

Land at Hollingworth Road, Littleborough
Construction Environmental Management Plan
Countryside Partnerships

January 2024



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Report to: Countryside Partnerships

Report Title: Land at Hollingworth Road Construction Environmental Management Plan

Revision: V7

Issue Date: 17/01/2024

Document Ref: 0230CEMP

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1. Introduction

1.1 Purpose and scope

- 1.1.1 The aim of the Construction Environmental Management Plan (CEMP) is to set out the responsibilities with regard to compliance with legislation and implementation of any mitigation measures. Specific management measures required to minimise environmental impact from the construction phase of the development are provided. The CEMP is a dynamic document providing a framework within which the measures will be implemented throughout the project and should be reviewed at agreed intervals and if activities or conditions onsite that may affect the proposed management measures change.
- 1.1.2 For the purposes of the CEMP, the working area is defined as any area where there will be a requirement for temporary or permanent works to facilitate the construction of the development. This includes areas required for access, temporary construction and temporary storage areas.
- 1.1.3 The CEMP provides the framework for the delivery of any mitigation recommended within the relevant environmental assessment provided in support the planning application. The CEMP outlines the contractor's approach to environmental management throughout the construction phases with the primary aim of reducing any adverse impacts from construction on local sensitive receptors.

1.2 Site location & project summary

- 1.2.1 The proposed development is for the construction of up to 127 2-5 bed residential dwellings including two vehicular accesses, landscaping and associated works at the former Akzo Noble Site, Hollingworth Road, Littleborough, Rochdale. The former site is the location of the former Akzo Noble Chemicals site to the south of Littleborough. It is bounded the Rochdale Canal Special Area of Conservation (SAC) to the south, Hollingworth Road (B6225) to the east and grazed pasture to the south and west.
- 1.2.2 The site has been cleared for development and subject to remediation and currently comprises sparsely vegetated ephemeral vegetation and scrub, with a strip of broad-leaved woodland along the canal embankment, and defunct hawthorn hedges along Hollingworth Road. There are no schools or hospitals within 200 m of the site with the nearest residential receptors located on Hollingworth Road approximately 150 m from the site boundary.
- 1.2.3 Access to the proposed development site will be via B6225 Hollingworth Road to the east of the site.

1.3 Planning reports

- 1.3.1 The following relevant environmental reports were provided in support of the planning application:
 - Ecological Impact Assessment
 - Preliminary Ecological Appraisal
 - Tree survey and arboricultural impact assessment
 - Habitats Regulations Assessment
 - Air Quality Assessment

2. Project Description

- 2.1.1 The proposed development is for the construction of up to 127 2-5 bed residential dwellings including two vehicular accesses, landscaping and associated works. The scheme will provide a range of housing types, green frontage to Hollingworth Road on the eastern site boundary, with a focus on pedestrian



access.

- 2.1.2 An access to the proposed development will be constructed on to the B6225 Hollingworth Road to the east of the site and will accommodate two-way vehicle movements. Pedestrians and cyclists will be able to gain access from B6225 Hollingworth Road, as well as the public rights of way running along the western boundary and southern boundary.
- 2.1.3 The development incorporates a cycle track through the northern side of the site and includes a new connection on to the canal path via the bridge to the north west corner of the site. The permeable layout of the development and open space will promote walking opportunities for new and existing residents and users of the area.

2.2 Drainage Strategy

Surface Water

- 2.2.1 Permission to discharge surface water to the Rochdale Canal has been approved by the Canal and River Trust¹. The outfall will be submerged and directly into the canal. Outfall velocities into the canal must be restricted to 0.3 l/s⁻¹. The velocities downstream of the flow control have been calculated to be higher, at 0.4l/s⁻¹. Consultation with the Canal & River Trust has agreed that installation of baffles to the outfall headwall reduce the discharge velocity so that 0.3l/s⁻¹ was not exceeded is a satisfactory solution. Surface water from the site will be attenuated to 29.6 l/s⁻¹ as agreed by the LLFA.
- 2.2.2 Attenuation for the site will be located within the central public open space. The required storage volume has been calculated as 1794m³ for the 1 in 100yr plus 30% climate change event.

Foul

- 2.2.3 For the majority of the site, foul water will be pumped to the 225 mm public combined sewer in Hollingworth Road to the east of the site via an adoptable pumping station. Levels along the site frontage next to Hollingworth Road are to be lifted and it is proposed to connect plots in this area by gravity.

2.2.4 Pollution mitigation measures

- 2.2.5 Due to the site outfalling to the Rochdale Canal Special Area of Conservation (SAC) and SSSI, a designated site, additional measures have been considered following guidance from Natural England, CRT and the LLFA. Typical pollution hazard levels from a residential development fall into the low category in accordance with the SuDS Manual.
- 2.2.6 The first mechanism employed within the site is the inclusion of permeable paving to a minimum of 70% or private driveways. The SuDS Manual C753 'Pollution hazard indices for different land use classification' identifies residential and non-residential car parking with infrequent change to be 'Low Pollution Hazards'. Permeable paving is shown to have a SuDS mitigation index greater than the pollution hazard of a car parking area. The proposed limestone granular surface and sub-base permeable paving therefore provides suitable filtration and treatment of any hydrocarbons and/or possible washdown of the cars. The primary surface water network which shall drain the adoptable roads serving the residential development shall include trapped gullies spaced in accordance with Highway Authority requirements. These typically capture first flush runoff of silt and sediments. Cleaning out of highway gullies should be in accordance with national guidelines of a minimum of once every twelve months.
- 2.2.7 Further removal of suspended solids and sediment are achieved by the surface water flows from the whole development passing through a large attenuation tank with downstream flow control device.

¹ Canal & River Trust. Surface Water Discharge Application Ref. TPW-NOR-2122-013



The flow control manhole has an inbuilt sump which provides an easy access point for inspection and removal of suspended solids. The upstream pipework, tank and flow control is to be offered for adoption to a sewerage undertaker who would provide regular maintenance and silt removal.

2.2.8 Immediately downstream of the flow control device for the development will be a SPEL Puraceptor treatment device which will be sized to accommodate full restricted flows from the development to provide failsafe treatment to the site which can be easily accessed, maintained and monitored throughout the lifetime of the development by the Resident Management Company.

2.2.9 This provides extremely high levels of treatment for TSS, Metals and Hydrocarbons should any of these reach this stage of the treatment train.

Reedbeds

2.2.10 It is proposed to introduce a section of reedbed swale immediately upstream of the Puraceptor which will provide a 'polishing' treatment to the development surface water flows. This introduces a natural system prior to the Puraceptor and canal outfall which also has ecological and wildlife benefits. The reedbeds will typically have a gravel matrix of 6 to 12 mm diameter clean washed stone, with a coarser surface gravel layer. The reedbeds will be 300 mm thick at the outfall end, reducing slightly towards the upstream end to suit the profile of the drain. Perforated pipes will extend from the outfall for 40% of the upstream reedbed length to collect and channel flows to the outfall pipe.

Wet Grassland

2.2.11 The areas around the reedbed will be profiled to form a relatively flat fall and planted with a wetland grass and pond grass mix. This will encourage ponding in the grassland areas, thus acting to retain soil moisture, promote biodiversity and enhance water treatment in these zones.

Flow Restriction

2.2.12 The final outfall from development is located centrally along the northern boundary of the site with a connection to the Rochdale Canal. The flow control chamber will discharge a maximum permitted rate of flow of 29.6 l/s for the whole development. This shall pass through the reedbed/swale and into the Puraceptor at a controlled flow thus allowing treatment along this section prior to the outfall to canal.

Planting Plan

2.2.13 The assumption is for Common Reed (*Phragmites australis*) at a density of ten plug plants per m². The estimated total number of reeds is 857 plugs. This is based on a reedbed length of 30 m within the 3m channel at the specified planting density. The development build-out will take a period of 2 to 3 years with progressive increase in flows to the final outfall. Establishment of the reedbeds is to be phased to match the build-out.

2.2.14 Wet grassland areas will be planted with a mix of wetland grass species that can survive in high soil moisture conditions. Channel banks are to be seeded conventionally and/or by pre-seeded erosion mat necessary for inaccessible slopes. The planting mixes will be selected to include locally suitable plants which will complement the surrounding landscape.

2.2.15 Precise planting along with management and maintenance should be referred to the soft landscaping proposals and the maintenance responsibility plan.

Filter Drain

2.2.16 The proposed footway link adjacent to the canal will be drained by a filter drain to convey and filter surface water runoff from the footway.

Surrounding run-off from adjacent land

2.2.17 The existing site is currently served by a series of land drains which appear to intercept an element of



natural runoff from the adjacent elevated land and currently discharge to the existing culvert below the canal and onwards to the island site. It is proposed that these shall remain and be re-routed where necessary within the development to the same discharge point. This shall mitigate any change in potential increased nutrient or phosphate entering the canal.

2.3 Tensar embankment construction strategy

2.3.1 Prior to construction of the highways and structures of the development, a Tensar reinforced earth embankment will be constructed to raise and level the north section of the site to the designed height (150.000 to 151.850 AOD). This embankment will be built sequentially in seven sections (A-G as shown on Drawing 45466/015 Appendix A) constructed sequentially in zones (A – G), with the typical Tensar installation requirements and gradients for construction within each of these zones shown on the typical cross sections illustrated on 45466/016, 017, and 018 (Appendix A), with the embankment sections having slopes ranging from 45° at the steepest incline, down to 26°.

2.3.2 Due to the proximity of the Rochdale Canal SAC to the proposed Tensar reinforced earth embankment, and accounting for the toe of the embankment sections ranging in distance from the existing canal edge from 5 metres up to 9 metres, planning consultation was undertaken with Natural England and the Canal and River Trust. This consultation resulted in further detail on the installation (including bank excavation and fill) methodology being requested.

Working areas

2.3.3 The Tensar embankment will be constructed with heavy plant working from existing ground, working away from the canal edge as layers are formed. There is no requirement to work from within the canal at any time, nor for heavy plant (excavators, muck shifters, etc.) to be within less than 10m of the canal edge.

Excavation

2.3.4 Where required, the existing ground will be excavated to provide a base for the embankment earth slope formation layer. These excavations relate to Sections A, B, D, and G. These excavations are proposed to be undertaken using 360 excavators working from existing ground, pulling material away from the northern boundary (Rochdale Canal).

Formation layers

2.3.5 For sections A, B, D, and G, excavation will be undertaken to expose natural ground. These excavations will then be built back up to the Tensar slope formation level required with engineered fill of Class 2C engineered fill, compacted with a 4-ton double roller. Section C will be regraded and built-up using Class 2C engineered fill, but no Tensar layers are deemed necessary in this section.

2.3.6 Where no excavations are required in sections E, and F, the ground will be graded where required using a 360-excavator working from existing land and pulling material away from the northern boundary of the site.

Layer methodology

2.3.7 Once the formation layers or grading have been completed, the Tensar primary geogrid will be laid on the surface and topped with Class 2C engineered fill placed using a long boom arm excavator, working from existing ground with a bottom opening bucket that allows the material to cascade on to the geogrid. The fill material will be compacted by a 4-ton roller to achieve a 250mm layer. At 250mm a Tensar secondary geogrid will be laid, the fill layer Class 2C material addition and compaction process repeated to achieve a 250mm layer, where the primary geogrid material will be laid again. This process will be repeated until the designed AOD height had been achieved. Refer to Tensar Installation Guide attached as Appendix B for further details of the process.

Surface layer



- 2.3.8 Once the designed AOD and slope angle has been achieved for each embankment section, the face of the slope will be trimmed using an excavator working from the top of the slope and pulling material away from the northern boundary, the slope will then be topped with a 100mm layer of topsoil that shall be sourced in line with BS 3882:2015.

Erosion control

- 2.3.9 The topsoil layer will be seeded with Emorsgate No. 1. Wildflower mix (EM1) prior to installation of erosion control matting. The erosion control matting will be fixed at the top of the embankment within a 250mm deep by 450mm wide trench excavated no less than 300mm from the lip of the embankment, into which the matting will be laid held place by Class 2C fill material.
- 2.3.10 The erosion control material will be rolled down the slope and fixed at 1 m intervals to maintain contact with the topsoil layer. It shall then be fixed at the toe of the embankment through excavation of a 300mm deep by 450mm wide trench, into which the erosion control matting will be placed and held in situ by backfilling with site won material.
- 2.3.11 Silt control comprising hay bales, or a silt fence at minimum 50mm below ground shall be installed 300mm from the toe of the embankment to prevent any silts from washing into the canal prior to establishment of the wildflower seeding.

Planting plan

- 2.3.12 Precise planting along with management and maintenance should be referred to the maintenance responsibility plan. The planting mixes will be selected to include locally suitable plants which will complement the surrounding landscape.

Seepage

- 2.3.13 British Geological Survey mapping shows the underlying bedrock at the site is Mudstone, Siltstone, and Sandstone of the Pennine Lower Coal Measures Formation and Sandstone of the Milnrow Sandstone Formation. Superficial Devensian Till (Diamicton) deposits are shown to overly these.
- 2.3.14 The site was remediated following the demolition of the former Akzo Nobel chemical works and it is understood the ground underlying the remediated top layers consists of clay. As such, ground conditions are not suitable for sources of ground water to be present that could rise below the Tensar wall.
- 2.3.15 Surface water drainage plan was appraised and will be surface water will be managed according to the Surface Water Drainage plan and S104 Layout. Land drainage will be managed in accordance with the Land Drainage Layout.

2.4 Construction stages

- 2.4.1 Prior to any ground works commencing on site the project manager will ensure that all necessary protection measures are implemented including:
- Production of the Site surface water management plan
 - All measures to protect the Rochdale Canal (Refer to Section 4.22)
 - Badger exclusion areas clearly marked out
 - Site security fencing and exclusion of retained habitats.
- 2.4.2 The works programme includes:
- Site preparation (de-vegetation and levelling)
 - Temporary works (fencing, access and compound creation)
 - Drainage and service ducts



- Earthworks (excavation and fill)
- Tensar reinforced earth embankment construction
- Highway construction
- Structures construction
- Pavements
- Kerbs, footways, cycleway and paved areas
- Traffic signs & road markings
- Street Lighting
- Landscaping works

2.5 Site Hours of Work

- 07:30 - 18:00 Monday to Friday
- 07:30 – 13:00 Saturday (when required)
- No construction will take place on Sundays and Bank Holidays
- In order to maintain these working hours, contractor(s) will require a period of 30 minutes before and at the end of the working shift to start up and close down the works activities.
- During the construction period it may be necessary in exceptional circumstances to work outside the prescribed working hours.

2.6 Construction Programme

- 2.6.1 Construction is anticipated to last between 36 and 48 months commencing in spring/summer 2023. A detailed Construction Programme will be made available.

2.7 Construction Traffic Management Plan

- 2.7.1 The following information is contained within the appended Construction Traffic Management Plan (Annex 1):
- Stakeholder Communication Plan
 - Parking for Site Operatives
 - Traffic Management
 - Deliveries/Unloading
 - Security
 - Wheel Washing Facilities & Run Off Mitigation
 - Dust Management Plan
 - Complaints/Comments
 - Control of Noise and Vibration
 - Plant & Equipment
 - Fuel Storage & Handling
 - Site Waste Management



- Working Hours
- Liaison with Other Developers
- Site Power
- Covid-19 Working Procedures
- Health & Safety Management
- Lighting
- Temporary Drainage and Surface Water
- Vehicle Movements
- Site Set Up and Traffic Management Plan

2.8 Vehicle Details

2.8.1 Due to the works being undertaken the following vehicles will access the Site:

- Mechanical excavator's.
- Mechanical dumpers.
- Lorry mounted crane and associated lifting equipment.
- Lorries.
- Small plant machinery.
- Telescopic forklift.

2.8.2 This list is non exhaustive and will/may be added to throughout the duration of the project.

2.8.3 These vehicles will access site via the route on the Site set up plan, during working hours.

2.9 Plant and Equipment

2.9.1 Due to the works being undertaken, the following plant, tools and equipment will be utilized:

- Heras fencing.
- Site cabins – lockable steel cabins for storage and office accommodation.
- Mechanical excavator's.
- Mechanical dumpers.
- Piling rig.
- Lorry mounted crane and associated lifting equipment.
- Lorries.
- Small plant machinery.
- Small/Large hand tools.
- Independent access scaffolding.
- Mobile tower scaffolds.
- Fall arrest systems / Safety crash deck systems.
- Telescopic forklift.
- Stihl saw (abrasive discs and diamond tipped blades).



- Electrically operated Tools.
- Battery operated tools, apparatus.
- Transformers.
- Wheelbarrows.

2.9.2 The above list is non exhaustive and will/may be added to throughout the duration of the project. All loading and unloading of plant and machinery, and delivery or materials/ removal of waste will be undertaken off the main road within the construction site.

3. Roles and Responsibilities

3.1 Contracts Manager

3.1.1 The Contract Manager is responsible for:-

- Ensuring that the CEMP is developed & held on site and that it is implemented and updated throughout all phases of the project.
- Maintaining the CEMP and ensuring that all contractors and visitors comply with it.
- Ensuring that environmental issues identified within the Pre-Construction Information and the pre-construction site surveys and relevant information gathered from agencies, local councils etc are addressed.
- Producing environmental project specific controls for all significant risks identified and implementing control measures to minimise the risk of damage to the environment.
- Communicating the CEMP and other related document to employees, contractors and client representatives.
- Nominating and appointing an experienced Environmental Advisor where necessary.

3.2 Contractors and Visitors

3.2.1 Contractors and visitors to the project will be responsible for:-

- Ensuring that the control measures identified from environmental surveys are implemented as they are relevant to their work / visit.
- Ensuring that the project management team are notified of any non- conformance of control measures or environmental incident where the environment has been put at risk.

3.3 Site Manager

3.3.1 The site manager is responsible for:

- Ensuring the site and all stored materials and chemicals are safe and secure;
- Ensuring the site is kept in a tidy and orderly fashion. Waste will be managed in conjunction with the relevant procedure as applicable.
- Emergency egress arrangements, so those leaving site in the event of a pollution or spillage incident may do so safely.
- Ensuring all those that work on site have a Site Induction including briefing on environmental issues pertinent to the project and relevant toolbox talks and are aware of all environmental matters which arise on site.



3.4 Site Environmental Advisor

3.4.1 The environmental advisor shall ensure:

- Work is carried out in accordance with legislation & consents, objectives, targets and the Construction Environmental Management Plan with regards to any Environmental activities on site.
- Site staff operate in accordance with agreed Risk Assessments and Method Statement (RAMS) and in accordance with the project induction and tool box talk training with regards to environmental risk.
- Environmental Issues are reported by:
 - Monitoring compliance with Environmental legislation & consents, objectives, targets and the Construction Environmental Management Plan.
 - Carrying out Inspections, Audits and Non – conformance.
 - Delivering environmental training.

3.5 Public Contact Officer

3.5.1 Is responsible for:

- Acting as the first point of contact for members of the public.
- Arranging and managing public forums and open days for the project and address any concerns. Ensure all local residents and stakeholders are kept informed of progress and key issues.
- Establishing and maintain relationships with key stakeholders and disseminating the construction programme to all interested parties including any work generating high levels of noise, large vehicles/traffic disruption etc.
- Coordinating work, questionnaires, providing works information, dealing with queries, responding to complaints and resolving concerns.
- Production of newsletters, bulletins, posters etc. and display of same throughout site offices and the local area on a regular basis to raise awareness of current issues both within the project team and throughout the local community.

3.6 Information for Contractors and Visitors

3.6.1 All contractors and visitors to the site will be made aware of the Environmental policy and the controls applicable to their presence and activities on site including but not limited to:

- Method statements
- Risk Assessments
- Site induction which include Environment briefings
- Tool box talks.

3.6.2 The Project Manager will be responsible for ensuring that all environmental matters to the project are communicated appropriately .



4. Environmental Considerations

- 4.1.1 An environmental impact assessment scoping report submitted to the LPA, considered that the principal construction environmental effects would relate to traffic movements and associated noise and air quality emissions.
- 4.1.2 The following constraints have been considered:
- Noise & Air Quality
 - Archaeology & Cultural Heritage
 - Landscape & Land Use
 - Ecology
 - Geology & Soils
 - Materials
 - Community Effects & Vehicular Travellers
 - Drainage & Water Environment
 - Waste
 - Sustainability
- 4.1.3 Where applicable, elements of the ESA are utilised in the CEMP to produce a practical outline of the management of environmental risks of the project construction phase.

4.2 Ecology

- 4.2.1 Desktop and Field surveys of the site have been completed by qualified and experienced ecologists. All habitats within the proposed works area and immediately adjacent to the proposed scheme footprint were noted, and the potential for protected or otherwise notable species was assessed.

Protected sites

- 4.2.2 The Rochdale Canal Special Area of Conservation is located on the northern boundary of the site. Specific protection measures include:
- Installation of new surface water drainage outfall to be undertaken in accordance with all Canal & River Trust conditions.
 - Works to canal embankment should ensure no material enters the canal. No construction work shall commence until such time as a silt barrier has been placed along the site boundary with the canal. This barrier shall be constructed of straw bales wrapped in Terram and placed end to end with no gaps.
 - This should be checked on a regular basis (weekly in the site managers inspections) and damaged sections replaced immediately. Where deemed required following the regular inspections, silt fencing will be provided in addition to the straw bales. In this instance, the silt fence shall be installed in line with manufacturer specifications.
 - In the event of significant rainfall, the barrier may require a slit trench be dug, filled with type 3 MOT washed granite with a soakaway. This measure would only be employed should there be risk of the existing silt defences being overwhelmed.
 - No fuel should be stored within 10m of the canal, and any refuelling carried out with jerry cans etc should be completed over a drip tray or plant nappy, and away from any drains. Any equipment that contains fuel should be stored in site storage when not in use, and for short



term storage at the place of work should be stored on a drip tray or plant nappy.

- Once per week **and** during any heavy rainfall event the site manager or nominated representative shall walk the canal bank and ensure that there is no impact upon the watercourse and associated wildlife. In the event that any issue is identified, the site shall immediately notify the local SHE advisor, and group environment advisor. If the pollution is significant, please contact Adler and Allan for pollution control, and notify the Environment agency, and the Canal & River Trust
- At all times, consideration should be given to “The code of practice for works affecting the Canals and Rivers Trust”
- A suitably experienced ecologist competent to identify *Luronium natans* and familiar with working in a canal environment should be employed to supervise works within 5 m of the canal edge.
- Follow pollution prevention and incident response measures outlined below.

Bats

- 4.2.3 All bat species, their breeding sites and resting places are fully protected by law, namely the Conservation Regulations 2017 (as amended), Wildlife & Countryside Act 1981 (as amended), Natural Environment & Rural Communities Act 2006 (NERC).
- 4.2.4 Young trees and saplings may be removed during vegetation clearance as none were considered suitable for bats and are considered to have negligible potential for roosting bats.
- 4.2.5 Habitat on site including the linear scrub/trees and hedgerows and the canal corridor are suitable for commuting and foraging bats.
- 4.2.6 All works and the design of the street lighting will be undertaken in accordance with best practice guidelines relating to bats and lighting and ensure light spill is minimised.
- 4.2.7 If bats are encountered during construction, contractors are to be advised to stop work immediately and contact an ecologist for advice and the production of a suitable revised method statement.
- 4.2.8 Risk assessments & method statements (RAMS) from contractors will be scrutinised and authorised before work commences to ensure the requirements above are understood, factored into working methods and adhered to.

Badgers

- 4.2.9 Badgers and their setts are protected by the Protection of Badgers Act (1992) and as such it is an offence to intentionally kill or injure a badger or to damage or destroy their setts or sett entrances.
- 4.2.10 A copy of Natural England’s mitigation license must be kept on site and all conditions implemented.
- 4.2.11 Pre-commencement surveys in 2023 indicated that the setts are no longer active. As badger activity can vary throughout the year, as a precautionary measure it is recommended that the setts are re-checked prior to clearance of land within a 30m radius.
- 4.2.12 No heavy machinery or excavation work within 30 m of an active sett. 30 m exclusion area to be marked out on site and monitored. All works within exclusion area to be supervised by a competent ecologist.
- 4.2.13 Badger proof fencing is not proposed for the development and security fencing must include provision to enable badger access. High risk areas of embankments to be netted to avoid colonisation during the construction period.
- 4.2.14 Any excavations left open overnight must include a plank or escape route for badgers.



- 4.2.15 Risk Assessments and Method Statements (RAMS) from contractors will be scrutinised and authorised before work commences to ensure the requirements above are understood, factored into working methods and adhered to.

Birds

- 4.2.16 All birds, their nests and eggs are protected by Wildlife and Countryside Act (1981) under which it is an offence to intentionally kill, injure, disturb or take any wild bird. This legislation and its requirements should be highlighted in staff inductions, tool box talks and signed by all contractors, operators and sub-contractors.
- 4.2.17 The hedgerows and scrub/trees throughout the site provide suitable nesting habitat. Ground nesting birds (e.g. Lapwing *Vanellus vanellus*) may also breed / nest on site. Vegetation clearance during the period March to August can be damaging to active bird nests during the main breeding season.
- 4.2.18 Vegetation clearance of the scattered scrub should ideally take place in the months September-February, outside of the main bird breeding season.
- 4.2.19 A check for ground nesting birds should be undertaken prior to stripping. Where necessary measures to discourage nesting such as use of poles or scarecrows will be used.
- 4.2.20 Where this is not possible, then an inspection by a qualified ecologist for active nests must be made within 48 hours prior to cutting. If a nest is found, works will need to be delayed at this location until the chicks have fledged.
- 4.2.21 If nesting birds are encountered during construction, contractors are to be advised to stop work immediately and contact an ecologist for advice and the production of a suitable revised method statement.
- 4.2.22 General habitat enhancement to include provision of nest boxes at suitable locations around the site / within landownership boundary.
- 4.2.23 Method statements and risk assessments from contractors will be scrutinised and authorised before work commences to ensure the requirements above are understood, factored into working methods and adhered to.

Trees & Woodland

- 4.2.24 All trees on site have been subject to an Arboricultural Impact Assessment.
- 4.2.25 The trees have been inspected visually only. No investigation has been carried out into their internal condition.
- 4.2.26 There are no tree preservation orders within the site.
- 4.2.27 A number of trees will be directly impacted by the works. Where trees are to be retained, tree protection areas will be fenced using an approved fencing system. Protective fences are to comply with BS 5837 2012 – Trees in relation to design, demolition and construction.
- 4.2.28 The fencing is to have all weather notices attached, marked as 'Construction Exclusion Zone – No Access'.
- 4.2.29 No materials are to be stored in this area and no activity to take place.
- 4.2.30 Care should be taken storing materials whose accidental spillage could damage protected trees due to the topography of the site. Such materials should be stored and handled away from the root protection area.
- 4.2.31 Any branches that extend over this protective fencing can be pruned by a competent arborist.
- 4.2.32 If any roots over 25mm diameter are found outside the root protection area an arboriculturist should



be contacted.

- 4.2.33 Compensatory Planting - Any replanting should be done in accordance with BS 8545 2014. This should only be undertaken when there is no possibility of damage from the housing development. If areas are planned for replanting, protection of the planting areas should be considered at this stage.

Invasive & Injurious Plant Species

- 4.2.34 Section 14(2) of the Wildlife and Countryside Act 1981 (WCA 1981) states that “...if any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, he shall be guilty of an offence”.
- 4.2.35 Site visit did not identify any species relevant to Schedule 9, and as such it is not considered at risk at this site.
- 4.2.36 Should injurious and invasive plants become suspected during works, cease work and contact the environmental manager immediately.
- 4.2.37 The significance of these invasive species will be highlighted in the induction and tool box talks.
- 4.2.38 Risk Assessments and Method Statements (RAMS) from contractors will be scrutinised and authorised before work commences to ensure the requirements above are understood, factored into working methods and adhered to.

4.3 Air Quality

- 4.3.1 It is recognised that a key concern for the local community and the surrounding areas will be any disturbance to air quality caused by traffic generated during the construction stages associated with the Highway Infrastructure.
- 4.3.2 A desk top air quality assessment was conducted to identify the locations of any AQMA’S and sensitive receptors.
- 4.3.3 There are no schools, hospitals or care homes within 200m of the development boundary.
- 4.3.4 In terms of the construction phase of the project, mitigation measures will be implemented as part of a construction traffic management plan.
- 4.3.5 The primary access to the site compound and works area for all construction traffic will be from the existing highway network. Access to the site compound will be from Hollingworth Road where a high percentage of materials/plant will be delivered.
- 4.3.6 The construction traffic management plan (CTMP) considers the effect of:
- Changes to the existing highway network through road closures and regulation orders required by the scheme.
 - Vehicular activity generated by the construction process
 - Public Traffic accessing the site during the construction process
 - Designated haul routes and restricted routes for construction traffic.
- 4.3.7 The Project Manager will ensure all contractors and material suppliers are safely implementing the CTMP.
- 4.3.8 All sub-contractors, operatives and suppliers will be made aware of the CTMP.
- 4.3.9 In addition, the following traffic management principles should be observed:
- Delivery vehicles whenever practical will avoid ‘peak public traffic hours’ to reduce traffic congestion and nuisance to the existing road and highway network.



- Suppliers and contractors will be made aware of traffic routes to avoid construction traffic congestion and nuisance to the surrounding area all
- Site entrances will be maintained and kept clean and clear. There will be a road sweeper in operation when required and in line with the works activities to ensure no mud is left on the live highway as a direct result of the works.
- All materials will be loaded within the site compound/boundary of the working zone to minimise congestion.
- All materials containers leaving site will be appropriately covered to avoid soiling of the roads and highway. Engines of all vehicles, mobile and fixed plant on site are not left running unnecessarily.
- Low emission vehicles will be used where possible and plant fitted with catalysts, diesel particulate filters or similar devices. Ultra low sulphur fuels in plant and vehicles where possible.
- Plant will be well maintained, with routine servicing of plant and vehicles to be completed in accordance with the manufacturer's recommendations and records maintained for the work undertaken.
- Ensure all vehicles switch off engines when stationary - no idling vehicles.
- Avoiding the use of diesel or petrol powered generators and using mains electricity or battery powered equipment where available.
- All commercial on road vehicles used in construction must meet the European Emission Standards pursuant to the EC Directive 98/69/EC (commonly known as Euro standards) of Euro 3 during any works.

4.3.10 A construction traffic co-ordinator will be employed during the construction period to monitor heavy goods vehicle deliveries and collections of construction materials to and from the site to ensure compliance so far as practicable by contractors with the above requirements.

4.3.11 Only a limited number of car and HGV construction movements typically occur during the peak hours. The working hours of most operatives would not coincide with the network peak, construction processes would be programmed to avoid reliance on deliveries of concrete and bituminous materials during the more congested periods.

Summary of Air Quality Control Measures

Issue	Control Measure
Communications	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager Display the head or regional office contact information
Site Management	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken Make the complaints log available to the LA upon request Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book
Monitoring	Carry out regular site inspections, record inspection results, and make an inspection log available to the LA upon request Increase the frequency of site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions



Preparing and maintaining the site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible Fully enclose specific operations where there is a high potential for dust production and they are active for an extensive period Avoid site runoff of water or mud Keep site fencing, barriers and scaffolding clean using wet methods Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used
Operating vehicle/ machinery and sustainable travel	Ensure all vehicles switch off engines when stationary - no idling vehicles Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable Impose and signpost a maximum speed-limit of 15mph on surfaced and 10mph on unsurfaced haul roads and work areas
Operations	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques Ensure an adequate water supply on the site for effective dust suppression, using non-potable water where possible and appropriate



Issue	Control Measure
	Use enclosed chutes and conveyors and covered skips Minimise drop heights and use fine water sprays wherever appropriate Ensure equipment is available to clean any dry spillages, and clean up spillages as soon as reasonably practicable using wet cleaning methods
Waste Management	Avoid bonfires and burning of waste materials
Construction	Avoid scabbling (roughening of concrete surfaces) if possible Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out
Trackout	Ensure vehicles entering and leaving site are covered to prevent escape of materials Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable Record all inspections of haul routes and any subsequent action in a site log book

Management of Dust

- 4.3.12 The application of standard dust control measures included in the British Research Establishment guidance (Building Research Establishment, 2003) are normal working practice on all well managed construction sites in the UK. Standard measures will be applied to the construction areas within the Site as agreed with the local authority air quality/pollution control officer or Environmental Health Officer.
- 4.3.13 Staff will be trained in the control of dust and will ensure the site is monitored for levels of surface dust. Should dust build up this will be damped down with hosepipes.
- 4.3.14 Record all dust and air quality complaints, identifying cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- 4.3.15 Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.
- 4.3.16 The access road into and out of the site will be monitored for excessive dust build up. Should surface dust build up the road will swept.
- 4.3.17 The name and contact details of person(s) accountable for air quality and dust issues will be displayed on the site boundary. This may be the environment manager/engineer or the site manager.
- 4.3.18 Avoid bonfires and burning of waste materials.

4.4 Waste

Construction Site Waste

- 4.4.1 The Construction Site Waste Management Plan (SWMP) will be completed and maintained on site by the Project/Site Manager. It should be made available to all personnel on site as appropriate.
- 4.4.2 In addition Highways England Design Manual for Roads and Bridges Volume 7 Part 2 HD35/04 'Conservation and Use of Secondary and Recycled Materials' specifies where materials can be reused within a road construction project.
- 4.4.3 Other industry guidance such as the CIRIA Waste Minimisation in Construction will be utilised as required. This is available online at www.ciria.org.

Construction and Demolition Waste



- 4.4.4 The principal types of material to be disposed of will be aggregate, concrete, soil, stones, sand, woody plant material, some landfill materials (bound within soils) and vegetation.
- 4.4.5 In addition to excavation material quantities of other waste types will be generated during construction of the proposed development.
- 4.4.6 Quantities of general construction and demolition wastes are made up of waste such as wood, packaging, metals, plastics, bricks, blocks, canteen waste, hazardous waste (e.g. oils, paints and adhesives), site clearance and residual waste which are generated during the construction phase.
- 4.4.7 A review of these wastes including their respective European Waste Catalogue (EWC) Codes are outlined below:

EWC Code	Waste Description
17 01 07	Concrete, bricks, tiles and ceramics
17 02 01/02/03	Wood, glass, plastic
17 03 01/02	Bituminous mixtures, coal tar and tarred products
17 04 07	Metal
17 05 03	Soil (incl. excavated soils from contaminated sites), stones and dredging spoil
17 06 05	Insulation materials and asbestos containing construction materials
17 08 02	Gypsum-based construction materials
17 09 04	Other construction and demolition waste
16 02 13/14	WEEE
16 06 04/01	Batteries
13 07 01	Liquid Fuels
17 05 03	Soils and stones containing hazardous substances
17 05 04	Soils and stones other than those mentioned in 17 05 03

- 4.4.8 The Waste Hierarchy which should be implemented on site is as follows:

- Prevention/Reduction:
- Re-use: Products and material can sometimes be used again, for the same or a different purpose.
- Recycling and composting- Resources can often be recovered from waste.
- Energy recovery- Value can also be recovered by generating energy from waste.
- Disposal- Only if none of the above options offer an appropriate solution should waste be disposed of.

Site Waste Management Plan (SWMP)

- 4.4.9 A SWMP will identify the personnel and their roles and responsibilities. This includes maintaining records of waste transfers. The appointed site manager should also ensure compliance within any permits and record keeping.
- 4.4.10 All controlled waste will be managed in accordance with the following Duty of Care requirements:
- Ensure all waste is correctly assessed and categorised;
 - Prevent the illegal deposit or handling of controlled waste by any other person;
 - Prevent waste material from escaping our control;
 - Only transfer controlled waste to an “authorised person” (Waste Collection Authority, the holder of an Environmental Permit, Registered Water Carrier or Waste Disposal Authority).
 - Ensure that non-hazardous waste is transferred under a Waste transfer Note which must be retained for two years.
 - Hazardous waste is moved under a waste consignment note that provides a clear description



of the waste material. The consignment note must be retained for three years.

4.4.11 The waste is the responsibility of the company until it has been fully recovered or finally disposed of.

Waste Segregation

4.4.12 Wherever possible, different types of waste should be segregated as they are produced to allow for correct disposal. Each type must be stored separately and securely to prevent pollution and cross-contamination and each waste container should be clearly labelled. Waste limits include:

- Waste must not be stored for longer than 3 months
- No more than 50 cubic metres of non-liquid waste can be stored at any one time
- The total quantity of liquid waste must not exceed 1,000 litres at any one time.
- Waste Electrical and Electronic Equipment (WEEE) includes battery powered items and must be recycled by an authorised recycling centre. Some WEEE can be considered hazardous and must be moved under hazardous waste such as fluorescent tubes and Lithium batteries.

Re-use

4.4.13 Possibilities for re-use of clean non-hazardous excavation material as infill on the site or in landscaping works will be considered following appropriate testing to ensure material is suitable for its proposed end use.

4.4.14 In the event of excavation material which may not be re-used being found, the sub-contractor will endeavour to send material for recovery or recycling so far as it is reasonably practicable. The sub-contractor will ensure that any off-site interim storage facilities for excavated material have the appropriate waste licences or waste facility permits in place.

Material Management

4.4.15 The amount of waste material on site will be reduced as far as reasonably practicable, through waste-minimisation, re-use and recycling. This shall be implemented by the following measures:

- Storage- material shelf life is not exceeded, damage and contamination is prevented including loss, theft and vandalism.
- Delivery- Damage during unloading, delivery to the correct location on site, acceptance of materials and components only in accordance with the order
- Handling- Materials and components are handled using correct methods, in minimal fashion
- Protection- Damage is avoided by provision of temporary protection where applicable.

Waste Auditing

4.4.16 The contractor will record the quantity in tonnes and types of waste and materials leaving the development site during the construction phase. The name, address and authorisation details of all facilities and locations to which and materials from the construction phase are delivered will be recorded along with the quantity of waste in tonnes delivered to each facility. Records will show material which is recovered and disposed of.

4.5 Heritage

4.5.1 It is envisaged that there is no threat to heritage from the project.

4.5.2 Contractors will be advised that whilst carrying out ground-breaking activities such as piling, trenching, tunnelling etc., if items or materials are encountered not in keeping with the expected nature of the site soils that may represent site heritage, work is to be stopped.

4.5.3 Risk Assessments and Method Statements (RAMS) from contractors will be scrutinised and authorised before work commences to ensure the requirements above are understood, factored into working



methods and adhered to.

4.6 Water Resources

Canal Feeder

- 4.6.1 The presence and location of the canal feeder culvert will be included in the site set up and induction packs, and highlighted specifically to the relevant sub-contractors. The culvert will be protected by placing load-bearing road plates over the line of the feeder and any other raw water main during the construction phase. In addition any activities that would cause vibration will not be undertaken in the vicinity of the culvert.
- 4.6.2 A CCTV condition survey and tracing of this canal feed has been undertaken and identified that the section within the footprint of the development is in good condition. Within the southern parcel of the site, the concrete pipe reverts back to an old s
- 4.6.3 tone-built culvert, however, no development is proposed in this section of the site. The compound will be positioned as to ensure that no temporary structures or materials are stored over this section of the culvert.

Water Consumption

- 4.6.4 Effective construction management can deliver major savings in water use and the associated costs of energy, water supply and wastewater treatment. This can be achieved without compromising the performance and user acceptability of the project.
- 4.6.5 The project should where appropriate utilise the following examples of best practice, or equivalent.
 - Install easy to read water meters, ensuring all areas of site water consumption are included.
 - Consider splitting welfare and “site-based” water consumption.
 - Regular meter readings should be taken from all meters, sub- meters and metered standpipes (weekly is recommended) and review at project progress meetings
 - Reduce the risk of uncontrolled water use: e.g. sensor-actuated devices (such as infra-red actuated taps and occupancy sensors).
 - Minimise the risk of leakage: leak detection equipment (including pulsed meters for regular monitoring); ensure valves and overflows are visible for early detection of water loss and easy to access for maintenance.
 - Influence user behaviour: Creating a culture that changes attitude and behaviour to accepting ownership of water efficiency is fundamental to improving the use of water in an efficient manner.
- 4.6.6 Good housekeeping (e.g. reporting/repairing leaks, turning off taps which are not in use, and generally using water in an efficient manner) can assist the site reduce its overall water use. The provision of information on appropriate use of fittings and appliances; awareness raising of the costs and environmental importance of water efficiency via Tool Box Talks; guidance on processes for identifying and reporting water leakage / poorly-performing fittings; method for providing feedback to building occupants on water.

Pollution Prevention and Hazardous Material Storage

- 4.6.7 Chemicals and hazardous materials such as fuels and lubricants are to be stored on site during the construction phase of the project.
- 4.6.8 These include but are not limited to:
 - Fuels



- Oils
- Lubricants
- Paint and Coating
- Adhesives and resins
- Solvents
- Compressed gases
- Cements and binders

4.6.9 Measures will be developed, implemented, maintained and monitored in order to comply with the Water Resources Act (1991) section 85 and associated regulations.

4.6.10 The site layout plan will identify the storage location of bunded fuel stores and the store for small volume packaged chemicals and materials.

Surface Water Management

4.6.11 The contractor will implement a Construction Surface Water Management Plan (CSWMP), the key objective of which will be to ensure that the construction works are undertaken in compliance with environmental legislation and that no contaminants are released from the site to any waters, sewerage network or the bed or banks of any watercourses, unless permitted and approved.

4.6.12 The CSWMP plans and drainage drawings should ensure any potential points of discharge are present and up to date for the stage of construction works and level of disturbance. It must be available for inspection by the administering authority on request.

4.6.13 Surface Water Management Plans should be updated as necessary so as to ensure that any changes to retention, management controls or discharge locations are included as necessary.

4.6.14 Relevant construction water discharge or abstraction permits are to be retained on site, so as to be available for inspection by the administering authority on request.

4.6.15 Potential measures include:

- There should be no unpermitted release of surface waters from site. All surface water releases or discharges are recommend to be tested and provide a field test permit for discharge, in accordance with this CSWMP and any specific conditions of EA permitting.
- Storm water runoff will be directed towards appropriate retention areas and controls so as to control the potential for uncontrolled emissions of water and associated contaminants (such as soil, hydrocarbons and other surfactant contaminants) from the site, wherever practicable.
- Access and egress points to or from the site will be designated access points. Where there is the potential for sediment is tracked onto external sealed roads, it must be removed promptly to reduce spreading and nuisance mud tracking.
- All surface waters should be discharged from site in accordance with any extenuating permit and as defined or conditioned by permitting agents. Any waters removed from the site must also then be removed in accordance with wastewater permitting requirements.
- Applicable surface water and flood risk management controls should be enacted and implemented as soon as possible to mitigate against potential uncontrolled emissions to receiving environment.
- Surface, foul or combined water quality emission should be monitored and recorded as required under any extant permitting requirements. Wheel wash facilities should be provided for vehicles moving to and from the Site at all entry and exit points. Silty water



from wheel-wash facilities will require appropriate disposal to prevent unacceptable levels of suspended solids entering any nearby surface water bodies. Any disposal of surface water generated on site during construction to controlled waters will require consent from the EA. Wheel wash facilities should not be located too close to surface waters.

- If dewatering is required along any part of the construction site, pumped groundwater should be disposed of appropriately according to EA Pollution Prevention Guidelines;
- Early re-seeding of cleared land, where practicable, to minimise exposed land and the entrainment of sediment by overland flow; and this can be managed by ensuring construction plant/ materials are stored on hard-standing surfaces where possible.
- The surface water attenuation pond to be constructed first and used to attenuate and store run-off from the site during construction to prevent contamination of the surface and ground- waters.
- Surface water discharge to the Rochdale Canal should be monitored during and after heavy rainfall. Additional protection measures may be required where drainage routes are identified.
- There is a potential that hazardous waste will be stored on the site and therefore it must be stored in accordance with the Environment Agency Pollution Prevention Guidance (PPG2) so as not to cause any further water/land contamination.

4.6.16 Pollution Prevention Guidelines (PPGs) are based on relevant legislation and reflect current good practice.

4.6.17 The project construction phase will adhere to the following Environment Agency Pollution Prevention guidance listed below. All contractors will be familiar with and apply the relevant best practice listed in the above guidance documents. It is recommended that copies are available in the site office.

PPG2: Above ground oil storage tanks:

4.6.18 Provides information about storing oil in above-ground storage tanks, for new installations and existing tanks. The guidance is for small to medium size commercial oil storage. It gives advice on choosing, installing, using and maintaining oil tanks and how to deal with spills.

PPG3: Use and design of oil separators in surface water drainage systems:

4.6.19 provides information about choosing and using oil interceptors to comply with environmental law and prevent pollution. It gives information about choosing, installing and maintaining an oil separator. Oil separators can be fitted to surface water drains to protect the aquatic environment.

PPG7 Refuelling facilities:

4.6.20 It includes guidance on planning, designing, operating and maintaining refuelling facilities, plus information on storing other related, non-fuel products and dealing with environmental incidents.

PPG13: Vehicle Washing & Cleaning:

4.6.21 provides information on how to comply with the law and prevent pollution when washing and cleaning vehicles. It includes advice on dealing with effluent, waste management and storing and using chemicals.

PPG26 Drums and intermediate bulk containers:

4.6.22 gives information to store and handle drums and intermediate bulk containers (IBCs). It provides advice on choosing drums and IBCs, designing storage areas, delivery and handling, maintenance, dealing with spills and waste management.



4.7 Soil & Geology

- 4.7.1 The proposed development site is a former chemical factory that has since been remediated.
- 4.7.2 Recommendations within the GI report should be followed.

4.8 Nuisance

Mud and materials

- 4.8.1 The site will include a wheel washing facility and road sweeping as necessary to ensure that Hollingworth Road is maintained in an appropriately clean manner in accordance with the CTMP in Annex 1.

Construction Lighting

- 4.8.2 In determining the lighting arrangement on site, consideration will be given to residents and other sensitive receptors that may experience a nuisance by light.
- 4.8.3 Where appropriate, measures will be implemented to reduce obtrusive light. It is unavoidable that construction work may require work during the hours of darkness in consideration of shorter daylight availability during winter months.
- 4.8.4 Where appropriate the following measures will be considered for implementation:
 - Dim or switch off lights where it is safe to do so
 - Use specifically designed equipment
 - Position lights sensibly
 - It is not anticipated that any construction works will be carried out between 6pm and 6am.
 - Habitats on site are suitable for commuting and foraging bats. As such the bats and lighting in the UK Bats and the Built Environment Series –guidance should be observed.

Noise & Vibration

- 4.8.5 Noise and vibration statutory nuisance are controlled under the Environmental Protection Act 1990.
- 4.8.6 The main source of noise pollution within the area is likely to be Hollingworth Road and the railway line. Other sources of noise within the area include traffic on local roads (including farm traffic) and pedestrian associated noise.
- 4.8.7 The following noise and vibration sensitive receptors are located within 300m of the proposed development area:
 - Residential properties
 - Recreational walkers and canal users
 - No medical buildings, schools or care homes have been identified within 250m of the site.
- 4.8.8 Before works on site are commenced, all contractors should make available for inspection a method statement (in accordance with the principle described in BS 5228: 2009: Part 2: Code of practice for noise and vibration control on construction and open site) stating precisely the type of plant to be used and the proposed noise control methods.
- 4.8.9 The contractors will also be required to comply with other relevant provisions of the Control of Pollution Act 1974. The contractor should also comply with the recommendations set out in BS 5228:1997 AMD 1 Code of practice for noise control on construction and demolition sites.
- 4.8.10 Muffling should be in accordance with the recommendations set out in BS 5228:1997, Code of practice for noise control on construction and demolition sites:



- Compressors should be fitted with properly lined and sealed acoustic covers, which should be kept, closed whenever in use
- Pneumatic percussive tools should be fitted with mufflers or silencers of the type recommended by the manufacturers
- Machines in intermittent use should be shut down in the intervening periods between work
- Care should be taken when loading or unloading vehicles or dismantling scaffolding or moving materials etc. to reduce impact noise

4.8.11 The contractor will follow best practicable means to reduce the noise effect on the local community including the following:

- Materials will be handled with care e.g. material such as scaffolding and steelwork will be placed rather than dropped.
- Drop heights of materials from lorries and other plant will be kept to a minimum.
- Ensure noise and vibration effects are minimised during piling of foundations.
- Fixed and semi-fixed ancillary plant such as generators, compressors and pumps liable to create noise and/or vibration whilst in operation will, as far as reasonably practicable, be located away from sensitive receptors.
- The use of barriers to absorb and/or deflect noise away from noise sensitive areas will be employed where required and reasonably practicable.
- All plant used on site, paying particular attention to the integrity of silencers and acoustic enclosures will be maintained in good and efficient working order and operated such that noise emissions are minimised as far as reasonably practicable.
- As far as reasonably practicable, any plant, equipment or items fitted with noise control equipment found to be defective should not be operated until repaired.
- Where reasonably practicable, fixed items of construction plant should be electrically powered in preference to diesel or petrol driven.
- Vehicles and mechanical plant, where reasonably practicable, will be fitted with effective exhaust silencers and will be maintained in good working order and operated in a manner such that noise emissions are controlled and limited as far as reasonably practicable.
- Machines in intermittent use should be shut down or throttled down to a minimum during periods between works.

4.8.12 Risk Assessments and Method Statements (RAMS) from contractors will be scrutinised and authorised before work commences to ensure the requirements above are understood, factored into working methods and adhered to.

4.9 Housekeeping and Security

4.9.1 The site compound plan and the material storage plan highlight key areas such as:

- Main Office
- Tool stores
- Materials store
- Waste skips
- Topsoil storage areas.

4.9.2 Pollution Prevention Guidelines by Environment Agency set out basic environmental management



guidance regarding housekeeping and will be used to set up stores etc.

4.9.3 PPG 6: Construction and Demolition Sites, Section 4 Materials storage, stockpiles & exposed ground:

- Prevent stockpiles on exposed ground from generating pollution as water run-off or dust.
- Locate stockpiles away from watercourses and on level ground to prevent any run-off from entering drains, ditches or watercourses.
- Contaminated material must be stockpiled on an impermeable surface, in a bunded area, at least 10m from a watercourse.

4.9.4 PPG 6: Construction and Demolition Sites, Section 9 Chemicals and hazardous substances:

- Store all chemicals and hazardous substances away from watercourses and drains in a contained, bunded area on an impermeable surface.
- Store all chemicals and hazardous substances away from areas where there is risk of damage from impact or collision e.g. site traffic.
- Ensure all chemicals and hazardous substances are labelled, containers are sealed when not in use and inspected regularly and fit for purpose.
- Dispose of any damaged/ old containers in line with the duty of care requirements; these may be considered hazardous waste.
- Train staff in use of spill kits/emergency procedure.
- Ensure there is a designated 'responsible person' on site at all times.
- Lock storage facilities when not in use.

4.9.5 Risk Assessments and Method Statements (RAMS) from contractors will be scrutinised and authorised before work commences to ensure the requirements above are understood, factored into working methods and adhered to.

5. Training, Competency and Communication

5.1 Introduction

5.1.1 The implementation of the CEMP will be supported through a structured training programme for site staff and sub-contractors alongside a communications plan. This will ensure the specific objectives, targets and procedures set out in the CEMP are communicated effectively across the project supply chain and that individuals have the basic competencies to ensure their delivery.

5.1.2 This should be developed by the contractor prior to commencing on site.

6. Project Environmental Audits and Monitoring

6.1.1 The contractor should develop a programme of environmental audits for the construction period to ensure the effective implementation of the CEMP and to measure progress against the objectives and targets.

6.1.2 The programme should identify the roles and responsibilities for carrying out the audits. The purpose of the audits will be to identify noncompliance with the actions identified in the CEMP and note areas for improvement.

7. Environmental Incidents

7.1 Background



7.1.1 An Environmental Incident is an event that may potentially cause harm to an environmental receptor e.g. water, air, land, wildlife or habitat. Environmental incidents include:

- Chemical or oil spillages and other pollution events;
- Emissions to air of gas, dust or fumes;
- Pollution of watercourses;
- Flooding;
- Noise or nuisance incident;
- Fly tipping or other waste issues;
- Damage to trees;
- Encountering an animal on Site which may be a protected species.

7.2 Procedure

7.2.1 The contractor should develop a site-specific Environmental Incident Response Procedure for managing and reporting of incidents and emergencies on Site, including Environmental Incidents.

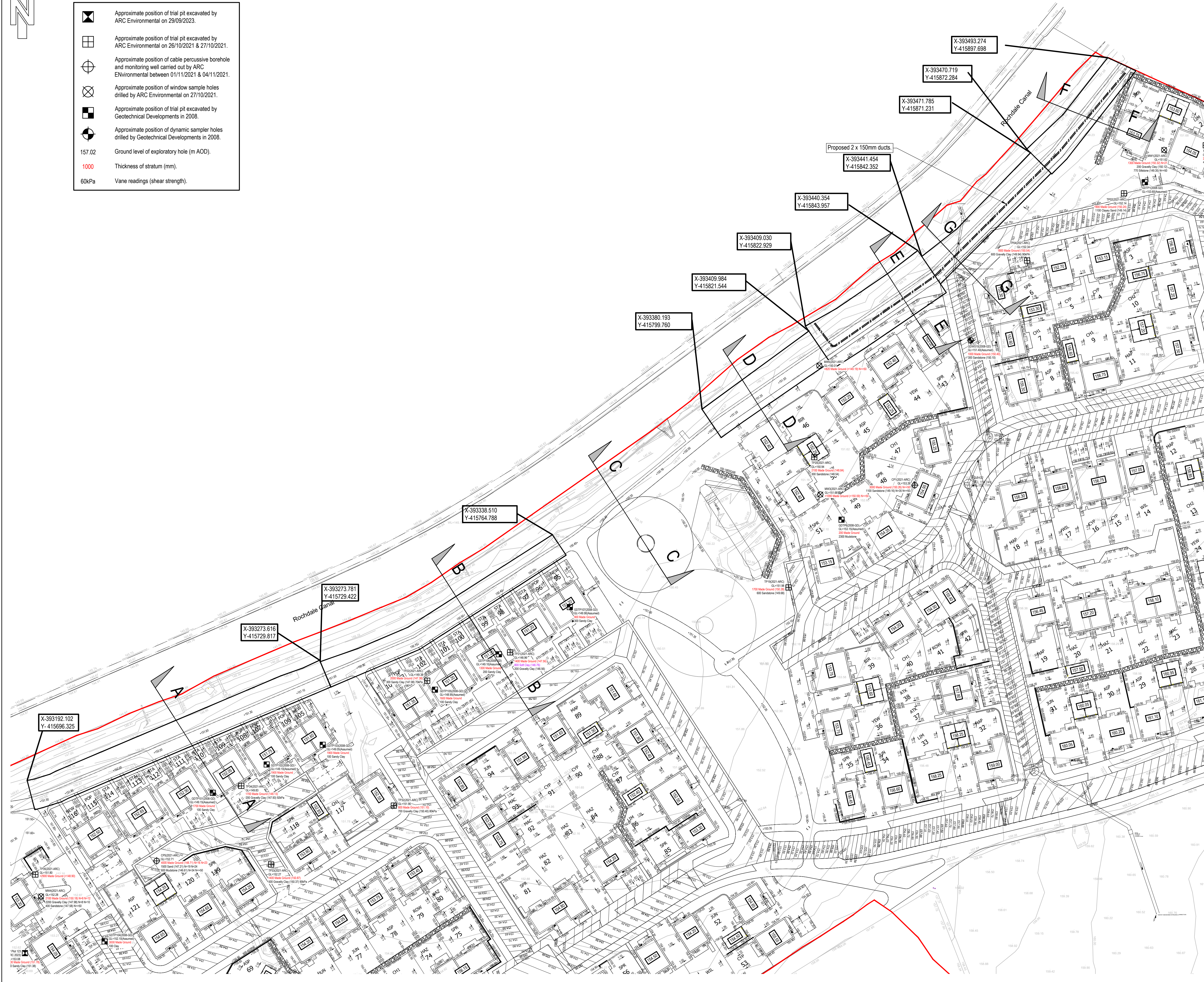
- This Site-specific Procedure should be incorporated into the CEMP.



Appendix A: Tensar Embankment – Plan on Section Locations



	Approximate position of trial pit excavated by ARC Environmental on 29/09/2023.
	Approximate position of trial pit excavated by ARC Environmental on 26/10/2021 & 27/10/2021.
	Approximate position of cable percussive borehole and monitoring well carried out by ARC Environmental between 01/11/2021 & 04/11/2021.
	Approximate position of window sample holes drilled by ARC Environmental on 27/10/2021.
	Approximate position of trial pit excavated by Geotechnical Developments in 2008.
	Approximate position of dynamic sampler holes drilled by Geotechnical Developments in 2008.
157.02	Ground level of exploratory hole (m AOD).
1000	Thickness of stratum (mm).
60kPa	Vane readings (shear strength).



INFORMATION WITHIN THIS DRAWING IS NOT NECESSARILY PRODUCED TO SCALE.
ALWAYS USE FIGURED DIMENSIONS AND CO-ORDINATES - IF IN DOUBT, ASK.

NOTES

FOR SECTIONS, REFER TO
EASTWOOD & PARTNERS
DRAWINGS 46466/016 & 017

Coordinates for base of toe of slope extrapolated
from proposed finished levels and slope and
formation levels from Geotech slope design.
Subject to changes to Geotech design

L	Coordinates for toe of tensar slope added.	JR	GH	21.11.23
K	Trial pit information added.	JR	GH	20.11.23
J	Revised to suit latest site layout	JR	RJ	27.10.23
H	Updated to suit latest levels	AT	CH	14.09.23
G	Updated to suit latest levels. Proposed ducts added.	CTB	GH	27.06.23
F	Updated to suit latest site layout. HV cable shown.	TW	GH	09.06.23
E	Updated to suit latest site layout and levels	CH	PR	12.05.23
D	Updated to suit latest site layout and levels	GH	CH	07.02.23
C	Section G-G added.	RS	GH	24.06.22
B	Section F-F added.	GH	CH	25.05.22
A	First Issue.			
REV	DESCRIPTION	SIG	CHK	DATE

VISTRY PARTNERSHIP YORKSHIRE

LITTLEBOROUGH

PLAN ON SECTION LOCATIONS

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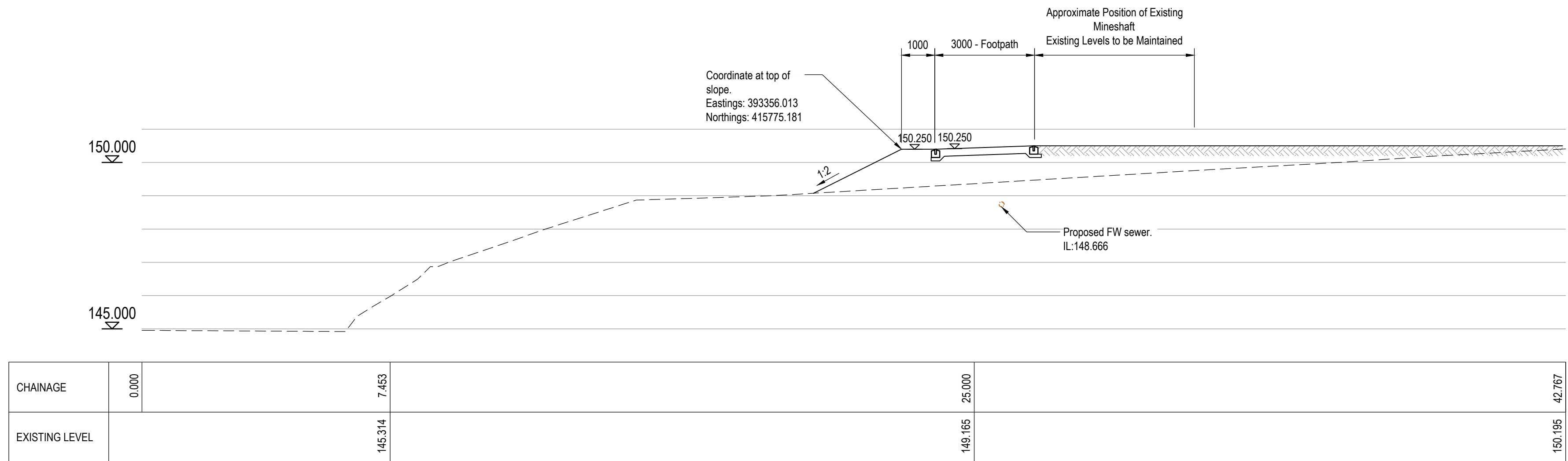
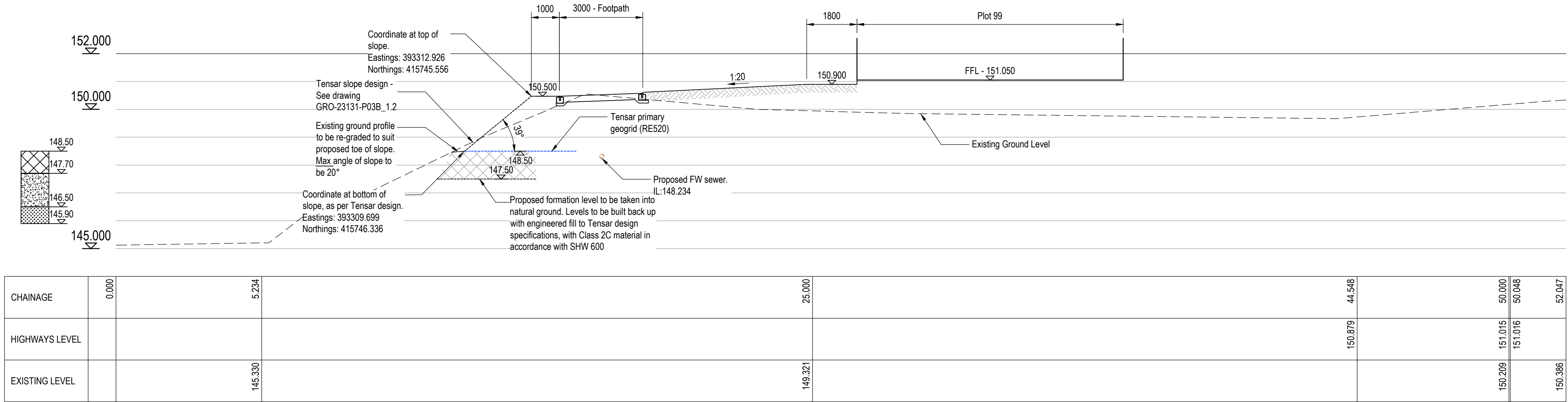
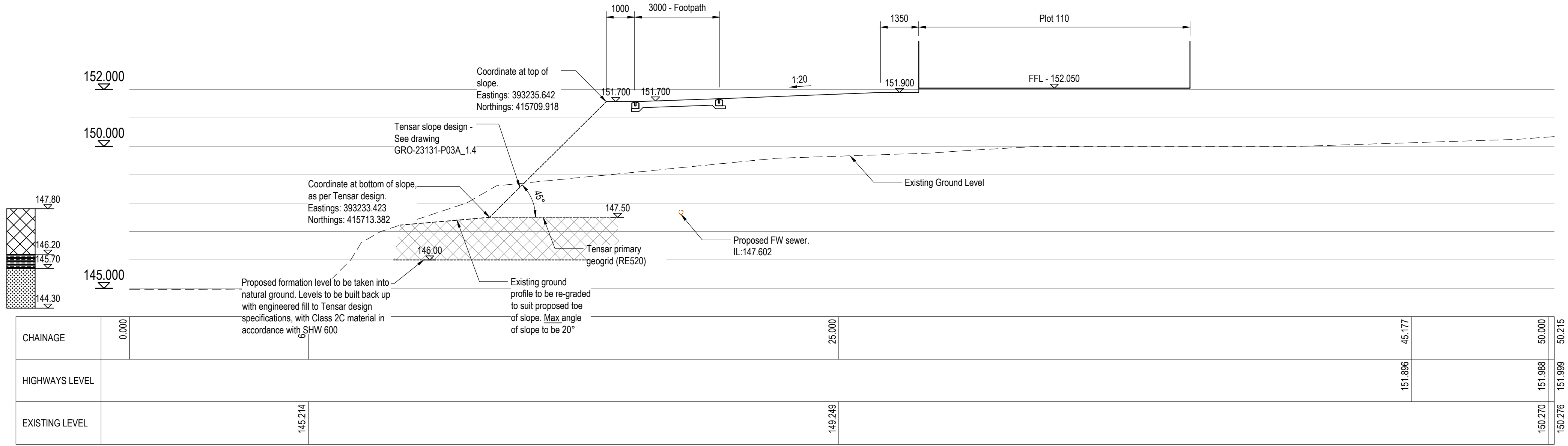
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JB	GH	23.05.22	45466/015	L	

INFORMATION WITHIN THIS DRAWING IS NOT NECESSARILY PRODUCED TO SCALE.
ALWAYS USE FIGURED DIMENSIONS AND CO-ORDINATES - IF IN DOUBT, ASK.

NOTES

FOR SECTION LOCATIONS,
REFER TO EASTWOOD &
PARTNERS DRAWING 46466/015

Key	
	Made Ground
	Sandy Clay
	Clayey, Gravelly Sand
	Sandstone
See Groundtech Trial pit Logs - dated 20.10.2023 for more information	



N	Formation levels indicated. Toe slope tie into existing shown.	JR	GH	21.11.23
M	Updated to suit latest Groundtech design. Trial Pit Log shown.	JR	GH	20.11.23
L	Tensar slope indicated. Coordinates amended to suit Tensar design. Existing ground profile and indicative slope amended to suit 2021 survey	AT	GH	18.10.23
K	Filter drain added.	RJ	GH	13.10.23
J	Coordinates amended.	RJ	GH	12.10.23
H	Updated to suit latest levels	AT	CH	14.09.23
G	Coordinates added to top of slope.	CTB	GH	20.07.23
F	Updated to suit latest levels. Proposed sewers indicated and coordinates added to toe of slope	CTB	GH	27.06.23
E	Updated to suit latest site layout and levels	CH	PR	12.05.23
D	Updated to suit latest site layout and levels	GH	CH	07.02.23
C	Updated to pull sections away from canal edge.	RS	GH	24.06.22
B	Tensar Greenslope and Swales removed.	JB	CH	31.05.22
A	First Issue.			
REV	DESCRIPTION	SIG	CHK	DATE

VISTRY PARTNERSHIP YORKSHIRE

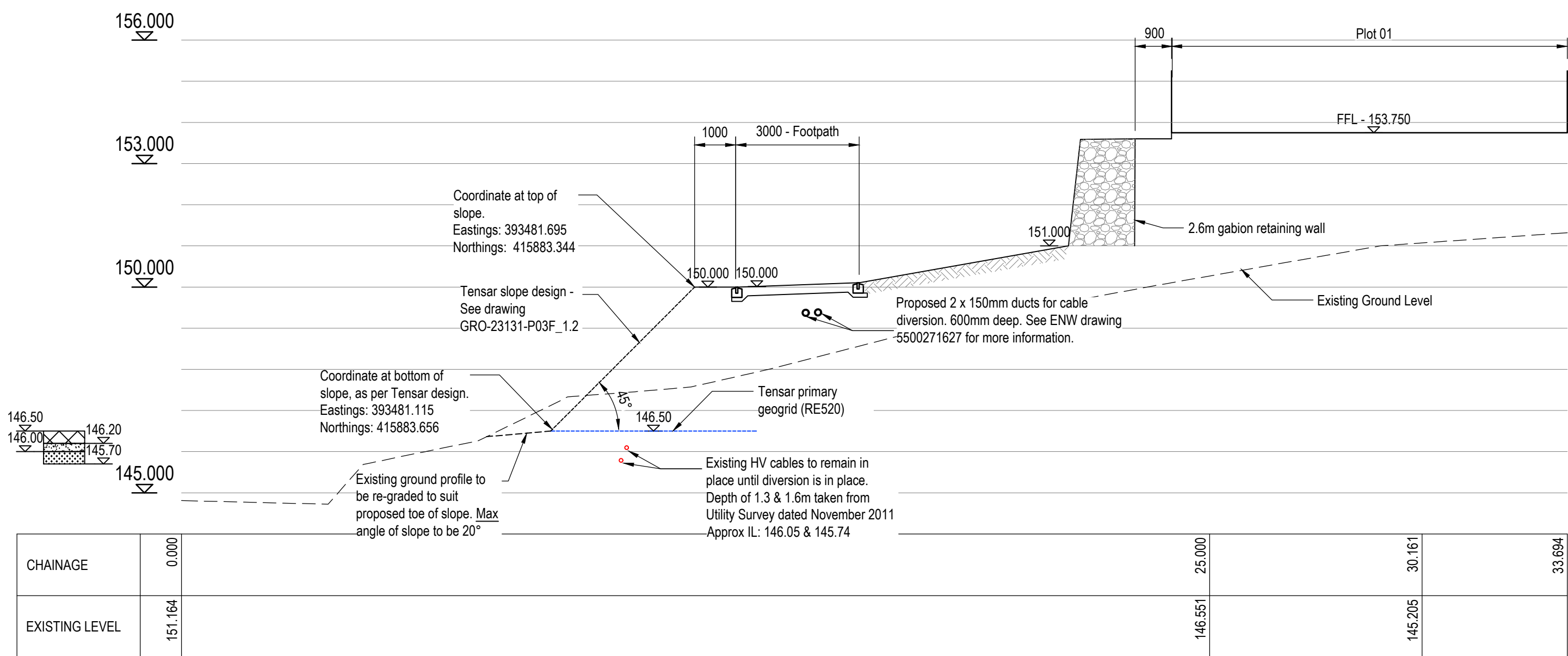
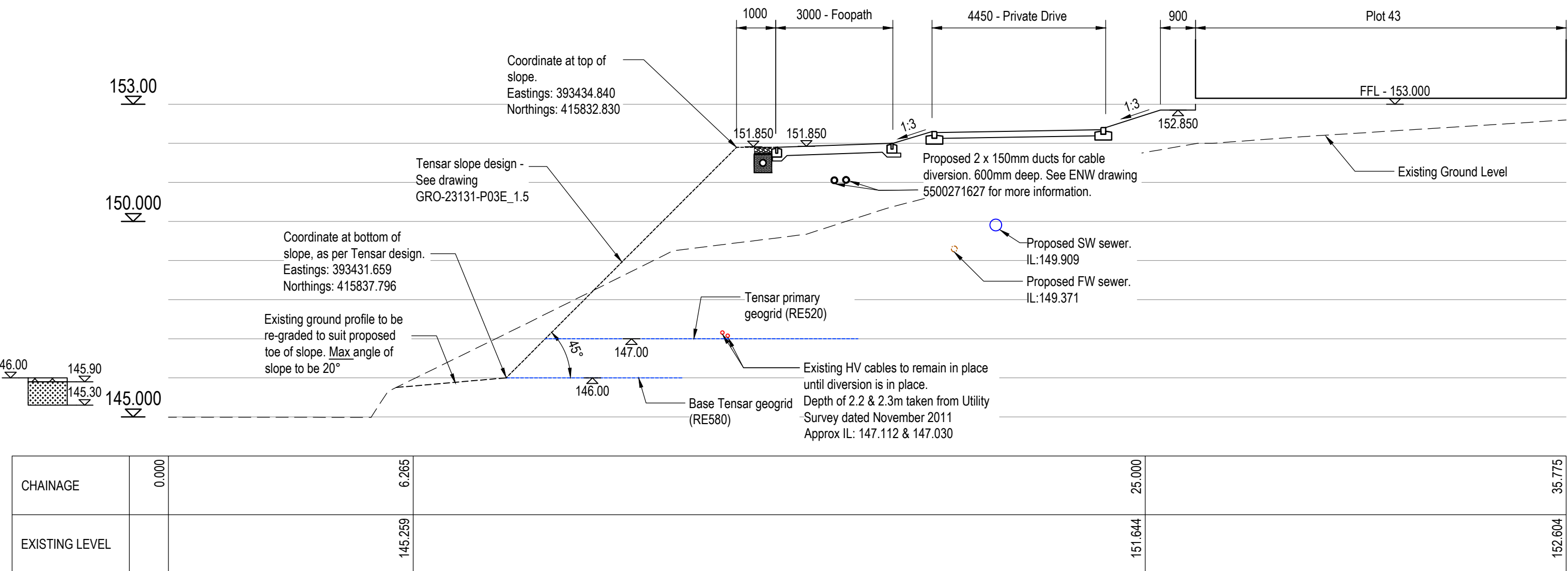
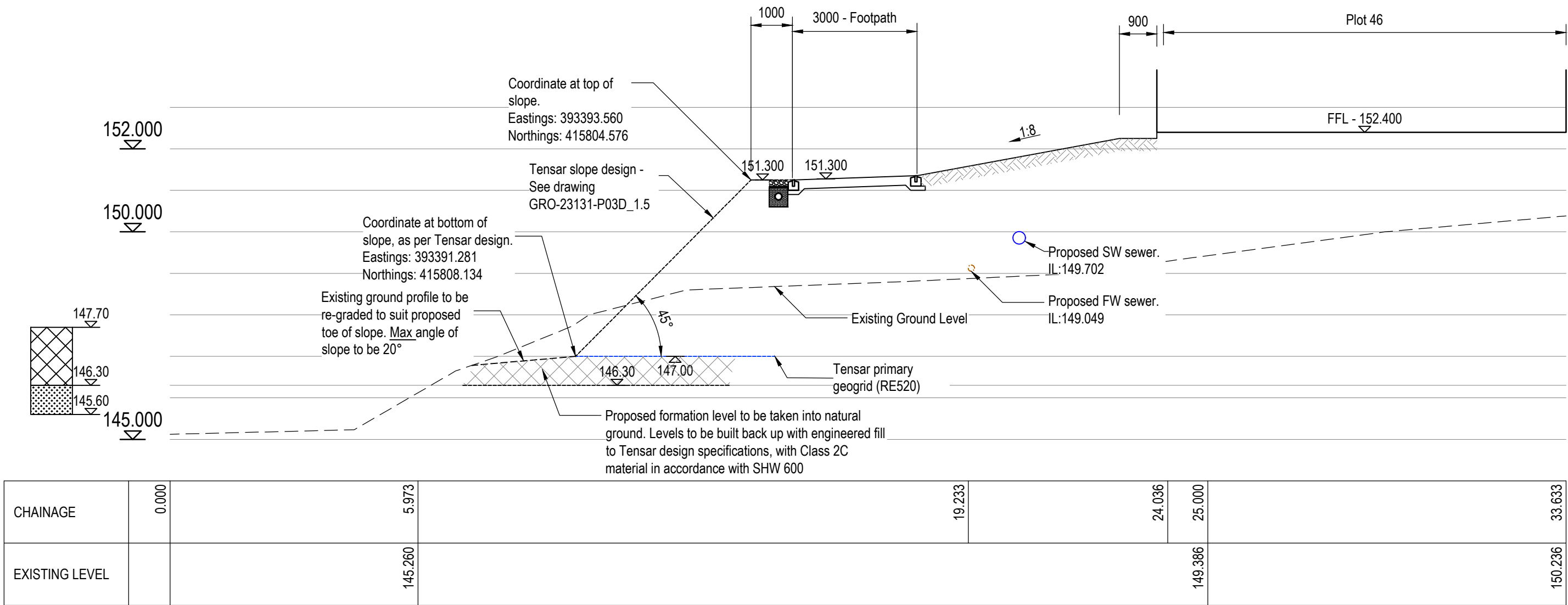
LITTLEBOROUGH

SECTIONS A-A, B-B & C-C
SHEET 1 OF 3

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SCALE WHEN PLOTTED AT A1			DRAWING STATUS		
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DRAWN	CHECKED	DATE	DRAWING NUMBER	REV	
JB	GH	23.05.22	45466/016	N	



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NOTES

FOR SECTION LOCATIONS, REFER TO EASTWOOD & PARTNERS DRAWING 46466/015

Key

- Made Ground
- Sandy Clay
- Clayey, Gravelly Sand
- Sandstone

See Groundtech Trial Pit Logs - dated 20.10.2023 for more information

Q	Formation levels indicated. Toe slope tie into existing shown.	JR	GH	21.11.23
P	Updated to suit latest Groundtech design. Trial Pit Log shown.	JR	GH	20.11.23
N	Tensar slope indicated. Coordinates amended to suit Tensar design. Existing ground profile and indicative slope amended to suit 2021 survey	AT	GH	18.10.23
M	Filter drain added.	RJ	GH	13.10.23
L	Coordinates amended.	RJ	GH	12.10.23
K	Updated to suit latest levels	AT	CH	14.09.23
J	Coordinates added to top of slope.	CTB	GH	20.07.23
H	Updated to suit latest levels. Proposed ducts added. Proposed sewers indicated and coordinates added to toe of slope	CTB	GH	27.06.23
G	Electric cables indicated on Sections E & F	TW	GH	09.06.23
F	Updated to suit latest site layout and levels	CH	PR	12.05.23
E	Updated to suit latest site layout and levels	GH	CH	07.02.23
D	Updated to pull sections away from canal edge.	RS	GH	24.06.22
C	Tensar Greenslope and Swales removed.	JB	CH	31.05.22
B	Section F-F added.	GH	CH	25.05.22
A	First Issue.			
REV	DESCRIPTION	SIG	CHK	DATE

VISTRY PARTNERSHIP YORKSHIRE

LITTLEBOROUGH

SECTIONS D-D, E-E & F-F
SHEET 2 OF 3

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EOP

SCALE WHEN PLOTTED AT A1			DRAWING STATUS		
1:100			PRELIMINARY		
DRAWN	CHECKED	DATE	DRAWING NUMBER	REV	
JB	GH	23.05.22	45466/017	Q	

INFORMATION WITHIN THIS DRAWING IS NOT NECESSARILY PRODUCED TO SCALE.
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FOR SECTION LOCATIONS,
REFER TO EASTWOOD &
PARTNERS DRAWING 46466/015

Key

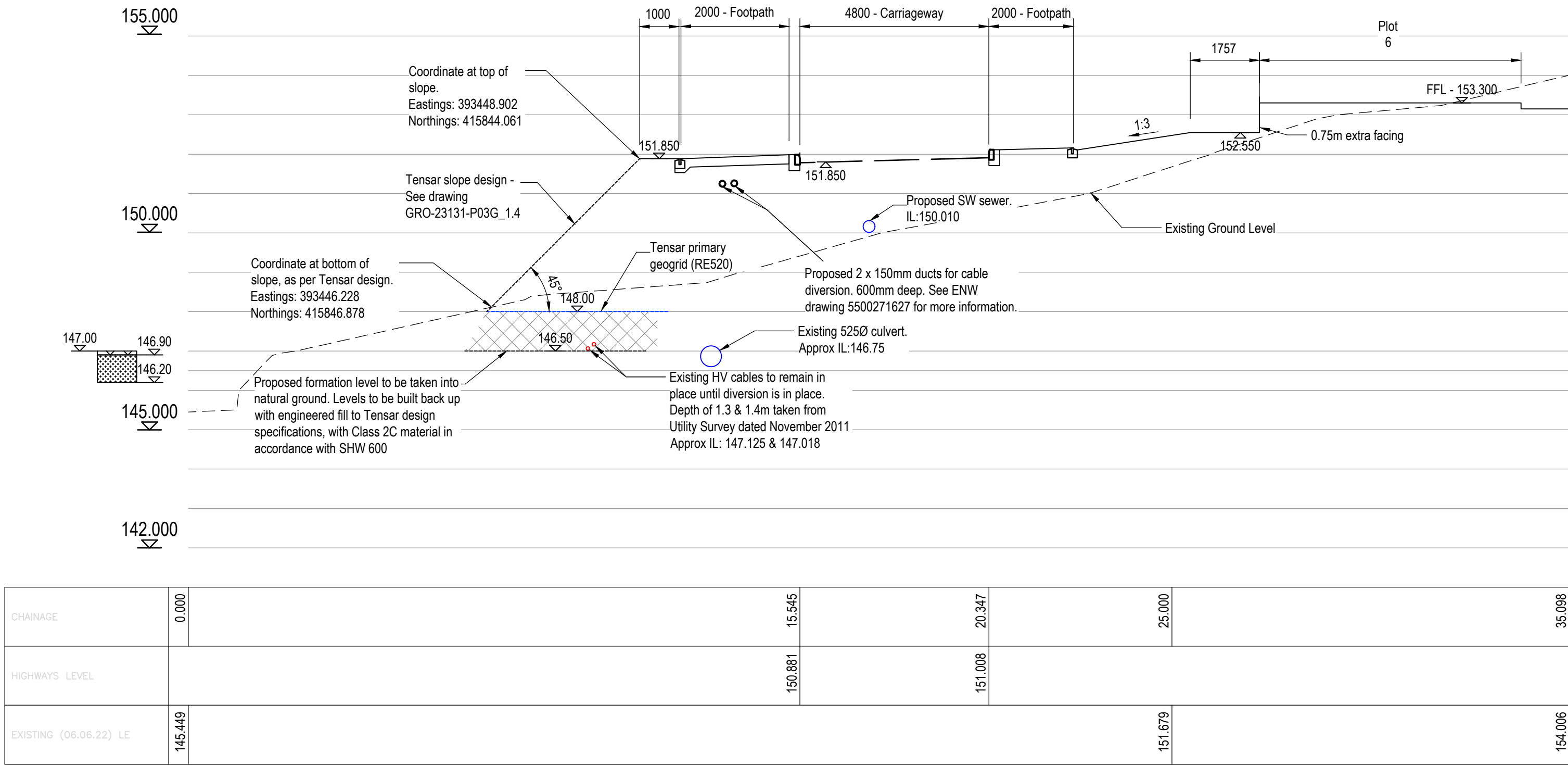
Made Ground

Sandy Clay

Clayey, Gravelly Sand

Sandstone

See Groundtech Trial pit Logs - dated
20.10.2023 for more information



SECTION G-G
SCALE 1:100

M	Formation levels indicated. Toe slope tie into existing shown.	JR	GH	21.11.23
L	Updated to suit latest Groundtech design. Trial Pit Log shown.	JR	GH	20.11.23
K	Tensar slope indicated. Coordinates amended to suit Tensar design. Existing ground profile and indicative slope amended to suit 2021 survey	AT	GH	18.10.23
J	Filter drain added.	RJ	GH	13.10.23
H	Coordinates amended.	RJ	GH	12.10.23
G	Updated to suit latest levels	AT	CH	14.09.23
F	Coordinates added to top of slope.	CTB	GH	20.07.23
E	Updated to suit latest levels. Proposed ducts added and coordinates added to toe of slope	CTB	GH	27.06.23
D	Electric cables and culvert indicated on Section G	TW	GH	09.06.23
C	Updated to suit latest site layout and levels	CH	PR	12.05.23
B	Updated to suit latest site layout and levels	GH	CH	07.02.23
A	First Issue.			
REV	DESCRIPTION	SIG	CHK	DATE

VISTRY PARTNERSHIP YORKSHIRE

LITTLEBOROUGH

SECTION G-G
SHEET 3 OF 3

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EOP

SCALE WHEN PLOTTED AT 1:100			DRAWING STATUS PRELIMINARY		
DRAWN	CHECKED	DATE	DRAWING NUMBER	REV	
RS	GH	24.06.22	45466/018	M	



Appendix 2: Tensar Installation Guide

Installation Guideline for TensarTech® NaturalGreen™ Reinforced Embankment System



Introduction

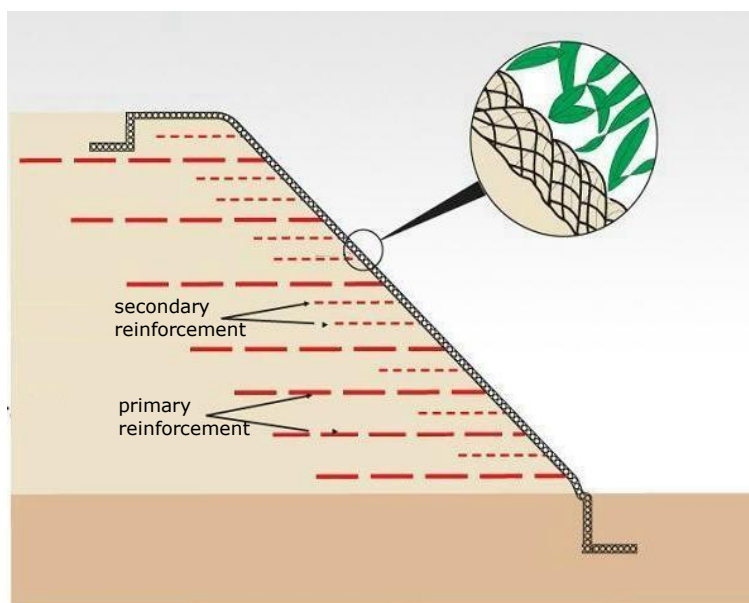
This Installation Guideline provides a step-by-step guide intended for use by contractors planning to construct a reinforced soil slope using TensarTech® NaturalGreen™ system.

TensarTech NaturalGreen System has been developed to provide engineers, architects and builders with an attractive and economical solution for the construction of embankments with a face slope angle up to 45° to the horizontal.

TensarTech NaturalGreen is one of a range of earth retaining systems available from Tensar International Limited, comprising proprietary Tensar uniaxial geogrid as primary reinforcement, TriAx® geogrid as secondary reinforcement and a rolled erosion control product secured with Tensar pegs.

Where applicable, the Contractor shall ensure that the installation fully complies with CDM Regulations 2015 and should refer to the Designer's Risk Assessment and COSHH statements.

The Tensar uniaxial geogrid for primary reinforcement are available in different strength grades identified by coloured banding. All supplied in 1.3m wide rolls either 50m or 75m long. TriAx geogrid for secondary reinforcement is supplied in 4m wide rolls 75m long. Both materials are supplied unwrapped and bound using coloured identifying tape. Both materials are UV protected and may be stored outside until use.



Typical section - TensarTech® NaturalGreen™ Slope

Rolled erosion control product can be supplied by Tensar depending on the project. A suitable erosion product is P300, supplied in rolls 35.0m long by 2.4m wide and comprising 100% UV stable polypropylene fibres incorporated between two layers of UV stable polypropylene netting. Erosion control materials are normally wrapped in polythene but should be stored in a cool dry place avoiding exposure to naked flame or spark, as they may be readily flammable, particularly bio-degradable erosion products comprising natural materials. They are vulnerable until installed and have had the opportunity to absorb moisture.

Tensar pegs to secure the rolled erosion control product are supplied in bags of 25 and may be stored outside if necessary.

Installation

1. The Contractor shall excavate to the lines and grades shown on the construction drawings and should take precautions to minimize over-excavation. Over-excavation should be filled with compacted approved infill material, or as directed by the Engineer.

2. Following the excavation, the foundation soil should be examined by the Engineer to assure actual foundation soil strength meets or exceeds the design bearing strength. Soils not meeting the required strength should be removed and replaced with infill soils, as directed.

3. Foundation soil shall be proof rolled and compacted then inspected by the Engineer prior to commencement of construction of the reinforced soil slopes.



4. Cut and position the base layer of Tensar uniaxial geogrid primary reinforcement at the formation level shown on the contract drawings. The uniaxial geogrid grades are identified by the letters RE and a number which will correspond with the geogrid layout shown on the construction drawing(s). The principle strength direction of the uniaxial geogrid is along the roll length and as such primary geogrid should be laid perpendicular to the slope face alignment.

5. Each geogrid reinforcement length shall be positioned to intercept the line of the final slope face at that elevation (after slope trim). Adjacent lengths of geogrid are butt jointed side-to-side at the slope face.

6. All geogrid should be installed to the levels, lengths and orientations as shown on the construction drawings.

7. Selected suitable fill material should be in full compliance with the needs of the design and have the approval of the engineer.

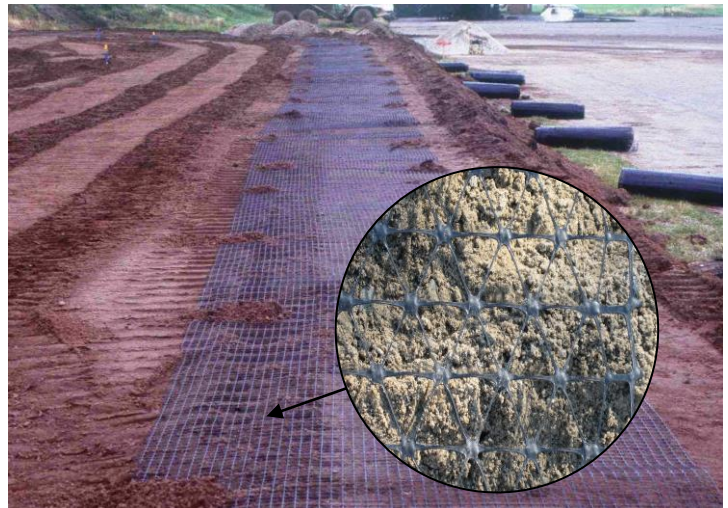
8. Place and compact the fill in layers as specified in the Contract Documents, incorporating primary reinforcement and secondary reinforcement as shown on the construction drawings.

9. The TriAx geogrid secondary reinforcement must be laid in the correct direction rolled out parallel to the slope face. The 4m wide rolls may be cut whilst still on the roll to widths corresponding with the construction drawing; normally 2m, but this must be checked.



10. Fill should be placed by plant such as an excavator with an opening bucket, which causes the fill to cascade onto the geogrid. A 150mm thick cover of fill must be maintained between the tracks of any plant and the geogrid to avoid damage to the geogrid.

11. The embankment may be overfilled, compacted and then trimmed to the final face slope profile in the conventional manner.
12. Use of a toothless excavator bucket is recommended for face trimming to prevent snagging on the edge of the buried geogrid. Although care should be taken not to over cut, the machine performing the face trim will not cause structural damage whilst performing this task.
13. On completion of the filling operation the slope surface should be covered with a minimum 100mm layer of suitable topsoil in accordance with BS3882, or as specified in the Contract Documents. Over-compaction of the topsoil should be avoided.
14. Where a grass cover is specified, scatter the chosen seed mix on to the slope at the specified rate per square metre.



TriAx geogrid secondary reinforcement cut from the roll 2m wide and rolled-out parallel to the slope face.

15. The rolled erosion control product should then be installed.

16. The rolled erosion control product is rolled down the slope face lapping adjacent rolls by a minimum of 100mm. Tensar pegs should be used to fix the rolled erosion control product at 1.0m centres along the laps by driving them into the soil using an appropriate rubber hammer. Rolled erosion control product must follow the slope profile and remain in contact with the underlying topsoil layer. Additional pinning and/or pinning of the centre of roll may be required.



17. Roll ends shall be buried at the shoulder and toe respectively in shallow trenches approximately 450mm wide by 250mm deep.

18. If specified, the slope may be planted with a suitable ground cover plant species as per the Contract Documents. The rolled erosion control product should be slit to allow the chosen plants pushed through the product into the topsoil below.

19. Care should be taken at this stage when using biodegradable rolled erosion control products to avoid exposure to naked flame or spark, as the product may be flammable until it has had the opportunity to absorb moisture.

20. The Contractor must fully assess the safety risk associated with working on the slope and at height and where appropriate install any necessary temporary edge protection and provide operatives with the appropriate safety equipment.

Notes

The contractor is responsible for checking slope geometry during construction and taking necessary action to ensure that tolerance are met in accordance with Tensar recommendations.

For cellular confinement erosion control products this construction sequence should be read in conjunction with IG_NaturalGreen_Cellular.

Please refer to Tensar International Limited if more specific advice is required.

This document was formerly published with the reference:CS/NaturalGreen

The information in this document supersedes any and all prior Construction Sequences for the products/system designated above and is supplied by Tensar International Limited without charge. Tensar International Limited excludes to the fullest extent lawfully permitted any and all liability whatsoever for any loss or damage howsoever arising out of the use of and reliance upon this information. It is your sole responsibility and you must assume all risk and liability for the final determination as to the suitability of any Tensar International Limited product and/or design for the use and in the manner contemplated by you in connection with a particular project.

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Construction Traffic Management Plan
Hollin Bank, Hollingworth Road, Littleborough

V2 Date 12th April 2023

Ref: Hollin Bank Ref 21/01146/FUL

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This document should be read in conjunction with the Construction Environmental Management Plan.

Stakeholder Communication Plan

Prior to the development commencing we will engage with local residents by means of an information pamphlet.

The pamphlet will be distributed to all local residents by means of letter drop prior to start on site. We also have copies of the pamphlet available on site to distribute to stakeholders who approach our site team.

Parking for Site Operatives

A site operative's car park area will be formed initially providing 12 spaces. This number shall be increased if necessary as works progress and additional areas of hard standing formed. Safe pedestrian routes will be formed from the car parking/site welfare area to other parts of the site.

It is envisaged that up to 20 operatives may be working on site at peak periods during the build. Operatives (and Sub-contractors prior to appointment) will be encouraged to make use of public transport and/or share transport to site to minimise the number of vehicles arriving at site.

We operate a car sharing policy within the business to ensure all Vistry Partnerships staff share journeys to site, this is policed by the Directors of the business and we regularly challenge attendees at site meetings on their transportation arrangements.

Traffic Management

Construction traffic will arrive at the site from Hollingworth Road, at the southern entrance only.

It is not considered necessary for any traffic management or speed restrictions off-site.

At the southern site entrance a wheel wash will be established for construction vehicles to pass through before leaving the site. The entrances will be clearly signposted and monitored.

Site and sales signs will be positioned as to not impact on the visibility splays for vehicles exiting site.

As Construction traffic and personnel arrive at the site, they will be required to sign-in at the site office and undertake an induction which will also cover Traffic Management.

Sales traffic, and eventually residents and visitors will be directed to use the northern site entrance, with construction and other traffic separated as much as possible through the construction phase.

The Site Set Up and Traffic Management Plan is set out in the appended plan (**Annex 1**). It will be the responsibility of the Site Manager to ensure this Plan is adhered to on site. The measures and routes will be regularly reviewed and updated where necessary to ensure that the measures continue to be appropriate and effective.

To minimise impact of development on the highway network, the site junction and access, together with the initial roadways, will be established during the early stages of the project.

On-site construction traffic will be limited to 15mph on surface roads, 10mph on unmade roads. The speed limit will be enforced by the Site Manager who will operate a 'Red Card' system where persistent offenders will be cautioned and ultimately refused entry to the site. All records will be maintained in the site office.

All materials will be stored safely and securely in designated area, sand and other aggregates will be stored in dry bunded areas which will be monitored and any damaged/spilled materials will be cleaned up, removed to prevent misuse.

All bulk cement will be stored in silos with suitable emissions controls fitted in accordance with supplier's/manufacturers recommendations.

Deliveries/Unloading

Materials will be brought to site on a 'just in time' basis to ensure safe routes around site are maintained at all times. All deliveries will be made onto site via Hollingworth Road at the Southern site entrance restricted to Construction Traffic only. These will be carefully timed by the Site Manager for off peak times to minimise disruption and inconvenience which could possibly be caused to local residents and general traffic in the area.

Where possible, deliveries will be made in full loads in order to minimise traffic movements. All deliveries to the site will be carried out using suitably sized vehicles and will enter the site in a forward direction. Once within the site the need for reversing will be minimised. Where reversing is required a competent banks man will be in attendance at all times.

All delivery vehicles entering or leaving site will be suitably covered to prevent escape of materials during transportation.

Security

Site security is paramount on two fronts, one to prevent loss / theft from site and two to prevent accidents on the site by visitors (un-authorised). The working area and the site compound will be secured with 2m high Heras type anti climb security fencing which will be double clipped at the joints and secured to posts with debris netting attached. All fencing is to be fully seated within moulded feet and rakers attached where required to provide stability installed at suitable intervals internally to prevent trips.

All heras fencing is to be suitably secured and fixed securely to prevent possible accidental or deliberate displacement. Suitable individual access gates will be installed within the perimeter fencing to provide both vehicular and pedestrian access to various areas.

A main contractor's compound is to be created on site in a designated area this will be secured using 2m high Heras fencing to segregate it from the working areas of the site. A specific pedestrian access route is to be created from the compound area to the individual working areas using suitable interlocking barriers, this route will have designated crossing points with red topped hooped barriers where vehicles routes are present. The Site Manager is to ensure that the site compound, both working areas and all access routes to all areas of the site are secured at all times and free of obstruction.

The Site Manager will inspect the hoarding daily to ensure the security of the site is maintained. Due to the nature of the works being undertaken, we will position the following safety signage on the site compound fencing:

- Work in Progress
- No Unauthorised Access
- Children Disclaimer
- Do Not Enter
- Site Office
- Emergency Contact Numbers
- Wearing of PPE is mandatory No Hard Hat, No Safety Boots, NO ENTRY

The wording on notices posted on site may differ to those above but will portray the same message, and will minimise interaction and endeavor to prevent accidents and any unauthorised access.

Wheel Washing Facilities & Run Off Mitigation

During periods of wet weather mud may well pose an issue during the project. To minimise the inconvenience site roadways will be established during the early stages of the project to provide clean access for vehicles. On-site traffic will be segregated from delivery vehicles to further reduce the spread of mud. The site roadway will be kept clear and scraped/swept on a regular basis. The Site Manager will carefully plan the project

including bulk loading and tipping areas to ensure that road going vehicles remain on the site road at all times to prevent the transfer of mud from working areas.

Where water is likely to pond or run off the site area we will ensure an earth bund is in place to contain mud and surface water on site. This bund will be inspected and maintained regularly by the Site Manager. Where slurry has collected behind the bund, this will be removed to a stockpile and allowed to dry out.

Drivers will check their wheels for possible trapped stones or objects within rear wheels prior to leaving the site and vehicles carrying waste will be adequately sheeted and measures will be taken to ensure that mud and detritus is not swept into gullies. An area close to the site exit will be provided to allow vehicles wheels to be washed down by a jet wash (detergent free) prior to entering the public highway. The jet wash will be connected to our temporary water supply and will be provided with a lance to ensure all wheels can be reached and adequately cleared of any debris.

The Site Manager will check the weather forecast for the area on a regular basis and prepare as necessary for poor weather and the possible transfer of mud from the site.

The on-site haul routes will be constructed and where mud transfer becomes an issue a water-assisted road sweeper will be deployed to maintain the access road in good condition. The Site Manager will request this sweeper on an as required basis. Dry sweeping of large areas will be avoided.

The condition of the haul roads will be inspected regularly and any necessary repairs/actions undertaken immediately and recorded within the site diary.

Dust Management Plan

The site will comply with the Institute of Air Quality Management (IAQM) *Guidance on the Assessment of Dust from Demolition and Construction v1.1 February 2014*.

The emission of dust and dirt will be controlled via the following mitigation measures and methods during construction works:

- Site Manager will plan works to limit dust causing activities and ensure they are kept away from sensitive receptors
- The development will be fenced securely. Silt fencing on the site boundary is indicated on the appended Construction Management Plan drawing. However, where our strategy needs amendment to prevent dust issues in sensitive areas (due to prevailing winds for example) we will amend and re-erect solid fencing to mitigate the dust risk.
- All fencing, barriers and scaffolding will be maintained and cleaned (hosed down) as required and determined necessary by the Site Manager.
- Where activities are such that there is potential for dust generation the Site Manager will produce a method statement for the suppression of the same, and action the implementation.

- Haul roads will be formed and hard surfaced wherever possible and will be regularly “damped down”/cleaned
- All vehicles to switch off engines – no idling vehicles
- All loads entering and leaving site will be covered
- An appropriate speed limit will be enforced on site
- Use of water as dust suppressant where applicable
- Stockpiles will be enclosed or securely sheeted
- Earthworks and exposed areas/soil stockpiles will be re-vegetated or covered as soon as practicable, and covers will only removed in small areas during work.

Our H&S procedures (held on site) requires dust suppression techniques to be applied when cutting or sawing. Externally whilst cutting any masonry materials the Site Manager is to ensure that suitable dust suppression is used at all times such as water spray. Water Suppression/ “Damping Down” will be undertaken during Cut/Fill works as needed. An adequate water supply will be available on site to facilitate this. All operatives associated with dust creating works are to wear respiratory protection to FFP3 level i.e. either half face mask, full face mask or disposable mask and have a current Face Fit Test Certificate. In addition to this operative will also wear suitable eye and ear protection.

Internally when commencement of proposed works, natural ventilation will be used, i.e. windows and doors opened to minimise the amount of airborne dust. Where practical equipment will be fitted with suitable dust suppression, areas will be dampened down to minimise the amount of dust becoming airborne and we will continuously sweep the areas. Materials that have the potential to produce dust will be removed from site as soon as possible, and covered when in use.

This is policed by our Site Manager, Contracts Manager and also by our independent Safety Advisors who report to the Board. Our Site Manager's Details and Continuous Improvement Manager's (Jane Confrey t. 07843 387518 e. jane.confrey@vistrypartnerships.co.uk) Details will be displayed on the site boundary, along with regional office contact details.

Our Site Manager is responsible for carrying out daily checks on the site and surrounding areas, including haul routes, to determine whether the dust suppression techniques we have adopted are adequate and are working. The frequency of these inspections may be increased in periods of hot / dry / windy weather and where site activities are such that dust is more likely to be generated. Monitoring locations can be agreed with the LPA where required, A daily monitoring log will be held on entrance to site to monitor dust and record daily inspection results.

All dust and Air Quality complaints/incidents are to be recorded, investigated and monitored daily.

If further amendments to our strategy are required, we will update and educate our site staff through toolbox talks.

There are demolition works on this project therefore specific control measures will be in place.

Complaints/Comments

Any complaints from stakeholders will be logged in the site diary and recorded on the Complaints/Comments /Compliments Record located on the site notice board, a copy will be forwarded weekly to the head office.

All logs and reports are held on site and are available for inspection by the LPA as required.

All complaints will be investigated and the root cause of the issue will be identified and mitigation measures will be put in place to ensure no reoccurrence.

The site manager will be contactable via the below correspondence address:

Vistry Partnerships Yorkshire

1 Red Hall Avenue
Paragon Business village
Wakefield
WF1 2UL

Telephone – 01977 555 550

The site manager will send correspondence out to the neighbours before works commence and will be the point of contact onsite and for resident liaison.

Control of Noise and Vibration

- Stationary noise sources should be sited as far away as possible from neighbouring properties.
- All workers on site must be made aware of the need to keep noise and disruption to a minimum from building works, equipment, plant and machinery, radios, music, vehicles or any other sources.
- Radios will not be allowed on site.
- Construction process and traffic movement noises will be controlled to the maximum ensuring that they conform to all the health and safety legislation.
- Noisy operations will be carried out using appropriate equipment by specialist contractors. All potential noise emitting works will be carried out at suitable times as to minimise any possible disruption to the area. Wherever possible it is our intention to reduce noise and vibration caused as part of the works, where the method of reduction does not impose undue risks to operatives. It is our intention to monitor noise and vibration levels on the site and where necessary take action in accordance with statutory guidance.
- Where vibratory equipment is used we will wherever reasonably practicable ensure that they are of “low vibration” and are within the HSE’s Exposure Action Value. The Site Manager will ensure that job rotation amongst suitably trained operatives is carried out when using vibratory equipment to

reduce their “trigger time”. Operatives will be issued with gloves in order to keep their hands warm and to encourage good blood circulation to the hands and fingers. Vibratory equipment will be used in accordance with the manufacturer’s guidelines and any defective equipment will be quarantined.

Plant & Equipment

Due to the works being undertaken we will utilise the following plant, tools and equipment –

- Heras Fencing
- Site Cabins – lockable steel cabins for Storage and Office Accommodation
- Mechanical excavator’s
- Mechanical Dumpers
- Lorry Mounted Crane and associated lifting equipment
- Lorries
- Small plant machinery
- Small/Large Hand Tools
- Independent Access Scaffolding
- Mobile tower scaffolds
- Fall Arrest Systems / Safety Crash Deck Systems
- Telescopic Forklift
- Stihl saw (abrasive discs and diamond tipped blades)
- Electrically Operated Tools
- Battery Operated Tools, Apparatus
- Transformers
- Wheelbarrows

The above list is non exhaustive and will / may be added to throughout the duration of the project.

It is not envisaged that the use of conveyors, loading shovels or hoppers will be required during this project therefore no control measures are required.

All works will be undertaken using a combination of basic hand held tools, all hand tools will be in a good state of repair, and battery operated equipment which will be tagged with its maintenance/inspection date.

The majority of mobile plant will be provided by subcontractors and it will be a condition of the 'Terms and Conditions' of the order that machinery must meet the highest emission standards and be maintained in accordance with current statutory regulations.

All plant machinery tool and equipment will be inspected daily and a full recorded inspection carried out every 7 days in accordance with the PUWER Regulations. All plant machinery will be maintained in good condition and be operated by competent person at all times with any defective equipment removed from service until repaired or replaced. All attachments will be fully compatible with the equipment.

All mobile plant and vehicles will have full all round vision available i.e. mirrors, CCTV etc. and these will be in good condition and set correctly.

Subcontractors deployed to the works will be informed of the above and on commencement of works the Site Manager will make a visual inspection of their equipment and tools. Any found to be out of test date or in poor repair will be confiscated and replaced accordingly. Copies of maintenance records will be obtained for all hired plant/machinery. The relevant test certificates will accompany all lifting gear and crane.

All mobile plant including MEWPS etc., will be operated by competent plant operators trained to CPCS / C.I.T.B / C.T.A. standard or the equivalent. The above will apply to all subcontractor and hire company supplied plant/machinery.

The Site Manager or nominated plant operative will complete the appropriate Plant Inspection Register every seven days whilst the plant is on site. All plant/equipment will be in good a good state of repair and the maintenance of the site plant will be undertaken within the site compound area so as not to contaminate the construction area of the proposed property. When plant is left unattended at the end of the working day the keys will be removed and the plant made secure with lockable shuttering. This will prevent joy riders accessing the plant.

Fuel Storage & Handling

- Tanks, drums or other containers must be strong enough for the weight of oil, fuel etc., must be in good and leak-proof condition, and properly supported (both the container and all vulnerable pipework)
- Be bunded to contain 110% of the contents; the bunds to be impermeable to leaks
- To have drip trays or bunding to catch oil drips and spills from any vulnerable points, particularly at the filling and delivery points
- Be checked regularly for leaks and damage

- Permit only authorised and competent persons to re-fuel plant/vehicles; nominate authorised key-holders
- Fuel delivery orders must be carried out only by Site Manager
- All deliveries must be under the control of a competent person
- Any drips or spills (even minor) must be contained quickly and removed (using an absorbent material, e.g. sand, if necessary).
- Remember that materials used to soak up spills will be “Special Waste” in significant quantities.
- Major spillages must be notified to the EA immediately – EA Hotline No. 0800-80 70 60. Do NOT wait; the EA can help contain or control the effects.

The Site Manager will induct all plant operatives into the procedures for delivery and/or re-fuelling, instruct that all drips and spills must be contained, cleared up and notified immediately.

We will display Emergency Contacts List which includes EA Hotline number on the site notice board.

A spill kit will be located in the storage area, suitable signage displayed and the following will be followed in the event of a spillage

- STOP WORK immediately
- Inform Site Manager immediately
- If spillage is flammable, extinguish all possible sources of ignition
- Identify the source of the spill and remedy
- Contain the spillage – on land use earth/sand to construct a bund around the spill to stop it spreading. Use booms to contain oil spills that have already entered a water course
- Wear appropriate PPE
- Protect sensitive areas (e.g. watercourses or surface water drains – use drain covers or construct a bund
- Clean up the spill. Use absorbent granules/pads to mop up spills. Large pools of oil or spills which cannot be absorbed should be removed by gulper
- Dispose of all contaminated materials (soil/absorbent materials) correctly those containing substances such as oil, diesel or paint will be classed as hazardous waste.
- Ensure any contaminated water is taken to an appropriately licensed disposal site

Site Waste Management

A full Site Waste Management Plan will be implemented on the project in line with our company policy. All waste will be transported from the work areas to external waste skips positioned within the agreed designated area and all operatives will practice good housekeeping and maintain the site clear from rubble, debris and redundant waste, therefore minimising the chances of an accident / incident occurring. Enclosed chutes, conveyors to be used where possible.

All waste will be removed from site by an approved waste carrier and where, due to site constraints the segregation of all waste will take place off site.

The Site Manager will ensure that the SWMP is updated regularly and all waste transfer notes retained on site for the duration of the works.

It is the policy of Vistry Partnerships Yorkshire that there will be no bonfires or burning of waste on any construction project under our control as Principal Contractor.

Working Hours

We propose construction working hours for the development shall be as set out in the Planning Decision Notice and are as follows;

07.30 to 18.00 - Mondays to Friday

07.30 to 13.00 - Saturdays

With no noisy activities on Sundays or Public Holidays. No deliveries or collections will be made out of these hours. Deliveries are also to be controlled to avoid peak / rush hour and school times

Liaison with Other Developers

Where required we will liaise with other local construction projects (within 500m) and ensure that all activities that are likely to cause excessive disruption to the local infrastructure of local residents are coordinated to minimize any joint disruption our activities may present.

Site Power

The site has the benefit of mains power supply to the site accommodation, limiting the need for diesel powered generators.

COVID-19

Activities on site will be undertaken in accordance with prevailing Government and Public Health England guidance as is issued and in place from time to time. Clearly these are unprecedented times and matters evolve on a daily basis such that a position adopted on one day can be overtaken by events the following day. Against that problem, we will continually seek to adopt the most safe and sensible stance in the face of this changing environment.

The health, safety and well-being of all our employees, clients, supply chain, customers, other site visitors (if necessary to the operations on site) and the general public continues to be of paramount importance, and we shall (for any period the site shall remain operational) ensure that we follow Government Guidelines and statutory powers.

Health and Safety Management

We are committed to promoting a positive safety culture. The enforcing authority for health and safety on construction sites is the Health and Safety Executive who will be notified of all construction works prior to their commencement on site.

Vistry Partnerships Yorkshire, the main contractor will maintain a register of accidents, incidents, near misses and complaints. Contractors failing to maintain the required safety standards may be excluded from site and removed from the approved tender list for future work.

All works will be legally compliant and all Codes of Practice and site rules relating to the works will be observed.

Lighting

Works will be carried out during daylight hours. The only artificial lighting used on site will be within the cabin and compound and is marked on the appended Construction Management Plan. This lighting will all be elevated flood lighting, situated at the site cabin and directed into site so that no surrounding areas are affected.

Temporary Drainage and Surface Water Run Off

The site will continue to drain naturally until such time the road corridor is constructed. At this stage the surface water from the road corridor will be discharged to the gullies. As the sites surface water drain will drain to a Highway drain, an interceptor tank will be installed before the outfall to ensure no contaminates or silt pass on into the Highway drain.

Measures as detailed within the Construction Environmental management Plan will also be implemented.

Vehicle Details and Movements

Due to the works being undertaken the following vehicles will access site –

- Mechanical excavator's
- Mechanical Dumpers
- Lorry Mounted Crane and associated lifting equipment
- Lorries
- Small plant machinery
- Telescopic Forklift

This list is non exhaustive and will / may be added to throughout the duration of the project.

These vehicles will access site via the route on the below plan, during working hours.

Site Set Up and Traffic Management Plan

Vistry

Partnership

28 Bulworth	2	754.88 sq ft	75.23 sq ft
28 Wills	2	775.29 sq ft	72.48 sq ft
28 Poplar	7	1276.54 sq ft	128.89 sq ft
28 Newall	5	1276.54 sq ft	128.89 sq ft
28 Spruce	15	1996.61 sq ft	192.13 sq ft
28 Sycamore	7	1276.54 sq ft	128.89 sq ft
28 Birch	9	1511.62 sq ft	146.38 sq ft
28 Elm	9	1511.62 sq ft	146.38 sq ft
28 Rose	2	811.62 sq ft	86.38 sq ft

48 Hawthorn	4	1996.61 sq ft	192.13 sq ft
48 Sandfield	13	1311.80 sq ft	121.87 sq ft
48 Willow	4	1474.89 sq ft	133.52 sq ft
48 Juniper	10	1217.51 sq ft	112.13 sq ft
48 Chestnut	7	1286.89 sq ft	123.08 sq ft
48 Chestnut	2	1286.89 sq ft	123.08 sq ft
48 Maple	8	1792.27 sq ft	168.58 sq ft
48 Aspen	10	1276.54 sq ft	128.89 sq ft

28 Birch	3	1895.64 sq ft	187.78 sq ft
28 Elm	3	1892.09 sq ft	176.28 sq ft
28 Lime	3	2262.05 sq ft	192.48 sq ft

Total 126 units

• 2 bed	2	2%
• 3 bed	16	40%
• 4 bed	17	40%
• 5 bed	11	8%

Total 126 (97 detached 14%)



