

TRADE SPECIFICATION

PLOT GROUNDWORKS

GENERAL

- a) This Trade Specification gives information regarding the procurement of materials, installation of materials and on-site working methods to ensure the correct standards and compliance is achieved on site. This trade specification is to be read alongside working drawings, BDW Standard Details, manufacturer's literature and the Barratt Construction Best Practice Guide. Any statutory requirement relating to the Trade Specification takes precedent. If any doubts remain regarding the information given or further clarity is required, these concerns must be communicated to the Commercial Department BEFORE proceeding.
- b) **BDW Trading Limited**
Barratt Homes and David Wilson Homes are trading names of BDW Trading Limited "the Company".
- c) **Clearing**
The Contractor is responsible for clearing up and safe removal of waste materials arising from execution of the Works, as part of this Trade Specification.

The Contractors attention is particularly drawn to the sections below which, state where waste materials must be removed as work progresses, ensuring that all waste materials have been removed following the completion of the Works.

Failure to comply with this requirement resulting in the Company's labour performing this task will result in contra charges.

- d) **Contract Conditions**
The Contractors attention is drawn to the Company's Conditions of Contract and General Terms.
- e) **Defective Workmanship**
All defects, resulting from poor workmanship by the Contractor or, by the Contractor not carrying out the Works in accordance with this Trade Specification and the Governing Documents listed below, are to be remedied by the Contractor at no extra cost to the Company.

The Contractor is required to carry out Quality Assurance (QA) Checks of their works. Individuals completing the QA checks must be competent to ensure that work has been completed to the required standards and specifications. Copies of QA checks including photographic or test evidence must be provided to the Company for review.

The Company may require the contractor to use its IT platform to complete QA checks and the contractor must provide suitable hardware and training to any supervisors to allow them to access and record appropriate QA checks. QA records required will include the following but additional records may be required depending on the specific site:

- Plot Drainage

- Plot Foundations and slabs (see section 11) and will include as a minimum:
 - Depth of Foundations and any reinforcement required
 - Finished floor level
 - Slab/perimeter block survey confirming flatness on a 1m x 1m grid
 - Levels and depths of the bottom of the foundation and top of concrete
 - Foundation square check
 - Concrete delivery notes and any tests undertaken
 - Photographic evidence
- Make up of Roads/footpaths and Driveways
- Storm and Foul sewers installation
- Garden preparation and build up
- Retaining wall structures (see section 9)

Failure by the Contractor to carry out this contractual obligation, resulting in an alternative Contractor being instructed to carry out such remedial work, will incur the Contractor with the cost thereof.

Should any element of work, undertaken by a preceding trade, be considered deficient and inhibiting progression by this trade, all such defects must be brought to the attention of BDW Site Management for remedy prior to the commencement of the works.

f) **Distribution**

Contractors should be aware that the Company operates a national supply chain agreement with:

For below ground drainage either:

Keyline Builders Merchants Ltd

Cob Land
Swan Valley
Northampton
NN4 9BB

Or:

Buildbase Civils

Gemini One
5520 Oxford Business Park South
Cowley
Oxford
OX4 2LL

For above ground drainage either:

City Plumbing Supplies Ltd

Highbourne House
1 Eldon Way
Crick
Northampton
NN6 7SL

Or:

Plumb Center (Wolseley UK)

Harrison Way
Leamington SPA
Warwickshire
CV31 3HH

It is mandatory that all drainage materials are only procured through these merchants.

g) **Group Suppliers**

Contractors should be aware that the Company operates a national specification agreement:

For above and below ground drainage:

Polypipe Ltd

Broomhouse lane
Edlington
Doncaster
DN12 1ES

Insulation for ground floor slab:

Thermal Economics Ltd

Thermal House
1 Cardigan Street
Luton
LU1 1RP

Aerated blocks:

H+H Celcon Ltd

Celcon House
Ightham
Sevenoaks
Kent
TN15 9HZ

Block & Beam Flooring ground floors &
Jetfloor system:

Bison Precast

Hoveringham Works
Thurgarton Lane
Hoveringham
Nottingham
NG14 7JX

Pre-Insulated Floor Cassettes

NuSpan

Tallington Factory Site
Barholm Road,
Tallington
Lincolnshire
PE9 4RL

Spantherm Ltd

Creagh Concrete Products Ltd.
38 Blackpark Road
Toomebridge
Antrim
BT41 3SL

Precast Concrete Retaining Walls:

FP McCann

Summit House
Alma Park Road, Grantham
Lincolnshire
NG31 9SP

Flagstones and Pavings:
Secura Grand Segmental Retaining Wall
System:

Tobermore

2 Lisnamuck Road
Tobermore
Northern Ireland
BT45 5QF

Flagstones and Pavings:

Marshalls PLC

Landscape House
Lowfield Business Park
Elland
HX5 9HT

Geowall Decorative Retaining Wall System:

Retaining UK Limited

Hughes House
Cargo Fleet Road
Middlesborough
TS3 6AG

No other manufacturer's products are to be specified unless otherwise stated in the tender letter.

h) **Health & Safety**

The Contractor's attention is drawn to the Safety, Health and Environmental section of this Plot Groundworks Trade Specification and the requirements noted therein.

i) **Materials**

It is the Contractor's responsibility for checking materials delivered directly to site for any damage, colour variation and correct quantities prior to unloading. Should significant quantities of damaged materials be identified, these must be reported to the supplier before accepting the consignment.

The Contractor is responsible for unloading, protecting and safe storing all of their own materials within a designated location to avoid damage and surface contamination.

The Contractor must ensure that all materials are satisfactory for use and have not been subject to deterioration and confirm to the relevant BSS, if applicable or Agrément Certificates, NHBC and Local Authority requirements. Failure resulting from the Contractor using unsuitable or damaged materials will result in the Contractor being liable for any costs in rectifying the same.

j) **Manufacturers Products**

The Contractor must make themselves aware of Manufacturer's products and fixing instructions at the tendering stage as no claim for want of knowledge will be entertained. All technical issues must be resolved before work commences on site.

k) **Site Condition**

The Contractor is to examine the drawings, visit the site in order to ascertain position of site office, compound, electricity and water supplies.

Accessibility may vary depending on the location, soil type, weather conditions and such like. These factors must be taken into consideration at tender stage as no claims will be entertained for additional costs due to adverse site conditions.

l) **Sub-Contractor**

The Contractor must not further sub-contract any part of the Works to another Contractor without the prior knowledge and written approval of the Company.

It is essential that the Contractor liaises with all other trades associated with the Works to ensure the sub-structure is installed correctly and appropriately prior to work being carried out.

Where fire proofing or fire stopping measures are likely to follow this trade, it is essential the preparation work is sufficiently prepared. Please make reference to the Fire Proofing Trade Specification and associated standard details and drawings to ensure knowledge of requirements. If in doubt, please ask for clarification, prior to signing this document.

Manufacturing engineering judgements should be requested for non - standard applications. Please contact Group Design and Technical for assistance.

1. QUOTATION

- 1.1 The basis on which the Works are to be placed (i.e. all risk, or re-measure) shall be indicated within the invitation to tender letter. It is the Contractors responsibility to ascertain this information, as no claims based upon want of knowledge will be accepted.
- 1.2 Where the Works are to be let on a Supply & Fix basis the Contractor is to provide a Lump Sum per unit Quotation including Labour, Plant and Materials.
- 1.3 All tenders are to include the schedule of tender rates, which have been used to provide the tender sum, in the standard format [Groundworks Tender Return](#) which is provided by the Company.
- 1.4 The Contractor shall provide on request a detailed cost analysis of the impact of any potential adjustments to drawings, site levels and specification details and provide BDW with detailed analysis of costs for value engineering opportunities and participate in a pre-start value engineering review with BDW.
- 1.5 All work must be completed in accordance with the specification and requirements of the NHBC & Local highways and sewer adopting authorities.

- 1.6 The use of unauthorised standpipes are strictly prohibited and under no circumstances to be used on any of our developments.
- 1.7 All personnel working for the Contractor shall: -
- (i) wear the relevant personal protective equipment for the task they are carrying out,
 - (ii) undergo a health and safety induction, carried out by our Site Manager,
- 1.8 A fully inclusive fixed price lump sum per plot or house type (unless tendered as “all risk” – see important notes above) is required in accordance with the below specification, tender drawings enclosed and Invitation to tender letter.
- 1.9 Contractors are deemed to have priced in accordance with the current codes of practice, good standards of workmanship, NHBC “Buildmark” and Local Authority requirements. All work must further conform to local By-laws and other Authorities and bodies.
- 1.10 Should there be any apparent conflict between the requirements of the contract drawings enclosed and the specification, the situation should be clarified with the Company in writing prior to commencement. No deviation from any foundation design (if supplied) will be permitted unless confirmed in writing by the Company.
- 1.11 All variations to be agreed in writing prior to commencement of such work. The value of all such variations should be formally agreed with the Company’s Quantity Surveyor prior to execution.
- 1.12 Subsoil information (site soil report) is attached for your information. Contractors should make their own judgments on the offered information to ensure that the details are adequate for tender purposes. Contractors are deemed to have allowed for any de-watering that may be necessary and to have made provision for all attendance’s including suitable acoustics baffles where construction adjoins occupied properties.
- 1.13 Should Contractors feel it necessary, they may carry out at their own expense, additional trial holes. However, arrangements must be made with the Company prior to these works being carried out.
- 1.14 All works carried out to adoptable areas are to be the relevant adopting authority standards and any failure due to incorrect construction thickness or materials will be corrected by the tenderer at no expense to the Company.
- 1.15 Roads and Sewers work is deemed to include for all roads, parking areas (excluding private/domestic), public open space works and main drainage runs and laterals (measured to nearest domestic manhole). The balance of the work is deemed to be included within the Plot Groundwork contract (i.e., house/garage foundations, front/rear gardens, domestic drainage, floor slabs, service entries, domestic paths/patios, drives, etc.). A schedule of rates is required for all other external works, outside of the plot boundary, i.e., screen walls, public footpaths etc.
- 1.16 The Contractor should note that where occupied houses are adjacent to the site noise and vibration nuisance must be kept to a minimum.

- 1.17 The Contractor must include, within their tender Quotation, suitable means of cleaning vehicle wheels associated with the completion of the Works. This must be completed prior to egress from the site for the duration of the Works, this may be by means of mechanical sweeper, if necessary, to clean all site roads and public highways adjoining the development to the Local Authority's satisfaction and site roads to the Company satisfaction (to be allowed for within Roads/Sewers).
- 1.18 The Company may provide, from time to time, a mechanical road sweeper to attend site to clean site roads, for presentation purposes. This does not negate the Contractors responsibility for cleaning wheels and ensuring site roads are kept clean.
- 1.19 The Company will provide the Contractor, free of charge, the use of water for the works at certain points, and shared welfare facilities.
- 1.20 The Contractor must allow for all costs associated with testing materials provided by themselves to satisfy Local Authority and NHBC requirements within their tender sum.
- 1.21 The Contractor must allow, within the tender Quotation, all costs associated with detailed setting out from co-ordinates provided by the Company. It is the Contractors responsibility to check all setting out co-ordinates and levels provided by the Company. Should any discrepancies be found, these must be advised to the Company in writing prior to commencement of the Works. Should the Contractor fail to notify the Company of any such discrepancy, the Contractor will be deemed to have accepted the details provided and consequently, liable for any costs associated with any subsequent abortive work. An "As Built" survey will be commissioned by the Company to ensure that the Works have been set out in accordance with the co-ordinates provided.
- 1.22 The Contractor is required to confirm the required local scale factor for the site and the local stations to be used for setting out the site. The Contractor shall ensure all existing ground levels are in accordance with the survey provided paying particular attention to highway tie in points and any boundary points of interest. Any discrepancies must be raised with BDW prior to commencement of works. Failure to comply will result in the Contractor being deemed to have accepted the details provided and made them liable for the costs associated with any subsequent abortive groundwork costs.
- 1.23 Contractors are to allow for within their tender sum for all costs associated with testing materials provided by them to satisfy either the Local Authority Highway Officer's or BDW's requirement. Test certificates for all imported materials shall be provided to BDW at the point of delivery confirming all materials are supplied in accordance with specification. Should the Company receive any costs from Local Authorities/County Councils in respect of the above, these costs will be charged to the Contractor
- 1.24 Should the Contractor or persons either acting as his Sub-Contractor or Supplier cause damage to Statutory Authority plant or Local Authority property then the full costs will be charged to the Contractor.
- 1.25 Material storage areas for the Contractor to be constructed at their own expense and the subsequent removal of all material used to construct the storage area at the end of the site. Position of material storage areas to be agreed by BDW prior to starting on site.

- 1.26 The Contractor is to ensure that the tender includes for all the necessary temporary works, haul routes, pumping and any protective measures to trees etc., that may be required by the Local Authority, Environment Agency or any other Statutory Body. The contractor must arrange for the rapid disposal of water from any source and must provide, where necessary, temporary water courses, ditches, drains, pumping or other means of maintaining the works free from water whilst ensuring all existing watercourses and outfalls remain protected from the ingress of deleterious substances. The Contractor shall ensure appropriate costs are included for these protective works.
- 1.27 The Contractor shall provide to BDW detailed calculations in respect of anticipated import/surplus material quantities and the proposed timeline for earthworks to avoid double handling or a shortfall in materials. Any foreseen requirements for double handling of materials or shortfall in requirements shall be raised with BDW to enable appropriate mitigation steps to be agreed.

2. ATTENDANCES

- 2.1 The Contractor is to provide attendances, required by the Company, including:
- 2.1.1 Carry out general site clearing, including placing debris in skip containers for disposal by the Contractor, as and when required by the Company's site representative.
- 2.1.2 Attendance on all Sub-Contractors working under your authority, such as Piling or PCC floor beam installers, including storage areas, temporary roads, hard-standings, access points and such like, to complete the Works.

3. BLOCKWORK/BRICKWORK BELOW DPC

- 3.1 The Contractor is to allow for the construction of all Blockwork facings below DPC, inclusive of all plant i.e., mixer etc. (to include provision of and building in all lintels, void ventilators etc.) in any of the following, dependent upon construction details and to comply with target U-values: -
- 3.1.1 300mm H+H Celcon trench blocks in accordance with working drawings 2010/DET/111, 2010/DET/112 & 2010/DET/113 (enclosed).
- 3.1.2 Facing bricks will be supplied free of charge by the Company.
- 3.1.3 Party wall cavities below ground to include inclusion of 'ARC Party Wall' DPC from top of floor to base of underbuild. Party Wall DPC is friction fitted at the party wall junction as blockwork/brickwork below DPC progress. 'ARC Party Wall DPC' overlaps at the bottom of each barrier.
- 3.2 The Contractor must make provision for sealing all entry points in external walls to avoid ingress of vermin.
- 3.3 The Contractor must refer to section 11.9 for Timber Frame construction requirements.
- 3.4 All substructure mortar joints should be flush face finish.

4. DOMESTIC DRAINAGE

- 4.1 All above and below ground drainage to be UPVC by Polypipe laid on bed of approved material in accordance with the Local Authority requirements.
- 4.2 The Contractor is to allow for all domestic foul and surface water drainage works including; main runs, laterals, inspection chambers, rodding eyes, collars and protective caps to exposed ends. The Contractor is to further include for draining kitchen/utility/WCs directly into wastes running under the ground floor slab (as opposed to the plumber running wastes above the slab) irrespective of whether shown on working drawings.
- 4.3 All drainage runs passing under and within 1m of a building to be encased in minimum 150mm concrete with joints remaining flexible. Rocker pipes with flexible joints to be provided through walls.
- 4.4 Where drains pass through Walls bridge with Concrete lintels and seal. All drain trenches within 1m of any foundation to be bedded and surrounded and trench backfilled with concrete.
- 4.5 All drain trenches more than 1m from any foundation and deeper than the foundation to be bedded and surrounded and trench backfilled with concrete.
- 4.6 Where house drainage connections are made via Y-junctions access to the run must be provided by roddable gullies or SVPs access points.
- 4.7 Sewers serving more than one property should be kept as far as is practicable (preferably min. 5m) away from any building where a future extension is likely e.g. to rear or side of house.
- 4.8 The Contractor must allow for the final connection and leveling of gullies and manhole covers.
- 4.9 On completion of a section of storm water or foul sewer drainage run, the Contractor must allow for jetting and removal of any silt or debris, accumulated during construction, to the drain run and inspection chamber.
- 4.10 The inspection chamber must be fully benched and, upon completion, offered to the Site Manager for inspection. A record of all inspections must be kept on site.
- 4.11 After inspection and completion of any works to the inspection chamber, a geotextile mat must be placed under the cover to reduce the ingress of mud and silt from site activities.
- 4.12 All inspection chamber covers and frames are to be securely held in place by a concrete surround and/or haunching.
- 4.13 Plastic gulley gratings are **NOT** acceptable.
- 4.14 Prior to any section of the sewer being made live, a camera survey must be carried out and results made available for the Site Manager.
- 4.15 Visual monthly inspections of foul sewers must then be carried out to ensure the system is operating correctly. Suitable records should be kept of such inspections.

- 4.16 The Contractor is responsible for the maintenance of the drainage until occupation of the dwelling.
- 4.17 Inspection chambers, drainage channels, frames and drain covers within private and shared driveways must be to a minimum specification class of B125. Pedestrian routes should be completed with a minimum specification class of A35. Channel drainage located within shared drives should have covers installed to accept loadings equivalent to class C250.
- 4.18 All rainwater outlets must be installed in accordance with the drawings.

5. DRIVES

- 5.1 Allow for all necessary reduced level dig/fill to make up levels as required and construct drive to details - sub-base depth to suit site conditions (finishes as per schedule appended to enquiry).
- 5.2 Drives are to be constructed in two stages; up to and including binder course to facilitate access to construct superstructures and a second visit to complete the surface course.
- 5.3 Drives to be constructed to an appropriate fall to a drainage point for the avoidance of ponding.
- 5.4 Private drive construction to be minimum sub-base 150mm well compacted certified type 1 with additional sub-base or capping in accordance with NHBC standards and fill as necessary. Pre-cast concrete bullnosed edging 50 x 150mm inclusive concrete bed and edging support 60mm (0/20mm) Dense Bitumen Macadam binder course with 25mm (SMA 6 surf 40/60) to BS EN 13108-5 and PD 6691 utilising aggregate to BS EN 13043 and PD 6682-2.
- 5.5 Shared drives and associated access areas having occasional use by commercial vehicles are to be constructed with a minimum sub-base 150mm well compacted certified type 1 with additional sub-base or capping in accordance with NHBC standards and fill as necessary. Pre-cast concrete bullnosed edging 50 x 150mm inclusive concrete bed and edging support 80mm (0/20mm) Dense Bitumen Macadam binder course with 30mm Stone Mastic Asphalt surface course.
- 5.6 Unless drives are constructed with sufficient fall away from the building and suitably drained; a minimum 75mm is to be maintained vertically between the reduced ground level and any air brick to the building and set a minimum of 600mm horizontally from the building to the drive edging in accordance with NHBC Technical Guidance.
- 5.7 Where drives are constructed to multiple parking bays a 50 x 150mm pre-cast concrete bullnosed edging, cut to 450mm in length, should be used to demark the bays at the front of each bay.
- 5.8 Where drives are constructed in block paving these must be in accordance with NHBC standards and a minimum of 50mm thick paving blocks for single private drives and minimum 80mm thick paving blocks on shared drives. All blocks shall be procured from a BDW approved supplier, the Contractor shall confirm the supplier to BDW.

6. EXTERNAL WORKS

- 6.1 Clear all gardens (once) of all builders rubble and cart from site. The Contractor is to ensure that any stone used for pedestrian walkways, scaffold platforms and hardstandings is laid on terram, during the construction process, for this material to be removed and reused. Break up subsoil to ensure adequate drainage). Reduce/make up levels as required, spread and level top soil in gardens. These works shall include the removal of waste/debris from site. The topsoil should be finished 150mm below D.P.C. and a minimum of 200mm in depth generally with a required minimum of 300mm in depth to planted areas
- 6.2 The Contractor shall complete the garden preparation standard form (QA38) with photos of topsoil and de-compacted subsoil to be provided for all gardens detailing conformation with specification. This shall be countersigned by the BDW Site Manager.

7. LOCAL AUTHORITY REQUIREMENTS

- 7.1 The contractor shall be deemed to have included within his price for all items required by the Local Authority in the execution of the works to completion, whether or not the same are particularly referred to in this specification, working drawings or enquiry package.

8. PATHS

- 8.1 The contractor is to allow for slab footpath from the front of the plot to the rear French door as per drawings enclosed with this enquiry and the Company's design risk assessment.
- 8.2 Paving slabs to be 450mm x 450mm x 32mm Pre-Cast Concrete, laid butt jointed including any appropriate fill material underneath to prevent settlement.
- 8.3 Paving to be laid on a level, 30mm, sand/cement mix with a sub-base of clean hardcore to a minimum depth of 100mm and all joints grouted accordingly.
- 8.4 Paths shall be of 900mm minimum width (except where impractical), margins to be in pea shingle or cement as appropriate.
- 8.5 Where the site and plots are specified to have the requirement for Air Source Heat Pumps (to be installed by others), the Contractor is to install hardstanding constructed in accordance with Group Technical Standard Details in the location of the Air Source Heat Pump.
- 8.6 The contractor is to allow for a requirement on Scotland sites only to provide 450mm hard standing beyond French door swing.

9. SCREEN WALL FOUNDATIONS AND RETAINING WALLS

- 9.1 Provision of foundation for screen walls (assume 1000mm deep, 600mm wide, 300mm concrete) to include for all earth work support, reinforcement etc and blockwork up to dpc (including supply of all labour, plant and materials). Please refer to standard drawings.
- 9.2 Provision of retaining walls in accordance with the drawings and specification to include for all excavation, concrete, earthwork support, reinforcement, masonry etc to the full extent of the retaining structure. Works to be completed strictly in accordance with the drawings and specifications provided.

- 9.3 Where the Contractor is responsible for the design and construction of retaining walls above 1.5m high, the Contractor's designs (including foundation design) shall be submitted for approval by the Company's Structural Engineer prior to the works commencing on site.
- 9.4 The design for the retaining wall must include and not be limited to stress and strength calculations, loadings presented by the wall, drainage requirements and specific details for the methodical approach required for backfilling and compaction testing. Consideration must be given, as part of the design criteria, to the safe maintenance where required, including any fencing erected on top of the retaining wall. Detailed design and construction methodology must be provided to be assessed by the Division.
- 9.5 The Contractor is to ensure all materials used are in accordance with those specified within the sub-contract documentation and/or the Contractor's designs. The Contractor is to ensure that all materials incorporated into the works conform to the requirements of the specification and are fit for their intended purpose.
- 9.6 Where proprietary retaining wall systems are designed and/or installed the Contractor must ensure that any persons or contractors employed are approved by the manufacturer for this purpose.
- 9.7 All persons installing the retaining structure must be suitably trained in its construction with a briefing provided on the safe system of work for construction and the quality controls to be implemented. A record of the briefing must be provided to the Company's Site Management.
- 9.8 The installation contractor must have a defined quality assurance/inspection and test plan in place and formal records must be provided to the Company's Site Management to demonstrate that the construction meets the design criteria. Information required will include:
- A safe system of work must be detailed for the construction of the retaining structure including any installation/removal of any temporary works required
 - Quality control records must be provided for the construction of the foundations, which confirms details of the concrete utilised, any sampling required to confirm structural strength and compliance with design criteria for each pour
 - Control and inspection requirements for any temporary works is clearly detailed and managed by the contractor, with appropriately competent persons employed to manage the temporary works
 - Confirmation must be provided that any drainage required as part of design at the rear of the retaining structure has been installed to the relevant design criteria with appropriate records maintained including geotagged photographic evidence
 - During installation of the retaining structure there must be regular inspections as defined in the project inspection and test plan. Inspections must be undertaken by a competent person (appropriate knowledge and experience of the design/construction specification), and provide confirmation that appropriate construction of section of wall has been undertaken, any compaction has been completed of appropriate backfill material and photographic evidence of the specific location. These are to be provided to our Site Management team for review (not

approval) as work progresses at least weekly

- An independent Structural engineer must be employed to review the build and provide a report on compliance with the design criteria. Frequency of review is to be agreed with the Division prior to commencement depending on the programme for the wall construction and as defined in the inspection and test plan

10. SERVICES

- 10.1 Allow for provision of water, electric, BT and gas (cable TV where shown) trench from termination point in footpath/service strip to front of each property to position detailed on individual house type layouts.
- 10.2 Electric - lay only 32mm/50mm poly pipe/hepworth from joints placed in footpaths to meter positions.
- 10.3 Gas - lay only 50mm duct from mains in the footpath to meter position.
- 10.4 Water - supply and lay 20mm/25mm blue poly pipe from back edge of footpath by meter position into dwelling via a duct. The main is to be insulated from the point of entry (750mm below finished ground level) to the stop tap, with the open side of the insulation being taped and rotated to face the inside of the building all in accordance to the requirements of the local Water Authority. The Contractor is to allow for excavation of pits for B Type tapplings (assume 1 per dwelling).
- 10.5 Excavate for supply and lay Cable TV duct work from edge of footpath to dwelling connection point.

Mains Services

Contractor to provide rates per linear meter for the following mains services, in accordance with the following:

Electric	Excavate trench and backfill only
Gas	Excavate trench and backfill only
BT	Excavate trench, lay ducting, form boxes and backfill.
Water	Not applicable
Cable TV	Excavate trench, lay ducting, form boxes and backfill.

- 10.6 The contractor is responsible for ensuring that all back-fill material is of such a quality that complies with the complete satisfaction of the adopting authority.
- 10.7 The Contractor must protect all raised ironworks at all times prior to final reinstatement with the appropriate temporary protection.

11. SUBSTRUCTURE

- 11.1 The Contractor is to allow for topsoil to be stripped and set aside in spoil heaps on site for spreading and levelling as required to garden areas. The Contractor must allow for any surplus topsoil to be removed from site. Should there be insufficient topsoil to complete the Works the Contractor must make all allowances within the tender Quotation for the cost of importing topsoil of a quality that meets the requirements of BS:3882 and the CLEA guidelines to complete the Works.
- 11.2 Allow for excavation through any material as detailed in soil/site investigations. Provide suitable concrete foundations to enable blockwork walls to be erected to take ground floor slabs.
- 11.3 The contractor should allow for any necessary planking and strutting, trench preparation, earthwork support, formwork and removal offsite of all surplus excavated material and arising.
- 11.4 Foundation depth to be approved by the Building Inspector. Foundation record sheets are to be completed by the Contractor for each unit and countersigned by the BDW Site Manager for record purposes and lodged with the Company's Divisional Office, as and when submitted with the Contractors Valuation or Claim for payment. Foundation records shall include as a minimum; finished floor level, levels and depths of the bottom of foundation and top of concrete, foundation square check, concrete delivery receipts and relevant photographic evidence. Failure to submit comprehensive foundation records will result in withheld payment.
- 11.5 Tenderer to determine foundation depths from soil investigation details available, together with engineers foundation recommendations, ground conditions and NHBC guidelines.
- 11.6 The tender enquiry will confirm construction method for ground floor slab which will be either: a) Block and Beam, b) NuSpan, c) Jetfloor or d) cast in-situ designed, reinforced concrete suspended between walls..
- 11.7 Filling under ground floor slab to be in accordance with the requirements of NHBC Standards 5.1.9 and the material must be approved as being suitable for use by the site groundworker and site Structural / Civil Engineer.
- 11.8 The ground floor slab is to be laid on 1200 gauge polythene damp proof membrane, dressed under wall DPC with sealed joints and 300mm laps in accordance with the site construction details and to the Building Regulations applicable for the works.
- 11.9 Where the superstructure external wall is to be of Timber Frame Construction, the Contractor must follow the following requirements:
- 11.9.1 Splash Course Masonry
- (i) The Contractor is to lay blockwork to ensure adequate bearing for external leaf blockwork and brickwork and to allow the required tolerance for the splash course brickwork to be set out to the timber frame sole plate.

- (ii) The Contractor must leave the external splash course brickwork down to the top of the substructure blockwork until the timber frame soleplate has been installed.
- (iii) For cast-insitu suspended slabs the Contractor is to utilise timber/metal sections, as a temporary brace and pinned shutter to form the slab. The Contractor MUST NOT use the external leaf 'splash course' brickwork and sacrificial insulation.

When the splash course masonry is constructed, it is to be set off the timber frame sole plate in plan to ensure that a cavity dimension generally,

- 60mm in Scotland (Barratt Caledonia and DWH Alba house types)
- 60mm England and Wales (Part L 2021)

This dimension needs to be maintained between the slab edge/perimeter blockwork and the splash course masonry. Designs are to be reviewed to ensure any areas where wider cavities are required are captured.

In addition the top edge of the splash course is to be set in line with the underside of the installed sole plate.

The External ground is to be built up to 300mm below slab once splash course and soleplate are complete.

11.9.2 Slab Tolerance

Substructure accuracy is critical for timber frame construction, contractors are required to provide accurate slabs, with the maximum tolerances stated below:

In Plan Dimension:	Length: +/- 10mm from design Diagonal: +/- 5mm up to 10m and +/- 10mm over 10m from design.
Edge:	+/- 10mm from design/straight datum line.
Slab/Perimeter Blockwork flatness:	Within 5mm over a 3m straight edge.

Where Insulated Concrete Precast Units (IPCU) are utilised with timber frame a coursing block shall be used under all load bearing wall locations and a 75mm screed laid level with no undulations.

The coursing blockwork immediately under the timber frame should be 140mm wide at external walls and 100mm wide at party or load bearing internal walls. To be minimum 7.3N/mm² compressive strength.

Where the Slab or Perimeter Blockwork flatness is outside of the above tolerance up to a maximum of 20mm any additional costs incurred by the Timber Frame Contractor for packing shall be charged to the Groundworker. Any Slab or Perimeter Blockwork flatness outside of this 20mm tolerance must be remediated by the Groundworker at their cost.

In addition, and relative to the vertical level, dimensions, squareness or accuracy of the party wall cavity must be installed in accordance with the NHBC or LABC accuracy and tolerance requirements, failing which will lead to the Groundworker

making the necessary corrections prior to the erection of the timber frame construction.

Where IPCUs are specified, the groundworker must carry out the following checks to the substructure and provide record of the same to the Site Manager.

i) Survey blockwork end ensure +/- 10mm tolerance line and level

ii) check positions and height of pipework, adjust height for levelling compound or scree requirements & ensure protection caps in place.

iii) Carry out spot checks on block work levels and 2m intervals around the perimeter and at any internal or external corners. Record on a plot drawing for site records.

11.9.3 Slab Survey

The Contractor shall ensure all ground floor slabs are constructed in accordance with the tolerances, noted above, and must confirm to the Company's Site Manager that they have carried out their own quality assurance checks. If, following these checks, any subsequent assessment confirms that the slab has not be constructed in accordance with the tolerances noted, the Contractor must provide, at the Contractor's own expense, a full slab/perimeter blockwork survey confirming slab edge position and flatness/level on a 1m x1m grid. Including:

- Levels along all external, party and load-bearing walls.
- Plan dimensional check for length and position of all external, party and load-bearing walls.
- Diagonal square check across full slab (including individual plots and whole block for apartments and terraced blocks).
- Check external brickwork splash course has been kept down below ground level.
- Padstone position and levels for any steel columns.

The completed Slab Survey must be provided to the Company's Site Manager for signature and issued to Timber Frame Supplier. Any remedial works that are required to ensure the slab is amended to a compliant slab, must be carried out immediately by the Groundwork Contractor. Any delays or abortive work charges will be deducted from the Contractors next payment and adjustment made to the Contractor's final account.

Following the handover of the slab to the Timber Frame Contractor, the Timber Frame Contractor will assess the flatness of the slab in accordance with NHBC standard tolerances as noted above and in the table below and confirm if packing or remediation is required prior to the commencement of sole plate installation.

Packing/ Remediation Options	1. Standard Packing	2. Enhanced Packing	3. Remediation by Groundwork Contractor
Description	<i>Standard Packing of 10mm with no significant high spots or undulation.</i>	<i>Additional Packing required to maximum of 20mm with no significant high spots or undulation.</i>	<i>Outside of NHBC Standard tolerance (max. 20mm) for packing or, significant high spots and/or undulations to be remediated by Groundwork Contractor.</i>
Packing required	<i>2-10mm structural shims to be provided by Timber Frame Contractor with no rectification costs if completed on day of sole plate installation.</i>	<i>11-20mm structural shims to be provided by Timber Frame Contractor with rectification costs recovered from Groundwork Contractor.</i>	<i>N/A</i>
If significant high spot(s) and/or undulations	<i>High spot(s) and undulations are to be remediated by Groundwork Contractor and further Slab Survey to be carried out.</i>		

All costs for Enhanced Packing together with any additional Slab Surveys that are required to be carried out will be at the Groundwork Contractors expense, these will be charged back to the Groundworker Contractor at cost plus 20% administration charge.

11.9.4 Padstones

The Contractor shall allow for padstones to be positioned as bases for steel columns where shown on drawings.

11.9.5 Cavity Ventilation

The Contractor is to allow 'Rytons Flyscreened Slim Vent Minor' full height perp vents to be installed at maximum 480mm centres in England, and at max 1062mm centres in Scotland. Vents must be installed below lowest timber and above finished ground levels.

11.10 Ground floor cast-insitu suspended slabs to be reinforced as Chapter 5.2 NHBC or as Structural Engineer's designs.

11.11 Ground floor cast-insitu suspended slab thickness is to be a minimum 140mm of approved concrete mix, power floated finish ready for the direct application of vinyl/carpet.

- 11.12 Where Radon and Methane Gas Control Measures are necessary, details to be in accordance with BRE Guidelines and to NHBC Approval. Ensure all deleterious materials and sharp objects are removed prior to installation of membranes to avoid any risk of any damage to the membrane.
- 11.13 All pre-cast suspended floors including, but not limited to, thermal / beam and block, insulated precast concrete units, are to be constructed as specified within the tender enquiry. Precast concrete beams are to be covered with minimum 1200 gauge polythene DPM with minimum 75mm concrete screed laid level with no undulations. Insulated either directly under slab or on top of damp proof membrane, constructed in accordance with the 2021 Building Regulations or otherwise noted in the tender enquiry. The Contractor shall advise of any alternative construction that meets the same specification and provide details of any cost savings as an alternative option to the tender sum. The Contractor shall not assume this option is to be accepted and therefore any alternative floor construction proposed by the Contractor will be deemed optional and not form part of the accepted tender sum unless expressly accepted by BDW.
- 11.14 The whole floor area must be grouted with a sand & cement mix to the manufacturer's recommendations as soon as possible after the fixing of the beams and blocks has been completed. This should be carried out by brushing the grout over the floor with a stiff broom after the surface has been well 'wetted' so that the grout penetrates into the joints and provides a monolithic construction.
- 11.15 The Contractor is to provide 25mm PUR insulation around perimeter of screed, conductivity of 0.022 W/m²K.
- 11.16 Masonry Construction - The Contractor to provide 25mm PUR insulation at all door entries the full depth of the ground slab and provide solid slab 100mm insulation to below slab at door entries within the cavity.
- 11.17 Timber Frame Construction - The Contractor to provide 25mm PUR insulation at all door entries the full depth of the ground slab and provide 25mm solid slab insulation with 35mm solid slab insulation behind (to fill 60mm cavity) to below slab at door entries within the cavity. Additionally, for 60mm cavities ARC TCB65 is to be supplied and installed to either side of all door openings and fully-fill the cavity below the DPC. The TCB must butt tightly against the timber cavity barrier, overlap timber jamb battens and touch bottom of the cavity leaving no gaps. The product is to be installed before the below DPC external brickwork is constructed. DPC must be fitted between the ARC TCB and brickwork. Note, where door openings have 10mm brick projections, ARC TCB80 must be used.
- 11.18 All cavities below dpc should be fitted with wall ties positioned at a maximum of 900mm horizontally and 450mm vertically.
- 11.19 The Contractor is to provide a Manthorpe dual extended underfloor ventilator (product code: G965) (min 600mm²) at maximum 2m centres starting from a maximum of 450mm from corners with Manthorpe combination airbrick (product code: G930). Reference is to be made to the Company's standard details appropriate to the depth of the beam and to the manufacturer's detailed drawings for specific information on individual plots to all Block and Beam, NuSpan and Jetfloor systems of foundations.

- 11.20 Should it be subsequently necessary to apply latex finish to power-floated cast in-situ ground floor areas prior to applying final floor finish (vinyl/carpet) any costs incurred will be deducted from the Contractor's account.
- 11.21 Garage floor to be cast in-situ designed suspended concrete reinforced slab, power-floated as described above, laid to falls with reinforcement mesh as necessary to meet Building Regulation requirements and site conditions.
- 11.22 All foundation works etc. deemed to include for any necessary de-watering (see soil report to determine this necessity), earth work support, reinforcement and cart away as required (cart away to be invoiced separately) amounts per plot agreed.
- 11.23 Allow for provision of all service and drainage entries below slabs in all units, inclusive of all ducts etc. and sealing around stacks where they penetrate ground floor slabs.
- 11.24 Concrete floors must not be continuous across any Party (separating) Wall cavities. Where site conditions dictate use of raft foundations, refer to Engineer's details and insulate floor with 75mm polyurethane PUR insulation located above slab - floor to be finished with 100mm reinforced sand/cement screed laid over insulation.
- 11.25 Scaffold base to the perimeter of plot and garages where applicable, less any paved areas included in the plot footpaths. This is to be installed onto terram to a minimum of 150mm compacted stone 2.00m wide to allow for site re-use, where ground conditions are poor increased depth of stone may be required. Additional areas demarked for loading bays, ladder towers or hakki staircases should also be included.

12. SCREED FLOORING (WHERE SPECIFIED)

- 12.1 Tenderers are to price for screed to ground floors as an extra over lump sum per house, the Company reserves the right to utilise power floated cast in-situ oversites in lieu of screed to speed up on site progress.
- 12.2 The Company's preferred type of screed is a sand and cement mix. Where the use of other types of screeds, such as Gypsum or Anhydrite screeds, are unavoidable, they must be installed strictly in accordance with the manufacturer's guidelines to minimise laitance. The Drylining / Screed Contractor is responsible for the removal of all laitance arising from the curing process by prior to the flooring being installed. This laitance removal shall be via a mechanical orbital disc sander using a 60 grit paper. Suitable dust extraction must be used during the process with the operative using appropriate PPE including certified dust protection masks appropriate for the task and eye protection. The surface, upon completion, should be a dulled even surface throughout with all laitance removed. The removal of the laitance will aid the natural drying process of the screed. The area worked upon must be cleaned with all residual dust particles removed.
- 12.3 The Contractor is also to advise the Company and the appointed flooring Contractor, in advance, in writing as to the type of screed used and its locations.
- 12.4 Where specified in the enquiry, sand and cement screed finish is to be priced per house type in accordance with the concrete floor specification.

- 12.5 Bricklayer will bed in 500mm wide DPM into mortar bed of DPC level, for lapping down over DPM by Screed Contractor. Screed to be installed in accordance with good working practice, laid level with no undulations.

13. SAFETY, HEALTH AND ENVIRONMENTAL

13.1 Safety Health and Environmental Code of Practice for Subcontractors (SHE Form 09)

The Company has a Safety Health and Environmental Code of Practice for all Contractors which outlines the key requirements when working on its sites. This section provides additional requirements applicable to Groundworks and must be applied to all work by the Contractor.

13.2 Safe System of work

The Contractor must ensure that all relevant risk assessments and or method statements are in place for all elements of work and these are presented to the Company's Site Management team for evaluation prior to any work commencing. The Contractor must ensure that all relevant members of workforce are fully briefed on the safe systems of work and that a record is maintained of those who have attended the briefing.

The Contractor must maintain and make available all statutory inspections and monitoring reports and present these weekly to the Company's Site Management for review.

13.3 Contractors Appointed as Principal Contractor

Where the Contractor is engaged as the Principal Contractor, they must provide the company with a Construction Phase Health and Safety Plan for review prior to commencing works; ensure appropriate welfare provision is in place prior to commencement of work and throughout the duration of the works; control access and egress to the site (including perimeter fencing and gates) and ensure appropriate monitoring of the works is undertaken.

The Contractor must also ensure that a traffic/pedestrian management plan is in place which is regularly updated as this works progress.

The Company may visit the site at periodic intervals to monitor SHE performance and any items identified must be actioned by the Contractor.

The Contractor must have a suitable and sufficient induction process in place for all persons attending the site, the scope of the induction must be referenced in the Contractors Construction phase Plan.

An appropriately developed Surface Water Management Plan must in place prior to works commencing.

13.4 Personal Protective Equipment

The Contractor must ensure that all operatives wear the following PPE whilst working on site, which must be in good condition and not modified in any way

- A safety helmet to BS EN397 (no bump caps). Only integrated beanie hats must be worn beneath head protection. The Contractor must ensure that hoodies or other hats are not worn under head protection.
- A hi-visibility vest, jacket or coat (shirts must be worn beneath hi-visibility vests) to BS EN 471, class 2
- Protective footwear complete with steel toe caps and mid-sole protection (S3)
- All other PPE appropriate to the task upon which employees are engaged, e.g. eye protection, gloves etc.

13.5 Respiratory Protective Equipment (RPE)

Contractors must ensure all operatives, who may be exposed to dust and are required to wear RPE, be face-fit tested for the protection to be utilised. Records of face fit testing must be held on site for relevant operatives.

All Respiratory Protection Equipment (RPE) to be filtering face piece FFP3 type and must be provided by the Contractor for all workers.

Operatives who have facial hair will normally not be able to satisfy the requirements of face-fit testing as a seal will not be able to be achieved. Therefore, those with facial hair must not be permitted to undertake works where exposure to dust is likely unless they wear an appropriate positive pressure respirator.

13.6 Operative Competency

The Contractor must ensure that all persons working on the site are competent and hold a valid certification card for the work they are undertaking i.e. CSCS.

The Contractor is required to provide evidence of training and competence of all persons at the site induction and when requested by the Company's Site Management.

All plant operators must be over the age of 18 and must hold a Construction Plant Competence Scheme (CPCS) or National Plant Operators Registration (NPORS) card for the plant being operated.

Operators of any plant that will operate on roads where the Road Traffic Act applies must hold a full and valid UK/EU equivalent driving licence. Licences are required for all telehandler operators and copies are to be stored in a secure location.

All plant that will operate on roads where the Road Traffic Act applies must be licensed accordingly.

All persons undertaking loading or unloading operations must hold a current CPCS/NPORS A49 / A50 Loader/Securer STGO qualification depending on the size of plant being transported.

Operators of lorry mounted cranes (i.e. Hiab) must hold a competency card issued by the Association of Lorry Loader Manufacturers and Importers (ALLMI). A copy of the operators training and risk assessment for operating the HIAB must be reviewed.

Contractors must in addition to a recognised competency card, carry out a practical assessment of the operator's level of competency by observation and record the results as evidence of continual assessment.

Contractors must take reasonable steps to ensure that only competent and authorised operatives operate plant and equipment. Competency cards must be displayed in arm bands worn by the operators or within pockets on their high visibility vest. Plant operators must wear orange high visibility vests with 'Plant Operator' marked on the rear.

All plant operators must have completed medical screening within the last 3 years and records must be maintained by the Contractor for review if required by Company Site Management.

13.7 Contractors Supervision

Supervisors are defined as those persons directly supervising work activities. They are the front line supervisors (i.e. Supervisor, Ganger, Foreman, Charge-hand etc.) with direct responsibility for putting people to work, who will typically brief their workers on how to undertake their work, and ensure that they are undertaking their work safely.

Contractors must provide details of the nominated competent supervisor(s) prior to work commencing and there must always be supervision on site when groundworks are being undertaken.

Supervisors must wear **black hard hats** to identify them as a nominated Supervisor.

The Supervisors must undertake constant monitoring of the work activities and weekly record the results of their monitoring on a checklist or similar that is controlled and provided by the Contractor. The weekly monitoring record must be provided to Company's Site Management.

The Contractor must also ensure that monthly reviews of work activities are undertaken by a competent person as defined by the Management of Health and Safety at Work regulations and the results provided to Site Management.

The Contractor must undertake a risk assessment to determine the ratio of supervisors to workers on a site.

All supervisors must have sufficient knowledge of health and safety gained at a construction specific course of at least two days duration, in addition to any requirement to being accredited to CSCS or other affiliated schemes. Approved training courses are as follows:

- Construction Skills Site Safety Supervisors Training Scheme (SSSTS)
- Construction Skills Site Management Safety Training Scheme (SMSTS)
- Institution of Occupational Safety & Health (IOSH) 'Managing Safely in Construction'
- CPCS A62 Crane Supervisor

- Construction Health and Safety Group (CHSG) 'Health & Safety Site Management cert' (Modules 1-3)
- NEBOSH National Certificate in Construction Health & Safety

13.8 Coordination and Cooperation

The Contractor's Supervisor must attend sub-contractor review meetings on all sites at intervals as specified by the Company's Site Management.

The Contractor must ensure that full cooperation is given to matters of Safety, Health and Environmental and any actions from review meetings or monitoring visits by the Contractor's competent person or by the Company are closed out in good time.

No digging is permitted within 500mm or greater if specified by the service provider of High Voltage power supplies or High/Medium Pressure gas pipes, only non-impact excavating is permitted.

13.9 Non-Conformance reports

Where the Company identifies non-conformance with the requirements in this specification, the Company's sub-contractor code of practice or any statutory provisions, the Contractor must deal with these issues immediately and positively take steps to prevent a recurrence.

13.10 Drug/Alcohol Testing

The Company reserves the right to test any persons on our sites for alcohol and drugs. Anyone who refuses to participate in any sampling being undertaken on site, will be asked to leave the site immediately and prohibited from working on any of the Company's sites until non-negative tests have been provided.

The Contractor must have an appropriate policy in place and have a programme of sampling of their workforce. 25% of the Contractor's workforce on the Company's sites must be randomly tested every 6 months. The Contractor is to make reference to SHE form 09 for policy on those individuals who provide non-negative samples.

13.11 Manual Handling

The Contractor must undertake manual handling assessments of their work activities and detail the controls which will be applied.

The assessment must consider how material will be distributed and handled on site.

The Contractor must have a process in place for mechanically lifting and placing material such as kerbs and slabs.

The Contractor must ensure that all workers are fully briefed and have been provided training in safe manual handling techniques.

13.12 Hand Arm Vibration

The Contractor must ensure that an assessment has been undertaken to prevent exposure to hand arm vibration from the use of tools and equipment.

The Contractor must carry out monitoring of exposure and implement suitable controls so that workers do not exceed threshold limits. Records must be maintained on site.

13.13 Pedestrian and Traffic Management

The Contractor must consider their work areas and implement suitable controls to segregate workers from plant movements.

The controls must be detailed in the site-specific safe system of work and be regularly reviewed as work progresses. Key elements to consider as part of the assessment process are:

- Plant operating zones must be protected with suitable 1m high physical barriers (supplied by the Contractor) which prevent unauthorised access. Only plant operators should be permitted to work within the protected zones and signage provided accordingly.
- Where localised fixed segregation cannot be achieved due to site constraints (i.e. tight working areas and access requirements through the plant working area and the need for plant to move frequently or continually), then the zone must be clearly demarcated by the Contractor. Access to the area must be controlled by a traffic marshal who stands outside the segregated area. They can open up the zone to allow workers to pass but only after plant is stood down.
- Where operatives are required to work within the segregated zones to assist with works or to assist plant operators, they must be appropriately trained to understand the risks and controls that are required where there is an interface with plant. Only these operatives are permitted within the segregated zones and all visitors, Directors or other workers must be prohibited during any live working activity.
- Where transfer of materials is required, the plant operators can work within the segregated zones but unless a cab is fitted on the dumper, operators must alight the plant whilst it is being loaded and stand well back at a safe point from the plant. They must not return to the plant until clearly instructed by the excavator operator.

Note: Lengths of chain/bunting tape slung between posts or steel pins or timber stakes do not meet the requirements for segregation of plant.

Any vehicle or plant access routes under the control of the Contractor, must be protected from drops, steep edges and excessive rough/uneven terrain where practicable. Where required, suitable 1m high physical barriers must be provided to clearly identify the hazard.

If pedestrian routes cross over open excavations, the Contractor must ensure the excavation is covered with proprietary matting, steel plate or platform designed to support the load imposed by pedestrians, and barriers provided at all sides. Protection is to be provided by the Contractor.

Where pedestrian routes cross traffic routes, the Contractor must ensure the crossing point is clearly demarcated with a proprietary crossing point barrier, which is coloured red and secured to adjacent fencing, or with feet provided to prevent collapse. Where the pedestrian routes cross traffic routes, gates must be incorporated in the frame of the crossing point.

All protruding manhole covers/inspection chambers, during the construction phase, must be clearly highlighted with proprietary yellow covers by the Contractor.

Any works in occupied areas must be discussed and control measures agreed during Supervisor coordination meetings with the Company.

13.14 Confined Spaces

Within the Contractor's safe systems of work, confined spaces work must be identified into a classification of low, medium and high risk. The Company has detailed requirements for the control of work within confined spaces and the Contractor must familiarise themselves with the controls required.

Confined Space Definition

Any place which is substantially, though not always entirely enclosed, but not a space of an enclosed nature, where there is a risk of death or serious injury from hazardous substances or dangerous conditions within the space or nearby (e.g. lack of oxygen).

Typical confined spaces

- Storage vessels
- Enclosed drains
- Silos
- Sewers and manholes
- Ductwork
- Unventilated or poorly ventilated rooms such as enclosed basements
- Excavations In excess of 2m with restricted access
- Danger of displaced normal air due to the reaction of groundwater and limestone/chalk.
- Potential leaks into the trench in contaminated land
- Where plant and machinery are used and there is a risk of exhaust fumes or fumes from the process

Confined Space Classification

Class A – Low Risk

A confined space where there is a possibility that a harmful or dangerous atmosphere could exist but where the atmosphere is clear on entry and the conditions are unlikely to change and where access/egress is not difficult i.e. shallow inspection chambers or similar.

Operatives entering Class A confined spaces must have received training and assessment to a standard equivalent to 'Working in low risk' confined spaces as specified by Energy and Utility Skills.

A safety attendant/top person, positioned outside the confined space, must always be available during work.

Class B – Medium Risk

A confined space where it is likely that a harmful or dangerous atmosphere could exist and where it is possible that the atmosphere condition may change suddenly and/or where the access is difficult. i.e. deep inspection chambers, tanks, tunnel in use and not under construction or similar.

Operatives entering Class B confined spaces must have received training and assessment to a standard equivalent to 'Working in medium risk' confined spaces as specified by Energy and Utility Skills.

A safety attendant/top person, who will not enter the confined space, must be available. The duties include controlling pre-entry procedures, entry into and out of the confined space, maintaining communications and initiating and controlling emergency procedures.

The safety attendant/top person must have received training and assessment to a standard equivalent to 'Overseeing work in confined spaces' as specified by Energy and Utility Skills.

Class C – High Risk

A confined space where it is known that the atmosphere contains dangerous gasses or is highly likely to contain gasses which will remain present during the work operation and/or where the nature of the operations is particularly difficult and rescue via a life line would not be possible.

The safety attendant/top person must have received training and assessment to a standard equivalent to 'Overseeing work' in confined spaces as specified by Energy and Utility Skills.

Operatives entering Class C confined spaces must have received training and assessment to a standard equivalent to 'Working in high risk' confined spaces as specified by Energy and Utility Skills. They will also require training in emergency rescue and recovery of casualties from confined spaces.

Training

The Contractor must ensure that anyone entering a confined space is appropriately trained in the required precautions including the use emergency breathing apparatus. The training must contain the rescue procedures in event of an incident.

Confined Spaces – Permit to Enter

The Company operates a permit system to enter confined spaces (SHE Form 48) and the Contractor must not allow persons to enter a confined space until the permit has been issued. The Contractor must ensure that all persons involved in the work are familiar with the controls detailed in the permit and the safe system of work.

Once the works are complete the Contractor must ensure that the work area is left in a safe condition and that the permit is returned to the Site Manager so that it can be closed out.

13.15 Temporary Works

The Contractor must identify and manage all work activities where temporary works is required.

Temporary Works Definition

Temporary works are defined as parts of the works that allow and enable construction of, protect, support or provide access to, the permanent works and which might or might not remain in place at the completion of the works. These can include; engineered solutions to support or protect an existing structure or the permanent works during construction, support an item of plant or equipment, or the sides of an excavation.

Temporary Works Classifications

An assessment of temporary works required on a project/development must be undertaken by the Contractor. This assessment will take into consideration all aspects of temporary works and should be maintained and reviewed throughout the duration of the works.

The initial assessment of temporary works requirements and classification should be completed by the Contractor who will review pre-construction details and information provided during the planning phase of the project/development.

Class 1: Temporary works where an *experienced* and competent supervisor would be capable of assessing all relevant factors and making suitable allowances for them using standard solutions/systems.

- Formwork less than 1.2 high
- Hoarding or Fencing up to 2.4m high where a manufactures installation guide is utilised
- Excavations <2m deep (battered or supported by proprietary systems) in good ground
- Foundations for mobile cranes up to 80t capacity

- Standard silo foundation where the group approved design(s) are utilised
- Working platforms for piling rigs on good ground not supported by structures

Class 2 – Temporary works classified as medium risk which may or may not have a direct interface with the public

- Haul roads <200m long and constructed on good ground (CBR>2.5%).
- Excavations 2m deep or greater
- Hoarding and Fencing > 2.4m high
- Protection or support to the following services:
 - Water mains >75mm
 - All Gas mains
 - Electric Cables >1kV
 - Multi-core telecommunications cables
 - Sewers or drains >450mm
- Formwork > 1.2m but no more than 3m high
- Excavations greater >2m deep and no more than 3m

Class 3: Temporary Works that may involve the fabrication of materials and equipment to produce a non-standard solution where the risk of failure would be significant and have a major impact on the safety of workers and/or the general public.

- Tower crane foundations
- Excavations likely to affect the stability of adjacent buildings
- Excavations in ground with ground water levels that vary on a daily basis
- Excavations >3m deep
- Ground anchoring or soil nailing
- Temporary underpinning of structures
- Hauls roads in excess of 200m long or constructed on poor ground (CBR<2%)
- All bored pile walls, cofferdams and associated framing
- Temporary pedestrian or vehicle bridges
- Dead shoring with prop loads

- Thrust walls for jacking systems
- Headings
- Cofferdams/Caisons
- Falsework and Formwork >3m high
- Basement wall pile supports

Control and Management of Temporary Works on Site

Specific and adequate control documentation (Method Statement) must be provided by the Contractor for the erection use and maintenance of temporary works. The control documentation must be supplied by the Contractor or persons undertaking the works and incorporate any guidance on the implementation of the design provided.

Supervision of Temporary Works Construction

Competent Temporary Works Coordinators (TWC) and or Supervisor(s) (TWS) must be appointed by the Contractor and their details contained within the control documentation for the temporary works. These individuals will be responsible for managing and checking of temporary works during erection, use and dismantling.

The key attributes and requirements for the TWC are:

- Received a minimum of two-day training which provides a clear understanding of the TWC role and the requirements of BS 5975
- Be fully conversant with the contractors standards for the control of temporary works
- Have relevant experience of the types of temporary works to be dealt with
- Hold a relevant professional qualification such as HND in Civil or Structural engineering

The key attributes and requirements for the TWS are:

- Received a minimum of one-day training which provides a clear understanding of the TWS role.
- Experienced in the management of temporary works and conversant with the Contractors standards on the control of temporary works
- Attended a minimum of the two-day SSMTS course.

Permits to Load/Use

Where identified as a control measure on the temporary works register, a permit to load must be in place. This can be the Company standard form, or a similar document provided by the Contractor as part of their management systems.

Before issuing a Permit to load/use, the TWS will carry out a thorough check on the temporary works to confirm it has been constructed in accordance with the design and it complies with the relevant drawings or sketches. Where checks of elements of the temporary works may no longer be accessible when a permit is being issued, periodic inspections must be undertaken during construction and a record kept.

Inspection of Temporary Works

Whilst in use the temporary works will need to be inspected by a competent person at intervals as specified in the control documentation or the temporary works register. Any inspection reports must be provided to the Company's Site Management.

Permit to Unload/Dismantle

Where identified in the temporary works register, a permit to unload/dismantle must be issued by the TWS, specifying sequence requirements and back propping requirements etc.

Before issuing the permit the TWS will ensure that all checks and tests required to confirm the temporary works is no longer required have been carried out. The permit will remain open until the required period for back-propping has been reached and permission to remove the propping has been issued

Concrete cube samples confirming that the minimum strength has been achieved will be required prior to striking falsework.

13.16 Plant and Equipment

All ride-on plant must be inspected by the Contractor prior to being used on site to ensure it meets the required standards and is safe to operate. The Contractor (where the the Company is the Principal Contractor) must request a Permit to operate the plant (SHE Form 55) from the Company's Site Management.

All plant on site must have full visibility for the driver to see a 1m high object 1m from any point of the vehicle.

All ride on plant must be fitted with a retractable seat belt that must be worn at all times by the operator when the plant is in use.

All ride-on plant must have a green seat belt indicator light which clearly indicates if an operator has engaged the seat belt.

Plant Risk Assessment

The Contractor prior to commencing work must compile a Plant Risk Assessment for the development. The assessment will detail:

- Size and type of plant that can be used in specific areas of the development.
- Plant restrictions may result from ground gradient, fixed obstacles, proximity of overhead cables and machine work in dense pedestrian areas etc.

- A schematic plan with colour coded zone relating to the item of plant allowed to operate in that zone.
- Provision of a competent vehicle Banksman when plant is being operated on a live development spine road, where a risk of that item of plant striking passing vehicles or people.
- A formal review of the assessment must be undertaken at intervals not exceeding 3 months.

Plant Deliveries

A risk assessment must be provided by the organisation being contracted to undertake the delivery or removal of plant or equipment. Key elements of the assessment must be the identification of suitably trained operatives, liaison with the Site Management and the contractor receiving or releasing the item of plant or equipment to determine a safe place for the operation. Supervisory arrangements must be clearly identified in the assessment.

Locations for unloading must be clearly defined, and where practicable must be on firm, level ground. Unloading must only be undertaken if appropriate segregation is in place, to prevent unauthorised pedestrians from accessing the location.

Vehicle Marshall(s) should be available at a safe distance to assist with off-loading, especially where reversing of plant is required, and to ensure that others do not enter the protected zone.

Forklifts/Telehandlers

The Contractor must ensure that all telehandlers/forklifts used on site meet the Company's minimum requirements (SHE Form 68) and a specific lifting plan must be compiled for their operations on site.

Integrated platforms (man baskets) on the forks of a telehandler are prohibited on all the Company's sites.

All forklift/telehandler operators must have completed an approved medical screening prior to operating the plant for the first time and every 3 years thereafter.

Telehandler operators must complete a telehandler weekly inspection.

Excavators (Quick Hitch)

Excavators above 5 tonnes must have a fully automated quick hitch system. It is recognised that those below 5 tonnes may not have quick hitch systems and the below applies:

- The safety pin must be available on the machine.
- Operator instruction must include detailed assessment of the operation of the quick hitch device.
- The area around the safety pin insertion hole and the safety pin must be painted to improve visibility for monitoring.

- Signage must be in a prominent position inside the cab and the excavator arm to stipulate that safety pins are required.
- Ad-Hoc replacement of pins with large bolts, wire or other substitutes is prohibited in all circumstances.
- Safe systems of work must be in place to ensure that others are not exposed to risk by working below the bucket i.e ground workers in excavations.
- All operators must be trained in the use of quick hitch devices.
- Devices must be regularly maintained to ensure they operate correctly.

Excavator Attachments Storage/Changing Areas

A designated location which is protected by 2m high fencing and signed with 'Bucket Changing Area', must be provided by the Contractor to enable the safe changing and storage of excavator attachments on all developments, and at all locations where plant is operating.

Excavators used as a crane

A lifting plan completed by the Contractor must be available for all operations where an excavator is used as a crane.

Any operators must have the appropriate endorsement on their competency card to confirm that they have received appropriate instruction and training

Any earth-moving machine designed for object handling must have a rated object handling capacity table available inside the cab. If a rated object handling capacity table is not available, then the machine must not be used for object handling.

An earth-moving machine used for lifting operations must be fitted with a load hooking device. This may be mounted on the dipper, the quick hitch or the bucket. If the load hooking device is a hook, then this must have a clip or another device which prevents a sling slipping off the hook. Many quick hitches provide a load hooking device in the design of the hitch.

If the rated lifting capacity for an excavator or the backhoe portion of a backhoe-loader is greater than 1 tonne (or the overturning moment is greater than 40000Nm) then the machine must be fitted with:

- a boom lowering control device on the raising (main) boom cylinder(s) and which meets the requirements of ISO 8643:1997 *and*
- an acoustic or visual warning device which indicates to the operator when the object handling capacity or corresponding load moment is reached

The excavator operator must ensure that the acoustic/visual warning device indicating the load moment, is switched on prior to any lifting operation.

Where the hooking device (the point on the machine designed for connection of the load) is not part of the bucket, the bucket must (where possible, and unless the operator instructions specify otherwise) be removed in order to improve visibility and reduce the weight being lifted.

If the bucket is retained, then the weight of both the bucket and quick hitch has to be added to the load when determining whether the load is within the rated capacity.

Contractors who utilise excavators as a crane must ensure that those who attach loads to the excavator have attended a Slinger/Signaller training course.

Forward Tipping Dumpers

The latest Civil Engineering Contractors Association (CECA) and the Construction Products Association (CPA) should be referenced regarding the identification of hazards and associated controls required for the safe use of dumpers.

Contractor must ensure that forward tipping dumpers do not access spoil heaps but must instead deposit their load at the base of the spoil heap, from where it can be distributed by an excavator.

Contractors must only allow suitably trained operatives to operate dumpers. The dumper operator must ensure that there are no defects before operating the dumper. Seat belts must be worn, and rollover protection provided in order to protect the operator in the event of the dumper turning over.

Flashing warning beacons and seat belt light indicators must be used when the dumper is in motion and the operator must ensure that they have clear, unobstructed vision. Passengers must not be carried on the dumper and the operator must dismount the dumper and stand well clear when the dumper is being loaded (see below for cabbed dumper exemptions).

When travelling around site the dumper operator must follow the manufactures guidance for the safe use of the dumper and must ensure that he does not drive on a slope which is in excess of 1:5 or 20%.

The heavy end of the dumper must always be uphill when travelling. The operator must also avoid driving across slopes which could cause instability. When tipping into excavations, the dumper wheels must be choked or stop blocks must be provided.

The Company encourages the Contractor to use cabbed dumpers with immediate effect and along with an approved risk assessment allows the loading of cabbed dumpers while still mounted.

From the 1 July 2022, all dumpers designated at 6 tonne and above must have an integral cab fitted, Any dumper not meeting this requirement after this date will be prohibited from being used on the Company's sites.

When the dumper is no longer being used then the operator must ensure that it is taken out of gear, the handbrake is on and the keys are removed.

Inspection and Maintenance of Plant

Contractors will be responsible for ensuring that all work equipment and lifting equipment is suitably maintained and defective items are removed from service.

Contractors are responsible for ensuring that any statutory inspection reports are maintained in date. Contractors must ensure that where certification has expired that the item of work equipment or lifting equipment is taken out of service.

Plant operators, prior to undertaking their daily pre-user check and recorded weekly inspection, must ensure that the plant is positioned on firm level ground. This is especially important for telehandler operators who must ensure that outriggers are fully deployed, and the cab is level when extending or retracting the hydraulic boom and forks.

Fuel used in Plant

The contractor must review all plant being operated on a site and implement a strategy that reduces the carbon emissions from their operations. The hierarchy to be adopted on the Company's sites is:

- Battery powered plant
- Hybrid plant
- Use of biodiesel or other low emissions alternative fuel approved by Barratt
- Diesel Engines compliant with EU Stage V emission standards
- Other diesel engines but these must be phased out in accordance with the Company's carbon emissions reduction strategy.

Non-Road Mobile Machinery

All plant utilised on site shall be compliant with Non-Road Mobile Machinery regulations, and any other air quality requirements that may be enforced locally.

13.17 Prevention of falls from height

The Contractor must ensure that edge protection is provided on all access equipment and/or work areas where there is a potential fall distance in excess of 500mm. Guardrails must be provided which are at least 950mm high, with gaps not exceeding 470mm.

Fall protection must be provided by the Contractor to the perimeter of any foundations or slabs where there is a fall in excess of 500mm. Protection may be required at heights below this for example, where rebar is protruding in the adjacent area.

The Contractor must provide suitable and sufficient edge protection other locations, with exposed edges, holes or shafts where persons or materials could fall.

Guarding must be robust and fit for purpose. Regular inspections are needed to ensure continued suitability for safe use.

Edge protection must be of continuous construction and are to be erected, dismantled and inspected by competent persons.

Falls from delivery vehicles

The Contractor must ensure that where deliveries of their materials are provided to site, that controls are in place to prevent persons falling from the rear of the delivery vehicle.

13.18 Excavating/Digging

The Contractor must have a safe system of work in place for the work which involves but is not limited to:

- Correct use of accurate plans to aid the location of services
- Use of cable avoidance tools by competent persons
- Use of safe digging or drilling techniques
- Permit control documentation
- Support of adjacent structures
- Safe means of access into an excavation
- Preventing collapse by support or battering sides of excavation
- Suitable barriers at ground level to prevent falls of persons and materials
- Maintaining fresh air and suitable lighting where required
- Potential contaminated land
- Consideration for the management of water ingress.

Services drawings must be consulted prior to any work taking place. These drawings must be updated by the Contractor when any new services are identified or installed.

Prior to any work involving the breaking of the ground, a survey must be undertaken by the Contractor using a cable avoidance tool (CAT) by a suitably trained person. A copy of the cable locating device 12 Monthly calibration must be available on site. Cables may not be detected if not there is no electrical draw, are pot-ended, or are low voltage cables and therefore radio detection mode may be required. Recorded CAT surveys must continue during the excavation works.

The position of any services must be clearly marked on the ground using waterproof spray paint or by erecting suitable signs.

Work must be controlled by a Permit to dig/ excavate/ drive piles issued by the Company (or Contractor where they are Principal Contractor) and a copy of the service drawing for the dig area must be available for review in the excavator or be held by the operatives in the work area.

The hierarchy for ensuring safe digging for plot connections is as follows:

- Sand/gravel bags placed upon laid services to negate the need for digging in close proximity.
 - 1.
- Vacuum/suction extraction plant where practicable but be utilised around any high pressure or high power services.

If due to circumstances excavating around newly laid services is required, the following controls must be applied:

- When digging near cables, insulated hand tools i.e. spades and shovels with wooden or fibreglass handles must be used
- Mechanical excavator / Power tools must not be used within 0.5m of electric, gas or communication services.
- Road pins or metal stakes must not be driven into the ground in the vicinity of any service routes.
- Before using a mechanical excavator, trial holes must first be dug using hand tools, to confirm the depth and position of services.

The Contractor must ensure that traffic routes are maintained at a safe distance from the edge of an excavation, with barriers erected when necessary.

Where plant movements across the site have the potential to damage underground services the Contractor must provide exclusion zones or grillage protection, in order to distribute the weight of the plant.

An assessment of the support system required for the prevention of a collapse of the sides of an excavation must be provided by the Contractor.

The Contractor must ensure that barriers are placed at ground level in order to prevent the falls of persons, materials or plant into the proposed excavation i.e. minimum of 950mm and double guardrails. Barriers can be removed in order to allow access for the excavator, but must be replaced once the machine moves away from the dig area.

Stepping the sides of the excavation is an alternative to battering with the depth and width of the steps determined using the angle of repose guidance below, however the vertical distance must not exceed 1.0m.

The Contractor must ensure spoil heaps and material are at least 1.5 m from the edge of any excavation or further away when required by the depth of the trench and the angle of repose in order to prevent potential collapse of the trench.

If plant and equipment is used to tip back filling materials into trenches, the Contractor must ensure stop blocks are placed and secured.

The Contractor must ensure that no blocks are stored on islands between foundations which will undermine the stability of the excavations.

13.19 Overhead Services

Risk Controls

If the overhead lines cannot be diverted or switched off, and there is no alternative to undertaking the work near it, the Contractor will need to consider the following:

- The voltage and height above ground of the wires. Their height should be measured by a suitably trained person using non-contact measuring devices.
- The nature of the work and whether it will be carried out close to or underneath the overhead line, including whether access is needed underneath the wires.
- The size and reach of any machinery or equipment to be used near the overhead line.
- The safe clearance distance needed between the wires and the machinery or equipment and any structures being erected.
- The owner of the overhead line will be able to give advice on safe clearance distances.
- The site conditions, e.g. undulating terrain may affect stability of plant etc.
- The competence, supervision and training of people working at this site.
- “Caution Overhead Cables” signage must be provided.

The Use of Barriers

Where there will be no work or passage of machinery or equipment under the line, the Contractor must reduce the risk of accidental contact by erecting ground-level barriers to establish a safety zone to keep people and machinery away from the wires. This area should not be used to store materials or machinery. Suitable barriers can be constructed out of large steel drums filled with rubble, concrete blocks, wire fence earthed at both ends, or earth banks marked with posts.

- If steel drums are used, highlight them by painting them with red and white horizontal stripes.
- If a wire fence is used, put red and white flags on the fence wire
- Make sure the barriers can be seen at night, by using white or fluorescent paint or attaching reflective strips.

The safety zone should extend a minimum of 6 metres horizontally from the nearest wire on either side of the overhead line. Where plant, such as a crane, is operating in the area, additional high-level indication must be erected to warn the operators. A line of coloured plastic flags or 'bunting' mounted 3-6 metres above ground level over the barriers, is suitable.

Passing underneath Overhead Lines

If equipment or machinery capable of breaching the safety clearance distance has to pass underneath the overhead line, the Contractor must ensure a passageway through the barriers is erected with the following controls:

- Keep the number of passageways to a minimum.
- Define the route of the passageway using fences and erect goalposts at each end to act as gateways, using a rigid, non-conducting material, e.g. timber or plastic pipe for the goalposts, highlighted with red and white stripes.
- If the passageway is too wide to be spanned by a rigid non-conducting goalpost it may be necessary to use tensioned steel wire, earthed at each end, or plastic ropes with bunting attached. These should be positioned further away from the overhead line to prevent them being stretched and the safety clearances being reduced by plant moving towards the line.
- Ensure the surface of the passageway is levelled, formed-up and well maintained, to prevent undue tilting or bouncing of the equipment.
- Put warning notices at either side of the passageway, on or near the goalposts and on approaches to the crossing, giving the crossbar clearance height and instructing drivers to lower jibs, booms, tipper bodies etc., and to keep below this height while crossing.
- If necessary, illuminate the notices and crossbar at night, or in poor weather conditions, to make sure they are visible.
- Ensure barriers and goalposts are maintained.

Emergencies

If contact is made with an overhead line, the immediate area must be vacated, and all work suspended within 50m of the damaged line. All plant operators working in the vicinity of power lines must be provided with a full briefing on what to do in the event of contact with the line and these procedures must be detailed in the method statement for the work & the emergency contact details.

13.20 Storage of Diesel or Oil

Static Oil Storage Containers

Where the Contractor provides oil storage containers, they must conform to the following;

- Where possible be stored in 'integrally bunded tanks' which have a primary container manufactured with an integral secondary containment that can hold a minimum of 110% of the volume of fuel in the inner tank. Ancillary equipment will also be positioned within the secondary containment. These tanks should be fitted with an overflow prevention device and where possible, secondary containment sensors that

detect if fuel has collected in the bund from an incorrect delivery, overfill or inner tank problem.

- If the above tanks are not available 'double skinned tanks' can be utilised. These tanks have two layers of steel or plastic with a small space between them, which would normally not have the capacity to contain 110% of the fuel the tank can hold. If a double skinned tank is used, it will not be compliant unless it is installed in a constructed secondary containment system capable of containing the content of the tank. Any ancillary equipment is usually positioned outside the second skin and therefore locking of the supply is essential.
- Must be positioned so that they are not vulnerable to impact from vehicles.
- Tanks must not be positioned within 10 metres of any direct pathways to watercourses such as surface water drains or land drains.
- Hoses and fittings for filling vehicles etc. must have an automatic valve or tap which closes automatically when not in use. This must not be able to be fixed in the open position.

2.

- Diesel Tanks must be made secure as per Construction Alert 58.

Mobile Bowsers

Where mobile bowsers are provided by the Contractor, they must conform to the following.

- Where possible be stored in 'integrally bunded tanks' which have a primary container manufactured with an integral secondary containment that can hold a minimum of 110% of the volume of fuel in the inner tank. Ancillary equipment will also be positioned within the secondary containment. These tanks must be fitted with an overfill prevention device and where possible, secondary containment sensors that detect if fuel has collected in the bund from an incorrect delivery, overfill or inner tank problem.
- Drip trays must be provided to contain any leak/spills during refuelling.
- Must be positioned so that they are not vulnerable to impact from vehicles.
- Must not be positioned within 10 metres of any watercourse.
- Must not be positioned within 5 metres of any tree protection zone.
- Valves and other ancillary equipment must lock and be kept within the Bowser when not in use.
- Hoses and fittings for filling vehicles etc. must have an automatic valve or tap which closes automatically when not in use. This must not be able to be fixed in the open position.
- All rainwater accumulating in the Bowser/Drip tray must be removed. This waste will need to be treated as hazardous if contaminated with oil.

Dealing with Spills

- For static tanks located in compounds or other semi- permanent locations a tank with capacity of 1000 litres to 2000 litres a spill kit capacity of 340 litres shall be provided.
- For static tanks located in compounds or other semi-permanent locations a tank with capacity of >2000 litres to 3000 litres a spill kit capacity of 600 litres shall be provided.
- For mobile tanks, located around the development up to 2000 litres capacity a 120 litres spill kit must be provided and within the kit a “Dammit” or other suitable paste must be provided for plugging potential holes in the tank and restricting fluid loss.
- Where the development is at the execution stage and full compound facility is lost, then 340 litres & 600 litres spill kits can be replaced with 120 litres kits with plugging paste.
- Used spill kits must be disposed as hazardous waste and the contractor must receive Consignment Notes for any contaminated removal.

The Contractor must provide spill kits which can contain any the full quantity of oil stored. The spill kits must be stored in yellow wheelie bins supplied and controlled by the Contractor. Used spill kits must be disposed as hazardous waste by the Contractor

Prevention of contamination of rivers and streams

The Contractor must take all reasonable steps to prevent sediment run-off from entering any watercourse.

The Contractor must provide protection within all gullies on site to prevent contamination to watercourses. These must be proprietary gulley bags approved by the Company.

- Excavations

Where possible prevent water from entering excavations. Use cut-off ditches to prevent entry of surface water and well point dewatering or cut-off walls for ground water. Use the corner of the excavation as a pump sump and avoid disturbing that corner. Do not allow personnel or plant to disturb water in the excavation.

- Exposed ground and stockpiles

Minimise the amount of exposed ground and stockpiles. Stockpiles can be seeded or covered and silt fences constructed from a suitable geotextile may be useful.

- Plant and wheel washing

Wheel washes and plant washing facilities should be securely constructed with no overflow and the effluent should be contained for proper treatment and disposal.

- Temporary Dewatering from Excavations to Surface Water.

A permit to discharge rainwater from an excavation is not required where the below applies. A permit will be required if groundwater is contaminated or the below cannot be compiled with:

- (i) Discharge is clean rainwater or infiltrated groundwater which has collected in the bottom of the trench
- (ii) It will not result in suspended solids entering the surface water
- (iii) Discharge lasts no more than 3 consecutive months (the activity may stop and restart but the clock does not restart). If it is likely to go over 3mths then a permit will be required
- (iv) Discharge is to surface water such as a river or stream
- (v) The controls are detailed in a method statement for the operation
- (vi) Discharge cannot take place within or less than 500m upstream of; Sites of Scientific Interest, Special Areas of Conservation, Special Protection Areas and other nature conservation areas such as nature reserve.

Records of the above must be maintained for a minimum of 2yrs.

Further information can be found at:

<https://www.gov.uk/government/publications/temporary-dewatering-from-excavations-to-surface-water/temporary-dewatering-from-excavations-to-surface-water>

13.21 Waste Management

The contractor must ensure that waste from their work activities is minimised and materials are reused where practicable.

Waste Carriers Licence

Where waste materials are unavoidable this should be removed from site by the contractor where required. All Contractors removing waste from site must hold a valid Waste Carriers Licence (WCL) which must be available on site at all times. This includes WCL for any sub-contractors removing waste from site and also contractors removing soil, portable toilet waste and road sweepings.

Environmental Permits - England and Wales/Waste Management Licensing (WML) - Scotland

The Contractor must ensure that all waste disposal companies engaged by them are permitted or licensed by the EA and SEPA respectively. In England and Wales they will be covered by an Environmental Permit or an Exemption and in Scotland they will be covered by a WML or an Exemption.

An Environmental Permit, WML or Exemption will be required for the actual site where waste materials are treated for recycling or re-use. The following exemptions may apply where applicable:

- Mobile crushers must have a Part B Permit to operate issued by the Local Authority (LA), which must be kept with the machine. The LA must be notified each time a machine is moved into their local area or to a new location.
- Site gained concrete, bricks, tiles or other materials can be crushed and reused as sub –base or fill. In this case a T7 Permit exemption (England and Wales) or a Paragraph 24 exemption (Scotland) can be registered. In England and Wales. This is registered with the LA and in Scotland with SEPA. The total waste stored must not exceed 20,000 tonnes at any time and any movement of the material to other locations will be subject to waste transfer documentation and waste carriers licensing.
- Treatment or screening of soils or wastes (other than concrete, bricks or tiles) will be subject to a T5 exemption (England and Wales) but the maximum quantities that can be stored or treated is 5000 tonnes over a 3 year period.
- A U1 exemption (England and Wales) can be obtained to allow use of suitable wastes for small scale construction. Example activities include:
 - (i) Using crushed bricks, concrete, rocks and aggregate to create a noise bund around a new development and then using soil to landscape it to enable grass to grow.
 - (ii) Using road planings and rubble to build a track, road or car park.
 - (iii) Using wood-chip to construct a track, path or bridleway.
 - (iv) Bringing in some soil from another place for use in landscaping at a housing development.

Construction activities undertaken for the purpose of producing a suitably engineered soil would not be regarded as a waste management activity (i.e. lime stabilisation and piling) and a permit/licence would not be required.

Where **uncontaminated materials** are produced on site during construction work and are then stored and re-used on the same site, in accordance with planning permission, there is no requirement for a Permit/WML/Exemption provided: they are suitable for that use and require no further treatment; only the quantity necessary for the works is used; and their use is not a mere possibility but a certainty.

Relevant activities involving uncontaminated materials produced on site and then reused on the same site may include cut and fill; simple foundation excavations with arisings spread evenly under the ground floor slab and the combination of soils to create a retaining structure.

On multi-phase developments, if arisings are put to use on site and it is done in accordance with planning permission (for the whole development) then a permit or exemption will not generally be required. This can also be the case where different developers are involved in a consortium agreement for a development and a formal agreement is in place which identifies levels of responsibility.

Where clean waste material is transferred from one development to another or imported from a third party source, an exemption from a Permit/WML can be granted by the EA/SEPA

respectively. These exemptions must be applied for prior to the work commencing (25 days in England and Wales and 21 days in Scotland).

Where contaminated materials produced on site during construction works (including excavated soils) are used on site in accordance with the planning permission these may not be regarded as waste and a permit/license not required. This can include activities such as site re-grading and use of materials beneath cover or capping layers, buildings and hard standing. In this case an assessment will need to be made to ensure that materials will not pose a risk to the environment. This will need to be detailed in a remediation strategy for the site, which meets EA/SEPA requirements.

Duty of Care – Waste Materials

The Contractor must ensure all appropriate measures are taken to ensure anyone who is involved in the chain of custody for waste is appropriately permitted/licensed. (Waste could include clean soil from site being deposited off site or imported clean soil to site).

All waste must be appropriately identified and stored on site and covered to prevent uncontrolled release. Skips must not be allowed to overspill and disposal areas kept clean and tidy.

Waste must only be transferred to an authorised person capable and permitted/licensed to deal with the type of waste produced.

The Contractor must undertake periodic reviews to ensure that waste from site is being handled correctly and transferred to the final point of disposal or recovery.

Waste Management / Waste Transfer Notes (WTN)

The Contractor shall provide to the Company (in the format provided) an itemised summary of all exported materials from site on a monthly basis or, on a frequency as requested by the Company. The summary must include the quantity in cubic metres of all made ground materials removed from site to a licenced tipping facility, along with the quantity of all naturally occurring ground materials removed from site to either a licenced tipping facility or to a permitted receiving site. The Contractor shall also include within the itemised summary all waste materials removed from site in their own designated waste skips, this shall identify the quantity in tonnes. The summary must include as a minimum the date, tip or receiving site name, environmental permit references, haulier names, haulier license details and quantity in the units as previously described. The Contractor shall retain copies of all transfer notes for inspection if required by the company.

A waste transfer note must be created for each load of waste that leaves site. Copies of waste transfer notes are to be provided to the Company. The Contractor is required to provide the Company with the total tonnes removed each quarterly period.

For repetitive transfers of non-hazardous waste, a season ticket can be utilised for up to 12 months. They can only be used where the parties involved in each transfer are the same and where the description of waste transferred remains the same.



All plots, garages and scaffolds must be cleaned by the contractor upon completion of the works and left free of materials or debris created by the works. Failure to do so will result in contra charges being applied.

Upon completion of the contract (or defined sections thereof), the Contractor will clear from site all stored materials, equipment, site accommodation, etc., no longer required, without delay.

Waste removal and disposal must be in accordance with all current UK legislation.



TRADE SPECIFICATION

PLOT GROUNDWORKS

This Specification Agreement relates specifically to the Company's development at

I confirm that I have read and understood the foregoing Specification and any necessary associated documentation referenced, such as standard specifications, drawings or quoted details and that my prices include for all items contained therein and will "remain fixed" for a period of: as outlined in the Enquiry letter.

SIGNED:

FOR AND ON BEHALF OF:
.....

DATE:

N.B. The Contractor is to sign this Agreement and return it with their Quotation. Any prices received without this Agreement will be excluded from consideration.

Revised: Rev AC – 1 January 2025