

KEEPMOAT HOMES CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

[982- Church Road, Stowmarket]

[Church Road, Old Newton, IP14 4ED]



This Construction Environmental Management plan (CEMP) has been produced to support planning application DC/19/02878 submitted to Mid Suffolk Council by Keepmoat Homes for the development of Church Road.

This document has been produced to discharge Condition 8 which forms part of the planning process.

The purpose of this plan is to outline how Keepmoat Homes and its employed contractors will control and mitigate environmental issues onsite and during the construction works to minimise as much as possible the impact of the development activities on local community and environment.


Through this plan, Keepmoat Homes ISO 14001:2015 certified Environmental Management System and the sites Construction Phase Plan, Keepmoat Homes and its contractors will ensure that throughout the duration of the development best practice environmental controls will be adhered to alleviating any potential issues.

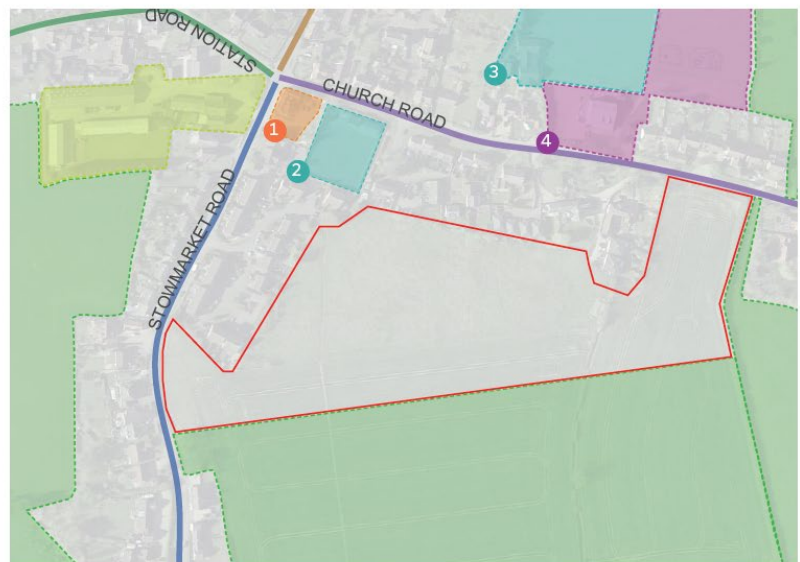
i. Summary of the Project:

The site is located on the eastern edge of the village of Old Newton which is approximately 2 miles north of Stowmarket.

The site is an irregularly shaped existing greenfield land and agricultural arable farming field. It extends across three plots of land. The southern and eastern plots comprised arable farming fields cropped with barley and the central/northern portion of the site comprised greenfield land that was overgrown in parts with vegetation comprising primarily grass, brambles, and nettles. The site is relatively flat and ditches containing water were located along the western site boundary and on the boundary between the eastern cropped field and the southern cropped field.

2.3 SITE SURROUNDINGS

-  Arable Land
-  Shops/Public Services
-  1 'Mandarin Oriental Cuisine' Restaurant
-  2 Old Newton Community Bowles Club
-  3 Old Newton Sports & Social Club
-  4 Old Newton Village Hall & Playing fields



An overview of build route and phases:



Number of Homes

Total of 64 Mix used Proposed Dwellings which consist of the following:

17 Affordable house types:

- 2x Masionettes A
- 2x Masionettes B
- 4x Type C
- 5x Carlton
- 4x Henbury

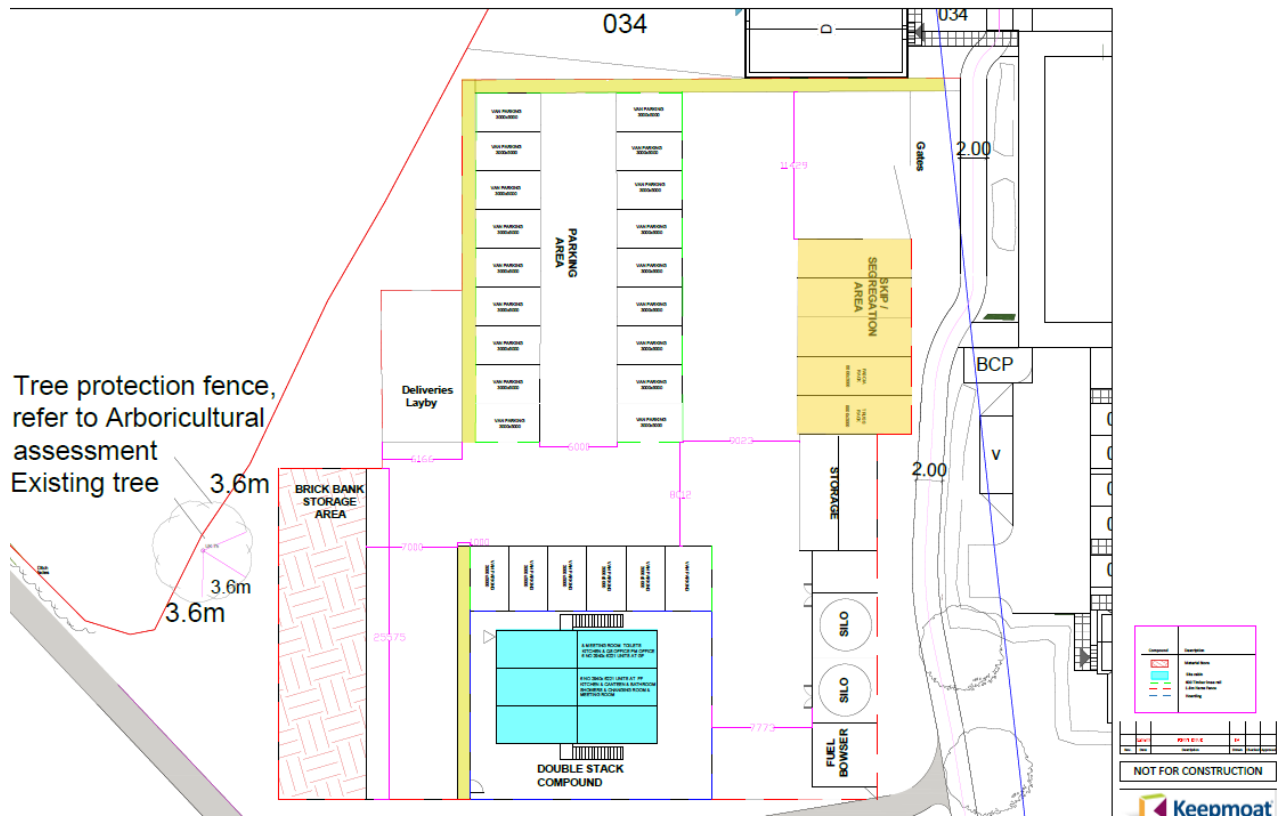
5 Shared ownership house types:

- 2x Carlton
- 3x Henbury

42 Open market sales:

- 7x Type D
- 11x Type F
- 2x Caddington
- 3x Windsor
- 10x Burton
- 9x Type N

Compound Layout:



Key environmental features being protected, created, or moved on site



Key	
	Trees Showing Canopy extents, category colour and tag number (with category).
	Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years.
	Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
	Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
	Category U Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
	Tree Groups Shown as dashed centre/boundary line Colour represents category (see above)
	BS 5837:2012 Root Protection Area
	Shrubs
	Tree Protective Fencing
	Sections of Tree Groups/Hedges to be Removed

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1. Keepmoat Responsibilities

As the Client, Keepmoat, is ultimately responsible for the content and implementation of this CEMP. This involves ensuring that all project staff comply with the requirements of the CEMP.

Keepmoat will comply with all elements of this CEMP and shall be responsible for:

- ▶ Developing and maintaining site specific environmental controls to implement the CEMP through the Construction Phase Plan
- ▶ Communicating the requirements of the CEMP to all relevant sub-contractors;
- ▶ Liaising with all project team members on environmental issues;
- ▶ Maintaining an up-to-date register of legislation and meeting legislative requirements;
- ▶ Maintaining a register of actions carried out; and,
- ▶ Liaison with Local Planning Authority and General Public.

Assurance

A key part of maintaining environmental standards is regular monitoring, audits, and inspections. For the entire construction phase Keepmoat will undertake the following, all including environmental checks:

- ▶ Weekly Site Manager inspections
- ▶ Monthly Contract Manager inspections
- ▶ Monthly Director EHS inspections
- ▶ Monthly BP EHS inspections
- ▶ Annual Environment, Health and Safety audits

Site Manager

Keepmoat's appointed Site Manager will be responsible for ensuring the delivery to the Client, of the environmental requirements of the contract.

Sub-Contractors

All contractors are responsible for leading the work of their particular discipline on the project.

They are responsible for ensuring that the requirements of the CEMP are communicated to and understood by all workers.

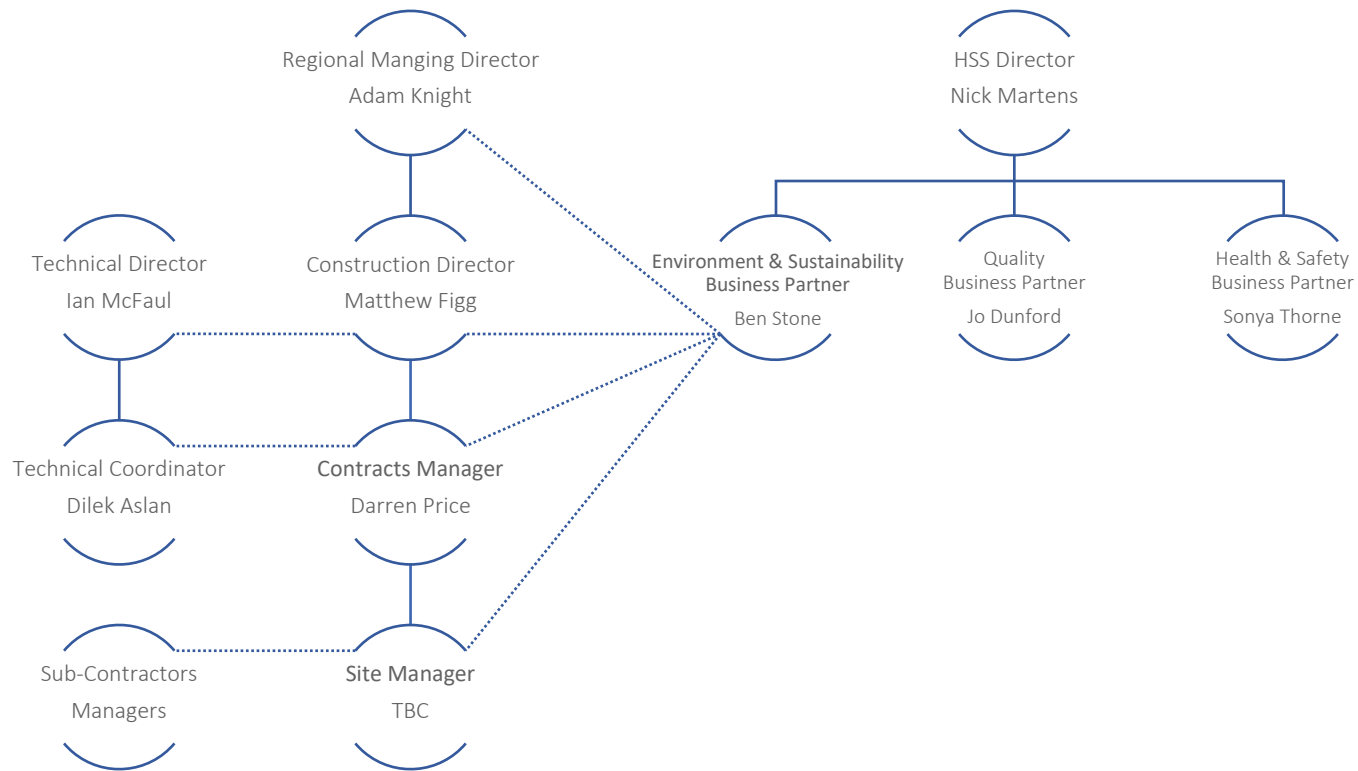
Keepmoat Homes will ensure all contractors are competent and have effective environmental controls in place as follows:

- ▶ All contractors are assessed by CHAS at the Advanced level. This includes environment and sustainability credentials and ensures only competent contractors work on site.
- ▶ Through tendering and on-boarding processes all sub-contractors are provided with and sign up to Keepmoat Trade Specification including minimum environmental standards.
- ▶ Before starting on site all contractors RAMS and environmental controls will be reviewed and accepted by the Construction Team, where a significant environmental risk exists these will be escalated to the Environment, Health, and Safety Team

1.1. Key Contacts

Name and address	Contact name	Telephone number	E-mail
Client	Keepmoat Homes	01604 698450	-
Principal Designer	Keepmoat Homes	01604 698450	-
Designer – Millson Group	Chris Preston	01161 240 2372	chrispreston@millsongroup.co.uk
Principal Contractor	Keepmoat Homes	01604 698450	
Keepmoat Regional Managing Director	Adam Knight	01604 698450	Adam.knight@keepmoat.com
Keepmoat Technical Director	Ian McFaul	01604 698450	ian.mcfaul@keepmoat.com
Keepmoat Technical Coordinator	Dilek Aslan	01604 698450	Dilek.aslan@Keepmoat.com
Keepmoat Construction Director	Matthew Figg	01604 698450	Matthew.Figg@keepmoat.com
Keepmoat Contract Manager	Darren Price	01604 698450	Darren.Price@keepmoat.com
Keepmoat Site Manager	TBC	01604 698450	TBC
Temporary Works Engineer	TBC	TBC	TBC
Keepmoat Regional Health & Safety Business Partner	Sonya Thorne	01604 698450	Sonya.thorne@keepmoat.com
Keepmoat Environmental & Sustainability Business Partner	Ben Stone	07880 099675	Ben.stone@keepmoat.com
Keepmoat Senior Environmental & Sustainability Advisor	Andrew Boyd	07717 545173	Andrew.boyd@keepmoat.com
Keepmoat Quality Business Partner	Jo Dunford	07976 607264	Jo.dunford@keepmoat.com

Management Structure for the Project



1.2. Construction Working Hours

It is proposed that the following times will constitute the normal working hours (excluding public holidays) on the construction site:

- ▶ Monday to Friday
 - 8.00a.m. – 18.00p.m.
- ▶ Saturday
 - 8.00a.m. - 13.00p.m.
- ▶ No Sunday or Bank Holiday Working

No plant and machinery will be used outside of these hours

No deliveries or collections will be made out of these hours

No access is available to site more than 30 minutes prior to the opening times above

Deliveries are also to be controlled to avoid peak / rush hour and school times

These hours will be followed unless otherwise agreed in writing by the relevant planning authority.

Outside the above periods the following working is permitted:

- a) pre-planned construction works to highway infrastructure requiring possessions where first notified to the relevant planning authority and local residents;
- b) emergency works; and
- c) works which do not cause noise that is audible at the boundary of the Order limits

Any emergency works carried out must be notified to the relevant planning authority within 72 hours of their commencement.

1.3. Construction Traffic

Good relations with people living and working in the vicinity of the site are of paramount importance to Keepmoat. Therefore, businesses and residences located within proximity to the site shall be notified of the works by the Keepmoat Construction Team, including a summary of the proposed phasing and details of the proposed operating hours two weeks in advance of starting works on site. In addition, a contact telephone number will be provided in the event of complaints from the public and a procedure adopted to respond to such complaints.

Keepmoat Homes shall provide clear and prominent signage at the main access points to the site and at other appropriate locations around the site perimeter warning that construction works are in progress and that the site is hazardous. Signs shall identify the potential hazards associated with the proposed construction works. Signs shall include emergency telephone numbers and other relevant contact details.

Construction Traffic Access

The clear establishment of an appropriate traffic access to the site is required to prevent the likelihood of accidents occurring and to minimise the disruption to the local residents and road users as far as possible.

Keepmoat has set out specific measures below which will be implemented to reduce the impact of construction traffic both on and in the wider areas surrounding the site.

- ▶ The contractor must agree the principles and routes for material haulage to and from the Site with the Local Highways Authority and Highways Agency as appropriate. The preferred routes would be from **A14 Via Station road (REFER TO APPENDIX 3)** for material haulage and plant.
- ▶ A Traffic Management Plan will be put in place for all s278 works, identifying protection of pedestrian routes to be maintained during the course of the road closure.
- ▶ Prior to closures to allow s278 works to be implemented, letters will be issued to residents affected by the closure, notifying them of the start and end date of the closure and measures to be put in place to allow pedestrian access.
- ▶ Keepmoat will operate a traffic management system across the site, which is relayed to all personnel during induction. This will include:
 - Deliveries will report to the site office and all delivery drivers will sign in and out on completion of delivery.
 - Banksmen will be present during reversing operations, where operator's view is obscured.
 - Flashing beacons will be fitted to all on site vehicles and plant.
 - Plant is to be fitted with traverse alarms to ensure safe manoeuvring.
- ▶ The general site speed limit across the site will be limited to **15mph**, although alternative limits may be applicable in certain areas.
- ▶ The provision of temporary signalling will be considered where vehicle access to the site is likely to cause congestion or the potential for access.
- ▶ The movement of construction vehicles will be limited to non-peak hours where possible to limit any disruption to the local highway network.
- ▶ All construction traffic entering and leaving the site will be closely controlled and HGVs making deliveries to the site or removing construction material etc, shall avoid prohibited routes.

- ▶ Vehicles will be loaded and unloaded clear of the public highway.
- ▶ Emergency escape routes will be designated prior to commencement of work.
- ▶ The site labour force will be encouraged to car-share and to use sustainable modes of transport.
- ▶ **Suppliers will be provided with details of the site restrictions, rules, opening times and the avoidance of nuisance when delivering to site**

Should it become apparent that at any point during the construction programme that an alternative access is required, details of this change would be submitted and agreed in writing with the Local Planning Authority prior to making these changes.

Cleanliness of the Public Highway

The construction works will involve the regular use of the local highways network by construction related vehicles. As such, Keepmoat Homes will put measures in place to minimise dust emissions and the deposition of mud and debris on the local road network through the following measures

- ▶ Wheel wash facilities will be provided when required. These will be
 - Located near to the site access points to ensure that vehicles are appropriately cleaned prior to accessing public highways.
 - However, they will not be located in close proximity to any existing water courses or surface water drains.
 - The type of wheel wash will be appropriate to the types of vehicles being used on the site and the amount of mud and debris likely to be on the vehicles (e.g., rumble strip)
- ▶ Site haul roads will be regularly scraped to assist in the removal of debris and reduction of 'track-out'
- ▶ All vehicles leaving the site should be subject to a visual inspection before accessing the public highways to ensure that the level of dust/mud/debris on the vehicles has been minimised insofar as is practical.
- ▶ Keepmoat will undertake regular inspections of the adjoining highways and deploy road sweepers if mud, debris and dust is likely to be deposited on the main roads
- ▶ All road surfaces affected by site works shall be swept clean as and when required.

Vehicle Parking

The clear establishment of an appropriate construction compound and parking area is required to prevent and minimise the disruption to the local residents and road users as far as possible.

Vehicle parking associated with the construction works will not be prohibited on other areas within proximity to the scheme unless otherwise agreed with the Local Planning Authority. No vehicle parking will be permitted at any stage on public highways within the vicinity of the scheme. If such parking is unavoidable, a Keepmoat Parking permit will be issued for each vehicle detailing the number to call if the vehicle requires to be moved and is causing a nuisance.

The vehicle parking area will be positioned within the site compound to minimise the disturbance of the surrounding area. The parking area will be positioned immediately next to the access road to reduce the amount of vehicular movement on site and therefore reduce the likelihood of vehicles taking mud/debris onto the existing highway network when they leave the site.

A designated area will be situated within the compound for the specific loading and unloading of materials and plant. This will be the most appropriate location as the compound is in close proximity to the access road and is also the location where materials and plant will be stored.

1.4. Temporary Site Start and Site End Arrangements

During the early stages of the development, the appointed Groundworker, in their role as Principal Contractor (PC), will have their own temporary compound and storage locations on site whilst the initial infrastructure is established. An element of flexibility for storage and compound locations will be required during this time due to site conditions and early works phases. During this time, temporary site access and egress will be agreed with the Local Authority until the roads and sewers forming the site entrance have been formed and established. We envisage this stage to cover the initial 6 months of the development before Keepmoat take over the role of PC and the final compound and storage area is completed.

Towards the final stages of the development, and as space becomes restricted, the main compound will be dismantled and be replaced with smaller 'Oasis' type units. This will also dictate that the placement of the Oasis unit, alongside the storage of materials for the final stages of the development, will predominantly use available open spaces or visitor parking bays as the best practicable means leading up to completion and subsequent exit from the site.

2. Archaeology & Cultural Heritage

Keepmoat is committed to ensuring that adequate measures are in place to protect sensitive archaeological and heritage resources and ensuring all control measures stipulated within the relevant licence, consent, building preservation notice, working brief or other legal document are fully implemented

Archaeology and Heritage aspects of the site have been assessed by Technical teams through production of a desk-based assessment of heritage assets on or adjacent to the site, a non-intrusive survey (e.g., a site walkover and geophysical survey) and trial trenching and consultation with an archaeologist.

The result of this process allows effective controls to be implemented on site to prevent damage to any archaeology or heritage asset

Key Controls

- ▶ All Risk Assessments and Method Statements where risk of harm exists will consider the protection of areas of historic/archaeological importance. Control measures will include:
 - Reducing vibration by using hand tools for excavation when in close proximity
 - Avoiding haul routes past structures sensitive to vibrations
 - Considering ground conditions and likely foundations when excavating close to protected structures
 - Fencing off areas of interest to prevent damage or encroachment
 - Clearly marking any important historic/archaeological areas
 - Identifying and marking the location of buried services which could impact on an archaeological site
 - Raising awareness with staff onsite through inductions, toolbox talks and site signage
 - Photographing before and after works to prevent fraudulent claims of damage
- ▶ Should any unidentified remains be found during works they will be reported to the Construction Director immediately and no works continue that could damage the asset.

The Archaeologist will be on site to undertake trial trenching, when required to monitor excavation works and also to provide advice to the Site Manager and Groundworkers regarding best practices.

The archaeologist's duties include but are not limited to:

- ▶ completion of mitigation works in the form of targeted trial trenching, archaeological excavation and watching briefs, as required;
- ▶ production of detailed method statements to define how archaeological mitigation is sequenced with earthworks operations;
- ▶ certification of cleared areas prior to commencement of construction works;
- ▶ agreeing areas for topsoil strip or the use of toothless buckets;
- ▶ ensuring that all known archaeological features requiring protection are demarcated with protective fencing and adequate signage;
- ▶ provision of induction training to site teams on archaeological controls;
- ▶ examination of incidental or unexpected finds; and
- ▶ agreeing programmes with the Site Manager for investigation and recording of archaeological remains.

3. Carbon and Energy

Limiting and continually reducing our energy consumption and associated carbon emissions are key sustainability objective for Keepmoat Homes. To achieve this, we will:

- ▶ Procure of 100% renewable electricity for all site operations and all plots (until CML).
- ▶ Provide “eco cabins” (insulated to reduce heating requirements, movement sensors and LEDs for light)
- ▶ Ensure that utility services are installed on site as soon as practicable to minimise generator use
- ▶ Where generator use is required, these will be sized to minimise fuel use and screened to prevent nuisance to local communities
- ▶ Avoiding the use of propane and butane heaters in preference of electric alternatives wherever practicable.

4. Dust and Air Quality

If not adequately controlled, dust arising from construction activities can lead to increases in concentrations beyond the site boundary, which may affect local amenity and influence local air quality.

In order to control construction dust and prevent escape beyond the site boundary Keepmoat will develop a Dust Management Plan (DMP), aligned to the IAQM guidance on the assessment of dust from demolition and construction. This plan will be included in the Construction Phase Plan and be specific to the scale and type of activities on site and the surrounding sensitive receptors.

The following controls will be included as a minimum and be enhanced where necessary to reflect the scale of the site works and sensitivity of local receptors:

[Please refer to the Dust Guidance note – EHS-GN-002-Dust and also Appendix 2 of the 982 Dust Management Plan – EHS-PL-002-Dust – for further measures that could be included and referenced below where necessary]

Communication

- ▶ Display the name and contact details of Site Manager at the site entrance
- ▶ All contractors will sign-up to the DMP.

Monitoring

- ▶ Regular inspections to monitor compliance with DMP, recorded as part of the weekly Site Manager Inspection.

Preparing and Maintaining the Site

- ▶ Effective controls to avoid site runoff of mud (see section 9)
- ▶ Removal of materials that have a potential to produce dust from site as soon as possible, unless being reused on site
- ▶ Site layout planned so that machinery and dust causing activities are located away from receptors, as far as is possible
- ▶ Ensuring an adequate water supply is available on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible.

Operations

- ▶ Only using cutting, grinding, or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g., suitable local exhaust ventilation systems.
- ▶ Minimising drop heights from loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.

Fleet, Plant and Deliveries

- ▶ Ensuring all vehicles switch off engines when stationary - no idling vehicles.
- ▶ On site speed limit of 5MPH
- ▶ Regular sweeping of haul routes
- ▶ Avoiding the use of diesel or petrol-powered generators and use mains electricity or battery powered equipment where practicable
- ▶ Where practicable, HGV's and non-road mobile machinery used on site to be of the latest EU vehicle emission standard and stage IIIA as a minimum.

Demolition

- ▶ Ensure effective water suppression is used during demolition operations.
- ▶ Any crushing operations are done so under the provisions of a Local Authority issued permit
- ▶ A Section 80 notice will be sought where applicable

Track – out

- ▶ Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport
- ▶ Planning vehicle movements and deliveries around the site avoid sensitive receptors, either through route or timing (e.g., rush hour / schools)
- ▶ Road sweeping on the public highway where track-out is identified during inspections.

5. Ecology, Biodiversity & Invasive Species

The protection and enhancement of plant and animal life is a key requirement of all Keepmoat sites. As part of the development process, all Keepmoat sites are subject to a detailed preliminary ecological survey that identifies any ecological & biodiversity features, plus any constraints associated with invasive and/or injurious species.

Following the preliminary ecological survey, the table below summarises the ecology and biodiversity features and invasive species that have been identified, alongside the management controls to be implemented:

Category	Applicable (Y/N)?	Control Measures	RAMS / Document reference
Protected Species e.g. Birds Bats Badgers Great crested newts Water voles Reptiles	Y – Birds, Bats and reptiles	Reptiles: Reptile fencing Birds and Bats: Install bird and bat boxes, Nesting Birds: Check by Ecological Clerk of Works prior to works on vegetation removal	Biodiversity Mitigation Measures
Trees & Hedgerows e.g. TPO's Retained Trees & root protection measures 'No dig' construction Hedgerows	Y – Retained trees in SW corner of site	Root protection measures and exclusion zones to be employed in the SW corner in line with Keepmoat std detail and RSK recommendations 'No-dig' construction techniques to be used for temporary car park near to the area	Pre-Arbicultural report
Invasive Species e.g. Japanese Knotweed Himalayan Balsam Giant Hogweed	N	N/A	N/A
Protected Sites e.g. SSSI (Site of Special Scientific Interest) SPA (Special Protection Area) SAC (Special Area of Conservation) RAMSAR (Wetlands of National Importance)	N	n/a	n/a
Other	N	n/a	n/a

An environmental / ecological constraints map can be found in Appendix 1 of this CEMP.

6. Noise and Vibration

The management of site activities by Keepmoat and associated subcontractors is required to avoid causing a nuisance to sensitive receptors such as local residents / neighbours, Keepmoat Homes customers, schools, hospitals, businesses, and wildlife. This is to ensure full compliance with legislation and codes of practice, and to maintain a strong positive relationship with the local community. Nuisance can occur from, but is not limited to, noise, dust, smoke, fumes, vibration, light pollution, and odour.

In accordance with the requirements of the Control of Pollution Act 1974 (CoPA), noise and vibration will be controlled and limited so far as reasonably practicable so that sensitive receptors are protected from excessive noise and vibration arising from construction. The site will be managed to ensure that the 'Principal Contractor' will apply the principles of "best practicable means", as defined in Section 72 of the Act and following guidance as defined by 'BS5228: Code of Practice for noise and vibration control on construction and open sites - Part 1'.

Following a simple screening assessment, the following sensitive receptors have been identified and their distance to specific stages of the site works are detailed below (a map of the site sensitive receptors can be found in Appendix 2):

Table 1 – Sensitive Receptors & Site Construction Activities

Sensitive Receptor (SR)	Compound Construction	Earthworks / Site Clearance	Road Construction	Building Construction
A – Old Newton Primary School (Med Risk)	500m	911m	850m	601m
B – Residential areas (Med Risk)	45m	40m	45m	40m
C – Mandarin (food retail) (Med Risk)	140m	265m	280m	95m
D – Old Newton Sports Club (Med Risk)	233.94m	133m	64m	185m
E – Church Farm (Medium Risk)	861.52m	577.20m	677m	677m
F- Old Newton Under Fives Preschool (High Risk)	266m	70m	70m	70m

The site is located in a rural, suburban area away from industrial noise. Using BS 5228 as a reference and in line with guidance relating to the exceedance of fixed noise limits, the likely sensitive receptor noise limit is estimated to be 70 dBA.

With reference to BS5228, the noise ratings of plant and activities associated with the construction works required on site have been assessed. The site itself has been cleared with no remaining buildings and similar screening and ground conditions. Therefore, following the Environment Agency's Horizontal Guidance for Noise Part 2 – Noise Assessment and Control (June 2004), which provides an overview of a calculation* that can be used in such a situation from a point source, the estimated 'worst case' sound levels at the identified sensitive receptors at their nearest point are highlighted in the following table:

**The calculation demonstrates, in simple terms, that "the sound level from a point source drops by 6dB per doubling of the distance".*

Table 2 – Site Activities, Equipment and Receptor Sound Levels:

Activity & Equipment	Distance to receptor & estimated worst case sound level in dBA	Applicable Receptors
Distribution of material – 6t Dumper	66 @ 40m	B
Sweeping & dust suppression – Road Sweeper	62 @ 45m	B
Power for site cabins – diesel generator	52 @ 45m	B
Handling materials – 4t telehandler	58 @ 45m	B
Petrol handheld stihl saw	63 @ 45m	B
HGV deliveries	70 @ 45m	B
Site excavations using 30t tracked excavator	66 @ 45m	B
Concrete mixer truck	71 @ 45m	B
Site Risk Rating		Medium

The table indicates that that during certain activities there is the potential for elevated levels of noise at the sensitive receptors due to their proximity to the works. Best practicable means will therefore be employed to ensure that the level of noise generated on site is as low as reasonably practicable (by adopting the recommended best practicable means, construction noise levels can typically be reduced by 10 dBA). In order to mitigate noise during the works and reduce the risk of disturbance / complaints, the following control measures will be employed:

- ▶ Letter drop to be undertaken to neighbouring properties prior to works commencing on site
- ▶ No deliveries will occur outside of the hours identified in the CEMP
- ▶ No access will be allowed to site over 30 minutes before opening times
- ▶ All drivers to be reminded and expected to have radio's turned off or at very low volume when on site / waiting to access site
- ▶ Careful selection of working methods and programme
- ▶ Where applicable, selection of quietest working equipment available and suitable for the task through collaboration with our supply chain and sub-contractors
- ▶ Where practicable, positioning equipment behind physical barriers, i.e., existing features, site hoarding
- ▶ Ensuring that regularly maintained and appropriately silenced equipment is used
- ▶ All plant will be properly maintained (greased, blown silencers replaced, saws kept sharpened, teeth set and blades flat, worn bearings replaced etc. etc.)
- ▶ Plant will operate at low speeds, where possible, and incorporate automatic low speed idling
- ▶ Machinery to be turned off when not in use to prevent idling
- ▶ Handling all materials in a manner which minimises noise, such as minimising drop heights;
- ▶ Switching all audible warning systems to the minimum setting (or white noise function) required by the Health and Safety Executive
- ▶ Inductions and refresher Toolbox talks (TBT's) to be provided to the site team regarding the need to minimize the need for reversing on site through use of best practice in use of heavy machinery and plant traversing the site
- ▶ Where processes could give rise to significant levels of noise for extended periods of time, noise levels should be monitored regularly by a suitably qualified person with the survey results kept on file

- ▶ In terms of on-site employees, appropriate actions should be undertaken with regard to the Noise at Work Regulations including the requirement for the use of ear defenders and appropriate warning notices.

Further to the above, operatives are to be trained to employ appropriate techniques to keep site noise to a minimum and will be effectively supervised to ensure that best working practice in respect of noise reduction is followed. All employees will be advised regularly of the following, as part of their onsite induction / training:

- ▶ The proper use and maintenance of tools and equipment
- ▶ The positioning of machinery on site to reduce the emission of noise to the neighbourhood and to site personnel
- ▶ The avoidance of unnecessary noise when carrying out manual operations and when operating plant and equipment
- ▶ The protection of persons against noise
- ▶ The operation of sound measuring equipment (selected personnel).

Piling Activities

This site requires piling activities to be undertaken using a CFA method. In order to help mitigate the impact of any intrusive noise from the piling activities, the following controls will be adopted:

- ▶ Vibration monitoring will be recorded
- ▶ 1 mm/s for nearby occupied residential and educational buildings,
- ▶ 3mm/s for occupied commercial premises where the activities are not of a sensitive nature (such as hospitals, schools or laboratories etc)
- ▶ 5 mm/s for non-sensitive buildings.

If these levels are reached, working methods will need to be reviewed and control measures put in place. Vibration measurements will be made so that ideally 3 orthogonal Peak Particle Velocity values are recorded for a minimum of 15-minute durations of 10 second or shorter samples. If complaints are received we shall install additional monitoring at neighbouring premises.

7. Pollution Prevention (spill)

The appropriate management of site activities is required by Keepmoat and its contractors in order to prevent pollution of the site and the surrounding area. The controls employed follow the Source-Pathway-Receptor model and are aimed at preventing spills at source (e.g., a leaking fuel tank) therefore ultimately protecting the potential receptor (e.g., bare soils, surface water feature). In general terms, the following good practice measures will be adopted:

- ▶ Drip trays will be utilised to collect leaks from diesel pumps or from standing plant (such as generators)
- ▶ Oil/fuel interceptors will be fitted to all temporary discharge points from the compounds and from any temporary oil storage or refuelling areas; and
- ▶ Within the construction compound there will be the provision of spill containment equipment such as absorbent material
- ▶ Vehicles and plant will be subject to regular inspections to check for possible leaks and/or damage and maintained in a good working condition
- ▶ Concrete / mortar storage will only be permitted where this is in line with the relevant Keepmoat Standard detail (ref: 2012SD (095)) with sufficient bunding, hard standing and contained wash run-off facilities
- ▶ Storage of waste materials in dedicated and weatherproof containers
- ▶ Security fencing to surround the site with this to be locked and monitored to avoid potential trespass and arson
- ▶ Storage of hazardous materials / liquids within locked and weatherproof containers when not in use.

Across the site, the following minimum standards will be employed specifically in relation to spill kits and fuel tanks:

Spill Kits:

- ▶ Be the appropriate absorbent for the activity being carried out (all spill kits for diesel must be oil spill kits)
- ▶ Be located next to all diesel tanks on site, visible and easily accessible
- ▶ Be at least 90L and stored in a yellow wheelie bin
- ▶ Remain closed to prevent rainwater ingress
- ▶ Always remain stocked and not be used for litter
- ▶ Be referred to on the site's EHS-FO-001-Spill-Spill Response Poster
- ▶ Once the equipment is used, including any unmade ground that has been spilled on, material to be disposed of as hazardous waste by a licensed waste contractor.

Fuel Tanks:

- ▶ Be 110% internally banded
- ▶ Pressure tested and externally inspected every 2 years and internally inspected every 5 years (with records of such checks kept on site)
- ▶ Accompanied by a drip tray (used for all fuelling operations).
- ▶ Sited with an oil spill kit – either 90 or 120 litres (with yellow bin for external storage)
- ▶ Visually inspected weekly to identify any leaks, damage, or spills
- ▶ If on unmade ground or permeable hard standing the tank/bowser will be placed on the Diesel Tank Standard Detail (2008/SD/126)
- ▶ If located on impermeable hard standing the location must be at least 10m from any down slope drain

- ▶ No vehicle refuelling at any other locations on site.

Soil Management

Keepmoat and its contractors recognise that robust environmental controls for responsible soil management are required throughout the pre-construction and construction stages for **Church Road**. As per the 'Definition of Waste Code of Practice' (DoW CoP), Keepmoat utilise a Materials Management Plan (MMP) approach, following the CoP to provide a clear, consistent and efficient process that enables the reuse of excavated materials on-site or their movement between sites in England and Wales.

****Note**** – where an MMP approach is not undertaken, applicable environmental permits / exemptions are registered if any soil that is not "clean and naturally occurring" (e.g., contaminated soil or made ground [demolition waste]) is planned to be re-used on site.

Summary of Pre-Construction Controls:

- ▶ MMP developed (HSS-PL-001-Waste - Materials Management Plan (MMP)) by the Technical Team following review of the site remediation strategy, contaminated land risks and ground investigation report
- ▶ MMP reviewed and approved by a qualified person registered to CL:AIRE
- ▶ The indicative locations for the stockpiling of soils on site will be provided within the MMP. The locations will be spatially isolated to allow topsoil, contaminated soil and those soils which are being stored for ecological reasons to be kept separately and prevent cross contamination.

Following the Pre-Construction phase, the detailed pre-construction information (PCI) (SF-TEC-12), associated risk register and MMP are passed to the site construction team for implementation as part of the site works. The site construction team will ensure the following controls are implemented on site:

Construction Phase Controls:

- ▶ Actively supervising the careful stripping of topsoil/subsoil for reuse activities
- ▶ Soil being re-used on site is appropriately stockpiled to avoid mixing or contamination as per the MMP
- ▶ Keeping soil storage periods as short as possible
- ▶ Stripping to be completed in the driest condition possible using tracked equipment where applicable to reduce compaction
- ▶ Ensuring the Technical team are consulted if there is a change to haul routes and stockpile locations so that the site MMP and Traffic Management Plan are updated accordingly
- ▶ Ensuring that the soil structure is not over-compacted where heavy machinery and large volumes or soils are stored to help avoid poor soil establishment, increased surface water runoff, failure of planting and surface ponding
- ▶ Any re-spreading stockpiled soil or the importation of soil is suitably supervised on site in order to provide structured, un-compacted and well-aerated soil profiles
- ▶ Areas of soil to be protected from construction activities (retained trees, protected habitats, archaeology, invasive species) are clearly marked out by barrier tape and exclusion signs
- ▶ Ensuring that stockpiles are not be positioned within the root or crown spread of trees, or adjacent to ditches, watercourses or existing or future excavations
- ▶ Once a stockpile has been completed the area will be cordoned off with secure fencing to prevent any disturbance or contamination by other construction activities

- ▶ Where soil is to be stockpiled for more than six months, the surface of the stockpiles will be seeded to minimise soil erosion and to help reduce infestation by nuisance weeds that might spread seed onto adjacent land
- ▶ All materials subject to excavation, disposal, treatment and/or reuse are suitably tracked throughout the project with evidence
- ▶ Ensuring that all waste soil materials are compliant with the applicable waste 'Duty of Care' requirements
- ▶ Assist with the completion of the verification report at the end of the project to fully satisfy the requirements of the DoW CoP.

8. Surface Water runoff and management

To prevent pollution of surface or ground waters with silt as a result of site construction and development activities, Keepmoat and its contractors aim to maintain regulatory compliance and negate environmental harm through the implementation of a Surface Water Management Plan (SWMP). The site specific SWMP is designed to identify the risks associated with the site and ensure effective and appropriate environmental controls are implemented as a result.

Production of the SWMP follows a risk-based process and involves:

- ▶ Identifying sources of potential contamination (surface and silt water run-off, fuel and chemical storage, excavation pumping operations etc.)
- ▶ Determining the receptors (water courses, ground water and foul drains) for any potential discharge and identifying whether this site is a 'High' risk development.
- ▶ Developing and implementing controls for minimising risk, through control and treatment.
- ▶ Utilising appointed technical consultants to assist in developing appropriate and effective methods of control
- ▶ Ensuring effective monitoring and maintenance of pollution prevention measures.
- ▶ Preparation of an associated Spill Response Poster for emergency situations (HSS-FO-001-Spill)
- ▶ Assurance of effectiveness through the implementation of inspection, monitoring and sampling measures, using the associated HSS-FO-001-Water- Water Management & Pollution Prevention Inspection Checklists found on EcoOnline (online reporting tool).

A copy of the **982 Church Road Surface Water Management** and diagram of the layout of the identified surface water management features can be provided on request. For the purpose of this CEMP, a summary of the management controls and maintenance requirements for the site identified by the SWMP are as follows:

Management Controls:

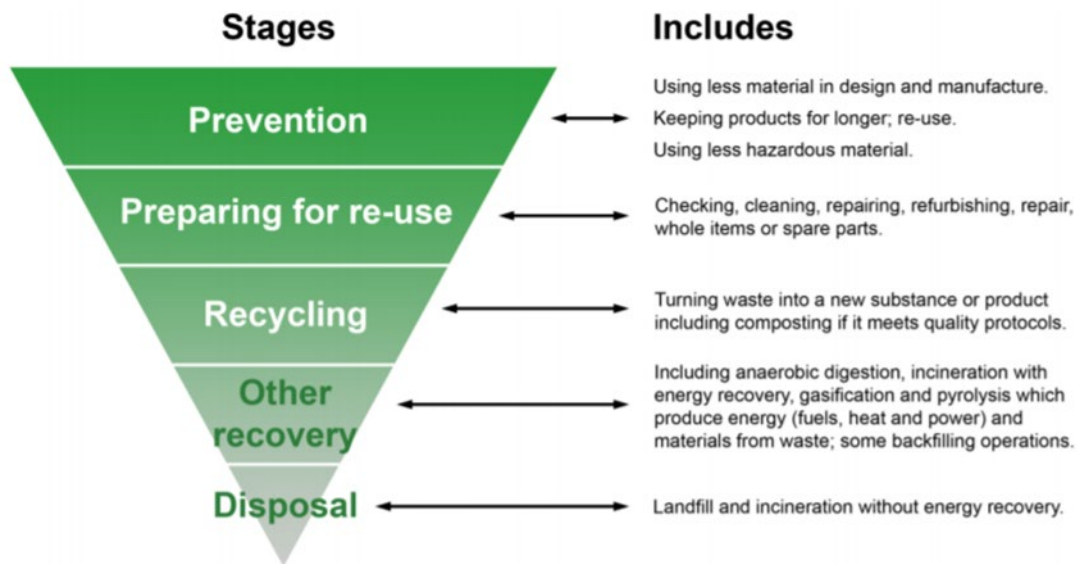
- ▶ Prior to commencement of any construction works, a silt barrier will be installed along the northern ditch line and to the north of the proposed attenuation basin
- ▶ A 0.5m high bund, or other silt barrier, is to be installed around the site compound area. This will include a cut-off drain and discharge through a catchpit and be connected to the Phase 1 below ground surface water drainage network
- ▶ Construction of attenuation basins
- ▶ As site works progress, adjustment of the silt barrier around the attenuation basin, to avoid risk of construction surface water carrying silts into the basin.
- ▶ Installation of a silt barrier around the attenuation basin outlet to avoid any silts from the basin discharging into the existing IDB ditch network
- ▶ Installation of straw bales at the surface water outfall headwall as an additional precautionary measure should other measures fail
- ▶ Finally, 'floc mats' will also be installed within the base of the existing northern ditch at the discharge point to absorb any residual silts
- ▶ As the site works progress and permanent features are established, road sweepers will be used to clean roads on regular intervals to reduce build of sediment on (and off) site
- ▶ All road gullies, when constructed, will be fitted with gully bags to prevent blocking and limit required maintenance (sucking/jetting).

Maintenance Requirements:

- ▶ All catchpits to be inspected regularly and emptied of any silts/gravels when required. Inspection regime to suit site conditions and to be adjusted to ensure catchpits are emptied before filling with debris
- ▶ Silt barriers to be inspected weekly and any damage to be immediately repaired. Any accidental damage is to be immediately reported to site management
- ▶ Silt build-up against barriers is to be periodically removed and disposed off-site to an approved and licensed tip
- ▶ On completion of the construction works, all catchpits are to be emptied and the attenuation basin floor levels checked to ensure there is no silt build-up. The final surface water network is to be CCTV surveyed and jetted where necessary to clear any silt/gravel obstructions.

9. Waste Management

Effective waste management by Keepmoat and its contractors is essential in order to ensure the efficient use of resources and to minimise environmental impact through the construction activities on site. Therefore, the principals of the waste hierarchy will be adopted on site as detailed in the diagram below:



In line with the hierarchy, the generation of construction waste should, as the first priority, be avoided wherever practicable (through measures such as 'just-in-time' deliveries, careful storage of materials on site, minimisation of packaging and use of re-useable packaging). When waste is generated, it will be sent for reuse and recovery, in preference to disposal. Wherever practical, uncontaminated spoil will be reused on site for backfill and the regrading of excavations (please refer to Section 8 for further detail).

All waste materials removed from site will follow the 'Duty of Care' for waste requirements through the use of registered and licensed haulage contractors for transport and the use of appropriately licensed disposal sites for each waste stream. Waste monitoring information will be compiled by the site team using the company's online Waste Management portal, with monthly updates monitored through the monthly site management progress meetings.

General controls to facilitate and achieve the principals of the waste hierarchy on site will be as follows:

General site controls for effective and compliant waste management:

- ▶ All waste sent for disposal will be directed to sites which hold valid waste management licenses issued by the EA and which are authorised to accept the type and quantity of waste
- ▶ All contractors used for transport of waste will hold a valid waste carriers licence
- ▶ Transport of wastes will be minimised where possible through the selection of local disposal sites
- ▶ No disposal of waste by dumping or open burning will be permitted on site
- ▶ All waste will be subject to controlled collection, segregation, and storage on site
- ▶ Waste totals and costs monitored through the provision of online waste management information

- ▶ All works will be monitored for compliance with any registered waste exemptions / permits registered to the site activities

In order to fully facilitate the segregation and management of non-hazardous and hazardous waste materials generated on site, the following minimum standards will be adhered to:

Minimum standards for non-hazardous waste segregation:

- ▶ Separate skips will be provided for general mixed waste, timber, and plasterboard as a minimum (where space is available, further segregation will be expected to reduce landfilling and costs)
- ▶ Skips must be clearly signed
- ▶ Skips must not be overfilled and will be monitored by the forklift truck driver for contamination
- ▶ All non-hazardous waste removed from site must be accompanied by a fully completed and signed Waste Transfer Note (the Keepmoat copy must be filed and retained for 2 years).
- ▶ No disposal of waste by dumping or open burning will be permitted on site
- ▶ All waste will be subject to controlled collection, segregation, and storage on site

Minimum standards for use of mini skips:

- ▶ Skips will be clearly signed on all 3 sides with colour coded magnetic strip signs according to the following waste stream:
 - Green – Light mixed waste
 - Orange – Inert (brick/rubble)
 - Yellow – Timber
 - Purple – Plasterboard
 - Blue – Metal
 - Red – General waste
- ▶ Not be overfilled
- ▶ Be subject to regular inspection to ensure they are in good condition

Minimum standards for hazardous waste segregation:

- ▶ The site will have a designated hazardous waste station
- ▶ Containers are to be sealed to prevent rainwater ingress
- ▶ The containers will be appropriately and clearly signed
- ▶ All hazardous waste storage will take place well away from surface water drains
- ▶ Each hazardous waste load removed from site must be accompanied by a fully completed and signed consignment note (Keepmoat copy must be retained for 3 years)

10. Associated Keepmoat Environmental Standards

(copies available upon request)

The following table lists all supporting policies, standards, plans and reports that provide the framework for the site activities being undertaken and management controls to be applied:

KMH Policy, Standard, Plan or Report Reference	Applicable Section of CEMP	Location (TBC)
<i>General Keepmoat Policies:</i>		
HSS-PO-002-Policy – Environmental Policy	All	KM Intranet
SUS-PO-001-Policy – Sustainability Policy	All	KM Intranet
<i>Keepmoat Standards:</i>		
HSS-ST-001-Archaeology – Archaeology & Heritage Standard	2	KM Intranet
HSS-ST-001-Energy – Carbon & Energy Management	3	KM Intranet
HSS-ST-002-Dust – Construction & Demolition Dust Controls	4	KM Intranet
HSS-ST-001-Nuisance – Nuisance Standard	4 & 6	KM Intranet
HSS-ST-001-Ecology – Ecology & Biodiversity	5	KM Intranet
HSS-ST-001-Spill – Pollution Incident Response Standard	7	KM Intranet
HSS-ST-001-Land – Contaminated Land	8	KM Intranet
HSS-ST-001-Soil – Soil Management	8	KM Intranet
HSS-ST-001-Waste – Waste Materials Management	10	KM Intranet
HSS-ST-002-Waste – Materials Management Plan	8	KM Intranet
HSS-ST-001-Water – Surface Water Management	9	KM Intranet
EHS-ST-001-MSS – Minimum Site Health, Safety & Environmental Standards	All	KM Intranet
2008SD(122) – Tree Protection Details	5	KM Intranet
2008SD(126) – B – Diesel Tank Details	7	KM Intranet
2012SD(083) – C – Mortar Silo Foundation	7	KM Intranet
2012SD(094) – Material Stockpile (Granular Soils)	7 & 8	KM Intranet

2012SD(095) – Material Stockpile (Wet or Plastic Soils)	7 & 8	KM Intranet
Trade Specifications – Sub-Contractor General Obligations	All	KM Intranet
<i>Supporting Site Specific Plans</i>		
EHS-PL-001-CDM – Construction Phase Plan	All	Site File
EHS-PL-002 – Dust - Dust Management Plan	4 & 6	Site File
EHS-PL-001 – Water – Surface Water Management Plan	9	Site File
EHS-PL-001 – Waste – CLAIRE Materials Management Plan	8	Site File
EHS-PL-002 – Waste – Waste Management Plan	10	Site File
Ecological Survey & Constraints Management Plan	5	Site File
Aboricultural Survey & Management Plan	5	Site File
SWMP Plan	8	Site File

Appendix 1: Environmental / Ecological Site Constraints:



NOTES

1. TOPOGRAPHICAL INFORMATION UNDERTAKEN BY SURVEY SOLUTIONS TOPOGRAPHICAL SURVEY 230236-01 - 03 (31/8/21).
2. UNDERGROUND SERVICES SURVEY UNDERTAKEN BY MALCOLM HUGHES UNDERGROUND SERVICES SURVEY 57556-UG1 - UG4 (AUGUST 2021).
3. OVERHEAD BT OPENREACH CABLES TAKEN FROM TDS UTILITIES APPRAISAL KMT.U.26 UR-01 (1/9/21).
4. TREE CONSTRAINTS TAKEN FROM ARBOR-ECO CONSULTANCY PRE-DEVELOPMENT ARBORICULTURAL SURVEY MB210517-01 (AUGUST 2021).
5. ECOLOGICAL SURVEY INFORMATION TAKEN FROM MHE CONSULTING AMPHIBIAN AND REPTILE SURVEY REPORT OLDNEWTON/2019/ARSR/001 (AUGUST 2019).
6. NO FLOOD ZONES SHOWN ON ENVIRONMENT AGENCY MAPPING.

KEY

	SITE BOUNDARY		PUBLIC RIGHT OF WAY
	SITE BOUNDARY (ASSUMED)		POND WITH GREAT CRESTED NEWT CONFIRMED PRESENT
	EXISTING BUILDING		POND
	EXISTING BUILDING (GRADE 2 LISTED)		SLOW WORM
	EXISTING HARD PAVING - ASPHALT		GRASS SNAKE
	EXISTING FENCE		HISTORIC SURFACE GROUND WORKINGS (POTENTIALLY INFILLED LAND)
	EXISTING DITCH		CURRENT INDUSTRIAL SITE
	TREES SHOWING CANOPY EXTENTS, CATEGORY COLOUR AND TAG NUMBER (WITH CATEGORY).		BRITISH TELECOM (UG) AND CHAMBER
	CATEGORY A TREES		BRITISH TELECOM (OH) AND POLE
	CATEGORY B TREES		COMMUNICATIONS CABLE (UG)
	CATEGORY C TREES		DUCTING (UG)
	CATEGORY U TREES		ELECTRICITY CABLES (UG)
	TREE ROOT PROTECTION AREA		GAS PIPES (UG)
	TREE GROUPS SHOWN AS DASHED CENTRE/ BOUNDARY LINE (COLOUR REPRESENTS CATEGORY)		SEWER COMBINED (UG)
	SHRUBS		SEWER FOUL (UG)
	ROUGH GRASSLAND		SEWER SURFACE WATER (UG)
	SPECIES RICH GRASSLAND		TRAFFIC LIGHT CABLES (UG)
	SCRUB		UNIDENTIFIED GPR OR ELECTRO LOCATION TRACE (UG)
	INTACT SPECIES-RICH HEDGEROW		WATER PIPES (UG)
	INTACT SPECIES-POOR HEDGEROW		END OF TRACE
			TRAFFIC SIGN

Appendix 2: Noise Sensitive Receptor Map

Sensitive receptors

Details of Sensitive Receptors:

The site is flanked by high-risk receptors in the form of residential dwellings to the west boundary (Appleby Close, Oak View and The Banks) and to the south of the new access road (Goodwin Close). Medium risk receptors in the form of offices are located to the east on Bradfield Close with a sports field/recreation ground (negligible risk) to the south of the main site boundary.

350m Sensitive receptors:



Appendix 3:

Construction site Access

