

South Bank Site – Demolition of Minor Buildings

Outline Method Statement

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Appendices

Appendix A – STDC South Bank Site Enabling Works – Demolitions Site Location Plan

Appendix B – STDC South Bank Site Enabling Works – Prior Approval Demolitions

1. Introduction

1.1. Purpose

The purpose of this document is to present an outline method statement for the demolition of a number of structures scattered around the South Bank Site area as part of the South Tees Development Corporation Area regeneration project. It has been written to form guidance as to some of the key works and considerations anticipated as part of these works.

As part of the requirements of the Construction Design and Management (CDM) Regulations (2015) a Principal Contractor (PC) is to be appointed following contract award for these works. It should be recognised that the responsibility of demolition works shall lie with them and that their method statements shall govern the exact nature of the works and methods employed to bring about safe delivery of the contract. The works are to be carried out in line with all the PC's policies and procedures, including all relevant Task Specific Safe Working Procedures. Also the works will be carried out in line with all current relevant legislation and regulations and comply with BS6187:2011 Code of Practice for Full & Partial Demolition, including the below mentioned regulations:

- The Control of Substances Hazardous to Health Regulations 2002
- Health and Safety at Work Act 1974
- Control of Asbestos Regulations 2012
- Environmental Protection Act 1990
- As part of the works the PC will abide by the STDC site rules and receive a local induction to the site.

It is anticipated the works will be notifiable to HSE under the CDM 2015 regulations.

1.2. Site Location

The work site, South Bank Site (SBS) is located between the River Tees and the Darlington to Saltburn railway line, east of Smiths Dock Road, South Bank. This area of the STDC site was previously used to provide materials stockpiling and sorting for the former Cleveland North & South Iron and Steel works. The STDC South Bank Site Enabling Works – Demolitions Site Location Plan is contained in Appendix A.

The actual buildings that are being considered for demolition consist of a number of structures scattered across the SBS area and are disused and redundant with some being in a poor state of repair. They mainly consist of brick and concrete former sub-stations and control buildings, a steel firefighting water storage tank, a large open sided portal framed shed and two former engineering workshops with adjoining brick built office accommodation. The STDC South Bank Site Enabling Works – Prior Approval Demolitions drawing is contained in Appendix B and contains images and indicates the relative locations of each of the buildings.

1.3. Service Connections

Each of the buildings identified within this method statement for demolition will undergo a series of proof of isolation from the services that used to serve the building be it electrical, water, gases or telecoms.

All electrical isolations shall be carried out back to the relevant main feed substation switchgear for each individual building. Isolations are to be completed by STDC's nominated agent using suitably qualified and trained engineers who will issue the PC with written confirmation upon completion; these records will be held on site.

Water services are again to be isolated by STDC's nominated agent at the nearest valve chamber and again written confirmation supplied. Any drainage outlets or interceptors will be capped by the contractor as part of the works contract.

Isolation points will be fully identified and marked on a site drawing and clearly identified onsite.

1.4. Demolition Works Scope

The following scope of works is anticipated as part of the demolition works;

- Erection of temporary barriers/fencing and signage to provide a suitable perimeter around the building/structure to be demolished.
- Removal of Non-Notifiable asbestos.
- Existing services location, isolation, and removal within the buildings. Any remaining live underground services are to be identified and protected.
- General soft strip of offices and buildings, where required, followed by demolition to top of floor slab.
- Demolition of the firefighting water tank structure to top of base/foundation slab.
- Exterior cladding strip and then demolition of frame to the larger steel framed buildings down to top of floor slab.
- Crushing of demolition rubble to Class 6F2 specification and infill of voids where necessary.
- General levelling of site to existing site contours using site won material.
- Removal of all arisings off site including recycled metal, where not used above.

1.5. Building Description and Construction

In total there are thirteen buildings scattered across the SBS area that are to be considered for demolition under this outline method statement and can be broken down and described as follows;

1. Former Dispatch Office, a single storey brick built building with concrete slab and beam roof. Approximate size of 5m long by 4m wide and with a height of 2.5m.
2. Former Switch House (1); a single storey brick built building with concrete slab and beam roof. Approximate size of 5.5m long by 4m wide and with a height of 2.5m.
3. Former Pump House; a single storey brick built building with concrete slab and beam roof. Approximate size of 4m long by 4m wide and with a height of 2.5m.

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4. Former Firefighting Tank, a steel cylindrical tank approximately 7m in diameter and 20m tall.
5. The Ferro Manganese Crushing Plant. This is a large portal steel frame semi open shed with steel sheet cladding to its upper third elevations and gables with an apex roof. Approximate size of 80m long by 45m wide and with a height of 10m.
6. Elevated Tank, steel construction tank with supporting steel work and pipe work. Approximate size of 7m long by 2m wide and with a height of 2.5m.
7. Former Switch House (2); a single storey brick built building with concrete slab and beam roof. Approximate size of 6.5m long by 5m wide and with a height of 2.5m.
8. Redundant Sub-station (1); a single storey brick built building with concrete slab and beam roof. Approximate size of 6.5m long by 5m wide and with a height of 2.5m.
9. Former Pig Casting Machine Control House; a two storey brick built building with concrete slab and beam roofs. Approximate size of 8.5m long by 6.5m wide and with a height of 5m.
10. Redundant Clevestone Garages; consists of 3 steel framed and steel clad sheds to sides and roof with a collection of small brick built ancillary buildings. The largest shed being approximately 20.5m long by 16m wide and with a height of 8m. The other two sheds are joined longitudinally but individually measure approximately 33.5m long by 14.5m wide and a height of 6.5m each.
11. Redundant Sub-station (2); a 2.5 storey brick built building with concrete slab and beam roof. Approximate size of 7.5m long by 5.5m wide and with a height of 6.5m.
12. Former Maintenance Buildings and Offices; this is a collection of buildings consisting of a mainly single storey brick built out buildings and a large steel framed and steel clad shed with two storey peripheral brick built office and welfare buildings. The out buildings measure approximately 34m long by 9.5m wide and have a height of 2.5m. The main shed has an approximate size of 90m long by 21.5m wide and with a height of 9.5m to its roof apex. The office and welfare buildings are L-shaped and approximately measure 21m by 6m for the short leg and 68m by 6m for the long leg with an approximate height of 5m.

2. Demolition Methods

2.1. General Demolition Approach

Prior to any works commencing, a refurbishment and demolition (R&D) asbestos survey will be carried on the existing structure to confirm the presence and location of the asbestos within each structure. A specialist asbestos removal contractor will attend site (on a sub-contract basis) and remove any asbestos identified in the asbestos report. The asbestos will be bagged up, placed into a sealed waste skip and sent for disposal at a local registered waste handling facility. Site and task specific RAMS will be issued from the sub-contractor for the safe removal and disposal of the asbestos from site.

The first stage of the demolition will be ensuring the site is safe. The working area will be cleared of low-level vegetation, old industrial waste and rubbish, ensuring that all potential for trips are removed. Any hazards such as voids and manhole covers will be highlighted and cordoned off with using suitable barriers/cones and tape.

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The onsite facilities team will confirm isolation of all services to the buildings which include electricity, gas, water and telecom's. STDC will confirm the isolation of their assets in writing and label accordingly (if necessary) prior to any work commencing.

All floor slabs and hardstanding's to be retained at this stage. The site is to be left level on completion, with any voids backfilled utilising on site crushed material. The brick work to the buildings is to be crushed to a 6F2 specification and used to infill any voids or pipe channels. Existing roads and hardstanding areas, including site pathways and fence surrounding the site are to remain in place.

No remediation or sub surface works are to be undertaken as part of this project.

2.2. Removal of Asbestos-Containing-Materials

(Non-Licensable only – Licensed Material to be removed by specialist subcontractor prior to demolition works mobilising).

At the time of writing, the full R&D asbestos survey had not been undertaken to all buildings. All asbestos removal activities are to be carried out in strict accordance with CAR 2012 and HSE Asbestos Essentials Task Sheets.

All operatives carrying out the asbestos removal works will require to be trained to Cat B Non-Licensed Asbestos Removal Standard, have an approved Asbestos Medical and be correctly face-fitted for a Sundstrom Half Mask Respirator (in accordance with Asbestos Essentials EM2).

An Asbestos Waste Skip is to be suitably lined in 1000g polythene and located nearby the asbestos removal activity to minimise transit of materials. Disposal of material will be to an asbestos landfill cell nearby transported under a Section 62 Hazardous Waste Consignment (in accordance with Asbestos Essentials EM9).

2.3. Typical Steel Framed Building Demolition Methodology

There are a number of steel framed structures included in the works that will be demolished using the methods outlined below; the former Ferro Manganese Shed, 3 number sheds at the former Clevestone Garage site and the former Maintenance Shed at the south end of the site. All of these structures vary in size and length but all are between 2 and 3 storeys high.

The first task will be to remove the side cladding and trims from the structures, which will be carried out via a MEWP/cherry picker to enable access to high level. Edge protection will be provided around the perimeter of roofs to ensure safety and fall protection from all areas of the roof. With the edge protection in place, safety netting will be installed to the underside of the roof to act as a fall collection system. Access to the roof will be provided via a Haki scaffold tower. Roof sheeting will then be stripped and set aside for disposal.

Once all roof sheets have been safely removed the steelwork demolition will be carried out using a mounted shear attachment for the excavator. The steel will be cut in to small sections and lowered to the ground and set aside for disposal off site.

2.4. Typical Brick and Concrete Building Demolition Methodology

The concrete beam and slab roofs will initially be punctured using a pecker attachment on the excavator. The concrete beams will then be lifted off the structure, where possible, and set aside for crushing and re-use. Where the roof cannot be safely separated insitu from the supporting brickwork then it will be collapsed into the footprint of the structure and then processed once the exterior walls have been demolished.

The brickwork sections will be pulled down using the selector grab attachment for the excavator. Small sections of wall will be removed using a twisting motion to shear off the brickwork.

Dust suppression will be used at all times during the demolition of any brickwork or concrete structures. This will be in the form of a sprinkler head aimed directly at the work area. In situations where this method isn't proving 100% effective, mist atomizer cannons will be used to create a blanket over the work area.

2.5. Firefighting Water Tank Demolition Methodology

Working from level ground, the 45-tonne excavator with shear attachment will start from the top and cut through the top ring of the tank and then shear down the vertical. The cut line will be completed to approx. 1.5m from the base. The same process will be carried out on the opposite side to form an opening. The excavator will push the cut panel and fold into the footprint of the tank.

The bottom circumference will remain in place at this stage to maintain integrity of the tank and prevent the floor from lifting and weakening the side walls. The excavator will then progressively shear the roof with these sections being cleared away to allow the side walls to be cut down. The second 20 tonne excavator with grab attachment will be positioned adjacent to the tank and hold the top of the steel wall while the cut line is completed vertically, the excavator will then progressively fold the steel plate into the tank. The same process will be carried out for the circumference of the tank until demolished. All steel work will then be removed from within the structure to expose the steel floor plate.

The excavator is to be positioned on top of the remaining steel floor plate and will progressively cut the floor into strips approx. 2m wide working from one side to the other. As the cuts are completed, the excavator will "roll" fold the plate into sections to allow them to be stockpiled into manageable sections for the secondary machine to load into transport and removed off site.

2.6. Environmental Considerations

Prior to any demolition works commencing an ecological survey is to be undertaken to establish the presence of protected species or nesting birds. If found present, then works will cease whilst procedures are developed to deal with their presence.

The PC is to execute the works sympathetically to the surrounding environment. During the works a watching brief is to be in place to ensure the controls in place to control dust

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migration are suitable, as outlined above. Banksmen will be positioned as required during works to ensure the controls in place are suitable.

Drain points are to be identified prior to works commencing and will be managed as works proceed to prevent flooding and any accidental spillage. Upon completion of demolition works these are to be capped as required.

2.7. Plant & Equipment

It is anticipated that the following items of plant & equipment will be required:

- 45 & 20 tonne demolition specification excavator with various attachments (selector grab, shear, buckets, dust suppression nozzles)
- 5 tonne crushing bucket
- Various RORO Skip Wagons & 40 Yard Skips
- Various hand tools
- Bunded fuel bowsers
- Heras Fencing (2.0 metres in height)

Certification for the above plant & operative training is to be held at the work site. (Please note that this is not an exhaustive list and that plant & equipment will be provided at a frequency to deliver the works in a safe manner and in accordance with the agreed programme of works).

3. Health & Safety

3.1. Site Access and Security

The principal Contractor is responsible for ensuring the work area is suitably segregated and secured within the site boundary and that no harm will come to members of the public or any other 3rd party. The site is located in the former SSI steel works which is secured by fencing and patrolled on a regular basis. It must be noted the site is in a location close to Hanson & Tarmac facilities, with associated HGV's and plant movements near this area. Contractor operations, segregation and control of the area shall be confined and limited to within the site fencing. Warning signs are to be displayed in pertinent positions leading up to the site and around the boundary perimeter fence of the site. The boundary of each demolition site is anticipated to be formed using a double clipped Heras style fence required to form a secure demolition boundary.

A site compound area will be located centrally to each of the demolition sites and will contain welfare facilities, personal vehicle and plant parking along with secure storage. The site gates shall be secured during working hours. The security of the site shall be monitored for evidence of trespass and break ins.

The SBS work sites are to be accessed and egressed via the main STDC internal road network from the Redcar Main Site Gate entrance off the Trunk Road, public highway network.

3.2. Site Inductions & Training

All persons undertaking works on site are to be suitably trained and competent to carry out their tasks. All PC or subcontractor operatives are to hold a CSCS card as minimum and to have undertaken both demolition activities and Asbestos Cat B training.

All plant operatives are to have relevant CPCS tickets or equivalent and have suitable experience undertaking demolition activities. All persons required to work on site will undertake a full site induction prior to commencing any works. The site inductions will be carried out by the site manager and held within the site compound.

Programmed 'Toolbox Talks', 'Safety Meetings' and Briefings will be undertaken and recorded to ensure all person involved with the works continue their personal development.

3.3. COSHH

Full set of COSHH Assessments are to be held on site by the PC/Site Managers for all materials that may be used during our works. Any new materials encountered will have a COSHH Assessment undertaken prior to commencement of use.

Burning equipment if used will consist of liquefied oxygen & propane gas, supplied in pressurised cylinders. The storage of these will be in designated security fenced areas or purpose designed security cages away from welfare and office facilities.

Fuel oil for plant will be stored in double bunded tanks, the siting of which will take into account existing site features such as drainage networks. This will ensure in the event of catastrophic failure any released liquids will be contained locally within the bunded area. Spill kits will be maintained in close proximity to fuel storage and refuelling areas. COSHH assessments are regularly checked to ensure they are relevant to the operations being carried out. This takes place at least once a year on release of the new EH40 standards (reassessed by HSE) or when operating circumstances change.

3.4. Personal Protective Equipment

The following site minimum PPE & RPE Requirements are recommended, however specific requirements are to be set out within the relevant method statements appropriate to each task.

- Cut resistant gloves
- Overalls
- Safety boots
- Light eye protection (LEP)
- Safety helmet
- Hi-vis vest/jacket or overalls.
- P3 filtered half masks

3.5. Emergency Procedures

Identify the location of the fire & emergency plan (usually within Appendix D of the Construction Phase Health & Safety Plan) and identify the fire & emergency muster point location

3.6. First Aid

First aid assistance is to be available from the trained first aiders on site. The PC is to confirm who these nominated individuals are and confirm they have had appropriate training.

The first aiders will be indicated on the first aid posters, which will be located around the welfare areas.

3.7. Contract Programme

It is anticipated that the works will take 9 weeks to complete but finalised timescales shall be determined by the PC once appointed for the works.

Working Hours generally – Monday to Friday 7.00am to 6.00pm

Saturday 8am to 1pm.

Sunday working is to be by agreement with the client.

Appendix A

STDC South Bank Site Enabling Works – Demolitions Site Location Plan

Appendix B

STDC South Bank Site Enabling Works – Prior Approval Demolitions