effectively dust suppressed haul routes to prevent machines/vehicles tracking over loose ground and appropriate speed limit around site to prevent re-suspension of dust on roads from vehicle movements. Effective cleaning of hardstanding and bowsing of haul roads shall take place when necessary.

13. Emergency Services Routes and Access by Third Parties

Access for emergency services on site will be via the site access routes and emergency escape routes. Local emergency services will be notified of the access points before work starts on site and in due time before access arrangements are relocated.

14. Police Requirements
Appropriate signage if to be installed and made a requirement of all order/deliveries to the site.

15. Site Security
Fire escape routes, fire fighting stations, alarm points, muster points and practice drills within the works will be in accordance with standard Health and Safety Procedures and agreed with local fire officer.

Site management will be responsible for seeing that all plant and materials are stored safely and securely after the workday ends.

16. Protection of Third Parties
Wherever possible, all site activities will be contained within the site boundary and a comprehensive traffic management plan will be implemented to ensure no disruption is caused to traffic or pedestrians on the adjoining roads or walkways. Specific loading and unloading areas will be designated inside the site boundary.

17. Notifications
During the mobilisation period communications will be set up with the following authorities:

- Notice will be served to the Health and Safety Executive
- Meeting with Building Control and Planning Authorities
- Meeting with local Environmental Health Officer
- Meeting with local Police and Fire Brigade
- Liaison with local residents
- Notification to the emergency services giving full details of the construction works.
- Highways Authority

18. On Site Storage
"Just in time" deliveries will reduce the volume of on-site storage requirements.
Secure storage of materials, plant, chemicals and gasses will be controlled in accordance with the developers Health and Safety Procedures and Environmental Policy.

Any liquid storage tanks should be located within a bund with a capacity of not less than 110% of the largest tank or largest combined volume of connected tanks.

19. Craneage and Hoists
The majority of unloading and distribution will be by tele-handler.

Craneage will be provided with mobile cranes suitably sized for the required works. All lifting works will be subject to the production of a Lifting Plan. Cranes will at no time be permitted to over sail the public highway, footpaths or neighbouring properties.

20. Induction/Site Rules/Consultation
Every worker who enters the site will receive a specific site induction before they are allowed to leave the compound and commence work on site.

Inductions will provide an introduction to the project, a description of the project risks and a review of the individual's competency. Site access will be only permitted following site induction from the site management personnel.

Induction talks for operatives new to the site will include site rules which cover among other things:

- Behaviour toward others on site and nearby
- Drugs and alcohol
- Smoking areas
- PPE and safety issues
- Welfare facilities and use of
- Security issues
- Emergency procedures
- Good and bad practice

Regular 'toolbox talks' will be undertaken by the Principal Contractor outlining a variety of relevant Health and Safety issues.

21. Health and Safety
The developer will treat safety as a highest priority and will develop a successful programme of initiatives in order to improve Health and Safety awareness and performance on the project. These will work by actively encouraging operatives to think in a manner that assesses personal safety and the safety of others. The layout of the site accommodation will ensure that all staff, visitors and operatives will have the ability to store and retrieve the correct PPE before entering the construction area.

22. First Aid
The site management will be qualified First Aiders and the site will have first aid attendance at all times.

23. Construction Activities
The construction of the development will be managed and carried out in accordance with detailed method statements, risk assessments and Construction Phase Plan approved by the site management team.

Good Practice Guide

The construction phase groundworker and road and sewer contractor should follow good environmental practice to minimize the risks of spillage, leakage etc. with reference, but not limited, to the following documents:

- CIRIA C502 'Environmental Good Practice on Site'
- EA Pollution Prevention Guidelines:
  - PPG6 - Working at construction and demolition sites.
  - PPG2 - Above ground oil storage tank
  - PPG7 – The safe operation of refueling facilities.
  - PPG21 – Incident Response Planning
- Yorkshire Water Services. 'Guideline for developers to Yorkshire Water requirements. New sewerage infrastructure in Ground Water Source Protection Zones'

24. Measures to protect nesting birds habitats (including any vegetation removal)
The developer proposes that any vegetation or site clearance will be undertaken outside of the nesting bird season (March to August inclusive) where possible and if otherwise will be carried out such works should be supervised by a suitably qualified ecologist who will advise and supervise all site personnel of the potential presence of nesting birds and their legal protection.

Procedure

Each area will be observed for at least 30 minutes and note taken of whether any birds are nesting or preparing to nest (e.g. carrying nest building materials and/or food for the young). The observations will take place from a

reasonable distance from the proposed working area, to avoid disturbance to any possible nesting birds, and it may be necessary to observe the area from more than one vantage point.

Birds incubating eggs are extremely illusive and therefore a more detailed search of the area may be necessary and care must be taken not to disturb nesting birds present. Searches for possible nest sites may be conducted using angled mirrors or similar to avoid flushing birds off hidden nests. If no signs of nesting birds are observed then works may commence. The site will be constantly monitored during the working period and if at any time nesting birds are observed, works, which may disturb them, must cease immediately and any active nests identified will be protected until the young have fledged. The ecologist will provide guidance on the required 'no-works' zone around the nest depending on the species of bird.

25. Working Hours

Construction or remediation work comprising the use of plant, machinery or equipment, or deliveries of materials shall only take place between the hours of

Monday to Friday - 0800 hours to 1800 hours
Saturday - 0900 hours to 1400 hours
Sunday and Public Holidays - No works

All deliveries should avoid peak times where possible.

26. Surface Water and Foul Water discharge

As detailed in the drainage strategy proposals included in Appendix 5 completed by Eastwoods Consulting Engineers.

The final disposal strategy for surface water run-off requires detailed consideration and approval during the design phase of the project. The final design will need the approval of the relevant statutory bodies but will broadly follow these principles:

Surface water will discharge via gravity into and existing dyke/ ditch located on the northern boundary at a restricted discharge rate stipulated by Yorkshire Water.

Surface water discharge will be restricted to 5 l/s/ha, as agreed in principle with the LLFA. For the 3.6 ha site this equates to a discharge rate restricted to a maximum 18.0 l/s.

Foul effluent will discharge to the 300 mm public combined sewer crossing of the site. Existing ground levels in the northern portion of the site will need to be raised in order to achieve a gravity connection. Close as per the approved drainage strategy.

27. Complaints Procedure

In addition to the above the site will operate a complaints procedure in the event of any complaint from a member of the public about dust or mud

1. All sensitive properties located within 100m of the site boundary will be contacted before commencement of the site development.
2. A single point of contact and telephone number will be provided to each property.
3. Details on the hours of operation and timescale for development works will be provided.
4. Any complaint received will be dealt with by the site manager on the day on which it is received.

5. The complainant will be contacted to find out the nature of the complaint and a visit carried out, if needed.
6. Additional monitoring (noise, dust or vibration) will be carried out.
7. If remedial steps are required they will be carried out as soon as practicable and the complainant advised of what will be done.
8. Once any works have been completed the complainant will be contacted to see of the problem has been resolved.
9. A log book of complaints and remedial actions taken will be kept on site.

NOISE AND DUST ON CONSTRUCTION SITES

CODE OF PRACTICE FOR CONTRACTORS

1. The contractor must ensure compliance with current legislation on noise and dust control and in particular the Environmental Protection Act 1990 and the Control of Pollution Act 1974. The relevant Codes of Practice which set out procedures for dealing with the control of noise on construction and demolition sites are contained in BS5228: 2009 " Noise And Vibration Control On Construction And Open Sites" together with the specific requirements described below.

2. The contractor shall employ "best practicable means" to minimize noise vibration and dust from within the site, compound area and roadways. In particular the contractor shall: -

    a. Consider at an early stage the most appropriate siting of the plant and compound areas relative to noise sensitive properties such as occupied residential dwellings, hospitals, hotels, shops, schools or offices.

    b. Select the quietest available plant to ensure that "site noise" (as defined in BS5228 Part 1) is kept to a minimum.

    c. Ensure that all plant and equipment is maintained to eliminate unnecessary noise.

    d. Make full use of suppressers, silencers and other mechanical means of reducing noise where these are commercially available.

    e. Ensure that plant, which is used intermittently, is shut down, or throttled back, during periods of non-use.

3. Where operations require the use of compressors, breakers, pumps, generators, mobile crushers and other similar plant, the following conditions shall apply: -

    a. Compressors shall be silenced by all effective means and covers shall remain closed except when access is required.

    b. Breakers shall be fitted with mufflers and, where commercially available, damped tools and accessories shall be used.

    c. Any operations involving the use of compressors or breakers shall be acoustically screened.

    d. Pumps and generators shall be acoustically screened and sited so as not to cause a nuisance to a noise sensitive building.

    e. Any proposed blasting or piling shall be discussed with the Environmental Health Officer prior to commencement.

    f. Mobile crushers must be permitted under the Pollution, Prevention and Control Regime and due notification must be given of their movement into the area.

    g. Adequate water supply for dust suppression shall be provided when crushers are in use.

4. The hours for construction involving noisy activities shall be 0800 to 1800 hours Monday to Friday and 0900 to 1400 on Saturdays and at no time on Sunday or Bank Holidays unless otherwise agreed with the Environmental Health Officer.

5. Where operations require the use of temporary traffic signals the electric power shall be directly from the Distribution Network Operator's mains source wherever possible.

6. Where possible stone cutting shall be carried out away from any noise sensitive premises. If bench saws/abrasive wheels or other stone cutting equipment is on site it should be adequately screened & provided with dust suppression.

7. "Best practicable means" shall be employed to prevent dust nuisance arising as a result of the works and shall include watering or any other necessary measures, which may be required from time to time.

8. Ensure roads and footpaths adjacent to the site are kept clean of construction materials, mud and spillage.

9. Ensure skips are emptied before they become overfilled and cover skips where dust and wind borne litter could be a nuisance

10. Burning of any material on site is not permitted unless exemption is granted by the Environment Agency

APPENDIX 1

Surface Water Management Plan.

AVANT homes

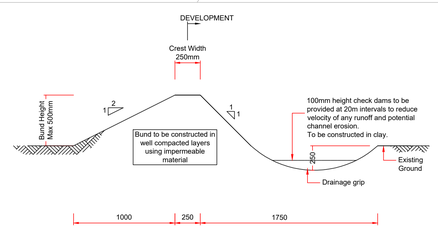
DATE	REVISIONS	BY

KEY:

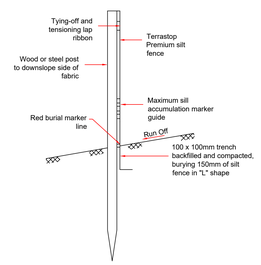
- Flow direction
- Proposed earth bund (with grip)
- Silt protection fence
- Area to avoid stripping until necessary
- Area to be re-seeded immediatly after drainage works are completed and backfilled

TEMPORARY SURFACE WATER MANAGEMENT PLAN (STANDARD NOTES)

1. Earth bunds/lagoons/control areas should be continuously reviewed by the site manager. Additional locations/relocation may be required subject to phasing and works required on site.
2. Earth bunding to be constructed adjacent lower boundaries of site to prevent untreated surface water run off leaving site and or to direct it to temporary holding area.
3. Topsoil strip should be carried out in phases in line with the build route. Only surface water leaving stripped areas need to be managed.
4. Stockpiles of topsoil should be seeded if intended to be in place for longer than 3 months to avoid silt run off.
5. Dirt bags/silt socks to be emptied periodically and after each rainfall event. Sediment/silt shall be taken to a suitable facility or disposed of in a suitable location on site.
6. Dirt bags/silt socks to be replaced as necessary in accordance with the manufacturers guidance and Avant SWMP.
7. Roughen or track over the surfaces of stripped areas to increase infiltration into the ground and reduce runoff rates over the site during rainfall events. This can be achieved by tracking the area with heavy equipment eg. a track mounted excavator.
8. For monitoring regime of treatment refer to supporting SWMP documents.



TYPICAL SECTION THROUGH PROPOSED TEMPORARY EARTH BUNDING



TYPICAL SECTION THROUGH HY-TEX TERRASTOP PREMIUM SILT FENCE (NTS)

ENVIRONMENT AGENCY:

IF OVERPUMPING IS REQUIRED, BEFORE ANY WATER IS DISCHARGED TO EXISTING NETWORK, A PERMIT MUST BE ISSUED FOR THE FOLLOWING:
SURFACE WATER DISCHARGE
GROUND WATER DISCHARGE

BOTH OF THE ABOVE ACTIVITIES CAN BE COVERED BY ONE PERMIT. THIS IS TO BE IN PLACE BEFORE WORKS COMMENCE ON SITE.

Avant Homes
Avant House
6 & 9 Tallys End
Barlborough
S43 4WP

AVANT homes

DRAWN	ATD	CHECKED		DATE	May 2025
DRG. No.	4206-ENV-01			REV.	A
SCALE:	NTS				

Surface Water Management Plan

Great Houghton
Barnsley

APPENDIX 2

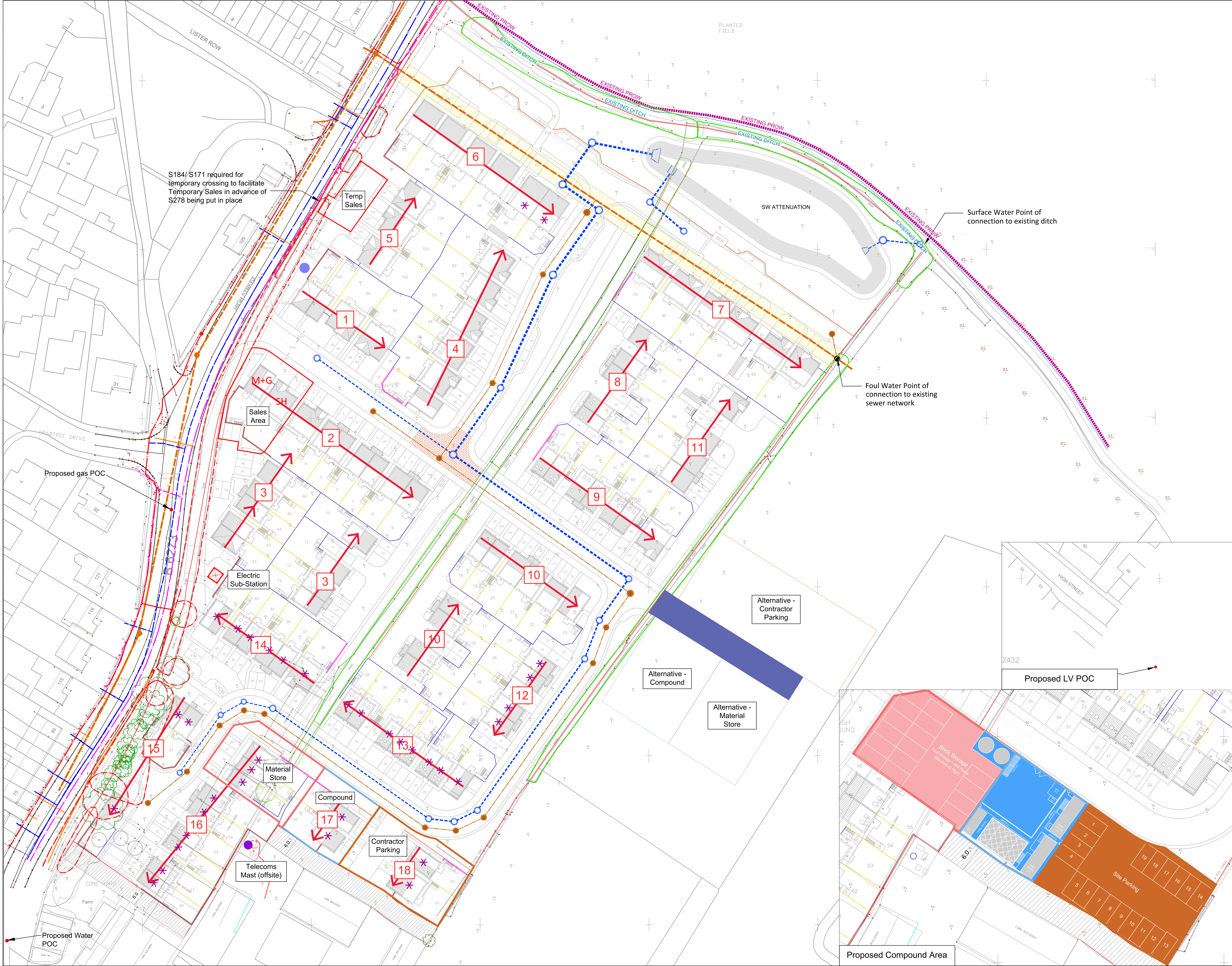
Environmental Policy and Environmental Management Procedure.

APPENDIX 3

Proposed Delivery Route.

APPENDIX 4

Construction Plan and Build Phasing



AVANT homes

DATE	REVISIONS	BY

KEY:

- ☐ Compound & Welfare area.
- 🟧 Carpark area
- 🟥 Material store
- ☐ Existing Hedge row
- ☐ Phase 1 Roads
- ☐ Phase 2 Roads
- ☐ Phase 3 Roads
- ☐ Phase 4 Roads
- ☐ Existing YW Easement
- ▨ Existing Buildings/ Silos to be demolished
- ▨ Potential Temporary Access
- ☐ Hedgerow to be removed see AIA
- ● Existing Telecoms Mast
- ● Proposed POC
- ● Sales V Stack
- — Site Development Boundary
- ✳ Potential additionally plots
- --- Existing Gas Main
- --- Existing Water Main
- --- Existing Electric Cable
- --- Existing BT
- --- Existing YW Foul Sewer
- --- Tree Protection Area

Avant Homes
Avant House
6 & 9 Tallys End
Barlborough
S43 4WP

AVANT homes

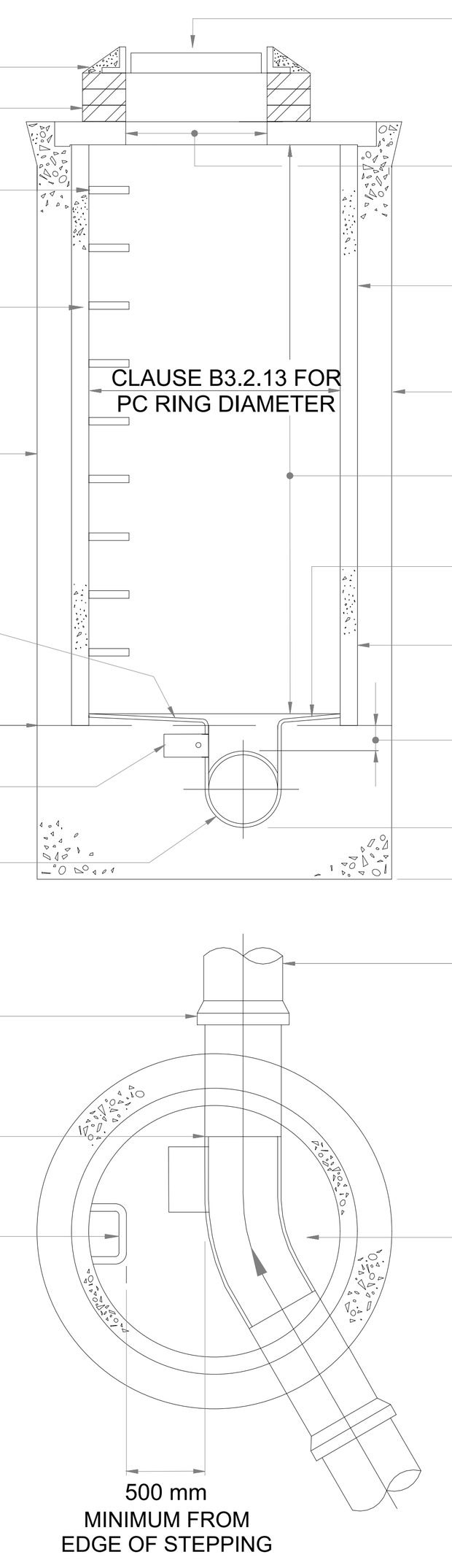
DRAWN ATD	CHECKED	DATE June 25
DRG. No. 4206-ENB_01		REV. A
SCALE: NTS		

Enabling Plan

Great Houghton
Barnsley

APPENDIX 5

Surface Water and Foul Water Details (Lynas Engineers)



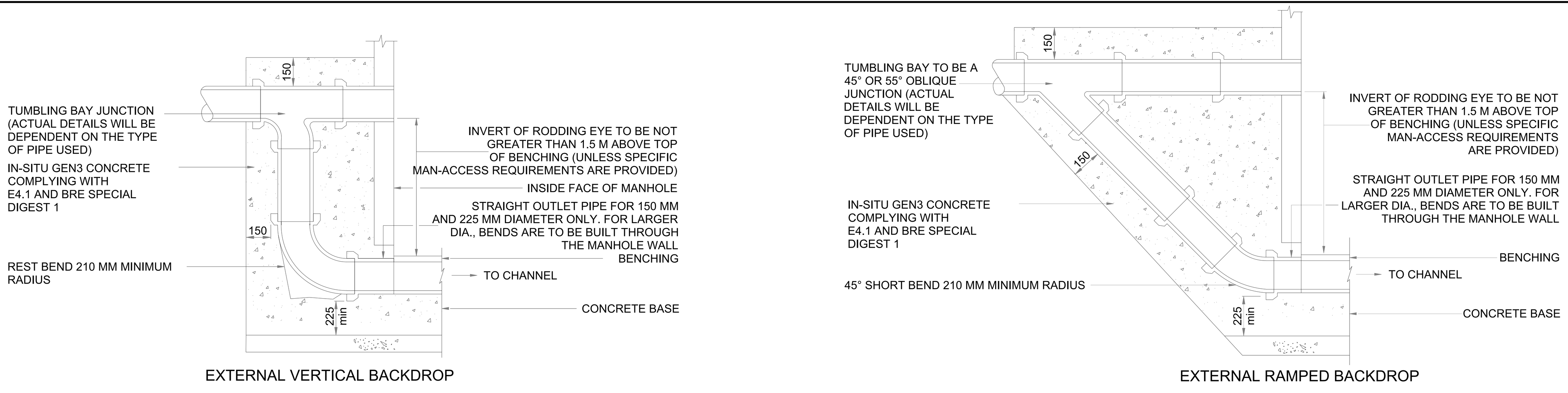
TYPICAL MANHOLE DETAIL - TYPE B

MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3.0m

SCALE NTS

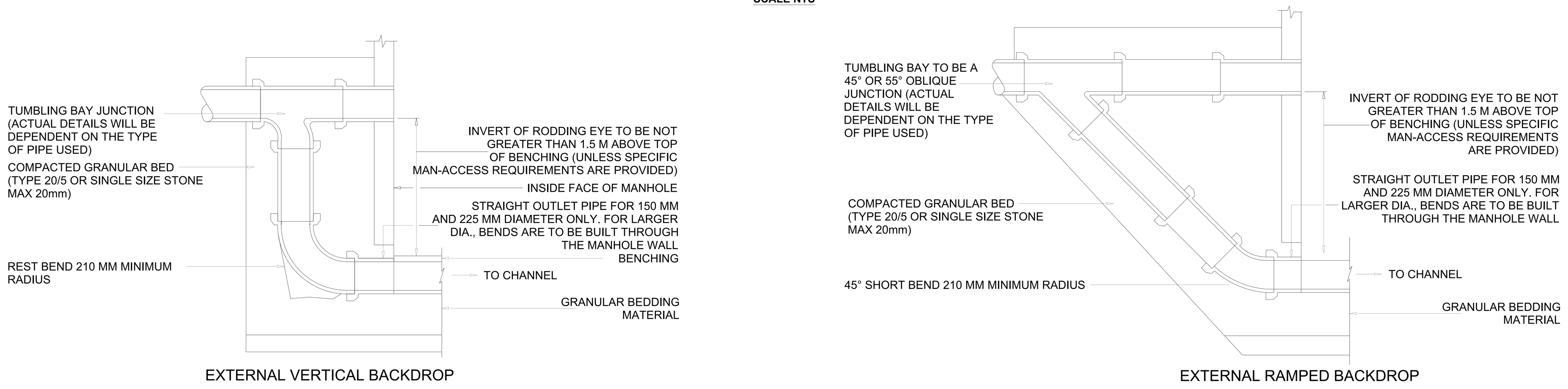
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE
LESS THAN 375mm	1200mmØ
375-450mm	1350mmØ
500-700mm	1500mmØ
750-900mm	1800mmØ
GREATER THAN 900mm	PIPE DIAMETER + 900mm

PIPE DIA.	ROCKER PIPE LENGTH
150-600mm	600mm
675-750mm	1000mm
OVER 750mm	1250mm



TYPICAL VERTICAL AND RAMPED BACKDROP DETAIL (RIGID MATERIALS)

SCALE NTS



TYPICAL VERTICAL AND RAMPED BACKDROP DETAIL (FLEXIBLE MATERIALS)

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWING REFERENCE'S - 25027-LE-ZZ-ZZ-DR-D-;

SECTION 104
3000 - SECTION 104 - SITE LOCATION PLAN
3001 - SECTION 104 - DRAINAGE PLAN - SHEET 1
3002 - SECTION 104 - DRAINAGE PLAN - SHEET 2
3003 - SECTION 104 - CHAMBER SCHEDULE - SHEET 1
3004 - SECTION 104 - TYPICAL DETAILS
3005 - SECTION 104 - HEADWALL DETAILS
3006 - SECTION 104 - FLOW CONTROL DETAILS
3007 - SECTION 104 - CATCHMENT AREAS - SHEET 1
3008 - SECTION 104 - CATCHMENT AREAS - SHEET 2

SECTION 38
0015 - SECTION 38 - HIGHWAY AND DRAINAGE LONGSECTIONS - SHEET 1
0016 - SECTION 38 - HIGHWAY AND DRAINAGE LONGSECTIONS - SHEET 2

THIS DRAWING IS BASED ON THE FOLLOWING DRAWINGS & DOCUMENTATION;

1. LANDSCAPE LAYOUT - STEN ARCHITECTURE, REF 2261.01-M
2. TOPOGRAPHICAL SURVEY - PD SITE SURVEYS REF 0725-002 DATED MARCH 2021
3. CCTV DRAINAGE SURVEY - NJC SURVEYS, REF U3795/01/CCTV
4. YORKSHIRE WATER PUBLIC SEWER RECORDS - SAFE-MOVE.CO.UK

HEALTH & SAFETY RISKS

IN ADDITION TO THE STANDARD HAZARDS AND RISKS NORMALLY ASSOCIATED WITH THE TYPE OF WORK DETAILED ON THIS DRAWING, PLEASE NOTE THE FOLLOWING RESIDUAL ABNORMAL HEALTH AND SAFETY RISKS

ABNORMAL CONSTRUCTION RISKS

CR01 CONSTRUCTION IN AND AROUND EXISTING BURIED SERVICES - CONTRACTOR TO OBTAIN ACCURATE LOCATIONS OF UNDERGROUND SERVICES WITHIN THE SITE BOUNDARY PRIOR TO COMMENCEMENT OF WORKS. CONTRACTOR TO ALLOW FOR IN RISK ASSESSMENT AND PROVIDE MITIGATION TO SUIT.

CR02 EXISTING MAJOR SERVICES KNOWN TO BE PRESENT WITHIN THE SITE BOUNDARY: EXTRA PRECAUTIONS TO BE TAKEN IN THE VICINITY OF THE EXISTING GAS MAIN. CONTRACTOR TO ALLOW FOR RISK ASSESSMENT AND PROVIDE MITIGATION TO SUIT.

CR03 UNFORESEEN BURIED HAZARDOUS MATERIALS & SUBSTANCES - INCLUDING ASBESTOS. UNKNOWN CONTAMINATED LAND MAY BE UNCOVERED DURING THE CONSTRUCTION PHASE. CONTRACTOR TO DETERMINE SAFE METHODS OF WORKING IN THE EVENT OF ENCOUNTERING CONTAMINATED LAND.

CR04 DEEP SEWERS (DEEP EXCAVATIONS REQUIRED) - PUMPING MAY BE REQUIRED TO ENSURE EXCAVATIONS REMAIN DRY. CONTRACTOR TO ALLOW FOR IN RISK ASSESSMENT AND PROVIDE MITIGATION TO SUIT.

CR05 SURFACE WATER OUTFALLS INTO EXISTING WATERCOURSE. CONTRACTOR TO DETERMINE APPROPRIATE METHOD TO MAINTAIN WATERCOURSE FLOWS DURING WORKS AND ENSURE NO CONSTRUCTION WASTE ENTERS THE WATERCOURSE.

ABNORMAL OPERATION & MAINTENANCE RISKS

MR01 APPROPRIATE FUTURE MAINTENANCE SHOULD BE IMPLEMENTED TO WATERCOURSE AND BANKS ALONG WITH PROPOSED DRAINAGE, TO MITIGATE POTENTIAL FLOOD EXCEEDANCE/BLOCKAGE OF DRAINAGE/WATERCOURSE.

MR02 APPROPRIATE FUTURE MAINTENANCE SHOULD BE IMPLEMENTED TO WHITE PRECIPITATE (EWP) LAND DRAINAGE TO MITIGATE POTENTIAL CONTAMINATED FLOOD WATER.

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING IN ACCORDANCE WITH THE REQUIREMENTS DEFINED IN THE CDM REGULATIONS 2015.

NOTES

1. THESE NOTES ARE INTENDED TO AUGMENT DRAWINGS AND SPECIFICATIONS. WHERE CONFLICT OF REQUIREMENTS EXIST THE ORDER OF PRECEDENCE SHALL BE AS SHOWN IN THE SPECIFICATION. OTHERWISE THE STRICTEST PROVISION SHALL GOVERN.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS AND ARCHITECTS DRAWINGS.
3. DRAWINGS NOT TO BE SCALED. ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR. ANY DISCREPANCIES TO BE NOTIFIED TO THE ENGINEER AND FURTHER INSTRUCTIONS OBTAINED BEFORE WORK IS COMMENCED.

DRAINAGE NOTES

D01. ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH "CODE FOR ADOPTION", THE RELEVANT BRITISH/EUROPEAN AND IWNL'S STANDARDS/REQUIREMENTS/ADDENDUMS AND KITEMARKED.
D02. DRAINAGE SYSTEMS TO COMPLY WITH BS EN 476 AND BS EN 752.
D03. ALL COMPONENTS USED IN DRAINAGE SYSTEMS TO COMPLY WITH THE FOLLOWING: BS EN476:2011.
D04. ALL DRAINAGE SYSTEMS AND COMPONENTS TO BE CONSTRUCTED AND TESTED TO THE FULL SATISFACTION OF THE RELEVANT ADOPTING AUTHORITY, AND IN ACCORDANCE WITH BS EN1610.
D05. 'VC' DENOTES VITRIFIED CLAY. VITRIFIED CLAY PIPES AND FITTINGS TO COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 295-1:2013, -2:2012, -3:2012 AND BS 65 RESPECTIVELY AND BE KITEMARKED. ALL PIPES SHALL BE EXTRA STRENGTH TO BS 65 OR EQUIVALENT TO BS EN295 PIPE CRUSHING STRENGTH.
D06. WHERE COVER TO PIPE IS LESS THAN 1.2m (OR 0.9m IN NON TRAFFICKED AREA) TO GROUND LEVEL, PIPE PROTECTION IS REQUIRED IN THE FORM OF A REINFORCED CONCRETE PROTECTION SLAB.
D07. MANHOLE COVERS AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN124-2 TO 6:2015 AND BS 7903. MANHOLE COVERS AND FRAMES TO BE OF A NON-ROCKING DESIGN WITH CUSHION INSERTS AND KITEMARKED. LOAD CLASS D400 TO BE USED IN VEHICULAR TRAFFICKED AREAS. ALL COVERS TO BE BADGED "F" OR "S" AS APPROPRIATE. MANHOLE COVER SLABS AND ACCESS TO BE IN ACCORDANCE WITH THE BRITISH PRECAST DRAINAGE ASSOCIATION TECHNICAL GUIDE ISSUED JUNE 2019.
D08. ROAD GULLY GRATES AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 124-1 TO 6:2015, BS EN 5911-6:2004 AND BS 7903. TO BE OF A NON-ROCKING DESIGN WITH LEFT HANDED CAPTIVE HINGE ACCESS AND BE KITEMARKED. LOAD CLASS D400 GRATES TO BE USED IN VEHICULAR TRAFFICKED AREAS, WITH A 450mm GRATE AND FRAME. MINIMUM AREA OF WATERWAY TO BE 900cm².
D09. NO MECHANICAL COMPACTION OF FILL MATERIAL WITHIN 300mm OF THE CROWN OF ANY PIPE.
D10. MORTAR TO COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 998-2:2016 AND PD6678:2005.
D11. COVER AND FRAME BEDDING MORTAR TO COMPLY WITH THE DESIGN MANUAL FOR ROADS AND BRIDGES VOLUME 4, SECTION 2, PART 5 HA CD534 CHAPTER 6, AND THE RELEVANT PROVISIONS OF THE MANUAL OF CONTRACT DOCUMENTS FOR HIGHWAYS WORKS VOLUMES 1 AND 2.
D12. PRECAST CONCRETE MANHOLES TO BE IN ACCORDANCE WITH BS 5911:PART 200. PRECAST CONCRETE RINGS AND COVER SLABS TO BE JOINTED WITH CEMENT MORTAR.
D13. ALL CONCRETE PIPES TO BE CLASS 120 TO BS EN 1916/BS 5911-1:2002.
D14. ALL CONCRETE MANHOLES TO BE IN ACCORDANCE WITH BS 1917/BS EN 5911-3:2010.
D15. INSITU AND PRECAST CONCRETE UNITS SHALL HAVE SULPHATE RESISTING PORTLAND CEMENT TO BS 4027, UNLESS AGREED OTHERWISE WITH THE ADOPTING AUTHORITY.
D16. IN INSTANCES WHERE A SURFACE WATER PIPE IS PROPOSED TO TRAVEL BENEATH A FOUL WATER PIPE THE SURFACE WATER PIPE SHALL BE ENCASED IN CONCRETE FOR SANITARY PURPOSES.

IWNL NOTES

1. ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH "THE CODES FOR ADOPTION" THE RELEVANT BRITISH/EUROPEAN AND IWNL'S 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 IWNL BEFORE ANY SEWER WORKS ARE CARRIED OUT.
4. COVER SLABS MUST CARRY THE BSI KITEMARK OR WILL BE REJECTED BY IWNL INSPECTOR. WHERE THE CLEAR OPENING OF THE KITEMARKED 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 600mm X 600mm FOR THE IWNL SPECIFIED COVER SIZE. PLEASE REFER TO CONCRETE PIPE SYSTEMS ASSOCIATION (CPSA), 'TECHNICAL BULLETIN' ISSUED AUTUMN 2004 FOR KITEMARKED COVER SLAB OPENING SIZES.
5. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
6. THE ADOPTABLE SEWERS SHOULD BE A MINIMUM OF 1m AND MANHOLES 0.5m FROM KERB FACES AND SERVICE MARGINS.
7. SEWERS MUST HAVE 5 METRES CLEARANCE FROM TREES AND HEDGES.
8. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4-08-02 (TABLE A2).
9. 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.
10. ADOPTABLE PLASTIC SEWER PIPES TO BE BSI KITEMARKED (CERTIFIED TO WIS 4-35-01 AND BS/EN13476). ADOPTABLE 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 IWNL WOULD PREFER CLAYWARE CHANNEL IN MANHOLES. WE HAVE FOUND THAT PLASTIC CHANNELS ARE DIFFICULT TO SET IN CONCRETE BECAUSE THEY FLOAT AND A SATISFACTORY FINISH CANNOT BE OBTAINED ON THE BENCHING.
11. WHERE A B125 COVER AND FRAME HAS BEEN APPROVED, THIS MUST NOT BE COATED IN PLASTIC AND MUST HAVE LIFTING EYES SUITABLY SIZED TO ACCOMMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE NOT ACCEPTABLE.
12. THERE SHOULD BE ENOUGH CLEARANCE TO ACCOMMODATE BEDDING FOR BOTH PIPES, APPROX. 300mm: IF CROSSOVER IS NEAR THE ROCKER THEN THE CLEARANCE NEEDED MAY BE INCREASED.

THE INFORMATION ON THIS DRAWING IS FOR APPROVAL PURPOSES ONLY. NO CONSTRUCTION WORKS ARE TO BE UNDERTAKEN UNTIL WRITTEN APPROVAL IS RECEIVED FROM 'BARNSLEY METROPOLITAN BOROUGH COUNCIL' & 'INDEPENDENT WATER NETWORKS'

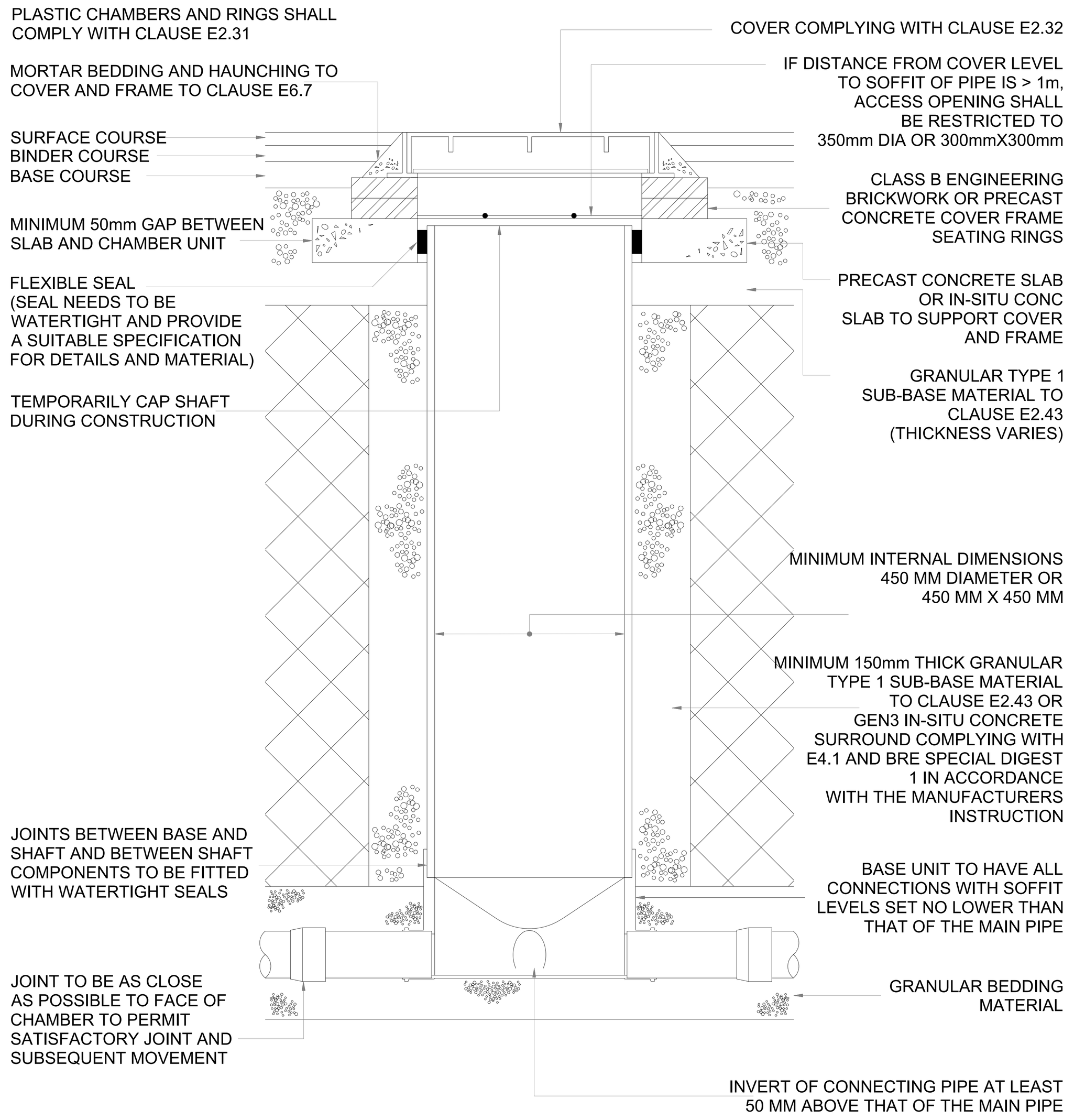


FIGURE B 18

TYPICAL INSPECTION CHAMBER DETAIL - TYPE D

DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE UP TO 3m

FLEXIBLE MATERIAL CONSTRUCTION FOR USE IN AREAS SUBJECT TO VEHICLE LOADING

PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH E2.31

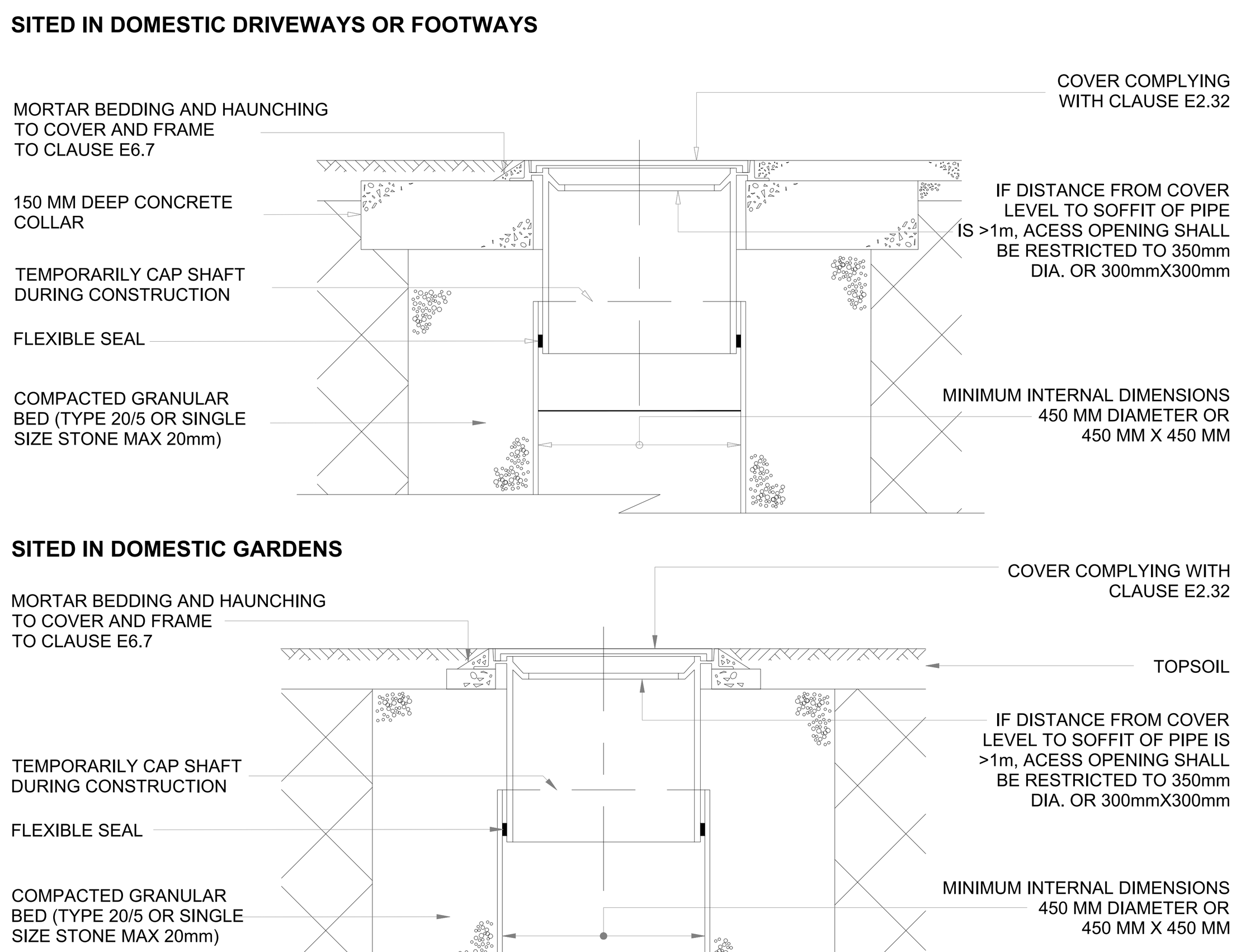
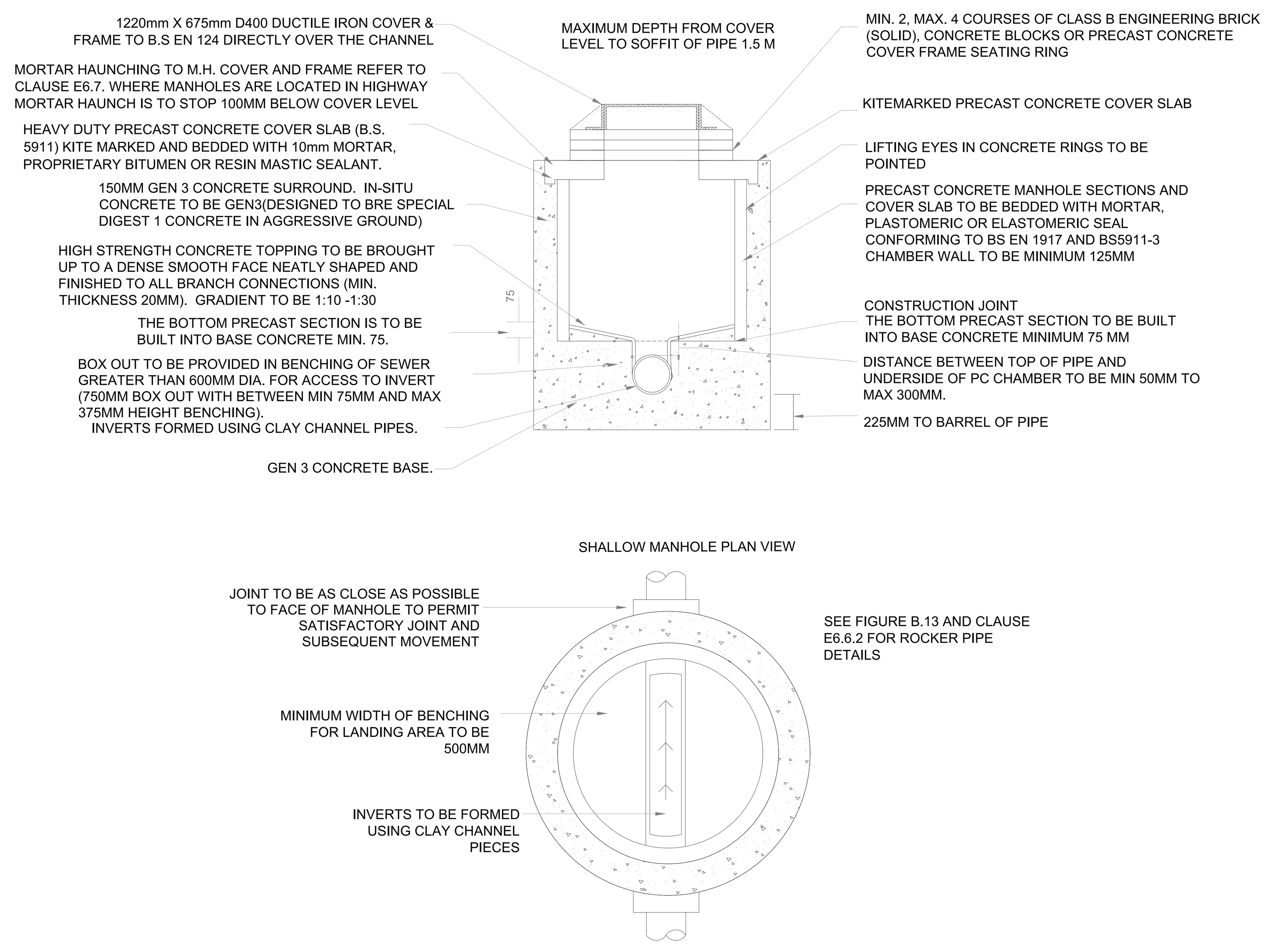


FIGURE B 19

TYPICAL INSPECTION CHAMBER DETAIL - TYPE D

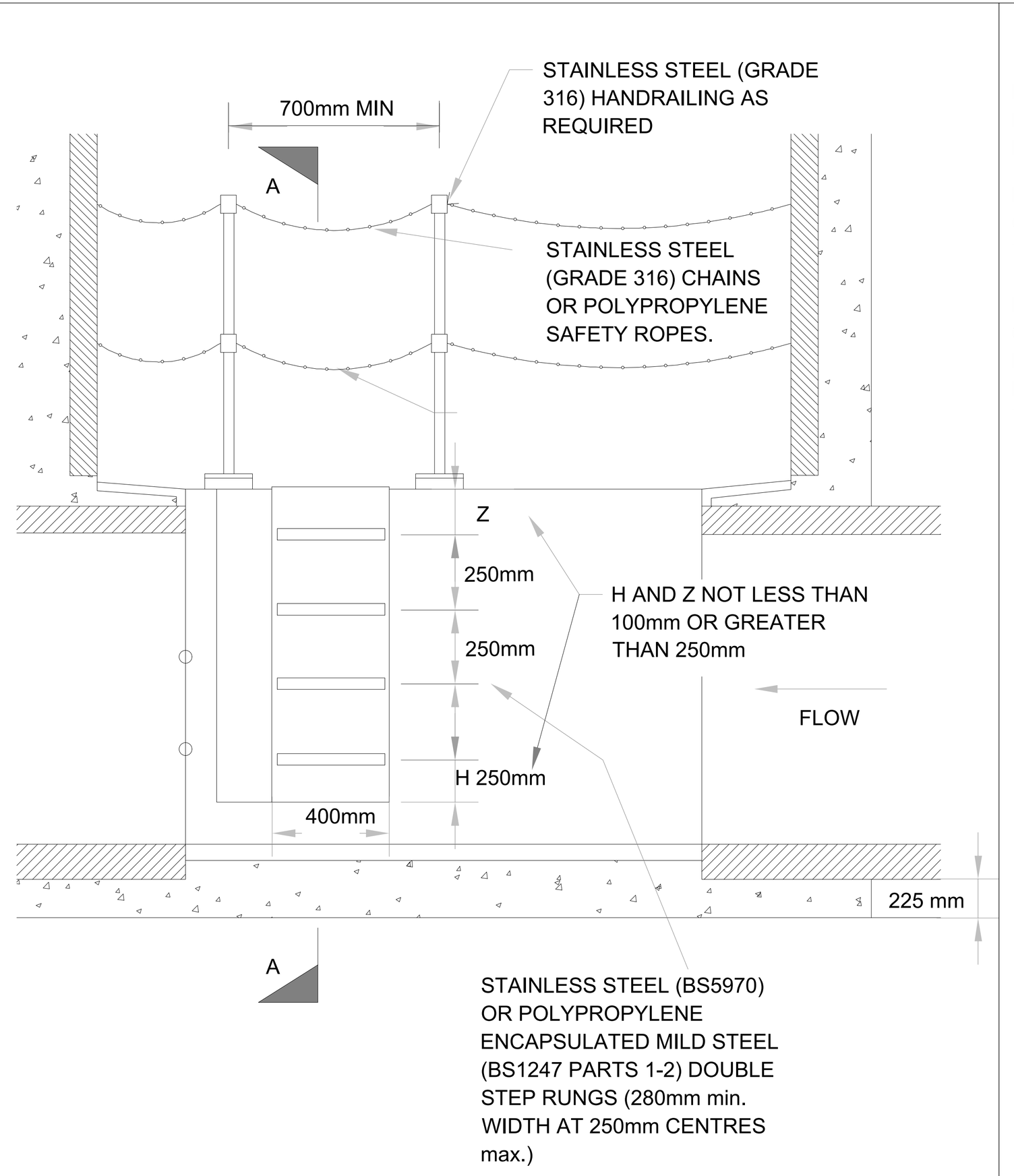
FLEXIBLE MATERIAL CONSTRUCTION ALTERNATIVE TOP DETAILS FOR USE IN AREAS OF LIGHT VEHICLE LOADING OR LANDSCAPED AREAS



TYPICAL MANHOLE DETAIL - TYPE C

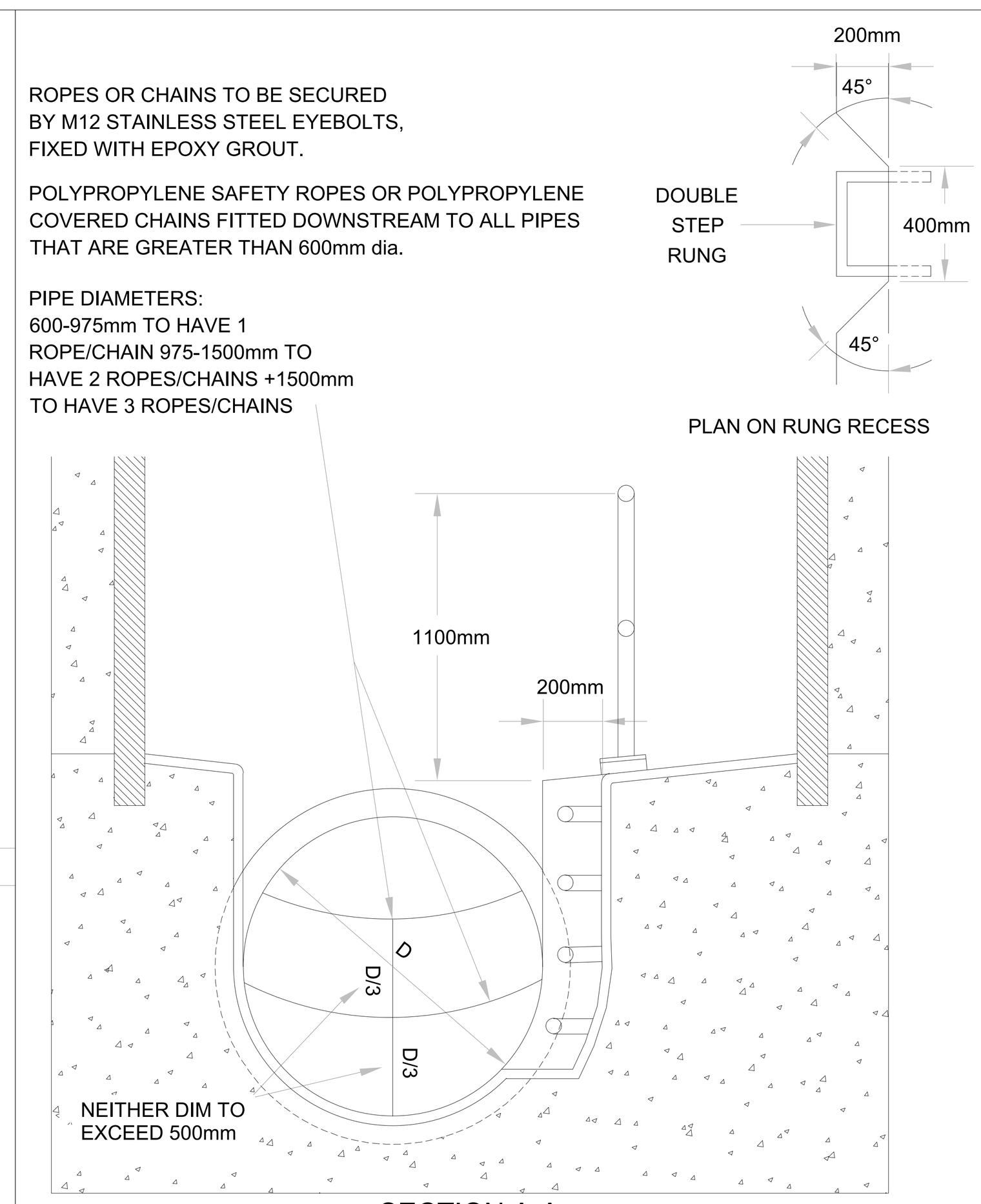
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 1.5m

SCALE NTS



ACCESS TO INVERT FOR PIPES EXCEEDING 600MM Ø.

SCALE 1:20

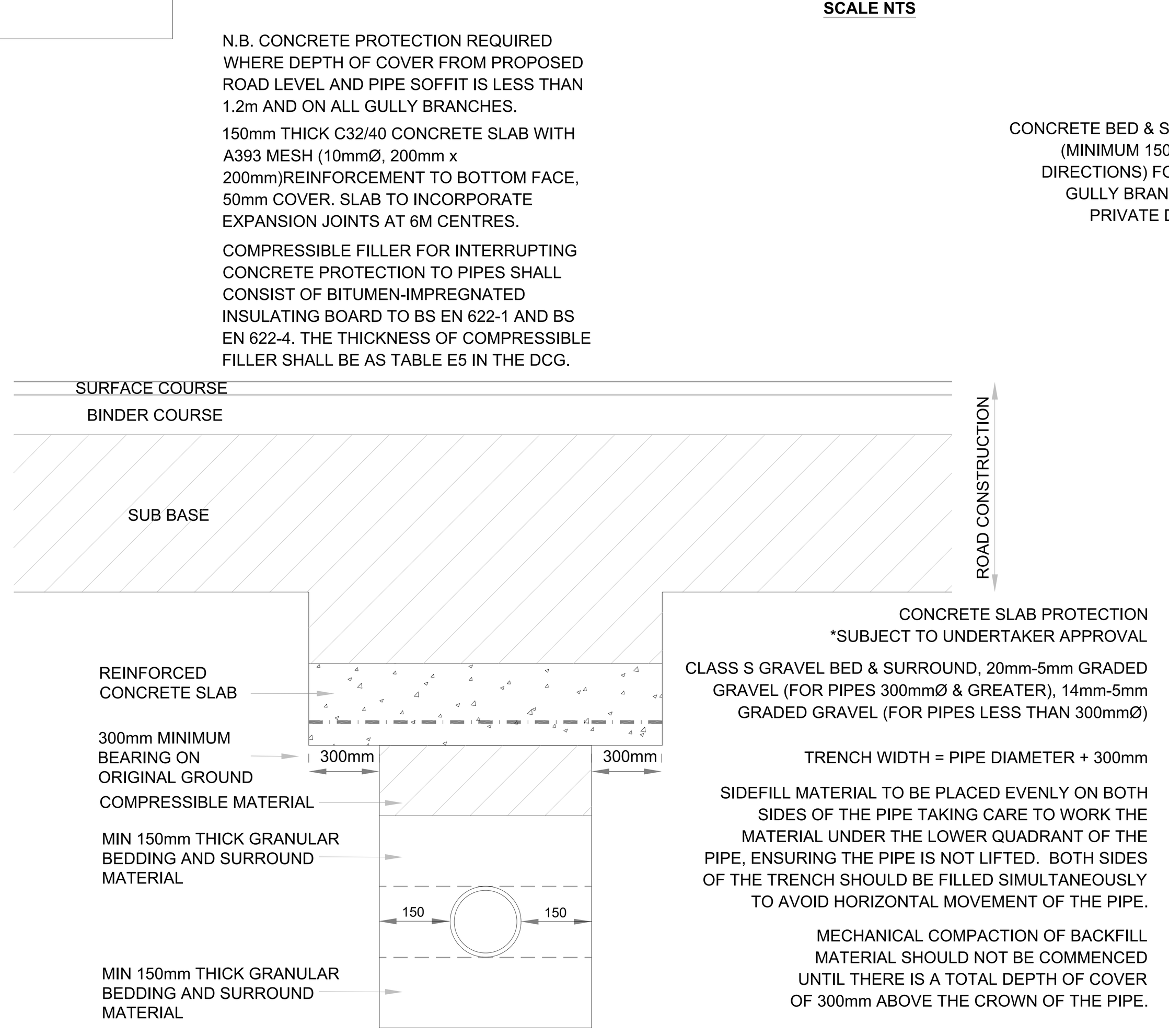


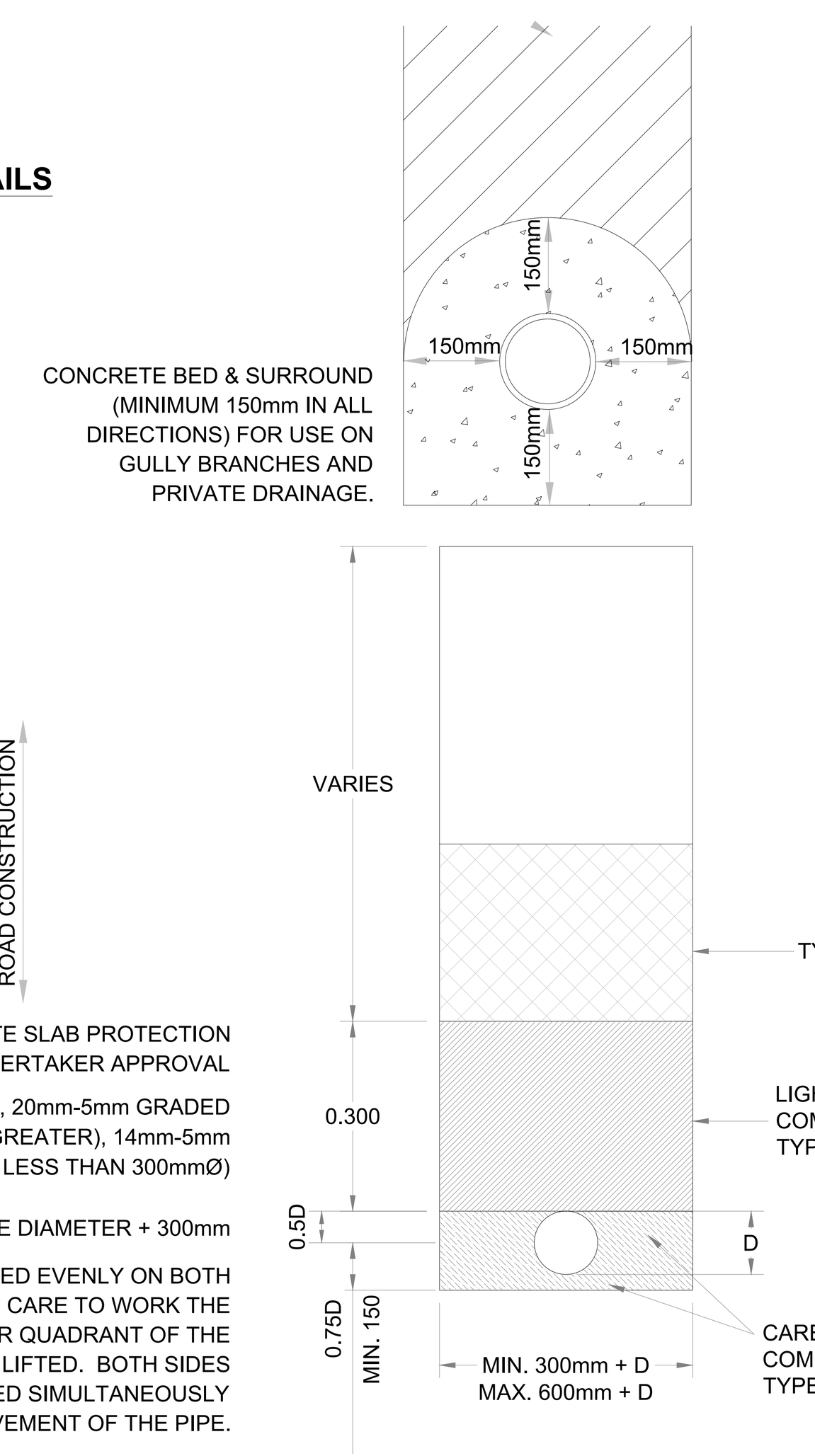
SECTION A-A

SCALE 1:20

PIPE SURROUND DETAILS

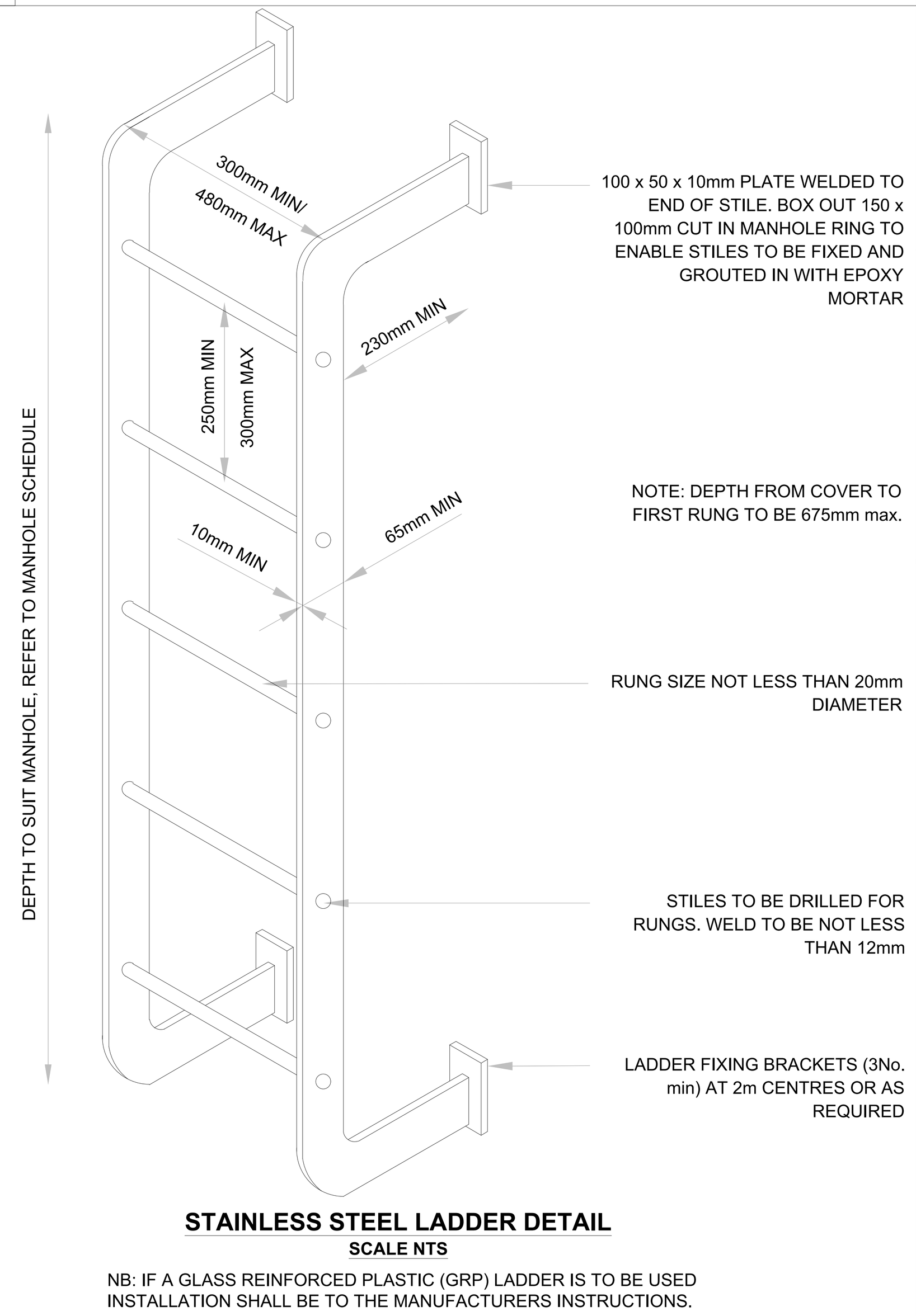
SCALE NTS





PIPES WITH FLEXIBLE BED AND SURROUND (CLASS S)

SCALE NTS



STAINLESS STEEL LADDER DETAIL

SCALE NTS

NB: IF A GLASS REINFORCED PLASTIC (GRP) LADDER IS TO BE USED INSTALLATION SHALL BE TO THE MANUFACTURERS INSTRUCTIONS.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS

Stat	Purpose of Issue	Date	Auth
S4	FOR APPROVAL	30.06.25	RSL

Rev	Description	By	Date	Chk'd	Auth
P01	FIRST ISSUE	TH	30.06.25	CK	RSL

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Client: AVANT homes

Project: GREAT HOUGHTON BARNSLEY

Title: SECTION 104 - TYPICAL DETAILS

Sheet Size	Original Scale	Designed/Drawn	Checked	Authorised
A0	NTS	TH Date 30.06.25	CK Date 30.06.25	RSL Date 30.06.25

Status	Drawing Number	Rev
S4	25027-LE-ZZ-05-DR-D-3004	P01

APPENDIX 6

Traffic Management Policy Guidelines

APPENDIX 7

Road Safety Audit