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# Outline safe system of work

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JDE - Ruscote Avenue, Banbury

# Outline safe system of works

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## 1. Description of Work

The works consist of the demolition of the link building between the finished goods and raw materials building (as shown shaded red on the appended plan).

Around the site is currently an electrical distribution main which is part of the main JDE supply system. This needs to be terminated and relocated in order to allow the link building to be demolished.

The demolition works required to be carried out generally consist of the termination of all main services to the building, removal of the known asbestos, soft stripping out of the building, including segregation of waste for recycling and the demolition of the link building.

The base slabs, footings etc. will also need to be removed with the demolition programme, with all suitable rising, crushed on site and used to backfill voids created within the footprint of the building and further distributed around the site.

## 2. Working Hours

No construction works are to be carried out or plant operated other than between the following hours:

07:30 to 18:00 Monday to Friday

08:00 to 13:30 Saturdays

No time on Sundays, Bank or Public Holidays, unless otherwise agreed in writing with the local planning authority in advance.

No collection or deliveries to site should be carried out for the purpose of construction outside the hours of 07:30 to 18:00 Monday to Friday, 08:00 to 13:00 on Saturdays and no times on Sundays, Bank Holidays, unless otherwise agreed in writing with the local planning authority in advance.

## 3. Sequence of Work

The following sequence of works are proposed:

1. Carry out disconnection of all electrical supplies and other elements to ensure all services are terminated.
2. Create a demolition exclusion zone and drop zone with safety warning signage.

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3. Carry out CCTV drain survey.
4. Carry out a survey to confirm the route of all services to be maintained and protected, including a culvert drainage channel under the building.
5. Instruct a Structural Engineer to design a support system to allow the safe demolition of all buildings.
6. Carry out controlled asbestos removal as maybe required.
7. Obtain for re-occupation as required.
8. Carry out soft strip of structure.
9. Install temporary propping as maybe required by a Structural Engineer.
10. Demolition of the structure remotely and clear all risings.
11. Remove all concrete slabs and foundations.
12. Crush all hardcore and risings and leave on site.
13. Clear all area of plant equipment and leave in safe and tidy condition.

## 4. Environmental Considerations

The works will include the invitation of the Best Practical Means in accordance with BS5228:2009 Part 1. In addition, as good practice, the GLA/ALG procedures as set out in "The Control of Dust Omissions from Construction and Demolition" Guidance.

- The use of hydraulic pulverising equipment wherever possible and attached to the demo excavators long reach machines. This concentrates the demolition process to one specific area at a time incorporating spray jets to where positioned at the dip arm where the pulverising attaches to the machine to suppress dust being produced at the point of demolition. Other methods do not always allow control and spread of air borne dust as effectively.
- Any plant, machinery vehicles will be switched off if not in use. This controls unnecessary air pollution.
- Dampening down with water of ground areas with excessive dust build up. This will keep dust down in areas where there will be vehicle and plant movement.
- Lorry movements on and off site will be kept to a minimum by ensuring as much as possible of the demolition waste is crushed and reused on site. This will reduce the impact on the local environment and roads.
- A waste recycling area is to be set up on site and all waste sorted and recycled at source before leaving the site.
- Ensure lorries are sheeted before leaving site. This will ensure that dust does not escape during the transport of hardcore and crushed material.

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- Wheel washing to be used on every vehicle exiting the site. Lorries will enter and leave the site via existing hard standing areas within the site compound.
- Site perimeter dust monitoring will be employed and levels logged on a regular basis. This will ensure that required dust levels are kept within the guidance through adequate control measures.
- No burning of waste will be allowed on site.
- Dust, noise and vibration control to be included in the site induction and tool box talks.
- Continuous supply water to always be available for dampening down.
- A bowser to always be available for dampening down.
- Solid hoarding to reduce dust being blown off site.
- The use of enclosed chutes for removal of material from floors above ground floor level if required.
- All stockpiles to be kept damp, no more than 2m high without being covered.
- The availability of spill kits on site, training in the use of transfer of fuel, drip trays beneath static machinery, ie: generators. This will control or contain any spillage or possible fuel or hydraulic oil leaks from plant and equipment.
- Ensure that substances are stored in a secured bunded area. This will prevent any ground contamination from any possible leakages. Spill kits will be made available adjacent to substances.
- The use of the most modern silenced plant in the industry for the task. This reduces the amount of noise emissions from machinery. Plant machinery and vehicles will be switched off when not in use. This reduces noise emissions. The use of remote means of demolition using machinery with pulverising attachments that integrates a crushing process rather than an impact method of demolition. This eliminates the use of hand held breakers. Although these are muffled a certain level of noise is still emitted. The use of remote means reduces this.
- Drains will be protected from any residue from entering the drains during the demolition process by means of the drain plugs or dammit mats.
- Dust, noise and vibration monitoring will be set up to ascertain background levels prior to commencement of any demolition work. Monitoring will then take place throughout the works to ensure that the demolition work does not give rise to any significant environmental issues. Noise levels are to be measured in accordance with BS5228-1:2009 at  $A_{eq}$  (1 hour) 67 db between 0700 and 1900 (including on the normal working hours)  $L_{Aeq}$  (1 hour) 57 db between 1900 and 2200,  $L_{Aeq}$  (5 minutes) 37 db between 2000 and 0700.
- Except with the written permission of the Local Planning Authority vibration from the site when measured in accordance with the Clause 9 of BS5228-2:2009, shall not exceed  $0.3\text{mms}^{-1}$  at the site boundary.

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- Except without the written permission of the Local Planning Authority dust deposition from the site when measured by Frisbee gauge method, at the site boundary, shall not exceed 200mg/m<sup>2</sup> per day.

## 5. Site Personnel

The contractor is to confirm the site team to be used. This should include as a minimum:

- Site Manager
- Site Supervisor
- Machine Operators
- Loading Shovel Operator
- Operative and Banksmen

Confirmation of all number should be confirmed.

## 6. Plant and Equipment

The contractor is to confirm all equipment to be used including:

- Demolition excavators
- Loading shovels
- Fuel bowsers
- Demolition Hand Tools
- Waste skips for demolition risings
- Boot cleaning equipment
- Surface water plugs
- Wheel washing equipment

## 7. PPE

The following personnel protective equipment will be provided as a minimum requirement:

- Hardhat
- Gloves
- Safety boots
- Coveralls
- High visibility vests or coats

The following personnel protective equipment will be issued and will ne worn when deemed necessary and depending on task being carried out:

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- Glasses Face mask with appropriate vent filter
- Disposable coveralls
- Ear defenders
- Wet weather clothing
- Impact resistant protective glasses or goggles

## 8. Assessment of Health and Safety Hazard and Risk

The risks are to be assessed in accordance with the HSE's Guidance Note INDG136 (Rev 2), 06/2006 "Five Steps to Risk Assessment". This must look, as a minimum for the following:

- Look for the hazards
- Decide who might be harmed and how
- Evaluate the risk and decide what control measures are required
- Record the findings
- Review the assessment and revise if necessary.

In addition, separate assessments should be undertaken for COSHH and Environment. The site specific assessments are to be located within the site manager's file and made specific by the site supervisor for the particular work activity being carried out and to substances being used on site.

## 9. Responsibilities

In order to safely manage the project the following management resources are to be provided. The site manager who will be resident on the site with the Contracts Manager reporting to him. The site manager should be qualified and experienced in the work to be undertaken.

Sufficient competent training and certified operative are to be provided to undertake the work safely within the timescales envisaged. All works are to be undertaken under the direct supervision of the site manager. All operative are to be provided with and will wear PPE that is appropriate, suitable and sufficient for the task at hand.

## 11. Asbestos Removal

Asbestos has been identified within the building, ie: high level pip lagging to pipework and vinyl floor tiling . This is to be removed, prior to the demolition works, by a suitably qualified contractor and separate documentation is to be supplied by them and accepted as being suitable and sufficient. All asbestos is to be removed from the building prior to the strip out works by trained and competent operative with all the appropriate controls in place, ensuring that contaminated items are double bagged and disposed of in the correct manner, this will eliminate any significant environmental effects.

If during the demolition works any further asbestos containing materials are identified by the demolition contractor then all works are to stop and an asbestos surveyor is to be called to site and samples taken for testing and the appropriate action taken therein. A suitably qualified contractor can then be employed, if required, to remove the asbestos as above. Only then can the demolition works re-commence. This will eliminate any significant environmental effects.

## 12. Protection Arrangements

Surface water drains will be protected from run off from the demolition process by utilising sand bags, boom arms or dammit mats. Where deemed appropriate, scaffolding crash decks are to erected over any sub stations during the course of demolition.

## 13. Service Disconnections

The contractor is to ensure that the statutory services (that require disconnection) have been disconnected and made safe in all structures and obtained written confirmation of all disconnections.

## 14. Method of Demolition

Before work begins on the removal of asbestos, all loose items of furniture and equipment will be removed from the building. Removal of asbestos will then take place by suitably qualifies and certified contractor.



Once this is complete, soft strip works will begin on the structure. All arising, which is not being re-used on site or recycled, will be transported off site by bulk tipping lorries and traffic movements will be marshalled by trained banksmen on site. Vehicles will not be allowed to stack park on the surrounding roads and will only be allowed on site by arrangement when required.

## 15. Soft Strip Works to All Buildings

Before the soft strip works are carried out, a detailed inspection of the property should be undertaken to ensure that there are no structural issues or further items of interest requiring salvaging.

1. Prior to demolitions the building will be soft stripped of all fixtures and fittings, such as doors, cupboards, false ceilings etc. and rubbish using traditional method, utilising demolition and hand tools, including, but not restricted to, pinch bars, hammers, Mattocks, shovels and wheel barrows. The arising will be segregated into their appropriate waste streams and they will be taken out of the building and stock piled or placed directly into skips as part of the waste management system.
2. A designated drop or loading zone will be established and will be fully cordoned off using fencing, displaying warning and notices at vantage points. The location of drop/loading zones will be in the compound area of the site, soft strip materials will not be dropped from an opening made in the window openings. The waste materials will either be dropped directly into 40 yard open top roll on off waste skips or directly on to the ground into the ground slab and then loaded directly into waiting bulk articulated lorries by one of the excavators.
3. All appropriate PPE will be worn for the task, ie: steel toe cap boots, gloves and goggles and floor areas will be kept dampened down with water to suppress dust during the strip out process.

Items to be removed as follows:

### **Windows And Doors And Internal Glass Partitions**

Glass and windows and partitions will be removed using hand tools to reduce the weight of the frame when being removed. Hand tools are to be used to remove the frames by prizing them out of their openings and then disposing them in their designated signed skip. Use of podium mobile towers will be utilised with steps dependent on the need to gain a safe working height. Manual handling requirements for team lifts when removing window frames will be adapted dependent on the site and material

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Doors will be removed by stripping of the door furniture and removing the doors from the hinges. Doors will wither be down sized for ease of disposal of its structure dictates or carried by hand to the skip area for recycling.

## **Skirting Boards and Door Frames**

Skirting boards and door frames are to be removed by operatives using pinch bars and suitable hammers. The items are to be prized from their pace of fixing. Any obstructions and nails are to be removed or hammered over, with all resultant materials then be transported utilising wheel barrows or bins and carrying by hand to the designated drop/loading zones for recycling.

## **False Ceilings**

Ceilings will be removed by operatives working from correct assemble mobile access platform towers or podium steps suitably positioned. As the ceiling tiles are removed by pushing the tile up and out of the frame and twisting it sideways to enable removal, whole and intact they are to be lowered to ground in a controlled manner by passing down to the ground operative. At ground level they are periodically collected and bundled into man manageable size parcels using adhesive tape. As the works progress the suspension system is to be removed by the operatives working from the mobile access platform scaffold. Working from the platform the fixing is to be cut as flush to the ceiling if possible using hand held cutting tools, such as nips and/or croppers. Once again, the removal of items are to be lowered to the ground in a controlled manner where they are to be transported utilising the wheel barrows, wheeled bins and carrying them by hand to the designated drop/loading zones for recycling.

## **Floor Coverings**

Any carpet coverings are to be removed by the operatives using the mattock picks and shovels. Where the carpet are of a rollable nature these are to be cut into strips, whilst still laid, and then rolled up for collection. Carpet tiles are similarly to be lifted. Both carpet tiles and rolls are to be bundled and taped, as previously stated. All resultant materials are to be transported using the wheel barrows and/or carrying by hand to the designated drop/loading zones for recycling.

## **Non-loading Bearing Stud Partition Walls**

Timber stud partitioning is to be removed by the operatives using hand help tools, namely pinch bars, picks and hammers. The wall structure is to be de-erected by removing the coverings using the hammers and bars. Once exposed. Remaining timber studwork is to be prized free and de-nailed or nails hammered over. Once again, the resultant materials are to be removed to the designated drop/loading zones for recycling.

# 16. Structural Demolition of Structures

Once the asbestos removal works are completed, the main structural remote demolition will begin working in a logical manner to suit the site layout.

External cladding to the buildings is to be removed using the necessary equipment and the panels cut down to size to be handled by the operatives.

The cladding to the building is to be removed to the site dropping/loading zones for recycling. Cladding rails are to be removed in sequence, along with the steel frames to safely drop the whole of the steel frame. This is to be done in conjunction with the Structural Engineer's design. A controlled process is used to drop the frame and once on the ground cut up and take to the drop/loading zones for recycling.

The concrete around steelwork is to be taken off using the relevant equipment, pulverised and used as part of the hardcore around the site.

RC columns will be "munched" away using the hydraulic pulverised excavator reducing them down to floor level. This process is to be repeated until all columns have been reduced to ground level.

Once all the buildings have been demolished, rising cleared away and the area will be left clean and tidy. All projections from the slab that remain following demolition will be cut flush with top of the ground slab, and any leading edges will be filleted to prevent any trip hazards and avoid backfill to eliminate any potential falls.

As the works progress the risers will be segregated into separate stock piles of metal, hardcore and rubbish by the machine for site disposal at licence recycling centres. The hardcore riser will be crushed on site, as detailed above and used on site for hardcore.

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Ground slab removal, foundation and site clearance. Once the structure has been demolished, two excavators will begin to lift the ground slab up and use a bucket attachment, this will prevent excessive noise from break attachments causing disturbance to neighbouring properties. This section of slab will be placed into the stock pile area for processing and crushing at a later point.

A breaker attachment will be used to break out any large sections of building foundations, but where possible these will be removed whole with the bucket.

The process of uplifting the slab will continue across the site front to back. A section of slab will be left in on the haulage route and removed at the last opportunity.

Once the slab and foundation sections are processed using the hydraulic pulveriser attachment to one of the machines, it will be crushed using a mobile crushing plant. This phase of work will be undertaken under a separate method statements and risk assessment.

## 17. Conclusions

If the work are undertaken as above then it is considered that the demolition will not give rise to any significant environmental effects.

Where any remedial measures are proposed in respect of noise, dust, vibration and asbestos removal and general working practices these will be undertaken in accordance with defined parameters to be defined based on the works to be undertaken to ensure that no significant environmental issues occur.

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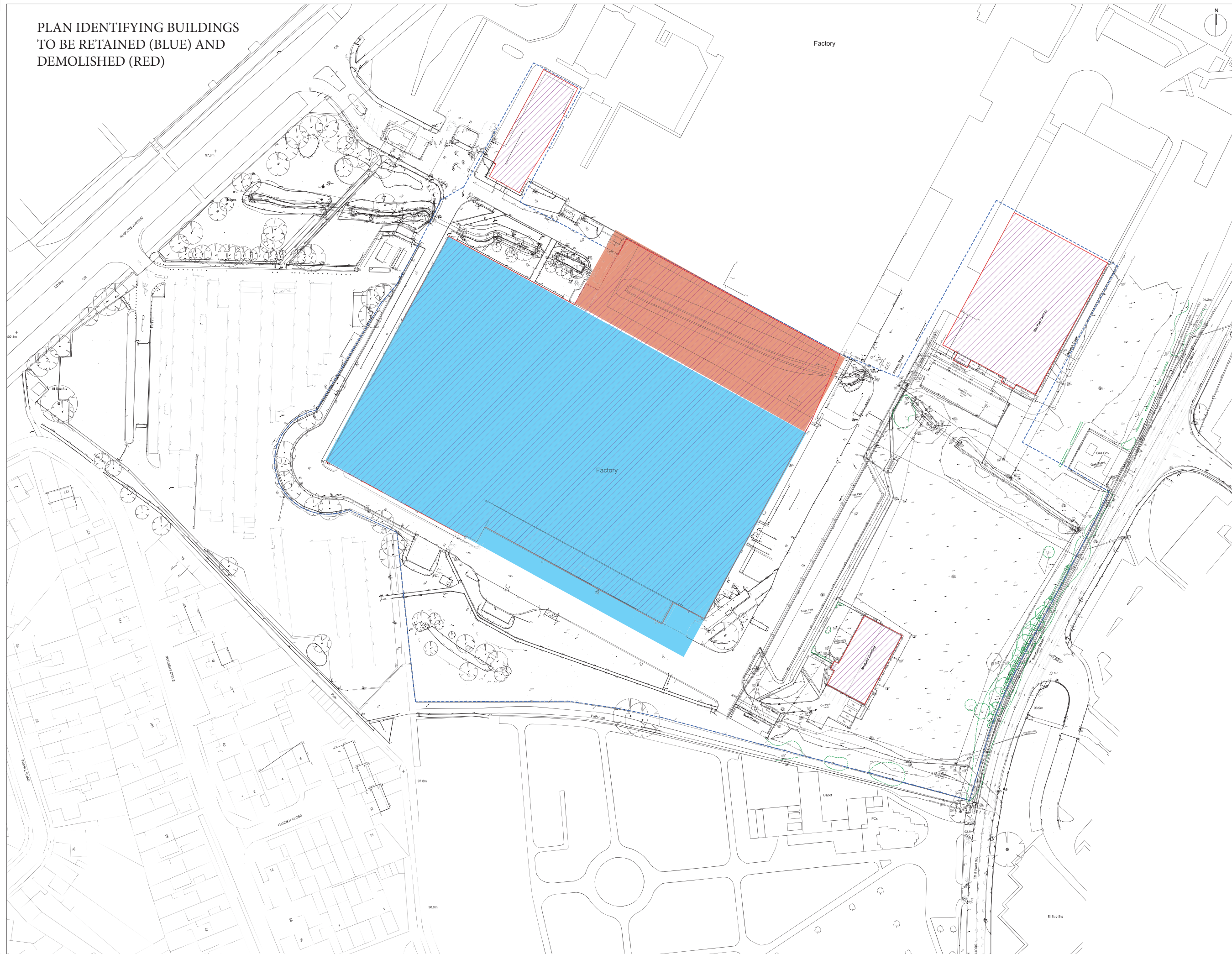


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## Appendix A – site plan

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**PLAN IDENTIFYING BUILDINGS  
TO BE RETAINED (BLUE) AND  
DEMOLISHED (RED)**



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 Planned dimensions only to be taken from this drawing. DO NOT SCALE.  
 All contractors must sign the site and be responsible for checking all existing dimensions and notifying the architect of any discrepancies prior to any manufacture or construction work.

NOTES:

Meters 0 5m 10m 15m 20m 25m  
 Centimetres 0 1cm 2cm 3cm 4cm 5cm

PLANNING 1:500

— Demolition boundary  
 - - - Site boundary  
 ▨ Building to be demolished

FOR PLANNING

Client  
 Kraft Foods UK Ltd

Project  
 Southam Road  
 Banbury

Drawing Title  
 Demolition Plan

|             |             |             |       |          |
|-------------|-------------|-------------|-------|----------|
| Drawn       | Checked     | Project No. | Scale | Date     |
| PA          | JD          | A0          | 1:500 | 20.01.12 |
| Project No. | Drawing No. | Revision    |       |          |
| 11619       | 0105        | -           |       |          |

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