

Management



Methods of managing and controlling movement of materials, plant and equipment during the construction of the project.

Englemere Rehabilitation Centre

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Assumptions

- The land to the East, outside of the site boundary, cannot be utilised for additional storage during the project.
- Both Roads (North and South) of Englemere Road are accessible and not a 'dead end'
- I am the project manager for the Englemere Rehabilitation Project (ERC) project.
- Pedestrian access along Englemere Road – it is assumed that the footpath (if in existence) along the site boundary will be closed via a closure permit for the Local Authority. Pedestrians will be diverted to the footpath on the other side of the road.

Introduction

See attached Appendix 1 – Site Plan layout. All comments and suggestions below relate back to this document. The ERC is a site with limited space around the Move on Flat as well as the Core House. The Location of facilities, vehicle parking, material delivery, storage compound should all be considered because they are all linked when it comes to the overall effective layout of the site.

Effective site layouts, control of moving material and plant around a site are key to productivity, Health and Safety control and will be pivotal in maintaining programme.

Site Setup

The site perimeter will be either a timber hoarding 2m in height or a heras fence system of similar height. This fence will run around the full perimeter of the site. At the entrance to the site, it will be step back to allow vehicles to exist Englemere Road and prevent congestion. This section will be gated for security.

Vehicular parking is located on the South East corner of the site, located in this position as it is away other high activity areas. The area will need to have a 3m gap to the Core House wall to allow materials to be moved into location and plant and machinery to operate safely as well as erecting of scaffolding. Considering the space available means the amount of vehicles able to park in this area will be quite limited, so an area in front on the Core House may need to be consolidated and utilised for additional parking.

Appendix 2 is a sample Project Management plan (not populated for this project). All the points relating to the project will be addressed in this plan.

Security

As stated above, the entire perimeter of the site will be timber hoarding (site Plan #9). Entrance gates will be located between the buildings. Access will be either through a security guard, site foreman or dedicated banksman for the entrance, who will have to be contacted by visitors and delivery drivers to gain access onto the site. Site security is a very important part of site Health and Safety. Controlling who enters site is essential to ensure their safety but to also ensure they are given a full site induction and that have the necessary Personal Protective Equipment (PPE) to work on the site.

CCTV should be fitted to the main entrance gated area as well as several cameras around the site, with the hard drive recording facility located in the office. Cloud storage of CCTV imagery is common these days which prevent important video footage being stolen should the hard drive be subject to theft.

The construction of ERC will involve some large plant and heavy equipment, so security is important to prevent theft. It may be a requirement to increase security during non-working hours of the construction site, in this instance a 24-hour security guard may be required to protect the site.

Storage

There is limited space on the Englemere Road elevation of the development, so the material storage compound will be located immediately behind the 'Move on Flats' block (Site Plan #3). The area will consist of open storage for materials not requiring protection from the weather and a covered area or secure cabins for those that do. In order to meet COSHH regulation an area should be dedicated to storage of chemical products., this should be a lockable cabinet or cupboard with limited key holders. The crane location is ideally located to move materials from the delivery area, however the crane will swing over the 'Move on Flats' building, this

will be a Health & Safety consideration when planning the programme of works and use of the crane during site opening hours.

Materials must be kept to the confines of the storage area; this will ensure the site is kept tidy and safe. Pedestrian routes to and from the storage area should be kept clear as some of these paths may be Fire escape routes. (path not noted on Site Plan – Appendix I to avoid the plan being cluttered and not legible).

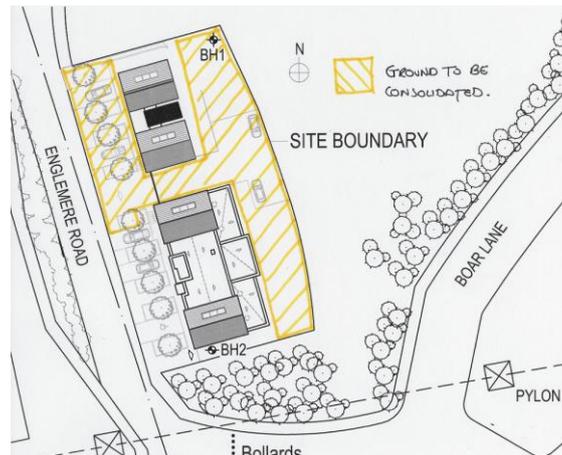
Within the storage area will be a dedicated section for waste management. Predominantly skips, that need to be cordoned off, kept tidy and easily accessible so they can be exchanged with little effort or disruption to the operation of the working site. Arson of skip rubbish is a real nuisance but also dangerous so adequate protection will be required.

Temporary Works

'Temporary works (TW) are the parts of a construction project that are needed to enable the permanent works to be built. Usually the TW are removed after use – e.g. access scaffolds, props, shoring, excavation support, falsework and formwork, etc. Sometimes the TW is incorporated into the permanent works - eg haul road foundations and crane or piling platforms may be used for hardstanding or road foundations'. <https://www.hse.gov.uk/construction/faq-temporary-works.htm>

In order have vehicular access to the site the poor 'made ground' will require consolidating and compacting. A geotextile material will be laid with a 450mm stone matt. When compacted this will create a suitable surface around the site. The amount of consolidating has been limited to manage costs and reduce the amount of made ground that will be disturbed, preventing any contamination issues. This may need reviewing and increasing once the Project Management Plan has been completed.

The consolidation work will be complete first before the remainder of the site is setup. Initially the delivery area will be created (Site Plan #1), this will allow the site cabins to be located in the area temporarily. Once the remaining area has been completed the cabins will be craned into their final position. The sketch below identified the areas of the site ground to be consolidated.



Other temporary works will include scaffolding, falsework or formwork, haul roads. In this scenario the consolidated ground will become the access road during construction and the final access road/car park when the project is complete. BS5975 a way of managing TW by appointing a Temporary Works Coordinator (TWC).

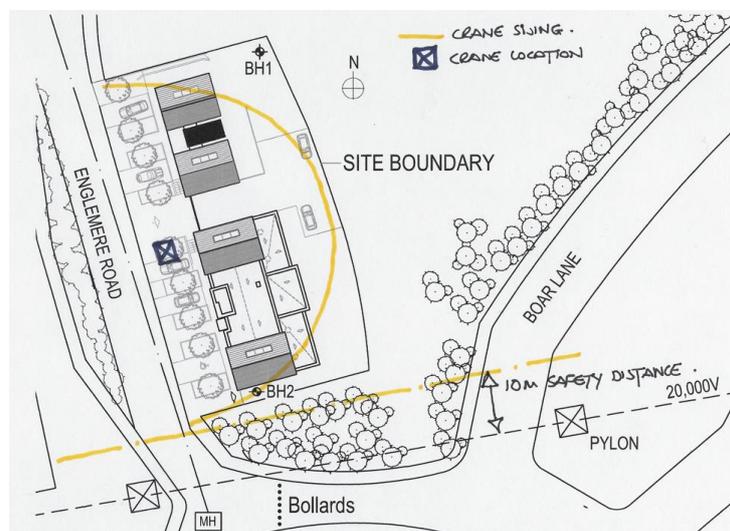
Deliveries

Deliveries to the ERC need to be managed carefully. Traffic along Englemere Road is likely to be busy due to the industrial units opposite, so not only will there be domestic style vehicles, but there will also be vans, lorries and possibly articulated lorries. Note: For this scenario and the current economic climate, there may be vacant units in the industrial units that could (subject to negotiations, contracts, and agreement), be used for storage or vehicle parking. However, the proposed Site Plan layout does not consider this at this time.

Deliveries are to be made to use Englemere Road as a 'one way' access road (site Plan #7 & #8). Entering from the North, completing the delivery and then exiting Englemere Road to the South. A temporary surface will be laid in position (Site Plan #1). Vehicles that are delivering items that need to be handled manually into the storage area, should reverse up the consolidated ground between the two buildings, this will likely require a banksman to coordinate and manage traffic & pedestrians. In the event of multiple deliveries arriving at once, vehicles may be required to park on Englemere road in a temporary parling position whilst material is unloaded by the crane and swung into the storage area (Site Plan #1a). Further investigation will be required to assess if the local authority will allow this operation, a road closure or traffic management may be required. It is preferable, to save costs, to manage deliveries with the confines of the construction site, but at times it may not be possible to achieve with the additional delivery location.

The proposed Site Plan includes a suggested location for a crane (site plan #5). Given the limited space around the buildings, a crane will be a useful asset to the development. Site Plan point #6 identifies the safe working distance from the high voltage power lines and potential swing pattern for the crane. The crane will be able to reach over 95% of the buildings.

Depending on the build sequence, the crane may need to be relocated during the project.



The HSG guidance note GS6 provides details and advice on working near or under power lines. Depending on the height to the power line cable, a 'goal post' safety system may be required similar to the image below. This safety mechanism may be required were Englemere Road passes under the high voltage power line, given this is intended as the main vehicular route from the site, it will need to be taken into consideration. The locating of the goal post will like require consent from the Local Authority as it will be positioned on the highway public footpaths, either side of the road.



Welfare Facilities

Every operative on site should expect to have adequate welfare facilities (site Plan #2). This includes toilets (sufficient in number for labour on site, split male & female), hot and cold running water for washing hands and suitable rest areas with cooking facilities. Too often contractors do not put enough emphasis into this area of a construction site. Within Greene King, where I work, contractors are severely marked down on Health and Safety site scores if the welfare facilities are not up to our required standards. They then run the risk of

forfeiting work as their scores go into a league table for all contractors. The lowest scoring contractors then have formal reviews on performance.

Office and meeting cabins

Office and meeting cabins are another essential element to a good site. In this scenario they are located in the farthest Northern corner of the site out of the way of most other activities that will take place on site (Site Plan #2). I have located them in this position to ensure the site management cannot control site from the office window, they will need to be on foot walking the site regularly to control the construction. Meeting cabins are also an essential requirement, they will hold all site induction meetings as well as staff meeting and project team site meetings.

Movement of Material During Construction

The majority of materials when they first arrive on site will be craned into the storage area. However not all can be moved in this manner and some manual handling will be required, especially once the material is required for use in the construction.

The HSE have produced a document which is a guide to 'Handling Construction Materials'. HSE og-0126. Employers must protect their workforce from injury in relation to handling material in the workplace. This guide breaks down the risk into 3 areas: 'Design' stage, 'Delivery' stage and at 'Movement' stage. In the document is a table identify building products, their size and typical weights and the lifting frequency expected in a construction site. It then categorises the risk of muscular skeletal injury in to Low, Medium, High and very High-risk categories. This is an excellent document and should be considered in risk assessing the movement of material around the ERC project site.

Bibliography

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