

Working Method Statement for UoR Whiteknights Campus 10no Houses



The Intent of this Method Statement is to communicate our approach to the Demolition of the existing property and the construction of 10 houses, infrastructure and associated internal and external works, our management approach, the operational challenges that we understand and our proposed solutions. Ensuring works are executed in accordance with the relevant and current Health and Safety Legislation and information provided within the tender information

Site Establishment / Enabling Works

Following receiving written acceptance of the Construction Phase Plan the site can be established.

The overall area of the site in relation to the footprint of the buildings is of sufficient size to provide ample space for both operational activities and storage space. However, this must be well managed in order to keep a tidy and safe site.

Upon gaining possession of the site the first priority is to erect a secure boundary, and erect tree protection in accordance with BS 5837. We intend to utilise the existing site entrance / carpark within the campus and access the site from Shinfield Road entrance, during various stages we will require minimal access from the access road located in Upper Redlands Road.

Working Hours for Demolition and Construction

- 08:00 – 18:00, Monday to Fridays
- 09:00 – 13:00, Saturdays
- No works shall be executed outside these times including Sundays and Bank Holidays

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Security

A 2m high heras fencing with locked entrance gates and a locked segregated pedestrian access gate have been provided within the site entrance at car park 2a on the Whiteknights Campus. The remaining perimeter has been secured utilising double clipped anti-climb heras fence panels, attached to scaffolding for robustness which will double as the tree protection as detailed on the tree protection plan.

We don't anticipate any security issues on site as the site is within the areas patrolled by the Universities own security and has CCTV coverage.

However, as the project develops assessments will be made on what changes to security arrangements will need to be made / enhanced where necessary.

It will be the Site Managers responsibility to carry out visual inspections of the perimeter fencing to ensure areas of vulnerability to unauthorised access are maintained as secure.

The vehicle entrance and pedestrian access gate will be kept shut when not in use.

It also the Site Manager responsibility to ensure the site has been left secure and the end of each working day.

Welfare

Adequate and compliant facilities will be provided. These will be maintained in a safe and clean condition. The location of these facilities will be designated on the overall site layout.

Waste generated from the toilet and washing facilities will be discharged direct into the existing foul system currently being used by the existing property. The connection will be sealed to control smells generated from effluvia

The following will be provided and maintained throughout the duration of the project:

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- Office Accommodation to facilitate administration, Client meetings and weekly Health and Safety and Co-ordination meetings
- Adequate and compliant toilet facilities with hot water and means of washing – relative to the number of people on site.
- A separate Client / Ladies toilet
- Canteen with means of refrigerating and heating food
- A drying room
- A storage container to ensure the site facilities and welfare are not used as storage for tools and materials.

Demolition

All demolition works will be carried out in accordance with BS6187 Code of Practice for Demolitions

Carefully demolish the existing commercial units along with all associated outbuildings / garages etc. Grub up and remove existing slabs and foundations, paving's and driveway. Clear adjacent garden plots from debris and old shed bases.

Remove overgrowth locally to gain access for demolition works.

Sort all arising's on site for reclamation / recycling and remove all debris from site to licensed waste transfer / waste sites.

The existing building is approx. 1960's construction with various wall constructions (Timber, brick, concrete, steel) with pitched corrugated roofs.

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Asbestos materials are present in the form of:

- Asbestos cement roof sheets to one of the units. To be removed prior to demolition by a specialist contractor.

Prior to demolition Knowles will undertake the following:

- Disconnection of incoming services
- Site fencing / security
- Welfare
- Tree protection works

Proposed start date: **30 Jan 2017**

Demolition completion 4 weeks from commencing.

Resources (not confirmed but likely to consist of)

- 20t 360 excavator c/w demolition selector attachment and fork attachment
- 14t 360 excavator c/w demolition selector
- On site supervisor/ganger
- min 2 max 4 laborer's/banksmen
- Visiting management (daily)

Competencies – All operatives –

- CSCS cards
- CCDO demolition tickets
- CPCS cards (plant operators)
- Category B asbestos training module
- UKATA asbestos awareness
- P3 RPE face fit testing
- PASMA certified

- Abrasive wheels

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Supervisors

- CCDO Gold card supervisor and or SSTS supervisor
- Emergency First Aid at work

Sequence of Demolition

All existing services will be isolated prior to commencing the demolitions.

The site will be secured with heras fencing along the boundary by Knowles, statutory warning signage will be erected along the fence line. The existing site entrances will be used for the use of the demolition works.

The existing trees will be protected by Knowles prior to demolition attendance, overgrowth and shrubbery locally to the house will be pulled out with the excavator and selector

Tree protection fencing will be erected by Knowles.

The asbestos Cement roofing sheets will be removed by the specialist contractor prior to demolition and removed from site by a licensed carrier.

Generally soft stripping of the house will be carried out by hand, removing all fixtures, fittings, carpets, doors, linings, curtains, kitchens, skirting's, parquet, flooring etc using mattocks, bars, screwdrivers etc.

Knowles will provide a water supply to ensure a suitable dust suppression system can be utilized to control dust from becoming airborne.

The structural demolitions of the buildings will be carried out using the 20t excavator c/w selector attachment, the roof timbers and joisting will be lifted off and set aside for recycling. All timbers will be kept aside from hardcore. The walls will be pulled down to ensure they remain safe in between tidying up.

The floor slabs, foundations to the structures and garden paving's will be grubbed up with the 360 excavator the driveway is to remain so as to provide a

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clean hard standing for the Lorries until such time it can be dug out the materials will again be sorted / set aside for recycling.

All debris will be sorted on site for reclaim/recycling or landfill and will be cleared by roll on off bins / tippers to licensed waste/transfer stations.

The site will be left tidy, graded and tracked in.

Risk Assessment

(Low/Medium/High)

1. Cuts / bruises – Risk Rating - Medium

P.P.E clothing will be worn, hats, boots, gloves high vi jackets etc.

Residual Risk Rating – Low

2. Falling debris – Risk Rating High

No unauthorized persons to enter the area of the demolitions.

Care to be taken not to damage retained trees / boundary fencing

No persons to work beneath during the roof tile removals. Ensure structure is left in a safe manner at the end of each shift

Banksman to be in attendance to oversee site works and supervise boundary works.

Residual Risk Rating - Low

3. Falls from heights – Risk Rating High

Operatives to wear safety harness where required.

Mobile towers to be erected on firm level ground and erected by competent PASMA certified person. Outriggers and handrails are to be in place prior to use.

Residual Risk Rating - Low

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4. Dust – Risk Rating – Medium

Works will be damped down as necessary from existing water supply
Reclaim bricks where possible therefore minimal dust caused
Existing tree protection and boundary to remain
No burning on site
Lorries to be sheeted when leaving site
Existing driveway and building slab will be left intact as long as practically possible to run roll on off bins / tippers on

Residual Risk Rating – Low

5. Noise – Risk Rating – Medium

Any mechanical works not to start before 8.00am.
No Radios or foul and abusive language on site
Machines are latest models and have reduced decibel ratings

Residual Risk Rating – Low

6. Construction Traffic – Risk Rating – Medium / High

Due care to be taken during all deliveries and removals.
Immediately adjacent is a university campus where general public and students will be moving Knowles to clearly indicate site entrance
No Lorries to wait on surrounding roads or within the university campus
Banksman to be in attendance

Residual Risk Rating – Low

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7. General Public - Risk Rating - Medium / High

Work areas are to be securely fenced off with heras fencing and existing boundary fencing retained where adequate
Warning signage will be displayed.
Banksman to supervise boundary works

Residual Risk Rating – Low

8. Existing Services - Risk Rating - Medium / Low

Electric and gas disconnected. Copies of isolation certificates to be provided by Knowles prior to commencing
Water to be isolated in footpaths and used as required

Residual Risk Rating - Low

Asbestos materials

A copy of the Asbestos Report has been provided, and materials detected within survey are non-notifiable.

Proceed with soft strip with care. Should we come across anything suspected of containing Asbestos, work is to cease, the area made secure to prevent further disturbance, and report to Knowles for instruction.
All operatives Category B asbestos trained and face fit tested

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Access

Access and egress for the works will be via the existing entrances in car park 2a on the Whiteknights Campus accessible from Shinfield Road entrance.

No access to the site will be via Upper Redlands Road

Suitable and adequate safety warning signage will be erected along the access roads through the campus giving advance warning to members of the public and road users of the construction works and the site entrance. Knowles directional finger boards will be displayed locally to assist with site associated traffic and prevent construction vehicles from entering into other local roads.

The access gate will be set back onto site with a layby area, allowing vehicles to drive onto the site and prevent them from having to stop on the campus roads, causing minimal disruption to the other university properties and local traffic. We will also ensure access roads are kept clear of mud and stones, generated from our construction activities.

All vehicles and pedestrians will be met at the gate and given the necessary directions and Health and Safety information, in the form of verbal communication or directional signage

All persons entering and exiting the site will sign in and out.

Reversing out onto any road without a banks person is strictly prohibited. Large vehicles exiting the site may need to will be assisted by means of a trained banks person. All vehicle movements on site will controlled strictly in accordance with the Traffic Management Plan.

Deliveries

Deliveries will be planned in advance through weekly Health and Safety and Coordination Meetings. At the meetings subcontractors will provide times, dates and type of materials being delivered. This information will be displayed on a site information board and periodically updated.

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Materials will be unloaded by mechanical means where possible to reduce the risk of manual handling related injury and to prevent the need for persons to work at height. Larger vehicles unable to manoeuvre through the site will be unloaded at the area near the entrance dedicated for this purpose. Materials will then be transported to the materials storage area by forklift. Deliveries will not be permitted prior to 9.15am or after 17:00

Once the materials have been unloaded they will be stored / stacked safely in an organised manner, or distributed as close to their final destination as possible.

All suppliers will be requested to deliver materials in smaller vehicles where possible.

*It is noted that no loading or unloading will take place on Public highways at any time

Traffic and Pedestrian Management

The Traffic Management Plan will specify access and egress from Shinfield Road. The gate will be shut when not in use. The gate will be set back into the site to allow the flow of traffic on to site and to prevent vehicles causing congestion on Shinfield Road. The gate will be kept closed to prevent unauthorised access by members of public.

Once vehicles have entered through the gate they follow clear directional signage, either to the material unloading zone, or to visitor and contractor parking.

A separate pedestrian gate will be erected at the entrance along with isolated foot path leading to the site accommodation ensuring pedestrians and construction traffic foot traffic remain segregated.

Segregation of vehicles, plant and pedestrians is of the highest importance. Clear and segregated routes from parking areas – to the welfare facilities and to and from the work place will be established, along with adequate signage

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identifying vehicle crossings. Vehicles with out 360° vision, engaging in reversing may only do so with the aid of a Banks person.

Although not envisaged, any vehicle leaving site will be inspected for dirt and mud. If any is encountered then all wheels will be washed to ensure the deposition of the dirt and mud onto the universities private road network and public highway.

No public road or footpath closures are envisaged other than services connection required by Thames Water, SSE and Openreach.

Parking will be situated to front of the site within the welfare areas.

*please refer to site set up plan

Temporary Works

Knowles will produce a temporary works register to identify what Engineered Design works will be required. Knowles will employ the services of a consultant Engineer to check the design of temporary works and the subsequent design proposals.

A member of our site team will be appointed as a Temporary Works Coordinator and will be responsible for scheduling all temporary works requirement, liaising with the designer and issuing the necessary permits.

Forming Access / Access Roads / Hard standings

Following receiving written acceptance of the Construction Phase Plan our Site Engineer will proceed with setting out key areas for the entrance, access roads and hard standings. Our Groundworks Contractor will mobilise and commence with forming an entrance through the boundary, taking care not to damage the existing roots and may spread outside of the tree protection zones.

Trees to be removed and those allocated for tree protection will have previously been identified, removed and protected accordingly.

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Once a suitable permanent site entrance has been established and secured a hard standing will be prepared for the site accommodation and parking. Running concurrently the main access road along with site compound will be stripped of vegetation, reduced where required to the necessary levels with the specified sub-base materials. It is our intention to construct the main site road up to base course for construction traffic, preventing mud and stones from migrating onto Shinfield Road.

To facilitate the site accommodation, welfare, storage zones and car parking the existing ground may need to be reduced and filled with a suitable material base material laid and sized to ensure it doesn't cause injury to foot traffic.

Segregated foot paths will also be constructed at the same time as access roads, ensuring risks associated with slips trips and falls are mitigated, by ensuring these are laid level. Foot paths that are required will be managed with staggered barriers and adequate warning signage.

Whilst the site establishment is being fashioned, we will commence clearing the construction areas, reducing / filling levels along constructing the piling mats and preparing for foundations.

Excavations

It has been identified that the side walls of excavation would be generally unstable. On this basis, great care will be taken during any construction activities on the site that involve excavation.

Random and severe falls should be anticipated from the faces of any unsupported excavations carried out on the site. It is essential that where personnel are required to enter excavations, appropriate support to the full depth of the excavation is provided. Alternatively battered sides would be considered, if practical. Access to and from excavation will be via and secured ladder.

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Control of Dust

In addition to controlling dust from demolition, our construction activities that generate airborne dust will be controlled by recognised methods – such as, but not limited to the following:

- Dust suppression kits attached to cutting tools
- Operate Block / Brick splitters
- Damping down prior to sweeping
- Utilise hovers
- Covered skip exchanges
- Sheeted muck-away vehicles
- Access road constructed up to base course
- Timber cutting tools to be fitted with dust filter / suppression facilities

Construction Sequence

Following the relevant planning discharges, tree protection works, providing a secure site and having certified disconnection of existing services, works will commence with demolition to the existing property.

Construction works will commence with stripping the site of vegetation, reducing levels where required in preparation to excavate the foundations.

Excavation works will start to the east of the site progressing west, allowing foundations to progress in a logical sequence. Running concurrently with foundation works, below ground drainage will be progressed. The sequence of foundation works has been programmed to allow the block and beam and timber frame to start being erected as early as possible.

It is our intention to install the road up to base course following forming the permanent entrance. By doing this it provide a firm and clean running surface for construction activities and organised parking and traffic management implementation.

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Construction of plots 1-10 will progress in a logical sequence in accordance with the construction programme. Following the sequenced completion of the below ground blockwork, the ground floor slabs will commence, providing continuity to allow progression with timber frame and the external envelope.

Mats will be designed and formed to allow a suitable mobile crane to be positioned and operated for the install of the timber framed structures.

Scaffolding will be programmed and erected prior to the timber frame install to ensure minimal disruption to the construction process. The timber framed structures come with the external windows and doors already pre-installed eliminating the need for access to the higher levels for fixing. The installation of the roof cassettes and external finishes will be sequenced allowing the internal services / finishes to progress on one block whilst the timber frames are in being installed to the other.

Commencement of the internals fit-out and finishes will be programmed and planned to follow a logical sequence, commencing with M&E containment and first fix. Insulation, plasterboard ceilings and plaster finishes will be timed ensuring continuity between first fix services located within the stud walls, carpentry first fix and mist coating for second fix.

Short term programmes will be produced for each block and apartment, ensuring continuity between the finishing trades is coordinated and the desired quality finish is achieved

Following completion of the roof, RWG and external façade the scaffold will be removed progressively to allow the installation of balconies. Once the scaffold has been removed completely, drainage connections, external paving's, wearing course Macadam, hard landscaping, and final landscaping works can be installed to completion.

During the final stages soft landscaping and planting will commence to completion.

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Commissioning and Completion

The timely commissioning of the UoR Housing Project is critical to its successful completion, including training staff on the operation, use and maintenance of the building.

A commissioning programme will be produced and coordinated into the main construction programme, ensuring all testing and commissioning elements are coordinated into the works.

During the commissioning period Knowles Site Management in conjunction with the commissioning specialist and M&E consultants will closely inspect the installation for snags and defects.

Every effort will be made to ensure items identified as defective will be rectified prior to hand-over. Should any minor issues remain as outstanding at the time of hand-over they will be promptly addressed within an agreed time period and without disturbance to the incoming occupants and the general day to day operation of the buildings.

Should any further items be raised during the twelve month defect liability period they will also be addressed promptly but at the convenience of the staff and the occupants.

The Health & Safety File will be collated and incorporated into the Operation and Maintenance Manual and submitted to the CDM Coordinator prior to hand-over for review, giving adequate time for items identified as missing or requiring amending to be included.

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Logistics

Issue 1

Distribution of materials / Loading and Unloading

Solution

Mobile cranes will be used for large deliveries to site such as the timber frame components and the like. A telescopic forklift will also be employed on site to move bricks, mortar, plasterboard, ceiling materials both horizontally and vertically and generally manage distribution of materials.

All unloading and loading will be performed within the site boundary with the exception of the timber frame to plots 5 to 10. Close consultation with the University during this time will ensure minimal impact to the students residing in Padworth house. Temporary road closure on the universities private roads have been approved between the hours of 9.30am and 11.30 am for a 3 week period. No unloading will take place on public road.

Issue 2

Access to construct roof structure.

Solution:

In addition to a scaffold platform, not lower than 450mm from eaves, an inside handrail will be installed and the roof comes as a complete solid cassette lifted into position by crane. ensuring all leading edges are suitably protected for falls in accordance with the Working at Height Regulations 2005. The inside edge protection will be removed to allow roof access after completion of the cassette install preventing falling into the building from the external scaffold.

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Issue 3

Storage

Solution :

An onsite storage facility will be place in the compound area for small building materials. Other larger deliveries will only be called in when the development is at a stage where the materials can be taken straight to where they will be fixed in position.

During the early stages for ground works, a designated area will be identified for these materials.

No storage of material will be on public highways

Issue 4

Distribution of concrete/screeds in the new buildings

Solution:

We propose to use pumps for distribution of concrete and screeds in the new structures. This is the most efficient way of moving the material. Pumps will also be used where access is restricted for movement such as far sides of the building, inaccessible via the under croft, and screeds to all levels.

Issue 5

Site Parking

Solution:

We propose form the access roads and parking areas at the early stages to ensure organised parking arrangements are established, segregating site operatives from material unloading / reversing zones.

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All parking will be confined to the site and no parking on public highways will be envisaged.

*Please refer to site set up plan