

Piling Method Statement for Willmott Dixon Riverside Court, Birstall, Leicestershire LE4 4EH	
Produced PRB	19/01/15

Scope of Work

The estimated number and type of piles is 52x6m pc – ref Site Instruction Sheet.
Estimated start date w/c 02.02/15 with one week on site.

Crew A Brookes (00704426), P Peters (2337851).

Plant Rig TPL0001, telehandler B6248462

Specific Hazards Identified

The risk assessments identified the following hazards as being particularly associated with the work – ref attached Site Safety Inspection Sheet

1. Unloading rig
2. Overhead obstructions.
3. Underground obstructions and services.
4. Piling platform.
5. Unloading and handling piles.
6. Driving piles.
7. Fuelling and greasing plant.
8. Vibration damage.

Employee Consultation Record

The following employees were consulted during the production of this Method Statement and the relevant Risk assessment.

Name	Signature	Date
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Signed: *Philip Bates*

Method Statement produced by:

Mr. P Bates
Managing Director
Total Piling Ltd.
Old Joinery
High Street
Markington
Harrogate HG3 3NR

And

*Mr. S Geddes
Safety Measures Ltd.
Foxhall Lodge
Foxhall Road
Nottingham
NG7 6LH
Tel: 0115 911 0595

*Competent Person as defined by the Management of Health & Safety Regulations 1999

Responsible Person

Mr. Adrian Bennett is responsible for ensuring that the project is carried out safely and in accordance with all relevant health & safety legislation. He will ensure that all relevant information that may affect the safe undertaking of the project will be exchanged with the health & safety representative of the client/ or his representative. He will also ensure that all employees and sub-contractors (if appropriate) involved in the project will be consulted during completion of the risk assessment and will be briefed on all safety considerations affecting their work. Day to day responsibility for the activities of employees on site rests with our Site Supervisor. He will ensure that all employees under his control work safely and in accordance with Company, customer and local site rules.

Any variation(s) to the final Method Statement can be authorised only with the written approval of Mr. P Bates or Mr A Bennett and will be communicated either verbally or in writing to employees and the Customer's representative.

Work to be carried out

Driving preformed driven piles, including the following operations:

1. Unloading rig
2. Unloading and handling piles.
3. Driving piles.
4. Pile testing.

Personnel Involved

1. All employees of have received appropriate training relevant to all proposed activities and are considered competent to undertake the work described and possess CPCSCS/CSCS cards.
2. All the work is to be carried out in an area accessible to other contractors but not normally used by the public.

Training

1. We have a policy of on going training and personal development. Within the last two years all our operatives have undergone the following training:
 - 1.1. H&S awareness and passed the H&S test.
 - 1.2. First Aid
 - 1.3. Use of petrol saw
 - 1.4. Abrasive wheels
 - 1.5. Manual handling
 - 1.6. Slinger banksman
 - 1.7. COSHH
 - 1.8. Lifting equipment
 - 1.9. Hand arm vibration
 - 1.10. Dust and Fumes
 - 1.11. Face fit dust masks
2. Additional training has been given where appropriate for specialised operations, such as:
 - 2.1. Piling rig operator
 - 2.2. Telehandler operator
 - 2.3. Dumper driver
 - 2.4. Excavator operator.

Risk Assessments

All employees of Total Piling Ltd. involved in the project will be consulted on the relevant risk assessment, informed of risk control measures and given clear information on any site specific hazards (e.g. utility services, other contractors, specific site hazards, ground conditions, weather, water, adjacent buildings), emergency procedures (e.g. first aid, overhead or other services adjacent to their work area, environmental factors). Relevant information received from the Customer/Site Agent will be taken into consideration.

Key Legislation and Guidance with which Total Piling Ltd. will ensure compliance

1. Legislation

- 1.1. The Construction (Design and Management) Regulations 2007
- 1.2. Provision and Use of Work Equipment Regulations 1998 (PUWER)
- 1.3. The Management of Health & Safety at Work Regulations 1999 (as amended)
- 1.4. Personal Protective Equipment at Work Regulations 1992 (as amended).

2. Guidance

- 2.1. Health & Safety in Construction HSG 150 Lifting Operations and Lifting Equipment Regulations 1998
- 2.2. Protecting the Public – Your Next Move HS(G) 151
- 2.3. Guidance issued by the Health & Safety Executive “Avoidance of danger from overhead power lines” Guidance Note GS 6 will be followed
- 2.4. BS EN 996:1996 – Piling Equipment: Safety Requirements

Control Measures

Personal Protective Equipment (PPE)

The following PPE is required on site and will be used:

1. Lace up safety boots.
2. Safety helmet.
3. Ear defenders
4. Gloves, hi viz vest or jacket.
5. Wet weather gear, goggles, welding gloves (all as required).

Method

a. Prior to Site Establishment

A site inspection must be carried out by a competent, experienced person. This inspection should take into account the state of the piling platform, access to the piling position by the rig, access for delivery vehicles, and the proximity of any other structures, cables and services which are considered necessary for safe piling operations.

These recommendations should include work to be done to the piling platform to create a firm level surface, details of proximity of structures and services and work required to allow access for the rig and delivery wagons.

All operators of the rigs will be suitably trained and experienced in the operation of the rig. All operators must hold certificates of competence, which are to be kept on their person if at all possible (CPCS ~ NPORS)

All men working around the rig will be suitably trained to ensure the rig manoeuvres around the site safely with due regard to other machines, excavations, cables and other operatives.

BEFORE WE MOBILISE WE MUST HAVE ASSURANCE THAT THE PRINCIPAL CONTRACTOR/CLIENT HAS IDENTIFIED, LOCATED AND PROTECTED ANY AND ALL UNDERGROUND SERVICES.

b. Establishment

1. Specification for low loader and details of intended task to be agreed and given to low loader supplier.
2. Client's site representative to be fully consulted in advance on planned work activities, time schedules and personnel & work equipment involved and any relevant safety information exchanged.
3. Employees to sign in at Site Office on arrival and to receive site safety induction. Employees will sign out on departure from site.
4. Access route and unloading area to be agreed and (as necessary) cordoned off at a safe distance by barriers to prohibit unauthorised access by public and other contractors, and "no entry" signs displayed. Route will be kept clear and free from obstructions and overhead or underground services. Visual safety check carried out by an employee of Total Piling Ltd.
5. If possible, rig loaded from rear of the trailer unit; loading to take place from side if area is restricted. Rig driver to comply with directions given by banksman. Site traffic prevented from passing the low loader.
6. When securely positioned on the trailer, rig is to be tied down securely to the bed of the trailer, using suitable chains and strapping. Our employees wearing suitable PPE and site representative kept informed of progress of work.
7. Rig and low loader to be inspected by a "competent" employee to ensure security of load.
8. Low loader to exit site, subject to agreement with Client's site representative. Whilst exiting site onto public roads, clear traffic management used at all stages of operation.
9. Road and pathway to be cleaned and tidied; warning signs and barriers to be removed.

c. Driving Bearing Piles

1. Request 'Permit to dig' before starting.
2. Ensure that there are no overhead obstructions and that the working piling platform surface and access are suitable for the safe operation of the piling plant and that there are no underground services.
3. Prior to commencement of piling operations the following must be considered:
 - 3.1. Are piles set out and a piling layout drawing provided?
 - 3.2. The specific testing requirements have been identified.
 - 3.3. All necessary authorities are aware of the commencement of piling operations.
4. Before pitching a pile the safety hook must be placed in position to prevent the hammer falling if the winch brakes fail.
5. The rig should be established by tracking to the required piling position under supervision from the driver and banksman. The mast of the rig should then be set vertically over the pile position and checked using a spirit level.
6. The nominated pile having been brought to the piling rig by the forklift truck, should be drawn towards the rig using the pile hoist rope using a 2 tonne SWL sling wrapped

around the pile approximately 1m from the end of the pile. Sling should be checked regularly for any defects.

7. The safety hook should now be removed and the pile section then lifted so the pile head locates into the pile driving head of the hammer box on the rig.
8. In order to establish pile lengths, confirming driveability and soil resistance and verify pile design, probe piles in agreed working pile positions can be installed across the site at the commencement of piling operations.
9. A minimum penetration of the pile toe should be obtained to fix the pile in the ground dependent upon soil conditions and again the verticality of the pile should be checked. The pile can then be driven to the required criteria.
10. When the pile has been driven to a level of approximately 1.5~ 2m above ground level, piling should cease temporarily whilst the hoist rope is disconnected. Once the rope and sling are disconnected, piling can continue.
11. The pile set will be taken by physically measuring the movement of the pile over a required number of blows. The set of every pile will be measured at installation and recorded on the pile record sheet(s). It is also a requirement to carry out re-strike measurements on at least 1 pile to check the dynamic resistance of the pile. Checking to see that there is no decrease over a period of time, the re-strike must be taken over 5 blows. The set measure should be equal to or less than equivalent set. Each re-strike is to be recorded on the pile logs. A pile penetration record sheet can be completed to if necessary to complement the pile sets. Once these operations have been completed the same process is to be repeated on the following piles to be installed.
12. No personnel should be within the working radius of the rig without a safety helmet or ear defenders. Within 8m the noise level can be, subject to its surroundings, be in excess of 85 dB, therefore ear defenders must be worn. **The rig has appropriate signage on the sides. If personnel do not obey our exclusion zone work will be stopped and the Principle Contractor informed.**
13. All necessary PPE should be worn ~ gloves, boots, hard hat, eye protection.

d. Dynamic Pile Testing

1. Prior to commencement of pile testing it shall be checked with both the rig driver and banksman that the piles to be tested have not been cut or damaged.
2. It shall of paramount importance that access to the piles to be tested is suitable for the piling rig to avoid damage to other installed piles.
3. Locating bolts will be drilled into opposite faces of pile to accept accelerometer and strain gauges using a cordless drill. Alternatively a pre-drilled "dolly", can be used on top of the pile, which saves time when testing more than 1 pile.
4. The gauges are connected to the analyser equipment via a signal cable.
5. The piling rig is set up on the pile.
6. Information on the pile to be tested is passed to the independent testing engineers in order to calibrate the analysing equipment.
7. The test is performed by delivering several blows to the pile head using the installation procedure.
8. A finalised report will be forwarded to the client on completion of contractual terms.

e. Loading and Unloading Piling Rig and Heavy Plant On/Off Low Loader

1. Ensure that the company supplying the low loader is aware of the size and weight of the rig in order that the low loader is operating well within its capacities.
2. Ensure the company supplying the low loader is aware of the collection and delivery address in sufficient time for the delivery route to be agreed by the relevant authorities.
3. Ensure that the low loader can safely reach the collection point, having due regard to any overhead cables which may be fouled by the rig when leaving the site.
4. Ensure that the low loader can safely reach the collection point, having due regard to any underground services that may be damaged due to the weight of the low loader itself, or additional weight of the rig once loading has completed. Where it is probable that damage may occur these areas shall be clearly marked as restricted zones, by means of goal posts or brightly coloured markers.
5. The rig should ideally be loaded from the rear of the trailer unit, but however loading can take place from the side if the area is restricted. The rig driver must take note of all directions given to him by the banksman.
6. When the rig is positioned on the trailer, to the satisfaction of the low loader driver, it must be tied down securely to the bed of the trailer, using adequate chains and strapping.
7. During the loading operation it may be necessary to prevent traffic, either public or site, from passing the low loader. Again, distinct and clear signals should be used by the banksman.
8. Upon the completion of all loading operations the rig and low loader must be checked over to ensure there are no loose items such as packing, slings, tools, or timbers which could fall off during transit.
9. When satisfied that the rig is secure, the low loader can then move from site having checked, if required to do so, with the necessary authorities.
10. Whilst manoeuvring onto the roads it may be necessary to stop traffic, both public and site, by the use of distinct and clear signalling.

f. Site Operations

1. Prior to the arrival on site, access should be checked to ensure there are no cables or services (overhead or underground) obstructing the route of the low loader.
2. Before the commencement of any activity the unloading area should be subject to a visual check by the rig driver to ensure it is free from any obstructions, and a safe distance away from all excavations and adjoining buildings. The ground should also be sufficiently firm and level to allow the unloading to proceed safely.
3. Whilst manoeuvring, and during the unloading process it may be necessary to stop, or prevent traffic from passing too close to the low loader, both public and site.
4. During unloading the rig driver must take note of any directions given by the banksman.
5. At all times during the unloading process the rig must remain in a stable condition, and be handled by a fully trained driver.
6. Once the rig is off-loaded the low loader is removed from site, and after checking that the access from the unloading area to the rigging area is sufficiently firm, the rig can be moved.
7. Clean up if necessary road or pathway.
8. If in town centre police may have to be made aware of movement times & route.

9. During all loading and off-loading operations, all personnel should wear safety helmets, safety footwear and high visibility clothing.
10. The rig and telehandler will be full on arrival therefore refuelling should not be necessary. But if required the plant will be re-fuelled in accordance with the Principle Contractor's procedures.

g. Offloading and Stacking of Materials

1. The unloading area shall be established and suitably prepared prior to the arrival of any materials. The following shall be taken into consideration:
 - 1.1. The operator will walk the route before offloading.
 - 1.2. The site access and route to the stacking area shall be assessed and established.
 - 1.3. Paying particular attention to ground conditions, obstructions (buildings, excavations, etc) and services either overhead or underground that may be fouled as a result of the weight of the loaded wagon.
 - 1.4. Where necessary goal posts, or markers should be in use to indicate areas of danger.
 - 1.5. Consideration shall be given to the stacking area which shall be firm and level, and free from obstructions. Where this is not possible suitable arrangements should be made to ensure that the stacked piles are stable and adequately supported.
 - 1.6. Where it is apparent that the ground conditions in either or both of the above do not present a suitable surface, then arrangements shall be made with the main contractor to prepare the ground before any stacking or delivery of piles is performed.
 - 1.7. The site surface can be determined by a site visit, and suitable arrangements made with the client before arrival on site of any equipment.
2. To ensure the safe manoeuvre of the delivery vehicle once on site, the drop-off points should be placed in the most practical position, with regard to the following.
 - 2.1. Be in such a position to allow the delivery vehicle to exit the site safely either by allowing enough room for a turning circle, or the reversal of the vehicle without risk to the driver or other site personnel – use banksman.
 - 2.2. Be a sufficient distance from any excavations, buildings, or other obstructions that may cause damage to the delivery vehicle or others – use banksman.
 - 2.3. Upon arrival the delivery vehicle shall be directed along the prepared route towards the stacking area by the banksman.
 - 2.4. Under no circumstances is the wagon to manoeuvre on site unattended. The driver shall at all time take notice of all directions given to him by the banksman and the banksman shall ensure that all directions given are clear and concise.
 - 2.5. During manoeuvring both the rig and the delivery vehicle into position it may be necessary to stop traffic, both public and site.
3. The lifting operation is to be controlled at all times by the banksman. Under no circumstances is any lifting to take place whilst the wagon driver or any other person remains in the wagon cab. Further it is the Foreman's responsibility to ensure that visitors to the site (e.g. the wagon driver) wear all mandatory safety gear for site.
4. During unloading, the forklift driver must take note of any directions given by the delivery vehicle driver.

5. All operators of the rig will be suitably trained and experienced in the lifting operations.
6. The trained driver shall under no circumstances leave the forklift unattended for any reason whilst equipment remains suspended.
7. All offloaded piles shall be stacked in accordance with this company's quality procedures; the foreman shall ensure that each stack is stable and unlikely to collapse.
8. During offloading all site personnel should wear safety helmets, safety footwear and high visibility clothing.
9. Access to unauthorised persons is prohibited whilst work is carried out. No general public can or will trespass onto site at any give time un-attended. Security should be provided main contractor if required at the end if the working day or weekends and during school holidays.
10. All materials will be left in a safe area and stacked flat where possible.

h. Movement Piling Rig on Site

1. The piling rig, under no circumstances, shall be moved without the assistance of the banksman.
2. The banksman shall ensure that the rig can safely reach all pile positions having due regard to any overhead cables, underground services that may be fractured, or any other site obstruction (e.g. water, excavations, buildings etc) that may cause damage or create an unsafe area. Warning markers, indicating areas of danger (e.g. goal posts or the like) should be in position, where necessary, before work commences.
3. Whilst manoeuvring, it may be necessary to stop traffic both public and site, from passing too close to the piling rig.
4. The banksman should ensure that an unobstructed passageway is maintained for the slewing of the rig. Where this is impractical, steps shall be taken to prevent the access of any person to the slewing zone. Under no circumstances shall the rig driver slew to his blind side without consulting his banksman first.
5. During all manoeuvring and slewing the driver must take note of any directions given by the banksman. The banksman shall ensure that all directions given are clear and concise.

i. Movement of piles

1. The procedures as set out shall be strictly adhered to for the off-loading of piles from the stacking area.
2. The banksman shall ensure that no other person (or traffic), either public or site, are within an unsafe distance of any pile in the process of being moved.
3. The rig driver shall, under no circumstances, move any pile until he has checked that it is safe to do so from his banksman.
4. The sling used for the lifting and movement of piles shall be subject to a continuous check by the banksman. Where damaged or broken strands are evident the sling shall be replaced immediately.
5. The lifting of the pile into the pile helmet shall be carried out as stated in the company's method statement. The banksman shall remain vigilant during this operation, giving the driver concise signals where necessary.
6. The driver shall at all times take note of any directions given to him by his banksman.

7. During all manoeuvring on site all personnel should wear safety helmets, safety footwear and high visibility clothing.

j. Installation of Bearing Piles

1. During all manoeuvring and slewing actions the rig driver must take note of all directions given by the banksman. The banksman shall give clear and concise directions at all times.
2. The banksman shall ensure that an unobstructed passageway is maintained for the slewing of the rig. Where this is impractical steps shall be taken to prevent the access of any person to the slewing zone. No slewing to the rig driver's blind side shall occur without the consent of the banksman, who shall ensure it is safe to do so.
3. It may be necessary to stop traffic, both public and site, from passing too close to the piling rig during installation.
4. Before the pile is driven, but after the checks have been made for verticality and position the banksman should carry out a final visual check on the pile to ensure that the pile is good quality (i.e. free from any defects, cracks, etc., that may have occurred during the moving of the pile).
5. Where it becomes apparent that the drop hammer is not operating correctly and may cause damage to the pile, pile driving shall cease to continue, the contracts manager shall be informed, and the problem corrected before any further works are carried out.
6. All operators of the rig will be suitably trained and experienced in the operations of the rig. In the case where an inexperienced operative is controlling the installation process (i.e. in training) there shall be present at all times an experienced driver who shall closely monitor his progress.
7. The drop height to be used shall be determined before any driving takes place. The rig driver shall be aware of the Contract Instructions, and any other relevant information before installation. It is up to the Contracts Manager/Supervisors to ensure the site operatives are made aware of this relevant information, e.g. varying ground conditions etc.
8. Where a pile deflects out of tolerance during the driving, the procedures as set out in the company's quality procedures shall be followed, the pile should never be forced.
9. Cutting of pre-cast concrete piles shall be carried out using suitable protective gear such as guards and safety goggles. Under no circumstances are any fitted guards on equipment to be removed for the convenience of the cutting operation.
10. All persons, either site or public, in close proximity to the cutting shall be made aware of this action and kept to a reasonable distance back from it by the operative. Under no circumstances shall any person approach, or go within a radius of the operative whilst in the process of cutting.
11. The operative performing the cutting shall ensure that before the task is carried out the equipment to be used is sound, and of good quality. Particular notice should be paid to the state of the cutting edge. He shall also ensure that the area surrounding the cutting zone is clear of loose materials, and prevented from becoming slippery. Where the area is unsuitable then precautions shall be made to provide a sound level working area.
12. During all installation operations all site operatives should wear safety helmets, safety footwear, ear defenders and high visibility clothing.

Emergency Plan

Employees will cooperate with the Client's site representative in the implementation of procedures arising from the Site Emergency Plan. The procedure to access and provide first aid treatment for an injured person is stated in the Plan.

Monitoring

The MD (Mr. P Bates) will monitor compliance with all requirements listed in this Method Statement.