Construction & Environmental Management Plan

Former Gasworks, Park Road, Worthing, BN11 2BS

ISSUED FOR THE CONSTRUCTION PHASE



Revision Register

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1. INTRODUCTION

1.1. Purpose of a Construction Management Plan

Berkeley St Edward Southern Counties Limited has prepared the Construction Environmental Management Plan (CEMP) to accompany the comprehensive reports and illustrations contained within Appendices A to G for the residential development at Former Gasworks, Park Road, Worthing, BN11 2BS ('the Site').

The overall aim of the CEMP is to identify potential environmental risks relating to a project and outline measures that will be implemented to prevent, reduce or mitigate such risks. More specifically, the CEMP aims to:

- Outline a series of strategies, standards, best practice techniques and procedures that will be observed through the construction process in order to ensure compliance with environmental legislation, regulation, and Berkeley Group Standards.
- Ensure that construction industry best practice standards are adopted throughout the construction process.
- Prepare a site specific Water Management Strategy and associated Environmental Management System (EMS) in order to mitigate any on and off site related risks.

The CEMP demonstrates Berkeley St Edward (Southern Counties) Limited (BSESC) commitment to undertaking construction activities in such a way as to avoid or minimise environmental effects, and provides a mechanism for the implementation of recommended mitigation and monitoring measures throughout construction.

Throughout construction, this plan will remain a live document and will be reviewed periodically during the duration of the project.

1.2. Legal Compliance

All relevant legislation, including requirements for licences, permits and/ or consents shall be identified. BSESC will ensure compliance is achieved as part of the construction process.

1.3. Structure of CEMP

The CEMP is based on established good management practice and includes:

- **Site Information:** including environmental management structure, roles and responsibilities, location of sensitive receptors such as trees, watercourses, local residents, etc.;
- **Construction Information:** a description of the works, construction programme, proposed working hours, details of haulage routes, equipment to be used etc.;
- **Environmental Management:** details of methods for managing environmental risk, emergency procedures, waste and hazardous materials storage procedures, and specific management plans relating to dust, landscape, lighting, noise, and monitoring; and
- **Monitoring and Reporting:** details of monitoring and reporting requirements for the project and how the project team will ensure the relevant public engagement is carried out and any feedback/ complaints from the public monitored and any reasonably practicable action taken.

2. SITE INFORMATION

2.1. Site Description

The site is located to the east of Worthing town centre and was historically divided between two landowners – National Grid and Southern Gas Network plc (SGN), with two separate parcels of land, which make up the site identified. The total land contained within the entire site boundary equates to approximately 2.80 acres (1.132 Ha).

The historical SGN portion of land is 0.830 acres (0.336 ha); it is indicated in red in the figure below and is currently disused land, following recent demolition of a former gasholder structure. The northeast corner of this portion of site contains a Gas Governor, which is housed in a GRP enclosure.

The site contains three separate buildings (609m2, 560m2, and 144m2), all of which are vacant, partially stripped and disconnected in terms of both Gas and Electricity supplies. A large proportion of the of the site is currently used as general parking areas, leased by the National Health Service (NHS), for use by staff at the nearby hospital, which is located to the north east of the site.

Berkeley legally completed on the land in question in May 2022 and now own the entire site except the northeast corner where the SGN District Pressure Governor is located. The plan opposite indicates the extent of the land that will be considered for this development.

The Development itself comprises of 200+ residential apartments spread across 5 blocks ranging in height from 3-8 storeys, associated access, parking, open space and landscaping.

Existing access to the site is currently via the existing double metal gates on the east boundary from Park Road. This access provides entry to the site through which SGN have a right of access to the Gas Governor. Parking bays along the western side of Park Road impact on the potential width of any HGV access/egress routes.

The proposed scheme will ultimately utilise three different point of access.

The existing access on Park Road is to be utilised for the early Enabling Works and then repositioned circa 6m to the north to improve visibility, prior to the Construction Phase commencing *(Access Point 1)*.

The second access point is a new access point along the northern boundary with Lyndhurst Road *(Access Point 2)*.

There will also be an additional access point formed to provide a dedicated access to the Gas Governor for SGN, via a new crossover off of Lyndhurst Rd *(Access Point 3)*.



2.2. Site Boundaries

North

The north of the site is bounded by a brick wall which is approximately 2.8m high. Beyond the northern boundary of the site is Lyndhurst Road. Beyond this is residential properties, a public house and a funeral directors with a large open car park to the north-east associated with Worthing Hospital.

East

The east of the site is bounded by a brick wall which is approximately 1.7m high, with a c. 0.6m chain link and c. 0.3m barbed wire fence above. Beyond the eastern boundary of the site is Park Road and beyond this is a mix of residential, health and leisure uses.

West

The west of the site is bounded by the combination of a 2.4 m high metal palisade fence and a brick wall with chain-link fence. Beyond the western boundary of the site is a large car park and service yard for the Waitrose food store which is located further to the west of the car park.

South

The south of the site is bounded by a brick wall, which is approximately 2m high. The zone beyond the southern boundary comprises of a series of residential properties, an access road and associated car parking spaces.

Property directly adjacent to southeast corner of the site (83 Park Road)

The Berkeley Project team are in regular contact and discussions with owner of 83 Park Road who has expressed full support to the development.

As part of these discussions, and as a consequence of their historic use of vehicular access to the rear of their property through the development site, it is planned to explore alternative solutions in the permanent as well as during the construction works.

A selection of aerial photographs of the existing site have been included within Appendix A.

2.3. Proposed Development

The site provides scope for a high quality development of 200+ residential apartments spread across 5 blocks ranging in height from 3-8 storeys, associated access, parking, open space and landscaping



A summary of the accommodation is provided below:

Apartments – Total of 209	
Studio	10no
1 bedroom	50no
2 bedroom	141no
3 bedroom	8no

2.4. Key Constraints

The table lists a number of Key Constraints that have been identified as being potentially sensitive to the works during the construction of the proposed development due to their location in proximity on site or the sites proximity to surrounding areas:

Constraints	Details
Historic gas mains (now removed)	In the Summer of 2023, works were carried out by SGN, on behalf of Berkeley to purge and disconnect the remaining 'live' gas mains within the site boundary. This included the isolation and capping outside of the site of the following:-

	• 12" (305mm) cast iron (CI) low pressure (LP) 'dead leg' in the north west of the site • 2 No. 18'' (457mm) CI LP 'dead legs' located to the north central portion of the site • 355mm P/E (polyethylene) MP (medium pressure) 'dead leg' located just north of the site entrance on Park Road
Retained gas mains	There is a 500mm polyethylene (P/E) LP gas main, which is located in the north east coner of the site which connects the pipes in Lyndhurst road in to the gas governor. Although this will remain in place, it is actually outside of the red line Additionally, there is a 355mm P/E MP pipe which connects the gas governor to the mains pipework in Park Road. This will remain in place and will have an easement associated with it that will need to be fully considered.
SGN Gas Governor	The retained SGN Gas Governor in the north east of the site is contained within a GRP acoustic housing and surrounded by an existing palisade fence.
Existing buildings	There are three existing buildings on site that will need to be demolished to facilitate the proposed development. This includes two single storey masonry buildings and a long span portal framed building.
Openreach Overhead Apparatus	There are 2no telegraph poles that currently sit just inside the site boundary. One on the eastern boundary adjacent to Park Rd and one on the northern boundary adjacent to Lyndhurst Rd. A C4 quotation has been secured from Openreach for the diversion of the overhead cables and relocation of the poles into the public highway. These works will be carried out prior to the commencement of the Demolition and Earthworks to eliminate any risks from site plant and machinery.
SGN rights of access route	There is a SGN rights of access route that runs from the site entrance on Park Road to the SGN parcel of land which houses their Gas Governor. The design provides a relocated access route agreed in principle with SGN.
A number of small trees	There are a number of small trees located on the south west boundary of the site. Mainly Sycamore and of low value according to the Ecological report pre-planning
Water pipes and sewer connections	There are a number of water supplies and sewer connections on or adjacent to the site. These have all been identified on the utilities reports and mapping.
Historical structures	The site was historically used as a gasworks site and as such has had multiple reconfigurations across its time. There are a number of historical below ground structures which may still be present on the site and these have been identified on the constraints plan. The structures include gasholder bases, a valve pit, a purifier base, a former governor house, and other ancillary buildings. A number of

	the foundations for these historical structures have been identified in the previous site investigations.
Noise	The noise associated with the site being located adjacent to the Waitrose service yard and Lyndhurst Road, although Background Noise Surveys carried out in 2020 and updated in 2023 suggest of limited impact.

The following table sets out key potential receptors that may be affected by the proposed works

Receptor	Location
Waitrose Supermarket (west of site)	Beyond the western boundary of the site is a large car park for the Waitrose food store, which is located further west of the car park.
Mix of commercial / Residential Dwellings (Lyndhurst Rd)	Beyond this is a mix of commercial / residential uses and a large open car park associated with Worthing Hospital.
Mix of Dwellings with residential, health and leisure uses (Park Rd)	Beyond the eastern boundary of the site is Park Road and beyond this is a mix of residential, health and leisure uses.
Residential Dwellings (south of site)	The zone beyond the southern boundary comprises of a series of residential properties, an access road and associated car parking spaces
83 Park Road (immediate neighbour)	Property directly adjacent to south east corner of the site

2.5. Management Structure

The management structure for the project is provided in Appendix C.

In principle, the anticipated roles and responsibilities of the parties involved in the construction works are set out below. However, it should be noted that all members of staff are responsible for ensuring the requirements of the CEMP are met:

Principal Contractor Berkeley St Edward (Southern Counties)

For the majority of the works the principal contractor will be BSESC, who will ultimately be responsible for the implementation of this CEMP and environmental risks and controls within it. They are also responsible for compliance with any site-specific water discharge permit to be issued by the EA and its associated EMS, in addition to other site specific environmental responsibilities. .

Project Manager

The BSESC Project Manager will be responsible for the delivery of the CEMP. This will include allocating appropriate resource to enable delivery, communication with Adur and Worthing Borough Council and other relevant third parties (i.e. Environment Agency). The Project Manager will also arrange for the periodic review and update of the CEMP (with support from the Operating Company Sustainability Advisor / Manager where required). The Project Manager will regularly review the findings of the monitoring programme and direct the Principal Contractor as necessary.

Site Manager – Sustainability Champion

A suitably qualified Site Manager will be tasked with assisting the Project Manager in the implementation of the CEMP and any environmental monitoring programmes. The Champion will facilitate communication on environmental matters between the project partners and relevant statutory consultees, will undertake site environmental inspections and audits in conjunction with the operating company Sustainability Advisor / Manager, and will co-ordinate the environmental monitoring programme. This role includes ensuring that all relevant legal consents, licences and exemptions are in place in advance of relevant works commencing. During the pre-commencement and early stages of the project, the Project Manager will take the role of Sustainability Champion.

All Project Staff and Subcontractors

All staff and subcontractors have the responsibility to:

- Work to agreed plans, methods and procedures to minimise environmental effects
- Understand the importance of avoiding pollution on-site, including noise and dust, and how to respond in the event of an incident to avoid or limit environmental effects
- Report all incidents immediately to their line manager
- Monitor the work place for potential environmental risks and alert their line manager if any are observed; and
- Co-operate as required during site inspections and audits
- An overview of the CEMP will be included in the appointment documents of all Design Consultants and the contract documents for each subcontractor as well as being included as part of the inductions for operatives working on site

2.6. Contact Information

Name	Role	Mobile	Email
Andrew Lock	Project Manager	07500 993502	andrew.lock@berkeleygroup.co.uk
Owen Butterfield	Commercial Manager	07747 795256	Owen.butterfield@berkeleygroup.co.uk
Lewis Nolan	Technical Co-Ordinator	07977 343438	Lewis.nolan@berkeleygroup.co.uk
Jon Sargent	Head of Health & Safety	07788 878693	Jon.sargent@berkeleygroup.co.uk
Jennifer Matthewson	Sustainability Advisor	07870 486327	Jennifer.matthewson@berkeleygroup.co.uk

3. CONSTRUCTION INFORMATION

3.1. Programme of works

Table 2 below outlines the basic programme of works for the development. An indicative Master Development programme can also be found in Appendix D for guidance.

Work Stages	Approx. Duration	Timeframe
Demolition	11 weeks	June-July '24

Vegetation Clearance	2 weeks	August '24
Remediation Works	16 weeks	August-November '24
Highway Works	14 weeks	October '24- January '25
Groundworks	52 weeks	January-December '25
Frame & Superstructure Works	88 weeks	July '25-March '27
Internal Fit Out & External Finishes	96 weeks	December '25-March '27

3.2. Ecological Works

An Ecological Impact Assessment was undertaken in October 2020 by Lizard Landscape Design & Ecology, with a subsequent update in December 2023, which included a re-visit to the site in November 2023. The Site Habitat Plan on the next page shows what was prepared as part of this assessment.

The habitats on site are of negligible and low ecological value and offer limited potential to support protected or notable species. The native hedgerow, flat roofs and sparsely vegetated urban land offer the potential to support breeding birds during the nesting season.

The current assumption is that demolition and scrub clearance will take place during the nesting season and thus it is planned to secure a detailed inspection from a suitably qualified ecologist to verify that there isn't any nesting present.

Lizard have stated that no further phase 2 survey work is required and that no international designated sites were identified from within a potential zone of influence of the development, therefore, further investigation into the need for a Habitats Regulation Assessment will not be required.



Figure No. 01 - Site Habitat Plan
Land at Former Gas Works Site, Park Road, Worthing

3.3. Enabling Works

Historically, there were a total of 5no. gasholders present on the original gasworks site which at the time included part of the site now occupied by Waitrose, which was redeveloped a number of years ago. All of the gasholders have now been demolished, with the most recent gasholder in the north-east corner of the site being demolished in 2019.

The previous Pressure Reduction Station (PRS) that was on site was removed during the demolition works in 2019 and was replaced with an operational Gas Governor to the north-east of the site, housed in a GRP enclosure which is acoustically attenuated.

3.3.1. SGN Access to Gas Governor

Vehicular access to the governor is required 24/7 and thus it is the intention to form the new vehicular access off of Lyndhurst Rd, prior to the construction of the new development commencing.

3.3.2. Demolition

The site contains three individual buildings that will need to be demolished. These are indicated on the aerial view of the site on the following page.

The building referenced **1** on the diagram is a single storey portal frame building with a duo pitch roof and metal corrugated cladding and lightweight roof and measures approximately 31m x 19m on plan. The foundations of the building are unknown. The building has already been disconnected in terms of gas and electricity with meters removed and gas pipework purged and is in a semi-derelict state internally.

The building referenced **2** on the diagram is a single storey timber/steel pre-fabricated building with a flat roof and is in a very poor state as a result of vandalism. The building measures 26m at its longest point from north to south and measures 25m at its longest point from east to west. The foundations of the building are unknown. The building has already been disconnected in terms of gas and electricity with meters removed and gas pipework purged and is in a semi-derelict state internally.

The building referenced **3** on the diagram is a single storey masonry building with a flat roof, is rectangular and measures approximately 22m x 7m on plan. The foundations of the building are unknown. The building has already been disconnected in terms of electricity with meter removed.

An R&D Asbestos Survey was carried out on the 3 buildings in 2023 and identified minimal elements of asbestos deemed "Very Low" risk. This report along with a Pre-Demolition audit in terms of material re-use and recycling will be provided to the Demolition contractor as part of their Pre-Construction pack.



3.3.3. Earthworks and Remediation

As an historic gasholder site, contamination is always an issue, however, it has been established through extensive investigations on site that the extent of contamination is actually quite low considering it's historic use.

The findings of the various investigations established the following:-

- 2no historic tar pits requiring removal and on-site treatment
- Shallow impacted made ground and off-site disposal
- Risk to groundwater through use of piling and possible need for Carbon based Reactive Treatment Zone running east to west through the middle of the site

It is intended to commence these earth and remediation works immediately after the demolition down to ground level has been completed. It is anticipated that this element of work will take the site area through to a level formation, complete with piling mat for the permanent works along with partial hardstanding and haul road constructions to facilitate the Site Welfare, material storage and a through site (south to north) access/egress route for material deliveries.

3.3.4. Highway Works

Towards the latter end of the above earthworks it is planned to carry out the alterations to the footway on both Park Rd and Lyndhurst Rd as part of the overall planning consent.

This involves the demolition of the existing brick boundary walls along these frontages and widening of the public footpaths. The permanent works involves the construction of new masonry boundary walls along the new alignment. It is planned to complete these new walls

prior to the main construction with the intention of completing the widened public footways and installing hoarding for the construction works inboard of the new walls.

In addition to the footway works, it is also planned to form the new vehicular access/egress points into the site as outlined in the Site Description earlier, thus providing a completed public realm before construction works commences and limiting disruption to the public at a later date.

3.4. Construction Works

To mitigate the impact of noise and vibration during the construction plant liable to create noise and/or vibration whilst in operation will, as far as reasonably practicable be located away from sensitive areas. All plant used on site will be fitted with effective noise silencers and be maintained in good and efficient working order.

To reduce the impact of dirt and dust during the construction period the permanent parking area to the southern part of the site will be constructed up to underside of the final wearing surface during the enabling works. Additionally a temporary haul road will be constructed through the middle of the site (south to north) to facilitate vehicle movements through the site and out onto Lyndhurst Rd. This will reduce the chances of surfaces within the site being churned up as a result of excessive vehicle turning movements and limit the chances of site material being dragged onto the public highway.

All hard standings will be subject to effective water spraying during dry periods and a regular road sweeping regime to both Park Rd and Lyndhurst Rd will be implemented in line with associated site activities at the time. Wheel washing will be undertaken as necessary on all vehicles before they leave the site to minimise the impact of mud on the surrounding road network and all vehicles removing waste will be fully sheeted before they leave the site.

The site will operate under a permit specific Environmental Management System (EMS) to ensure that water discharging from the site is controlled. In advance of expected higher rainfall each winter, a Surface Water Management Plan will be formalised, implemented and monitored as part of the EMS.

With respect to the Earthworks and Remediation elements, extensive investigations have already taken place along with significant dialogue with the Environment Agency such that the principles of how the works will be carried out have already been agreed and by the time the demolition works commence will have been fully approved accordingly.

A key part of the management of the early earthworks and remediation will be the control, monitoring and management plans associated with Odour, Noise and Air Quality. This is all covered in detail within Section 4 of this document.

The site will have a regularly updated Site Pollution Incident Response Plan (SPIRP) for the duration of the construction phase detailing how pollution risk will be managed and outlining the procedure during a spill event (SPIRP is located in Appendix G). All bulk fuel storage will be within a covered secondary impermeable bund to reduce the risk of fuel spills or damage to bulk fuel storage from vehicle collisions. Spill control material will be held next to each fuel store and COSHH store in the compound and by any vehicle entrance to site.

3.4.1. Site Preparation (Post Earthworks & Remediation)

Compound & Haul Roads

As outlined under 3.3.3 & 3.4 above, it is intended to form the bulk of the southern parking area with all the permanent drainage and services beneath as part of the earthworks package to facilitate and clean and clear approach for the site compound, deliveries and material storage.

Similarly, the permanent drainage and services required up through the centre of the site will be installed during the earthworks phase to facilitate the proposed haul road construction to be laid through this route to allow for all plant and delivery vehicles to move in a clean and safe manner through this part of the site.

By adopting this strategy it is anticipated that the risk of site material, dirt, dust etc being carried out onto the public highway will be significantly reduced.

General Site Access, Storage and Waste Management Areas

Please refer to the Site Setup & Compound Layout in Appendix E for all site logistics, such as office and welfare accommodation, along with the vehicular access/egress points for all site activities. A summary of our proposals is as follows:

Site Office and Welfare

The site office and welfare facilities will be located in the south of the site adjacent to the existing site access. Non-PPE access routes will be in place from the entrance of the site to the welfare areas. From welfare areas to site, PPE will be required. The welfare facilities will include an onsite canteen/mess room, heated drying rooms and toilets sufficient to meet the needs of the anticipated workforce. There will also be Project offices for Site Management, meeting rooms, induction room, sub-contractor offices and storage containers.

3.4.2. Site Logistics & Deliveries

In line with the above and recognising the location of an AQMA along the A27 between the A24 and Lyons Way in Sompting, it is intended that all deliveries, wherever possible, will be directed to the site along Park Rd from the South and East, via the A23, A27, then south down Western Rd, Lancing and then west along the A259, Brighton Rd to the southern end of Park Rd.

Parking

Contractors will be advised to utilise nearby public car parks in High Street (surface and multi-storey) as well as incentives for car sharing by operatives. All contractors will be provided with the provision for safe storage areas for tools on-site and will be encouraged to use public transport, utilising the positive train links into Worthing train station, located a 10-minute walk away from site.

Site Deliveries and Plant Movement

Just in time deliveries will be utilised wherever possible and the use of rigid vehicles only (not articulated vehicles) will be encouraged wherever practicable. It is intended to control deliveries such that the chances of vehicles having to wait in Park Rd will be avoided.

It is acknowledged that the general refuse collection day along Park Rd appears to be a Friday morning and the project team will liaise closely with the local authority to co-ordinate/avoid deliveries at the same time.

It is intended that the only reversing that will occur will be within the site area and duly supervised, with the access from the south via Park Rd and exit to the North via Lyndhurst implemented at the earliest opportunity and retained until no longer possible.

Should any delivery vehicle need to be reversed at later stages of the project then a banksman will be present in order to ensure manoeuvres are undertaken safely at all times. A gateman will be on-site during working hours and will be responsible for managing deliveries coming and leaving the site.

Security

Site will have either CCTV that is monitored off site at a control station or a physical security presence.

The main access gate will be manned by a gateman during working hours to manage the 'just in time' delivery booking system during permitted hours only. A hut will be located adjacent to this gate to facilitate the gateman. It is anticipated that either, biometric or face recognition turnstiles will be utilized to manage pedestrian access to and from the site via a secondary gate adjacent to the main delivery gate.

Material Storage

A general material storage area will be provided to the south of the site adjacent to the site welfare with satellite storage areas adjacent to and within each block as required.

Wheel Washing & Road sweeping

Wheel washing facilities will be located adjacent to the northern exit gate in order to minimize the spread of muck, to assist in maintaining clean roads, and to minimize any disturbance to local residents.

The majority of plant and vehicle movements will be over the hardstanding/haul road. During the groundworks stage and in the limited cases where vehicle tyres encounter soil, these will be washed before leaving site. Road sweeping will be undertaken periodically and seasonally where required to both Park Road and Lyndhurst Road.

Silo, Fuel Station and Fuel Storage for Plant

The silos will be located centrally and adjacent to the haul road such that deliveries do not have to traffic onto unsurfaced areas to restock the silos.

Fuel for the purposes of refueling on-site plant will be stored securely and in suitably bunded areas with spill kits to hand and away from any surface water drains.

Waste Management

The waste management area will be located adjacent to the material store and allow adequate space for segregated waste streams throughout the build phase.

3.4.3. Hours of Work

Working hours will be set in line with the planning consent as follows:

- 8:00am to 6pm Monday to Friday
- 8.00am to 1pm Saturdays
- No work on Sundays or public holidays

These working hours will be strictly adhered to and clearly stated within contract documents when appointing all contractor packages. All deliveries of materials, plant and the like will be strictly prohibited outside of working hours and will be made within the sites working hours stated above.

3.4.4. Screening and Hoarding

The visual intrusion of the construction site on nearby residents and users of local facilities will be reduced as far as reasonably practicable by installing hoarding to the north and eastern boundaries with suitable treatment provided to the boundaries with the Waitrose car park/service yard to the west to prevent any impact on cars and members of the public.

The detailed arrangements for this hoarding will be subject to further discussion. Hoarding will be increased in height and altered in form to enhance acoustic performance for specific locations if required. The site perimeter will be delineated and will be provided with warning signs to inform of the dangers of construction sites and advise against unauthorised access.

Hoardings will be constructed such that appropriate sight lines and visibility splays will be maintained to ensure the safety of both vehicles and pedestrians on Park Road and Lyndhurst Road. Hoardings will be designed in accordance BS 5975:2008+A1:2011 - Code of practice for temporary works. ***Examples of Generic Hoarding Designs are located in Appendix F.***

Where necessary to ensure safety, individual locations within the site where hazardous activities are being carried out will be further secured with the installation of lockable Heras fence panels.

Protective scaffold and walkway protection

All scaffolding will be covered with branded Monarflex to reduce the risk of anything dropping on operatives passing below. All buildings are generally set well back from the boundary, but at any pinch points with the boundaries, additional measures will be implemented as appropriate to protect neighbours property and the general public.

3.4.5. Waste Strategy

Prior to any works beginning on site, a Project Waste Management Plan will be drafted. The plan includes details on waste minimisation strategies incorporated the design and procurement stages. It also includes information on how waste will be managed during the construction phase along with predictions for various waste streams. Please refer to the Project Waste Management Plan in Appendix F.

3.4.6. Re-use and Recycling

Where it is not possible to reuse material on site, it will be sent for beneficial reuse off site in accordance with the WRAP Good Practice guidance. A Pre-Demolition waste Audit will be carried out in accordance with BRE Pre-Redevelopment waste audit Code of Practice (2017) which will be used alongside the SWMP.

Where possible concrete from demolished buildings will be crushed and re-used initially for backfilling voids and creating the piling mat and then once again for sub-base material below paths and newly formed hard landscaped areas.

3.4.7. Segregation

Waste segregation strategies will be developed and implemented in line with the overall logistics plan for the site. As a minimum, general, hazardous, gypsum / plasterboard and liquid waste will be segregated. During the majority of the construction process, and when

space allows, timber, inert waste and metal will also be segregated. Colour coded bins, tip skips will be used around site to segregate waste at source, and all main skips will be clearly labelled.

3.4.8. Monitoring of Waste Production

The Berkeley Group Waste Data Tool (WDT) will be used to monitor the volume and type of waste produced on site and will be updated at least monthly. The WDT will also record the waste carrier and their registration number, a written description of the waste, the name of the disposal site and a record of the permit/exemption for the disposal site. Details of the waste produced on site will be analysed periodically. It is proposed that periodic Duty of Care checks will also be carried at the end disposal facilities accepting waste from the project.

3.4.9. Materials

Where possible, materials will be delivered just in time to reduce the likelihood of over ordering and the impact on local traffic in the area. In addition, the use of pre-manufactured items will be considered where possible, cutting down the number of deliveries and waste collections from the site.

Modern Methods of Construction will be incorporated into the works where possible to increase efficiency whilst reducing waste materials and off-site traffic movements.

3.4.10. Storage and Housekeeping

Materials will be stored on site in a way to prevent the likelihood of damage and wastage. Construction waste on the project will be stored in suitable containers and appropriately maintained. Material Consolidation and the use of specialist logistical contractors where necessary will be incorporated into the development to ensure the management goals are achieved.

Areas will be provided at strategic locations on site for secure material storage (see Site Setup & Compound Plan in Appendix E). This will include a covered storage racks and the use of storage containers. Re-usable brick cover bags will be used for in-use brick stacks on site to reduce wastage due to rain and frost damage.

3.4.11. Considerate Constructors Scheme and Public Liaison

The project will be registered with the Considerate Constructors Scheme before work commences and the requirements of the scheme explained to site operatives and staff during the site induction and reinforced with periodic toolbox talks. The Berkeley Group benchmark score for each CCS visit is set at 45 out of a maximum of 50 (which includes further marks available for ‘innovation’).

This will enable the construction process to be monitored with the aim of maintaining the highest possible standards on site and within the construction industry.

Procedures will be implemented to ensure effective liaison with the neighbouring properties, adjacent residents and local community through the utilisation of such means:

1. Print outs of newsletters will be located adjacent to the site entrances and in key locations along the hoarding along with letter drops to nearby residents of newsletters and to inform when certain construction activities are likely to affect the local residents for a short period.
2. Information boards mounted at the site entrance will provide details of the following information:

- Developer/ Contractor details
- Local Authority details
- Nature and duration of the project
- Principal milestones of the project
- Site operating times
- Site management names and contact details

3.4.12. Traffic Management

A full Traffic Management Plan (TMP) will be developed for the project. This TMP will be used to manage traffic to and from the site during all phases of the project. Both the Developer and all Contractors will be required to ensure that construction traffic is managed in accordance with the TMP.

The permanent access points to the site are via Park Road and Lyndhurst Road. Park Road is a one-way street connecting Brighton Road through to Lyndhurst Road. Lyndhurst Road is a two way street on which a new point of access is created upon commencement of construction. In general the southern access from Park Rd will be utilised for access and the new northern access will be primarily for egress from the site only.

Vehicles visiting the site will be kept to a minimum by:

- Minimising the requirement for material to be imported or exported from the site.
- Managing and minimising construction waste on site.
- Managing the movement of workers onto the site by using shared transport.

Deliveries and collections will be scheduled through a logistics co-ordinator to avoid deliveries arriving at the same time, causing congestion in the local area. A holding location on the outskirts of the town will be identified such that any deliveries which arrive outside of the allotted schedule times can wait, thus avoiding traffic congestion within Park Rd and surrounding roads as well.

In terms of specific vehicle tracking through the site for construction traffic, this will be tracked and plotted as part of an update to the CEMP closer to construction once the final structural solution has been concluded. This will consider various types of vehicles and relationships to scaffolding zones and safe segregation from site operatives.

At this stage, it has not been determined what the superstructure for each building will be built from, whether it be RC Frame, Loadbearing Masonry or a form of MMC. Each option will generate different strategies in terms of plant and deliveries.

As part of the process of assessing the structural design of the buildings, the likely length of concrete planks that may be used on certain blocks has been looked at in detail and it has been concluded that nothing more than a 9m length is likely.

With this length of plank in mind we have discussed with plank suppliers the types of vehicle that would be used to deliver such lengths and generally speaking they would use a 10.5m rigid vehicle, however, at worst they may use a 13.4m articulated vehicle.

Within Appendix E we have included a tracking plan for a 13.4m long articulated vehicle turning into Park Rd at the southern end, from the A259 and also turning out of Park Rd into Lyndhurst Rd at the northern end. This shows that this size vehicle can negotiate these junctions without any impact on existing parking bays etc.

.

It is anticipated that on average throughout the course of the works, around 20 vehicles per day will enter the construction site. This may peak at around 30 per day at worst and will range from Transit type vans up to articulated lorries bringing in precast concrete floor planks.

As outlined elsewhere in this CEMP, the permanent access points on Park Rd and Lyndhurst Rd will be constructed prior to construction commencing to ensure suitable access and egress and this tracking plan shows that this size of vehicle can negotiate the route satisfactorily.

Although it is planned that in the main there won't be any reversing onto the public highway, if a vehicle does have to reverse, a banksman will be in attendance.

Areas will be allocated for material lay down and storage. Deliveries will be on a "just in time" basis to minimise the storage requirement on site.

Construction staff and visitors to the site will be encouraged to use public transport arrangements where possible. This will be encouraged by providing information to staff, which details local public transport opportunities.

The location of the nearest public transport links will be provided to all contactors and labour agencies. Where operatives do require parking. They will be encouraged to utilise the network of paid carparks in Worthing town centre. Off-site parking is available within the surrounding carparks as shown within in Appendix E.

4. ENVIRONMENTAL RISKS AND CONTROLS

4.1. Significant Environmental Issue

A schedule of key potential environmental effects relating to construction activities is provided below, alongside the relevant procedure(s) from the Berkeley Group Sustainability Management System (SMS).

The procedures outline how BSESC shall prevent and manage these key environmental risks. Responsibility for the implementation for each procedure rests with the site based Project Manager and site Sustainability Champion, with specialist assistance from the wider project where necessary.

The final column details the site-specific management of these risks.

Environmental Aspect	Potential Risk or Effects of Construction activities	Relevant Berkeley Group Procedure Or Guidance	Site Specific Mitigation Measures / Local Authority Requirements
Transport	• Increase in congestion on the local road network due to increased vehicle movements • Increased risk of accidents on the local road network due to increased vehicle movements	• Holding location on outskirts of town for deliveries arriving outside of allotted time • Just in time deliveries and limitations on sizes of vehicles wherever practical	• Gateman permanently positioned on the main entrance gate during operating hours to oversee vehicles exiting site and re-joining either Park Road or Lyndhurst Road. • Vehicles will be prevented from entering open ground areas of site where possible to avoid unnecessary mud transfer onto internal roads. • On site roads will be cleaned using regularly.

	• Transfer of mud, materials and pollutants by vehicles onto the public highway.	• Road Sweeping and Wheel Washing	• A manual jet wash will be used to wash the wheels of any delivery vehicle exiting the site on to the private road. • A site infrastructure plan will detail the jet wash location as part of the water discharge permit EMS. • A road sweeper will be used to ensure that Park Road and Lyndhurst Road remains clear from any dust and mud. • See section 3.9 'Traffic Management and Appendix E+H for further details
Noise and Vibration	• Noise arising from the construction works • Increase in noise levels generated by the increase in road traffic as a result of the construction vehicles; and • Increase in vibration levels due to construction works	• Managing Noise and Vibration	• The following measures will be taken to reduce the impact of noise and vibration: • Each item of plant used on the worksite will comply with the noise limits quoted in the relevant European Commission Directive 2000/14/EC/United Kingdom Statutory Instrument (SI) 2001/1701. • Materials will be handled with care, placed rather than dropped. • Drop heights of material from lorries and other plant will be kept to a minimum. • Rotary bored piled foundations will be used where required. No driven piles. • Plant such as compressors and pumps liable to create noise and/or vibration whilst in operation will, as far as reasonably practicable, be located away from sensitive areas. • The use of barriers to absorb and/or deflect noise away from noise sensitive areas will be employed where required and where it is reasonably practicable. • All plant used on site will be fitted with effective noise silencers and be maintained in good and efficient working order and operated such that noise emissions are minimised as far as reasonably practicable. • Any plant, equipment or items fitted with noise control equipment found to be defective will not be operated until repaired. • Electrically powered plant will be used in preference to diesel or petrol driven plant where practicable to do so. • Machines in intermittent use will be turned off when not in use and throttled down to a minimum during periods of work. • Static noise emitting equipment operating continuously will be housed within suitable acoustic enclosure.

			• The site layout will be designed as far as reasonably practicable to avoid the reversing of vehicles. • Speed limits will be set dependant on vehicle or machine types to restrict engine noise
Local Air Quality (including Dust)	• Increase in dust deposition may affect nearby sensitive receptors during certain construction activities; and • Exhaust fumes from construction vehicle movements and on site plant may impact local air quality	• Managing Dust • NRMM Emission Standards	• The following measures will be taken to reduce the impact of dust: • Where possible surfaces are to be hard surfaced and an effective cleaning regime instigated. • A jet wash will be used to clean vehicles leaving the site to minimise the amount of dust and debris deposited on the roads. • All vehicles carrying contaminated material off-site will be fully sheeted. • The use of dust-suppressed equipment will be used on tools. • Appropriate speed limits will be set and enforced around site. The maximum being 10miles an hour. • Regular water spraying during dry periods and regular sweeping of roads to minimise dust and remove mud and debris. • Completed earthworks will be covered or vegetated as soon as is practicable • Exposed soil and material stockpiles will be dampened, if necessary using sprinklers and hoses. • Stockpiles of soils and materials will be located as far as possible from sensitive areas. • The surface areas of stockpiles will be minimised to reduce area of surfaces exposed to wind. • Dusty materials will be stored away from site boundaries and covered where possible to minimise the effect of wind pick up. • Compound and waste storage areas will be on hard surfaces. • The following measures will be taken to reduce the impact of vehicle fumes: o Electrically powered plant will be used in preference to diesel or petrol driven plant where practicable to do so. o Machines in intermittent use will be turned off when not in use and throttled down to a minimum during periods of work.
Water Quality and Drainage	• Degradation in groundwater quality as a result of potential spills, soil destabilisation, silt run-off or containment issues	• Contaminated Land • Fuel and Hazardous Material Storage and Refuelling • Managing Concrete Washout	• The site will operate under a permit specific Environment Management System (EMS). The EMS will include procedures on: o Management, Maintenance and Monitoring o Training and Responsibilities

	for hazardous substances • Potential risk of contamination of surface water and foul drainage	• Managing Silt • Preventing Managing and Reporting Pollution Incidents • Road Sweeping and Wheel Washing • Water Authorisations	○ Record Keeping ○ Environmental Management System Review ○ Site Complaints Procedure • Any localised dewatering on site will be of clean rainwater only and will ensure it meets the EA Regulatory Position Statement on dewatering. Dewatering activities will be reviewed and approved by the Berkeley project team before they are carried out. • Areas of stripped ground will be revegetated where possible. • Clean water will be diverted around exposed soils and working areas wherever possible to minimise silt creation. • Stockpiled material will be kept away from drainage and other sensitives areas wherever possible. • A jet wash will be used to wash the wheels of any delivery vehicle exciting the site on to the public highway. This will be located as far from surface water systems as possible.
Hazardous Substances / Pollution Control	• Risk of spillage of hazardous substances; and • Potential exposure of site workers to hazardous material.	• Contaminated Land • Fuel and Hazardous Material Storage and Refuelling • Preventing Managing and Reporting Pollution Incidents • Managing Silt • Managing Concrete Washout • Road Sweeping and jet washing	• The site will have a regularly updated Site Pollution Incident Response Plan (SPIRP) detailing how pollution risk will be managed and outlining the procedure during a spill event • All bulk fuel storage will be within a covered secondary impermeable bund to reduce the risk of fuel spills or damage to bulk fuel storage from vehicle collisions • The incident response process in the SPIRP will be communicated to all staff at induction. • Spill control material will be held next to each fuel store, COSHH store, in the compound and by any vehicle entrance to site. • All silos will be placed on a concrete base and bunded on three sides. • A jet wash will be used to wash the wheels of any delivery vehicle exciting the site on to the public highway.
Waste Management	• Direct impacts – additional emissions from the processing and transport of waste • Indirect impacts – energy and raw material consumption in production and recycling of packing and excess / waste material	• Hazardous Waste Management • Processing Waste • Use of Waste in Construction • Waste Management • Waste Paperwork • Waste Reduction and Reuse	• The site will have a Waste Management Plan. The plan includes details on waste minimisation strategies incorporated in design and procurement stages. It also includes information on how waste will be managed during the construction phase along with predictions for various waste streams • BSESC Waste Management Plan is included in Appendix F. • Metal weather-tight hazardous waste bins with an internal sack will be available for all hazardous waste.

	• Potential waste stream contamination or impact on recycling rates from ineffective segregation of waste		• Tip skips will be used to collect waste at source before it is moved regularly to skips. • Plasterboard, liquid waste, general waste, inert hardcore and hazardous waste will be segregated as a minimum, with other waste streams segregated as and when space allows. Skips will be clearly labelled for each waste stream.
Energy and Water Consumption	• increased carbon emissions from fuel and electricity consumption as part of construction works • Potential inefficient use of energy due to lack of control measures or inefficient equipment • Increased water consumption	• Energy Efficiency • Water Efficiency	• Energy and water consumption will be monitored and reported on a monthly basis. • Permanent power will be provided on site at the earliest stage such that the use of generators is either minimised or eliminated altogether.
Materials	• Potential waste arising from ineffective storage, movement and ordering or materials	• Waste Reduction and Reuse • Use of Waste in Construction	• Refer to Logistics Plan showing dedicated material storage compound and protection over material storage racks • Promotion of Just in Time deliveries to minimise on site storage

5. MONITORING AND REPORTING

5.1 Monitoring Requirements

The following monitoring arrangements will be in place on all projects where construction activities are being carried out:

- Regional Sustainability Advisor formal assessment inspection on a quarterly basis;
- Operating company directors will conduct Sustainability focussed assessment every 6 weeks as part of weekly health, safety and environment site visits;
- Regional Sustainability Advisor informal fortnightly monitoring visits;
- Project management team will conduct an informal inspection of all areas of the site daily with a formal recorded inspection being undertaken on a weekly basis;
- Trade contractor supervisors are to conduct an informal daily inspection of the workplace;
- Trade contractor management/supervisors to carry out a formal recorded inspection each week;

The Project Manager, supported by the site Sustainability Champion, will be responsible for any monitoring that will be required for the project. This will also include monitoring compliance with this CEMP on a regular basis.

As part of the Berkeley Group's Sustainability Management System (SMS) the Project Manager, supported by the site Sustainability Champion, will ensure the site monitors the management of the following key areas:

- Waste Management
- Ground and Water Pollution Prevention as reported to and agreed with the Environment Agency under the sites Temporary Surface Water Management Plan.

- Fuel / COSHH Storage and Handling
- Materials Storage and Housekeeping
- Energy and Water Efficiency
- Noise, Dust and Mud
- Ecology
- Transport Management
- Considerate Constructors Scheme (CCS) compliance and Community engagement

The operating companies Sustainability Advisor / Manager and findings communicated to the Project Manager and Sustainability Champion so any reasonably practicable actions can be taken will periodically assess these areas.

5.2. Reporting

As part of the SMS, the site will report on the following Sustainability KPI's:

- Waste
- Energy and Water Consumption
- Co2 Emissions
- Timber Usage
- Water Quality Monitoring

This is to identify whether the site is meeting its performance targets for:

- Waste Reduction and Recycling
- Carbon Emission Reduction
- Water Consumption Reduction
- Sustainable timber consumption
- Water Discharge Quality

Any spillage of hazardous substances on site will be reported to the Project Manager, Sustainability Champion and Sustainability Advisor / Manager immediately and the Berkeley Group SMS procedure on 'Preventing Managing and Reporting Pollution Incidents' followed. The site will have a regularly reviewed and update Site Pollution Incident Response Plan detailing how pollution incidents should be reported.

5.3 Public liaison / engagement

The Project Team will communicate proactively with any local residents / businesses and other members of the public that may be affected by construction activities.

The Project Manager will be responsible for public liaison / engagement with assistance from the sustainability champion.

Regular newsletters will be developed by the site team and distributed to local residents detailing how the development is progressing and highlighting any relevant information that may be useful in keeping the local community updated.

The site will display a notice board at the front entrance gate again including any information that local residents may find useful or provide advance warning of any off-site activities relating to the site that could have the potential to cause nuisance.

5.4 Complaints procedure

The project team will ensure that any patterns are identified and that any reasonably practicable actions to address these concerns are considered will record all complaints.

Should an individual or organisation wish to raise a complaint, they can contact the Project Manager who's details will be displayed on the site notice board, listing their name and contact details. All verbal or written complaints will be recorded using the CCS Compliments / Comments / Complaints Record template. This register will be reviewed on a monthly basis and any outstanding issues escalated to the appropriate person / level within the business.

Should someone wish to raise a complaint anonymously they can do this by contacting the 'Considerate Constructors Scheme'. The CCS are advertised along the site boundary detailing their contact details.

As a minimum, the CCS Compliments/Comments/Complaints Record template will be used.

6. CONCLUSION

This document summarises the approach to environmental management on site in order to minimise and mitigate the construction effects of the development. To ensure its continued relevance the document will used as an on-site reference document during all phases of this development, monitoring will take place to determine compliance with the CEMP and it will be regularly reviewed and updated where necessary.

- **Key site specific considerations**

    - SGN Gas Governor, rights of access route and small easement in north-east corner of site
    - Existing buildings and historical below ground structures
    - Telegraph poles and overhead cables to be diverted
    - LV power cables, water pipes and foul sewer connections and telecommunications
    - Noise, dust and air quality
    - No.83 Park Rd immediately adjacent to site entrance and compound

7. APPENDICES

Appendix A - Aerial Photographs of the existing development

Appendix B - Proposed Site Occupation Plan

Appendix C - Management and Project Team Structure

Appendix D - Master Development Programme

Appendix E - Site Compound & Logistics Plan (inc. Hoarding)

Appendix F - Project Waste Management Plan

Appendix G - Site Pollution Incident Response Plan

Appendix A - Aerial Photographs



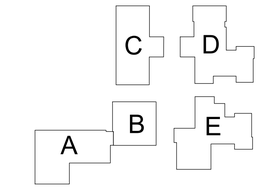






Appendix B - Site Occupation Plan





Development Boundary

N

Berkeley
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St Edward
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Former Worthing Gas Works
Park Road, Worthing, West Sussex

Site Occupation Plan

Appendix C - Management & Project Team Structure

St Edward
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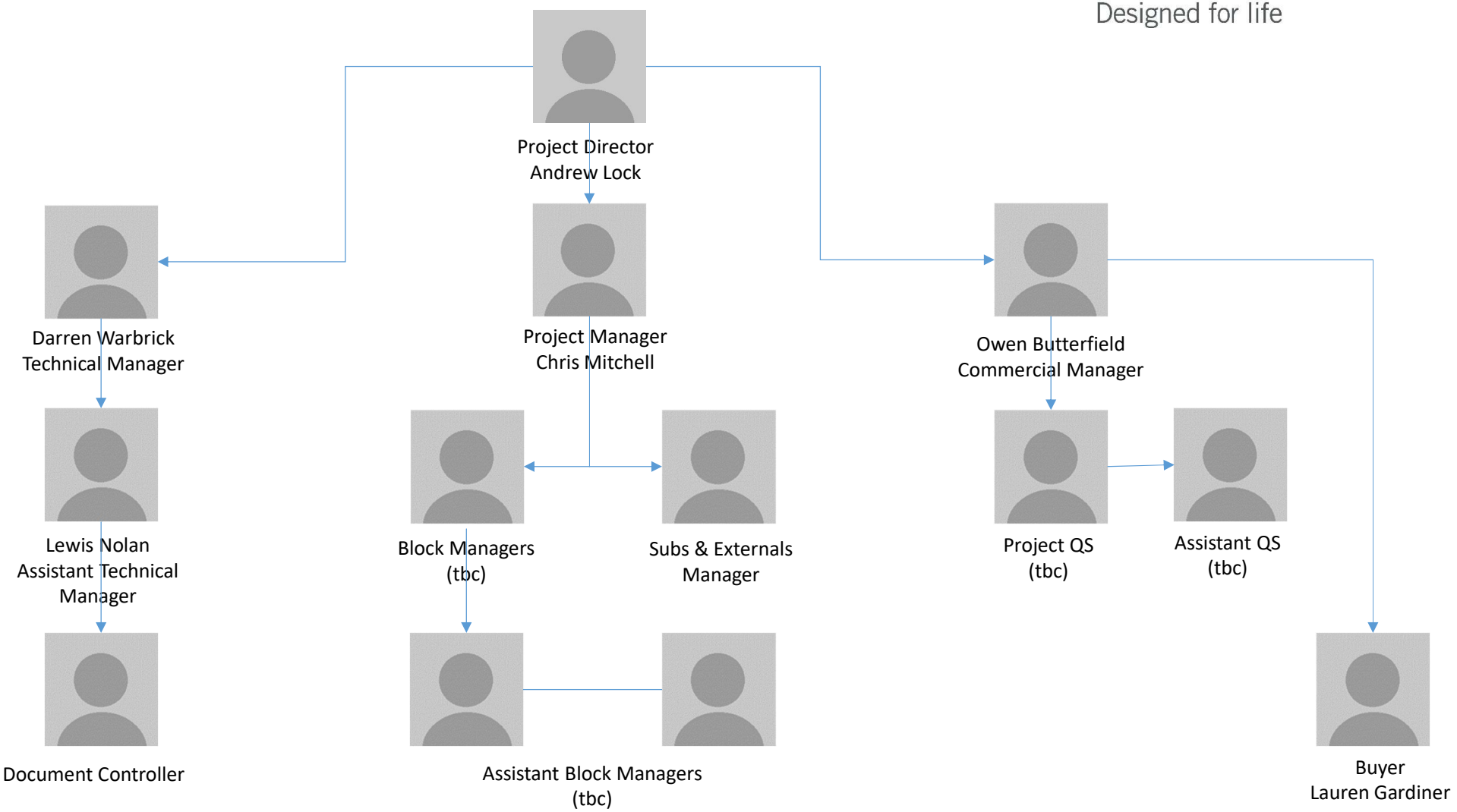
Worthing Gasworks - Project Team Structure



Worthing Gasworks - MDP - 228 Units - Jan 25 Start on Site

Appendix D - Draft MDP

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OUR VISION 2030 TRANSFORMING TOMORROW

Line	Name	Duration	Start	Finish	Notes
1	Diversions & Disconnections	175w 1d	30/06/2022	23/01/2026	
2	Gas Utility Works	54w 2d	30/06/2022	04/08/2023	
3	Electrical Utility Works	166w 1.21d	01/09/2022	23/01/2026	
4	Southern Water - Water Mains Connection	81w	04/05/23	13/12/24	Durations as per NSG Programme
5	Openreach Diversions	22w 4d	09/01/2024	20/06/2024	
6	Design & Procurement	70w	11/09/2023	17/02/2025	
7	Design	66w	11/09/2023	17/01/2025	
8	TES Initial Packages	57w	11/12/2023	17/02/2025	
9	Revised Planning Submission	38w 3d	18/09/2023	03/07/2024	
10	Enabling works	164w 1d	07/02/2024	09/06/2027	
11	Section 278 Design & Approvals	34w 3d	07/02/24	14/10/24	Durations as per NSG Programme
12	Demolition, Remediation & Site Preparation	147w 3d	07 Jun 24	09 Jun 27	
13	S278 Site Works	12w	14/10/2024	17/01/2025	
14	Site Resources	143w 3d	04/11/2024	07/10/2027	
15	Construction	136w 2d	20/01/2025	19/10/2027	
16	Substructure & Slabs	54w 1d	20/01/2025	23/02/2026	Based on Raft to C & D - Piling to A,B & E
17	Start On Site		20/01/2025	20/01/2025	Driven by Piling mobilisation and remediation works (with float)
18	Reinforced Raft Slabs (C & D)	12w	20/01/2025	11/04/2025	
19	Groundwater Monitoring for Piling	17w	27/01/2025	29/05/2025	
20	CFA Piling (240no Piles)	11w	17/02/2025	07/05/2025	7 piles/day. 450mm diam. Based on Gravity design June 23 + 1 week buffer
21	Drainage	50w 1d	17/02/2025	23/02/2026	
22	Piles Caps & Beams (A, B & E)	29w 1d	06/06/2025	12/01/2026	
23	Ground Floor Slabs (A, B & E)	31w 1d	04/07/2025	23/02/2026	
24	Superstructure	130w 2d	03/03/2025	19/10/2027	
25	Block C. 47 units. 5 storeys	103w 1d	03/03/2025	05/04/2027	
26	RC Podium	6w	03/03/2025	11/04/2025	
27	Load Bearing Masonry	34w	14/04/2025	12/12/2025	
28	Energy Centre	91w 1d	30/05/2025	05/04/2027	
29	Roofs	20w	08/09/2025	09/02/2026	
30	Facade	28w	27/10/2025	28/05/2026	
31	Site Management	45w 3d	10/11/2025	15/10/2026	
32	Fit Out	41w 3d	08/12/2025	14/10/2026	
33	Lift	33w 4d	09/02/2026	08/10/2026	
34	Landscaping	12w	01/04/2026	25/06/2026	
35	Handover process	12w	12/08/2026	04/11/2026	
36	Block D. 50 units. 5 storeys	90w 3d	14/04/2025	17/02/2027	
37	RC Podium	6w	14/04/2025	29/05/2025	
38	Load Bearing Masonry	36w	30/05/2025	20/02/2026	
39	Roof Steelwork	3w	01/09/2025	19/09/2025	
40	Roof	24w	06/10/2025	08/04/2026	
41	Fit Out	54w 3d	01/12/2025	20/01/2027	
42	Facade	28w	05/01/2026	23/07/2026	
43	Site Management	40w 3d	23/03/2026	21/01/2027	
44	Lift	35w 2d	08/04/2026	15/12/2026	
45	Landscaping	10w	29/05/2026	06/08/2026	
46	Handover process	15w	22/10/2026	17/02/2027	
47	Block A. 44 units. 5 storeys	85w 3d	08/08/2025	10/05/2027	
48	RC Podium	6w	08/08/2025	19/09/2025	
49	Load Bearing Masonry	36w	22/09/2025	18/06/2026	
50	Roof	19w	02/03/2026	16/07/2026	
51	Facade	27w	29/04/2026	06/11/2026	
52	Site Management	40w 3d	19/06/2026	15/04/2027	
53	Fit Out	38w 3d	17/07/2026	14/04/2027	
54	Lift	27w 3d	24/07/2026	17/02/2027	
55	Landscaping	13w	21/09/2026	18/12/2026	
56	Handover process	14w	28/01/2027	10/05/2027	
57	Block B. 44 units. 8 storeys	81w 1d	26/11/2025	27/07/2027	
58	TC1	69w 3d	26/11/2025	05/05/2027	
59	RC frame	32w	09/12/2025	07/08/2026	
60	Facade	50w 4d	16/04/2026	27/04/2027	
61	Roof	8w	13/07/2026	07/09/2026	
62	Lift	40w 4d	08/09/2026	08/07/2027	
63	Site Management		17/09/2026	17/09/2026	
64	Fit Out	38w 3d	12/10/2026	27/07/2027	
65	Landscaping	10w	21/04/2027	01/07/2027	
66	Handover process	13w	26/04/2027	27/07/2027	
67	Block E. 43 units. 4 storeys	82w 1d	24/02/2026	19/10/2027	
68	Load Bearing Masonry	29w 4d	24/02/2026	25/09/2026	
69	Roof Steelwork	3w	12/06/2026	02/07/2026	
70	Roof	18w	03/07/2026	09/11/2026	
71	Fit Out	54w 3d	28/08/2026	06/10/2027	
72	Facade	24w	14/09/2026	12/03/2027	
73	Lift	43w 3d	09/11/2026	29/09/2027	
74	Site Management	40w	10/12/2026	07/10/2027	
75	Landscaping	10w	01/02/2027	09/04/2027	
76	Handover process	11w	03/08/2027	19/10/2027	
77	Completion Dates	40w	14/10/2026	06/10/2027	

Design Discipline,Build Stages,Procurement Stages

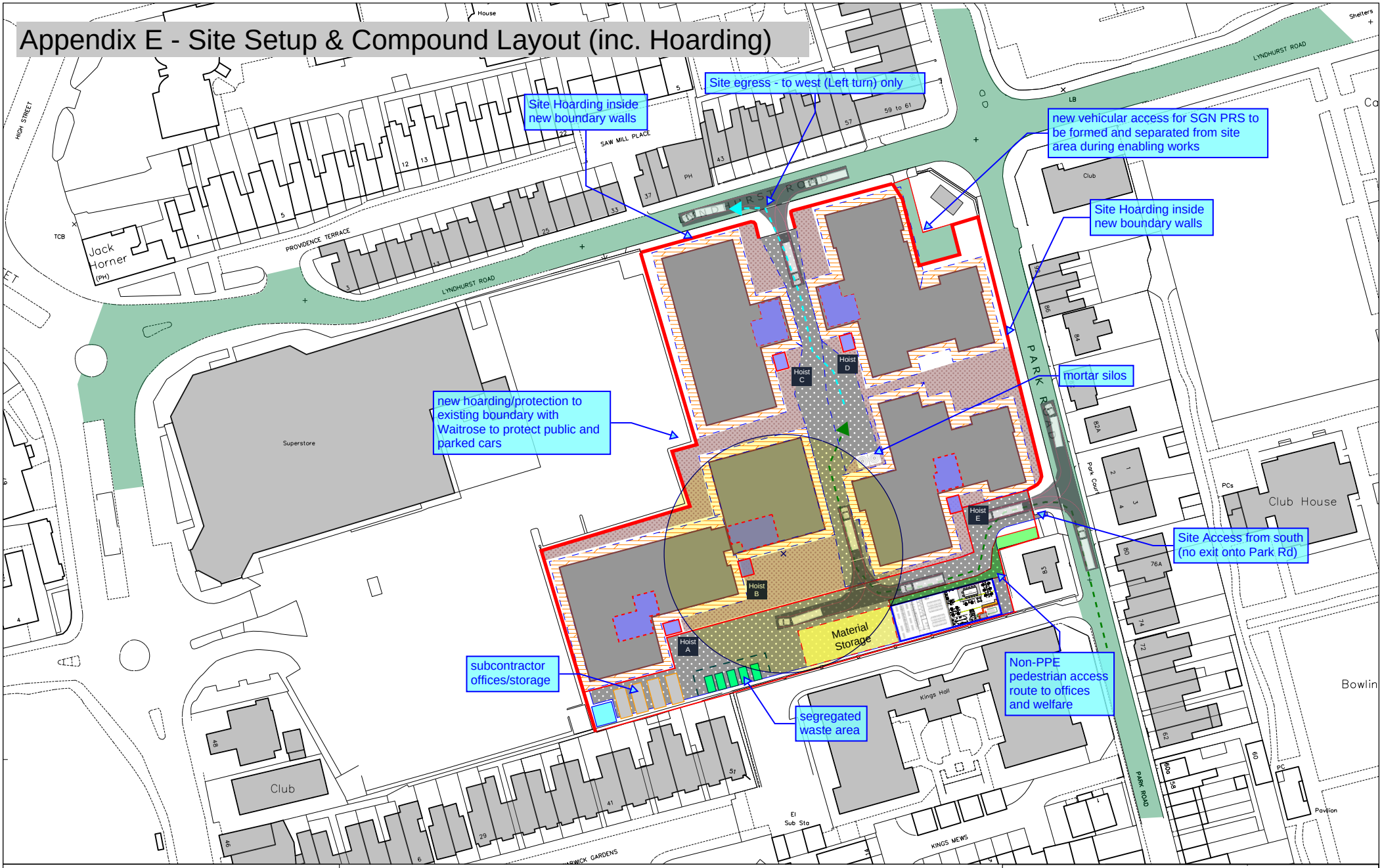
Utilities | Enabling Works | Piling | RC Frame & Gwks | MEP | Roofing | Brickwork | Landscaping | Handover | Steelwork | Scaffold | Planning | Fit-Out

Milestone Appearances

Start Milestone

Drawn by: Andrew Lock	Revision Date: 22/12/2023	Revision No: Rev 3 (WIP)	Page: 1 of 1

Appendix E - Site Setup & Compound Layout (inc. Hoarding)



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Former Worthing Gas Works
Park Road, Worthing, West Sussex

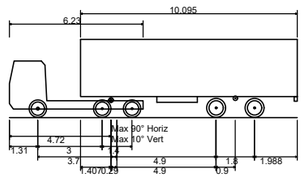
Site Setup & Compound Layout

13.4M ARTICULATED VEHICLE EXITING PARK ROAD

13.4M ARTICULATED VEHICLE ENTERING PARK ROAD

NOTES:
1. THIS DRAWING IS INDICATIVE AND SUBJECT TO DISCUSSIONS WITH LOCAL & NATIONAL HIGHWAY AUTHORITIES. THIS DESIGN IS ALSO SUBJECT TO CONFIRMATION OF LAND OWNERSHIP, TOPOGRAPHY, LOCATION OF STATUTORY SERVICES, DETAILED DESIGN AND TRAFFIC MODELLING.
2. THIS DRAWING IS BASED UPON DRAWING NUMBER WORTHING GROUND FLOOR 10 05 21 AND 7392-ECE-PL-03 - SITE PLAN - REV C SUPPLIED BY ECE PLANNING AND ICENI PROJECTS LTD. SHALL NOT BE LIABLE FOR ANY INACCURACIES OR DEFICIENCIES.

VEHICLE PROFILE:



WM Urban Trailer (2018)	
Overall Length	13.408m
Overall Width	2.550m
Overall Body Height	3.632m
Min Body Ground Clearance	0.396m
Max Track Width	2.550m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.870m

0 1 2.5 5 10
Scale 1:250

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CLIENT

BERKELEY HOMES SOUTHERN LIMITED

PROJECT

FORMER GAS HOLDER SITE, LYNDHURST ROAD, WORTHING

TITLE

SWEPT PATH ANALYSIS

(13.4M ARTICULATED VEHICLE)

DRAWN BY	CHECKED BY	APPROVED BY
AKC	RB 04.03.2024	RA 04.03.2024

SCALE @ A3	DATE	
1:250	04.03.2024	
PROJECT NO.	DRAWING NO.	REV.
23-T096	19.3	-

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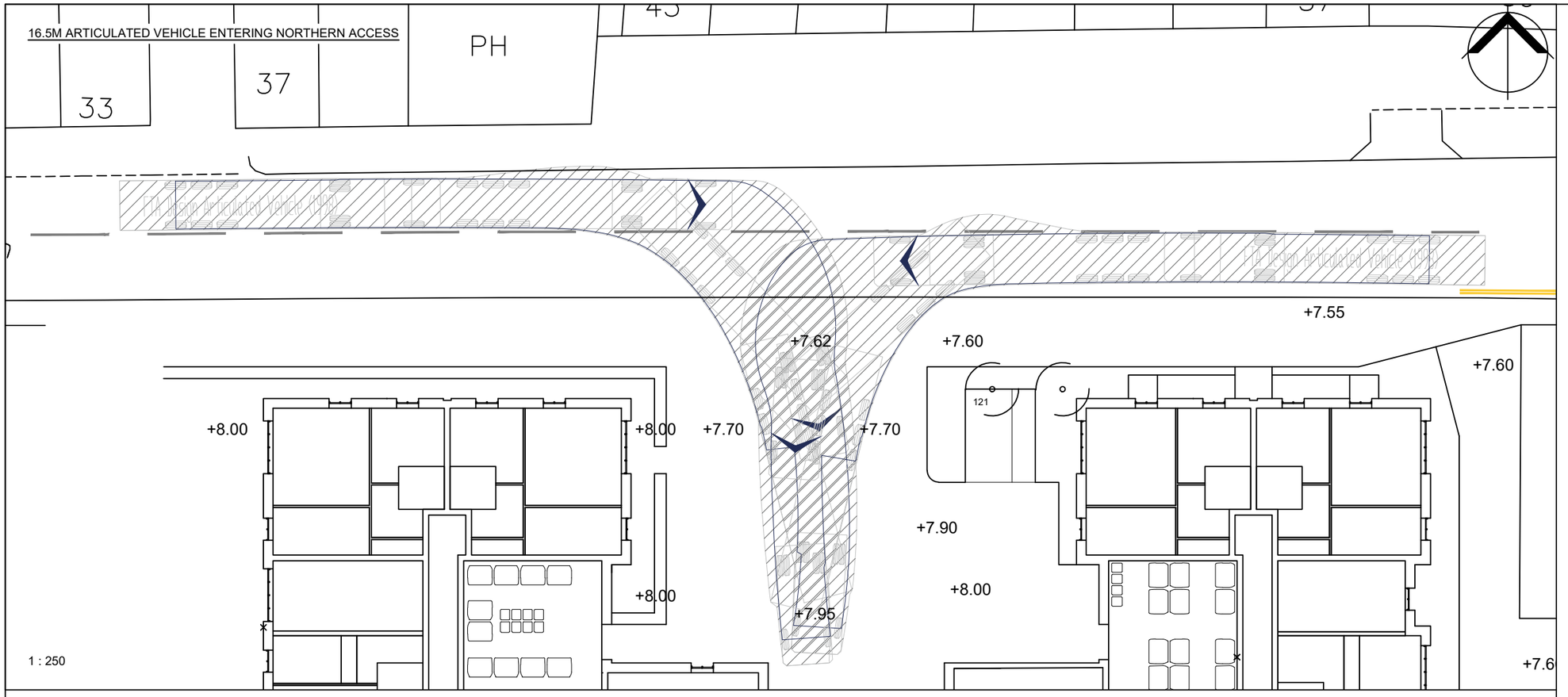

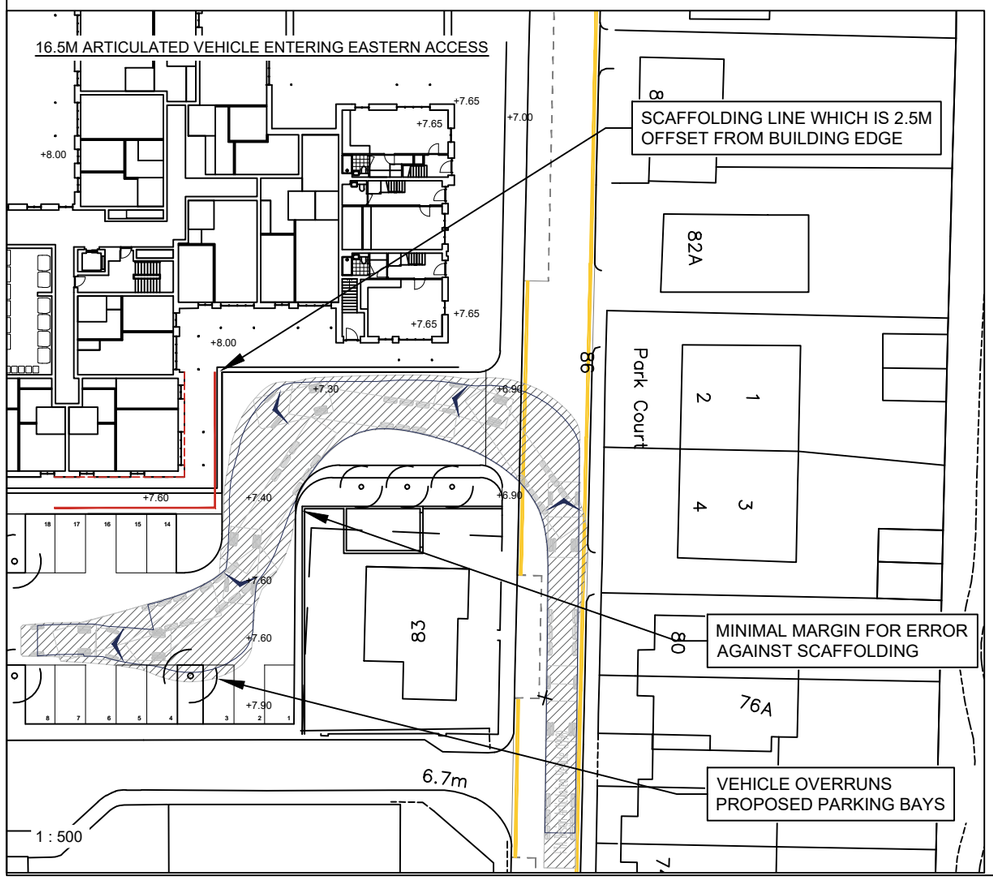

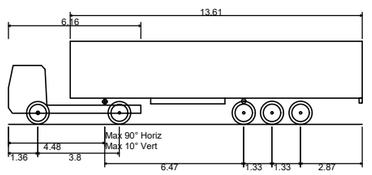

FTA Design Articulated Vehicle (1998)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock-to-lock time	3.00s
Curb to Curb Turning Radius	6.550m

NOTES:
1. THIS DRAWING IS INDICATIVE AND SUBJECT TO DISCUSSIONS WITH LOCAL & NATIONAL HIGHWAY AUTHORITIES. THIS DESIGN IS ALSO SUBJECT TO CONFIRMATION OF LAND OWNERSHIP, TOPOGRAPHY, LOCATION OF STATUTORY SERVICES, DETAILED DESIGN AND TRAFFIC MODELLING.
2. THIS DRAWING IS BASED UPON DRAWING NUMBER WORTHING - GROUND ICENI APRIL SUPPLIED BY MT-ARCH AND ICENI PROJECTS LTD. SHALL NOT BE LIABLE FOR ANY INACCURACIES OR DEFICIENCIES.

REV	DATE	AMENDMENTS	DRAWN	CHK	APP
C	04.05.2021	REVISED LAYOUT	AP	RB	RA
B	16.04.2021	REVISED LAYOUT AND REVISED VEHICLE TRACKING	AP	RB	RA
A	19.01.2021	REVISED TRACKING	AP	RB	RA

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CLIENT

ST WILLIAM

PROJECT

FORMER GAS HOLDER SITE, LYNDHURST ROAD, WORTHING

TITLE

CONSTRUCTION VEHICLE SWEPT PATH ANALYSIS

(16.5M ARTICULATED VEHICLE IN)

DRAWN BY	CHECKED BY	APPROVED BY
AP	RB 07.01.2021	RA 07.01.2021

SCALE @ A3	DATE	
AS SHOWN	07.01.2021	
PROJECT NO.	DRAWING NO.	REV.
20-T082	10.9	C

Iceni Projects accept no responsibility for any unauthorised amendments to this drawing. Only figured dimensions are to be worked to.

Appendix F - Draft Project Waste Management Plan

Berkeley Designed for life | St Edward Designed for life | St James Designed for life | St George Designed for life | St William Designed for life

Project Waste Management Plan

v5 - December 2015

Introduction
The Berkeley Group and its subsidiary companies are committed to using a Project Waste Management Plan (PWMP) on each development site, regardless of value or locality. This is deemed good practice following Government's decision to revoke the legislative requirement for Site Waste Management Plans in December 2013. This site-specific PWMP outlines our procedures and commitments to: - Minimise waste production through our technical, procurement and construction decision-making processes - Manage waste efficiently on site, including the segregation of waste streams where possible - Divert waste from landfill, through either re-use or recycling We will take all reasonable steps to ensure that all waste from the site is dealt with in accordance with the waste duty of care in section 34 of the Environmental Protection Act 1990 and the Environmental Protection (Duty of Care) Regulations 1999. All waste leaving the development site will be recorded in a separate 'Waste Data Tool'. The Waste Data Tool records the identity of the waste carrier and their registration number, a written description of the waste, the name of the disposal site and a record of the permit/exemption for the disposal site. Updates to the Waste Data Tool will occur at least monthly to ensure the regular monitoring, measuring and reporting of non-hazardous and hazardous wastes leaving site. The Waste Data Tool forms part of this Project Waste Management Plan and should be reviewed in conjunction with this document.

Project Details	
Name of Project	Former Worthing Gasworks
Project Address	Park Rd, Worthing, West Sussex BN11 2BS
Project Description	Construction of 228no apartmentns across 5no separate blocks
Project Build Value (£)	£50m
Project Start Date (*live on site*)	01/01/2025
Project Waste Management Plan Drafted By (*name*)	Andrew Lock
Project Waste Management Plan Drafted On (*date*)	22/01/2024

Project Breakdown		
BRE Project Type	Residential	
Building Type	**Internal Floor Area (*square metres*)**	**Predominant Build Type**
Houses		
Apartments	14,090	Brick and Block
Commercial		
Student Accommodation		
Extra Care Accommodation		
Other		
Total Internal Floor Area of Structure(s) (*square metres*)	14,090	

Project Team	
Project Manager	Andrew Lock
Technical Manager	Darren Warbrick
Commercial Manager	Owen Butterfield
Document Controller/Secretary (*if applicable*)	tbc
Person Responsible for Implementing the Project Waste Management Plan (*name*)	tbc
Person Responsible for Implementing the Project Waste Management Plan (*job title*)	tbc

Revision Record	
Date of Revision	**Purpose of Revision**
22/01/2024	1st Draft

Waste Minimisation and Management	
If there are existing buildings and/or structures to be demolished on the site, has a pre-demolition audit been undertaken?	Existing buildings and/or structures are to be demolished, but a pre-demolition audit has not been undertaken
Please provide brief details of the outcomes of the pre-demolition audit	
Please outline details of the measures taken during the planning, design, procurement and construction stages to minimise and manage the production of non-hazardous wastes on this project	
Specify three waste groups which will be / have been minimised at the design stage	**Outline waste minimisation actions taken at the design stage for the selected waste group**
Please outline details of the measures taken during the planning, design, procurement and construction stages to minimise and manage the production of hazardous wastes on this project	

Waste Stream Predictions and Management								
Waste Stream	**BRE Waste Stream Benchmarks (*m3*) (*indicative figures only*)**	**Berkeley Group Waste Stream Benchmarks (*m3*) (*indicative figures only*)**	**Predicted Amount of Waste Generated (*m3*)**	**Facilities Required**	**Projected End Destination**	**Cost of Waste Removal and Recovery / Disposal *(£/m3)***	**Predicted Waste Cost *(£)***	**Notes**
EXAMPLE: Plasterboard	*70*	*45*	*50*	*Skip: 7 cubic yard*	*Recycling Facility*	*£36*	*£1,800*	*All plasterboard to be segregated on-site for recycling*
Construction								
Asphalt and Tar	19.59919	4						
Bricks	380.95133	106						
Canteen / Welfare / Office Waste	77.56545	26						
Cardboard and Paper Packaging	109.993585	49						
Ceramics and Tiles	34.63322	16						
Concrete (blocks, rubble, paving slabs, pipes etc)	458.16453	53						
Electrical and Electronic Equipment	5.4951	0						
Floor Coverings (carpets, vinyl etc)	7.56633	26						
Furniture	1.67671	3						
Glass	No Benchmark	8						
Hazardous Materials (mastic tubes, spray cans, used spill kit materials etc)	18.40154	12						
Insulation	78.84764	101						
Liquids (non hazardous only, e.g. canteen oils)	6.21369	0						
Metals	43.72127	28						
Miscellaneous	647.16779	197						
Oils (fuels and oily waters only)	0.26771	0						
Other Plaster and Gypsum-Based Material	No Benchmark	17						
Other Plastics (corex etc)	92.59948	31						
Paint Tins / Containers	No Benchmark	0						
Paper	No Benchmark	47						
Plasterboard	171.03851	130						
Plastic Packaging	109.993585	117						
Soils (Contaminated)	No Benchmark	4						
Soils (Uncontaminated)	No Benchmark	121						
Timber	349.58699	355						
Toilet Wastes (e.g. sewage effluent tank and chemical toilet wastes etc)	No Benchmark	No Benchmark						
Demolition								
Excavation								

Predicted total waste volume	0	**Predicted overall reuse/recycling rate (%)**	#DIV/0!	**Predicted overall cost *(£)***	£0.00
Predicted waste volume (*excluding demolition and excavation waste*)	0	**Predicted reuse/recycling rate (%) (*excluding demolition and excavation waste*)**	#DIV/0!	**Predicted cost *(£)* (*excluding demolition and excavation waste)***	£0.00

Waste Targets		
Target Name	**Target**	**Explanation**
Berkeley Group Waste Target	**Reuse or recycle over 95% of waste**	The Berkeley Group target is to divert at least 95% of construction, demolition and excavation waste (by volume) from landfill through reuse or recycling.
BRE Waste Benchmark (m3/100m2) for the project type *Based on December 2015 data*	**Average Volume of Waste (excluding demolition and excavation waste) per 100m2 of floor area: 18.55 m3**	BRE Waste Benchmarks are derived from completed projects that use the BRE SMARTWaste Plan. The benchmarks are based on completed *new build* construction projects. The benchmarks are based on construction waste only and do not include demolition, excavation or groundworks waste. The BRE Waste Benchmarks are the average m3 of waste produced per 100m2 floor area under construction. The Target Total Project Waste Volume is calculated by multiplying the BRE Waste Benchmark by the Total Internal Floor Area of Structure(s).
	Total Project Waste Volume (excluding demolition and excavation waste): 2613.695 m3	
BRE Waste Benchmark (m3/100m2) for the residential elements of the mixed use project *Based on December 2015 data*	**N/a - project type is not mixed use**	
	N/a - project type is not mixed use	
BREEAM Target Credits	**N/a - no elements of the development are required to be certified to BREEAM**	To achieve BREEAM credits under section 'Wst 01', non-hazardous construction waste (excluding demolition and excavation waste) generated by the construction of the building covered by BREEAM should not be greater than the value outlined.

Appendix G - Site Pollution Incident Response Plan

Form: Site Pollution Incident Response Plan (SPIRP)

General Details

Project Name:	Former Worthing Gasworks
Project Address:	Park Road, Worthing West Sussex BN11 2BS
Project Manager:	Andrew Lock
Project Value:	£50,000,000
Nature of Project:	Construction of 228no apartments across 5no blocks, without basement.

Revision Record

This document shall be reviewed updated at intervals of no longer than 3 months, and more frequently where types, volumes and storage arrangements for hazardous liquids or drainage infrastructure changes.

Revision	Date	Amendments made	Updated By
A	19/01/24	1st draft	ASL
B			
C			
D			
E			
F			
G			
H			
I			
J			
K			

Introduction

This plan has been developed in order to prevent pollution incidents and to ensure the site team has the necessary equipment and training to respond to an incident.

The main pollutants from construction are: silt, fuel/oil, concrete and chemicals. Projects must set up site, and maintain site in a manner that prevents environmental incidents. It is company policy to report all environmental incidents to the sustainability team.

Please refer to **Procedure: Preventing, Managing & Reporting Pollution Incidents** for further detail.

Training must be provided for all site staff and operatives (e.g. via the induction process, toolbox talks and spill drills) to ensure the risk of a pollution incident arising from the storage of materials and activities on site is minimised and in order that they are aware of what to do in the case of an incident. The SPIRP should be kept and displayed on site near to the fuel and COSHH storage areas.

Emergency Contact Details

Contact	Name	Phone Number
All Incidents:		
Site Manager	Chris Mitchell	07545 372694
Project Manager	Andrew Lock	07500 993502
Sustainability Advisor / Manager	Jenny Matthewson	07870 486327
Serious Incidents:		
Production Director	Toni Byrne-Price	07788 304586
Operations Director	Alex Davies	07500 063128

Government Organisations:	
Environment Agency	0800 80 70 60
Sewerage/ Water provider	Southern Water
Canal and River Trust	N/A
Local Police	Sussex Police
Local Authority	Worthing Borough Council
Other:	
Waste Management Contractor	TBC
Chemical/equipment suppliers and/or manufacturers	TBC
Clean up contractor *(see here for a list of spill response companies:* spillonline.org*)*	TBC
Neighbours	Waitrose & Kings Hall apartments
Gas Supplier	N/A
Electricity Supplier	TBC

SECTION 1 – POLLUTION PREVENTION AND PREPARATION

a) Environmental Sensitivity and Potentially Harmful Activities

Please tick all that apply.

Sensitivity of the Site and Surrounding Area to Pollution Incidents	Potentially Polluting Activities/Events
☐ Watercourse on-site	☒ Fuel storage and handling
☐ Watercourse <50m	☒ Concrete works and washout
☐ Stormwater drains to watercourse via sewer	☒ Other washout activities
☒ Stormwater drains to ground	☒ Storage and use of other hazardous materials
☐ Stormwater drains to combined sewer	☐ Areas of open ground / silty water
☒ Stormwater drainage live	☒ Sewerage connections
☒ Unsurfaced/open ground present	☐ Site in flood risk area
☒ Known groundwater	☒ Vandalism
☒ Residential <50m	☒ Fire and firewater
☐ Sensitive nature site <50m	☐ Other *(please specify)*:
☐ Agricultural land <50m	☐ Other *(please specify)*:
☒ Adjacent SGN Gas Governor in corner of site	☐ Other *(please specify)*:
☒ Hospital within 100m	
☐ Other *(please specify)*:	

b) Pollution Control Equipment

The inventory should provide an up-to-date record of all pollution control equipment stored on-site and held off-site (providing that it is available to use), together with details on how to use it and its precise location.

Sites close to watercourses should have appropriate equipment to stop pollution spreading on water, such as river booms.

Emergency Equipment	Location of Equipment	Purpose, use or other information, including location of instructions, if appropriate.
(Example) *River Booms*	*(Example)* *In storage container number 12, next to site office*	*(Example)* *Use to prevent oil spillages spreading if oil has reached the adjacent river*

b) Site Plan

A clear diagram of the site showing drainage arrangements in relation to potential pollutants and polluting activities listed above should be inserted on the next page or appended to this plan. The technical team is responsible for generating the drainage plan and the site team is responsible for ensuring the relevant details are included. These can be included within the drawing itself and updated as required by the technical team or be hand annotated onto the plan by the build team.

The plan should include the following:

- Foul drainage
- Storm drainage
- Drainage features
- Sensitive water
- General layout of buildings
- Site access routes
- Fuel storage areas
- COSHH storage areas
- Silos
- Concrete washout
- Sensitive ground
- Stopcocks and valves
- Waste storage areas
- Location of pollution management materials (e.g. spill kits)

Depending on the size and complexity of the site there may also be a need for additional plans highlighting the specific features in more detail.

Site Plan


NORTH STREET
LYNDHURST ROAD
WORTHING HOSPITAL
WAITROSE SUPERMARKET
HIGH STREET
CHARLECOTE ROAD
PARK ROAD
Club House
BEACH HOUSE PARK
Bowling Green
A
B
C
D
E

c) Hazardous Substances

The inventory should provide an up-to-date record of all substances stored on-site (including those belonging to sub-contractors), together with an indication of the maximum quantity likely to be stored. Product data sheets and Control of Substances Hazardous to Health (COSHH) assessments should be attached for any substances posing a risk to health or the environment.

Substance	User (Name of owner/user)	Pollution Control Measures (tick relevant boxes)													Container size	Maximum quantity / Number of Containers	Storage Location	Emergency information (including Location of COSHH assessment)
		On Hard Standing	Bunded Container (110%)	Site constructed bunding	Stored on Spill Pallets	Store Internally	No Storm water Drain < 10m	No Watercourses < 10m	No Residential < 10m	Nearby gulleys Covered	Spill Kit Nearby	Other:	Other:	Other:				
Example *Diesel*	*Groundworker*	☐	☒	☐	☐	☐	☒	☒	☒	☐	☒	☐	☐	☐	*205l drum*	*2 x 205l = 410l*	*COSHH STORE opposite Plot 12*	*See COSHH Assessment in Groundworker file. Use spill kit or absorbent granules to clear up spillages.*
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐				
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐				
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐				
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐				
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐				
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐				
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐				
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐				
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐				

SECTION 2 – INCIDENT ACTION

Use this checklist at the time of an environmental incident to ensure all points have been appropriately delegated and actioned accordingly.

1. **Contain the pollution at source**, if possible. Try to stop any more material spilling, for example by sealing the damaged container, closing any valves to stop material flow, putting a leaking container into another secure container etc.
2. **Try to stop the pollution from spreading**, for example by using physical barriers, sand or granules. The table below indicates what materials are appropriate for different types of spillage.

	Pollutant				
	Concrete/ cement	**Paints**	**Oils**	**Silt**	**Detergents**
Spill on Ground					
Sand	✓	✓	✓	×	✓
Straw bales	×	×	✓	✓	×
Absorbent Granules	×	×	✓	×	×
Geotextile fence	✓	×	×	✓	×
Drip trays	×	✓	✓	×	×
Pads/rolls	×	×	✓	×	×
Drain seal	✓	✓	✓	✓	✓
Earth bunds	✓	✓	✓	✓	✓
Spill in Water					
Straw bales	×	×	✓	✓	×
Pads/rolls	×	×	✓	×	×
Booms	×	×	✓	×	×

3. **Contain the pollution on the surface**. Stop the material getting into the drainage system or onto unsurfaced ground. Use items like booms, sand and drain mats. If possible transfer the pollutant to a temporary container or an area of hardstanding.

4. **Contain the pollution in the drainage system (if relevant)**. If the spill has entered a live drainage system use shut off valves if present. If the drainage system has not been connected it could be used to contain the pollution in the short term.

5. **Contain the pollution on or in the watercourse (if relevant)**. If the spilt material floats on water, e.g. oil, put a river boom across the water. If the spilt material mixes with water and the watercourse is small, consider blocking the whole flow by damming the watercourse.

6. **Notify the Site Management Team and Sustainability Manager/ Advisor** of the incident.

7. **Contact a specialist pollution clean-up contractor/waste contractor**, dependent on the nature of the incident

8. **Establish who the witnesses were to the incident**

9. **Complete Form: Pollution Incident Reporting Form.**