

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

for the proposed Harbour Village Development
Ebbsfleet Riverside - Northfleet Embankment West



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Bellway Thames Gateway

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1. INTRODUCTION

- 1.1. Bellway Thames Gateway (Bellway) have prepared this Construction and Environment Management Plan (CEMP) to provide the framework and explanation required for the planning and implementation of the partial construction phase (excluding Phase 1a) of the Northfleet Embankment redevelopment, shown in the planning application made to Ebbsfleet Development Corporation (EDC). This CEMP covers the development construction works (excluding Phase 1a) but including Infrastructure Phases 2a, 2b & 2c. It provides information to illustrate how any adverse environmental effects of the proposed construction works on the Harbour Village development activities are to be mitigated.
- 1.2. The plan included at Figure 2.4 identifies the various construction phases for the development. These can be broken down as follows:
 - 1.2.1. Residential Phase 1a (Submitted under a separate document)
 - 1.2.2. Residential Phase 1b
 - 1.2.3. Residential Phase 2
 - 1.2.4. Infrastructure Phase 2a (Bevan's Park & Associated Public Realm)
 - 1.2.5. Infrastructure Phase 2b (Fastrack West)
 - 1.2.6. Infrastructure Phase 2c (Robin's Creek SUD)
 - 1.2.7. Residential Phase 3
- 1.3. This document relates to residential development construction phases 1b, 2 & 3 as well as Infrastructure works Phases 2a, 2b & 2c. The remaining residential phase, 1a, is subject of a separate CEMP. Infrastructure works.
- 1.4. Ebbsfleet Development Corporation (EDC) resolved to grant outline planning permission (OPP) for residential development of up to 532 dwellings (App Ref: EDC/16/0004)
- 1.5. The CEMP includes details of the following
 - (a) hours of construction working
 - (b) delivery times for materials
 - (c) routes for construction vehicles
 - (d) parking of vehicles of site personnel and visitors
 - (e) loading and unloading of plant and materials
 - (f) dust suppression measures
 - (g) sheeting of vehicles transporting materials on or off site
 - (h) noise and vibration mitigation
 - (i) construction compound(s)

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- (j) temporary lighting
- (k) storage of materials including oil and chemical storage
- (l) location and appearance of temporary hoardings
- (m) type and location of wheel washing facilities
- (n) protection of the Grade II listed Northfleet Lower Lighthouse and the Grade II listed Bevan's war memorial
- (o) site security
- (p) community liaison
- (q) construction vehicle routing and accesses, including any temporary construction routes
- (r) any temporary diversion of public footpaths
- (s) process/management for eradicating any invasive plant species
- (t) measures to maximise sustainable import/export of goods and materials during construction, including use of the River Thames if feasible
- (u) monitoring and review provisions with the Local Planning Authority
- (v) method statements detailing how environmental impacts on the River Thames will be prevented during construction (e.g. erection of temporary fences and lighting)
- (w) measures to protect the mudflats to the east of the development.

2. SITE SETTING

2.1. PROJECT DESCRIPTION

- 2.1.1. The site is located at the former Northfleet Cement Works. The site was previously a cement works with significant historical contaminative land use and legacy infrastructure.
- 2.1.2. The site is approximately 12ha. in size and is located adjacent to the south bank of the River Thames which abuts the larger part of the site's north boundary.
- 2.1.3. The development comprises the construction of 532 residential units together with provision of car parking, cycle parking, landscaping and associated infrastructure.

2.2. NEIGHBOURING LAND USES

- 2.2.1. The southern boundary abuts a series of roads, including Factory Road, Hive Lane and Warwick Place, which separate the site from the adjacent residential dwellings that extend to the south. College Road is aligned along the site's west boundary beyond which, further west, lies a mix of residential properties and industrial units. The eastern and north-eastern boundaries adjoin an open commercial area situated on a significantly lower ground level than the site . (Figure 2.1 - 2.3).



Fig. 2.1: Aerial View of Site courtesy of Bing Maps

2.3. CONSTRUCTION PHASES

- 2.3.1. The residential development covered but this CEMP will be built in three overlapping construction phases (1b, 2 & 3) over a period between Q1 2022 and Q2 2027 ^(Rev 6) and released for occupation as plots are completed, progressing generally from south to north across the site. (Figure 2.4).

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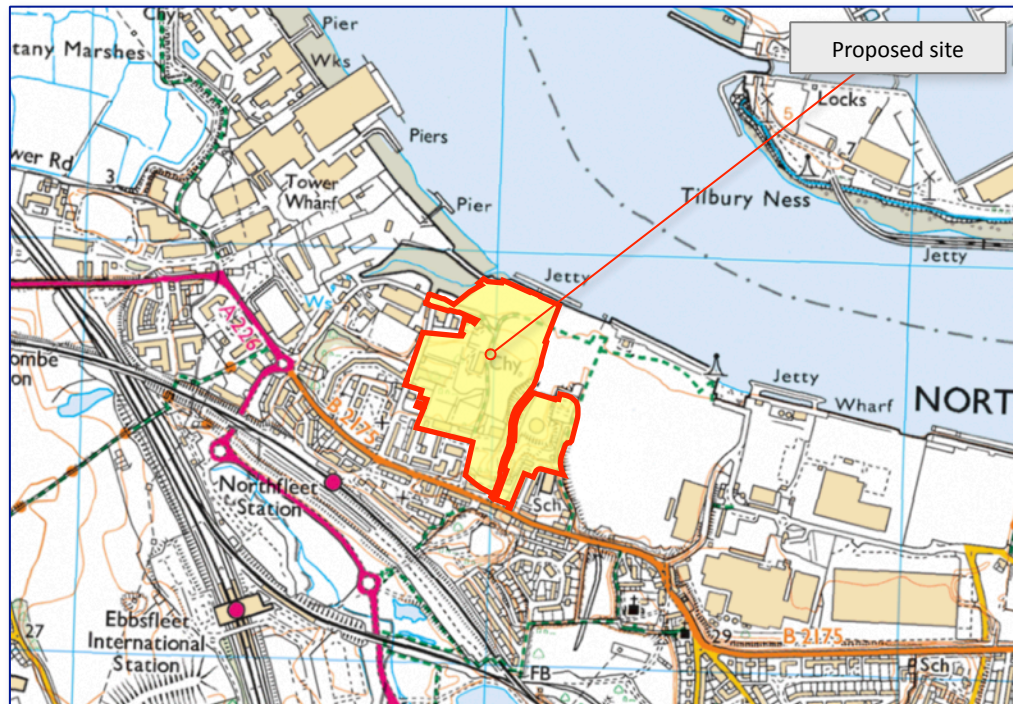


Fig. 2.2: Location Map

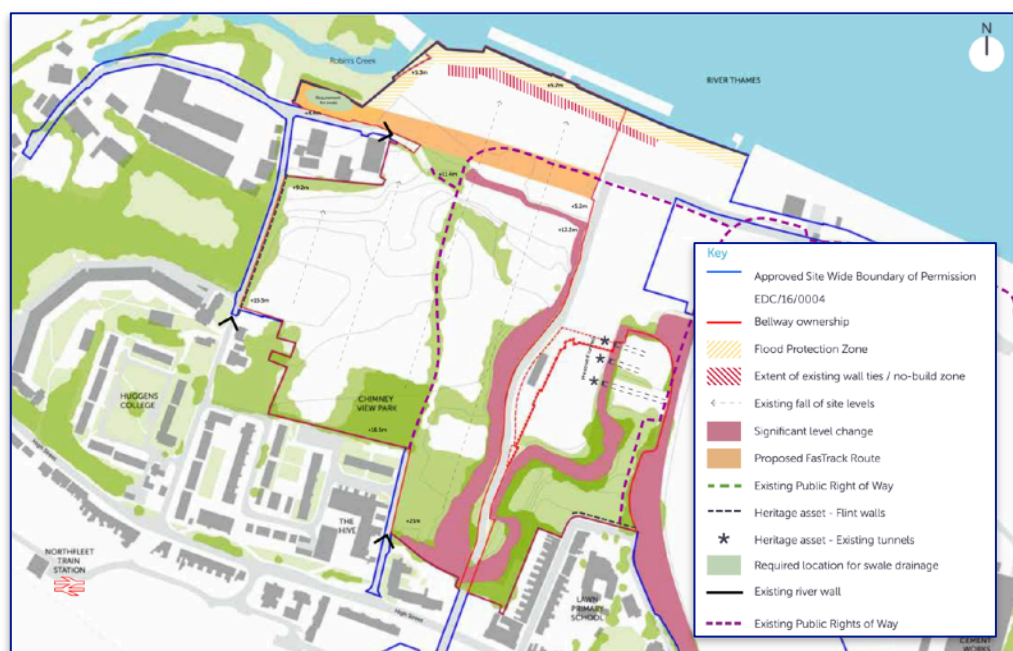


Fig. 2.3 Constraints Plan

- 2.3.2. The works to Phase 1a. is specifically excluded from the scope of this CEMP.
- 2.3.3. The infrastructure works in Phases 2a, 2b & 2c will be carried out in parallel with the residential development.
- 2.3.4. The plan at Appendix 1 indicates the scope of the 'residential land' to which this CEMP refers. (Rev 6)

2.4. CONSTRUCTION OPERATIONS

- 2.4.1. The construction sequence will commence with Enabling Works. These works have been covered by a separate CEMP (reference 'CEMP-17855CZ-20-254' prepared for Bellway by IDOM Merebrook) and will include:
- i. Ecology works (translocation of reptile species has already been carried out on site).
 - ii. Tree protection fencing & arboricultural works
 - iii. Further investigations if required
 - iv. Establishment of site hoardings in locations agreed with GBC and following approval of licence requests,
 - v. Site clearance, and
 - vi. Formation of development platform
- 2.4.2. All works will be carried out in accordance with approved RAMS.
- 2.4.3. Upon completion of the enabling works, the main construction works (which are the subject of this CEMP and illustrated opposite at Figure 2.4) will commence on a phases by phases basis. These works will include:
- i. Piling,
 - ii. Construction of foundations, drains & sub-structures,
 - iii. Erection of the buildings in Phase 1b,
 - iv. Construction of roofs & facades,
 - v. Installation of building services & internal fitting out, and
 - vi. External works.
- 2.4.4. Subsequent phases will be constructed in a rolling sequence.
- 2.4.5. The plan opposite at Figure 2.4 identifies the location of the various phases:
- i. Residential Phase 1a (Submitted under a separate document)
 - ii. Residential Phase 1b
 - iii. Residential Phase 2
 - iv. Infrastructure Phase 2a (Bevan's Park & Associated Public Realm)
 - v. Infrastructure Phase 2b (Fastrack West)
 - vi. Infrastructure Phase 2c (Robin's Creek SUD)
 - vii. Residential Phase 3 ^(Rev 6)

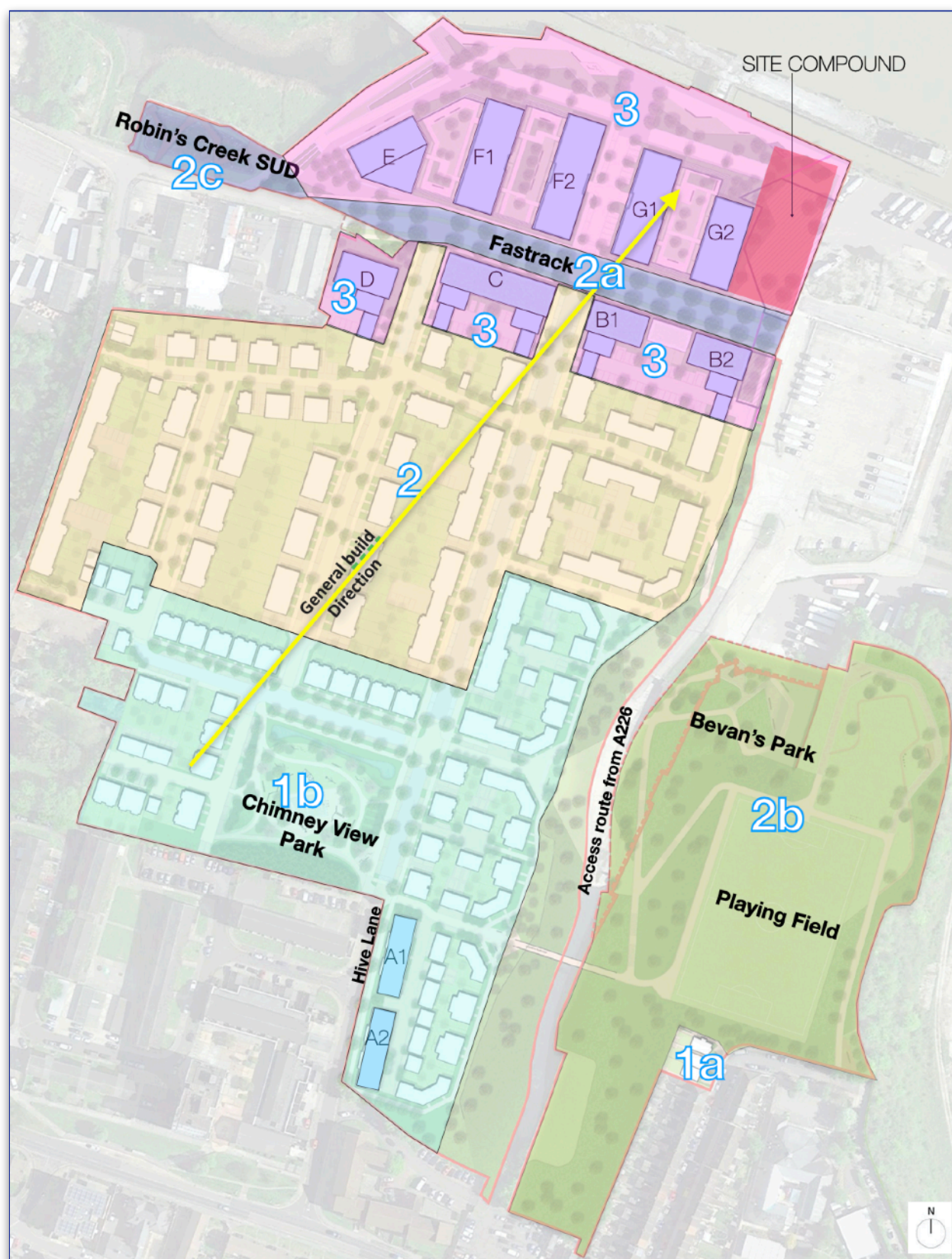


Fig. 2.4 Phase Identification Plan

3. ROLES AND RESPONSIBILITIES

3.1. INTRODUCTION

3.1.1. The line of responsibility for environmental management during the residential construction phase covered by this CEMP is shown below. Descriptions of individual environmental management responsibilities are described below

3.2. PROJECT MANAGER

3.2.1. The project manager is as follows:

Mark Baldwin ^(Rev 6)

Bellway Homes (Thames Gateway) Ltd

Bellway House

Anchor Boulevard

Crossways Business Park

Dartford

Kent DA2 6QH

3.2.2. The Project Manager holds responsibility for managing the Project within the agreed environmental constraints in conjunction with all other necessary management processes.

3.3. SITE ENVIRONMENTAL MANAGER

3.3.1. The Site Environmental Manager is:

Rob Glavin (or nominated deputy)

IDOM Merebrook Ltd

1 Leonard Place

Westerham Road

Keston

Kent BR2 6HQ

3.3.2. The Site Environmental Manager will be responsible for monitoring the performance of the project against statutory requirements and the agreed environmental standards. Duties of the Environmental Manager will include:

- i. Review the CEMP and specialist procedures and identify any areas for improvement;
- ii. Identify the environmental competence of all contractors working on the Project and advise the Project Manager as to their suitability;
- iii. Review method statements for environmental aspects and advise of any suggested improvements prior to work starting;

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- iv. Monitor construction activities to ensure that identified and appropriate control measures are effective and in compliance with the CEMP. Advise subcontractors and individual staff of non-compliances and have the power to sanction for repeated non-compliance;
- v. Act as a main point of contact between the Main Contractor and the Client's Project Team on environmental issues;
- vi. Provision of advice and liaison with the construction teams to ensure that environmental risks are identified, and appropriate controls are developed and included within method statements and risk assessments;
- vii. Assistance in the development and delivery of environmental training for site personnel and sub-contractors;
- viii. Management of the environmental monitoring programme, including noise and dust and review the routine reports; and,
- ix. Environmental audit of subcontractors and suppliers.

4. MANAGEMENT PLAN

4.1. INTRODUCTION

4.1.1. The potential hazards, environmental compliance criteria and assessment procedures to be adopted through the construction phases are presented in the sections below. A separate CEMP will be produced to cover the remaining construction phases.

4.2. REGISTER OF ENVIRONMENTAL IMPACTS

4.2.1. This section outlines the various risks which may arise as identified from previous site assessments and investigations and should be regularly updated to reflect any additional risks resulting from Bellway's and their sub-contractors selected methods of working and changing site conditions

4.2.2. The construction phase will comprise excavation & construction of foundations and on-site roads & footpaths; construction of new dwellings and associated external landscaping works.

4.2.3. Upon completion of the Enabling works (remediation/earthworks) phase the site will have been remediated to remove the risk of the following contaminants:

- i. Hydrocarbon Contamination in the vicinity of the former tank farm;
- ii. Hydrocarbons in tunnels 31a, 28 and 22; and
- iii. Japanese knotweed;

4.2.4. Noise and Vibration

- i. Generation of noise from site activities is certain but their significance in terms of nuisance or disruption to receptors during the residential construction phases is expected to be far less than during the enabling works stage. Noise sources may include: plant engines, excavation, audible reversing warning and delivery vehicles.
- ii. Sources of vibration may include earthworks and plant movements. However Bellway's proposed mitigation and management measures set out in Section 7 will minimise the impact of the works upon the local environment and upon the public.

4.2.5. Transport and Roads

- i. Materials will be delivered to site and waste materials carted away which will result in increased vehicle movements on local highways. However Bellway's proposed mitigation and management measures set out in Section 7 will minimise the impact of the works upon the local environment and upon the public.

4.2.6. Waste, Recycling and Contaminated Materials

- i. Contaminated soils will be dealt with during the Enabling Works phase.

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- ii. Bellway will implement waste management and recycling procedures to minimise the environmental impact of the project as set out in Section 7.

4.3. RISK ASSESSMENTS

4.3.1. Activities undertaken on site would be subject to an environmental risk assessment. Risk assessments would be undertaken by specialist staff following an approved procedure which would:

- i. Identify the significant environmental impacts that can be anticipated;
- ii. Assess the risks from these impacts;
- iii. Identify the control measures to be taken and re-calculate the risk; and,
- iv. Report where an inappropriate level of residual risk is identified so that action can be taken through design changes, re-scheduling of work or alternative methods of working in order to reduce the risk to an acceptable level.

4.3.2. The results of risk assessments, and their residual risks are only considered acceptable if:

- i. The severity of the outcome is reduced to the lowest practical level;
- ii. The number of risk exposures are minimised; and,
- iii. All reasonably practical mitigating measures have been taken and the residual risk rating is reduced to a minimum.

4.3.3. The findings of the risk assessment and, in particular, the necessary controls would be explained to all operatives before the commencement of the relevant tasks using an agreed instruction format.

4.4. METHOD STATEMENTS

4.4.1. Method statements will be completed on behalf of Sub-Contractors by trained or experienced personnel, in consultation with Bellway and, where necessary, environmental specialists. Their production will include a review of the environmental risks and commitments, as identified by the risk assessment, so that appropriate control measures are developed and included within all relevant construction processes.

4.4.2. Method statements will be reviewed by the Site Environmental Manager, and, where necessary, by an appropriate environmental specialist. If required all method statements will be submitted to the enforcement agencies (Environment Agency, Environmental Health Officer, HSE etc.) as appropriate. Method statements will contain as a minimum:

- i. Location of the activity and access/egress arrangements;

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- ii. Work to be undertaken and methods of construction;
- iii. Plant and materials to be used;
- iv. Labour and supervision requirements;
- v. Health, safety and environmental considerations; and,
- vi. Any permit or consent requirements.

5. TRAINING, AWARENESS AND COMPETENCE

5.1. INTRODUCTION

- 5.1.1. The raising of environmental awareness is viewed as a crucial element in the appreciation and implementation of the CEMP. Consequently, all staff will undergo environmental awareness training, initially by way of an induction process. A project- specific training plan that identifies the competency requirements for all personnel allocated with environmental responsibilities will be produced and will be contained within a site file maintained by Bellway and complementary to the CEMP.
- 5.1.2. Training for all personnel identified in the training plan will be completed before commencement of specific tasks. Line managers and supervisors will ensure that all personnel engaged in activities that may have an impact on the environment are competent to carry out their duties or, where necessary, arrange for suitable training to be undertaken.

5.2. SUPERVISION

- 5.2.1. All activities, including those carried out by subcontractors and suppliers will be supervised (or regularly checked through the completion of site inspections by the Site Environmental Manager), to ensure that requirements identified in risk assessments or method statements have been implemented. The frequency and extent of this supervision will vary according to the degree of competence displayed by the workforce and the level of risk to the environment.

5.3. INSPECTION OF OTHER OPERATIONAL IMPACTS

- 5.3.1. Appointed environmental representatives will carry out weekly inspections of their respective areas, to verify that housekeeping or supporting controls are being implemented effectively. These inspections will utilise the site environmental standards as the minimum standards that should be achieved, with necessary actions being recorded and raised at regular progress meetings. Subsequent inspections will commence with a review of all outstanding actions from previous reports to verify that they have been completed. Inspections of deliverables required by the CEMP will be subject to regular independent inspections by either the Environmental Manager or the relevant environmental specialists. These inspections will be used to confirm that:
- i. Remediation works are progressing in accordance with the agreed method statement;
 - ii. Agreed protection or mitigation measures are in place, prior to or during the implementation of remediation activities;
 - iii. No fugitive emissions to air, land and water occurring during the works; and,

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- iv. Remediation works have been completed in accordance with the design and commitments made during the statutory process.

6. EXTERNAL RELATIONS AND LIAISON

6.1. SITE SECURITY AND CONTROL OF PUBLIC ACCESS

6.1.1. It is anticipated that the main entrance into site will be from Thames Way, but with some traffic from The Creek.

6.1.2. Figure 6.1 below illustrates the location of the site in relation to the Regional Highway Network.

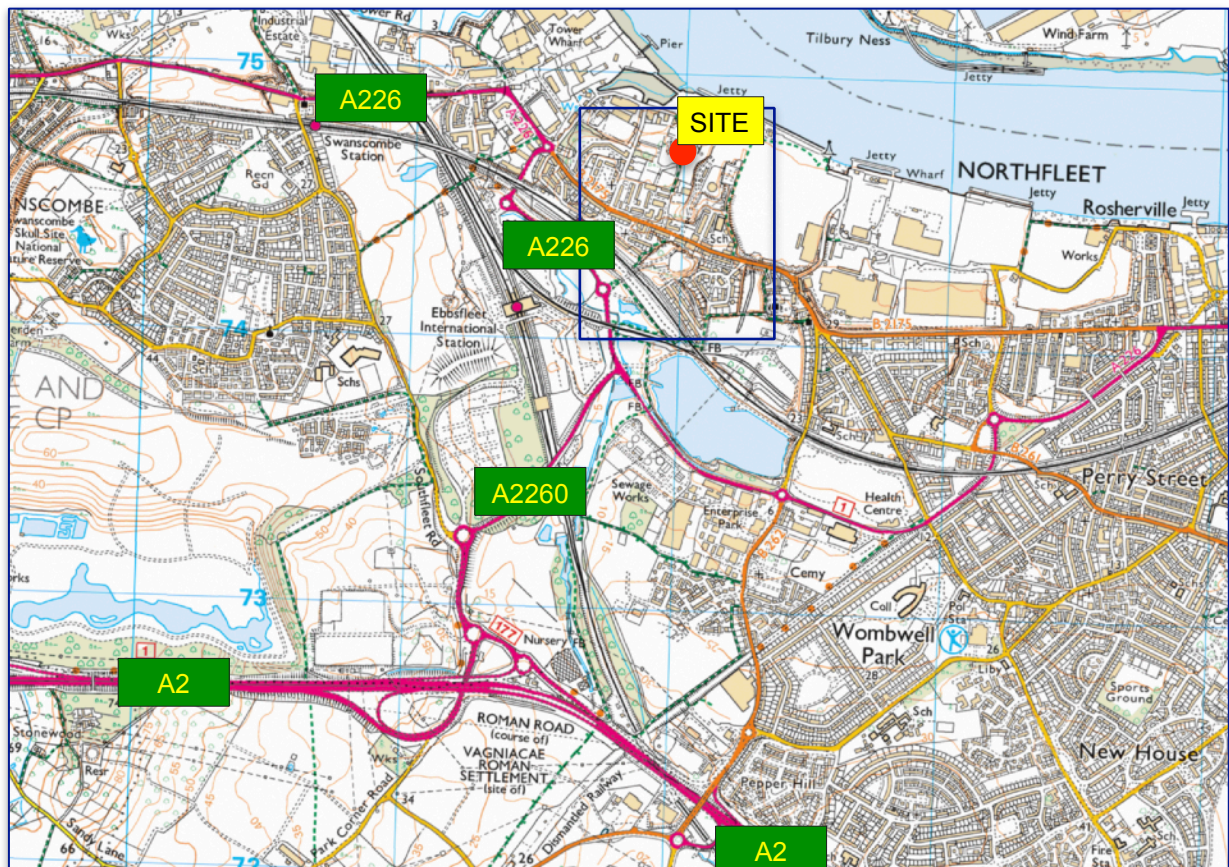


Fig. 6.1: Site in Relation to the Regional Highway Network

6.1.3. TEMPORARY HOARDINGS

- i. The site perimeter will be fully enclosed to protect the general public and deter unauthorised entry. Where it is close to College Road and other existing roads the site hoarding will be constructed of plywood faced on a timber frame with an approximate minimum mass of 7kg/m². A hoarding will be a minimum of 2.4 metres high above pavement level and will be sited on the site boundary generally.
- ii. Our Contracts Manager will meet the Local Authority on site to discuss hoarding locations and traffic management and a licence for the erection of the hoardings will be applied for in accordance with section 172 of the Highways Act 1980.
- iii. The hoardings will be provided with a copy of the licence as well as contact details for site management for use in the event of an emergency.

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6.1.4. ACCESS GATES

- i. Access to the site will be provided from 'College Road' in order to construct the new bell mouth and sales centre. Main access to the compound will be from Tarmac's road from A226. This will allow us to segregate construction traffic from residents and visitors access from 'Hive Lane' once occupations commence. The gate at the junction with 'Hive Lane' will be for emergency use only.
- ii. Access gates will be manned to prevent unauthorised entry during normal working hours and securely locked out of hours. Gate personnel will act as traffic marshals to control the movement of traffic off site onto the public highway.
- iii. A site notice board will be provided adjacent to the main access gates containing various information including out of hours contact details for the site team and details of the Considerate Constructor Scheme.
- iv. Gates in the hoarding will be positioned and constructed to minimise noise transmission.

6.1.5. ACCESS POINTS

- i. Principal vehicular & pedestrian access & egress to the completed development is from 'Hive Lane' to the south of the development. Further access is provided from 'College Road' and other surrounding roads.
- ii. Before first occupation, the new southern entrance off 'Hive Lane' will only be used for emergency access to the site. An access from 'College Road' will be provided to access the marketing suite & show homes constructed in Phase 1B, Residents & public access to dwellings will be from Hive Lane.
- iii. During the initial enabling and first part of Phase 1b development it will not be possible to gain access to the Phase 1b development area until c. Q3 2022. For this reason a temporary construction access via Grove Road / College Road will be used.
- iv. 6.4.7 identifies that until c. Q3 2022, all construction traffic approaching the site will travel from A226 via Grove Road and the northern part of College Road as far as the entrance into the Phase 1b development area indicated on the Phase 1b Logistics Plan (Appendix 1) (Rev 5).
- v. Construction access to the remaining development phases will be via Tarmac's access road from A226 as indicated within 6.4.6, below.
- vi. Entrances will be provided with gates that will be kept shut when not in use for vehicles and biometric pass gates for pedestrians. The accommodation compound

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will also include a key code access entrance/exit gate to control personnel access to the site.

- vii. On site, as properties are released for occupation, heras fencing will be used to block off access to dwellings that have not been completed.

6.1.6. PEDESTRIAN ACCESS PAST SITE

- i. BTG's proposed logistics arrangements will not require the temporary closure of any footpath around the perimeter of the site. However, in agreement with the LPA, and to safeguard pedestrians, we will erect warning signage near site access points advising pedestrians of the likelihood that construction traffic will be entering & leaving site.

- 6.1.7. Ebbsfleet Development Corporation will be consulted in advance and agreement reached before commencing construction, which will involve interference with a carriage way or footway.

- 6.1.8. The provisions of the Health and Safety at Work Act 1974 will be followed at all times.

6.2. HOURS OF WORKING

6.2.1. SITE WORKS

- i. Bellway will adopt the usually permissible working hours laid down by Planning Authorities. The hours of working generally will therefore be:
 - Monday to Friday (excluding public bank holidays) 08:00 – 18:00
 - Saturday: 08:00 – 13:00
 - Sunday: No working audible at the site boundary
 - Public Bank Holidays: No working audible at the site boundary
- ii. There may be a requirement for exceptional working outside of the expected working hours as a result of the method of construction adopted. Such exceptions may include delivery and erection of large construction plant and equipment such as piling rigs (if specified) and scaffolds.
- iii. Where such exceptional working requirements occur, we will ensure that this only happens following dialogue and agreement with the LPA.
- iv. Additionally, internal fitting out works that do not involve the use of plant or machinery and that are not audible at the boundary of the site may also be carried out outside of these hours provided that they do not cause a nuisance to neighbours.

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6.2.2. DELIVERIES

- i. In order to minimise the impact of the works upon the local neighbourhood, HGV deliveries to and from site will be generally restricted to avoid peak commuter travel times. Therefore the expected periods during which vehicles will arrive and depart will be:

- Monday to Friday (excluding public bank holidays) 09:00 – 16:30
- Saturday: 08:00 – 13:00
- Sunday: No vehicle movements
- Public Bank Holidays: No vehicle movements

6.2.3. Exceptions to the above restricted hours may be required to complete large concrete pours or for deliveries of large plant and/or equipment. Any such exceptions will be arranged with the local authority highways department.

6.2.4. It should be expected that for smaller vehicles (cars, vans & light goods vehicles) access to the site will be required at all times during working hours for site works.

6.3. VEHICLE ACCESS AND PARKING

6.3.1. The site gates will be kept locked at all times during non-construction hours. During construction hours, the site entrance will be manned by a gateman who will control access / egress during deliveries or periods of vehicle entrance / egress for authorised vehicles only; otherwise the gate will be kept locked to prevent unauthorised access.

6.3.2. No vehicles will be permitted to park on public highways. Parking will be provided on site for personnel & visitors. This will be within an area of the office compound & storage compound as indicated on the logistics plans, accessed from the site roads.

6.3.3. Where possible, operatives will be encouraged to make use of local public transport & local employment will be encouraged to minimise the amount of traffic attending site.

6.3.4. Routing will use Grove Road for the initial development period up to c. Q3 2022. Thereafter construction traffic will not use Grove Road;

6.3.5. After c. Q3 2022 all construction traffic approaching site will travel from A2 via A2260 'Ebbsfleet Gateway' & turn left at the traffic junction onto A226 'Thames Way', then turning right at the roundabout into the access to the Tarmac Northfleet plant.^(Rev 9)

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- 6.3.6. Provision will be made for deliveries travelling via the tunnels to enter directly onto site, using a temporary haul road within the confines of the site.^(Rev 9)
- 6.3.7. Traffic leaving site will return on the same route as 6.3.5 above, to access the highway network.^(Rev 9)
- 6.3.8. Existing traffic light control on the access route to the Tarmac Northfleet Plant will prevent congestion and maintain free flowing traffic through the tunnels, thereby avoiding disruption to Tarmac operations.^(Rev 9)
- 6.3.9. Bellway anticipate there being 60 – 70 No. Vehicle loads / week , spread across a five day period , equating to approximately 15 No. loads / day. Bellway therefore do not anticipate any issues arising with the current arrangement (traffic light control mechanism) coping with this volume of deliveries.^(Rev 9)
- 6.3.10. Bellway note that all deliveries are pre-booked with Bellway Management so that the timing of arrivals can be regulated.^(Rev 9)
- 6.3.11. As set out in the approved CEMP for the Enabling works produced for Bellway by IDOM Merebrook ('CEMP-17855CZ-20-254), it is proposed that construction vehicles leaving site will be held back as necessary to give priority to non-construction traffic heading south-west towards the tunnels and A2260.^(Rev 9)

6.4. TRAFFIC CONTROL

- 6.4.1. The Highways Act 1980 sets out requirements relating to construction work on or near the Highway and also makes it an offence to obstruct a Highway. The New Roads and Street Works Act 1991 contains updated provisions for carrying out works to Highways and construction of new roads. The Town and Country Planning Act 1990 requires that a public right of way may not be obstructed or diverted without an Order permitting it.
- 6.4.2. SAFETY OF ROAD USERS
 - i. It is not believed that anything contained in the proposed works will affect the normal operation of the roads around the site therefore existing pedestrian and cycle operations should be no worse affected than by any other use of the public highways.
 - ii. No long stay, day time or overnight parking of vehicles off-site will be permitted anywhere near the site or anywhere not designated for such use.
- 6.4.3. It is not proposed to change any treatments to the current site access. The preferential route for construction traffic will be from the A2 to the A2260, taking Thames Way to the site access. Given the nature of the site and available space, it

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is not envisaged that vehicles will be held or waiting out-side of the site entrance, with suitable holding and turning space within the site boundaries.

6.4.4. Works traffic using the Public Highway must take necessary precautions to prevent damage to the roads and footpaths. This is to include damage caused by activities to roads, kerbs or footpaths in the vicinity of the site. Bellway will carry out the temporary or permanent reinstatement of such roads, kerbs or footpaths in a manner approved by the local Highways Agency.

6.4.5. Vehicles arriving or leaving the site shall do so during normal working hours as specified above. Any HGVs waiting to enter or leave the site must switch off their engines. Where possible deliveries will avoid peak school hours (8:15 – 9:00am and 3:10 to 4:00 pm). However, the number of vehicle movements and surrounding traffic conditions which could disrupt vehicle transit times beyond the operator's control may mean deliveries avoiding peak school hours is not always achievable. Utilising the on-site vehicle holding area and traffic marshals will reduce the potential effects to traffic and road users should deliveries arrive during peak school hours.

6.4.6. VEHICLE SIZE & EMISSIONS

- i. No vehicles or plant will be used on the public highway that are heavier than allowed by law. There should therefore be no risk of causing damage to buried pipes, cables or services within the highway.
- ii. Where any crossover of the existing foot path is proposed, boiler plates or reinforced concrete "spreader-plates" will be provided to reduce the point loads applied to buried services.
- iii. In general Bellway will insist that rigid heavy goods vehicles make the majority of deliveries to site. However, it is likely that materials such as reinforcing bars and any structural steelwork will be delivered on articulated vehicles.
- iv. Where possible, we will instruct suppliers and contractors to use the smallest delivery vehicles possible to ensure that they do not cause obstructions on local roads.
- v. All vehicles used will be licensed for use on the public highway and will be subject to routine and periodic inspection to ensure that emissions comply with regulations.
- vi. A 16'6" height restriction is in place on the access road from 'Thames Way' A226

6.4.7. ACCESS / EGRESS ROUTING

- i. During the initial enabling and first part of Phase 1b development it will not be possible to gain access to the Phase 1b development area until c. Q3 2022. For

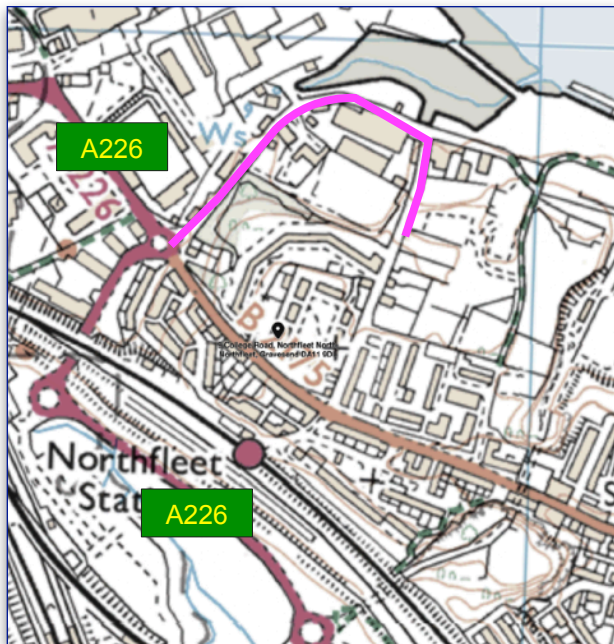


Fig. 6.2a Local Access / Egress routing before c. Q3 '22

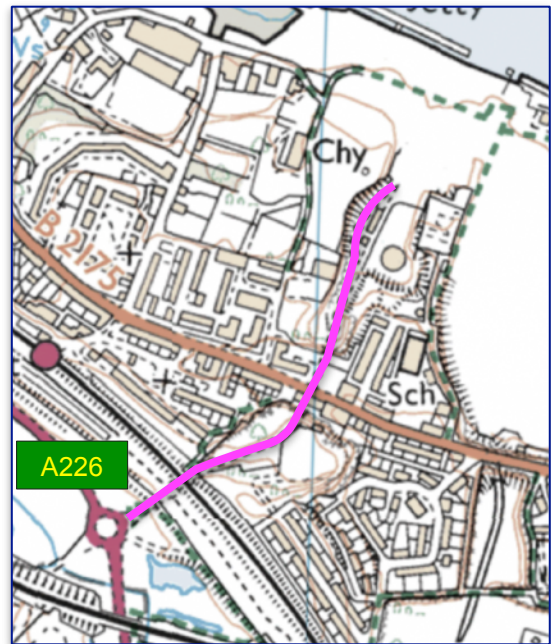


Fig. 6.2b Local Access / Egress routing after c. Q3 '22

this reason a temporary construction access via Grove Road / College Road will be used.

- ii. Figure 6.2a illustrates that until c. Q3 2022, all construction traffic approaching the site will travel from A226 via Grove Road and the northern part of College Road as far as the entrance into the Phase 1b development area indicated on the Phase 1b Logistics Plan (Appendix 1) (Rev 5)
- iii. Figure 6.2b illustrates that after c. Q3 2022 all construction traffic approaching site will travel from A2 via A2260 'Ebbsfleet Gateway' & turn left at the traffic junction onto A226 'Thames Way', then turning right at the roundabout into the access to the Tarmac Northfleet plant. (Rev 9)
- iv. This route passes under the railway and through a tunnel below 'High Street'. There is a height restriction of 16'6" on the route.
- v. When leaving site, traffic will return to A226 'Thames Way' & A2260 'Ebbsfleet Gateway' before heading to the A2. (Rev 9)

6.4.8. WHEEL WASHING ARRANGEMENTS

- i. The wheel wash area will include a hardstanding laid to falls and draining into a sump or gulley leading to (or pumped to) a settlement tank to filter water from settled mud/debris. The discharge water will pass through a petrol-interceptor whilst the settled silt will remain in the tank until it is removed. The facility will be provided with hosepipes, brushes, an adequate water supply and pressure washers together with dedicated labour to carry out the cleaning operations.

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- ii. A traffic marshal & the vehicle driver will carry out a visual inspection of the vehicle wheels, the underside of vehicles, mud flaps and wheel arches. If necessary, they will then use the pressure washer and hoses to clean the vehicle to ensure that prior to leaving site, the wheels, chassis & external bodywork are washed free of earth, mud, clay, gravel, stones or any other similar substance. Roadways will be swept regularly with a mechanical road sweeper provided by our specialist contractor who will be retained on stand-by in case additional visits are required.
- iii. Attendant labour will sweep / pressure wash the hardstanding as and when necessary to keep it clean and to prevent vehicles becoming re-contaminated with mud.
- iv. Site management will routinely inspect the wheel was area and public highway at least daily and more frequently during periods of wet or inclement weather and when ground works are being carried out to identify:
 - Whether the settlement tank needs emptying of silt, or
 - Whether the mechanical road sweeper needs to be called to site.
- v. Following settlement, the discharged water will pass through a petrol interceptor before being discharged under licence into existing surface water drains. As and when required, the settlement tank will be emptied of silt.
- vi. In the event of a break-down of the wheel washing facility, we will have a stand-by pressure washer unit available on site. We will also have a suitable stand-by portable generator available on site in case of a power failure.

6.4.9. VEHICLE ACCESS ARRANGEMENTS: ON TO / OFF SITE

- i. Delivery vehicles will access & leave site in forward gear. No reversing will be allowed to take place on the public highway. On site reversing will only be allowed when the driver is under the control of a qualified “banksman”. No construction traffic will be permitted to wait on roads near the site.
- ii. In order to minimise the impact upon the neighbourhood, specific access routes to the site will be agreed with the Local Authority and will be set out in subcontract and supply agreements.

6.4.10. MATERIAL / PLANT STORAGE

- i. All materials and plant will be stored on site within designated areas. Materials will only be loaded and unloaded on site.
- ii. Materials will be offloaded and distributed as required by forklift. Detailed method statements and risk assessments will be carried out prior to works commencing.

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6.4.11. DELIVERIES

- i. All deliveries to site will take place within the permitted site hours set out in section 6.2 herein. Generally, deliveries to site will be scheduled to arrive before 16:30 to allow time for offloading. Events such as concrete pours will be scheduled to ensure that they can be completed within site hours. However, under exceptional circumstances there may be occasions when deliveries of ready-mixed concrete are disrupted and may over-run. In the event of such an occurrence, BTG will contact the LPA's 'out of hours service' to make them aware.
- ii. Material deliveries, as with all vehicles entering site, will be controlled by the site logistics manager using a system of pre booked time slots. Suppliers and contractors delivering to site will need to book a delivery slot with a minimum of 24 hours notice in advance to ensure a controlled and efficient flow of traffic through the site. Construction traffic will not be permitted to park on local roads or travel through the town centre to access the site.
- iii. Under no circumstances will deliveries be allowed to arrive prior to 08.00 or after 17.00 except as noted above. In the event that a delivery is likely to miss its pre-booked 'slot', the driver will make contact with site to verify whether a later delivery time can be accommodated or whether they need to abort the delivery and re-schedule a new delivery time.
- iv. As noted above (6.3.6) provision will be made for deliveries travelling via the tunnels to enter directly onto site, using a temporary haul road within the confines of the site.^(Rev 9)
- v. A temporary holding area will then be provided on site, as identified on the site logistics plans to allow deliveries to arrive at the site within their allocated time slot and wait on site to be called for off-loading whilst still allowing the free-flow of traffic through the site. Vehicles found not to be complying with the booking system or found to be waiting on surrounding roads will be warned and sent away. Persistent offenders will be banned from site.^(Rev 9)
- vi. All vehicles will be marshalled into and out of the site by a suitably trained traffic marshal. A system of communication by radio will be set up and utilised to enable communication between the two gates, traffic marshals and site security.^(Rev 9)
- vii. A Traffic Management Plan will be incorporated in all contractors' and suppliers' orders setting out procedures for booking delivery slots and procedures to be followed by drivers.^(Rev 9)

6.5. HIGH SPEED (HS1)

- 6.5.1. The HS1 Rail Link is located in close proximity to the site. However, nothing in the proposed design or method of working is believed to have any impact upon this rail link.
- 6.5.2. HS1 is sufficiently distant from the site to not require any agreements with the railway authorities or operators.

6.6. SUSTAINABLE TRANSPORT CONSIDERATIONS

6.6.1. RIVER THAMES ^(Rev 7)

- i. Nine wharves are located on the southern side of the River Thames close to the development site and Bellway have investigated whether use can be made of the River Thames for deliveries to and from site.
- ii. The plan included at Appendix 3 shows the location of eight of these wharves (copied from the Port Of London website) showing the material handled. The ninth, Bevans Wharf, has not been maintained for many years. The wharf is not believed to be structurally adequate for use as a landing/loading jetty.
- iii. A larger number of wharves are located on the northern side of the River but use of these, if feasible, would not reduce the amount of traffic travelling through the area local to the site.
- iv. Of the eight operable wharves on the southern shore, five of these (Johnson's Wharf, Northfleet Wharf, Robins Wharf, Brett Aggregate's Wharf and Red Lion Wharf) handle only bulk aggregates. Bellway do not undertake processing of bulk aggregates on site. However, it is to be expected that aggregates brought in to site by groundworks contractors (Type 2, Shingle, aggregate in ready mixed concrete) may have been brought in via one of these wharves.
- v. Two of the other wharves (42 Wharf and Northfleet Terminal) handle specialist materials for their owners. Lafarge Tarmac use 42 Wharf for the movement of bulk powders (cement) and Kimberly Clark Ltd use Northfleet Terminal for the movement of wood pulp.
- vi. Only the remaining wharf (Seacon's Tower Wharf) has the facilities to handle the types of construction materials that Bellway will be supplying for the development (largely Bricks, Blocks, Pre-cast concrete floors, roof trusses and plasterboard). However, following discussions with Seacon it is apparent that their operational requirements and on-going commitments make it unsuitable for use on the Harbour Village scheme because:

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- a. Seacon only deal in whole shipments of a minimum of 2000 tonnes and more usually 3000 or 4000 tonnes. This would not fit with the 'just in time' procurement methods of a modern residential development such as Harbour Village and would put materials at risk of damage whilst stored on site (if a suitable area for bulk storage were available), and
 - b. Whilst Seacon do have storage areas, their on-going commitments to their clients and on-going projects mean that the available space is very limited and they could not store the quantities of materials for call of as and when required for site.
 - c. The vast majority of materials supplied to Bellway developments are sourced regionally and, though the development site is relatively close to a wharf, it is unlikely that a supplier will have a suitable transfer station/wharf close by or that they will be set up to make use of water-borne transport less sourced from outside the UK which Bellway prefer not to do.
- vii. As noted on its website by the PLA, Northfleet has excellent HGV links to the south east motorway network for the distribution of cement and aggregate and these same routes will be employed.

6.6.2. RAIL FREIGHT ^(Rev 6)

- i. Bellway have also been unable to identify any opportunities to make use of the national railway network for import /export of construction materials due to:
 - 1. an absence of a suitable public transfer-station close to the site, and
 - 2. insufficient storage space on site to make it economical to deliver the large quantities of materials necessary to make use of rail infrastructure sustainable.
- ii. Although Tarmac's site has a private railway link this cannot be utilised for construction material import or export to the development site.

6.7. PUBLIC FOOT PATHS

- 6.7.1. Public footpaths NU3, NU6, NU42, NU7 and NU7A cross the site as illustrated on figure 6.3 overleaf. The footpaths crossing the site will remain open and unobstructed until a formal closure/diversion has been agreed and implemented.
- 6.7.2. Extensive consultation with the Local Authority and the KCC PROW team have been undertaken to agree the permanent solutions to the existing footpaths.
- 6.7.3. Once a closure plan has been identified, Bellway will apply to the relevant KCC officer to agree the temporary diversion routes. North to south routes will use College Road as there are no safe routes through the construction site. East to

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west routes will initially divert pedestrians along the east side of Robins Creek and along the northern boundary just inside the river wall with the Thames.

- 6.7.4. These diversions will be usable for a significant portion of the works. As works move towards the River front alternative routes will be provided. These alternatives will be agreed with KCC PRow team in advance of any alterations to the route.
- 6.7.5. The new permanent routes for any of the existing PRow that cross the site (as agreed with KCC) will be provided as part of the individual Phase landscaping with any diverted route adjusted accordingly and in agreement with the KCC PRow team. ^(Rev 6)

6.8. LIGHTING

- 6.8.1. It is expected that external lighting may be required to external areas, compound and storage areas during the winter months when work is being carried out.
- 6.8.2. External site lighting to compound and site areas will be set up to ensure that it does not point directly at neighbouring residences nor the public highway. Timer controls will be used to ensure that flood lighting is not used outside of working hours so that it does not become a nuisance to neighbours.
- 6.8.3. Security lighting, incorporating PIR detectors will be set up to keep illumination periods to a minimum and to avoid triggering by small animals and birds and to prevent disturbance to other protected species.

6.9. PUBLIC LIAISON

6.9.1. LOCAL COMMUNICATION

- i. It will be vital that good communication is established between the neighbouring land users and BTG so that matters that may potentially cause concern are addressed immediately. To facilitate this, Bellway have designated a specific staff member that will be responsible for co-ordinating liaison with neighbours.
- ii. The Site Manager will be provided with a mobile telephone and will be contactable in emergency 24 hours a day whilst the Works are being carried out. Details of the contact number will be provided to the local authority, local residents and to the Police. Details will also be provided on the site hoardings.
- iii. The Site Manager will also maintain dialogue with the operator of Tarmac's 42 Wharf / bulk powders plant to ensure that the operations of both Tarmac and Bellway are not hindered by the other. ^(Rev 7)

6.9.2. CO-ORDINATION & NEWSLETTER / BRIEFINGS

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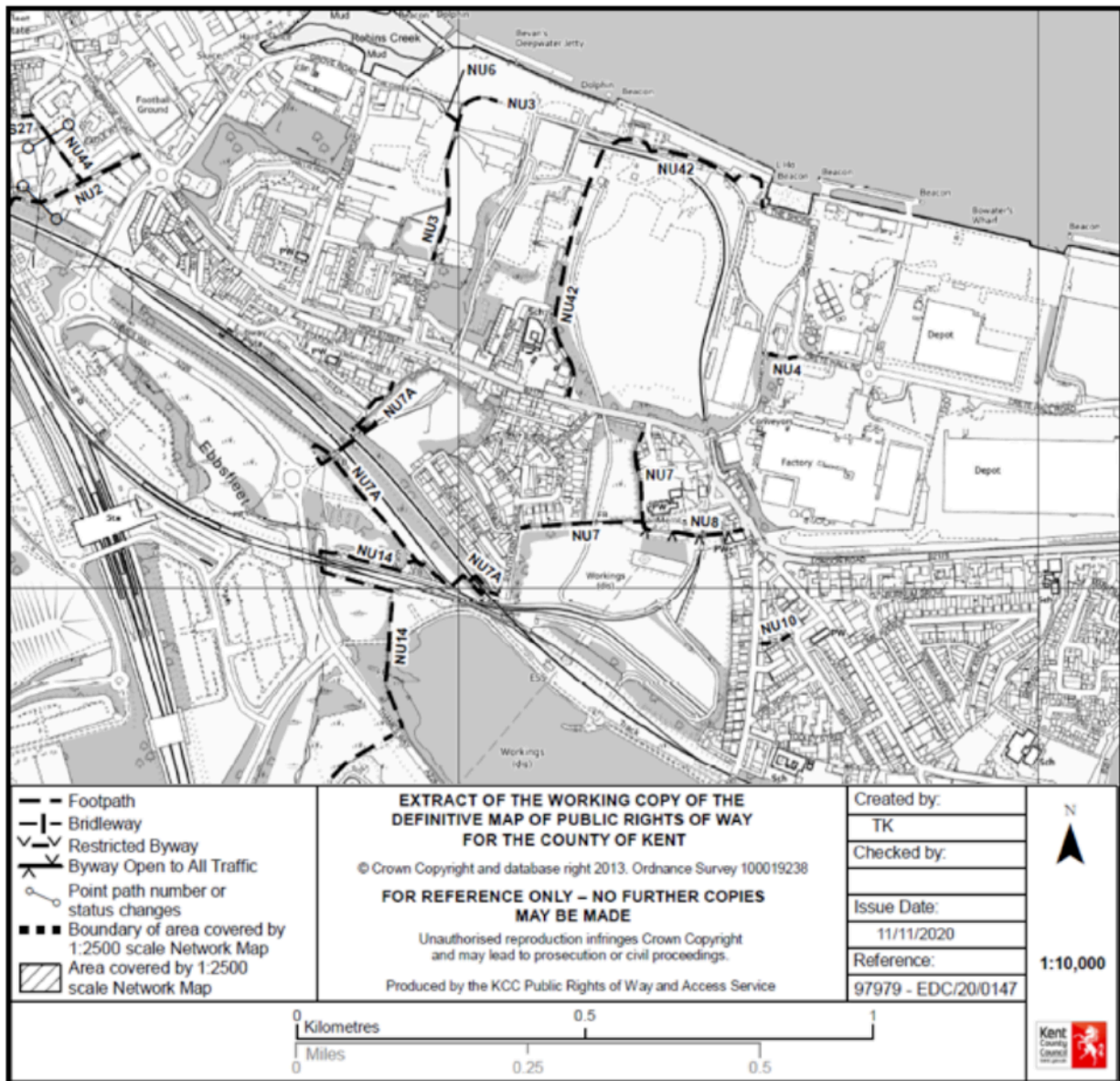


Fig. 6.3 Footpath Plan

- Bellway seek to ensure that an appropriate level of liaison is achieved with our site's neighbours from an early stage, to inform them about activities on site and to keep them informed.
- An introductory letter will be issued to all existing dwellings near to the site (Hive Lane, Ford Road, Kingston Court, Warwick Place, College Road) and also to GBC Ward Councillors. This will be issued prior to works commencement. It will detail our early works activities and provide site contact details for our Manager. It will also include details of the normal working/ delivery times. Further update letters will be issued before major project events such as large plant arriving on site or to warn of any works/ deliveries taking place outside the normal working hours.

6.9.3. LOCAL AUTHORITY LIAISON

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- i. BTG's site manager and design manager will maintain dialogue with the LPA to review and discuss any matters that arise during the construction of the development. This will include a regular review of the CEMP to ensure compliance and address issues that have arisen. GBC Ward Councillors will be included in the initial community liaison.

6.9.4. CONSIDERATE CONSTRUCTION

- i. At Bellway we take pride in our developments, from the management of the construction site and the care we give to our customers, through to the relationships built with those affected by our work practices and the finished homes we build.
- ii. To co-ordinate these efforts this site will be enrolled in the CONSIDERATE CONSTRUCTORS SCHEME & the site will be run in accordance with the CODE OF CONSIDERATE PRACTICE. This includes providing contact details for the Site Manager on the Considerate Constructors Scheme poster provided on the site hoarding.
- iii. A pioneer of considerate construction, Bellway Homes led the way as one of the first house-builders to register with the Scheme, in 1998. Since then, Bellway Homes has won several Considerate Constructors Scheme National Site Awards.
- iv. The Considerate Constructors Scheme's independent assessment system awards points over five categories relevant to construction sites:
 - Enhancing the appearance
 - Respecting the community
 - Protecting the environment
 - Securing everyone's safety
 - Caring for the workforce
- v. Each category can be awarded a maximum of 10 points and good practice, consistency, evidence of good communication and innovation are rewarded with high scores.

"Housebuilding continues to be one of key construction priorities for the nation and the Scheme is delighted to see that Bellway is helping to drive the housebuilding industry forward by being a considerate constructor."

(Considerate Constructors Scheme Chief Executive, **Edward Hardy**)

"We pride ourselves on proving a considerate construction environment, for both our builders on site and those living around it..." "We are proud of our reputation and to be part of the Considerate Constructors Scheme."

(Bellway Homes Thames Gateway Construction Director, **John Haggerstone**)

7. ENVIRONMENTAL CONTROL MEASURES

7.1. INTRODUCTION

7.1.1. The following control measures have been developed to best reflect the actual methods of working and programming of activities. Site teams will also use the control measures as guidance whilst completing risk assessments and method statements which will in turn provide the appropriate mechanism for implementation on site.

7.2. SURFACE WATER DRAINAGE AND WATER QUALITY

7.2.1. The Water Resources Act 1991 establishes that it is an offence to knowingly discharge any poisonous, noxious or polluting matter or solid waste matter to any controlled waters, without a discharge consent issued by the Environment Agency. In addition, general good site management practice is essential to protect controlled waters from accidental contamination.

7.2.2. A new series of Guidance for Pollution Prevention (GPP), formerly known as Pollution Prevention Guidelines (PPG) which were withdrawn in 2015, is now available. Although from a regulatory perspective these new guidelines do not apply to England, they provide environmental good practice guidance relevant to the whole UK. Remedial operations will pay due heed to relevant guidance contained within the following documents:

- i. GPP4: treatment and disposal of wastewater where there is no connection to the public foul sewer;
- ii. GPP5: Works and maintenance in or near water;
- iii. GPP13: Vehicle washing and cleaning; and
- iv. GPP21: Pollution incident response planning.

7.2.3. Specific COSHH assessments and / or Method Statements addressing storage and security for all potential liquid pollutants used during remediation and construction should be provided. The COSHH assessments / method statements will be monitored by the Site Environmental Manager and updated as necessary by the appointed contractors.

7.2.4. Drainage

- i. Any work undertaken which has the potential to disrupt water supply or drainage connections will be clearly identified before work starts and appropriate consents and measures put in place to ensure careful management of external water / infrastructure supplies.

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- ii. All contractors will be briefed prior to commencing work on site regarding the potential for pollution and the location of services, including water supply to avoid inadvertent impacts.

7.2.5. Preventative measures

- i. The potential for impacts to occur as a result of storage of materials will be minimised by the following measures:
 - storage compounds (for the storage of construction materials or temporary stockpiling of excavated soils) will be located away from surface watercourses and drains;
 - drums and barrels will be stored in a designated bunded safe / quarantine area within the compound;
 - all drums and barrels will be fitted with flow control taps; and,
 - all drums and barrels will be properly labelled.
- ii. The potential for impacts to occur as a result of disturbance of silt will be minimised by the following measures:
 - all roads and hardstanding will be kept clean and tidy to prevent the build-up of oil and dirt that may be washed into a drain during heavy rainfall;
 - bunding of stockpiles as appropriate;
 - where appropriate, drainage runs and embankments will be bunded to prevent contamination from surface water runoff; and,
 - the use of water sprays to reduce dust or wash down construction areas will be carefully regulated to avoid washing substantial quantities of silt etc, into surface water drains. Where large quantities of gravel, mud or other such material require cleaning, the area will be swept clean prior to any subsequent hosing down.
- iii. The potential for impacts to occur as a result of contamination of water will be minimised by the following measures:
 - storage compounds for fuels, oils or other liquid chemicals will be sited away from surface water drains. They will have an impermeable base and bund/ secondary containment with a capacity of 110% and will not drain directly into surface water drains;
 - small plant such as pumps will be equipped with drip trays;
 - drums and barrels will be stored in a designated bunded safe area within the site compound;

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- all drums and barrels will be fitted with flow control taps; and,
 - all drums and barrels will be properly labelled.
- iv. The potential for impacts to occur as a result of contamination from accidental spillages will be minimised by the following measures:
- An emergency response plan will be established to deal with instances of leakages or spillages of potentially contaminating substances;
 - spill kits will be located on site within the works compounds; and,
 - staff will be trained in the use of the spill kits.
- 7.2.6. A consent will be obtained from the Environment Agency under the Water Resources Act 1991 for works affecting controlled watercourses. The application will be made to the Environment Agency in accordance with the requirements and works will be undertaken in accordance with any conditions imposed. For discharge into the foul sewer, a trade effluent consent will be obtained from the statutory undertaker.

7.3. NOISE AND VIBRATION

- 7.3.1. The works will adhere to the legislative requirements on noise and vibration contained within the Control of Pollution Act 1974 and the statutory nuisance provisions contained within the Environmental Protection Act 1990 (s79-82). In this context compliance with BS 5228:1 2009 + A1 2014, Code of Practice on Construction and Open Sites will be required.
- 7.3.2. Measures will also be taken to limit vibration due to site activities, to protect residents, users of buildings close-by and passers-by from nuisance or harm. As required, additional measures will be undertaken (in accordance with BS:5228:2009 Part 2) to protect structures from physical damage.
- 7.3.3. Noise prevention measures and procedures will be implemented on site to minimise noise generation created by the construction works, including:
- i. Cutting operations or other noisy tasks will be minimised through off-site fabrication wherever practicable. Where there may be a risk of excessive sound levels localised shielding/shrouding will be employed in accordance with BS:5228 2009;
 - ii. Normal working hours 0800 – to 1800 hrs Monday to Friday, 0800 to 1300 hrs on Saturdays. No work will take place on Sundays;
 - iii. Any additional or alternative working hours for operational reasons will be subject to the Council's consent. Any additional or alternative working hours needed for emergency or health and safety reasons will be advised to the Council as soon as is reasonably practicable;

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- iv. Use of radios or other sound systems or tannoy systems will not be permitted anywhere on the site; and
 - v. For earth-moving plant such as bulldozers, compactors, dump trucks, dumpers, excavators, graders, loaders and scrapers the source of noise is normally the engine. Sound reduction equipment will be used. Manufacturers' enclosure panels will be kept closed to cover engines when they are in use or idling.
- 7.3.4. Strict controls on the sequencing of works and providing noise protection will be developed on an activity-by-activity basis. These will include:
- i. Static plant will be positioned away from properties;
 - ii. Use of modern, well-maintained plant and machinery;
 - iii. Machines in intermittent use will be throttled down to a minimum;
 - iv. Materials will not be dropped from excessive heights or, alternatively, dropping zones will be screened; and
 - v. Mobile plant will be turned off when not in use.
- 7.3.5. Obligations will also be fulfilled under the relevant Noise and Vibration at Work Regulations in order to protect on-site personnel.
- 7.3.6. Regular qualitative monitoring of noise and vibration will be undertaken on site, and new methods of working will be implemented should an issue be detected.

7.4. DUST

- 7.4.1. Statutory nuisance provisions with regards to dust are contained in the Environmental Protection Act 1990. Dust can give rise to a statutory nuisance if it is considered to be prejudicial to health or a nuisance. Controls for Air Quality are covered by the provisions of the Environment Act 1995, Clean Air Act 1993 the Health and Safety at Work Act 1974, the Environmental Protection Act 1990 and the UK Air Quality Strategy.
- 7.4.2. Particular care is required to maintain dust at a practicable minimum when working in environmentally sensitive areas. The use of Best Practicable Means (as defined in Part III of the Environmental Protection Act 1990) will be employed to mitigate against dust generation.
- 7.4.3. A dust management plan will include the mitigation measures below. The site layout where possible, will locate machinery and dust causing activities away from sensitive receptors.
- 7.4.4. Dust mitigation measures will include:
- i. mechanical sealing of earth stockpiles;

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- ii. limiting the speed of general vehicles within the site to 10mph;
 - iii. surfacing of the haul roads as soon as possible in the programme;
 - iv. damping down of haul roads using mobile water bowsers;
 - v. use of a spray bar attachment and sprayed dust suppression during crushing activities, (and, if required, soil screening);
 - vi. proactive dust suppression via water spraying downwind of activities that have the potential to generate dust such as excavating and placing of soils; and,
 - vii. visual monitoring will be carried out at sensitive locations on a daily basis.
- 7.4.5. Dust mitigation measures for the import and export of materials will include:
- i. sheeting of vehicles transporting materials to and from the site;
 - ii. drop heights when loading and unloading materials will be minimised;
 - iii. all dusty loads will be sheeted appropriately;
 - iv. provision and compulsory use of wheel washing facilities at access points onto local roads (to prevent mud from getting on the public highways); and,
 - v. heavily used areas and adjacent public roadways will be regularly cleaned as required;
- 7.4.6. The potential for dust to arise during construction is highly weather dependent. If carried out in dry weather, increased water spraying will be required to ensure the surface material remains damp and to prevent dust generation and dispersal. In wet weather greater attention will be paid to vehicle cleaning to ensure significant quantities of mud are not trafficked onto local roads, which once dry can become a significant source of dust.
- 7.4.7. During prolonged periods of dry weather, activities with high dust emission potential (in particular crushing) will utilise a mobile 'dust-fighter' suppression unit.
- 7.4.8. The burning of materials on the site will not be permitted unless agreed with Ebbsfleet Development Corporation.

7.5. AIR QUALITY AND EMISSIONS

- 7.5.1. Bellway will take all necessary precautions to prevent the occurrence of smoke emissions or fumes from site plant and fuel storage. This will include:
- i. If necessary, a misting system of vapour inhibitors will be utilised during remedial works;
 - ii. Plant will be well maintained;
 - iii. Plant will be shut down in intervening periods of work or throttled down to a minimum;

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- iv. Off-road mobile vehicles (bulldozers, excavators) will be run on low sulphur diesel;
- v. Off-road mobile vehicles with compression ignition engines will comply with emission standards set in EC Directive 97/68/EC, meeting Stage II limits where possible;
- vi. On-road construction vehicles must comply with European Directive EURO standards with regard to emission limits for pollutants and have a valid MOT to ensure compliance; and,
- vii. Road vehicles will be switched off when stationary to prevent exhaust emissions and noise.

7.6. HAZARDOUS WASTE

- 7.6.1. Any hazardous waste materials found will be recovered and removed from site by specialist contractors during the enabling works stage.
- 7.6.2. Any buried asbestos containing materials found will be recorded and removed, all such removal will be carried out under controlled conditions, to an approved method statement agreed (prior to works commencing) with the relevant statutory bodies (HSE) and the Employer.
- 7.6.3. Such work will be carried out in accordance with all relevant codes of practice, HSE guidance notes, current legislation and statutory regulations.
- 7.6.4. Monitoring and testing will be carried out by an independently appointed UKAS accredited laboratory and all work areas WILL have “air clearance certificates” before normal operations resume.
- 7.6.5. All materials arising that require controlled disposal will be bagged, identified and disposed of at an approved site, in accordance with the licence issued for their removal.

7.7. WASTE MANAGEMENT

- 7.7.1. Section 34 of the Environmental Protection Act 1990 imposes a Duty of Care on any person, who produces, imports, carries, keeps, treats or disposes of controlled waste. The identification and clean-up of contaminated land is governed by the Environmental Protection Act 1990 Part IIA which was enacted by Section 57 of the Environment Act 1995. The Pollution Prevention and Control Regulations 2000 are designed to prevent, reduce, and eliminate pollution at source through the efficient use of natural resources.
- 7.7.2. A Site Waste Management Plan [SWMP] will be developed and will be used on this project.

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7.7.3. Waste generated by the project will be diverted from landfill and either:

- i. Reused on site (in-situ or for new applications).
- ii. Reused on other sites.
- iii. Salvaged/reclaimed for reuse.
- iv. Returned to the supplier via a 'take-back' scheme.
- v. Recovered from site by an approved waste management contractor and recycled.

7.7.4. Rubbish is generally defined as "waste material; refuse or litter". In the wider context of material to be removed from site, this will include:

- i. Excavated materials
- ii. Waste produced on site as a consequence of construction work for instance, off cuts of plasterboard
- iii. Refuse produced from the site offices and canteen
- iv. Unwanted packaging
- v. The materials identified above can be segregated into various categories for the purposes of classification for recycling and disposal.
- vi. Bellway's supply chain includes specialist waste carriers that provide services off-site to separate waste into materials that can be recycled and who then deal with the segregated waste appropriately, providing the chain-of-custody evidence needed to comply with appropriate regulations.
- vii. Limited waste collection and segregation will be provided on site in the compound area. This will be achieved by the use of designated skips. Other than excavation materials that will be removed in muck-away lorries, all waste will initially be put into skips located in the site compound, sited to make them easy for pick-up and drop-off by specialist skip lorry for sorting off site. Site management will ensure that rubbish is picked up and removed to skips to maintain a tidy site and minimise the risk that materials will be blown off site.

7.7.5. All waste loads must be deposited at authorised landfill sites or transfer stations. Deposition will be in accordance with the requirements of the EA and the Duty of Care provisions of the Environmental Protection Act 1990. All Duty of Care documentation must be kept and available for inspection upon request. A ticketing system will be used to confirm that each lorry load of waste is deposited at an approved site.

7.8. WASTE WATER AND RUN OFF

- 7.8.1. Disposal of waste waters (other than clean rainwater run off) will be undertaken under an appropriate consent where discharge to sewer or controlled waters is proposed.
- 7.8.2. A Water Management Plan will be developed & used on this project detailing drainage control measures and the use of settling tanks, oil interceptors and bunds to prevent pollution into surface water system and to prevent surface water flooding.
- 7.8.3. In order to prevent water & slurry being carried outside the boundary and in particular into the River Thames. The following will be adopted:
 - i. Hoardings & boundary fencing will be provided with polythene “skirts” and ballast to prevent sediment run off from the site where necessary.
 - ii. Where necessary, boundaries may be provided with silt traps and barriers and with water collection / settlement facilities to collect any silt before discharging the water into the surface water drainage system.
 - iii. Where connections are permitted to new and existing sewers, traps & interceptors will be provided to settle out sediment, chemicals and fuel that may collect in the water being discharged. Any discharge of water from site will only be allowed in accordance with discharge licenses obtained from the relevant statutory undertakers.
 - iv. Bellway's Project Execution Plans and Task Specific method statements will contain specific Pollution Event Control & Response Plans. These will be regularly reviewed and amended to suit the works phasing and will be communicated to all relevant personnel and statutory authorities.

7.9. POLLUTION CONTROL FUEL, CHEMICALS & OIL STORAGE

- 7.9.1. Fuel, oils & chemicals storage will only be permitted in designate areas and these will be provided with proprietary bunds to capture & trap spilled materials.
- 7.9.2. In accordance with good practice. The bunds will have a capacity larger than the amount of fuel being stored.

7.10. ECOLOGY

- 7.10.1. Bellway will appoint a suitably qualified Project Ecologist to assist with the project.
- 7.10.2. The Project Ecologist will be responsible for all necessary ecological surveys and approvals as well as to ensure that the necessary mitigation measures are in place. All Contractors must ensure that they have the latest information prior to commencing works and adopt the necessary working methodology.

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7.10.3. Heras type fencing will be installed protective of Reptile Receptor Areas 7, 9, 10 and 13 as illustrated on the AA Environmental Ltd Reptile Proof Fencing and Receptor Area Plan (On-site and Additional Off-site Areas), dated 30/11/20, and included as Appendix 1 to the IDOM Merebrook CEMP for the remediation and earthworks stage of the development.

7.10.4. The Project Ecologist will be:

Alan Beaumont
AA Environmental Limited Units 4-8
Cholswell Court
Shippon
Abingdon
Oxfordshire

7.10.5. INVASIVE SPECIES ^(Rev 6)

- i. A process for managing/eradication of invasive species has been developed and agreed with EDC as part of the enabling works and remediation phase. Upon completion of these works the site should be free of invasive species.
- ii. During the subsequent construction phase, Bellway's site manager will undertake daily inspections of the site and during these will watch out for regrowth of invasive species. Any such regrowth will be reported to the Site Environmental Manager and will be dealt with in accordance with the already agreed plans.
- iii. Site personnel will be warned during inductions and toolbox talks about the risks and dangers of invasive species and will be instructed to raise any concerns with supervisors.

7.10.6. REPTILES, BIRDS AND OTHER SPECIES

- i. Any building demolition or vegetation clearance works will be carried out outside of the bird breeding season (March to August inclusive) unless demolition/clearance has previously been certified by a qualified person as being compliant with the Wildlife and Countryside Act 1981.
- ii. Prior to any activity taking place on the site, detailed task specific 'Risk Assessment/Method Statements' (RAMS) will be prepared to:
- iii. Consider the impact that activities will have (including upon breeding birds and reptiles and any other protected species on site)
- iv. Set out the way in which operations will take place. The Method Statements will outline the hazards involved and detail a step by step guide on how to do the job safely, they will also detail which "control measures" are to be introduced to ensure:

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- the safety of everyone who is affected by the task or work process, and
 - protection of the local environment & biodiversity.
- v. Bellway can confirm that the development area was cleared as part of the translocation exercise completed in 2020.
- vi. There is always the risk of individual animals having missed the translocation exercise so all site operatives are given a toolbox talk so that they are aware of the potential presence of reptiles and of the protection they are afforded (copy attached below at Figure 7.1). As with all sites, they should check for nesting birds prior to any works.



TOOLBOX TALK: REPTILES

Key Contact
AA Environmental Ltd, Units 4-8 Cholswell
Court, Shippon, Oxfordshire, OX13 6HX
Tel: 01235 536042

Did you know?

- There are six species of reptile native to the UK, three of which are snakes and three are lizards.
- Smooth snakes and Sand lizards are very rare and are presently restricted to a few localised areas.
- Adders, Grass snakes, Common lizards and Slow-worms are widespread and found in a number of different urban and rural habitats across the UK.
- All reptiles are ectothermic. This means they rely upon the sun's heat for warmth. As a result, you may find reptiles basking in sunny places. If it becomes too warm they will seek shade, to avoid overheating.
- Reptiles movement will be slower in cooler conditions.
- Reptiles hibernate during the winter and may not wake up if disturbed. This makes them vulnerable to site works during winter months.
- Reptiles depend upon a varied habitat for survival. They need basking spots, shade, protection from predators, food resources and somewhere to hibernate!

Identification

- Reptiles may be found in a variety of habitats within a site. Most species favour scrubland, heathland or long grassland. Railway embankments are also highly favoured.
- On the right are photos of the reptiles you are most likely to encounter on a site, if any.
- Adders can be distinguished from Grass snakes by the diamond (or jagged) stripe running down the centre of their back.
- Slow-worms look a lot like a snake but are in fact legless lizards! They tend to be light brown/golden in colour, with a smooth appearance.
- Common lizards are fast-moving, but may be sighted from a distance when basking.

Legislation

- All reptile species are protected under UK law.
- This makes it **illegal** to intentionally or recklessly kill or injure and protects them against sale and transporting for sale.

Site Controls

- There is always a risk that as reptiles move through the habitat that they could be encountered during site works.
- **If any reptiles are encountered during works the following controls must be applied to avoid breaking the law:**
 1. If reptiles are discovered/suspected works must stop **immediately**, with any reptiles left in-situ and AAe immediately contacted (contact details above).
 2. During works, operatives must wear gloves in case of accidental contact with reptiles.
 3. Site operative must not intentionally handle reptiles.
 4. Care must be taken when moving logs, stones or rubble. These are favoured habitats for reptiles and they may be found sheltering underneath.
 5. Stockpiling of materials is only permitted within designated areas. Any building materials must be stored above ground on pallets and any waste material must be placed into skips, to prevent the risk of reptiles taking refuge within them.
 6. Trenches must be covered overnight to prevent animals falling into them.

These controls have been put in place to protect all site operatives from breaking the law. You are not expected to be able to identify reptiles or their presence so remember, **if in doubt shout and contact the relevant person.**

Reptile Photos:

- Adder.
- Grass snake.
- Pair of Common lizards.
- Slow-worms.

Fig. 7.1: AAe Toolbox Talk: Reptiles

- vii. Close boarded fencing will be provided with gaps to allow the free movement of hedgehogs and other species.
- viii. Excavations will be left covered overnight to prevent animals falling into them. In addition, a simple crawl board (e.g scaffold plank) will be left in any trenches to allow any animal that does fall in to climb out.

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- ix. Security lighting, incorporating PIR detectors will be set up to keep illumination periods to a minimum and to avoid triggering by small animals and birds and to prevent disturbance to other protected species.

8. ENVIRONMENTAL MONITORING

8.1. DUST, ODOUR AND EMISSIONS MANAGEMENT

8.1.1. Best Practise guidance identifies the three basic principles that are well established and are central to the strategies for the control of pollution on development sites. They follow a hierarchy to control the emissions of dust and other emissions and reduce human exposure:

- i. Prevention
- ii. Suppression
- iii. Containment.

8.1.2. SITE EVALUATION

- i. Bellway have identified that the site of the proposed development is a “Medium Risk Site” as the site does not fall within a Sensitive Area. The development though has the potential for an intermittent or likely impact on sensitive receptors (identified as nearby residences).

8.1.3. ACTIVITIES

- i. The proposed programme for the works runs from Q1 2021 for a period of around 5 years in a sequential manner as already described in the section 4.
- ii. The primary risks for dust generation are during site clearance / development platform formation, demolition and ground-works stages, particularly where these are carried out within prolonged periods of dry weather.
- iii. Dust generating activities will be taking place throughout the programme period to a greater or lesser extent. In order to manage dust mitigation, the steps identified overleaf will be implemented on site.

8.1.4. SITE MONITORING

- i. Bellway’s Site Manager or nominated deputy will carry out a daily site walkover check (during active works) to ensure that nuisance levels of dust and odours are not being generated and the dust management plan is being followed. Daily inspections will note weather, moisture levels on the ground and site activities. Site inspection frequency will be increased during prolonged dry or windy conditions and when activities with high dust potential are being undertaken.
- ii. Wherever inspections identify nuisance dust, control measures will be enhanced if possible (for example using suppressant sprays). If dust levels are uncontrollable, works will be suspended until either sufficient suppression measures can be employed or adverse weather conditions improve.

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8.1.5. PRE-SITE PREPARATION

- i. In order to prevent dust emissions from being carried outside the boundary. The following will be adopted:
- ii. Machinery, fuel and chemical storage and dust generating activities will not be located close to boundaries near sensitive receptors if at all possible. Furthermore, fuel & chemicals will only be stored in small quantities, if at all, in funded storage areas and in containers designed for their containment.
- iii. Solid hoardings will be provided to site boundaries to act as a barrier to the spread of dust.
- iv. Hoardings will be provided with polythene “skirts” and ballast to prevent sediment run off from the site onto the adjacent highway. Settlement pits will be formed to allow run-off to be collected and the sediment removed before water is discharged in accordance with licences.

8.1.6. HAUL ROUTES

- i. Unpaved haul routes across site can account for a significant proportion of dust emissions, especially in dry or windy conditions, when the generation of dust through the movement of vehicles is exacerbated. Therefore, to comply with good practice, the following will be implemented:
- ii. Use of consolidated surfaces on designated cross-site routes during groundworks stage.
- iii. Regularly inspect haul routes for integrity and repair when required.
- iv. The site haul road will be provided with lay-by parking areas for use as ‘holding’ zones for vehicles awaiting loading / off-loading.

8.1.7. DAMPING DOWN

- i. It may be necessary to wash or damp down haul routes on site in order to control dust emissions. A temporary water supply will be provisioned and distributed about the site to fixed points for use in damping down. In order to comply with good practise, the following steps will be taken:
- ii. Road edges and pavements will be cleaned as required using agreed wet cleaning methods.
- iii. Roads will be regularly inspected by our site manager and cleaned by site labour using wet cleaning methods when required.
- iv. A mechanical road sweeper will be provided on stand-by with a local contractor.

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- v. Hard standing areas for vehicles will be provided. They will be regularly inspected and cleaned as necessary.

8.1.8. VEHICLES

- i. Bellway will use the following controls to reduce dust associated with vehicles, such as the contact of tyres on the road surface or dust blowing from materials carried,:
- ii. Prior to leaving site, all vehicles will have their wheels, chassis & external bodywork effectively cleaned and washed free of earth, mud, clay, gravel, stones or any other similar substance.
- iii. All loads entering and leaving site to be covered.
- iv. A 5mph speed limit will be imposed on site.

8.1.9. CONCRETE BATCHING

- i. Concrete & mortar batching on site has been identified as an inherently dusty activity and is not considered appropriate for use on this development. Concrete & mortar used in the works will be supplied ready-mixed from local batching plants. It is expected that mortar will be delivered and stored within silos on a regular basis for use as and when needed.

8.1.10. EXCAVATION AND EARTHWORKS

- i. Excavation and earthwork activities are a potential source of dust outside the site if they are not properly controlled. The following measures will be used to minimise dust disturbance as much as possible:
 - All dusty activities will be damped down, especially during dry weather.
 - Temporary earthwork stockpiles will be covered if possible.
 - Bellway will minimise drop heights to control the fall of materials.
 - Arisings will be removed from site as often as possible to prevent a build up of spoil.
 - Long-term stockpiles of material will not be retained on site.
 - Secure covers on temporary stockpiles will only be removed in small areas during work and not all at once

8.1.11. SPECIFIC SITE ACTIVITIES

- i. Other activities carried out on site have the potential to generate dust without proper control. Therefore, the Best Practice Methods will be implemented as outlined below:
 - 1. Cutting, Grinding and Sawing

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- Generally speaking, these activities should not be conducted on site and pre-fabricated material should be brought in where possible. In certain cases however, where such work must take place, then the following techniques should be followed:
 - All equipment will use water suppressant or suitable local exhaust ventilation systems.
 - Dust extraction techniques will be used where available.
 - Equipment will be fitted with water suppressant systems.
 - Local exhaust ventilation will be provided in areas where this is necessary.
 - All fans and filters will be serviced regularly to ensure they are properly maintained.
- 2. Chutes and Skips
 - Skips will be securely covered.
 - Drop heights will be minimised to control the fall of materials.
 - Damping down with water will be carried out as necessary, particularly during dry or windy weather.
- 3. Scabbling
 - Where scabbling of concrete surfaces is necessary the following steps will be taken to mitigate dust:
 - Pre-wash work surfaces.
 - Screen off work areas.
 - Vacuum up all dusty residue rather than sweeping away
- 4. Waste Disposal / Burning
 - No burning of any material is permitted on site.
 - All excess material should not be wasted, but used or safely removed from site according to appropriate legislation.
- 5. Sand, Grit and Shot Blasting
 - Use agreed wet processes, sheet areas to contain dust and use silica-free material.
- 6. Planing and sanding
 - Use fans and/or filters, dust suppression techniques and water sprays.
 - Fitting out

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- Fit all machinery for activities such as plastering, sanding or rendering with dust suppression/collection equipment.
- Vacuum all waste material.

8.1.12. Records will be kept of all dust and air quality complaints.

8.2. NOISE AND VIBRATION

8.2.1. In accordance with Section 72 of the Control of Pollution Act 1974, BTG will use the best practicable means to minimise noise generated on site. For example:

- i. All plant & equipment will be selected having regard for its published sound power level
- ii. Alternative methods will be investigated to avoid the use of inherently noisy activities
- iii. Effective silencers and acoustic covers will be provided and maintained in good working order
- iv. Plant and equipment will be located having regard to sensitive receptors (e.g. residential property).
- v. Fixed items of plant will be electrically powered rather than diesel or petrol driven
- vi. Large concrete pours will be allowed sufficient periods of time to be completed within normal working hours. Where an over-run is expected due to unforeseen circumstances the Council's Environmental Protection Team will be advised as early as possible.
- vii. Anti-social behaviour involving shouting, swearing and loud radios will be prohibited on site
- viii. The use of temporary screens will be used where appropriate to increase the length of the sound path from a noise source.

8.2.2. Bellway's Site Manager or nominated deputy will carry out site walkover inspections (during active works) to monitor noise. Inspections will also note weather (including prevailing wind direction) and site activities.

8.2.3. In response to any noise complaints, off-site roving attended noise monitoring at the identified sensitive receptors will also be carried out by appropriately trained staff using a minimum specification Type 2 Integrating Sound Level Meter. Noise monitoring will be carried out in accordance with the BS 7445 Description and Measurement of Environmental Noise.

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8.2.4. NOISE

- i. The table at Figure 8.1 shows levels of noise generated by typical construction activities, taken as the 'worst case' scenario, considering the heaviest tonnage equipment listed on BS-5228 (Noise level database).

Plant/Works	dB(A) at 10m	dB(A) at 25m*
360° excavators (71 tonne)	77	69 [59]
Dumpers (29 tonne)	87	79 [69]
Roller (18 tonne)	79	71 [61]
Muck Away Lorries (39 tonne)	80	72 [39]
Concrete Delivery Lorries	80	72 [62]
Tracked Piling Rigs (CFA Piling) (33 tonne)	80	72 [62]
Powered Barrows	unavailable	-
Paving Machine (12 tonne)	84	76 [66]
Angle Grinders (grinding steel)	80	72 [62] {58} [48]}
Concrete Breaker (handheld pneumatic breaking concrete)	95	87 [77] {73} [63]}
Concrete Cutters (petrol circ saw 9kg)	91	83 [73] {69} [59]}

* Minimum distance to wetland/mudflat within adjacent LWS

** Minimum distance to European Designation from site boundary

*** Minimum distance to European Designation from proposed residential construction within the site

-Figures in square brackets refer to dB(A) with the use of acoustic screening at the relevant site boundaries as a mitigation technique throughout works (reduction of 10dB(A))

-Figures in braces refer to dB(A) with the use of temporary mobile acoustic sheds orientated for maximum noise reduction towards the designated areas (reduction of 14dB(A))

-Figures in both braces and brackets refer to dB(A) with the combined usage of acoustic sheds and acoustic screening

Fig. 8.1: Anticipated noise levels resulting from construction activities (Source: Aspect Ecology)

- ii. It should be noted that the attenuation provided by acoustic screening and sheds is calculated as the 'standard' figures referred to in BS-5228; this is well below the level of noise reduction possible from screening as some companies can offer acoustic screening that is up to 3x more effective than the levels referred to in BS-5228.
- iii. BS5228:2009 gives several examples of acceptable limits for construction or demolition noise. The most simplistic being based upon the exceeding of fixed noise limits. Paragraph E.2 says: "Noise from construction and demolition sites should not exceed the level at which conversation in the nearest building would be difficult with the windows shut." and "Noise levels, between say 07.00 and 19.00 hours, outside the nearest window of the occupied room closest to the site boundary should not exceed:
 - 70 decibels (dBA) in rural, suburban areas away from main road traffic and industrial noise;
 - 75 decibels (dBA) in urban areas near main roads in heavy industrial areas.
- iv. These limits are for daytime working outside living rooms and offices."

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- v. BTG have used materials such as “Q1/1 - SOUNDEX® Contractor Acoustic Quilt” (Fig. 8.2) or “C2/3 - SOUNDEX® Professional Acoustic Curtain” (Fig. 8.3) affixed to fencing panels to achieve noise reductions of up to 28.2dB and 35.6dB respectively on particularly sensitive sites.



Fig. 8.2: Q1/1 - SOUNDEX® Contractor Acoustic Quilt



Fig. 8.3: C2/3 - SOUNDEX® Professional Acoustic Curtain

- vi. Further measures to reduce the impact of noise upon sensitive receptors include prohibiting certain types of activity (such as use of pneumatic breakers), or adopting agreed periods when such noisy works can take place (such as 30 minutes on / 90 minutes off). The measures to be adopted on the site will be established and included within any Section 61 approval agreed with the LPA.

8.2.5. NOISE RISKS

- i. There is only a very low risk that nearby residents will be adversely affected by construction noise related to the proposed development.
- ii. Examples of possible sources of noise include:
- Increased noise levels on-site due to construction activities, plant and road haulage
 - Increased noise levels caused by any ground treatment or remediation; and
 - Increased noise levels off-site due to road haulage vehicles
- iii. As part of the detailed design process, construction methods and techniques have been considered and proposed to mitigate and minimise the risk of noise impact beyond the site boundary. For example, that intrusive construction techniques such as percussive vibration piling will not be required or allowable at this site.

8.2.6. VIBRATION

- i. It is anticipated that the proposed site activities will not result in excessive ground borne vibration. However, in response to any complaints, roving vibration monitoring will be carried out by appropriately trained staff using an integrating

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seismograph. The seismograph will be deployed for an appropriate period as close as practicably possible to the nearest sensitive receptors.

- ii. Measurement will be made in terms of peak particle velocity and vibration dose value (vdv) to ensure that the vdv levels at adjacent housing do not exceed the levels likely to cause adverse comments as set out in BS 6472 Guide to evaluation of human exposure to vibration in buildings.

8.2.7. PROTECTING BURIED SERVICES

- i. Any buried services & existing drainage infrastructure that exists on the site and that are to be maintained 'live' will be surveyed and clearly marked on site.
- ii. Measures will be taken to protect these services from vehicle traffic passing over them and from activities such as loading or excavation that may affect them.
- iii. For any such activities, suitable protection will be provided in accordance with task specific 'Risk Assessments & Method Statements', formulated and agreed before works commence.

9. AUDIT AND REVIEW OF PERFORMANCE / COMPLAINTS HANDLING

- 9.1. Compliance with the CEMP will be subject to regular, formal, review by the Project Manager, Design Manager and Site Manager.^(Rev 9)
- 9.2. A record of audits will be maintained in a site log.^(Rev 9)
- 9.3. A record of any complaints received will also be recorded in a site log. This will be accompanied by a record of any investigations carried out by Bellway or external consultants and a record of measures taken.^(Rev 9)
- 9.4. Bellway will endeavour to investigate and respond to neighbour/councillor complaints within 5 working days.^(Rev 9)
- 9.5. Bellway site manager and design manager will maintain dialogue with the LPA to review and discuss any matters that arise during the construction of the development, to ensure compliance with the CEMP and address issues that have arisen.^(Rev 9)
- 9.6. Bellway will undertake a 6 monthly review of the CEMP in response to resident complaints if deemed necessary by the LPA and Borough Council Environmental Health Officer.^(Rev 9)
- 9.7. Reports detailing the findings of all environmental monitoring and validation of works will be provided on request.^(Rev 9)

10. LOGISTICS

10.1. Appendix 1 contains plans to indicate proposed site logistics, accommodation & storage areas throughout the project. These will be altered to suit the construction & occupation strategy as works progress.

10.2. COMPOUND

10.2.1. The main site compound will be established on the open space to the east of Block G, with secondary compounds set up as and where required to serve each subsequent phase. An indicative compound layout is set out below.



Fig. 10.1: Site Logistics - Indicative Compound Facilities (TBC)

10.3. PLANT & EQUIPMENT REQUIREMENTS

10.3.1. The principal plant & equipment used during the works will be:

10.3.2. ENABLING STAGE:

- i. Dumpers,
- ii. 360° excavators,
- iii. 'muck away' lorries,
- iv. Piling Rigs,
- v. Ready-mixed concrete delivery lorries,
- vi. general delivery vehicles

10.3.3. GROUND WORKS /INFRASTRUCTURE STAGE:

- i. 360° excavators,
- ii. dumpers,

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- iii. 'muck away' lorries,
- iv. Ready-mixed concrete delivery lorries,
- v. general delivery vehicles

10.3.4. FRAME & ENVELOPE STAGE:

- i. Ready-mixed concrete delivery lorries,
- ii. general delivery vehicles,
- iii. standing scaffolding,
- iv. 360° rotating forklift

10.3.5. FITTING OUT STAGE:

- i. General delivery vehicles,
- ii. standing scaffolding,
- iii. 360° rotating forklift

10.3.6. EXTERNAL WORKS STAGE:

- i. Mini-excavators / powered barrows,
- ii. general delivery vehicles

10.4. PLANT, EQUIPMENT & MATERIALS STORAGE

10.4.1. When not in use, all plant, equipment & materials will be stored on site in designated areas as indicated on the logistics plan overleaf (Figure 4.1). Plant & machinery will be left immobile and inoperable to prevent unauthorised use. Only small quantities of fuel will be stored on site and these will be stored in bunded, licensed containers and stored to prevent unauthorised access and vandalism.

10.4.2. Storage may be in lockable containers (for smaller or valuable items) or in purpose made racking or, in the case of bricks & blocks, on pallets or in wrapped packs.

10.4.3. Materials will be distributed about the site by forklift.

10.5. LOADING/UNLOADING

10.5.1. Materials and equipment will be handled in accordance with manual handling regulations and heavy loads lifted with approved appliances.

10.5.2. No plant, equipment or materials will be loaded or unloaded on the public highway except with pre-authorisation from the Local Authority and then only in exception circumstances.

10.5.3. No such materials, plant or equipment will be left unattended at any time and adequate protective materials will be provided to safeguard the highway.

10.6. PROTECTION

10.6.1. GRADE II LISTED STRUCTURES

- i. The Grade II listed Northfleet Lower Lighthouse and Bevan's war memorial will both be temporarily fenced off during the development to prevent damage from construction works.
- ii. Agreed works will be undertaken in accordance with method statements agreed with English Heritage and the local authority listed buildings officer.

10.6.2. MUDFLATS EAST OF THE DEVELOPMENT SITE

- i. The area between the Development site that is the subject of this CEMP and the River Thames mudflats to the east includes the 42 Wharf area and the Tarmac cement and lime works.
- ii. The development works give rise to the risk of wind-blown contamination of the mudflats. However it is believed that this risk is negligible.
- iii. Bellway have identified that the position of the development site and the topography of the land to the east makes it highly unlikely that the works on site will have any impact upon the mudflats.
- iv. Bellway will be enclosing the development perimeter with hoardings or mesh fencing as appropriate. Where necessary, mesh fencing panels can be replaced with solid panels.

10.6.3. RIVER THAMES

- i. A 16m exclusion zone has been identified from the river wall within which no construction works can take place during the initial Phases of works. However, the Phase 3 works include external works up to the River Wall (i.e. within the exclusion zone - See 10.6.3 (iv) below). ^{Rev 9}
- ii. Generally Bellway's site hoarding/fencing will be established to prevent access into this area during the works and hoardings / fences will be constructed to ensure that no materials from the site can be blown into the exclusion zone or river. ^{Rev 9}
- iii. On site storage areas will be sited away from the boundary nearest the River to reduce the risk that wrappings and rubbish will be blown into the exclusion zone of the River.
- iv. As part of the development works, landscaping to the area of the exclusion zone are planned. These works will be carried out in accordance with risk assessments and method statements agreed with the Port of London Authority and EDC.

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- v. Any work being undertaken in the exclusion zone will be subject to a permit to work system, managed and monitored by Bellway's Site Manager and/or the Site Environmental Manager.
- vi. Permitted works within the exclusion zone, adjacent to the River Thames will include a series of preventative measures that will be implemented on site to minimise the risk of damage from noise, dust and pollution, in accordance with good practice. These measures would include protective fencing with debris netting at site boundaries as well as suitable temporary drainage solutions to avoid any run-off. ^{Rev 9}

10.6.4. MONITORING

- i. In order to monitor the protection measures, Bellway's Site Manager or nominated deputy will carry out a daily site walkover check (during active works).
- ii. The inspection will ensure that no loose rubbish or materials and no nuisance levels of dust are being generated and the dust management plan is being followed.
- iii. Daily inspections will note weather, moisture levels on the ground and site activities.
- iv. Site inspection frequency will be increased during prolonged dry or windy conditions and when activities with high dust potential are being undertaken.
- v. Any site generated material found to have crossed the development boundary will be immediately cleared up and disposed of safely and in accordance with site waste plans.

11. TRAINING

- 11.1. Information identifying the requirements of the CMP that affect daily work on site will be communicated to operatives as part of their induction process.
- 11.2. A copy of the CMP will be available for inspection on site at all times.
- 11.3. All operatives on site are required by law to undergo a site-specific induction. The names and details of attendees at such inductions are recorded and logged as part of the BTG management procedures for the purposes of health and safety monitoring.
- 11.4. Site management will continuously monitor operations on site to ensure that the requirements of the CMP are being adhered to.
- 11.5. The Construction (Design and Management) Regulations 2007 Approved Code of Practice is specific about the obligations of the Principal Contractor in respect of site induction, as shown in the following abstract:

"INDUCTIONS - Inductions are a way of providing workers with specific information about the particular risks associated with the site and the arrangements that have been made

for their control. Induction is not intended to provide general health and safety training, but it should include a site-specific explanation of the following:

- (a) senior management commitment to health and safety;*
- (b) the outline of the project;*
- (c) the individual's immediate line manager and any other key personnel;*
- (d) any site-specific health and safety risks, for example in relation to access, transport, site contamination, hazardous substances and manual handling;*
- (e) control measures on the site, including:*
 - (i) any site rules,*
 - (ii) any permit-to-work systems,*
 - (iii) traffic routes,*
 - (iv) security arrangements,*
 - (v) hearing protection zones,*
 - (vi) arrangements for personal protective equipment, including what is needed, where to find it and how to use it,*
 - (vii) arrangements for housekeeping and materials storage,*
 - (viii) facilities available, including welfare facilities,*
 - (ix) emergency procedures, including fire precautions, the action to take in the event of a fire, escape routes, assembly points, responsible people and the safe use of any fire-fighting equipment;*
- (f) arrangements for first aid;*
- (g) arrangements for reporting accidents and other incidents;*
- (h) details of any planned training, such as 'toolbox' talks;*
- (i) arrangements for consulting and involving workers in health and safety, including the identity and role of any:*
 - (ii) representatives of employee safety,*
 - (iii) safety committees;*
- (j) information about the individual's responsibilities for health and safety."*

APPENDIX 1

Drawing identifying the Residential Land covered by this CEMP

APPENDIX 2

Development Logistics Phase 1B

Development Logistics Phases 2 and 3

APPENDIX 3

Sustainable Transport - River Thames

Construction Environmental Management Plan

Harbour Village Development: Ebbsfleet Riverside - Northfleet Embankment West

Revision History

Rev 0	Initial Issue 13/11/2020
Rev 1	Clarification regarding Phase 1B access 07/04/2021
Rev 2	KCC Ecology & GBC comments from Phase 1a document addressed & repeated 14/04/2021
Rev 3	Reformatted and updated to reflect EDC comments 09/08/2021
Rev 4	Scope increased to include infrastructure phases 21/09/2021
Rev 5	Alterations to access and routing 18/10/2021
Rev 6	Updates to reflect EDC further comments 18/01/2022
Rev 7	Updated to clarify information requested by EDC 25/03/2022
Rev 8	Updated to clarify section 9 14/04/2022
Rev 9	Update to Section 6.3, 6.4 & Section 9 14/06/2022
Rev 9 Iss 2	Update to Section 10.6.3 (i) 23/06/2022