DEMOLITION MANAGEMENT STRATEGY

For the Demolition and Associated Works

For

Twickenham Sorting Office,
109 London Road,
Twickenham,
TW1 9BE

Compiled by

Wooldridge Ecotec Limited

Unit 17, Hallgrove Farm
London Road
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Essex
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MARCH 2012

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GENERAL STATEMENT OF HEALTH AND SAFETY FOR THIS PROJECT

The safety and health of our employees' demands the same degree of attention and emphasis as that placed on our mainstream activity which encompasses quality, proficiency, efficiency, environmental and financial awareness. We also recognise our responsibilities for the health and safety of others that may be affected by our activities.

It is our main aim to achieve a working environment in all construction projects that is free of all work-related accidents, dangerous occurrences and ill health. To this end we will pursue continuing improvements from year to year.

We undertake to discharge our statutory duties by;

1. Identifying hazards on construction sites, assessing the risks related to them and implementing appropriate preventative and protective measures.
2. Providing and maintaining safe plant and work environment.
3. Establishing and enforcing safe methods of work.
4. Recruiting and appointing personnel who have the skills, abilities and competence commensurate with their level of responsibility.
5. Ensuring that technical competence is maintained through the provision of refresher training as appropriate.
6. Promoting awareness of health and safety and of good practice through effective communication of relevant information.
7. Furnishing the resources needed to meet these objectives.
8. Identifying who could be affected by our operations outside of the site boundary and implementing procedures and techniques to minimise any disruption.

All employees, contractors and designers on their part, are encouraged to give their fullest co-operation and to contribute actively towards achieving a work environment that is free of accidents, dangerous occurrences and ill health.

Our health and safety policy is reviewed at suitable intervals to monitor its effectiveness and to ensure that it reflects our company's aspirations.

Signed for and on behalf Of
Wooldridge Ecotec Limited …….. Date: …7th March 2013.
Nick Anderson - Director

INTRODUCTION

1. This Demolition Management Strategy incorporating method statements and risk assessments has been developed in response to the pre-construction information pack and the full suite of contract documents supplied by St James in accordance with the CDM 2007 Regulations. This document describes the Demolition Contractor's site organisation and arrangements for managing both health and safety and environmental matters. It provides information and procedures for all site personnel (and visitors) on health safety and welfare matters.

2. The following Demolition Management Strategy refers to the demolition and associated works at **Twickenham Sorting Office, 109 London Road, Twickenham, TW1 9BE.** This document is not definitive and may vary to ensure the safety of all those directly involved or otherwise. Any variation from the described method of works and associated arrangements will be discussed with St James and the CDM Co-ordinator for approval and before any of the revised work starts. This document will be amended to suite the approved revisions.

3. The works, in principal, will be divided into two phases, a setup phase and a work phase.

    3.1. Phase one – Ensuring the site is secure on all boundaries. The delivery of the site welfare and the implementation of the traffic management setup. The collection, removal and the correct disposal of all hazardous substances, items and objects around the site including all accumulated debris.

    3.2. Phase two – The controlled removal of all ACM's in accordance with the regulations followed by the demolition of all buildings down to and including the ground slab and foundations to a maximum depth of two metres. Selected hard standings and foundations may not be removed due to the proximity of the water course. All the demolition arisings will be crushed to BS 6F2 and stockpiled on site for St James re-use. All waste will be removed from site to recycling centres or licensed waste transfer sites.

HEALTH AND SAFETY STANDARDS

1. Safety standards on the project will be as required by the relevant statutory legislation and the contents of the Company Policy on Health and Safety together with any special arrangements contained in St James's Health and Safety Policy. The statutory legislation relevant to this project include;-

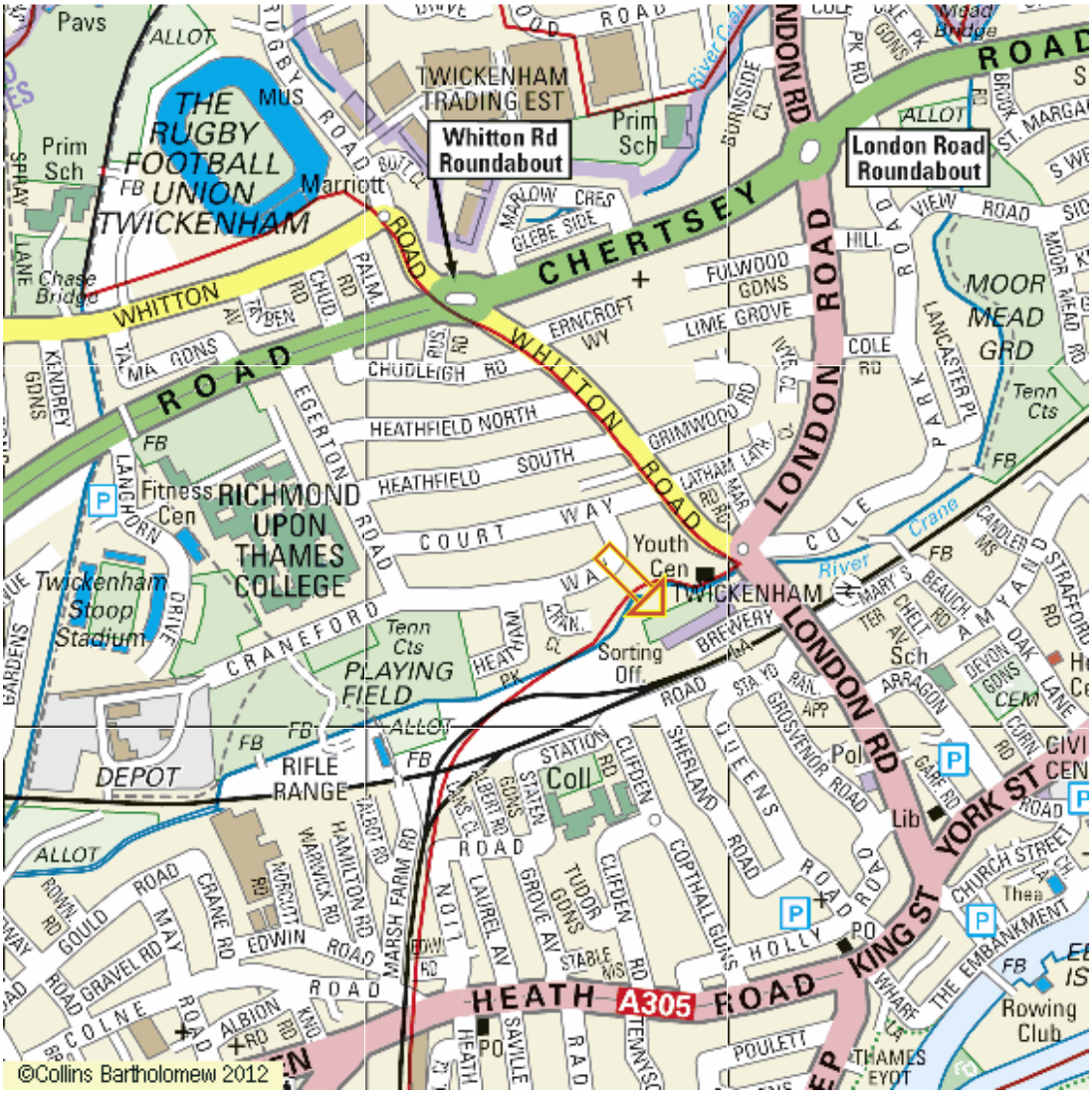
    - ☐ The Health & Safety at Work Act 1974.
    - ☐ The CDM 2007 Regulations.
    - ☐ The BS 6187:2011 Code of Practise for Demolition
    - ☐ The Management of Health and Safety At Work Regulations 1999
    - ☐ The Pre-Construction Information Pack.
    - ☐ The Work at Height Regulations 2005
    - ☐ The Control of Asbestos Regulations 2012
    - ☐ The Manual Handling Regulations 1992 (as amended)
    - ☐ The Personal Protective Equipment Regulations 1992 (as amended)
    - ☐ The Lifting Operations and Lifting Equipment Regulations 1998 (as amended)
    - ☐ The Provision and Use of Work Equipment Regulations 1998 (as amended)
    - ☐ The Control of Noise At Work Regulations 2005
    - ☐ The Control of Vibration at Work Regulations 2005
    - ☐ The Control of Substances Hazardous to Health Regulations 2002
    - ☐ The Electricity At Work Regulations 1989
    - ☐ The Construction (Head Protection) Regulations 1989
    - ☐ The Health and Safety (First Aid) Regulations 1981 (as amended)
    - ☐ The Health and Safety (Safety Signs and Signals) Regulations 1996.
    - ☐ The Dangerous Substances & Explosive Atmospheres Regulations 2002
    - ☐ The Reporting of Injuries, Diseases & Dangerous Occurrences (Amendment) Regulations 2012.

- ☐ The Confined Spaces Regulations 1997
- ☐ The Working Time regulations1998.
- ☐ Company Policy for Health, Safety and Welfare at Work.
- ☐ Health and Safety Plans and Method Statements for specific activities where a specific risk is identified.
- ☐ Risk Assessments in accordance with the Management of Health and Safety at Work Regulations 1999.
- ☐ Regulatory Reform (Fire Safety) Order 2005
- ☐ Site Waste Management Plans Regulations 2008

LOCATION AND SITE WIDE ELEMENTS

1. The site is located on London Road in Twickenham. The site is located on a self contained block of land with a dedicated entranceway leading off London Road. London Road It is a busy dual carriage way that has a high level of vehicular and pedestrian traffic in both directions.

2. The traffic volumes will increase significantly at business and school opening and closing times. Pedestrian traffic across the entrance to the site is particularly heavy due to the proximity of Twickenham Station.



2. There are two access ramps leading into the site from London Road. One known as Brewery Lane gives access to two residential cottages on site and a Network Rail building while the second access ramp leads directly into the Sorting Office site.

3. Wooldridge will use the second access ramp that leads directly into the site. The entrance to Brewery Lane will be keep free from obstructions at all times allowing the residents of the two cottages and Network Rail employees 24/7 access.

4. The building structures that are to be demolished are set within their own grounds. A combination of brick walls and various types of fencing surround the site and prevents unintentional access.

5. The access ramp that extends into the site from London Road gives both vehicular and pedestrian access to the existing buildings while providing internal parking and storage areas within the project boundaries.

6. Local residents will need to be informed of any large vehicle movements to and from the demolition site. The demolition works, site plant and equipment will be moved to the project site at low vehicular traffic flow times. They will only be delivered after 9.30am and collected before 3.00pm

7. All means of escape and access in the case of an emergency will be maintained through the life of the project. This will include any temporary measures deemed necessary i.e. Temporary routes for escape and emergency service access and egress.

8. Liaison will continue throughout the life of the project to keep the project management team, the adjoining owners and occupiers updated with the current project status and any change of circumstances.

9. The works defined will take place within the demolition site areas, which are within the project site boundaries. All demolition operations, site plant, machines and operatives will be contained within the site boundaries. No access and use of any adjoining land shall be allowed, unless by the direction and consent of St James

SCPOPE OF WORKS

1. The scope of works has been defined by St James in the document titled “Scope of Works dated 31st October 2012 – D252 - Demolition & Asbestos Removal”.

2. The extent of the scope of works is to be agreed by St James and Wooldridge Ecotec Limited before any work begins. This will include agreement between both parties for items within the scope of works that have been excluded within our tender return.

3. Generally the scope requires the demolition of all the defined structures on site and their removal. The breaking out and grubbing up of all foundations, ground slabs and hard standings.

4. The processing of all hardcore into a usable aggregate for re-use in the construction phase. To leave the site graded to surrounding levels and free from any known underground obstructions and contaminants to a maximum depth of two metres.

5. It has now been agreed this project will take place in one continuous phase.

SITE CONSTRAINTS

The site is located to the north of Twickenham on the London Road. The site is surrounded by a railway line to the south, London Road to the east, the Crane River and Heatham House to the north and west. All demolition work will take place within the boundaries of the demolition site. No over sail of any boundaries will be necessary to complete our works. Furthermore:

1) Works are adjacent a Network Rail line and allowance should be made for working with Network Rail including preparation of method statements, and Risk assessments for Network Rail approval.

   a) Wooldridge will work to any requirement from Network Rail however no work will take place that may oversail their boundary or damage any of their assets.

2) Works are adjacent the River Crane and allowance should be made to ensure that no contamination is made. There are a number of existing outfalls from the site into the River Crane.

   a) All outlets into the River Crane will be sealed within 5 metres of the outfall. St James will be consulting with the Environment Agency to determine the construction of the river walls to establish any loading limits. Until this information can be agreed Wooldridge will not work or place any plant or machinery within 5 metres of this wall.

3) Works are adjacent 4nr occupied cottages and allowance should be made to give due consideration on traffic movement, noise, dust, and vibration.

   a) There will be unobstructed 24/7 access to the cottages as they will use Brewery Lane for their sole use. St James will be erecting a 2.4 metre high plywood hoarding to the site boundary adjacent the cottages. This will help contain noise and dust from migrating into their properties. Hydraulic breaking will be kept to an absolute minimum to reduce any vibration to the lowest possible acceptable levels.

4) Works are adjacent Heatham House which has an outdoor sports area where children will be playing.

   a) A protection scaffold to the full height of the buildings will be erected to the entire boundary of the sports area. The scaffold will be enclosed with debris netting to prevent the migration of dust and any potential fragments going over the boundary.

5) There is a risk of the public trying to park on the site and use the railway station – this is to be prevented by the gateman.

   a) Wooldridge will employ a gateman that will be on duty during working hours to prevent any members of the public parking down Brewery Lane.

6) A 48” trunk sewer crosses the site.

   a) Wooldridge have information to suggest this sewer is in excess of 6 metres deep and will not be affected by our works. Wooldridge will double check this depth once on site to determine any protection measures that may be necessary.

7) A 30” water main runs down the ramp.

   a) Historically HGV’s and heavy articulated vehicles from Royal Mail have used this ramp. Wooldridge will not be applying any heavier loads than what has historically been applied to the ramp.

8) An overhead cable enters the site from the cottages.

   a) These are BT lines and are due to be relocated by St James before any demolition commences.

9) The site is currently being treated for knotweed – this should be dead prior to demolition however the contractor should be aware during excavation of other currently unidentified stems.

   a) All identified Knotweed stands will be completely segregated from the works using double clipped Heras fencing. No work will take place within 3 metres of these stands. Warning signs will be placed on the fences to warn all operatives that any access or work in these areas are prohibited at any time.

10) The site has previously been noted as having Giant Hogweed however this has not been seen recently, the contractor should be aware during excavation of other currently unidentified stems.

a) Any identified Giant Hogweed will be segregated from all access and works as above.

11) Low level brick wall adjacent Network Rail to be removed – this will require Network Rail watching brief and approvals.

a) Wooldridge will work to any requirements or constrints from Network Rail.

12) Trees along the bank of the River Crane are to be removed down to stump.

a) Wooldridge will remove these trees with the aid of a demolition excavator fitted with a grab. With the excavator sitting back 5 metres from the river wall the tree will be grabbed carefully while a tree surgeon cuts the trunk at ground level. The tree will be lifted back into the site and placed in a waste bin.

13) No works to be allowed for within the Metropolitan Open Land (MOL)

a) The boundary fence will prevent any access to this area. Furthermore all operatives will be informed about this rule at the site induction.

14) There are built in safes – 4nr located. These have not been included within the current asbestos survey.

a) Wooldridge will have these safes surveyed before dismantling them using a demolition excavator fit for the purpose.

15) Below ground ducts run within the floor slabs of the main warehouse buildings.

a) These will be progressively backfilled during the demolition of the buildings and before any excavators track over these areas.

16) Underground oil tanks have been identified on site and require removal.

a) The removal of these tanks are discussed in the method of works and will be removed in accordance with BS6187:2011 Code of Practice for Demolition, Chapter 19.

THE BUILDINGS.

1. The majority of the central and northeastern parts of the site are occupied by large interconnected warehouse buildings.

2. The western part of the site is occupied by a mostly tarmac covered yard, with a rectangular building located along part of the southern boundary.

3. The eastern part of the site is occupied by a yard, again mostly covered in tarmac hard standing, with a concrete loading bay area immediately adjacent to the warehouse.

4. In the eastern part of this yard is a concrete and brick built shed structure which previously housed an above ground diesel storage tank. There are also two underground diesel tanks in this area.

5. Previous desk study report indicates that the tanks have capacities of 5000 litres and 6000 litres. The fuel island is bordered by a drainage system which links into interceptors, and vent pipes are also present.

6. The buildings on site are traditionally constructed one, two and three storey concrete framed buildings with brick infill panels. The pitched steel or timber roof trusses support light weight profiled steel sheets.

7. Window and door opening are built into the external wall openings. Steel/Concrete staircases give access to the upper floor levels made from concrete slabs or planks. Masonry partitions form the internal room separations. The ground floor areas are concrete slabs.
8. The internal finishes are generally exposed or painted block work.

STANDARD PROCEDURES

Site Survey & Statutory Authorities

Before commencement of works: -

1. A visual site survey will be carried out to assess all the site wide elements that affect the method and sequencing of work, the precautions that are to be taken regarding the health & safety and welfare of site personnel and visitors, the general public and property out side of the boundaries.

2. Wooldridge Ecotec Limited has been informed that St James has made all the appropriate Statutory Authorities aware of their intentions and that all necessary Notices and Licenses have been obtained, (planning permission/conditions etc.) Wooldridge will display a copy of the Section 81 Demolition Notice on site.

3. **St James will supply all the necessary information, in the form of maps, plans or onsite instruction, to Wooldridge Ecotec Limited to enable them to identify and protect all known live services passing through the site.** Wooldridge Ecotec Limited will liaise with St James regarding this matter before the demolition works begin.

4. St James will be sending notification to all the owners and occupiers of the adjacent buildings or structures, informing them of the nature of the work, commencement date and working hours.

5. Liaison will continue throughout the life of the project to keep the adjoining owners and occupiers up dated with the current project status and any change of circumstances.

PRINCIPAL AIMS AND OBJECTIVES

1. The principal aims and objectives are to control Health and Safety throughout the duration of the works of this project by the following methods; -

    1.1. To record the Projects Health and Safety arrangements for the management of the demolition phase together with monitoring procedures for compliance with the relevant statutory provisions ensuring, so far as reasonably practicable, the health and safety of all persons carrying out the demolition work and all persons who may be effected by the work.

    1.2. To take reasonable steps to ensure co-operation between all contractors, so far as is necessary, to enable each contractor to comply with the requirements and prohibitions imposed on them by or under the statutory provisions relating to demolition (construction) works.

    1.3. Ensure only ‘’authorised persons’’ enter the areas where demolition works are being carried out.

MANAGEMENT OF HEALTH AND SAFETY DURING THE DEMOLITION PHASE.

1. The management of Health and safety in the demolition phase will be the implementation of:-

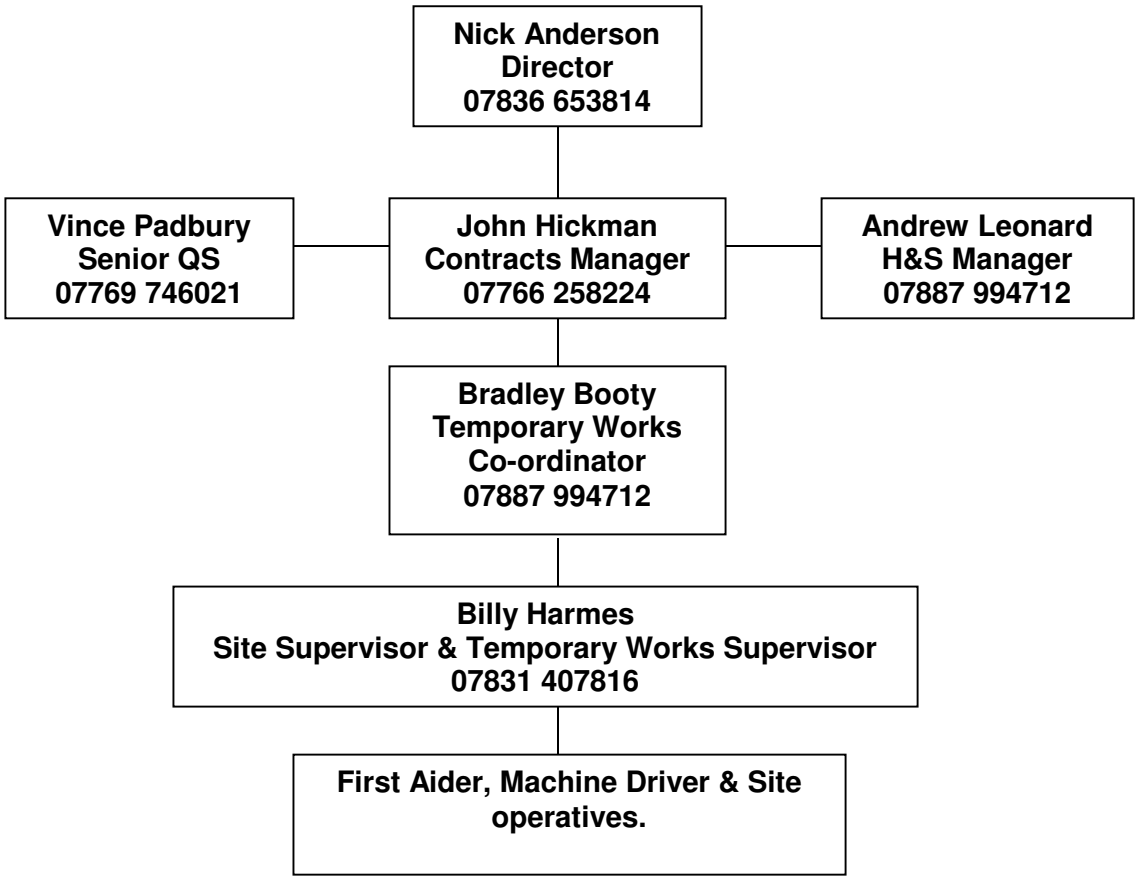
    1.1. The company Policy for Health, Safety and Welfare.

    1.2. Where appropriate, risk assessments in accordance with the Management of Health and Safety at Work Regulations 1999.

1.3. Method statements for specific activities where a significant risk is identified.

1.4. Weekly safety inspections by site management superimposed by independent safety audits of work in progress to ensure compliance with procedures identified in both the method statements and risk assessments together with statutory regulations.

The structure of the management team for this project is below;



MONITORING

1. Active and reactive monitoring of health and safety on the project will be implemented in the following manner, in accordance with the Company Policy for Health, Safety & Welfare and the Safety Management System.

   1.1. In addition to daily monitoring of Health and Safety on site, the site manager will on the first working day of each week carry out a safety check of the site.

   1.2. Safety Audits for Health and Safety together with the availability and compliance with method statements and risk assessments will be conducted by an independent external safety auditor every 2 weeks.

2. Copies of the documents mentioned within this Section will (a) after being used at the site meetings will be filed within the safety file kept in the site office and (b) be forwarded to St James Health and Safety Manager for monitoring purposes.

3. The stated objective is to ensure that all work carried out on Wooldridge Ecotec sites is done safely and that a 'zero' accident rate is achieved. Monitoring site safety in the manner as described above allows for safety issues on site to be identified and actioned where necessary.

ARRANGEMENTS FOR THE CO-ORDINATION OF CONTRACTORS

1. It is the responsibility of the Demolition Management Team to monitor and develop the Health and Safety Plan to ensure the co-ordination of other contractors while demolition is taking place. This will be by ensuring that; -

   1.1. A common approach is developed for managing the Health and Safety by everyone involved in the demolition phase.

   1.2. Assessments are prepared by contractors under the Management of Health and Safety at Work Regulations 1999.

   1.3. The provision and use of designated welfare arrangements.

   1.4. The implementation of the Health and Safety Plan to include the provision of risk assessments.

   1.5. Where necessary, ensure modification of the health and safety plan according to experience and information received from contractors.

INFORMATION FOR CONTRACTORS

1. Information on health and safety requirements will be provided to all contractors before the commencement of any site operations by safety induction training for all site personnel.

2. Programme and planning meetings with contractors will also be held on a regular basis during which health and safety issues will be raised.

SELECTION PROCEDURES

1. Contractors appointed during the demolition/construction phase will be required to demonstrate they are competent to undertake the work required and that their employees have received an adequate level of training.

2. This will be done by reference to previous performance standards and all contractors completing a health and safety questionnaire prior to appointment.

3. Method statements and risk assessments must be provided by contractors and authorised by site management prior to any work being commenced.

4. Method statements and risk assessments will be stored in a contractors register in the site office.

5. Machinery or plant for common use during the demolition/construction phase will only be selected from and provided by reputable suppliers.

6. The selection of such machinery or plant will take account of the method statement provided for the task and the conditions under which the machine or plant will be working. Only trained, competent workers will be allowed to operate the machinery/plant.

7. All plant and equipment brought onto site by Contractors must be safe and in good working condition, fitted with any necessary guards and safety devices.

8. Every lifting appliance and all working gear and anchorages as defined in the Lifting Operations and Lifting Equipment Regulations 1998 must have a 12 or 6 monthly safety examination certificate available for inspection prior to the equipment being allowed to operate on site.

9. All chains, ropes, slings and any other item of lifting gear must have a certificate showing it was thoroughly examined prior to first use and a certificate of examination within the previous 5 months

available for inspection prior to being used on site, in accordance with the Lifting Operations and Lifting Equipment Regulations 1998.

10. All other plant (e.g. dumpers, excavators) must have a certificate of examination by a competent person (fitter or engineer) issued within the last 11 months to show that the plant is safe and has been serviced in accordance with the manufacturers instructions.

11. Such plant will also be subject to a weekly inspection by a competent person and the inspection entered into the appropriate register (in addition to the record held by the operator).

12. No power tools or electrical equipment of greater voltage than 110 volts may be brought onto site. All electrical equipment must be tested and suitably tagged in accordance with the Electricity at Work Regulations 1989.

13. Any electrical equipment including tools, transformers, generators, leads, plugs and sockets must remain in good condition whilst on site and any damaged equipment must be repaired by a competent person or replaced. Insulation tape/ block connectors etc. for repairing split/ scuffed leads etc. will not be allowed.

14. In accordance with the Provision and Use Of Work Equipment Regulations 1998 all operatives will be required to demonstrate that they have received adequate training before using certain pieces of plant/equipment (e.g. scissor lifts, dumpers etc.).

15. Evidence of such training will be required to be produced at the safety induction training at the latest. Regulations require that persons using any work equipment are competent to use that equipment.

16. Evidence of training does not in itself prove competence and any operative who is considered not to be “competent” when using a piece of work equipment will be stopped from using such equipment irrespective of whether they have evidence of training or not. The decision will rest solely with the Site Managers.

COMMUNICATION AND CO-OPERATION

1. Project, Client and Sub-Contract Review Meetings will be the means for communicating and passing information to all members of the project team, including St James, St James’ representatives, designers, CDM Co-ordinator, contractors and others whose health and safety may be affected due to the demolition work.

2. An "open door" approach should be adopted by all parties involved in the project. This will help encourage a sense of co-operation, involvement and a personal responsibility from all parties to complete this project safely and successfully.

3. Co-operation between contractors is expected so that the activities of one contractor will not create a risk to the health and safety of another.

4. Arrangements for providing co-ordination on health and safety issues on site will be by daily toolbox talks. These will maintain contact by site managers and supervisors with employees and contractors representatives.

5. All site managers and supervisors are to allow and encourage any representations to be made concerning health and safety issues on site by the workforce.

6. Where variations in design work or planned procedures are necessary during the demolition phase, these should be appropriately assessed in respect of health and safety implications and any information will be circulated to members of the project team including the CDM Co-ordinator.

7. Regular site progress, design and project review meetings will be held and are a suitable forum for ensuring that the above requirements are met, in addition to other means of liaison with relevant parties due to daily changes.

8. Health and safety issues at these meetings should be high on the agenda and not be passed over at the end of the meeting due to lack of time. Items raised and discussed will be minuted, actioned where appropriate and form part of the documentation to this Health and Safety Plan.

9. The following points will be included under the heading for health and safety issues.

    9.1. Recommendations and action taken or outstanding, following regular monitoring by site management or independent sources (i.e. safety inspections and audits.).

    9.2. Reports of accidents, dangerous occurrences, near misses and complaints including analysis and action.

    9.3. Recommendations of any safety representative.

    9.4. Pre-planning in light of project progress and work programmed before next meeting including updating of health and safety plan.

    9.5. Inter-relationship of contractors works to ensure co-ordination and co-operation.

REVIEWS

1. Reviews will be conducted throughout the project, especially as different trades/contractors complete their work so that records can be made as to compliance with and standards achieved in regard to the Health and Safety Policy.

2. The initial review will be shortly after the commencement of the project and thereafter as decided by any relevant parties involved in the demolition project.

SITE INDUCTION

1. On the day of commencement and prior to any work starting, all site operatives will attend a site induction that will be undertaken by Wooldridge Ecotec Limited's Site Supervisor. Areas of safety and welfare will be addressed as well as emergency access and egress routes, fire precautions and all other matters pertinent to this particular project. All new site operatives i.e. directly employed self-employed or subcontractors will be instructed to report to the site agent at the commencement of their first working day on site before they enter the site and start work.

2. All Wooldridge Ecotec Limited's site operatives will be CITB Constriction Industry Training Board trained (CSCS affiliated).

    - Safety awareness in demolition operations.
    - Safety awareness in plant operations.
    - Safety awareness in the removal of asbestos-based materials.

3. All new site operatives will be asked to produce their CITB certificate (or similar approved) as proof of qualification, experience and competence.

4. All untrained and/or site operatives with out certificates will be trained to the appropriate standard before being allowed to commence any instructed site operations.

5. The induction talk will include an outline description of the company's organisation and management system key personnel welfare and staff facilities. The issues of health and safety that are to be stated at the site induction will include,

- The health & safety plan.
- The requirement to heed personnel safety, the safety of others and the public emphasising that any breech of duty will result in a reprimand or dismissal in extreme cases.
- First aid.
- Fire procedures.
- Accident procedures.
- Building evacuation procedures.
- Obtaining and using protective clothing and safety equipment.
- A brief out line of the likely hazards that may be encountered, together with examples of any accidents that have occurred.
- The location of the asbestos cement materials identified in the type 3 asbestos surveys along with the possibility of finding other asbestos containing materials as the demolition progresses.
- Any areas that contain Knotweed or Giant Hogweed are completely out of bounds to all operatives, plant and equipment.
- A brief out line of further safety training and information that is required for site purposes e.g. the construction phase health and safety plan method statements and risk assessments.

SITE ESTABLISHMENT

1. The site is currently enclosed with a combination of brick walls and various types of fencing. Additional 2.4 metre high plywood hoarding will be erected along the boundary adjacent the cottages and the Network Rail access point. Further hoarding will be erected along the London road boundary that will include two panels to act as gates.

2. It is the intention of Wooldridge Ecotec Limited not to further undermine these measures in any way during the progress the demolition work. However during the progress of the works Heras fence panels will be erected in specified areas at the project site to enhance the boundary security conditions and to create drop zones and exclusion zones.

3. All the gates and fences will be continually checked and maintained throughout the life of the project. The demolition site main entry gates are to be opened periodically during working hours to allow access.

4. A gate Marshall(s) shall attend during the site gates opening hours to prevent un-authorised access. Banksmen will attend during the arrival and departure of all site plant, vehicles and equipment.

5. The gate marshal will guide all vehicles in and out of the site when it is safe to do so and when the public and any pedestrians have been fore warned by the gate marshal of the vehicles intentions.

6. Appropriate signs will be strategically placed around the site perimeter boundary fences warning the general public that demolition and stripping out work is in progress. The signs will also display our full company name and address as well as contact telephone numbers, ‘’ Caution Demolition in Progress Keep Out ’’ and ‘’ Hard Hat Area ‘’ signs are to name two important signs that are to be posted.

7. Statutory welfare facilities will be provided by Wooldridge Ecotec and will include drinking water, hot water, toilets, washing facilities and drying area with natural ventilation and light. This area will act as the site centre and control point where all information, communication, instruction, first aid and welfare facilities will be readily available.

8. The welfare facilities will be situated within the site at the most convenient area. There will be no more than 6 vehicles on site on a daily basis.

9. Smoking Area – to be provided outside of the welfare unit to include a bucket filled with sand for the extinguishing and discarding of used cigarettes. Smoking within any buildings on site is prohibited.

Twickenham Sorting Office – Site Setup and Traffic Routes

Community Centre

Community Centre

Retail

Retail

Retail

Retail

Retail

Retail

Retail

Retail

Retail

Retail

Retail

Retail

Railway

Station Road

Site Boundary

Plywood Protection Hoarding

Cottages & Network Rail Traffic

Site Traffic

Demolition Direction

Protection Scaffold

Welfare & Parking

Initial Processing & Storage

Crushed Stockpile (TBC)

Promap®

SAFETY AND FIRST AID

1. The site will be designated as a hardhat area and together with all other protective clothing, footwear and equipment will be worn and used by all operatives whilst working within the project site boundaries to include safety harnesses to prevent and arrest falls from heights. Mobile working platforms with safety rails will be used to provide safe high level working platforms.

2. A first aid kit commensurate to the number of operatives will be kept, as would the accident report book in the site office. All operatives will be made aware of their location. The site will be manned by a full time competent Site Supervisor. All Wooldridge Ecotec's site supervisors and a majority of the operatives are first aid trained.

3. The Divisional Director, Mr. Nick Anderson and the Site Supervisor, Mr Billy Harmes are both available in the case of emergency on the office numbers or Nick on 07836 653 814 or Billy on 07831 407816, these being mobile numbers thus giving twenty four hour contact with the Site Supervisor.

WORKING HOURS

1. The site working hours will be from 8.00am to 6.0pm. Monday to Friday and 8.00am to 1.00pm on Saturdays. No Sunday and Bank Holiday working.

SITE ACCESS

1. The use of the site access will be available between the hours of 7.30am to 6.30pm Monday to Friday and 7.30am to 1.30pm on Saturdays. No access on Sundays and Bank Holidays.

2. Liaison will continue throughout the life of the project with St James, the Local Authority, Police, adjoining owners and/or occupiers in relation to traffic routes for site vehicles and to up date them with the current project status and any change of circumstances.

NOISE

1. St James commissioned a consultant (Peter Brett Associates) to undertake a noise assessment for the demolition works. The demolition noise assessment was requested by the London Borough of Richmond-upon-Thames Environmental Health Department to determine the impact on nearby receptors and detail mitigation measures to be incorporated into the demolition management plan.
2. The baseline noise surveys were undertaken at three locations surrounding the application site. Th averages noise levels measured at each location for the daytime can be found in the Noise Assessment Report contained within Appendix F.
3. The results show that the threshold noise level of 65(dBa) will not be exceeded at either Heatham House Youth Centre (Receptor 2) or 14 Cranford Close (Receptor 3) At the Railway Cottages the threshold value will be exceeded but only at first floor level. Inspection of the property has concluded that no living rooms are situated on the first floor with only bedrooms located on the first floor. Bedrooms are considered to be a night-time living area and as there are no night-time demolition works we have not considered this applicable for further assessment.
4. The assessment has shown that the noise limits set within BS5228 will not be exceeded therefore specific intervention measures are not required. However noise impacts will minimised by the following mitigation measures and good noise management practices.

Mitigation Techniques

1. All Machines owned by Wooldridge Ecotec Limited have been recently purchased and have been factory tested before delivery.

2. All machines are equipped with baffles, lined compartments and silenced exhausts to reduce the machines operating noise level to within or lower than the regulated decibel levels to comply with the Statutory noise restrictions
3. The Crusher has lined compartments which house the machines three motors and associated operating pumps. The sound proof lining together with baffles and silenced exhausts contribute to reduce the machines operating noise level to within or lower than the regulated decibel levels to comply with the Statutory noise restrictions.
4. The Crusher will be surrounded by a 3.5m noise bund such that noise emissions towards the nearest receptors is minimised.
5. A 2.4m high plywood hoarding will act as a noise barrier during the main part of the demolition. Where the building abuts the road by the Railway Cottages heras fencing with acoustic lining will be used until sufficient space is made for the permanent hoarding.
6. Re-site or relocate noise source as far as is reasonable from Railway Cottages.
7. Control noise at source by mufflers, acoustic shields, exhaust silencers, or equipment dampers.
8. Issue and instruct on the correct use of PPE i.e. ear defenders.
9. Orientate plant to direct noise away from noise sensitive areas i.e. Railway Cottages
10. Enclose source of noise.
11. Rotate noise exposure times twenty minutes work / two hours break.
12. Liaise with who it may effect to agree work and rest times.
13. Management of activities e.g. the opportunity to shut down any machinery in intermittent use in intervening periods of non-use or where this is impractical, it should be throttled back to a minimum
14. Minimise drop heights of materials
15. Education and supervision of employees to ensure compliance with good practice noise management measures

Noise Monitoring

During the demolition works noise monitoring will be carried out for the purpose of assessing compliance with noise control targets. Based on the results of the noise assessment, noise monitoring is only required adjacent to the Railway Cottages. Instrumentation will be set up in a similar location to Receptor 1 and continuous daytime data will be obtained during the entire demolition period. The results of the noise monitoring will be summarised in a weekly report which can be made available to the Environmental Health Officer if requested.

The noise monitoring will be used to assess the noise levels during the work and enable adjustments to be made to the working practices if threshold levels are exceeded.

VIBRATION

British Standard 5228:2009 Part 2 provides guidelines on the acceptable vibration levels during the demolition. The guidance in the British Standards gives a vibration limit of 15mm/s above which cosmetic damage to neighbouring buildings may occur; the demolition works will be carried out in such a manner as to ensure that this limit is not exceeded. As a further precaution pre-commencement condition surveys have been carried out on the four Railway Cottages to provide a baseline to monitor against in the unlikely event that the works cause deterioration to the buildings.

It is anticipated that vibration levels during the majority of the demolition works will be between 5mm/s and 10mm/s, and any peak levels of up to 15mm/s will be for very short durations of time.

Vibration monitoring

Vibration monitoring will be carried out during the demolition works using a receptor fixed to one of the four Railway Cottages. The results of the vibration monitoring will be presented in a monthly report.

NUISANCE DUST & MUD

All reasonable measures will be taken to control nuisance regarding dust and pollution, complying with all reasonable requests from the Client and occupiers of the adjoining properties.

The main sources of dust to arise during the demolition process are during the demolition of brick buildings, grubbing up and excavation operations. The mitigation measures are dependant on the weather.

During a dry spell, water spraying shall be used to damp down the surfaces and all dust creating activities.

During wet periods, attention shall be drawn to the trafficking of mud and debris by vehicles on to the highways. In this case the roads shall be inspected daily and cleaned as appropriate.

Dust suppression measures shall be assessed at the beginning of each day and reviewed as necessary. This will have regard to the nature of the works, the location and proximity of adjacent properties and the public.

In all our demolition projects we try to preserve as much hard standing as possible and only remove it from inside the site towards the gate at the end of the project. We use the hard standing for the vehicles so they do not drive on the mud and this reduces the potential for mud to be carried on to the road.

We will instruct an operative to inspect the road on an hourly basis. He will be equipped with a broom and shovel in case any spoil gets on to the road. This will be removed off of the high way and carried back to the site.

Furthermore we will provide a water bowser with an engine powered jet wash attached. We will use this to wash off the wheels of any vehicles leaving site.

Additionally and when necessary the site supervisor will order one of our in house road sweepers to clean the roads.

The following precautions and best practise measures will be adopted from the beginning to the end of the project.

1. Continual dampening down using fine water spay on to activity areas that may create dust.
2. No demolition activities carried out in areas in close proximity to the adjoining properties during moderate or high wind conditions.
3. All loose debris and arisings that are light enough to be lifted up by the wind are to be cleared from the external or exposed site-working areas.
4. The debris and arisings will be either removed from the site or stored on the site in containers or spoil heaps with tied down covers.
5. In dry and windy conditions selected site areas will be hosed down to reduce the migration of debris, dirt and dust particles into the air.
6. Water will be applied in a controlled manner to ensure the risk of fugitive dust is minimised whilst avoiding excessive wetting of materials such that there is no potential for silty contaminated run-off from the work area
7. Sheeting of haulage vehicles entering/leaving site.
8. Covering of site skips.
9. During muck shift periods, provide road sweepers when necessary.
10. Regularly inspect and clean approach roads.
11. Disc cutting works to be subjected to dust suppression,
12. Establish site speed limits to prevent the creation of dust,
13. There will be no stockpiling of materials within 25 metres of any of the water courses on site.

14. Continual on site monitoring carried out by the person in charge to ensure the aforementioned mitigating action is adhered to.

By using the dust mitigation measure above, the potential for dust emissions to arise shall be significantly reduced.

In the event of an incident / complaint, the following procedure will be adopted:

- Take action to stop the incident (e.g. stop works);
- Mitigate and control any obvious effects (e.g. control dust with sprays, clean up any offsite dust deposition);
- Report incident immediately to site management team and Environmental Manager;
- Environmental Manager to record in the site log book.
- The Environmental Manager will undertake an investigation and identify why measures were not effective in order to prevent future dust incidents. Any changes to procedure will be communicated to all on site.

SECURITY

1. Wooldridge Ecotec Limited will ensure that all the security measures are maintained during working hour's attendance after this site will be left as secure as practically possibly. Upon the completion of work at the end of each working day the site will be left as secure as possible. The continuation of the boundary fence line will be checked all gates locked and all site plant and equipment left turned off and disabled.

2. All machines owned by Wooldridge Ecotec Limited are fitted with a secondary key system or a digital pin code system. The secondary key, when operated, turns off the electrical power to the starter motor.

3. The pin code enables the engine management system. Without the unique code the machine cannot be started regardless of the ignition switch being activated. Therefore at the end of each working day each machine will be parked in a selected area. The ignition key will be turned off and removed switching off the keypad. Alternatively the secondary key will be turned off and removed from the switch thus disabling the ignition and electrical system of each machine.

4. All project site boundary security conditions will be checked for continuity. The project site entrance gates will be locked by the site supervisor after the last person has left the project site area.

BURNING ON SITE

NO BURNING ON SITE

IDENTIFIED RISKS & METHODS

Existing Services

1. It is known that all the former Water, Gas and Electrical services are all located underground in the site area servicing the existing buildings. Overhead electrical cabled service the cottages which must be protected at all times. Documentary proof will be sought from the relevant authorities for all terminations before any demolition begins.

2. Any identified live services and termination points within the site will be segregated from the work areas by Heras fence panels or locked doors. This will have relevant signs attached warning of live services beyond

3. All the relevant live and terminated service information regarding position, depth and status will be passed to Wooldridge Ecotec Limited in writing and by on site instruction. All drawings will be kept in the site file as reference.

4. **Note. The site induction will inform all site personnel of their location and how to avoid contact with them. Live services will be protected from damage.**

5. Cat scan detectors will be used before any below groundwork commences to ensure that any existing underground services of unknown position and depth are not disturbed.

Machines Working in Close Proximity of Live Underground Services Positions.

1. Any identified live services that remain on site will be excluded from the works areas. The service route will be CAT scanned to determine the centre line of the pipe or cable route.

2. A work exclusion zone will be defined, set out and measured 2 metres from the centre line of the known service position.

3. This area will be defined either with paint markings or Heras fencing on hard surfaces or with lightweight bunting on soft surfaces.

4. The concrete slabs and foundations within 2 metres of any cables will not be demolished until the services have been either relocated away from the demolition areas or have been terminated.

5. Any machine working in close proximity of the exclusion zone will work facing the exclusion zone allowing the machine operator full view of the exclusion zone. The machine will not be placed in a position where the boom could pass through the boundary of the 2 metre exclusion zone.

6. Banksmen/observers will be posted also having full view of the boundary of the exclusion zone. Special diligence will be used when the machine tool is being used within one metre of the exclusion zone boundary.

7. The Banksmen/observers will stop the remote methods of work if it should appear the work may encroach into the exclusion zone or affect the stability of any excavations or structures close to the exclusion zone.

COSHH Hazards

1. Wooldridge Ecotec Limited will instruct all site operatives and personnel that unidentifiable materials, substances and products may be found and or uncovered during the course of the demolition works. **This will include the potential for uncovering unidentified asbestos containing materials.**

2. Upon discovery of any unidentified substances or objects, all work is to stop in the area and the person in charge is to be contacted. A site operative may stand a safe distance away from the suspected hazardous soil, item or substances to warm others passing to move away.

3. In extreme cases the area will be cordoned of until a specialist arrives to identify the item or substance and decide on the method of rendering the item or substance safe and the correct means disposal. The item will be removed from site and deposited at the appropriate waste facility, in extreme cases by a specialist contractor to a licensed waste processing facility.

4. When the below slab works begin Wooldridge Ecotec Limited will ensure that adequate PPE is issued to protect any ground workers. Good hygiene will be enforced and suitable washing facilities will be made available to all. Dust suppression measures will be introduced to prevent any contaminated soils becoming airborne.

5. Small amounts of unleaded petrol will be used for refilling portable plant like petrol powered skill saws. The fuel will be stored in small 10 litre containers away from all sources of ignition. No fuel will be stored over night on site.

6. Diesel will be stored on site in a steel double bunded tank. A spill kit and fire extinguishers will be close to the tank at all times.

7. Mercury gas is contained in fluorescent tubes. Care must be taken not to break any tubes.

8. COSHH assessments will be made available on site for all identified hazardous substances.

Weather conditions (winds)

1. Demolition work will not be carried out in moderate to high winds.
2. All loose debris and arisings that are light enough to be lifted up by moderate to high winds speeds are to be cleared from the external or exposed site-working areas.
3. The debris and arisings will be either removed from the site or stored on the site in containers or spoil heaps with tied down covers.
4. In dry and windy conditions selected site areas will be hosed down to reduce the migration of debris, dirt and dust particles.
5. No work at high level will be carried out in moderate to high wind speeds. All external or exposed high level working platform frames will be securely tied down and fixed to immovable parts of the remaining structure.
6. In the event of extreme high wind speeds the site will be closed after the clearance of all exposed hazardous materials, substances, operatives and personnel.
7. The Beaufort Scale will be used to determine wind speeds.

Beaufort Scale

Beaufort number	Wind Speed (mph)	Seaman's term		Effects on Land
2	4-7	Light Breeze		Wind felt on face; leaves rustle; vanes begin to move.
3	8-12	Gentle Breeze		Leaves, small twigs in constant motion; light flags extended.
4	13-18	Moderate Breeze		Dust, leaves and loose paper raised up; small branches move.
5	19-24	Fresh Breeze		Small trees begin to sway.
6	25-31	Strong Breeze		Large branches of trees in motion; whistling heard in wires.
7	32-38	Moderate Gale		Whole trees in motion; resistance felt in walking against the wind.
8	39-46	Fresh Gale		Twigs and small branches broken off trees.

Visitors.

1. Under the control of Wooldridge Ecotec Limited, all unauthorised people will be excluded from the site working areas by the provision and maintenance of security fence panels, lockable gates and a gate marshal.
2. Trespass and warning signs will be posted stating that all visitors to the site must report to the site agent before entering the site.
3. These arrangements will be monitored and directed by the site supervisor.
4. All visitors will report to the site office where they will be instructed to sign and date Wooldridge Ecotec Limited's visitors' book, recording their time of arrival and the purpose of their visit.
5. After this they will be issued with the appropriate safety equipment and protective clothing e.g. hardhat and boots prior to being escorted around the site by a member of the site team.
6. The signed and dated visitors' book will be re-signed recording the visitors' time of departure.
7. Wooldridge Ecotec Limited will instruct all visitors that they must not enter the active site areas.
8. They will also be informed that the presence of hazardous materials and structures may exist within these defined areas and that hazardous activities are also taking within the aforementioned areas.

Existing structures

All operatives are to be made aware of hazards that can cause risks to health that may not be physically or visually obvious. These are often perceived as negligible risks but in reality have an accumulative affect over time and in extreme cases can be fatal. All types of these hazardous materials must be considered to be either present or will arise during the progress of demolition work.

1. Examples of hazardous materials in structures under demolition are:

   2.1 Harmful by inhalation - dust, fumes, gases, vapors, welding and cutting fumes, man made mineral fibres, asbestos, silica & quartz dust from concrete breaking, isocyanates from insulation foams.
   2.2 Harmful in contact with skin and mucous membranes – brick, stone, plaster, dust, acids & alkalis, chromate's, petrol some epoxy resins. General measures issue personnel protection equipment and site supervisor to give instruction.
   2.3 Fragile and friable materials requiring special demolition or dismantling. General measures issue personnel protection equipment and site supervisor to give instruction.

Storage of Gas Cylinders.

1. The storage area for gas cylinders, temporary or permanent, must have a level base and be surrounded by a fence at least 2 metres high.
2. The storage area must be at least 5 metres away from boundaries, buildings, fixed sources of ignition and electrical equipment.
3. Signs must be clearly displayed on the fence indicating a gas storage area and prohibiting smoking and the use of any naked flame in the area.
4. There should be sufficient shelter to prevent the cylinders from being exposed to extremes of weather.

Mechanical Plant and Equipment

1. Plant operators are required to walk around the buildings with the site supervisor and banksmen before structural demolition commences.
2. Plant operators must agree the work areas and exclusion zones with the supervisor and banksmen.
3. Checks must be made for obstacles, uneven or sloping ground and for any basements, voids, ducts and underground tanks.
4. If found these areas must be levelled or backfilled to create the required safe route around the building. If this is not possible due to the lack of material or out of sequence work then these areas must be cordoned off and be deemed excluded areas.
5. Plant operators are to discuss the work with the banksmen so they are aware of their intentions and the sequence of work. Agree a means of communication with the banksmen.

6. If necessary enclose the machines working area with a line of Heras fence, creating a drop zone with all operatives and banksmen on the outside.
7. Ensure the machine is on a sufficiently level surface and that it can comfortably reach the structure to be demolished.
8. Do not “Stretch” outside the machines designed working radius.
9. Do not travel on uneven ground with the boom raised.

Commissioning and use of permit to work systems

1. Wooldridge Ecotec Limited will operate a “Permit to Work” system under the control of the project Site Supervisor.
2. All permits issued will only ever be valid for one working shift.
3. They will have to be renewed on a daily basis.
4. Permits to work will be issued for confined spaces, hot works and any below ground digging manually or remotely.
5. The Site Supervisor will ensure that only fully trained personnel will operate the systems. All permits will be issued and signed off by the site supervisor.

General Protection

1. All adequate physical protection will be afforded in the form of protection and working scaffolds with timber toe and edge protection boards, screens, Fire rated monoflex sheeting and warning signs to be used as necessary and where appropriate.
2. All arisings and debris will be cleared to the processing areas with due care and attention. Processing areas will be cleared of all operatives and continual monitoring will be carried out to ensure that no one enters any designated drop zone areas.

General Protection- Site Operatives

1. All demolition operatives will be under the control of Wooldridge Ecotec Limited’s Site Supervisor. At the start of each day an informal meeting will be held by the Site Supervisor where the day’s sequence of work will be discussed, instructions will be given to operatives and the appropriate plant, tools and PPE will be designated for the day.
2. An attendance register will be drawn up recording the names of all operatives present. The delegation of duties and roles are given which will include the named banksmen.
3. Machine working zones will be demarcated by physical barriers, usually Heras fencing. These areas will be large enough to allow the particular excavator to work unhindered.
4. No operatives will enter these areas while the machine is working. A banksman will stand outside the fence line to warn all other operatives to stay away. Signs will also be placed on these fences warning that access is prohibited and the area is a demolition drop zone.
5. The drop zone areas will be maintained by the banksmen. These areas will also be continually monitored by the site supervisor.

Deep Excavations (drop in Level).

1. If required scaffold poles will be cut and arranged to form protection barriers to include handrails (95cm minimum above ground level), toe boards and warning signs.
2. The protection barriers will be placed at least 2 metres from the edge of the drop in level.
3. The barriers will be maintained throughout the life of the project and left in position upon the completion of the works or until the aforementioned ground voids are back filled in compacted layers.
4. Appropriate signs will be strategically placed on this protection barrier warning anyone approaching of the drop in level and that demolition work is in progress.

High Level Working.

1. Is our principal intention to avoid placing any site operatives at high level to carry out demolition activities. All demolition work will be carried out by remote methods using a 360-degree excavator having a medium reach boom with all the appropriate implements. However should site operatives be placed at high level to carry out demolition activities the following equipment *may* be incorporated within the scope of the works if required and as necessary; -

   - Mobile scaffold towers having a two man-working platform with handrails, integral ladders and lockable wheels.
   - A mechanically operated working platform known as a MEWP may also be incorporated within the scope of the works should the working height increase to over 2.000M. The machine will be self-propelled with braked wheels having a working platform with integral handrails and safety rails. Note only a trained person will operate the machine.
   - NO ladders will be used for any working operations except for access and inspection purposes. However any ladders used for access or inspection will be properly secured in compliance with the new working practices laid out by the revised regulations.

2. All operatives working at high level will be equipped with all necessary protective clothing and equipment to ensure safe working conditions. The Personnel Protective Equipment (PPE) will include safety harnesses having lanyards secured to either a fixed anchor point of the existing building structure, a taut anchor safety line fixed to the building or the safety points of the MEWP's working platform.

3. Where reasonably practical continual monitoring will be carried out by the person in charge to ensure that all PPE is used where required and in the correct manor.

Fluorescent tubes (removal)

1. Check that the power has been terminated and is disconnected.
2. Position and lock the wheels of the mobile access tower.
3. Within the warehouse buildings a MEWP will be used to gain access to the light fittings.
4. Carefully remove the fluorescent tube individually passing the tube to a second operative who will lower the tube to the floor placing it in a heavy duty corrugated plastic tube coffin that are purpose made for the disposal of fluorescent tubes.
5. The container will be removed from the building to an awaiting bin, which has been allocated for the removal of the tubes.
6. The fluorescent tubes will be removed from site in the allocated bin by a specialist fluorescent tube waste company and deposited at the appropriate waste facility.
7. Extreme care will be taken not to break the fluorescent tubes fine glass. All the appropriate PPE will be used with special attention being given to the protection of the eyes and hands in the event of the fine glass of the fluorescent tubes being broken and the release off mercury gas and white powder.

Traffic Management.

1. Construction vehicles will access the site via a construction access point which will utilise the existing access arrangement. The existing site access permits all turning movements. However, given the proximity to Twickenham Railway Station access junction, the four lanes of traffic on London Road, and the swept path of large construction vehicles a strategy will be put in place whereby the junction is restricted to left in/left out turn manoeuvres only for all construction vehicles.
2. As such, vehicles will be instructed to approach from the south on London Road and will leave by turning left out of the site to continue on London Road in the northbound direction. This arrangement has been tested using AutoTrack for a 10.2m tipper lorry and a 16.5m articulated vehicle. The results of the swept path analysis are provided within Appendix E at the rear of this document.. A 10.2m tipper lorry represents the most common construction vehicle which will be

required to access the site and a 16.5m represents the largest vehicle size that would be expected at the site. More information on the expected number and type of vehicles is discussed later in the note.

3. The proposed operation of the site access, i.e. the left in/left out arrangement, has implications for construction vehicle traffic routes. Large construction vehicles (i.e. HGVs) will be instructed to use the trunk road network where possible which is suitable for carrying HGV construction vehicles. To access the site, vehicles will be advised to use Junction 1 of the M3 to join the A316, the A305 and finally London Road before entering the site.

4. Vehicles leaving the site will be instructed to turn left and continue northbound on London Road. At the junction of London Road with Whitton Road (B361) vehicles will be advised to position themselves in the offside lane only in order to continue on the A310 and thus avoiding Whitton Road (a B road which is residential in nature). From the A310 travel north construction vehicles will be able to join the truck road network at the junction with Chertsey Road (A316), travelling west on this road leads to the A3 and travelling east leads to the A205 South Circular. Continuing north on the A310 leads to the A315 and then to Junction 1, M4.

5. The HGV construction vehicle routes are shown in Figure 1.

6. Cars, vans and small rigid lorries will be permitted to undertake all manoeuvres at the site access junction.

7. The Project Manager will be responsible for ensuring that all suppliers and contractors are informed of the appropriate route and the delivery booking system, which is discussed later in the note.

Site access control

8. Access gate will be set back approximately 10m in relation to London Road which will allow for a 10m vehicle to wait off the public highway before entering the site. In any event, security staff at the gate will monitor approved vehicles to ensure that there are no hold-ups in terms of accessing the site.

9. Any interaction with the public and the public highway will be minimised by segregation and the use of trained banksman, as appropriate. The use of a banksman will ensure that:

    - Vehicle manoeuvres into and out of the site are monitored and assisted.
    - Vehicles, whenever possible, do not stop at inappropriate locations on the highway causing disruption to traffic.
    - All loading/unloading is undertaken on site or at a location which has been agreed with London Borough of Richmond (LBR) as part of the construction traffic management strategy.
    - Sufficient space will be made available on site to enable vehicles to manoeuvre in and out of the development, with all general deliveries made within the site in order to minimise the impact of demolition on the surrounding network.
    - A vehicle holding area will be provided within the site.
    - **All HGV construction vehicles turn left in and left out of the site only, with the right turning maneuvers permitted for cars, vans small rigid lorries only.**

10. If a requirement exists for the delivery of an abnormal load / delivery which is likely to cause a disruption to the surrounding highway network, or which requires the use of an alternative route to access the site, then the LBR will be informed, and a specific Logistics Plan can be prepared and agreed with LBR for that movement, should this be necessary.

Access to the cottages and Network Rail land:

11. There is an existing access route serving four cottages and Network Rail land. This access is gained through a ramp which runs along the eastern boundary of the site and meets the site access at an acute angle. The cottages generate a small number of daily vehicle and pedestrian movements. However, the Network Rail land is understood to generate only occasional vehicle

trips. Access to the cottages will be maintained throughout the demolition process. It is noted that before it closed, the site used to operate as a sorting office and due to its nature would have generated large vehicle movements on a regular basis. Therefore, in traffic terms, the demolition phase is not expected to be significantly different from the previous situation when the sorting office was in operation. In addition, security personnel will be present at the site gate and will ensure conflicts between construction vehicles and pedestrian car movements to the cottages are avoided.

Predicted traffic movements

12. Demolition works will generate short term increases in HGV movements on the highway in the vicinity of the site.

13. The data indicates that the number of vehicles will vary from week to week depending on the activity, although for the majority of the 12 week period the number of vehicles is expected to be in the order of 100 per week. This equates on average to approximately 20 vehicles per day on the basis of the proposed site operation times (Monday to Friday).

14. In general, the majority of the demolition vehicles will be rigid vehicles such as transit vans, 7.5t tipper trucks and bulker (roll-on-roll-off) lorries. Collectively, these two vehicle types represent over 85% of the total vehicles expected to access the site. The site will also need to be accessed by articulated low loader lorries for delivery of the demolition plant and concrete crusher. These will be limited to 12 deliveries, with 5 at the start of demolition, one at week 5 and the remainder at the end of the demolition. The site will also attract deliveries in vans/small lorries although the numbers are predicted to be low i.e. in the order of two vehicles per week.

Asbestos Removal

The results of the Refurbishment & Demolition Survey carried out by **WSP Environment & Energy** are set out in a report ref: **21842.001** issued **May 2011** indicates that there is non-notifiable asbestos containing materials on site. Wooldridge Ecotec shall remove all non-notifiable asbestos containing materials except the bitumen adhesive in accordance with The Control of Asbestos Regulations 2012, HSG 189/2 and HSG 210. Only operatives trained to HSG 210 standard will remove the non-notifiable ACM's.

1. All appropriate personnel protection equipment and clothing will be used and worn, commensurate with the work task in hand. Especially goggles, FFP3 dust masks, disposable coveralls and gloves.
2. All asbestos-based materials will be removed before the remaining building elements are demolished. Special attention will be taken to avoid plant being driven over the asbestos cement material. The asbestos waste and debris will be removed from the site as soon as possible to prevent being disturbed e.g. by moving vehicles.
3. If any of the material cannot be removed immediately it will be covered with heavy-duty Polythene, labeled as hazardous waste and stacked in a clearly visible place.
4. All asbestos-based arisings will be soaked with water to minimise fibre release and placed into asbestos bins before being transported to a licensed disposal facility by the use of sealed asbestos bins.
5. All consignment notes and disposal facility receipts will be kept as proof that the correct method of disposal has been strictly adhered to. At the end of the works all consignment notes and disposal facility receipts will be submitted to St James.

   All asbestos-based materials will be removed in strict accordance and compliance to the relevant statutory documents.

   ☐ Health & Safety at Work Act 1974.

   ☐ The Control of Pollution (amended) Act 1986

   ☐ The Management of Health & Safety at Work Regulations 1999.

   ☐ The Hazardous Waste Regulations 2005

- ☐ The Control of Asbestos Regulations 2012.

6. At the end of the works all Consignment notes will be submitted to the CDM Co-ordinator to be incorporated within the Health and safety file for subsequent handover to St James.

Waste Removal

1. Wooldridge Ecotec Limited will ensure that removal and disposal of all demolition arisings will be carried out in strict accordance and compliance to the relevant statutory documents; -

   - ☐ Health & Safety at Work Act 1974.
   - ☐ The Control of Pollution Act 1989 (Amended)
   - ☐ The Environmental Protection (Duty of Care) Regulations 1991
   - ☐ The Pollution Prevention and Control Regulations 2000
   - ☐ The Hazardous Waste (England and Wales) Regulations 2005
   - ☐ The Site Waste Management Plans Regulations 2008

2. All the demolition arisings that will be leaving site will be segregated into five main waste streams. This will be inert waste, hazardous waste (including contaminated soils), excavated spoil, timber and metal.

3. All arisings and waste will be removed from the project site area and delivered to the Licensed Waste disposal facility. All assignment notes and disposal facility receipts will be kept as proof that the correct method of disposal has been strictly adhered to.

Waste Recycling

1. Wooldridge Ecotec aim to recycle as much of the demolition arisings as possible. This will include timber, metals, glass, fluorescent lamps, cables, concrete and brick.
2. All timber, metals, glass, fluorescent lamps and cables will be segregated into separate waste bins and will be taken to the appropriate licensed recycling facility.
3. All concrete and brick arisings will be processed and crushed to a uniform size (BS 6F2) and stockpiled on site for re-use during the construction phase.

Estimated Quantities of Waste & Recycled Materials.

Concrete & Brick	Metals	Timber	Mixed Construction Waste	Fluorescent Lamps
2 500 Cubic Metres at BS 6F2	100 tons	10 tons	20 tons	250kg

Site Ecological Constraints

The results of an ecological survey has determined that there is a low potential for roosting bats. This said St James will employ an ecologist to re-check all areas and buildings within the site before any works begin. Any bats found will be dealt with by the ecologist. The ecologist will send notification to St James when it is safe to commence the demolition process.

METHOD OF WORKS

Services.

1. Check the termination certificates issued by St James in conjunction with the available site service drawings to determine the location of any remaining live services and the actual termination points.
2. Exclude all live services from access by un-authorised operatives. This must be by locking or padlocking doors within structures or by surrounding external areas with Heras fencing. Warning signs must be displayed in these areas highlighting that live services are beyond the barriers and that all access is prohibited.
3. Physically and visually re-check that each service supply has been disconnected from the structure to be demolished. St James will available to attend site to verify, locate and explain the live and terminated services.

Soft Strip

1. Very little soft stripping will take place in the buildings. Fluorescent Tubes will be removed before any demolition takes place and sent to a recycling company.
2. All waste and recyclable materials will be segregated from the buildings at ground level using the demolition excavators fitted with rotating grabs.
3. The rotating grabs allow a high degree of dexterity which enables very accurate rates of waste segregation at ground level. This reduces the necessity for operatives to take part in potentially high risk manual handling and working at height operations.

All Buildings

1. Following these activities, all of the remaining building structures will be completely demolished including the external walls, roof structures, structural frames (any intermediate columns), masonry and lightweight partitions, staircases and upper floors, ground slabs and foundations.

2. All will be done remotely by two 360° demolition excavators using rotating grabs and pulverisers as required. The direction of the demolition of the buildings is shown on the drawing above. No over sail of the demolition boundary will be permitted at any time by any plant or equipment.

3. All the works using the excavator will be conducted from firm and stable ground. The service drawings will be checked to identify any ducts, drains, manholes or voids in the area.

4. The excavator operator is required to walk around the building within the exclusion zone with the site supervisor and banksmen before any of the demolition begins.

5. Checks must be made for obstacles, uneven or sloping ground and for any basements, voids, ducts and underground tanks.

6. If found these areas must be levelled or backfilled to create the required safe route around the buildings. If this is not possible due to the lack of material or out of sequence work then these areas must be cordoned off and be deemed excluded areas.

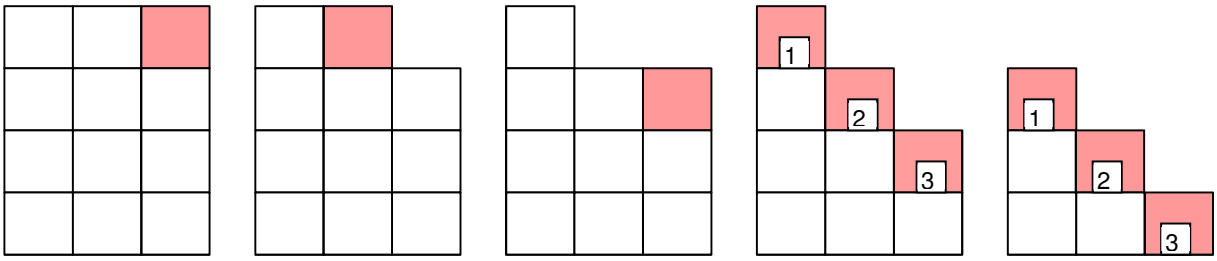
7. The excavator operator must discuss the sequence of demolition with the supervisor and banksmen so they are aware of his intentions. Agree a means of communication with the banksmen.

8. Ensure the machine is on a sufficiently level surface and that it can comfortably reach the structure to be demolished. Starting at the top of the building reduce the structure in small increments one structural bay at a time.

9. Proceed to demolish the building in a progressive and careful manner by remote methods. The intention is to pull the demolition arisings into the buildings. This will be done very carefully a few

courses of bricks at a time. Rotating demolition grabs now allow us to demolish brick walls and concrete structures safely still maintaining the structural integrity of the building.

10. The buildings will be demolished in sequence commencing with roof, moving down the external and internal walls one floor at a time to ground level. The building will be tiered to a 45 degree angle as it is demolished one structural bay at a time. A diagrammatic representation of tiering a building one structural bay at a time is below.



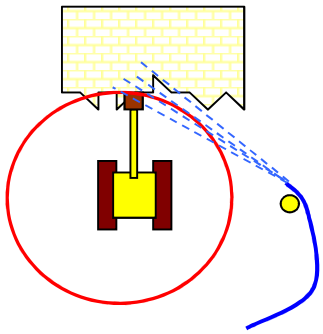
11. The works will stop periodically to remove any debris from the working area using the second excavator. Continue the above sequence until the building has been reduced to ground level.

12. This will be followed by the breaking out and grubbing up of the ground floor slabs, foundations and the basement structure.

13. Once the demolition starts no persons or operatives not connected with the demolition will be allowed into the demolition areas. These areas will be enclosed with Heras fencing and declared drop zones with all access prohibited while demolition is taking place. This will be monitored by the site supervisor at all times.

14. A banksman will stand outside the machines drop zone to prevent other site operatives, personnel, machines and vehicles from approaching the machine working zone.

15. The Banksman will also be in control of a hose to dampen the dust as the demolition progresses. He will stand parallel to the machine but away from the drop zone and machines working radius as indicated below.



16. Furthermore independent hoses and spray devices built into the excavators' tool attachment will apply light water sprays to the specific operating areas throughout the duration of the demolition works.

17. Watering down procedures will be maintained throughout the progress of the work contributing to the suppression of dust migration.

18. As the work progresses all arisings and debris will be stacked in preparation for removal from the site or to the crushing area. The arisings will be removed as the works progress being loaded into dump trucks and removed to the processing and crushing area.

19. Recyclable and waste materials will be loaded into independent waste bins or the waste bins of waiting vehicles. The vehicles are to be attended at all times, they will be fully loaded upon arrival and depart immediately when full.

20. A banksman or banksmen will attend to assist as necessary to guide vehicle and machine moves. All arisings and debris will be cleared when ever practicable and upon completion the site will be left clean and tidy, for inspection and handover.

Sequence of Building Demolition

The sequence of demolition is indicated on the site setup drawings is generally from the east to the west of the site.

Processing & Crushing

1. The crusher will be delivered to site on a low loader. The crusher will be unloaded within the site and not on the public highways.

2. The crusher will be sited and set up in accordance with manufacturers recommendations by competent operatives experienced in the preparation and operation of the equipment. He must only use the remote control or wireless control box to move the crusher.

3. Check to see that the area is clear of all operatives and plant when unloading and moving the crusher to the agreed crushing area.

4. All guards will be in place and secure prior to operation. All emergency stop and interlock systems will be verified as operating correctly prior to operation.

5. Water suppression equipment will be connected and the water supply pipes positioned as required.

6. The crushing area should be segregated from all other plant and operatives except the excavator or loading shovel that is in attendance to the crusher.

Crushing and Stockpiling Area

1. The area will be prepared for the siting of the crusher giving a stable base for the machine and allowing good access for both delivery vehicles and stockpiling plant to operate safely and unhindered.

2. The crusher operator will be responsible for coordinating the safe running of operations at the stockpiling and crushing site directly under the site supervisor.

3. He will direct all operatives at the crusher to cease work should there be a safety issue or incident, which requires rectification.

4. All operatives will be experienced, competent and suitably trained in working on and adjacent to the crushing plant and ancillary equipment.

5. All plant operations and emergency control buttons shall be in a defect free condition, and in easily accessible places.

6. All materials loaded into the crusher shall be of a type and size within the constraints and capacity of the plant and to which the crusher shall be able to reduce generated vibration.

7. Prior to the crushing operations commencing the plant shall have a facility of warning persons near to it that it is due to start up.

8. The Crusher Plant shall be fit for its purpose at all times and maintained in accordance with the PUWER Regulations.

9. The crusher jaws guard must be in place in the horizontal position prior to plant being started up and during all debris conveyor operations

10. Written manufacturer plant operations and emergency procedures shall be available with the plant at all times.

Removal of Underground Fuel Tanks.

For works on the underground fuel tanks please refer to the best practice procedure as laid out below from The BS 6187:2000 Code of Practice for Demolition. Extract below.

19.7 Vessels that contained flammable materials

19.7.1 General

CAUTION. The preparation and cleaning of plant that has contained flammable or combustible materials for internal inspection, hot work and demolition is a specialized activity. There is always the possibility that vessels can contain hazardous atmospheres. Unsafe work practices can result in fires or explosions, not only from such obvious sources as hot work, but also, e.g. from friction sparks, an increase in temperature, or build-up of electrostatic charge.

Consideration should be given to ensuring that during any of the activities discussed in this section, the external environment of the tank(s) is similarly free from potential hazards. Those engaged for such work should be able to demonstrate their competence, including the earlier planning of the work, and making adequate provision for health and safety. The requirement to inform and/or consult the local authority petroleum officer, fire officer or other responsible person should be considered at the planning stage.

The information given in the decommissioning report should include confirmation of the nature of the contaminants present (if any), specification of appropriate decontamination procedures and precautions for the safe disposal of waste (including any vent and/or purge gases), standards to be adopted and named responsibilities for the work etc. Any specific structural features of tanks or vessels where gases, liquids or residues can be trapped, e.g. between the lining and the shell, tubular roof supports or floating roof crevices, should also be identified and taken into account when defining decontamination procedures.

Prior to commencing any work the operator/contractor should confirm the procedures to be carried out and be issued with the appropriate authority to work by the competent person controlling the activities (see clause 8 and 12.7).

19.7.2 Vessel cleaning and making safe

Where a vessel is to be prepared for removal and/or demolition, and in order to eliminate the risk of fire and explosion, it should be emptied and thoroughly cleaned by such procedures as:

a) Steaming;
b) Water or solvent washing/jetting;
c) Other manual means;
d) And finally "gas-freed" by forced ventilation or another suitable method, with a "gas-free" certificate issued as appropriate.

CAUTION 1. If vessels have contained even a small amount of flammable or combustible gas, liquid, sludge or solid, including dust or powder, and have not been cleaned effectively, an explosion can occur on application of the flame cutting blow torch. Alternatively, in cases where gas-freeing and cleaning cannot be readily carried out, e.g. if the vessel is underground, the equipment can be rendered temporarily safer after removal of as much of the contents as possible, by “inerting". Depending on the type of work planned however, consideration should be given to later thorough cleaning. "Inerting" is the process of completely filling vessels with materials such as one of the following to replace previous gaseous contents:

a) Water;
b) Inert gas (nitrogen or possibly "combustion" gas);
c) Carbon dioxide (from dry ice);
d) Nitrogen foam (there are limitations to the use of air foam);
e) Hydrophobic foam.

CAUTION 2. If vessels have contained water, the atmosphere inside the vessel can be depleted of oxygen and contain flammable hydrogen due to corrosion. Similar preparation/decontamination procedures should be applied to associated pipework and equipment, prior to its dismantling and/or entry, though by nature of its construction, it can invariably be dismantled by "cold cutting" methods.

The cleaning/inerting techniques are employed to realize a specific purpose. Unless specified, it should not be assumed that the vessel is either suitable for entry and/or hot work When using gas inerting and purging techniques, it should be ensured that efficient dispersion/mixing of the inerting/purging gas occurs throughout the entire vessel and that ,there are no dead spaces. This should be confirmed by frequent atmosphere checks, as appropriate, and where possible in different parts of the vessel (using remote sampling).

Methods of cleaning and/or inerting should be chosen to be compatible with vessel characteristics and nature of contaminants etc. and potential hazards considered and taking into account that some flammable materials will float. In all these operations the process should be managed to ensure that no flammable liquid, vapour or gas is allowed to enter any drainage or water course and that flammable vapours purged to atmosphere do not create an explosion or health hazard.

Certificates confirming that a vessel is, e.g. "Gas-free", "Safe for Entry" or "Safe for Hot work", should only be issued by a competent person, who should state for how long the certificate is valid and the nature of work permitted.

If the vessel is to be subsequently dismantled on site it should be ensured that it remains in a safe state in the interim period, and will be safe at the time of dismantling. Those making safe the tank and/or certifying this should be consulted before work proceeds.

19.7.3 Vessels above or *below ground*

19.7.3.1 Vessels below ground

Prior to excavation, vessels should be cleaned or made safe using the methods outlined in 19.7.2. If a method involving water filling is used, then water should be emptied from the vessel prior to lifting out of the excavation and subsequently refilled if necessary (see below).

Where a vessel surround is being excavated there should be an assessment to determine whether material in the surrounding area has been contaminated, either by leakage from the vessel or by spillage. If contamination has occurred, precautions including the following should be taken:

a) Appropriate barriers should be placed around the work and hazard notices displayed;
b) No smoking, naked lights or other potential ignition sources should be permitted in the vicinity. Equipment should either be suitable for use in a potentially flammable area (e.g. flame proof and non-sparking hand tools), or be located in a safe area (e.g. for plant such as compressors);

c) A plentiful supply of water should be used to lessen the risk from sparking. The sides of excavations formed to enable removal of underground vessels should be made stable, e.g. by sloping back to a safe angle or by providing adequate support. After excavation and prior to removing the vessel(s) consideration should be given to providing the words "FLAMMABLE HAZARD" in clear conspicuous letters at each end or on opposite sides of the vessel.

Where further cleaning (see 19.7.2) is appropriate for subsequent activities, this should be carried out

when the vessel has been removed from the ground to a more suitable and safe location.

Tank Removal Method

1. As the works progress, visual monitoring will take place, to ensure the safety of all those working within the project site area.
2. NO HOT CUTTING will be employed to remove this tank.
3. A trench will be dug to both sides and the front of the tank. The trenches will be to the full depth of the tank. This will allow the tank to be loosened away from its position.
4. Sand will then be loosely placed back into the trenches to allow access to the top of the tank. The sand will only fill half the original trench or enough to allow safe access to the top of the tank.
5. Chains will then be placed around the tank and it will be lifted out of position and onto the ground by the excavator.
6. Before releasing the chains timber will be placed on both sides of the tank to chock it in place.
7. Depending on the size of the tank it will be loaded onto a low loader if large or into the back of a 40 yard bin for removal.
8. The tank will be taken to a metal recycling facility for further processing.
9. Once the tank is removed the excavation will be back filled with site won material and tracked in by the excavator.

General

1. As the works progress, visual monitoring will take place, to ensure the safety of all those working within the project site area.

2. Where required and as necessary continual watering down procedures will be maintained throughout the progress of the work contributing to the suppression of dust migration.

3. As the work progresses all arisings and debris will be stacked in preparation for removal from the site or to the crushing area. They will be removed as the works progress being loaded into either independent waste containers or the waste containers of waiting vehicles.

4. The vehicles are to be attended at all times, they will be fully loaded upon arrival and depart immediately when full.

5. A banksman or banksmen will attend to assist as necessary. All arisings and debris will be cleared when ever practicable and upon completion the site will be left clean and tidy, for inspection and handover.

6. All boundary walls, fences and security structures, existing, new or temporary will be maintained and protected during the contract period.

7. Reverse site set up procedure and leave site.

COMPLETION

Upon completion of all the demolition works on the site, St James will be invited to undertake a site survey to ascertain that he is fully satisfied that all the works have been undertaken in accordance with the contract documents.

RESPONSIBILITY

The above method of work sequence will be adopted from the commencement through to the completion. It will be the responsibility of the Site Supervisor to ensure that all works are undertaken in accordance with this method statement.

Print Name.....

Signature…… Date.....…....

For and on behalf of WOOLDRIDGE ECOTEC LIMITED

APPENDIX A - EMERGENCY PROCEDURES

EMERGENCY PROCEDURES

Arrangements for dealing with minimising the effects of; -

Injuries. First aid arrangements and equipment must be in place before any work commences the Principal Contractors Site Supervisor is to arrange for the supply of the materials, signs and regulation information. The Principal Contractors Site Supervisor is to ensure that all site personnel know the location of the aforementioned in accordance to RIDDOR Risk of Injury Disease or Dangerous Occurrences Regulations and COSHH Control of Substances Hazardous to Health Regulations.

Disease. Adequate welfare arrangements and equipment will be in place before work commences to include first aid and washing facilities.

Dangerous Occurrences. The Principal Contractors Site Supervisor will ensure that all site personnel are fully informed and trained regarding carrying out operations or handling materials, which may result in a dangerous occurrence. This will be carried out by issuing specific method statements. Face to face instruction with written confirmation and operators signature to prove understanding of instruction As RIDDOR.

Fire, explosion. The Principal Contractors Site Supervisor will ensure all planned safety measures have been provided, that is all fire precautions in accordance with the regulations are supplied and maintain all first aid appliances comply with relevant British Standards including regular service and maintenance. All hazardous materials shall be stored and handled in accordance with the suppliers' instructions and company health and safety policy instructions

REPORTING INJURIES, DISEASES AND DANGEROUS OCCURRENCES REGULATIONS 1995.

These regulations make reporting accidents and ill health a legal requirement for every employer, the self employed or anybody in control of a building site or premises of work. All major injuries, death, disease and dangerous occurrences are to be reported by any of the following methods to the **Incident Contact Centre**.

Phone:	0845 3009923 (8.30am – 5.00pm)
Fax:	0845 3009924 (anytime)
Internet:	www.riddor.gov.uk (anytime)
Email:	riddor@natbrit.com
By Post:	Incident Contact Centre, Caerphilly Business Park, Caerphilly CF83 3GG.

Categories to Report.

Major injuries or death.

If there is an accident connected with work and your employee, or a self employed person working on your premises or site is killed or suffers a major injury (including as a result of physical violence), or a member of the public is killed or taken to hospital you must notify the **Incident Contact Centre** without delay. Notifiable major injuries are

1. A fracture other than to fingers, thumbs or toes.
2. Amputation.
3. Dislocation of the shoulder, hip, knee or spine.
4. Loss of sight. (temporary or permanent)
5. Chemical or hot metal burn to the eye or any penetrating injury to the eye.

6. Any injury resulting from electric shock or electric burn leading to unconsciousness, or requiring resuscitation, or requiring admittance to hospital for more than 24 hours.
7. Unconsciousness caused by asphyxia or exposure to a harmful substance or biological agent.
8. Acute illness requiring medical treatment, or loss of consciousness arising from absorption of any substance by inhalation, ingestion or through the skin.
9. Acute illness requiring medical treatment where there is reason to believe that this resulted from exposure to a biological agent or its toxins or infected material.

Dangerous Occurrences.

1. Collapse, overturning or failure of load-bearing parts of lifts or lifting equipment.
2. Explosion, collapse or bursting of any closed vessel or associated pipe work.
3. Failure of any freight container in any of its load bearing parts.
4. Plant or equipment coming into contact with overhead power lines.
5. Electrical short circuit or overload causing fire or explosion.
6. Any unintentional explosion, misfire, failure of demolition to cause the intended collapse, projection of material beyond a site boundary or injury caused by explosion.
7. Malfunction of breathing apparatus while in use or during testing immediately before use.
8. Collapse or partial collapse of a scaffold over five metres high, or erected near water where there could be a risk of drowning after a fall.
9. A dangerous occurrence at a pipeline.
10. The unintended collapse of any building or structure under construction, alteration or demolition where over five tonnes of material falls or a wall, floor or any false work falls.
11. An explosion or fire causing suspension of normal work for over 24 hours.

Reportable Diseases.

1. Poisons.
2. Skin diseases.
3. Lung diseases.
4. Infections.
5. Others e.g. occupational cancer.

Note. The enforcing authority may be the Health & Safety Executive or the Local Authority. In either case the construction site (demolition) injury or dangerous occurrence will be reported to the Area Health & Safety Executive office applicable to the site (see Health & Safety Welfare Site Arrangements form).

Contractors (CDM) Regulations. Contractors making reports under RIDDOR must immediately inform the Principal Contractor who may wish to investigate the incident and consider changing the Construction Phase Health & Safety Plan.

Records. The Principal Contractor, Wooldridge Ecotec Limited will keep records of all reportable injuries and dangerous occurrences noting the following information

Date and time of accident of the accident causing injuries or dangerous occurrences.
Personnel details.
Full name.
Occupation.
Nature of injury or condition.
Location of accident or dangerous occurrence.
Brief description of the circumstances.

All causes of accidents will be investigated to,

Identify the cause to initiate measures to prevent re-occurrence.
Gather information for use in any proceedings.
Confirm or refute any claim.

Prepare notifications to enforcing authority.

Procedure to determine:

The cause.
Who was involved?
When, where and why it occurred.
Consider how it could have been prevented.

WELFARE FACITLIES

Arrangements for the provision and maintenance of welfare facilities.

The Principal Contractors Site Supervisor will ensure all welfare and first aid facilities are in place before any of the demolition work commences.

REGULATIONS

Copies of the regulations will be kept on site and or/work place.

All site personnel will be informed of the locations of the first aid kit and welfare facilities by notice boards face-to-face instruction written handouts etc.

TRAINING INFORMATION

Information and training for people on site and the arrangements for checking the provision of; -

Health and Safety information. The Principal Contractors Site Supervisor will ensure that all health and safety information is readily available on site and that all site personnel know of its location and availability. Communication by face-to-face instruction.

Health and Safety training. The Principal Contractors Site Supervisor (in person) is to check and record the persons' name and qualification of competence relating to the jog operation. It is the site agent's responsibility that no operative carries out duties beyond his qualification or experience.

Information provided (by Employers) about the project e.g. name of CDM Co-ordinator, principal contractor, relevant parts of the health and safety plan arrangements for project specific awareness training tool box or task health and safety talks of statutory notice.

The Principal Contractor 's Company Health and Safety Supervisor will visit the site to ensure that the arrangements for specific training, toolbox or health & safety talks have been or will be given. He will also check that all the required notices have been displayed at clearly visible locations.

HEALTH, SAFETY AND WELFARE SITE ARRANGEMENTS

Wooldridge Ecotec Limited Unit 17. Hallgrove Farm Acton Road Bagshot Acton GU19 5HP Tel: 01276 470 333 Fax: 01276 470 301	**Project Site Address** **Twickenham Sorting Office,** **109 London Road,** **Twickenham,** **TW1 9BE**

Site Supervisor	**Billy Harmes**	Tel. **07831 407816**
Contractor	**Wooldridge Ecotec Limited**	Tel. **01276 470 333**
Site Safety Supervisor	**Billy Harmes**	Tel. **07831 407816**
First Aider :	**Daniel McDonnell**	Tel. **07747 034771**

First Aid Room Location – Welfare Unit

The nearest Hospital is; - **West Middlesex University Hospital**
Twickenham Road
Isleworth
Middlesex
TW7 6AF

Distance: 2.88 Km – 1.8 miles

In case of an accident phone **01372 735 735** or dial **999**

Local Office of the Health & Safety Executive

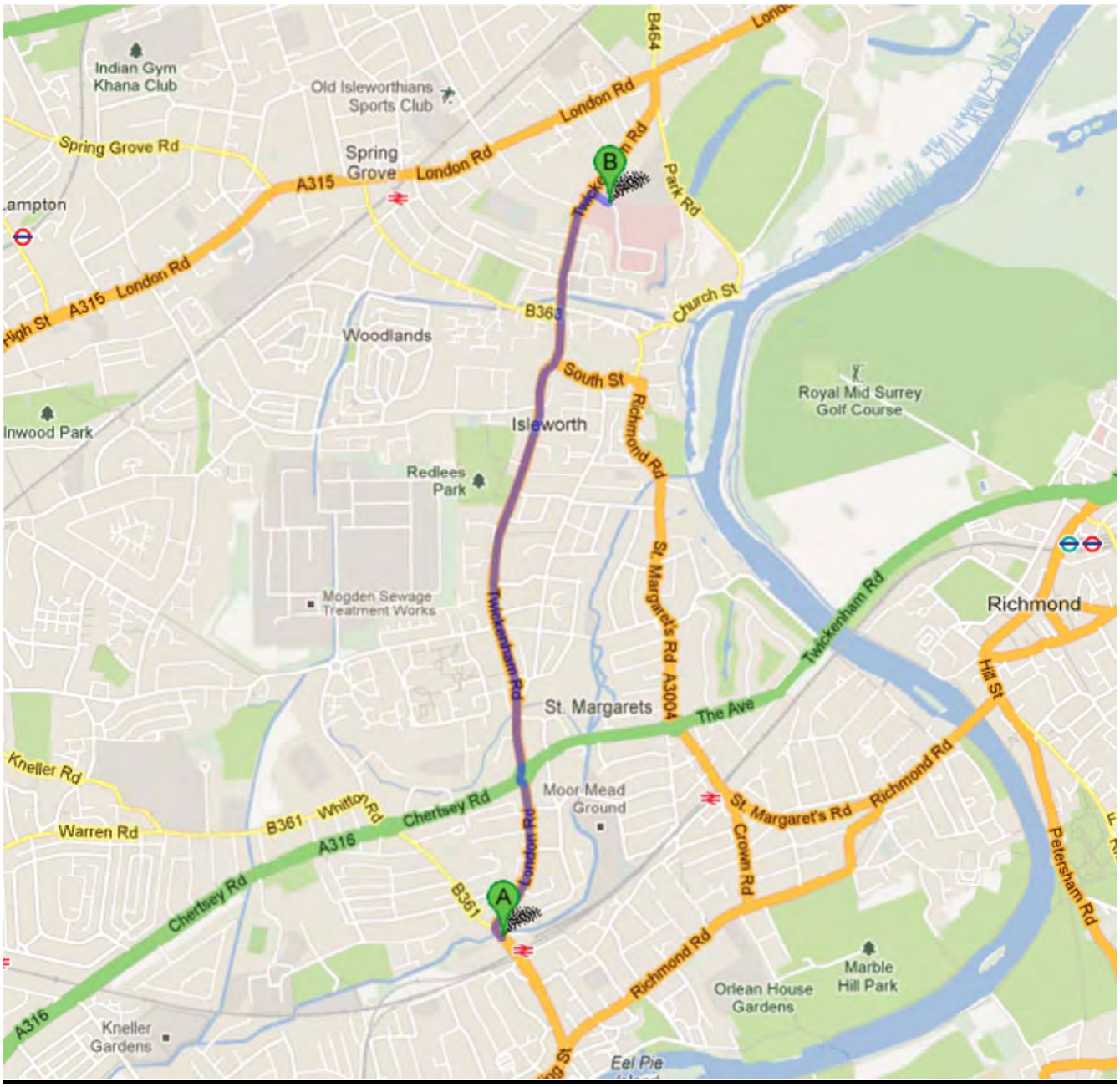
Rose Court
2 Southwark Bridge
LONDON
SE1 9HS

Tel: 0845 345 0055 **Fax: 020 7556 2102**

The Person responsible for Health & Safety this site is

Mr Billy Harmes Tel. **07831 407816**
Wooldridge Ecotec Safety Co-ordinator
Andrew Leonard
Tel. 01276 470333 Fax. 01276 470301
MOB: 07887 994712

ROUTE to West Middlesex University Hospital



STAFF SAFETY FIRE PROCEDURE

Wooldridge Ecotec Limited Unit 17. Hallgrove Farm London Road Bagshot Surrey GU19 5HP Tel: 01276 470 333 Fax: 01276 470 301	Project Site Address **Twickenham Sorting Office,** **109 London Road,** **Twickenham,** **TW1 9BE**

Site Supervisor:	**Billy Harmes**	Tel. **07831 407816**

ACTION IN CASE OF FIRE AND DIRECTION FOR DEALING WITH FIRE

FIRE INSTRUCTIONS

If you discover a fire,

1. Raise the alarm at the nearest call point **(Site Office) or shout "FIRE, FIRE, FIRE".**
2. If you are unable to tackle the fire, without taking personal risk, leave the area immediately.

On hearing the fire alarm **(GAS OPERATED FOG HORN).**

1. Proceed immediately to the assembly point.

ASSEMBLY POINT

OUTSIDE WELFARE UNIT

2. Use the quickest route of escape.
3. Do not stop to collect personal belongings.
4. Do not enter or re-enter the building until you are told it is safe to do so.

WHEN DEALING WITH FIRE : -

If a persons clothing is on fire, wrap a blanket, rug or similar article closely around them and lay them on the ground to prevent flames reaching the head.

If petroleum materials are involved distance yourself as far away as possible. Do not try to deal with the fire yourself.

Shut the doors and if possible, the windows of the room in which the fire is discovered.

IT IS IN YOUR OWN INTEREST : -

To study this notice, to know what to do in the event of a fire and how to use the fire appliances.
To make yourself familiar with all means of escape in case of a fire and to avoid any obstruction of the escape routes at all times.

APPENDIX B - RISK ASSESSMENTS

INTRODUCTION

The following risk assessment refers to the demolition and associated works of the **Former Twickenham Sorting Office, 109 London Road, Twickenham, TW1 9BE.** This risk assessment is not definitive and may vary to ensure the safety of all those directly involved or otherwise.

Seeking out, identifying and quantifying hazards is the essence of risk management and it is important that this activity is systematically carried out during the life cycle of the project. There are numerous approaches to risk management, from the complex quantitative approach to the relatively simple qualitative approach based upon personal judgement, supported by generalised data of risk.

Unless otherwise stated, quantitative assessments should be undertaken.

The proposed rating system is as follows

Severity	**Rating by Hazard**	**Value**
Major	Immediate danger exists, hazard capable of causing death and illness on a wide scale	**3**
Serious	Hazard can result in serious illness, severe injury, property and equipment damage.	**2**
Slight	Hazard can cause illness, injury or equipment damage but the results would not expect to be serious.	**1**

Probability	**Rating of Hazard value**	**Value**
Probable	Likely to occur immediately or shortly.	**3**
Reasonably Probable	Probably will occur in time.	**2**
Remote	May occur in time.	**1**

The Rating Value that is high, Medium or low	**Equals**	**The severity value multiplied by the probability value.**
HIGH	**Equals**	7 to 9
MEDIUM	**Equals**	4 to 6
LOW	**Equals**	1 to 3

#	HAZARD	INITIAL RISK RATING			MITIGATING ACTION	RESIDUAL RISK RATING		
		PROBABILITY	SEVERITY	RISK		PROBABILITY	SEVERITY	RISK
1.	**Working at height – causing death, injury and/or damage.**	3	3	HIGH	**It is our principal intention to avoid placing any site operatives at high level to carry out demolition work. All demolition work is to be carried out by remote methods. However when required we will provide safe and secure working platforms having integral ladders. Where required provide proprietary scaffold systems e.g. mobile scaffold towers. Inspect before use, weekly and after alteration and/or repair. Record condition before use and after all maintenance and/or alteration work. Where required provide mechanical methods to raise and lower operatives, plant, tools equipment and materials e.g. scissor lift, MEWP or Telehandler. If used all proprietary scaffold systems, tower scaffolds and power operated mobile working platforms must be placed on firm and level bases. Appropriate Personnel Protection Equipment (PPE) will be issued. Onsite training given to instruct when the equipment is required and its correct use. Where reasonably practical continual on site monitoring will be carried out by the delegated person in charge to ensure that all PPE is used where required and access equipment is used in the correct manner.**	1	3	LOW
2.	**Working at height from a MEWP – risk of fall, toppling over.**	3	3	HIGH	**Before using check machine for defects. Plan the route of the machine to avoid any depressions voids and drains. Check service drawings for vulnerable ducts etc. Do not raise platform before deploying the out riggers. Communicate intentions to your banksman and operatives in the platform. At height move platform slowly. All operatives to wear harnesses and be clipped on before raising the work platform.**	1	3	LOW
3.	**Harness Rescue from work platform**	3	2	MED	**Any operative that becomes fully suspended in a fall arrest harness through a fall must be rescued from that position as soon as possible. In the case of a fall from the MEWP's working platform the operator is to boom in the MEWP and lower the platform to the floor.**	1	2	LOW
4.	**Working at height from an aluminium tower – risk of fall, toppling over.**	3	3	HIGH	**Only position on a flat clear surface. Do not place the wheels over floor boxes. Always deploy the outrigger support legs. Check the tower and out riggers after each move. No overreaching from the tower. Guard rails to be placed a minimum of 910mm above the working platform. Use toe boards around the platform to prevent objects and tools from falling**	1	3	LOW
5.	**Aluminium tower erection.**	2	2	MED	**Only a competent person is to erect the tower. Check all components are serviceable and are free from any welding defects, dents, bends or distortion before assembly. Platform**	1	2	LOW

#	HAZARD	INITIAL RISK RATING			MITIGATING ACTION	RESIDUAL RISK RATING		
		PROBABILITY	SEVERITY	RISK		PROBABILITY	SEVERITY	RISK
					boards must be free from holes and de-lamination. Using the adjustable legs ensure the platform is level and check the vertical alignment. Do not exceed a height to base ratio of 3:1. Do not place the legs over floor boxes.			
6.	**Asbestos cement sheet removal**	**2**	**3**	**MED**	**Comply with HSB189/2 "Working With Asbestos Cement" as issued by the HSE. Use a wetting agent or water to soak the asbestos cement sheets continually to minimise the possibility of fibre release. Wear disposable overall, dust masks to FFP3, gloves and safety glasses over and above the standard PPE. Restrict access to the working areas. Constant supervision to adhere to best practise method. Double bag all waste, seal and label. Remove from site as soon as possible to a licensed waste station.**	**2**	**1**	**LOW**
7.	**Prevention of falling objects generally – causing injury and/or damage to persons and/or objects below**	**3**	**3**	**HIGH**	**Provision of protection sheets, boards, toe boards, hand and guardrails. Provision of warning signs and control barriers to establish drop zones in accordance with BS6187 2011. Prevent access into drop zones by non-work operatives or more importantly improperly equipped or un trained operatives. Appropriate Personnel Protection Equipment PPE will be issued. On-site training given to instruct when the equipment is required and its correct use. Where reasonably practical continual on site monitoring will be carried out by the person in charge to ensure the all the PPE is used where required and in the correct manner and that the exclusion zones remain secure all the time a demolition excavator is working in the zone. All our demolition excavators have FOPS systems over the cabs.**	**1**	**3**	**LOW**
8.	**Dust – nuisance and/or damage to eyes and by inhalation**	**3**	**2**	**MED**	**Where required and as necessary continual dampening down using fine water spay on to activity areas creating dust. Provision of protection sheets and boards, signs and control barriers to prevent access of non-work operatives or more importantly improperly equipped operatives. Appropriate Personnel Protection Equipment (PPE) will be issued i.e. goggles and facemasks. On-site training given to instruct when the equipment is required and its correct use. Where reasonably practical continual on site monitoring will be carried out by the person in charge to ensure the all the PPE is used where required and in the correct manner. Provision and maintenance of fresh air supply by natural ingress where reasonably practical. By mechanical means In extreme conditions.**	**1**	**2**	**LOW**

#	HAZARD	INITIAL RISK RATING			MITIGATING ACTION	RESIDUAL RISK RATING		
		PROBABILITY	SEVERITY	RISK		PROBABILITY	SEVERITY	RISK
9.	**Noise – nuisance and/or damage to ears in extreme cases.**	**3**	**2**	**MED**	**Provision of warning signs and control barriers to prevent access of non-work operatives or more importantly improperly equipped operatives. Machine noise levels as published by the manufacturers and as described in the H&S Plan will be adhered too. Appropriate Personnel Protection Equipment (PPE) will be Issued i.e. ear defenders and earplugs. On-site training given to instruct when the equipment is required and its correct use. Where reasonably practical on site monitoring will be carried out by the person in charge using a hand held sound meter to measure the force of the sound. This will help determine when noise levels are reaching the action levels as described in the "Control of Noise at Work Regulations 2005. The site supervisor is to ensure the correct PPE is used where required and in the correct manner.**	**1**	**2**	**LOW**
10.	**Existing Services – injury and/or damage due to electrocution and/or Fire.**	**2**	**3**	**MED**	**Request and obtain all available Information regarding service dimension and position in the form of as built drawings, specification and/or on site instruction from the appropriate Statutory Authorities or the Project Service Engineer. Identify and/or label all service pipes, wires cables and ducts before any work commences. Have the Statutory Authorities disconnect and cap off all existing services away from the site-specific work places and preferably at the boundary of the site. Use a CAT SCAN to determine the location of known services. Mark these identified services with either paint or lightweight bunting. Set up an exclusion zone of 2 metres either side of the service. Before any excavations take place SCAN the area to check for any unknown services that may pass through the site. Instruct all site operatives regarding all service supply locations category and condition (live or dead or to be maintained). Protect all live services that are to remain. Provide warning signs and control barriers to prevent access to anybody except those authorised to work on the services.**	**1**	**3**	**LOW**
11.	**Serviceability and maintenance of Plant, equipment and tools. The lack of causing damage, injury and/or death.**	**3**	**3**	**HIGH**	**Before using any plant, equipment or tools operatives must check for defects. All plant, equipment and tools must be regularly checked maintained and repaired. All plant, equipment and tools will be fitted with the appropriate safety guards, safety catches, cut out switches handles and grips etc. All defective parts, guards and cables must be reported immediately to the site supervisor. Maintenance, service and repair records must be kept updated. Defective tools must be quarantined and must be appropriately marked up as defective. All operatives are to receive appropriate instruction and training in the correct use of all plant, equipment and tools. Appropriate PPE will be issued.**	**1**	**3**	**LOW**

#	HAZARD	INITIAL RISK RATING			MITIGATING ACTION	RESIDUAL RISK RATING		
		PROBABILITY	SEVERITY	RISK		PROBABILITY	SEVERITY	RISK
					Site supervisor to monitor the correct use of tools and PPE. Only operatives trained to CITB standards are to operate any plant, equipment and tools and only with the authority of the site supervisor.			
12.	**Disc Cutter – Abrasive wheels.**	**3**	**2**	**MED**	**Only a trained and competent person is to change the wheels. Assess the correct wheel is used for the job. Avoid operations that continually snag the wheel. Maintain all the guards and safety systems on the disc cutter. The cutting area must be clear of obstructions and operatives. Communicate with other operatives your intended area of cutting and the direction of the sparks and debris. Afford a fireproof barrier to protect finished areas from the sparks and debris. Always operate the machine with two hands. Always start the disc cutter on a level surface and not in the air. Wear gloves, goggles and dust masks at all times whilst operating the disc cutter.**	**1**	**2**	**LOW**
13.	**Hot Works**	**3**	**2**	**MED**	**Comply with the hot works permit conditions as issued by St James. Provide sufficient fire extinguishers. Remove all flammable materials from the vicinity. Afford protection from sparks or flames with fire blanket covered boards. Initiate a fire watch brief to all operatives involved. Stop hot works two hours before the end of a shift.**	**1**	**2**	**LOW**
14.	**Misuse of plant, machinery, equipment and tools – causing damage, injury and/or death.**	**3**	**3**	**HIGH**	**Only authorised and appropriately trained operatives are to operate plant, machinery, equipment and tools. Evidence of training and competence must be provided. All manufacturers' specifications with regard to safe working limits must be strictly adhered too. This applies to height, reach, weight and capacity. No machine, item of plant or equipment is to be repaired, adjusted or maintained by any person unless they have been trained and are authorised to do so. All plant, machinery, equipment and vehicles MUST BE IMMOBILISED when left unattended, for any length of time or when parked overnight. No vehicle, plant or machinery must block the sites access or exit at any time. No tools, plant, machinery or equipment should be used for any work other than what it was specifically designed for. There is to be NO REVERSING WITHOUT A BANKSMEN of any plant or vehicle on any site regardless of whether CCTV reversing aid has been fitted to the vehicle or not. The maximum speed on site is 10 mph.**	**1**	**3**	**LOW**
15.	**Hazardous substances under COSHH – injury to**	**2**	**3**	**MED**	**Provision installation and maintenance of the correct storage facilities commensurate to the hazard severity of the material and/or item to be stored. Request and obtain all available**	**1**	**3**	**LOW**

#	HAZARD	INITIAL RISK RATING			MITIGATING ACTION	RESIDUAL RISK RATING		
		PROBABILITY	SEVERITY	RISK		PROBABILITY	SEVERITY	RISK
	skin, eyes, nose lung. Due to touch, entry through the mouth, the nose and inhalation causing affixation. Contamination due to spillage.				**information regarding the material and/or item that is to be stored from the manufacture and/or supplier considering the minimum storage time the use and identification of the correct containers to be used i.e. labels, identification sheets and stickers. Smoking prohibited. Test atmosphere in confined spaces and provide fresh air by natural ingress or mechanically. Provision of warning signs and control barriers to prevent access of non-work operatives or importantly improperly equipped and/or insufficiently trained operatives. Appropriate Personnel Protection Equipment (PPE) will be issued i.e. gloves and facemasks. Note washing facilities are to be made available close to the areas where the hazardous materials are stored. I.e. water, wash hand bowl, towel and soap. Where reasonably practical continual on site monitoring will be carried out by the person in charge to ensure the all that all PPE is used where required and in the correct manner.**			
16.	**Visitors to site, the Project Site Area. Protection to avoid nuisance injury and/or damage.**	**2**	**3**	**MED**	**On site instruction will given to all site visitors regarding the site rules and the use of the issued Personnel Protective Equipment and its correct use (Safety Helmets). The site experience of all site visitors will be evaluated and a member of the Principal Contractors site team will accompany them around the site at all times. (The exception being experienced members of the Projects Management team. Client, Designers Principal Contractors office staff etc.). Where reasonably practical continual on site monitoring will be carried out by the person in charge to ensure the all that all the issued PPE is used where required and in the correct manner by all site visitors and that the site visitors strictly adhere to all the site rules.**	**1**	**3**	**LOW**
17.	**Removal and disposal of Florescent tubes**	**2**	**2**	**MED**	**Check electricity is switched off. Client to issue disconnection notice. Work from an aluminium tower. Remove the tube carefully wearing gloves, safety glasses and dust mask. Remove one tube at a time and pass to second operative. Place in transfer container one at a time. Care must be taken not to break the glass tube. A specialist company will collect the tubes from site and dispose of them correctly.**	**1**	**2**	**LOW**
18.	**Contact with high voltage overhead power cables – causing injury and/or damage to**	**N/A**	**N/A**	**N/A**	**No overhead high voltage cables pass across the project site area.**	**N/A**	**N/A**	**N/A**

#	HAZARD	INITIAL RISK RATING			MITIGATING ACTION	RESIDUAL RISK RATING		
		PROBABILITY	SEVERITY	RISK		PROBABILITY	SEVERITY	RISK
	persons and/or objects.							
19.	**Contact with underground services – causing injury and/or damage to persons and/or objects.**	**3**	**3**	**HIGH**	**Obtain all available information from the appropriate Statutory Authorities, either in the form of drawings, specification and/or on site instruction. Ensure that all the Statutory Authorities have been notified.**	**1**	**3**	**LOW**
20.	**Accidents adjacent to the site access – causing injury and/or damage.**	**2**	**3**	**MED**	**Liaise with the Local authority's Highways department and Local Police. Monitor all vehicular movement into and out from the site. Schedule all deliveries of plant machines and equipment. Schedule the removal of materials and demolition arisings Ensure compliance with traffic restrictions example no waiting systems and no parking systems. Ensure all due care and attention is given to other road users and pedestrians.**	**1**	**3**	**LOW**
21.	**Spillage of hydraulic oil – causing injury and/or damage.**	**2**	**2**	**MED**	**As necessary pump out and/or soak up with sand and spill kits, remove from the site and deposit in an approved disposal facility. All consignment notes and waste disposal receipts will be retained as proof that the correct method of removal and disposal has been carried out in strict accordance to all statutory requirements.**	**1**	**2**	**LOW**
22.	**Demolition by hand.**	**3**	**3**	**HIGH**	**Provision of warning signs and control barriers to prevent access of non-work operatives or importantly improperly equipped and/or insufficiently trained operatives. Appropriate Personnel Protection Equipment (PPE) will be issued i.e. safety helmets, boots, gloves, goggles and facemasks. Note welfare facilities to include washing facilities and drying areas are to be made available close to the areas where the project works are to be carried out. Where reasonably practical continual on site monitoring will be carried out by the person in charge to ensure the all that all PPE is used where required and in the correct manner.**	**1**	**3**	**LOW**
23.	**Structural stability/Premature collapse – the prevention of.**	**3**	**3**	**HIGH**	**Provision and maintenance of temporary propping, shoring and support measures. Only a competent person is to determine the method and sequence of demolition of a structure. The structure must be reduced in size by one structural bay at a time. Buildings will be tiered to maintain structural stability.** **Provision of control barriers and warning signs to define specific work site areas and/or drop zones. Continual on site**	**1**	**3**	**LOW**

#	HAZARD	INITIAL RISK RATING			MITIGATING ACTION	RESIDUAL RISK RATING		
		PROBABILITY	SEVERITY	RISK		PROBABILITY	SEVERITY	RISK
					monitoring during the progress of the work. Posting of Banksmen during the operation of machines in close proximity of other building structures that are to remain, deep excavations and overhead services.			
24.	**Personal injury – generally.**	**3**	**3**	**HIGH**	**Provision of warning signs and control barriers to prevent access of non-work operatives or more importantly improperly equipped and/or insufficiently trained operatives. All appropriate Personnel Protection Equipment (PPE) will be issued. On-site training given to instruct when the equipment is required and its correct use. Where reasonably practical continual on site monitoring will be carried out by the person in charge to ensure the all the PPE is used where required and in the correct manner. Safety awareness and induction talks given at the commencement of the work and there after to all new on site arrivals.**	**1**	**3**	**LOW**
25.	**Fire – generally.**	**2**	**2**	**MED**	**Implement Fire plan considering alarm systems muster points and procedures. Designate site as a non-smoking area. Provide and maintain adequate first aid Fire fighting appliances. Safety awareness and Induction talks given at the commencement of the work and there after to all new on site arrivals.**	**1**	**2**	**LOW**
26.	**Manual Handling – causing muscular/skeletal injury, strains and sprains**	**3**	**2**	**MED**	**Where reasonably practical avoid manual handling operations to move or lift heavy and/or bulky objects. Assess objects weight, shape and manoeuvrability considering individual or team lifting – reducing the objects size by cutting/dismantling – chose alternative way of moving/lifting i.e. mechanical methods. Operatives instructed in the correct way of lifting considering individuals capability, keeping a good posture, avoiding twisting, stooping reaching upwards and attempting to carry unpredictable loads. All appropriate Personnel Protection Equipment (PPE) will be issued e.g. safety boots, gloves. Training given to instruct when the equipment is required and its correct use. Where reasonably practical continual on site monitoring will be carried out by the person in charge to ensure the all the PPE is used where required and in the correct manner. Safety awareness and induction talks given at the commencement of the work and there after to all new on site arrivals.**	**1**	**2**	**LOW**
27.	**Vibration – causing Hand Arm Vibration Syndrome**	**3**	**2**	**MED**	**All rotary and percussion hand operated tools fitted with vibration suppressors and insulated handles (hired and new). Regular inspections, maintenance, repairs and re-placement – recorded and certified ready for use. Vibration labels attached to**	**1**	**2**	**LOW**

#	HAZARD	INITIAL RISK RATING			MITIGATING ACTION	RESIDUAL RISK RATING		
		PROBABILITY	SEVERITY	RISK		PROBABILITY	SEVERITY	RISK
	Vibration White Finger or Reynard's Syndrome. (HAVS VWF)				**equipment. Where reasonably practicable consider alternative method of works using non- rotary and percussion hand operated tools. Operatives instructed in the correct use of tools – to ware gloves, to keep hands warm, avoid exhausts to pass over hands, massaging and exercising hands and fingers during breaks. Adhere to maximum exposure times and job rotation systems to avoid excessive exposure. Operative trained to recognize HAVS and VWF symptoms and the need to report these symptoms to the Supervisor. All appropriate Personnel Protection Equipment (PPE) will be issued e.g. anti-vibration gloves, warm and weatherproof clothing. Where reasonably practical continual on site monitoring will be carried out by the person in charge to ensure the all the PPE is used where required and in the correct manner. Safety awareness and induction talks given at the commencement of the work and there after to all new on site arrivals.**			
28.	**Decommissioning and Removal of underground fuel tanks**	**3**	**3**	**HIGH**	**Set up a physical exclusion zone with signage warning of potential for Flammable hazards and excavations. Suitable and sufficient fire fighting equipment must be in close vicinity. If decommissioning certificates are not available investigate contents of tank to determine the hazards. Use specialist company to remove and clean tanks as appropriate. A specialist company to be employed to carry out the necessary works i.e. purge, de-gas and clean empty leaving each tank filled with inert material such as water. Check that all service pipes to the tank have been disconnected, removed and securely plugged. With the tank filled with inert material and all service pipes disconnected and removed, excavate around the tank exposing concrete surround. Carefully break up and remove hard standing and expose fuel tank below. Carefully break up and remove tank from excavation and place on the ground for further inspection. Pump out water into tanker and dispose of as hazardous waste. If the tank is small crush to a manageable size and deposit in steel waste bin for recycling. If the tank is large proceed to sheer or hot cut the tank into smaller manageable sections and deposit in the steel recycling bin. If no contamination is detected in the hole back fill void and compact with hardcore arising from the site. If contamination is detected in the excavation contact for further instruction. Make sure the excavation is then protected with a physical barrier (i.e. Heras Fencing) and signage is displayed warning of the excavation.**	**1**	**3**	**LOW**

APPENDIX C - COSHH ASSESSMENTS

Substance Name:	**Un-leaded Gasoline (Petrol)**
Can the substance be avoided?	**No**
Can the substance be substituted?	**No**
Contents:	**A complex combination of Hydrocarbons consisting primarily of paraffins, cycloparaffins, aromatic and Olefinic hydrocarbons having carbon numbers predominantly greater than C3 Some Alkyl Lead additives will be present.**

Hazard

				
Extremely Flammable	**Harmful**	**Irritant**	**Explosive**	**Danger to the Environment**

Exposure Limits

Alkyl Lead 0.10 mgm3 TWA 8 Hrs

Health Risks

Inhalation	**Carcinogenic vapours causing damage to the lung lining.**
Skin Contact	**Irritant**
Eye Contact	**Irritant**
Ingestion	**May cause lung damage if swallowed and aspired into the lungs**

First Aid

Inhalation	**Remove to fresh air administer artificial respiration if breathing stops seek medical assistance immediately** note **This product contains Benzene(<5%) which is classified as a Carcinogen**
Skin Contact	**Remove contaminated clothing and wash with copious amounts of clean fresh water and soap.**
Eye Contact	**Irrigate with copious amounts of clean fresh water. Seek medical assistance immediately**
Ingestion	**Do NOT induce vomiting Seek medical assistance immediately.**

Fire Precautions

Suitable Extinguishing Media:	**DO NOT use water. Use Foam, or dry powder to extinguish the flames. Beware of reignition.**
Unusual Fire/Explosion Hazards:	**Vapours will pool in low lying areas Forms an extremely flammable mixture**

Spillage / Waste Management / Storage

Harmful to Flora and Fauna. Do not allow product to contaminate the drains or watercourses
In the event of a major spillage only trained persons wearing self contained breathing apparatus are to clean up the spill. Alert the Fire and Rescue Service, Eliminate ALL **sources of ignition, If vehicles are present switch off all engines. Contain the spillage if possible**

Storage

Gasoline storage is subject to legislative controls. A petroleum licence must be obtained from the local petroleum officer for bulk storage. Storage tanks must be suitably designed and installed. Storage must be remote from all sources of ignition heat and flame. The vapours in the tank head spaces must be considered HIGHLY FLAMMABLE at all times. The areas must be kept well ventilated. Do Not Smoke in the vicinity. Avoid breathing the vapours or mists. Launder contaminated clothing before re-use. NO PETROL WILL BE STORED OVERNIGHT ON SITE.

Project Specific Application and Controls

Project Address:	**London Road, Twickenham**
Method of Application:	**Refuelling portable plant**
Area of Application:	**External fuel supply tank**
Length of Exposure:	**5 minutes**
Controls to be implemented:	**No smoking. Have foam Fire extinguisher on standby. Use organic vapour mask (PP3) Wear impervious nitrile or pvc gloves.**
Residual Risk with ALL **controls in place:**	**LOW**

Substance Name:	**Gas Oil**
Can the substance be avoided?	**NO**
Can the substance be substituted?	**NO**
Contents:	**Mixture of Hydrocarbons mainly Paraffinic with some aromatics and Napthenes**

Hazard

				
Extremely Flammable	**Harmful**	**Explosive**	**Danger to the Environment**	

Exposure Limits

Napthenes 53mg.m3 TWA 8 Hrs

Health Risks

Inhalation	**Anaesthesia, Unconsciousness, Death**
Skin Contact	**Irritation, Dermatitis**
Eye Contact	**Irritation**
Ingestion	**Harmful if swallowed internal burns Sickness, Vomiting, Diarrhoea Carcinogenic Possible risk of irreversible effects**

First Aid

Inhalation	**Remove to fresh air Seek medical assistance immediately**
Skin Contact	**Remove contaminated clothing wash with clean fresh water and soap.**
Eye Contact	**Irrigate with copious amounts of clean fresh water Seek medical assistance immediately**
Ingestion	**Do Not Induce Vomiting Give plenty of clean fresh water tom drink seek medical assistance immediately.**

Fire Precautions

Suitable Extinguishing Media:	**Foam, Dry Powder, Water Fog**
Unusual Fire/Explosion Hazards:	**Product of combustion may contain hydrogen sulphide, Carbon Monoxide and other toxic materials**

Spillage / Waste Management /Storage /Disposal

Eliminate all sources of ignition, Contain spill to the smallest area possible using dikes, dams or booms as appropriate. Recover as much of the product as possible. Soak up small amounts using absorbent materials. Remove contaminated items including soils and place in suitable containers for disposal.
Store in suitably designed tanks away from heat ignition sources and open flames in line with national and local regulations and codes of practice.
Keep area well ventilated
Disposal
Incineration in an approved facility is the approved method of disposal.
Control of Pollution (Special Wastes) Regulations apply.
Do not discharge into the public drainage system.

Project Specific Application and Controls

Project Address:	**London Road, Twickenham**
Method of Application:	**Refuelling Plant**
Area of Application:	**Internal Fuel Tanks on excavators**
Length of Exposure:	**20 mins**
Controls to be implemented:	**No Smoking. Suitable footwear to be worn, Overalls that conform to EN 531 must be worn Impervious nitrile or PVC gloves must be worn. Eye protection should be worn.**
Residual Risk with ALL controls in place:	**LOW**

Substance Name:	**Concrete Dust (Respirable Crystalline Silica)**
Can the substance be avoided?	**NO**
Can the substance be substituted?	**NO**
Contents:	**Crystalline Silica**

Hazard

				
Respiratory Irritant	Harmful			

Exposure Limits; **Respirable Crystalline Silica – 0.1mg.m³ TWA 8 Hrs. In 2006 the Health and Safety Commission (HSC) set a new exposure limit for respirable crystalline silica (RCS) of 0.1 mg/m3. It was previously 0.3mg.m³**

Health Risks

Inhalation	**Fine dust containing crystalline silica can cause lung damage (silicosis). Silicosis is a slowly progressive, irreversible disease that usually takes some years to develop. Silicosis can cause breathing problems, the severity of which can range from mild through to severely disabling, depending on the amount of dust inhaled. In severe cases, silicosis leads to premature death. In people who have had exceptionally high exposures over just a few months or years, a rapidly progressive and often fatal condition known as "acute silicosis" can occur. Heavy and prolonged exposures to Respirable Crystalline Silica under conditions that produce silicosis can also cause lung cancer. Silicosis is made worse by smoking. 'Respirable' means that the dust can get to the deepest parts of the lung. Such fine dust is invisible under normal lighting.**
Skin Contact	**Cement is capable of causing dermatitis by two mechanisms - irritancy and allergy.**
Eye Contact	**Irritant**
Ingestion	**Nor a recognised route of entry**

First Aid

Inhalation	**On inhalation of concrete dust, remove the affected person to fresh air and seek medical attention if required.**
Skin Contact	**On contact with concrete dust, wash with soap and water. If irritation occurs seek medical attention.**
Eye Contact	**On contact with concrete dust, Immediately irrigate with eyewash solution or clean water. If symptoms develop, obtain medical attention.**
Ingestion	**If ingestion of concrete dust causes problems, remove from exposure and seek medical attention if required.**

Fire Precautions

Suitable Extinguishing Media:	**Concrete is not flammable and will not facilitate combustion with other materials.**
Unusual Fire/Explosion Hazards:	None known

Spillage / Waste Management/ Handling

Cleaning Up:
No special requirements, where possible use mechanical aids to reduce the risk of manual handling injury.
Environmental Measures:
Does not constitute a significant environmental hazard.
Handling:
Wear respiratory protective equipment when entering areas where dust is known to be present unless atmosphere is PROVED to be safe. Ventilate the area.

Project Specific Application and Controls

Project Address:	**London Road, Twickenham**
Method of Application:	**By product of breaking cutting or crushing concrete**
Area of Application:	**Various on site**
Length of Exposure:	**Long Exposure dependent on operations. Intermittent throughout the day**
Controls to be implemented:	**RPE should be mandatory and monitored. Where reasonably practicable dust exposures should be controlled by engineering methods, such as wet cutting and local exhaust ventilation.**
Residual Risk with ALL controls in place:	LOW

Substance Name:	**Fluorescent Tubes (Vaporised Mercury)**
Can the substance be avoided?	**No**
Can the substance be substituted?	**No**
Contents:	**Small amounts of vaporised mercury per tube**

Hazard

				
Poisonous	**Harmful**	**Irritant**	**Explosive**	**Danger to the Environment**

Exposure Limits

Vaporised Mercury 0.025 mg/m3 TWA 8 Hrs

Health Risks

Inhalation	**The mercury concentration in air produced as a result of breaking one or a small number of fluorescent tubes would result in significant exposure levels. Acute exposure can cause severe nausea and vomiting. Effects can take up to 10 days to manifest. Respiratory protection to FFP3 as a minimum.**
Skin Contact	**Prolonged exposure to mercury on the skin would be absorbed in varying amounts. Cumulative effects would cause Nausea, vomiting, bloody diarrhoea, kidney damage and death.**
Eye Contact	**Irritant.**
Ingestion	**Chronic exposure can cause death.**

First Aid

Inhalation	**Remove to fresh air administer artificial respiration if breathing stops. Seek medical assistance immediately.**
Skin Contact	**Remove contaminated clothing. Wash the affected area of skin with copious amounts of clean fresh water and soap. Health monitoring with medical assistance.**
Eye Contact	**Irrigate with copious amounts of clean fresh water. Seek medical assistance immediately**
Ingestion	**Do NOT induce vomiting Seek medical assistance immediately.**

Fire Precautions

Suitable Extinguishing Media:	**Non flammable**
Unusual Fire/Explosion Hazards:	**N/A**

Spillage / Waste Management / Storage

Large quantities of mercury is harmful to water courses. Large quantities of releases from breaking in confined spaces could cause respiratory contamination. Wear suitable respiratory protection. FFP3 as a minimum.

Storage

Store tubes in the boxes they were delivered in. Disposal through a specialist hazardous waste contractor. Avoid breathing the vapours or mists from breakages.

Project Specific Application and Controls

Project Address:	**London Road, Twickenham**
Method of Application:	**Removing fluorescent tubes from the light fittings**
Area of Application:	**Throughout**
Length of Exposure:	**1 minute**
Controls to be implemented:	**Use organic vapour mask (PP3). Wear safety glasses. Wear PVC gloves.**
Residual Risk with ALL controls in place:	**LOW**

Substance Name:	**Asbestos Cement Sheet. (Chrysotile)**
Can the substance be avoided?	**NO**
Can the substance be substituted?	**YES**
Contents:	**10% to 15% Chrysotile Asbestos Fibre. Portland Cement**

Hazard

				
Harmful				

Exposure Limits

Only asbestos fibres greater than 5 micrometers (µ)m in length are considered for the following exposure limits.
Chrysotile. - 0.1 fibres/ml of air over any continuous period of 4 hours
- 0.6 fibres/ml of air averaged over any continuous period of 10 minutes.

Health Risks

Inhalation	**Inhalation is the usual route of exposure to asbestos fibres. The most common changes that asbestos exposure may cause, depending on the total dose received, are plural plaques, pleural thickening, asbestosis, lung cancer and mesothelioma of the pleura and peritoneum. Asbestos related diseases are of insidious onset and generally appear many years after first exposure.**
Skin Contact	**Irritation, Dermatitis**
Eye Contact	**Irritation**
Ingestion	**A secondary route of exposure through the ingestion of contaminated mucus is swallowed after coughing. Possible factor in the development of peritoneal mesothelioma.**

First Aid

Inhalation	**Remove the victim from further exposure. Seek medical assistance immediately**
Skin Contact	**Remove contaminated clothing wash with clean fresh water and soap.**
Eye Contact	**Irrigate with copious amounts of clean fresh water Seek medical assistance immediately**
Ingestion	**Do Not Induce Vomiting Give plenty of clean fresh water to drink seek medical assistance.**

Fire Precautions

Suitable Extinguishing Media:	**Non flammable**
Unusual Fire/Explosion Hazards:	**Non combustible**

Spillage / Waste Management /Storage /Disposal

Where reasonably practicable, avoid working on asbestos cement. Keep the material wet when working on it. Where reasonably practicable, avoid using abrasive power and pneumatic tools. Use hand tools in preference to abrasive power or pneumatic tools. Wear suitable PPE, including RPE. Keep the work area clean and tidy. Avoid the use of cleaning methods such as sweeping which will make dust airborne. Make sure the work area is thoroughly clean on completion of the work.
Disposal
Under the control of the Special Waste Regulations 1996 and the Hazardous Waste Regulations 2005 all asbestos containing materials and asbestos containing waste be consigned to a site which is authorised to accept asbestos waste. This is enforced by the Environment Agency and the local authorities in England and Wales.

Project Specific Application and Controls

Project Address:	**London Road, Twickenham**
Method of Application:	**Removal of Asbestos Cement soffits.**
Area of Application:	**External to garage buildings but within the Gateway Site**
Length of Exposure:	**2 Hours**
Controls to be implemented:	**Disposable overalls and dust masks (FFP2)should be worn. Gloves and safety glasses. Constant wetting down of the sheet while removing. Double bagged and labelled ready for disposal.**
Residual Risk with ALL controls in place:	**LOW**

APPENDIX D - INDUCTION, TOOLBOX, METHOD REGISTER

WOOLDRIDGE DEMOLITION

Hall Grove Farm Industrial Estate
London Road
Bagshot
Essex, GU19 5HP. Tel: 01276 470333 Fax: 01276 470327

Method Statement / Site Induction / Toolbox Talk Register

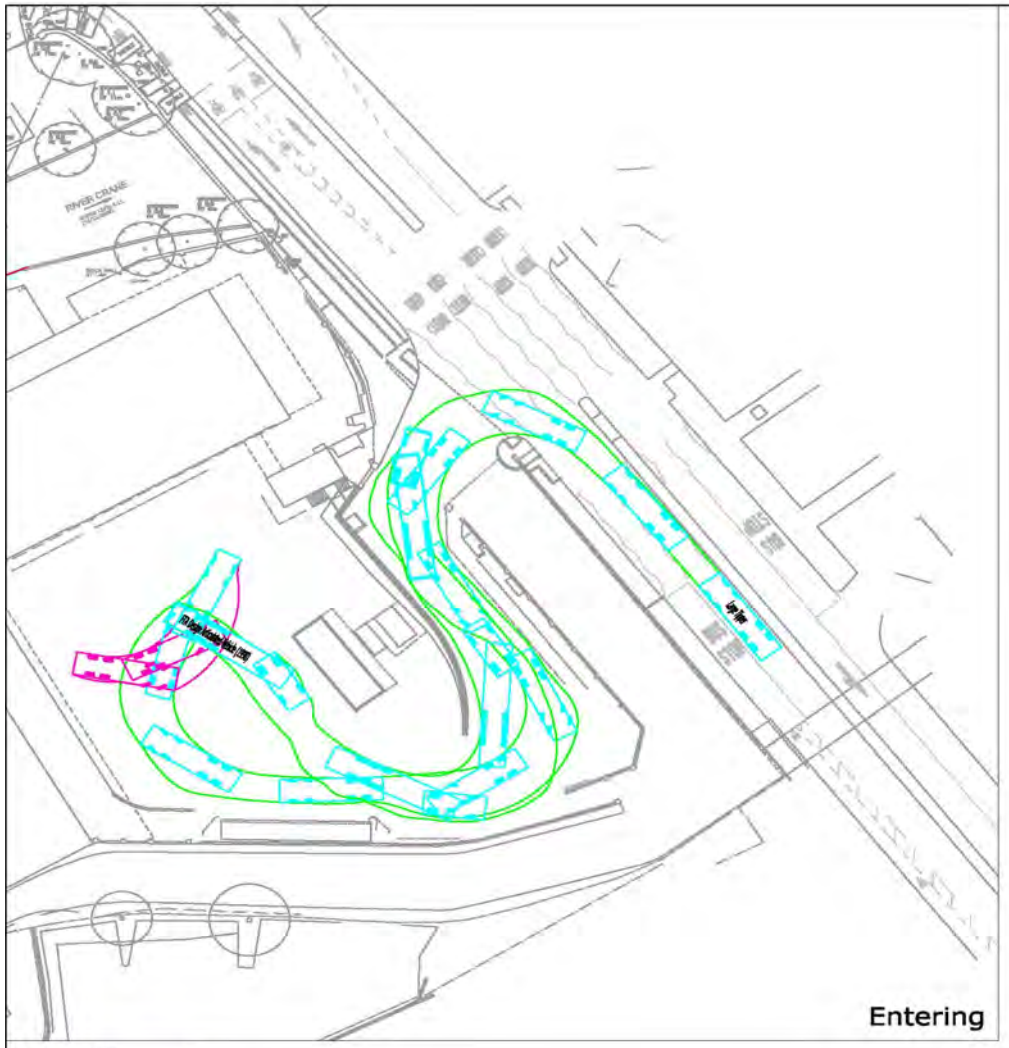
Site Address					
Supervisor (PRINT NAME)		Date			
Method Statement Briefing		Toolbox Talk		Site Induction	
Topic Discussed					

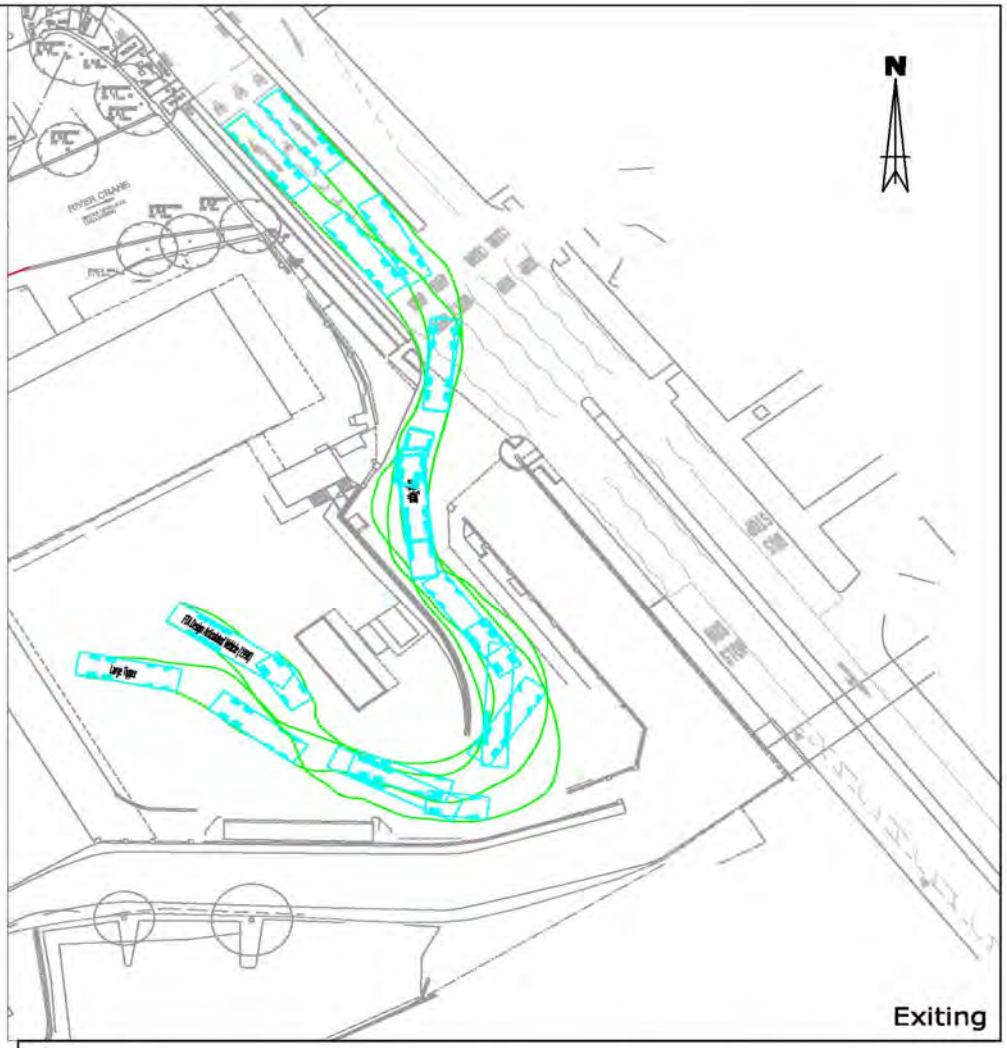
Print Name	Employer	Signature

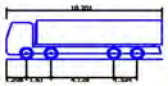
This Register is to be used to record the fact that all site operatives and contractors have been inducted into the site safety procedures or that important safety information has been passed on to those that require it. The more people that know about the dangers on site the less chance something could go wrong.

Protect everybody – Induct everybody.

APPENDIX E – TRAFFIC MANOEVERES AND ROUTES







Large Tipper	
Overall Length	10.201m
Overall Width	2.500m
Overall Body Height	2.893m
Min Body Ground Clearance	0.343m
Max Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	11.550m

This drawing has been prepared for planning purposes and should not be used for construction.

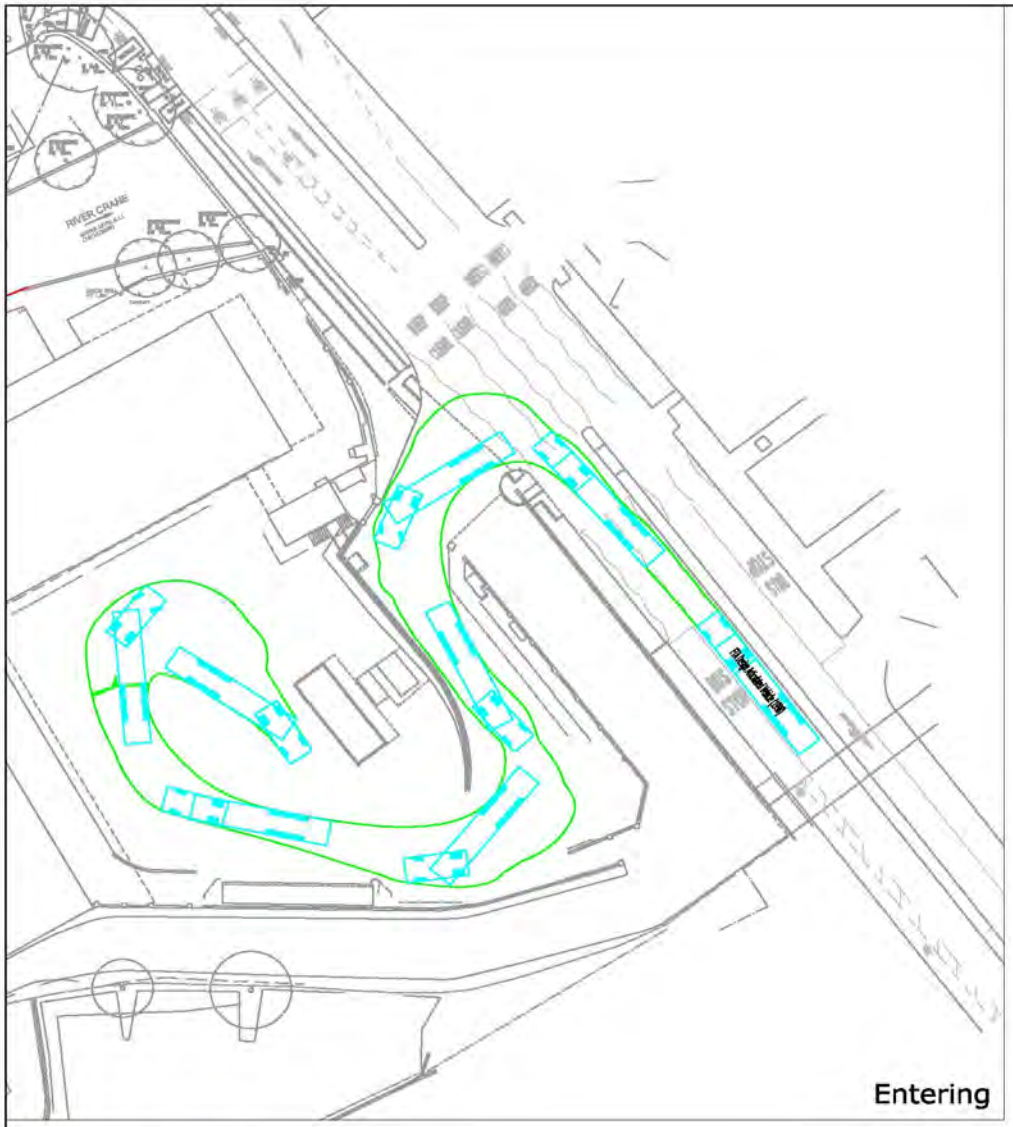
Based on MK Surveys drawing 14946 (TPP ref: 30341/SV/02)

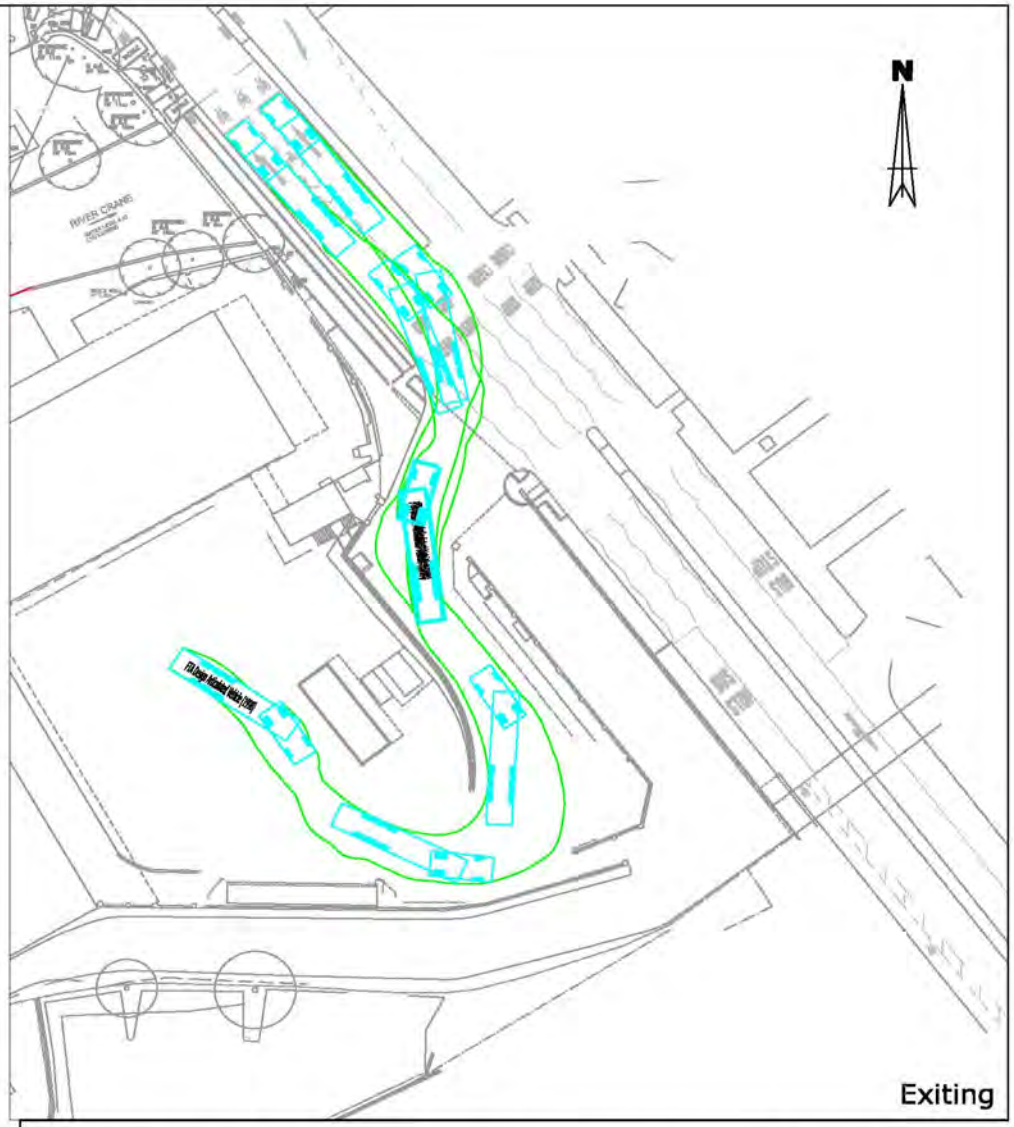
TWICKENHAM SORTING OFFICE

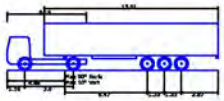
Swept path of a large tipper lorry accessing the site.

TRANSPORT PLANNING PRACTICE
70 Cowcross Street
London, EC1M 6EL
t: 020 7608 0008
w: www.tppweb.co.uk

SCALE @ A3	DATE (REV _)	DRAWN BY	CHECKED	DRAWING NUMBER	REV
1:500 (0 5 10m)	06/03/13	APM	-	30558/001AC	-







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
Kerb to Kerb Turning Radius	6.550m

This drawing has been prepared for planning purposes and should not be used for construction.

Based on MK Surveys drawing 14946 (TPP ref: 30341/SN/02)

TWICKENHAM SORTING OFFICE

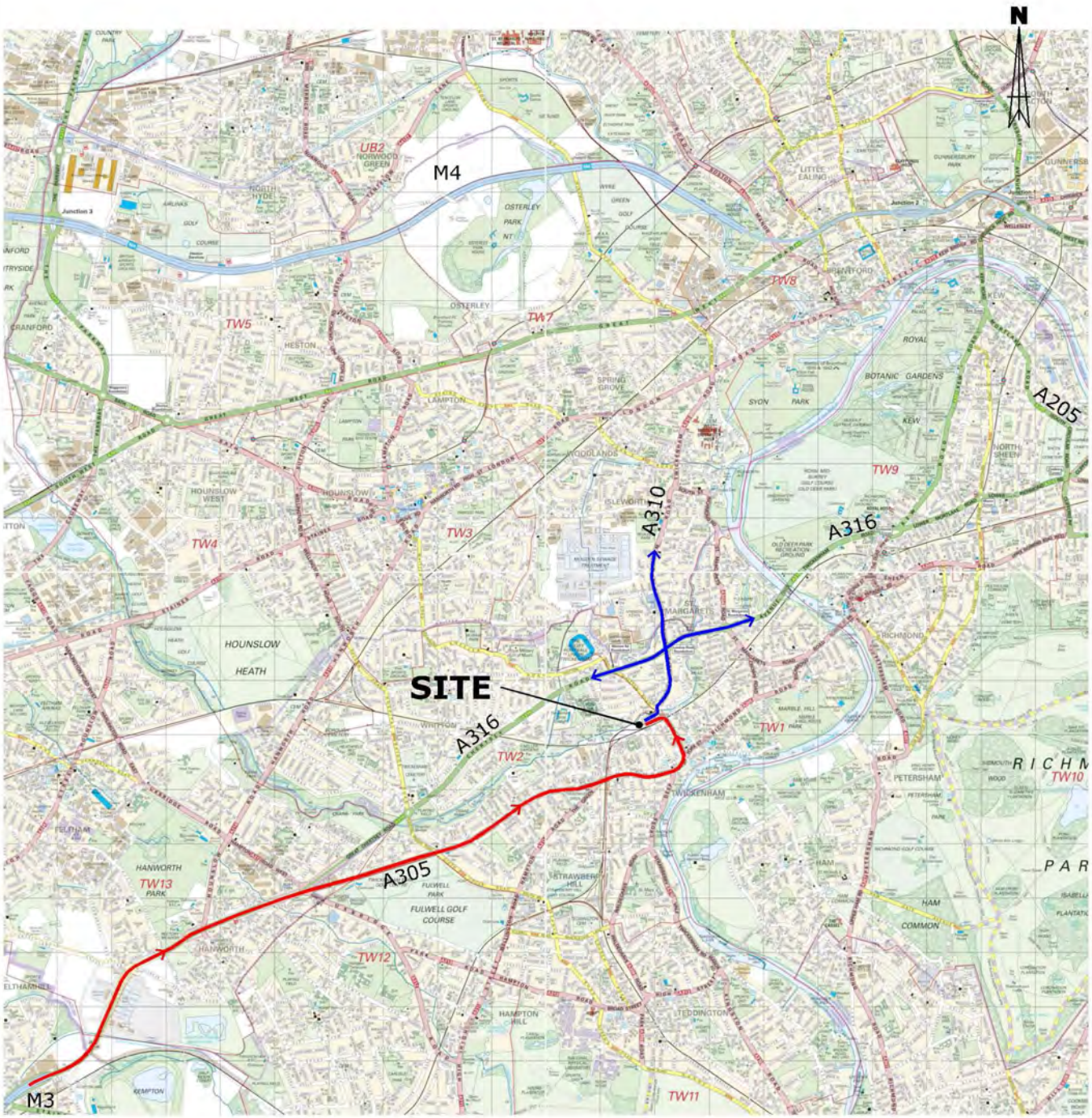
Swept paths of 16.5m articulated vehicle accessing the site.

TRANSPORT PLANNING PRACTICE

70 Cowcross Street
London, EC1M 6EL

t: 020 7608 0008
w: www.tppweb.co.uk

SCALE @ A3	DATE (REV _)	DRAWN BY	CHECKED	DRAWING NUMBER	REV
1:500 (0 5 10m)	06/03/13	APM	-	30558/002AC	-



Digital Map Data © Collins Bartholomew Ltd (2013)

Drawing number 30558/003AC

HGV construction vehicle routes

Figure 1

TPP transport planning practice
70 Cowcross Street
London, EC1M 6EL
t: 020 7608 0008
w: www.tppweb.co.uk

APPENDIX F – DEMOLITION NOISE ASSESSMENT
by Peter Brett Associates

Job Name: Former Royal Mail Sorting Office, Twickenham

Job No: 26503-21

Note No: 1

Date: 21st March 2013

Prepared By: Mubassir Malik

Subject: Demolition Noise Assessment

Item	Subject
1.	**Introduction** Peter Brett Associates LLP (PBA) has been commissioned by St.James to undertake a noise assessment for demolition works at the former Royal Mail Sorting Office site in Twickenham. The demolition noise assessment was requested to be undertaken by London Borough of Richmond's Environmental Health Department to determine the impact on nearby receptors and detail mitigation measures to be incorporated into the site management plan.
2.	**Proposals** Demolition works are proposed to be undertaken over a 12-week period. A figure detailing the locations of demolitions works over the 12 week period is detailed in Figure 1 attached to this note. The demolition works will include the demolition of all buildings down to and including the ground slab and foundations to a maximum depth of 2m. Selected hard standings and foundations may not be removed due to the proximity of the water course. All demolition arisings will be crushed to BS 6F2 and stockpiled on site for St.James re-use. All waste will be removed from site to recycling centres or licensed waste transfer sites. The operating hours for demolition are 8am - 6pm on Monday – Fridays and 8am -1pm on Saturdays. No evening or night-time works are proposed.
3.	**Site Location and Nearby Receptors** The demolition works will be undertaken on the former Royal Mail Sorting Office site in Twickenham which is located immediately west of London Road (A310) and Twickenham train station. The buildings listed below are the nearest sensitive receptors to the site and have been assessed within this noise report. The receptors are shown in Figure 2. • Receptor 1: Railway Cottages (Located directly south of the site); • Receptor 2: Heatham House Youth Centre (located directly north of the site); • Receptor 3: 14 Craneford Close (located to the north-west of the site).
4.	**Noise Guidance** For the assessment of noise from construction sites, the relevant guidance and methodologies are provided in B25228: 2009. **British Standard 5228: 2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites**

Item	Subject
	British Standard 5228 (BS5228): Part 1 provides recommendations for noise control on construction and open sites where work activities/operations generate significant noise levels. **The Standard also provides sound level data for mobile and fixed plant.** **This guidance has been used to determine the noise limits for the site and is the method followed to calculate noise impacts from demolition plant at the nearby receptors.**
5.	**Methodology** **Baseline Noise Levels** **Baseline noise surveys were undertaken at three locations surrounding the application site. The survey was undertaken between 1st March 2013 and 16th March 2013.** **Noise readings were carried out in areas representative of nearby sensitive receptors for 4 days including Saturdays. The survey locations and survey periods are described below in Table 1:**

Table 1: Baseline Noise Survey Results

Receptor	Survey Time Periods
1 – Railway Cottages , South of site	12th – 16th March 2013
2 – Heatham House Youth Centre	1st March – 4th March 2013
3 – 14 Craneford Close	6th March – 11th March 2013

The average noise levels measured at each location for the daytime $L_{Aeq,10h}$ (08:00 – 18:00) are presented below in Table 2. Noise levels from Sundays have been excluded from the results as there would not be any demolition work on this day.

Table 2: Baseline Noise Survey Results

Receptor	$L_{Aeq,10h}$ dB Daytime Noise Level
1 – Railway Cottages	61
2 – Heatham House Youth Centre	57
3 – 14 Craneford Close	57

6.	**Noise Limits** **For demolition works which will be undertaken for 12 weeks noise limits have been based on those recommended in BS 5228:2009 Annex E (Informative) – Significance of Noise Effects, referred to in E.3.2 as the 'ABC' method.** **Although Annex E is an Informative, and as such is not afforded the same level of authority as the British Standard itself, it provides useful guidance on the significance of noise effects and examples of noise limits for construction noise based on the pre-existing noise climate (i.e. the pre-construction baseline). Day, evening and night-time periods are defined, with limits provided as shown in Table 3 below:**

Table 3: BS5228 Recommended Construction Noise Limits

Item	Subject

Assessment category and threshold value period	Threshold value, in decibels ($L_{Aeq\ T}$) (dB)		
	Category A [A)]	Category B [B)]	Category C [C)]
Night-time (23.00–07.00)	45	50	55
Evenings and weekends [D)]	55	60	65
Daytime (07.00–19.00) and Saturdays (07.00–13.00)	65	70	75

NOTE 1 A significant effect has been deemed to occur if the total L_{Aeq} noise level, including construction, exceeds the threshold level for the Category appropriate to the ambient noise level.
NOTE 2 If the ambient noise level exceeds the threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a significant effect is deemed to occur if the total L_{Aeq} noise level for the period increases by more than 3 dB due to construction activity.
NOTE 3 Applied to residential receptors only.
A) Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.
B) Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.
C) Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.
D) 19.00–23.00 weekdays, 13.00–23.00 Saturdays and 07.00–23.00 Sundays.

The recommended limits are defined as the 'threshold of significance'. The significance of construction noise impacts have therefore been considered with regard to these recommended limits. Noise measurements undertaken at nearby receptors were below 65 dB(A) as presented in Table 2. Therefore, the daytime threshold value used is 65 dB(A) between 07:00 and 19:00 hrs.

BS 5228-1:2009 goes on to describe measures for sound insulation should threshold values be exceeded.

Therefore should the threshold level of 65dB(A) be exceeded BS 5228 states in E.4 that noise insulation or the reasonable costs thereof will be offered by the developer or promoter to owners, if the following apply to property lawfully occupied as a permanent dwelling:

- **Where the total noise (pre-construction ambient plus construction noise) is 5dB above the existing airborne noise level for the corresponding time of day; and**
- **For a period of ten or more days of working in any fifteen consecutive days or for a total of days exceeding 40 in any 6 month period.**

7. **<u>Noise Model</u>**

A noise model using the software SoundPLAN version 7.1 has been used to predict the noise arising from the demolition works.

The calculation methodology used within the model to predict the noise levels at the noise sensitive receptors is described in accordance with BS5228:2009.

Table 4 presents the demolition to be used as supplied by the demolition contractor. Also included is the sound power level for the plant and the percentage of time when the plant item is operating during the assessment period (% on time).

Table 4: Demolition Plant

Plant	Number	Sound Power Level dB	On-time
Volvo 210 Excavator	1	102	65%

Item	Subject

Volvo 290 Excavator	1	104	65%
Volvo 360 Excavator	1	105	65%
Hitachi 360 Excavator	1	97	65%
Hitachi 220 Shovel	1	103	65%
Crusher	1	114	65%

In addition to the fixed plant there will 3 dump trucks accessing the site per day to remove waste from the site. A sound power level of 96dB(A) has been applied to the dump trucks with the trucks moving at 20mph within the site.

Incorporated into the noise model as mitigation measures are a 2.4m noise barrier to be erected directly north of the Railway Cottages. This would provide attenuation measures from the demolition noise for the closest receptor. The other incorporated mitigation measure is for the crusher which produces the highest noise level. A 3.5m noise bund has been located directly surrounding the crusher such that noise emissions towards the nearest receptors is minimised.

8. **Results and Analysis**

The noise levels predicted at the sensitive receptors are presented in Table 5 for each of weeks of the demolition works. The predicted noise level at ground and first floor level are presented.

Table 5: Predicted Noise Levels at Receptors (Free field)

Item	Subject

Week	Receptors Noise Level $L_{Aeq,10h}$ dB (Construction Noise +Ambient Noise)					
	Railway Cottages		14 Craneford Close		Heatham House Youth Centre	
	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor
1	63	65	60	60	63	63
2	63	66	60	60	65	65
3	64	70	60	60	65	65
4	64	69	61	61	63	64
5	63	66	62	62	62	62
6	63	64	64	64	61	61
7	63	64	64	64	60	61
8	63	65	62	62	61	61
9	65	70	61	61	63	63
10	65	70	60	60	63	63
11	65	69	60	60	63	63
12	64	66	60	60	62	62

The results show that the threshold noise level of 65dB(A) will not be exceeded at either Heatham House Youth Centre or 14 Craneford Close.

At the Railway Cottages the threshold value will be exceeded but only at first floor level. Inspection of the property has concluded that no living rooms are situated on the first floor with only bedrooms located on the first floor. Bedrooms are considered to be a night-time living area and as there are no night-time demolition works we have not considered this applicable for further assessment.

A noise model output has been produced illustrating the noise impact arising from the demolition works for the worst case week. This is week 10 and is shown at ground floor in Figure 3.

9. **<u>Mitigation</u>**

The assessment has shown that the noise limits set within BS5228 would not be exceeded, therefore mitigation is not required. However, noise impacts could be further minimised by good noise management practices as part of the management scheme. These could include:

- **Possible solutions for plant and/or machinery to reduce noise effects which will include only using plant conforming to relevant standards and directives on emissions and selecting the quietest plant available where practicable. It is recommended that the operator ascertains the noise emissions of plant under consideration to ensure selection of the quietest equipment that is practicable;**
- **The maintenance of all equipment to reduce noise effects;**
- **Orientating plant that is known to emit noise strongly in one direction so that the noise is directed away from houses, where possible;**
- **Opportunities for fitting equipment with appropriate silencers, mufflers or acoustic covers where applicable;**

Item	Subject
	• **Locating stationary noise sources away from noise-sensitive receptors and possible methods to shield them;** • **Management of activities e.g. the opportunity to shut down any machinery in intermittent use in intervening periods of non-use or where this is impractical, it should be throttled back to a minimum;** • **Minimising drop heights of materials; and** • **Education and supervision of employees to ensure compliance with good practice noise management measures.** **All plant selected should not exceed the sound power levels used within this assessment. If plant is selected which exceeds the noise levels assumed within this report or additional plant is used then a further assessment should be undertaken to determine the additional impact.**
10.	**<u>Conclusions</u>** **A noise assessment has been undertaken to consider the potential noise effects associated with the proposed demolition works at the Former Royal Mail site in Twickenham.** **Demolition works are proposed for a 12 week period and the impact from this has been considered at nearby dwellings.** **SoundPLAN version 7.1 noise modelling software has been used to predict the noise level of the plant during the works and compares the results to threshold values contained in Annex E of BS 5228:2009 for the demolition works.** **Mitigation measures have been incorporated into the site and should include a 2.4m barrier to protect the nearest dwellings south of the site. Furthermore, the crusher which would produce the highest noise levels should be attenuated by providing a bund of 3.5m surrounding it.** **The study concludes that noise levels would not be exceeded at any of the nearby noise sensitive receptors during the demolition at ground floor levels. However, it is recommended that to further minimise any noise impact from the works at nearby dwellings good noise management practices which are identified within BS 5228:2009 are implemented.**