

## PROPOSED WORKS – 137 TORRIANO RD

**PROVISIONAL METHOD STATEMENT FOR PILING AND FOUNDATION INSTALLATION– ALL TO BE CONFIRMED ONCE A PILING CONTRACTOR & GROUND WORKER HAVE BEEN APPOINTED/COMMISSIONED AND FURTHER METHOD STATEMENTS PRODUCED BY THE RELEVANT SUB-CONTRACTORS – APPLICABLE FOR OPTIONS 1 & 2 ( BOTH PILED )**

### Method of work and control measures

#### SECTION 1 - PILING WORKS

##### A. Prior to work commencing

1. The piling contractor is to visit site prior to work commencing and produce a site report. A copy of this report is to be provided to site and it is to identify all Site specific hazards (eg underground services, overhead obstructions/services & contamination etc) and prescribe suitable control measures. The Piling contractor is to obtain record drawings from the client showing services that are believed to be buried beneath the site.
2. The piling contractor is to design and specify the requirements for the piling Platform and is to specify and provide adequate protection to the existing below ground drainage beneath the site. This drainage is believed to serve this site only and is not believed to be a public sewer. Test information shall be passed to the designer for review. The FPS Working Platform Certificate (SET33) shall be signed by an authorised person employed by the Piling Contractor to confirm that the installed platform is capable of providing a stable base for the rig deployed to site. The Working Platform Regular Inspection Log shall be completed. The piling contractor and the designer of the piling platform are to note that recently dug window sample trial pits have been dug and dug filled on the site, under the area of the proposed piling works and these are to be adequately considered in the piling mat design.
3. The piling contractor is to ensure all crew deployed to site have necessary competencies. These are believed to be as follows however the list below is to be confirmed to check it conforms with current commonly accepted and statutory requirements and guidelines.

Piling Foreman / Supervisor SSSTS / NVQ3

Piling Rig Operator CPCS / NVQ Piling Operations

Banksman CPCS Slinger Signaller

Concrete Pump Operative CPCS Trailer Mounted Concrete Pump

Excavator Driver CPCS Excavator (180 deg or 360 deg )

4. The piling contractor is to undertake site investigations and electronic scanning to check for the presence of any buried services on the site. Any record / historic drawings showing existing site services are not to be taken as 100% correct and are to be checked in the area of all proposed piles.

5. The Main Contractor shall confirm the following :
  - In accordance with HSE guidance HSG47, the location, identification and marking of underground services within the working area, and taking the necessary precautions to protect and avoid them. (eg isolation, diversion, shrouding etc)
  - Advising on known or likely ground contamination.
  - The location and depth of all trial pits that have been dug on site.
6. The main contractor shall
  - Protect of public road and footpath
  - Protect of the existing gable wall to prevent collision of rig with adjacent property via implementation of barriers and guides.
  - Provide adequate security to the site
  - Employ measures to prevent falling spoil going beyond site boundary.
  - Provide normal site welfare provisions.
7. The piling contractor is to employ a setting out engineer to set out proposed locations of all the piles and check again with regard to the above. i.e. existing services etc

#### **B. Mobilisation & site set up**

All vehicles will be supervised by a Banksman and enter site as per the designated route agreed at Pre-Start Meeting.

The foreman shall

- Make sure any building, services or footpath is protected before any unloading takes place.
- Assess the area designated for unloading & storage, taking into consideration surrounding buildings, other contractors, pedestrians, traffic routes etc. Safety barriers may need to be used to segregate the lift from other activities and/or pedestrians.
- Make sure that all loads are checked for security before unloading commences. In the event of a load having moved or become unstable in some way during transport, unloading will not continue until a safe means of unloading has been determined. Unstable loads should not be allowed to tip or fall to the ground unless there are no other safe options & only after a risk assessment has been completed with the Line Manager.
- Agree a sequence of unloading with the delivery driver. All instructions regarding unloading of equipment and materials to come from one nominated person.
- Where possible equipment & materials will be pre-slung to facilitate offloading. Edge protection shall be fitted to trailers, or soft landing systems deployed to prevent injury by falls from height. Access to trailers will be from a secured or footed ladder.
- Avoid unloading rigs on inclines. The Banksman will position himself forward of the loading process so that all rig movements and the rig operator are clearly visible. NO ONE must be allowed to stand at the side or behind the vehicle being unloaded. All instructions to the rig operator must come from a single Banksman.

- The crew shall maintain good housekeeping at all times to reduce slip/trip hazards. Waste materials will be kept to a minimum & disposed of in accordance with the site's waste management plan.
- Fuels will be stored in double-skin fuel bowsers or jerry cans at a designated point agreed by the Main Contractor.
- All plant will be fitted with efficient silencers. All engines will be switched off when not in use.

### **C. Rigging & de-rigging, attaching & securing augers**

The rig will be rigged up in accordance with the manufactures instructions. Working at height to be avoided where possible i.e. by drilling down each section of auger so that securing pins can be added at ground level.

Augers will be added / removed by (delete as appropriate):

#### **1. Mechanical lifting with attendant excavator.**

Augers are to be lifted with a single leg drop chain secured to the lifting point on the attendant excavator. All excavator movements will be supervised by the Piling Operative. The area around the front of the rig shall be clear of all personnel prior to lifting augers. Excavators must not move when the operative is in front of the rig or within the danger zone of the excavator, or when operatives are working at height in a cherry picker or bosuns chair.

#### **2. Lifting with auxiliary winch**

Sections of auger shall be positioned close to the front of the rig to allow as vertical lift as possible and to prevent pendulum effect. A 6metre chain shall be used to allow the auxiliary winch to be uncoupled, without the need for work at height. Operatives must stand clear as the sections are lifted before moving in to guide the section onto the previous auger. Hands will be kept clear of the base of the auger to prevent trapping of hands.

Work at height whilst adding removing augers (adding / removing auger pins)

There shall be NO climbing of augers

- Cherrypicker – These will be operated by a competent operative wearing a work restraint harness. Plant movements will be controlled by the Banksman. The excavator will lift sections of auger & remain stationary. Excavators will not move whilst cherry pickers are adjacent to the rig. An operative will be at ground level to operate the ground controls in the event of an emergency.
- Bosuns chair / Harness - The excavator will lift in the section of auger under the direction of a Piling Operative. The drive head will be brought down onto the top of the auger to prevent it moving in an uncontrolled manner. With the excavator remaining in position, an operative seated in the bosuns chair attached to the auxiliary winch (and wearing a full body harness connected to an arrestor block) shall be raised into position in a controlled manner. The

operative will knock in the securing pins into the auger joint and remove the chains from around the section of auger. The operative in the Bosuns chair shall signal to the rig operator and he will be lowered to the ground, again in a controlled manner. Once he is safe on the ground the excavator will then be instructed to move clear of the rig. The securing pins will be added to the bottom of the auger.

**D. Rig operation & Pile installation.**

**SPECIAL NOTE 1 - The piles within 3m of the existing property adjacent to the site ( that being Number 135 Torriano road )**

**These piles to be installed in a hit a miss sequence with 24 hours left between the completion one pile and prior to the commencement of another pile within 3m of the recently completed pile and within the 3m of the adjacent property. The boundary line is to be taken as the face of the existing gable wall and garden wall.**

**The piles are to be contiguous flight Auger / concrete injection piles in which the concrete is installed into the pile bore progressively with the retraction of the auger.**

Plan work schedules so that rigs are not tracking over, or augering down close to freshly completed piles

A Banksman must be in attendance with the rig driver when operating or moving the rig.

Throughout the piling process a 5metre exclusion zone around the rig will be policed by the Banksman to prevent access by other contractors. Guarding (Eg bullbars) fitted to rigs must remain in place throughout the piling process. Where piling cannot be completed with guarding in place, work will stop & further instruction sought from the Contracts Manager.

The piling rig will tracked into position under the supervision of the Banksman, & the mast and auger plumbed vertical prior to drilling. The flight auger will then bore into the ground to the required design depth.

As concrete is pumped into the pile position all personnel will maintain 5 metres clearance around the front of the rig to prevent injury from falling spoil being cleared by the auger cleaner. The rig driver is responsible for making sure that no spoil that could cause injury rides up the auger beyond the auger cleaner.

On completion the rig will track off the pile position under the supervision of the Banksman & the excavator will clear the spoil and concrete overbreak. The top of the concrete checked for contamination.

Operatives must not stand underneath buckets. Plastic protective caps will be placed on the tops of the reinforcing to aid visibility & prevent injury.

The rig will then move to the next pile position. This should be a sufficient distance away so as not to disturb recently formed piles and such as to conform to the criteria in special note 1 above.

Any platform disturbances will need to be reinstated correctly by the main contractor to the original specification including any reinforcing membranes and the maintenance sheet of the Working Platform Certificate signed off

If an interruption to piling occurs and the auger needs to be removed, make sure that the auger is removed by back-screwing slowly to leave as much spoil within the bore as possible and minimise disturbance of surrounding ground. Do not lift augers directly out of the ground. Check the condition of the piling mat and make sure that the attendant excavator has not reduced the thickness whilst clearing up.

Concrete hoses will be positioned or buried to prevent damage from site vehicles. All sections will be coupled and secured with clamps & split pins. Additionally, whip-checks will be used on hose joints above head height. Hoses will be moved around site using a short leg chain or strop on the excavator lift point. Hoses will not be lifted in excavator buckets.

The concrete wagon will be directed to the concrete plant under supervision of the Banksman or Pumpman. A suitable washout area agreed/provided by the main contractor will be used by concrete delivery wagons to prevent ground contamination.

Reinforcement cages shall be either Prefabricated and delivered to site pre-slung or Produced on site will be constructed on fabrication trestles by CSCS trained personnel, working within a fabrication area on the piling mat. Subcontract steel-fixers will be required to work to the parameters of the risk assessments. All reinforcement cages are to have all bar ends temporarily covered with safety caps

Reinforcement will be lifted by the attendant excavator or crane. The weight of reinforcement carried by an excavator shall not exceed 1000Kg. A separate Lift Plan shall be produced where a crane is deployed. Chains of sufficient capacity will be attached to the excavator's specified lifting eye on the dipper arm by means of a shackle. Lifting accessories must not be wrapped around excavator buckets. Cages shall be transported around site horizontally on two leg chains.

Chains will be securely attached to the reinforcement cage at the designated lifting point, and lifted and placed into the pile. Cages without lifting points will be lifted with the hook secured around the rebar and the helical or link on the cage.

Operatives who do not hold a Slinger/Signaller card must not sling any loads unless under the direct supervision of a competent Slinger/Signaller.

The cleaning out of hoses & clearing blockages will be carried out in accordance with the Work Instruction for

#### **Pumping Concrete.**

The pipeline must be considered to be pressurised during the cleaning process and no couplings should be loosened or removed unless the pressure in the pipeline has been released and this has been confirmed by the concrete pump operator.

All non-piling personnel will be cleared from the area.

The auger will be bored into the ground at a position agreed by the main contractor or housed in a blow-out box in order to contain concrete & washings.

The wash out adaptor will be fitted with a pressure relief valve & be in good working order. Make sure the blow out valve is not directed at anyone, including yourself. Whip checks will be fitted to airlines. Air will always be introduced in a controlled manner. All equipment will be washed down with the pressure washer taking due care not to spray water/washings onto other personnel/property.

If a blockage occurs the pump operator stops pumping immediately. Instruct personnel to move to a safe position (minimum 10 metres) before opening any joints. This is to be policed by a competent Banksman. The pipeline must be treated as being pressurised at all times.

Goggles or full face visor must be worn. The Foreman must make sure that no one, under any circumstances, attempts to open the pipeline under pressure.

Compressed air should only be used as a last resort when clearing blockages.

## **SECTION 2 – REINFORCED CONCRETE FOUNDATIONS**

The ground works contractor is to undertake site investigations and electronic scanning to check for the presence of any buried services on the site. Any record / historic drawings showing existing site services are not to be taken as 100% correct and are to be checked in the area of all excavations and works.

100% of all the piles are to be integrity tested.

Tell tale`s are to be installed across the existing cracks evident in the external wall. These are to be installed at each end of the crack and at third points along the crack in order to enable the width and length of the cracks to be monitored.

“Tell tale`s” / survey stations are to be installed onto the existing external wall to no 135 of Torriano Avenue to enable the level of these to be monitored during the works.

A C.C.T.V Survey is to be undertaken to check for any damage to the existing drainage below the proposed foot print of the buildings. No foundation works are to commence until this survey has confirmed that there is no damage to this drainage that requires repair or until such damage has been repaired.

Piling mat is to be carefully removed except the last 2m strip of the matt, adjacent to the existing property ( No 135 Torriano road ) The piling matt remaining is then to be removed using hand tools only, in a careful manner and ensuring no excavation works are undertaken which may undermine the existing foundations i.e. within any lower than 300mm above the level of the underside of the existing foundations.

The piles are to be broken down to cut off level and the pile cap foundations are to be excavated insuring the criteria is met regarding excavation depth as shown on David Dexter Associates drawings i.e. no lower than 100m above load disbursement line from the bottom edge of the existing foundations. Cellcore void former and blinding is to be installed beneath the ground beams where shown on the drawings.

All foundation trenches are to be continuously de-watered and are to be covered.

Pile reinforcing bars are to be cut and bent as necessary to lap with the future cages for the ground beam and pile cap foundations. Tops of vertical bars are to be temporarily covered with safety caps.

Once the pile integrity test results have been confirmed as satisfactory the construction of the foundations can commence.

Assemble and install ground beam reinforcement. Place reinforcement cages into the excavations insuring correct spacers are used and ridged formwork is used to ensure the required concrete cover to the reinforcement will be met.

Install any cast in sleeves for Drainage penetrations through ground beams and check level of these sleeves is acceptable for the requirements of the drainage design.

Check reinforcement cover, correct bar arrangement and locations.

Request inspection of reinforcement from David Dexter Associates Ltd and the Approved Building inspector.

Pour foundations. Take all necessary cube samples and tests as per David Dexter Associates Ltd specification and insure all cubes are stored and tested in compliance with current codes of practice.

Back-fill and compact soils around foundations within 3m of adjacent properties.

Advise client and design team of 7,14 and 28 day cube results as soon as each result is received

### **3. GENERAL ASPECTS**

#### **Contractor specific RAMS**

This a preliminary provisional method statement provided for the purposes of the party wall application and prior to the appointment of a piling contractor or ground work contractor. This method statement is to be provided to all contractors whom are tendering for the works and they are to produce their own method statements and risk assessments. Any variations to this method statement are to be highlighted by the contractors and qualified and agreed with the main contractor, David Dexter Associates Ltd and the through the Party wall award parties and negotiations / approval.

#### **Leaving site**

The work area shall be left in a clean & tidy manner

The piling contractors` Foreman will make sure that the rig is configured for transport in accordance with the manufacturer`s instructions, making sure all securing bolts & pins are correctly fitted and that the rig is safe to transport.

All excessive spoil must be cleaned off the piling rig, augers and associated plant.

The piling contractors Foreman shall make sure his Foreman`s Completion Form is signed off by the main contractor before leaving site.

#### **Communication and liaison**

All site operations for piling and ground works will be under the full-time supervision of a competent and experienced Foreman who has completed Supervisor Training (NVQ3 / SSSTS). The Site Foreman for this project will be identified in due course

The Foreman will be responsible for daily routine operation; preparation and submission of all daily records; receiving and acting upon formal site instructions; and reporting site conditions which may require variations to this method statement and the further method statements provided by the contractors appointed to undertaken the piling and foundation construction

The Foreman will report directly to the Contracts Manager / Director on a regular routine basis or on specific instances when necessary.

Site safety tours are carried out at regular intervals by our Safety Manager and Contract Management personnel.

### **Emergency plans**

Main contractor will induct all site operatives into the site specific emergency arrangements.

Piling contractor crews are to be equipped with a fire extinguishers and first aid provisions to complement the main contractor's arrangements.

Emergency First Aid & Fire Awareness training is to have been completed by the piling crew and foundation construction operatives

Spill kits will be provided and piling and ground works crews whom will be instructed in their use.

All accidents & near misses must be reported directly to the Main contractors site manager.