

CFA Risk Assessment and Method Statement (RAMS)

Contract Number	2185
Contract Name	The Hale
Site Address	29-33, Hale Road, Tottenham, London, N17 9LB
What3Words	///cave.dish.decks
Principal Contractor	RG Group Ltd
Site Contact	Joshua Pitcher, Quantity Surveyor, 01732526850, joshua.pilcher@rg-group.org.uk
Green Piling Contacts	Scott Farrar, Senior Contracts Manager, 07595895376, scott.farrar@greenpiling.co.uk
	Daniaal Nisar, Contracts Engineer, 07731525580, Daniaal.Nisar@greenpiling.co.uk
	Kevin Wood, Contracts Director, 07738545133, kevin.wood@greenpiling.co.uk
	Gary Levers, HSEQ Manager, 08450 511 800, gary.levers@greenpiling.co.uk

SCOPE OF WORKS

Description of Works (This section MUST be completed by the person compiling the method statement. It must address the work to be undertaken and all site specific risks identified during pre-start)	The design, supply, installation and testing of continuous flight auger piles. Testing: 100% Integrity testing of all CFA. Green Piling require two clear days notification when integrity testing is required. Other information: Supply and fix de-bonding foam to all rebar cages. Foam will only be placed to a tolerance of -150/+150mm to a target level of 150mm above pile cut off level. No cutting down of piles has been allowed and an element of hand trimming will be required. Engineering level control is to be provided by others			
	Pile No	303 xNo	Pile Diameter	600mm
Piling Rig info	Soilmec SF65			
Restrictions				
Setting out by:	RG Group Ltd. (Full 10hr attendance inclusive of mobilisation and de-mobilisation periods).			
Working Hours	08:00 To 18:00			

Revision Status

Initial	Name	Position	Signed	Date
Prepared By	Daniaal Nisar	Contracts Engineer		
Received By		Piling Foreman		
Received By		Piling Foreman		
Acknowledgement By				

Revisions

Rev	Date	Status / Description
0	16/09/2024	Provisional

INDUCTION AND DISTRIBUTION OF INFORMATION IN THIS DOCUMENT

This method statement MUST BE briefed to the foreman responsible for the works. After the site induction the site foreman shall brief all site operatives and sub-contractors on site before commencing work. Everyone must sign off on the method statement to confirm that they have been briefed and that they understand the risks, controls and their responsibilities. Where work cannot be carried out in accordance with this method statement the foreman shall stop work and discuss any concerns with the contracts manager/ engineer and await further instructions. All site operatives and sub-contractors shall then be briefed on any changes to the method of work.

PILING AREA VISITOR INDUCTION & RULES

Green Piling Foreman is directly responsible for the safe operations under his control within the piling area on site including any visitors to the piling area. Unless it is necessary to do so it is important that no one should enter the piling area. It is accepted that some persons other than the piling crew may want or have cause to enter the piling area such as Site Managers, Setting Out Engineers, Testing Technicians or Green Piling Supervisors, Fitters or Advisors. This advice and control is necessary to ensure their safety in this area

The key risks associated with CFA piling are

- Plant & vehicle movements
- Falling spoil
- Pumping concrete under pressure
- Lifting operations,
- Slips & trips on uneven ground or completed pile positions

All visitors must have had a site induction by RG Group Ltd

Any contractor or visitor must be inducted by the Piling Foreman and follow all necessary instructions given by either the Foreman, the Rig Attendant or the Pumpman.

You must be wearing all mandatory PPE. If you approach the concrete plant you will need hearing protection and light eye protection

The piling area shall be dedicated to piling personnel; with other contractors excluded without permission to enter. It should be assumed that the piling area is 18m from any part of piling rig or any physical barriers closer.

Visitors must always be in a position of safety clear of operations outside the piling area until permitted to move closer. If you need to enter the piling area to observe or take measurements, the Foreman will indicate where you are to stand which should in all cases be in direct line of site of Rig Operator in front and at least 5metres from the rig.

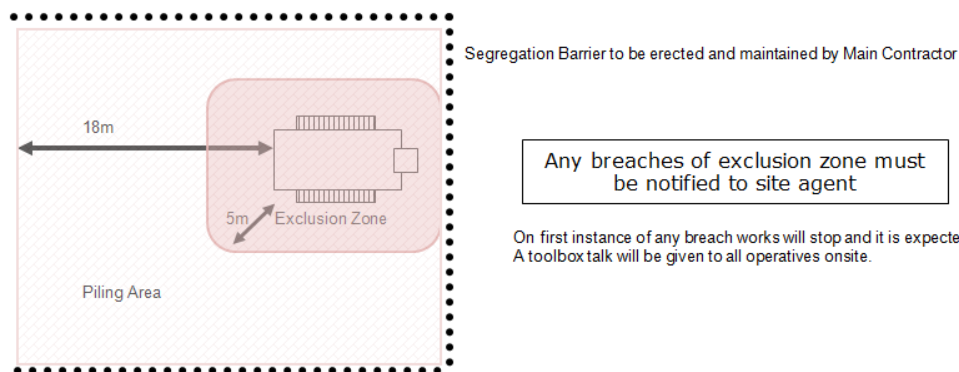
Be aware that in addition to the rig, there will be excavators and dumpers moving around site. Each machine type has their own exclusion zone (drawings below)

You must get the thumbs up before passing or approaching. Do not approach on the blind sides of machines.

In no instances should other work be undertaken within the piling area whilst rig is moving or without controls. Either rig will stop or you must ask Piling Foreman and/ or RG Group Ltd to erect a segregation barrier.

It is expected that rig movement will not re-commence until you have safely left the piling area

It is important that the Piling Foreman knows that you are leaving piling area. Let them know



DO NOT RE-ENTER PILING AREA WITHOUT FOLLOWING THIS PROCEDURE AGAIN. ASK YOURSELF IF YOU NEED TO BE IN PILING AREA? IF YES DOES RIG NEED TO BE OPERATIONAL?



BRIEFING PAGE

By signing this method statement, I confirm that I have been briefed on its contents and understand my personal responsibilities to work in accordance with the RAMS and to **not undertake anything which adversely affects my own safety, or that of others.**

I understand that I must stop work and notify my Line Manager if I cannot complete my work in accordance with this method statement.

I understand that I have a responsibility to challenge & report unsafe acts and conditions;

All accidents must be reported directly to the Green Piling HSQE Dept. on **08450 511800**

Make sure all permits are in place.

You must wear your PPE in accordance with the site rules and this RAMS. PPE must be maintained in a reasonable condition. The wearing of shorts is not permitted

You must not attempt to start work if you are in possession of, under the influence of alcohol or illegal substances. You may be tested at any time under the Green Piling Policy.

Your work must stop and be reviewed if it is putting members of the public or other contractors at risk.

You must only carry out work for which you are trained and competent.

Edge protection or fall arrest must be in place for work at height.

All plant and equipment must be inspected and maintained in good working order.

Use the correct tools and equipment for the task at hand. DO NOT IMPROVISE.

All work areas must be kept clean and tidy. All COSHH spills to be cleared up promptly. All debris to be placed in the correct waste skip.

Mobile Phones must only be used in a position of safety

Site Risks, specific to this job

OH cables / obstacles	☐	UG services / voids	☐	Watercourses	☐
Close proximity to public	☐	Railways	☐	High risk trades (lifting, demolition etc)	☐
Contamination	☐	Highways	☐	Schools / colleges / hospitals	☐

Name	Position	Signed	Date

EXCAVATOR DRIVERS

Only operate the machine in accordance with manufacturers instructions.

When attaching/detaching lifting accessories or loads, the machine controls must be isolated to prevent accidental movement.

Never move the machine or load until instructed to do so by a banksman, and only once everyone is clear of the slew area.

Never lift with a bucket attached. Keep loads under control whilst lifting and travelling.

I have familiarised myself with the machine and understand its capabilities and limitations for lifting loads.

Name	Position	Signed	Date

No departing from the methods in this document is allowed without written addendums produced by the contract's manager/ engineer. All operatives can stop the works if considered unsafe in anyway.

CFA Risk Assessment and Method Statement (RAMS)

RESOURCES								
Staff	Key Responsibilities							
	Working Piling Foreman is the point of contact with the Principal Contract and is almost always in full time attendance, in direct control of all resources onsite to ensure compliance with this Contract Safety Plan, making sure that the Principal Contractor has taken all necessary steps to protect the public and property, and dealing with blockages and other emergency situations safely.							
	Rig driver is responsible for operating rig and carrying out routine operator checks and maintenance in accordance with manufacturers manual and GPL procedures.							
	Rig Attendant undertakes banksman/slinger duties, ensuring that exclusion zones around the piling works are maintained, controlling the movement of the rig & attendant excavator and movements and installation of reinforcement cages							
	Concrete Operative is responsible for carrying out pre-use inspections of the drum and pump, setting up the pump & operating it in accordance with method statement; Controlling the movement of concrete delivery wagons, keeping the concrete area tidy, and undertaking and storing concrete testing cubes and slump tests.							
Piling Competences Matrix shows the minimum training requirement for CFA piling	Position	SSSTS	A48 Piling Rig Bored >20T	A44 Trailer Mounted Concrete Pump	A74 / A40 Rig Attendant / Slinger Signaller	MEWP (3b)	Abrasive Wheels	Emergency First Aid
	Piling Foreman	✓				✓	✓	✓
	Rig Driver		✓				✓	
	Pump Operator			✓			✓	
	Rig Attendant				✓	✓	✓	
In Attendance (Full 10hr attendance inclusive of mobilisation and de-mobilisation periods)	Excavator operator	Must hold recognised competence cards for the equipment provided and be competent to undertake lifting operations. The piling foreman is to check the machine operators plant operator’s competence card is in date and covers the plant to be operated. He is also to ensure that the operator is included in the Green Piling inductions and all site safety toolbox talks. As the attendant excavator will be required to work in close proximity to Green Piling personnel the foreman is under instructions to raise with PC any doubts as to the drivers abilities or communication skills, notwithstanding any formal qualifications the driver may have						
Plant & Equipment	CFA Piling Rig				Mobile Elevating Working Platform			
	Trailer mounted concrete pump				Storage Container (COSHH store)			
	Concrete agitator				Concrete Cube Curing Tank			
	Compressor				Stihl saw			
	Bunded Fuel bowser							
	All plant will be pre-inspected daily by a competent person. Any immediate problems are telephone directly to the Green Piling plant department or hire company.							
	The MEWP and all lifting equipment are tested every six months and a thorough examination certificate issued. Pre-inspection is completed before each use and recorded weekly in the inspection report. Plant used for lifting is inspected yearly by a qualified insurance inspector and a Thorough Examination certificate issued. All certificates are held by the Piling Foreman.							
	All plant will come under PUWER regs. No certifications are required, but the service history is available when requested.							
Materials	In Attendance							
	An attendant 360° tracked excavator (minimum 13 tonnes) and dumper is to be provided by RG Group Ltd.							
	Excavator must be suitable for pick & carry duties with minimum 1T lift capacity. It must be fitted with a suitable lifting eye on the quick hitch or dipper arm to enable a shackle to be attached. Buckets must be capable of being removed for lifts.							
Materials	Ready-mixed concrete				Oils, fuels & greases			
	Reinforcement				Prime-a-pump lubricant			

SITE ARRANGEMENTS	
Permits	Ensure the following documents are in place: • Green Piling Permit to Work • Working Platform Certificate • Approved Method Statement • Permit to Dig (provided by RG Group Ltd) • Hot Works Permit (provided by RG Group Ltd)
Site Access	RG Group Ltd is to provide safe means of access and egress to the site and all work areas, including pedestrian and vehicle segregation within the site.
Public & Adjacent Premises	The site boundary is to be kept secure by RG Group Ltd and is to prevent unauthorised access onto the site. In the event of unauthorised people entering the piling area, the Piling Foreman is to cease all piling operations and ask the people to leave. Piling is not to restart until the piling area is clear. Green Piling Foreman is to ensure that this procedure is strictly enforced
Welfare	Welfare facilities are to be provided by RG Group Ltd and are to be in line with CDM Regulations (2015); it is anticipated that Green Piling will have 4-6 No personnel on site per rig. The requirements include: • Washing facilities, including hot and cold running water, soap and drying facilities. • Toilet facilities regularly cleaned and serviced. • Drinking water and drinking vessels. • Suitable clothes changing and overnight drying facilities. • Messing area (Food preparation and heating and means for boiling water).
Piling Platform	RG Group Ltd is to design, construct and maintain, a safe and adequate piling platform for the duration of the contract. The Green Piling Platform Certificate shall be signed by an authorised person from RG Group Ltd to confirm the installed platform is capable of providing a stable base for the rig deployed to site. Piling operations are not to commence until Green Piling have received a signed copy of the Working Platform Certificates and Permit to Dig from RG Group Ltd. The piling platform is to be constructed to safely support the bearing pressures of the Green Piling rig allocated to the project in both its travelling (BRE Load case 1) and working (BRE Load case 2) modes.
Site Ramps	All access ramps constructed by RG Group Ltd are to be a minimum 6m wide at a maximum gradient of 1 in 10, unless specifically agreed in writing by Green Piling. Should the gradient be steeper than 1 in 10, it may be necessary to de-rig the piling rig and lay the mast down to travel safely up or down the ramp, causing unnecessary delay to the piling works. The Piling Foreman is to check the access ramps and ensure that they are adequate for the purpose. In the event that the ramps are deemed inadequate then the travelling operations are to be suspended and RG Group Ltd notified
Buried & Overhead Services	RG Group Ltd are responsible for 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, shoring etc) in accordance with HSE guidance HSG47. Green Piling shall be notified of all known services within the piling area and to accurately mark these if they fall within 1.0m of any pile position. All redundant services are to be physically disconnected and capped off by RG Group Ltd at the site boundary. RG Group Ltd and Green Piling are to visually check all piling areas and confirm any changes or additions to the "Permit to Dig".
Other Trades	All other personnel on site are to be notified of piling works to start by RG Group Ltd and told not to enter into the piling area unless specifically involved. In the event of unauthorised contractors entering the piling area, piling is to cease and the contractors asked to leave. Piling is not to restart until the piling area is clear. Green piling Foreman is to ensure that this procedure is strictly enforced. It may be prudent for RG Group Ltd to include a specific section within the site induction regarding Piling and the associated hazards; particularly with regard to hearing protection. If other trades are working near the piling area RG Group Ltd is to provide fencing to segregate the piling area from other operations, the Green Piling Foreman can stop piling works if it is deemed that follow on trades are working too close and effecting the safety of himself and others. If no other trades are working on site segregation may not be required.
Obstructions	If an obstruction is encountered during the boring operation, piling will be suspended and RG Group Ltd notified and an instruction sought from the following options: NOTE: Generally normal CFA Piling will not drill through obstructions. • Move to another pile position while the obstruction is cleared ○ We will move to another pile position and record the abortive time spent on the obstructed pile. • Attempt to bore through the obstruction ○ In these circumstances, we do not accept any responsibility for the pile position remaining within tolerance. We will also record the time spent on boring through the obstruction and will seek additional payment for this time and any abnormal damage to the auger flights. ○ If Green piling can drill through the obstruction, then pile construction will proceed as before. ○ If Green Piling are unable to drill through the obstruction within reasonable time, RG Group Ltd will be notified and asked for further instruction. The abortive time spent on the pile is to be recorded. Any abandoned pile position will be backfilled with suitable material. RG Group Ltd is responsible for backfilling any areas where obstructions have been removed. It is vital the backfilled area is properly compacted and the piling platform fully reinstated, including any geo-textile interface, to the original design/ specification.
Setting Out	The pile positions are to be set out during the Piling by a full time Setting Out Engineer. Setting out shall be carried out on site by coordination with the Piling Foreman. The engineer shall set out positions on the platform, denoting each position with a setting out pin covered with a mushroom cap, and the pile reference clearly marked. The sequence will be agreed by the Piling Foreman and carried out prior to piling commencing. Where the engineer is required to take measurements in the vicinity of the rig or concrete pump, this shall be under guidance from the Rig Attendant, and always greater than 5 metres away

CFA Risk Assessment and Method Statement (RAMS)

	The Setting Out Engineer must also be included in the Green Piling site safety induction if they are present on site		
Site Security	RG Group Ltd is responsible for the provision of site wide security arrangements The Piling Foreman will make sure that adequate measures are taken to prevent the theft or unauthorised use of equipment/ materials. This will include locking away all tools in the van or toolbox, removing keys from plant and equipment where fitted, when not in use and left unattended & using cab guards if fitted.		
Concrete Washout	Provision of a suitable wash out area for concrete delivery vehicles. The washout area will be within the site area adjacent to the concrete pump and agitator but 15m away from drains and the watercourses. It will consist of a designated skip or excavated pit lined with polythene, or a suitable sediment & pollution control membrane.		
PPE Requirements	Item	Standard	Notes
	Safety Helmets	EN 397:2012	
	Hearing Protection	EN352	Capable of 30dB noise reductions.
	Safety Footwear	EN ISO 20345	Toe protection and a midsole protection
	High-visibility clothing	BS EN 471	
	Eye protection	EN 166-1.F, EN166 1.B	“F” rating is suitable for general work. “1.B” Greater protection for using cut-off saws A mandatory wearing of eye protection policy is in place with the exception of where wearing eye protection may increase the risk of accidents i.e. wet weather working or under artificial lighting.
	Gloves	EN388; EN374	Protection from mechanical / chemical risks

SITE PHOTOS

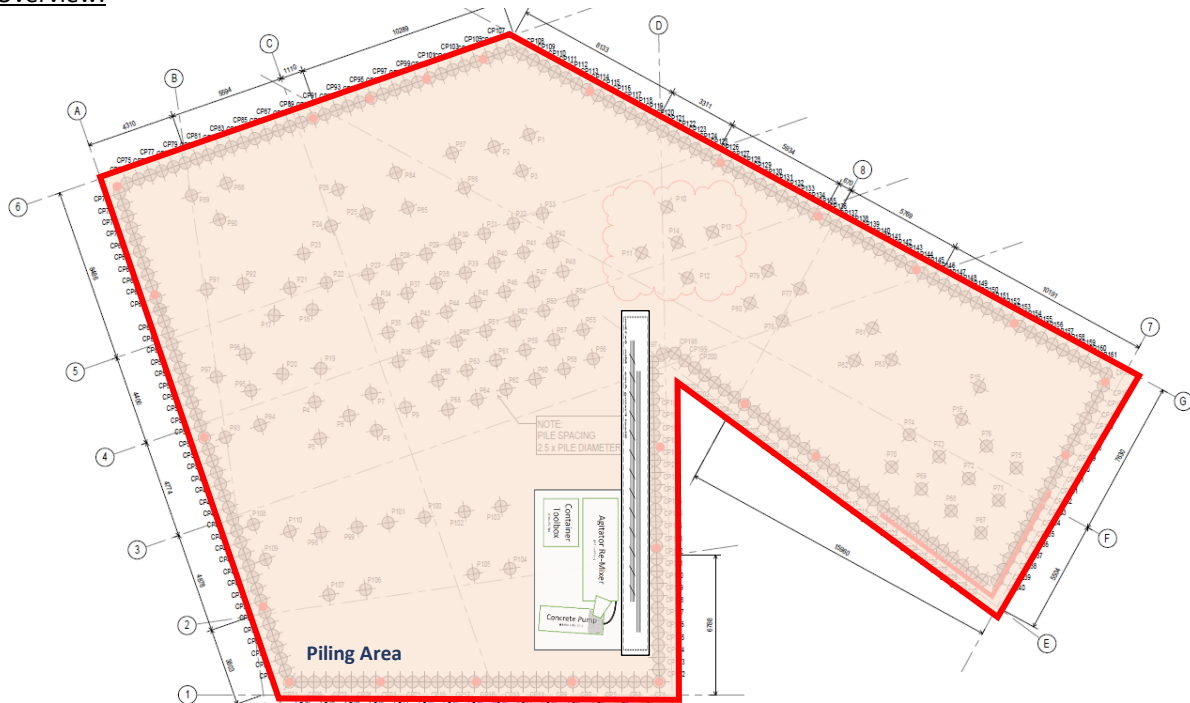
SUBJECT TO SITE VISIT

SITE PLAN

Site Location:



Piling Overview:



METHOD STATEMENTS: CFA Piling

Method Statement – Site Mobilisation of Piling Rigs, Equipment & Materials

All arrangements relating to mobilisation will be discussed and confirmed with the Principal Contractor prior to mobilisation.

Piling Foreman to identify himself and report to Site Manager to receive instructions regarding site inductions. Arrangements for off-loading to be re-confirmed and the route and area for low loader and other delivery wagons for offloading inspected.

All vehicles will be supervised by a banksman and enter site as per the designated route agreed. The Foreman shall

- Make sure any building, services or footpath is protected before any unloading takes place. Protection is to be managed and provided by RG Group Ltd.
- Assess the area designated for unloading and storage, taking into consideration available space, surrounding buildings, other contractors, pedestrians, traffic routes etc. Safety barriers may need to be used to segregate the work from other activities and/ or pedestrians.
- Ensure that consideration has been given to the bearing pressure exerted by the rig and the chocks which should not be positioned near services. Protection should be considered on finished road surfaces
- Ensure that the designated offloading positions are firm and level and with sufficient working area. Avoid unloading rigs on inclines.
- 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 and only after a risk assessment has been completed with the Contracts Manager/ Engineer.
- Agree a sequence of unloading with the delivery drivers. All instructions regarding unloading of equipment and materials to come from nominated person.

Unloading Of The Piling Rig

Low loader will be directed to position of dismounting. Should the low loader delivering the piling rig be unable to access directly onto site to deliver the piling rig, RG Group Ltd will be required to provide protection measures to prevent damage to existing carriageway/ pavement and services in close proximity. Once parked, the rig chains will be released carefully. Wooden “steps” chocks or other protection as required will be placed near low loader where tracks will land.

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.

Where fitted, the rig shall be offloaded using the radio controls. Make sure rig is configured as per the operator’s manual so that no parts are “grounded” whilst tracking off the trailer.

Rig will dismount from the low loader and be tracked to point of safety prior to reassembling the low loader.

Unloading Equipment & Materials Using Hiab Or Excavator

Wherever possible items to be lifted shall be delivered in such a way that they are pre-slung and accessible from ground level. Where access is required onto the back of the trailer to sling loads, a secured ladder or step system must be used.

Edge protection shall be fitted to trailers to prevent injury by falls from height, this must consist of two restraints – a top rail at approx. 950mm and a mid rail. Clear walkways must be present to ensure that a person can access and move around the trailer bed safely whilst slinging.

The Hiab shall be set as per the hauliers’ procedures on fully extended outriggers placed on spreader pads

The excavator if used will be brought into position near the delivery wagon normally perpendicular to the length of the wagon bed alongside and close to the midpoint of the wagon bed.

Any chains restricting the items to be lifted should be released with caution as these may be under tension due to movements of the load during transport and may cause items to be lifted to move.

Each item shall be securely slung and offloaded in a controlled manner. Lifting accessories should be attached to the items to be lifted equidistant from the centre of the items to be lifted and with sufficient spacing and safety hook attached safely around the lifting equipment.

Any person on the trailer bed, LOOK where you’re going – DO NOT walk backwards! DO NOT RUSH! DO NOT USE A MOBILE PHONE!

With the Banksman and wagon driver at safe distance the load should be raised to a maximum height of 500mm from original position. The load should then be examined for any further movement of chains and for evenness of lifting. If satisfactory lifting can continue if not or if there is doubt, load should be lowered and lifting equipment moved to a more satisfactory position.

At no point should loads be lifted above persons or left suspended. Where necessary, tag-lines will be used to prevent the load spinning or move in an uncontrolled manner.

Load to be lifted should be lowered and positioned at the earliest opportunity to a height as close to the piling platform as practical whilst allowing movement of excavator/ Hiab either by slewing or tracking to place the load on the ground, where indicated.

Once in position, detach lifting equipment from load safely. No work at height is required to remove lifting equipment.

Excess material and equipment shall be removed from site after completing operation and before removal of piling rig where possible.

Method Statement – Erecting the Rig; Rigging & De-rigging

The position for erecting the rig will be discussed with and confirmed with RG Group Ltd. For this site, the piling area will be the location for rig erection. **The Working Platform Certificate must be signed PRIOR to erecting the rig.**

Piling rig will be directed to position of erecting which should be firm and level and with sufficient working area. At all times the rig must be directed by the Banksman.

Pre-erection checks and erection will be in accordance with the manufacturer’s instructions. During erection operations no unauthorised personnel should approach the rig and it is the rig operator’s responsibility to cease operations should it become evident that unauthorised persons are encroaching too close.

After initial erection further checks of the operations of the piling rig should be carried out including functions of the brakes and lifting equipment prior to tracking to the working area.

Working At Height

Prior to any works commencement, all persons directly involved within the works project shall be made aware of the work/task to be carried out – initially connecting auger string to rotary head on the piling machine. The head of the auger string will be at approximately 6m above existing ground level.

Work at height will be completed using an appropriate MEWP, driven by a qualified operator wearing a work restraint harness and lanyard

MEWPS shall be inspected in accordance with manual provided. The MEWP operator shall satisfy himself that the machinery is in a serviceable state, and familiarise themselves with the controls prior to operating the machine. No MANUAL OR LOLER cert no use.

Whilst works are underway, there shall be a second man at ground level that is also trained and familiar in the use of MEWP's to affect emergency recovery procedures should there be a problem encountered at any stage of the works.

All necessary PPE associated with the use hammer and erecting rig shall be used as defined within the risk assessment detail within the safety plan.

Assembling The Augers

Auger section to be placed in front of the piling rig using excavator ensuring the female couplings are facing the front of the piling rig.

Banksman to take spare line hook from the rig and place on the ground next to the female auger couplings.

Lifting equipment connected to 1no section of auger minimum of 500mm from top of section and spare line hook is then connected to the lifting equipment. Once secure Banksman to signal to Rig Operator to start to lift section off the ground to approximately 1.2m. Banksman to check female coupling for any debris. Debris removed if required using suitable tools.

Raise the rotary table to a height sufficient to fit one auger section.

Rig gates to be opened manually/ hydraulically depending on rig type.

Banksman to stand in a safe area to the side of the piling rig and signal to the Rig Operator to lift auger section into place. Once auger section is vertical gates to be closed around the auger section. Spare line to be lowered enough to enable hook to be removed/ auger rotated.

MEWP to be moved into position next to the piling rig at a distance from the rig, sufficient for the machinery to operate within its safe working limits. The operator shall then ascend to the required height to safely carry out the connection of auger string, ensuring the MEWP basket is a minimum of 1metre from the auger to prevent over-reaching from the basket

Banksman/ MEWP operator to signal Rig Operator to lower/ spin auger/ motor as required to enable male and female couplings to be connected and lowered into position.

Once in position MEWP operator moves the MEWP basket next to the auger section and inserts 2no pins using a club hammer to secure the auger section.

Note: there is no requirement for the auger to be touched, should this be necessary then the stem should be held. When inserting the pins ensure they are located in the auger socket, once done ensure hands are out of the way. When re-driving the pins ensure hands are out of the way.

Disconnect the spare line from the lifting equipment and lifting equipment from auger section. MEWP moved away from piling rig and lowered to ground.

To fit the remaining elements of the auger string and the cutting head, repeat the above steps as required.

Assembling The Augers Using Excavators

The area around the front of the rig shall be clear of all personnel prior to lifting augers. Once augers have been lifted into position, the excavator will remain stationary whilst the MEWP moves into position for pins to be added / removed and for chains to be removed from augers

Excavators must not move when the operative is in front of the rig or within the danger zone of the excavator, or whilst cherry pickers are adjacent to the rig.

Augers must never be lifted into the front of the rig if the MEWP is in position.

Auger String Change

The piling sequence may require rigs to change between auger diameters. Where it is not practicable to complete all piles on one diameter before changing to the next, the Piling Foreman may choose to drill a string of augers into the piling platform in pre-determined location agreed with RG Group Ltd for later retrieval. Ensure that this location is captured in both platform certificate and the permit to work. This process reduces the amount of working at height and lifting operations needed to disassemble and reassemble an auger string along with being more efficient.

When carrying out this process, the Rig Attendant shall direct the Rig Operator to drill the string of augers into the platform. Though it is desirable to drill them into a depth which may allow the string to be disconnected from ground level, this may not be practicable if ground conditions are such that they prevent the retrieval of the auger string, or if disturbance of the soil may affect performance of the permanent piles.

The embedment length of the auger string/ the length of auger left above PPL will be assessed on independently on each project given all the variable mentioned above.

Once the augers have been drilled in, the Rig Attendant shall disconnect the string from the head, using a MEWP for access where required.

The Rig Attendant will then direct the Rig Operator to back the rig away from than planted auger string sufficiently so that no part of the rig will come into contact with the disconnected auger string.

Method Statement – Concrete Plant Set Up

Planning of works should aim to have a maximum length of concrete hose / pipeline of 80metres, plus the rig. This can be extended where required by site-specific conditions and must be subject to site specific risk assessment which takes account of mix design, environmental conditions, other works on site affected by our works, protection of the hoses and communications.

The position of the concrete plant shall consider site specific hazards such as overhead and buried services, excavations, drains and watercourses, pedestrian & vehicle movements and other trades, and communication between the concrete plant and the rig. The holding drum will be put in a position so the concrete pump will be placed in front and has good access for the concrete lorries - make sure that there is enough room for vehicles to access and manoeuvre safely, the foreman will notify the Site Manager if there are problems when working near other contractors

The plant should be positioned on the piling mat. If it is placed on existing concrete or tarmac additional controls are required to reduce slip trip risks from concrete slurry.

Make sure that the pumps stabiliser legs are down to stop any movement likely from the tyres. Drums must also be level and be supported by a metal frame or legs in preference to sleepers.

Pipelines must be protected from damage by plant & machinery by placing them away from traffic routes, by burying them or placing protection such as dedicated hose ramps, or sleepers either side.

All hose couplings must be in good order and coated in waterproof grease. Connections must be secured with safety clips.

At the beginning or end of each day (or when required) the holding drum water reservoir will be filled with water and prima pump will be made to line the hoses. Mould oil will be sprayed onto the concrete pump and holding drum to help stop the concrete sticking.

Should the holding drum require to be moved it will be lifted off its lifting points and at no point dragged. The concrete pump will be moved by the excavator and placed in front of the holding drum.

Safety Procedure: AT NO TIME IS TRAFFIC TO BE DRIVEN OVER THE PLACEMENT HOSES WITHOUT PROTECTION. Continual traffic movement over unprotected hoses will cause damage to the concrete hose which will result in a severe accident or incident occurring.

Method Statement – CFA Piling

Before commencing piling operations, it should be ensured that:

1. The client has been made aware of our intention to commence piling.

2. A pile layout drawing relating to that particular base is available for study.
3. Where underground or overhead services are present these will be located, exposed and protected by RG Group Ltd
4. All relevant permits to work are in place.
5. The Piling Platform is installed to the required level and specification, and a Working Platform Certificate has been signed.
6. Any changes to site conditions have been reviewed and the Method statement revised accordingly

Introduction

The pile is constructed using a continuous auger. This is screwed into the ground to the required depth. Once this is achieved, the auger is extracted whilst concrete is pumped under pressure into the bore via its hollow stem. On completion the spoil is removed, the top of concrete located, and the reinforcement cage inserted.

Sequencing

Works are to be sequenced so that

- Rig movements between pile positions is in an agreed economical sequence
- There is sufficient distance between positions generally taken as 3 pile diameters, although this is reviewed dependent on actual conditions encountered, away from adjacent, recently formed piles, so as not to induce concrete flow form, and/ or damage to any of those piles
- Traffic does not cross the concrete hose. A crossover point can be prepared (if required) by either burying the hose or by the use of half sleepers on each side of the hose at the dedicated crossing point, thus minimising damage to concrete delivery hose.

Rig Movements

All rig movements shall be undertaken on the designed & installed platform. Boundaries of piling platform will be identified as suggested therein. Should the extent of the piling area not be clear Green Piling will place some boundary markers to identify piling area with signs restricting access.

The mast must be angled slightly backwards in accordance with the operators' manual when tracking across site

Prior to any individual movements of the piling rig it is the responsibility of the piling foreman and the Rig Attendant to ensure that no-one is in the exclusion zone 5m from rig.

In all cases visual checks of vicinity on all four sides of piling rig will be made. Where there has been a significant pause or prior to movement between piles or areas it will be necessary, when safe to do so, for Rig Attendant to perform a 360° walk about rig prior to moving to ensure area is clear.

The direction and route of movement will be communicated to the Banksman by the piling Foreman and any obstructions avoided if possible and if not measures discussed on how to avoid collisions.

Rig Attendant to wear Hi-Viz clothing and maintain visual contact with driver when signalling.

Daily Commencement

Prior to the commencement of piling works each day, the concrete pipeline will be adequately lubricated with primer mix. The primer will be mixed with water in a tub to a fairly thick consistency. The lubricating mix will be poured directly into the pipeline, and the concrete will follow immediately. The concrete will be pumped slowly through the lines until it flows freely.

Pile Construction

Rig Attendant to be on duty in front of the rig at all times that it is working to ensure that all is in order and other personnel are kept clear

Throughout the piling process, the rig shall be operated within its limits defined within the operator's manual. Over-riding of safety devices is not permitted (for example when using the parallelogram).

The Foreman shall instruct the Rig Operator the required pile sizes, number and depths as per the piling drawings. The Rig Operator shall maintain a record of all piles constructed, noting their number, diameter and depth. This record shall be transferred by the Foreman to the Piling Record Sheet. This sheet shall be submitted to RG Group Ltd for signature as a record of work carried out. The Foreman/ Rig Operator checks drawing and pile schedule and starts data input into pile monitoring computer.

Rig will be carefully guided onto the required pile position by the Rig Attendant. The Rig Attendant will check the centre of the auger is within the tolerance, in all directions. The setting out pin will then be removed.

Mast is positioned vertically using rig instrumentation. The mast foot shall be then lowered to the ground and any further minor adjustments made as necessary. The auger bung is inserted to prevent ingress of soil and/ or water and the auger lowered to the ground. The rig instrumentation shall then be reset in accordance with operating instructions to commence boring within the specified construction tolerances. The minimum acceptable criteria (unless otherwise specified) is as follows: At piling platform level - Plan position within 75mm, vertically within 1 in 75

When inserting the bung, carry out final checks to make sure no spoil is above head height on the auger. Before inserting the bung the crew should attempt to clear it by shaking off (sharp rotation of the auger in both directions).

When the rig is correctly set up the auger shall be rotated into the ground until the required depth is reached. The auger gates should be kept closed at all times, only being opened if construction of a deep pile necessitates the need to open the gates to allow the rig to achieve the required depth.

Safety Procedure: When opening or closing the gates the operator will activate the gates and these will open automatically, were a lock is in place the Rig Attendant will open the gates. The Rig Attendant will monitor the concrete hoses and hydraulic hoses as the drill head lowers and raises making sure they do not get snagged and stop all unauthorised personnel entering the area. If the Rig Operator cannot see the Rig Attendant the Rig Operator will STOP drilling until the Rig Attendant is in position.

Pile arisings may build up around the base of the augers which assist in preventing any possible entanglement. If the pile arisings are cleared away by the attendant excavator, then the Rig Attendant is to ensure that they are in a position of safety away from the proximity to the augers.

The rate of auger penetration shall be monitored to ensure that there is no lateral ingress of soil and excessive flighting of material. If this is suspected boring must cease immediately and instructions sought.

Safety Alert: Nobody is allowed in the exclusion zone while the auger is rotating. If anybody enters the are the Rig Operator will stop work until they leave the exclusion zone area

If obstructions are encountered, piling will be suspended and the procedure for obstructions followed.

If during boring groundwater is struck which is under pressure sufficient to cause the groundwater to raise up the bore and emanate at ground level, boring shall immediately cease and RG Group Ltd shall be informed.

At the target depth, the auger is rotated to allow spoil to raise and the auger is lifted a maximum of 150mm to allow concrete to exit (depending on ground conditions and auger type). The Rig Operator shall signal to the Pump Operator to commence pumping concrete. The auger shall not be raised until either the specified precharged volume of concrete has been pumped through the auger or a positive pressure registers on the instrumentation.

Concrete is pumped under sufficient pressure to form the pile as the auger is extracted. The speed of extraction shall be controlled with reference to the oversupply of concrete as registered on the piling rig instrumentation. Should exceptionally high concrete pressure be generated, causing a risk of blockage

or auger jamming, the Rig Operator shall bring this to the attention of the Foreman who in turn shall inform the contract manager/ engineer when reduced oversupply may be used.

Safety Procedure: If during the pumping operations a tip blockage should occur in the system, the pump operator will back pump the concrete pump and try pushing the system again. If the blockage does not clear cease pumping and back pump at least 8 times. The augers will be back rotated out of the bore until the tip can be accessed and the blockage cleared. The pile will be over drilled by approx. 500mm beyond designed depth. If the concreting procedure is stopped for any reason, the rig operator will re-drill back into the concrete a minimum off 200mm then start re-forming the pile.

During withdrawal of the augers the Rig Operator operates the mechanical auger cleaner, and the Banksman shall direct the attendant excavator to clear all spoil arising. Control the rate of extraction to allow the auger cleaner sufficient time to clear as much as possible.

Safety Procedure: No spoil is to be left on the auger above the auger cleaner. If the Rig Attendant or Pump Operator observe spoil remaining on the auger after going through the auger cleaner, they must stop concreting and inform the Rig Operator. The operator will drill the augers back into the pile loosen the material, if spoil is still present the Excavator Operator will be instructed to break the spoil with his bucket under instruction from the Rig Attendant. At no time should an operative use their hands to remove spoil.

Piling Rig Attendant monitors front of rig during extraction to make sure hoses, auger cleaner etc, do not snag which could result in damage. When the base of the auger is at ground level the rig operator shall signal the Pump Operator to cease pumping.

CFA piles are by necessity concreted up to piling platform level. Due to the possibility of frost damage and /or laitance at the pile head the piling platform should be prepared to a level that allows a minimum of 450mm of the pile to be trimmed off the pile to ensure concrete at the specified cut-off level. Trimming of piles to cut-off level should be left a minimum 7days from casting; this may be reduced subject to cube results. It should be noted that cutting down of the piles is the responsibility of RG Group Ltd.

If a blockage occurs the pump operator stops pumping immediately. Attempt to release blockage by back pumping. All personnel should retreat a safe distance from line and pump restarted to potentially free blockage.

If blockage or disruption to concrete supply occurs during concreting the pile will be re-bored and re-concreted immediately

In the event of discontinuation in the pumping of concrete, pumping may re-commence provided the concrete has not started its initial set. If the concrete has commenced its initial set, the pile shall be re-bored and concreted to its full depth

The piling rig will be reversed off the pile position.

When moving the piling rig, concrete hose may be lifted by the attendant excavator to avoid dragging/ snagging on the ground or other objects. During this activity the excavator must be controlled by a Banksman who will ensure that an adequate exclusion zone is maintained around the excavator and piling rig. If the Banksman has to manually assist with moving the hose, he must instruct the excavator operator to stop while he handles the hose where there is any danger to themselves if the hose moves. Under no circumstances should the Banksman or any other person attempt to move the hose if it is twisted and under pressure or under tension. In this case the excavator should be used to release any twist or tension.

Reinforcement Insertion

Each reinforcement cage will be checked for the following:

- Compliance with design requirements.
- Any loose bars.
- Check there is the minimum number of spacers specified at the size specified, and these are equally spaced around the cage, and still in position when placed in the bore
- The first set of spacers is to be within 300mm below cut off level.
- De-bonding foam is secured.

The attendant excavator will clear the spoil and concrete slurry from the pile position to a stockpile or dumper for disposal.

The head shall be cleared of spoil by the excavator and the pile head located by the Rig Attendant and a small amount of concrete dug out to define the pile position and remove any contaminated concrete or spoil still left in the head of the pile.

Confirm that the fabricated reinforcement cage complies with the specification and design.

The reinforcement cage is then either manually lifted into position, lowered by the excavator (if less than or equal to 11m in length) or the piling rig into the wet concrete at the required level. Care shall be taken to ensure that no contamination is pushed into the concrete by the reinforcement. The reinforcement shall generally be pushed in manually but the assistance of the excavator maybe utilised for the final metre or so provided that no deformation of the reinforcement occurs.

There must be no working beneath raised excavator buckets.

The top of the reinforcement cage will be set to piling platform level. The piling team will check the reinforcement cage on completion to ensure it is central in the pile. All reinforcement cages will be fitted with spacers (minimum 3/4 no every 5m) to ensure correct concrete cover.

On completion of the pile, visibly inspect for possible defects including the level of the concrete and reinforcement. Where practical the reinforcement shall be shaken to assist consolidation of the concrete at cut off level and to ensure the top of the reinforcement is central to the pile bore. If any reinforcement cage does not achieve the required depth or cover it shall be immediately removed from the wet concrete and a replacement reinforcement cage installed with the pile re-bored if necessary.

All exposed bars with have safety caps fitted

If piles are subject to higher tension loads and require central tension reinforcement the following must be followed

Central bars up to 14m in length may be inserted as a single length, anything over this will need to be spliced. Where possible central tension -bars should be pre-built before installation and lifted and lowered with the piling rig to the required level.

If unable to pre-build central tension bar the first section of bar is to be lifted and lowered into place with the piling rig. Coupler must be attached to this bar prior to lifting in.

Bar to be 'trapped' over the centre of the pile and second section of bar to be lifted and coupled to the first section. Bar is then lowered to the required level.

Method Statement – Steel Fixing Reinforcement

The cages will be made on site by Sub-Contractor steel fixers under the direct supervision of the Green Piling Foreman.

All reinforcement to be supplied by a CARES approved supplier, on the approved suppliers list.

Steel reinforcement will be delivered to site as loose bars, pre-slung in 1t bundles for unloading using the attendant excavator (a safety line will need to be used if moving long steel). Once the single use slings have been removed from the steel they must be destroyed by cutting in half and putting in the general waste skip.

RG Group Ltd shall set aside a suitable area for the assembly of reinforcement cage, together with an adjacent area for storage of reinforcement bars, helical and completed cages.

The Steel Fixer shall be given details of the reinforcement cages required.

The loose reinforcement bars and helical will be assembled into cages using purpose made steel fixing trestles onto which hand selected loose reinforcement bars for the required cages are loaded to give stability as required.

Once bars have been placed upon the trestles, pre-pitched helical shall be spun/ threaded on to the bars as required and tied by hand using steel fixer nips and annealed tying wire.

Once the reinforcement cage has been fixed, de-bonding foam shall be applied as required and secured using cable ties.

As each cage is completed it is removed from the steel fixer stands, removal will be either by controlled rolling, manual handling by two persons or by attendant excavator for heavier cages.

After fabrication, the reinforcement cages are to be stored on timbers or clean hardcore to avoid contamination by soil and stored no more than two cages high.

Attendant excavator to be utilised to move cages from steel storage area to piling rig.

Bundles of cages must be transported around horizontally on twin leg accessories. Do not transport vertically as this can lead to the excavator becoming unstable on uneven ground.

Method Statement – Use of Petrol Cut Off Saws

Obtain a Hot Works Permit if the Client operates a permit system.

Where petrol saws or grinders are used to cut reinforcement etc, they will be used by trained/competent persons. The machine and disc will be inspected before use. Make sure the disc is suitable for the materials being cut, and the guard is in place. Do not use if defective.

The cutting area shall be inspected before cutting commences. Remove all flammable materials such as cardboard, cloth, plastics and aerosols. Keep all persons clear of areas where sparks or dust is directed. Shield work area where possible.

Hearing protection and impact goggles or visor are mandatory

When performing a cut hold the machine firmly with both hands and make sure you have firm, secure footing. Stand to one side of the saw - never in line, in case the machine kicks back. Work calmly and methodically, making sure you don't use undue pressure. Be aware of work-piece shifting or anything which could cause the cut to close or pinch the disc. Release pressure on disc as you reach the end of the cut.

Refuel at least 5 metres from the cutting area.

Maintain a fire watch both during the work and after it has been completed

Make sure there is a fire extinguisher readily to hand

Method Statement – Concrete Pumping/ Clearing Blockages

With wet concrete and mechanical equipment, it is important that equipment cleaning is controlled and supervised correctly – Following aspects of equipment cleaning are considered.

Priming the concrete lines

- Concrete lines will be primed in advance of pumping operations with concrete pump line priming solution to lubricate surfaces to help prevent blockages.

Concrete Delivery Vehicles

- On completion of delivery the chute of the concrete wagon will be washed down by the driver, and together with any excess concrete discharged into the designated concrete washout area.
- The location of the washout area will be within the site area adjacent to the concrete pump and agitator but 15m away from drains and the watercourses. It will consist of a designated skip or excavated pit lined with polythene, or a suitable sediment & pollution control membrane.

Concrete Pump & Agitator

- Washout from pump and agitator will be handled similarly to the above.
- Pay particular attention to the changeover valve and pipework.
- Any overspilled concrete will be cleaned up either manually or with the aid of an excavator and placed into the designated concrete washout area. Solid, settled concrete waste can either be reused on site or disposed of in accordance with waste management.
- All concrete on all parts of the pump and agitator shall be cleaned using a jet wash at the end of each shift. Make sure the hopper and pistons are clean.

Cleaning The Concrete Line (Blowing Out)

- This is carried out using compressed air to push a sponge ball through the line, clearing it of concrete.
- Generally, the ground hoses and rig are blown out separately, although a 100mm diameter flexible hose can normally be blown out from the pump to the auger in a continuous operation for hose lines up to 60m. A 125mm diameter hose should be blown out in two stages due to the weight of concrete in the line.
- Firstly, work from the pump to the back of the rig, secondly from the pump to the auger. The second phase must not be done from the rig pipe work to the auger as concrete may have run back into the rubber hose. When blowing out to a free hose end attached the line to the purpose-designed blow out bow. Always ensure that loose end of the hose is suitably restrained to prevent kinking. Hose lines less than 10m must not be blown out. These must be attached to another section of hose and the above procedure adopted.
- A blow out box should be placed in front of the auger to prevent concrete blowing across site. This should not be pointed towards buildings, public areas or watercourses.
- Disconnect the flexible hose from the pump. Insert the sponge ball (the correct size cleaning ball must be used. It must not be mis-shaped) into the flexible concrete hose to be blown out, fit the blowout adaptor and attach the compressed air line. The blow out adaptor is fitted with a pressure gauge and manually operated relief valve to discharge pressure from the line the valve must be facing horizontally away from any person in the vicinity. Do not point it towards you or other. Do not point to the ground). Prior to blowing out a final check will be made to ensure the blow-out exclusion zone (5m) is clear of personnel.
- Compressed air will gradually be allowed into the line in a slow controlled manner until the line is blown out i.e. the sponge ball comes out the other end.
- After clearing the concrete from the line, the sponge ball is re-inserted with water before blowing through with air to give a final clearance through the line.
- If a blockage occurs during blowing out, discharge the compressed air pressure and follow the blockage clearance procedure outlined below.

Blockage Clearance Procedure

- Once a blockage has occurred the pump shall be switched to reverse (suck back) and operated for approximately 5 strokes to relieve the pressure in the line. Stop the pump.

- Prior to disconnecting/ dismantling of concrete hose extreme care must be taken to ensure that concrete pressure/ air pressure has been released from the concrete lines. This is completed either by the step above or releasing air pressure at the compressor. The concrete hoses must be considered to be pressurised during the clearance process. No couplings should be loosened or removed unless the pressure in the lines has been released and this has been confirmed by the concrete pump operator.
- If a blockage is encountered during the clearance process and a sponge ball is not cleared from the system, it is possible that residual pressure can remain trapped in the system between the cleaning ball and a blockage, even after the air pressure is released at the blow out valve location. Leave the blow out valve in the open position.
- Never attempt to open the concrete hose under pressure. Even when it is believed that all pressure has been released, the hoses must still be treated as though they are pressurised.
- At no time will compressed air and a sponge ball be used where there is a known blockage.
- All operatives involved in these operations must wear appropriate PPE including safety boots, rubber gloves, hard hat and visors.

Blockage Before the Flow Meter

- Blockages before the flow meter are noted either by the rise in pressure noted at the pump on the non-arrival of concrete, as registered on the flow meter.
- The concrete hose should be split at the nearest joint and by lifting the hose with attendant excavator or the secondary line on the rig gravity should clear the blockage. Sometimes this requires the hose to be shaken in a controlled manner.
- If this does not clear the blockage then the end of the hose should be firmly restrained to prevent it from kicking back, i.e. attached to the excavator quick-hitch with a chain and shackle. Measures should be taken to contain any expected discharges from the hose end and the 'Cleaning the Lines procedure' shall be followed. When cleared and before re coupling the line (whilst still restrained) should be pumped through with to check the blockage has been fully cleared.
- In the event the blockage cannot be cleared the blocked hose is to be taken out of service and replaced.

Blockage After the Flow Meter but Before the Augers

- Blockages after the rig flow meter are noted by an increase in pressure before the blockage occurred.
- The augers should be drilled into the ground to bring any joints down to ground level. Once pressure in the line has been released the lifting/ shaking procedure above can be followed.

Blockage In the Augers

- The augers will need to be removed from the bore by 'back-screwing'. This must be done in a slow controlled manner ensuring the majority of spoil stays within the pile bore, so as not to undermine the piling platform or adversely affect rig stability.
- A check shall be made to see if the bung has blown out of the tip of the auger. If not then this should be carefully removed using a screwdriver or pigtail spike to probe within the auger tip, listening carefully for any movement of concrete as it may exit quickly (although not under pressure) once released. Hammering the auger stem can also assist the process.
- Once the blockage is cleared the banksman will reposition the rig over the pile position.

In the event that the blockage cannot be cleared the augers shall drilled into the ground and split from ground level. Care should be taken as these will still be full of concrete at this time which may flow out when the augers are split. Clearing of the auger can be undertaken with small amount vibratory or mechanical assistance. A short scaffold pole, inserted into the stem, could also be used. If the blockage cannot be cleared safely then the auger shall be taken out of service and replaced. A short amount of pumping should be carried out to check the line.

Safety Alert: If working in hot weather the concrete system will be moved every 15 mins, by pumping concrete through the rig system and holding drum system.

Method Statement – Adverse Weather Conditions

Extra procedures are required if bad weather is forecast to ensure safety of all operatives and the stability of the rig and MEWP.

If the wind speed increases to above 20mph, the Piling Forman, Rig Operator and Rig Attendant will need to be vigilant on orientating the rig into a safer working position and watching concrete and hydraulic hoses on the rig to ensure they don't become snagged in the rotating auger. If the wind speed keeps increasing the recommendations for a piling rig need to be followed as stated in the operator's manual. If strong winds are forecast over night or over the weekend the auger will be drilled into a pile position (approx. 6m) and left in parking configuration. MEWP operators need to check the operator's manual before using the MEWP to check the maximum wind speed.

If bad weather conditions (lightening) are forecast a 3m exclusion zone will be erected around the whole rig with access refused to all site personnel. The rig operator must stay inside the cab and not leave until the storm has passed.

Method Statement – Refuelling

Green Piling will place bowser in designated re-fuelling area – but be within reasonable distance of rig and plant working location. As a minimum requirement – spill kits, plant nappies etc. are required to be present on site.

Normal operations involve fuel delivered initially with piling equipment in double skinned locked static bowzers. Re-fuelling of bowser will be from vehicle delivery as required.

The rig should be established at the bowser position and drip tray placed such that spillages are contained.

A fuel spill kit shall be kept with piling rig and bowser at all times and operatives should be familiar with its stored position and its use.

When re-fuelling operatives to wear appropriate PPE including gloves and eye protection.

All spillages shall be reported to RG Group Ltd.

Method Statement – Securing Site Plant & Equipment

The piling rig will be banked into a designated area to park and level the rig, lower the auger on the ground and then lowered the foot on to the piling mat. The Rig Operator will turn off the rig and remove the keys and tablet, then lock all the doors on the rig making sure everything is safe then turn off the mobiliser lever.

The Pump Operator when finished will be assisted by the Rig Attendant and place all the loose metal work on the concrete pump, they will then place all the remote controls, tools, chains and equipment in the container and close and lock the door.

The compressor will be chained and padlocked to the rear of the holding drum (or other secure locations), additionally the towing eye can be removed.

All security fencing must be in place by RG Group Ltd before leaving site.

Method Statement – Leaving Site

The work area shall be left in a clean and tidy manner.

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

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

The Foreman shall make sure the Foreman's Completion Form is signed off by RG Group Ltd before leaving site.

Method Statement – Quality Procedures

Green Piling have achieved ISO 9001, which demonstrates the necessary skills required to quality manage our activities, products and services. It is also a measure of reliability, consistency and commitment to supply quality to our existing and potential customers.

A pile design (and working platform design if required) will be sent to RG Group Ltd prior to the piling rig arriving to site.

A member of the contract team will have visited site and complete a site visit and produce the RAMS for the contract.

The Piling Foreman will be given a contract information file, with all the required for the piling works. All piles/ works carried out will be recorded on the CFA Daily Pile Record Sheet. After each shift, the records are sent to the office for booking in.

The information is collated with the information on the NDT system and check with GP QA records, these checks make sure drilled information is correct (depth, reinforcement and wastage) on all piles.

If Green Piling are contracted to provide a setting out engineer, the engineer will set out all pile positions required daily, check the piling mat level and instruct the operator if details have changed and once constructed will complete an as-built survey.

Cubes are tested by a UKAS accredited company. There cubes are tested at 7, 28 and a spare (56) days to confirm the strength of concrete. Results are released after testing.

Integrity testing takes place if required at a minimum of 7 days after the piles were installed. RG Group Ltd needs to call off (by email) giving a minimum 3 days notice and inform when pile will be ready ensuring no reinforcement beams are in place; a specialized company arrives on site and test the integrity of the pile. Results are released after testing.

Any problems with the quality of our works will be logged as a non-conformance report and this will be discussed in our weekly meetings.

The contracts team will monitor the production and quality daily.

LIFT PLANS	
GREEN PILING APPOINTED PERSON:	Scott Farrar, CPCS 40592350
PLANNING The following lifting operations will take place: - Loading & Unloading of plant & equipment and materials from vehicles using lorry mounted crane and excavator - Use of excavator for pick & carry duties, lifting of equipment & materials around site during piling works and assisting in rigging/derigging of piling rig - Installation of reinforcement into pile positions using the excavator and piling rig auxiliary line - Use of piling rig auxiliary line for rigging & de-rigging. Prior to commencing on site a member of contracts will have visited site and carried out a risk assessment and discussed with a member of Site Management lifting procedures and required piling platforms, storage areas and access. Proximity hazards such as power lines, structures, excavations or other lifting operations will be considered and are recorded here. Considerations Where possible, equipment and materials shall be loaded pre-slung from supplier with long enough equipment such that standing on lorry is not needed. In general, most lifts will be generic, with exception of any special or complex lift situations which require additional assessment and consideration. Important that position of operatives within the work area is considered before loads are lifted and transported. Nobody should need to enter the slew radius of the machine while the machine is lifting / slewing; stand outside slew radius / route of load being lifted Important to consider any situations where the machine or the load can become unstable. Transport the load as low to the ground as possible and at walking pace to maintain stability. Pay particular attention on uneven ground and slopes. Tandem lifts are not permitted under this Lifting Plan. If a tandem lift is required, it must be the subject of a separate Lifting Plan, authorised by an Appointed Person. Communications between the lifting team will be via recognised hand signals & verbal Prevailing weather conditions which could affect the lift (snow/ice/high winds etc) to be monitored. Lifts to be halted if the conditions deteriorate and become unsafe. Refer to machine duty charts for wind speed limits. Supervision The Piling Foreman is deemed to have sufficient knowledge & experience in loading & unloading of piling equipment and lifting operations using an excavator. Under CPA/ALLMI guidance, the lorry loader operator can act as operator and supervisor	
EQUIPMENT All lifting equipment and accessories will be subject to Thorough Examination in accordance with LOLER requirements (12-monthly for equipment; 6-monthly for accessories). Current lifting equipment register/ certification for all lifting equipment to be used will be available on site for inspection. Excavator supplied by RG Group Ltd who is responsible for checking all documentation before releasing it to work to Green Piling. Excavator to be suitable for pick & carry duties and have a current Thorough Examination certificate; minimum 1T lift capacity and be fitted with a suitable lifting eye on the quick hitch or dipper arm to enable a shackle to be attached. Buckets must be capable of being removed for lifts. Supplier of lorry mounted crane is responsible for checking all equipment and documentation before releasing it to work to Green Piling.	
Duty Charts for Excavator Make, Model, Attachments, Test Certificates, etc supplied by RG Group Ltd	
Duty Charts for HIAB Make, Model, Attachments, Test Certificates, etc supplied by haulier who has been advised of the loads to be lifted, their characteristics and weights.	

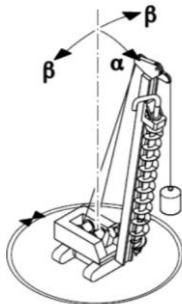
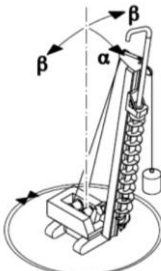
PILING RIG DETAILS

Lifting operations with the piling rig service line must only be undertaken with the rig as described below.

- Located on level ground
- Mast verticality within limits below
- Tracks to be fully extended
- Auger clear of spoil
- Vertical service line

* The Front Weights where stated include the weight of: the auger string, auger extension assembly (including auger extension unit with concrete hoses, swivel head, elbow and guide pole, cleaner and any soil in the auger

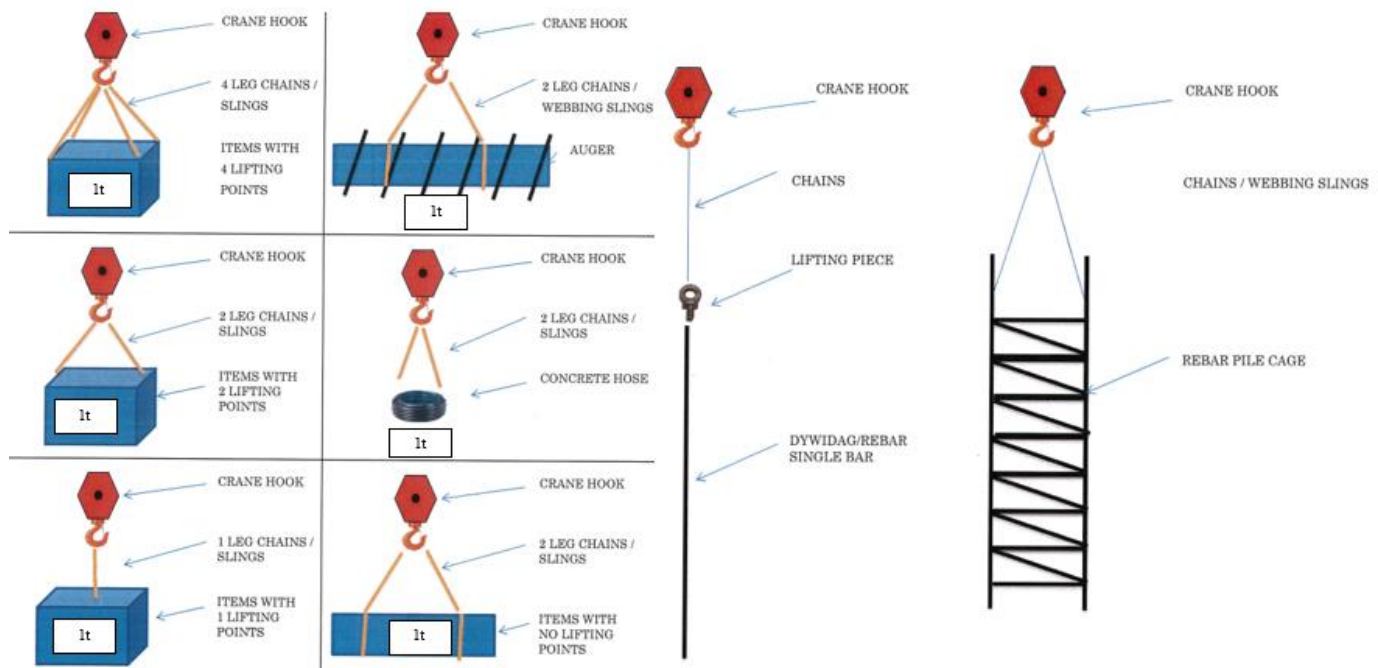
Lifting outside of these parameters may render the rig unstable.

Soilmec SF65 Rig Configuration		Working Radius	Front Weight (Kg)	Lift Capacity (Kg)	
Short Auger Extension				Mast Angles $\alpha = 4^{\circ}$, $\beta = 0^{\circ}$	Mast Angles $\alpha = 0^{\circ}$, $\beta = 3^{\circ}$
 360° of swing	4140	0 – 1500	2000	4500	
		1500 - 3000	1000	3500	
		3000 – 4500	Not allowed	3000	
		4500 - 6000	Not allowed	2000	
	4140 - 4340	0 – 2000	1000	3500	
		2000 – 3000	500	3000	
		3000 – 4000	Not allowed	2500	
		4000 - 5000	Not allowed	2000	
 360° of swing	4140				
		0 – 2000	1000	4000	
		2000 – 3000	500	3500	
		3000 – 4000	Not allowed	2500	
		4000 - 5000	Not allowed	2000	
	4140 - 4340	0 – 2000	500	3500	
		2000 – 3000	Not allowed	2500	
		3000 – 4000	Not allowed	2000	
		4000 - 5000	Not allowed	Not allowed	

SCHEDULE OF ROUTINE LIFTS

Description of Load		Gross Weight	Load Characteristics	Method of Lifting / Slings Arrangements	Lifting Gear Required
Augers	Up to 450mm Ø x 6m	1400kg	Uniform centre of gravity	No lift points; choke between flight	H lift: 2 leg chains V lift: Single chain
	Up to 600mm Ø x 6m	1450kg			
	Up to 750mm Ø x 6m	1500kg			
Reinforcement cage (single)		Max 1000kg	Long, flimsy	- Lift horizontally when transporting around site with 2 leg chain hooked in line or choked. - Lift vertically with single leg chain secured around rebar/ helical joint - Bundling wires not to be used - Heavy cages require a welded lifting band.	2 leg chain/ single chain/ nylon sling
Reinforcement cage (bundle)		Max 1000kg	Long, flimsy		
Reinforcement loose		Max 1000kg	Long, flimsy		
Concrete agitator (lorry mounted crane only)		8000-10000kg	Uniform centre of gravity	4 lift points on chassis	4 leg chain
Concrete pump		3000kg	Uniform centre of gravity	Single point on top	Chain/ wire sling
Diesel bowser		1200kg	Uniform centre of gravity	Lift points on top	2 leg chain
Compressor		<500kg	Uniform centre of gravity	Lift points on top	Single leg chain
Toolbox container		4000kg	Uniform centre of gravity	Lift points on top	4 leg chain
Concrete hose		10kg/m (Max 20m)	Uniform centre of gravity	No lift point; choke	2 leg chains/ nylon sling

Typical slinging arrangements



EMERGENCY ARRANGEMENTS	
Site emergency arrangements In the event of an emergency, contact the emergency services and use the post codes and What3Words to direct them to the site access point. From here, direct to the specific work site.	
Fire & First aid	In addition to the provisions provided by RG Group Ltd, Green Piling shall provide at least one person within the team that hold the minimum competency of Emergency First aid depending on the amount of persons on site. A First Aid Kit will be held within the site vehicle or site cabin. The Foreman shall ensure sufficient provisions for the works being undertaken. Any stock requirements will be ordered immediately Dry powder extinguishers shall be located with the rig
Service Strikes	Electric - Switch machine off & evacuate all personnel on the ground. The rig operator must remain in the rig. Do not attempt to disengage the cable from the auger. Do not touch exposed cables. Gas - Switch all machinery off & evacuate all personnel to safe distance. Extinguish all naked flames. No smoking. Gas emergency number is 0800 111 999
Spills	Spill kits will be provided and our crews instructed in their use. When a spill happens: PRIORITY - Assess the risk, Make sure you know what the liquid is and the hazards associated with maintain the safety of all personnel. Do not put yourself or others at risk. Eliminate sources of ignition Contain the Spill - Prevent the spill from growing, Stop the source of the spill - Tip up drums etc, shut off valves, Cover drains at risk; Surround the spill with absorbent booms Absorb the Spill - Once the spill has been contained, the boom can be pushed along the floor, working from the outside of the spill to the inside. Use pillows or flat sheets to absorb the bulk of the liquid. Dispose of the spill - Place all used components and any contaminated soil into a plastic bag and seal the bag. DO NOT place in the general waste skip. They must be returned to your depot for disposal as Hazardous Waste. Make sure you replenish your spill kit
Contaminated Land	If you come across an unidentified substance that may be hazardous: Leave the area immediately. Do not attempt to remove any equipment as this could spread the contaminant. Inform site management of what you saw, smelt, felt and where it occurred. If you have been in contact with an unidentified hazardous substance Remove any clothing/equipment that may be contaminated, shower or wash thoroughly. If you begin to feel unwell, for example through eye, nose, throat irritation, dizziness, nausea chest tightness, go to the first aider, or if severe, directly to a local hospital & explain what happened Inhalation - Remove casualty from exposure ensuring your own safety whilst doing so. Keep casualty warm & at rest. Seek medical attention
Plant & Equipment Failure	In the event of a failure, stop all operations and if possible bring the machine to a safe condition. Isolate the machine (eg key out) and if possible, set up an exclusion zone
MEWP RESCUE PLAN	
In the event of the upper control functions failing while elevated or the operator being unable to operate the MEWP functions due to incapacitation or auxiliary controls fail to operate from the basket. Lone working is never carried out therefore a person will always be at ground level who will change over the controls at ground level from normal operation to auxiliary control. This will allow the person on the ground to bring the basket back down safely. The crew will complete a toolbox talk on these controls prior to use	

CFA Risk Assessment and Method Statement (RAMS)

RISK ASSESSMENTS

Likelihood	Severity	Likelihood					Risk Rating	
1 Harm Extremely Unlikely to Occur	1 Slight Injury	Severity	1	2	3	4	5	Low
2 Harm Unlikely to Occur	2 Injury requiring medical attention		1	2	3	4	5	
3 Harm Seldom Occurs	3 Serious injury / ill health		2	2	4	6	8	Medium
4 Harm Occasionally Occurs	4 major injury / ill health		3	3	6	9	12	
5 Harm Certain to Or Frequently Occurs	5 Fatality		4	4	8	12	16	High
			5	5	10	15	20	
							25	

No additional controls are required. Monitoring is required to ensure that the controls are maintained.

Efforts should be made to reduce the risk, but the costs of prevention should be carefully measured. Where a medium risk is associated with extremely harmful consequences, further assessment may be necessary to establish more precisely the probability of harm to determine the need for improved control measures

Do not start work until the risk has been reduced to as low as reasonably practicable using BATNEEC. Considerable resources may have to be allocated to reduce the risk. Where the risk involves work in progress, urgent action should be taken.

SITE RISKS

Work Activity & Hazard	Person At Risk	Initial Risk	Precautions/ Controls To Reduce Risk	Residual Risk	Who Provides The Precautions Controls
<u>Overhead Services</u> Machines coming into contact with services whilst passing under, working close by or working underneath services leading to possible electrocution.	GP Personnel Other Contractors Public	High	HSE guidance GS6 - "Avoidance of Danger From Overhead Electric Power Lines to be followed Before any work is carried out around overhead power lines the cable owner shall be consulted on the work to be carried out and establish whether the cables can be moved or isolated, and the extent of any clearance zone around the cables. This must be documented. All relevant information regarding the presence of overhead services must be provided to Green Piling prior to mobilisation Request clearance, physical barriers and signs from RG Group Ltd Ensure precautions, barriers etc. are maintained.	Low	Principal Contractor
			Visually check service location Remove augers and lower the mast when travelling where necessary. Do not proceed unless precautions are in place.		Piling Foreman
<u>Underground Services</u> Machines coming into contact with services including electricity, gas, water, sewers and chemical pipelines	GP Personnel Other Contractors Public	High	All relevant information regarding the presence of underground services must be provided to Green Piling prior to mobilisation. Ensure that services have been traced & located and clearly marked before work begins. Advise all operatives involved in piling operations of service locations Underground services will always be assumed to be live	Low	Principal Contractor
			Permit to pile to be completed with all relevant utility drawings from RG Group Ltd Piling rig & excavators must not be operated within 500mm of a service. Monitor drilling conditions and cause re-tracing of services, if necessary.		Piling Foreman
<u>Inadequate Piling Platform</u> Rig becoming unstable.	GP Personnel Other Contractors	High	Qualify working platform requirements and responsibilities prior to work commencing Suitable access route and piling platform to be constructed capable of supporting the intended load. Platform certificate to be completed to confirm that platform is adequate before works commences. Correct reinstatement of platform disturbances to the original specification Platform to be re-inspected and signed off when ever the platform has been disturbed, or at maximum 7-day intervals. Maintenance of working platform in accordance with the contractual requirements throughout the contract.	Low	Contract Manager
			Keep plant and equipment clear of all excavations and boreholes. Plant and equipment to be kept in safe areas.		Piling Foreman
<u>Sloping Ground</u> Rig becoming unstable, overturning.	GP Personnel Other Contractors	High	Assess gradient against machine manufacturing data. Ensure the gradient is suitable for traveling and is constructed correctly. Travel with mast raked back and remove augers subject to operators' manual Only raise piling rig mast on level ground.	Low	Contract Manager
					Piling Foreman
<u>Working adjacent to Other Trades</u> Risk of injury to / from other contractors operations	GP Personnel Other Contractors	High	Site Inductions & coordination of works to maintain exclusion zones Management of piling operations and exclusion zones. Avoid entering the work areas of others Raise concerns with site management	Low	Principal Contractor
					Piling Foreman
<u>Poor housekeeping resulting in slips, trips & falls</u>	GP Personnel Other Contractors	Medium	Good housekeeping practices must be encouraged by operatives at all times. Rubbish, lifting equipment, reinforcement off cuts, etc must not be allowed to build up. Materials to be staked and stored properly. All walkways to be kept clear and tidy, with particular attention to designated pedestrian routes.	Low	Piling Foreman
<u>Piling adjacent to Structures and Site Boundary</u> Damage or collapse of building or part of the building onto persons. Damage to services Persons being struck by bore spoil material or concrete	Public	High	Structural assessment to be made with regard to the stability of the structure. Necessary information to be provided and any shoring system to be in place and checked before work commences. Investigate services and risk of vibration damage and protect or move. Provide exclusion zones/ protection measures necessary. Provide, erect and maintain polythene sheeting/ debris netting to perimeter walls/ fencing to prevent spoil/ concrete / slurry splashing members of the public/ adjacent structures.	Low	Principal Contractor

CFA Risk Assessment and Method Statement (RAMS)

Persons & vehicles unintentionally coming into contact.					
<u>Security</u> Unauthorised use of plant. 3 rd party damage. Theft of plant, equipment and materials.	GP Personnel Other Contractors Public	Medium	Site wide security arrangements	Low	Principal Contractor
			Reduce risk of theft of plant and equipment by: - Remove on wheel or fitting wheel clamps, changing plant equipment to a fixed object, removing batteries. - Fitting control arm covers. - Locking away small tools in secure location. Remove keys from plant and equipment when not in use and left unattended. Materials will be safely stacked and stored. Diesel bowlers to be locked.		Piling Foreman
<u>Lighting</u> Persons being struck by vehicles. Persons & vehicles unintentionally coming into contact. Trips, slips and falls	GP Personnel	Medium	Site hazard assessment to confirm that lighting is adequate or to ensure artificial light is available when necessary Provision of background safety lighting in periods of darkness in areas used by Green Piling, including walkways and access routes.	Low	Principal Contractor
			Plant to be fitted with task lighting.		GP Plant Manager
<u>Contaminated Ground</u> Operatives health affected by exposure to substances.	GP Personnel Other Contractors Public	Medium	Protection will depend on type & quantity of contaminant. Typical control measures to include provisions for decontamination; additional PPE and RPE, (RPE will be fit tested to the individual) No Drinking, eating or smoking will be allowed within the contaminated / segregated area. Wash hands thoroughly before eating, drinking or smoking	Low	Principal Contractor
<u>Railway Working</u> Contact with trains with personal injury and damage. Rig overturning due to platform failure or during erection Falling loads during lifting operations	GP Personnel Other Contractors, public	High	Approval for the method of working to be obtained from the railway authority. Designed checks / approval for piling platform in accordance with NR requirements	Low	Principal Contractor
			Planning of work in accordance with Network Rail document ref: NR/L3/INI/CP0063. Downrating of lifting operations, equipment & accessories to 75%		Contract Manager
			Rig erection & rigging at a distance beyond collapse radius of rig Orientation of rig in accordance with NR standard Secondary (back up) sling to be used on all lifts. Pile cages to remain shackled until sufficient length (50%) has been inserted into the bore. Position rig overnight beyond collapse radius		Piling Foreman
<u>Windblown Dust</u>	GP Personnel Other Contractors,	Medium	Ensure that adequate dust controls are in place. Consider spraying/ damping down the site surface to reduce dust.	Low	Principal Contractor
			In dusty conditions suitable eye protection and dust masks must be available and worn.		Piling Foreman

SITE MOBILISATION					
Work Activity & Hazard	Person At Risk	Initial Risk	Precautions/ Controls To Reduce Risk	Residual Risk	Who Provides The Precautions Controls
<u>Vehicular & Pedestrian Access</u> Interface between pedestrians & vehicles, danger of bodily injury	GP Personnel Other Contractors	Medium	Plan the main vehicle, plant/ pedestrian access routes. Aim for barriered segregation and avoid reversing, where possible. Banksman to direct vehicles when necessary, particularly reversing vehicles. Ensure high visibility garments and task specific PPE is worn.	Low	Principal Contractor
<u>Vehicle Movements</u> Other road/ site traffic.	GP Personnel Other Contractors Public	High	Access routes to be agreed with RG Group Ltd before work commences.	Low	Contract Manager
			Site speed restrictions will be adhered to. Manoeuvre all delivery vehicles using a trained banksman. Keep all delivery vehicles on designated haul roads and loading areas.		Piling Foreman
<u>Delivery & Unloading Piling Rig</u> Collision with surrounding structures. Collision with other plant & equipment. Damage to road surfaces/ pavements.	GP Personnel Other Contractors Public	Medium	Protection of roadways and footpaths when rig is being loaded/ unloaded on the highway.	Low	Principal Contractor
			Ensure site is suitable for rig delivery and that the ground is firm and level. Identify access hazards – weight, width and height restrictions noted. Rig Operator and Banksman must be trained/ competent		Contract Manager
			Check security of load and agree sequence of unloading. Follow site rules – speed limits etc. No one will be allowed to stand at the side of the vehicle being loaded/ unloaded including the Banksman. Use of remote controls where fitted Load/unload on level and stable ground.		Piling Foreman
<u>Delivery & Unloading of Equipment & Materials from wagons</u> Collision with surrounding structure. Failure of lift equipment. Fall from height from delivery trailer.	GP Personnel Other Contractors	High	Ensure that a lift plan is in place. Piling equipment & reinforcement to be delivered in vehicles with side rails and pre-slung with slings easily accessible from ground level.	Low	Contract Manager
			Check security of load and agree sequence of unloading. Release lorry load restraints carefully. Where possible, items to be slung/ un-slung from ground level. Where vehicles flatbed is to be accessed, use appropriate access point. After slinging load, operative to dismount the vehicle's bed or stand at the headboard. Edge protection must be used. All lifts to be completed under direction of a trained and competent slinger/ signaller. Suitable mechanical means to be used to off load. Ensure that the laydown area is suitable for the delivery wagons		Piling Foreman

CFA Risk Assessment and Method Statement (RAMS)

			No one will be allowed to stand at the side of the vehicle being loaded/ unloaded including the Banksman.		
<u>Lorry Mounted Crane Operations</u> Crane becoming unstable. Collision with surrounding structure. Failure of lifting equipment. Damage or injury to passing vehicles & pedestrians.	GP Personnel Other Contractors	High	Provision of firm, level ground capable of withstanding load bearing from crane outriggers	Low	Principal Contractor
			All crane movements & lifts to be completed under direction of a suitably trained Piling Operative		Contract Manager
			The crane, lifting accessories and safety devices checked by the user daily. All lifting equipment is subject to a thorough examinations/ testing in accordance with LOLER 1998. Fully extend outriggers will be used at all times & locked in position. Outriggers must not be positioned where ground could collapse. Outrigger mats must be used at all times. Operator to stand in a position of safety. No loads should be left suspended. Avoid unloading in high winds, heavy rain, snow or icy conditions		Crane Operator
			Lifting points shall be checked for signs of damage prior to being lifted. Only propriety lifting points to be used; only recognised slinging techniques will be used; Tag lines to be used when necessary. Under no circumstances will the crane or lifting accessories be overloaded. No one will be allowed to stand at the side of the vehicle being loaded/ unloaded including the Banksman. As the load is lifted and slewed, do not stand in the line with direction of travel as this is a crush zone		Piling Foreman

ERECTING PILING RIG / RIGGING & DERIGGING

Work Activity & Hazard	Person At Risk	Initial Risk	Precautions/ Controls To Reduce Risk	Residual Risk	Who Provides The Precautions Controls
<u>Erection of Rig</u> Failure or overturning of the rig during erection. Fall from Height. Failure of lifting equipment. Trapping, crushing or significant injury as a result of accidental operation of drill head or mast controls or uncontrolled movement of auger	GP Personnel Other Contractors	High	Platform certificate to be completed to confirm that platform is adequate before works commences. Ensure site/ piling area is suitable for rig delivery and that the ground is firm and level. All non-piling personnel should be kept away from the rig during this operation. Exclusion zone to be in place.	Low	Principal Contractor
			Deployment of suitable trained competent personnel Ensure current certification is available for all lifting equipment and accessories.		Contract Manager
			Rig erection to be carried out in line with the machine operations manual Rig controls will only be activated following clear audible instruction from Banksman. Safety devices will not be by-passed, nor be relied upon by the operator. The auger must be held in the gates and remain attached to the auxiliary line whilst the operative in the MEWP is raised into position, where they will knock in the pins. All operatives in the MEWP basket shall wear a safety harness secured to a stable point in the basket. Never overreach from the basket, the MEWP must be positioned as close as possible to the item being worked on. Operative in the MEWP basket who is making the connection shall not hold the flights until the flight being lowered is touching the remainder of the string. All equipment and accessories must be stored in the basket in a way to prevent them falling.		Piling Foreman
<u>Use of MEWPS</u> Overturning due to overreaching beyond machine limits. Collapse or overturning of machine due to soft, muddy or uneven ground conditions, trenches, obstacles, overloading, etc Overturning due to travelling with basket raised Collision with overhead cables, pedestrians, surrounding structures, other mobile plant & equipment Falls from height & falling objects Adverse weather Misuse by unauthorised personnel. Mechanical failure / emergencies	GP Personnel Other Contractors	High	Selection of suitable machine for task with regards to S.W.L, required working height & outreach	Low	Contract Manager
			Check that a maintenance certificate has been provided by the supplier. Banksman to direct all movements where visibility is restricted. Instructions required at ground level on how to lower the platform from ground position. Lone working is not permitted. Conduct pre-use checks & complete the daily inspection sheet. Check working area for obvious hazards before starting work. (soft ground, blind corners, narrow gaps, limited head-room, steep gradients and excavations.) Work restraint harness must be worn; Exit & enter basket only when fully lowered. Set MEWP up on firm and level ground. Do not overload platform with equipment or people Positioning of platform immediately alongside to allow operative to reach object without reaching/leaning over handrails. Do not use additional equipment/objects ie ladders, boxes etc to gain extra height/reach if task is beyond reach of platform. MEWPS only to be used as work platforms and not as a means of access to elevated levels or as lifting equipment Do not operate beyond maximum safe wind speed from manufacturer's documents. Inspect before use after severe weather Do not move the equipment with the platform in the raised position unless the equipment is designed to allow this to be done safely (check the manufacturer's instructions). Leave platform in a secure manner and clear of tools and equipment when not in use.		Piling Foreman

CFA PILING RIG OPERATIONS

Work Activity & Hazard	Person At Risk	Initial Risk	Precautions/ Controls To Reduce Risk	Residual Risk	Who Provides The Precautions Controls
------------------------	----------------	--------------	--------------------------------------	---------------	---------------------------------------

CFA Risk Assessment and Method Statement (RAMS)

<u>Rig Movement About Site</u> Collision with surrounding structures, plant & equipment. Contact with person	GP Personnel Other Contractors, public	High	Platform certificate to be completed to confirm that platform is adequate before works commences.	Low	Principal Contractor
			Route of rig movements to be visually assessed before commencing and discussed with RG Group Ltd as required. Movement of piling rig to be controlled by trained & competent Banksman. All rigs must be fitted with rear view mirrors and reversing cameras. Communication between Rig Operator and Banksman to be agreed hand signals.		Piling Foreman
			Daily visual inspections to take place this must include the condition and operation of guards. Recorded defects must be made known to the Plant Department. In the event of plant breakdown or failure make the area safe. Inform the Foreman/ Plant Manager. Do not carry out unauthorised repairs.		Piling Foreman
<u>Mechanical Failure of Plant</u> Operatives being injured by defective plant or when carrying out unauthorised repairs		Medium	Rig operator to be competent to drive piling rig.	Low	Contract Manager
			Rig Operator to be in good health, not to be under influence of drugs or alcohol, or to be distracted by outside influences e.g. phones, radios, conversations		Rig Operator
<u>Operation of Piling Rig</u> Misuse or inappropriate behaviour causing accidents		High	Rig Operator will ensure the rig is idle, brakes are applied and no movement of auger. The Rig Operator will not perform any function until instructed by the Banksman.	Low	Rig Operator
			Ensure no material is still on the auger at height. Attempt to clear any spoil passing the cleaner by stop-start rotation in both directions (attempt to shake off)		Piling Foreman
<u>Placing Auger Bung</u> Entrapment or entanglement in the moving or rotating auger. Persons being struck by bore spoil material.		High	DO not over-ride safety devices when extending parallelogram	Low	Rig Operator
			Piling rig gates to remain closed when possible. Should the rig gates need to be opened to allow the piling rig to achieve its full depth; this is acceptable if the auger rotation stops when anyone has to enter the ‘danger zone’; the Banksman must police the area in front of the rig. Auger not to be cleaned manually. Banksman to be present and maintain exclusion zone 2m around auger when working. No access unless augers stopped.		Piling Foreman
<u>Boring of Piles</u> Entrapment or entanglement in the moving or rotating auger. Persons being struck by bore spoil material.		High	Pre-charge the concrete line to 15bar, if the auger cap has not pushed out stop pumping and back pump. Back screw the augers out of the bore until the tip can be accessed. Remove all loose material to prevent falling debris before accessing auger tip to remove the blockage. Re-drill pile 500mm beyond its schedule design depth. Care taken at all time during pre-charging of the augers.	Low	Piling Foreman
			During Extraction the auger must be cleared by a mechanical cleaner fitted to the piling rig. Auger not to be cleared manually. Where access is possible, use excavator (working within its reach) to clear spoil from a stationary auger. Green Piling operative to ensure the gates/ auger cleaner remain clear from excessive build-up of spoil.		Piling Foreman
<u>Auger Blockage</u> Contact with concrete/ cement. Burst hose across site. Persons being struck by bore spoil.		High	Marker paint to be used to identify the position. All exposed steel rebar will be clearly marked. No reinforcement to project above piling platform level.	Low	Piling Foreman
<u>Spoil Falling from Auger</u> Persons being struck by bore spoil material.		High	Use S.I information & previous experience of working in particular areas to establish whether there is an increased risk of underground collapse	Low	Contract Manager
			Prevent rigs tracking over, or drilling down close to fresh piles. Do not leave boreholes open. Avoid repeatedly drilling down and removing the auger from an open bore Any interruption to the drilling process (eg blockage, obstruction etc) ensure 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. Checks on platform thickness to make sure it hasn’t been reduced		Piling Foreman
<u>Freshly Concreted Bores</u> Contact with concrete/ cement. Injury from exposed steel.		High	Lift Plan to confirm that rig has sufficient capacity to lift cages on site	Low	Contract Manager
			Rig must be on level ground with mast verticality within limits stated on duty chart Auger shall be clear of spoil Area of lift to be kept clear. If it is required to hold the tail end of the reinforcement during lifting, mechanical means should be used. If this is not possible the area should be cleared off obstructions, the distance to lift is to be as short as possible and a constant line of sight is to be kept between operator and operative holding the tail end.		Piling Foreman

CONCRETE PUMPING

Work Activity & Hazard	Person At Risk	Initial Risk	Precautions/ Controls To Reduce Risk	Residual Risk	Who Provides The Precautions Controls
<u>Concrete Pumping</u> Contact with concrete/ cement. Moving parts of drum & pump. Excessive noise exposure for the operator.	GP Personnel Other Contractors, public	High	Waterproof gloves, a long-sleeved top and trousers must be worn at all times whilst working with any cement-based product. Ensure suitable water tight and chemical resistant wellington boots are worn at all times. Eye protection must be worn when working with cement-based products. If cement, concrete or grout gets into the eyes, it must be dealt with immediately by flushing with clean water.	Low	Piling Foreman

CFA Risk Assessment and Method Statement (RAMS)

Trapping by concrete lorries.			Begin each day wearing clean clothing and finish each day with a shower. Daily inspection to be completed by operator and recorded of daily inspection log. The moving part of the pump must be adequately guarded to prevent contact with moving parts. Hopper grill to be secured when operating. Engine must be stopped before lifting grill. Ear protection must be worn at all times whilst operating pump. Couplings to be fitted to all joints with joints secured by R clips. Hoses and couplings, including whip checks, to be inspected daily. All concrete hoses connected to the mast and not stored at ground level must be fitted with whip checks. Rig 'drop hoses' to be fitted with sleeved hoses for additional protection. Use pipe protectors or bury concrete hoses where ever possible to prevent damage caused by vehicles constantly running over the hoses. Ensure daily that a clean/ tidy work area/ platform is maintained. Banksman to control all reversing vehicles associated with works		
<u>Moving Concrete Hose</u> Persons being struck by vehicles. Sprain or strain injuries. Contact with concrete/ cement		Medium	Use mechanical aids wherever possible to lift hoses. Share the load by team lifting when necessary. Adopt the correct posture when lifting. Use the correct hand tools when placing clips and pins. Operatives wear suitable gloves when handling equipment	Low	Piling Foreman
<u>Bursting Concrete Hose</u> Contact with concrete/ cement. Persons being struck by moving hose/ concrete. Damage to property.		High	Hoses to be inspected by Pump Operative daily at start of shift. Couplings to be fitted to all joints with joints secured by R clips. Hoses and couplings, including whip checks, to be inspected daily. All concrete hoses connected to the mast and not stored at ground level must be fitted with whip checks. Shrouding of mast hoses. Mast hoses to be replaced on 12-monthly basis Ensure that hoses don't get kinked, and use pipe protectors or dig out concrete hoses where ever possible to prevent damage caused by vehicles constantly running over the hoses. Individual hoses to have ID stamp to determine age Rig steels & swan neck to be examined during servicing for wear/thinning of walls	Low	Piling Foreman
<u>Clearing Concrete Lines and Auger</u> Contact with concrete/ cement. Persons being struck by moving hose/ concrete.		High	All blowing out operations are to be under direct control of a trained Foreman. One operative to remain at piling rig during procedure, Pump Operative to control compressor. Rig lines to be blown out away from the perimeter fencing at all times and blow out chamber used were practical. Operatives to monitor concrete lines as the concrete moves through the lines, when the ball passes the back of the piling rig air flow should be turned off and surplus air released through the exit valve. All persons not involved in this operation to be kept at a safe distance. Whip-checks to be used at all air hose joints including at both compressor and the blow out gun. Operator to check adaptors are clear of debris before fitting hose.	Low	Piling Foreman
<u>Blockages</u> Contact with concrete/ cement. Persons being struck by moving /whipping hose/ concrete.		High	Minimise potential for blockages by - Use of smaller size aggregates for first load of each day. - The length of hose between the pump and rig to be as short as possible. Remove any unnecessary hoses. Where the sponge ball will exit other than down the auger, a ball catcher or blowout chamber may be fitted to the free end of the hose run. Prevent the hose from 'whipping' by fixing a strop to the hose and secure it to the excavator. Holding the hose down with an excavator bucket is not effective and should not be used as the only means of restraint, although it can be used in addition to the strop. Before releasing a joint, pressure should be released where possible by back-pumping. You must not attempt to clear a blockage with compressed air.	Low	Piling Foreman
<u>Use of Air Compressor</u> Contact with high pressure air. Hose whip Movement of compressor on site	GP Personnel Other Contractors	High	Ensure the compressor is used in accordance with the manufacturer's instructions. Ensure the compressor has been regularly maintained. Compressor to be placed on firm, level ground. Hand brake is to be engaged and if necessary, wheel chocked. Operator to ensure valves are closed and hoses are connected before start up. Whip checks to be fitted to all connections in the airline. Air compressor to be switched off and stored air released before joints are disconnected. Air must only be turned off at valve. Ensure non-essential personnel are kept away from work area where ever possible.	Low	Piling Foreman Operator
Pressure Washer Direct water jet injuries Risk of being hit by ejected material Slips & trips from wet surfaces Risk of injury from kickback during startup	GP Personnel Other Contractors	High	Ensure the equipment is in good working order. Do not use faulty pressure washer. Use only hose and accessories rated for pressure higher than pressure washers p.s.i. If the engine does not start after two pulls, squeeze trigger of gun to relieve pump pressure. Waterproof gloves, eye protection and safety wellington/ boots to be worn at all times. Do not stand in front of the cleaning jet. Spray will always be directed away from self and others.	Low	Piling Foreman Operator

CFA Risk Assessment and Method Statement (RAMS)

			During operation, only touch the control surfaces. Grip gun/ wand to be held firmly with two hands. Operator must not hold onto the hose or fittings. When not in use, relieve pressure Good housekeeping is required at all times. Keep hose tidy and away from walkways		
--	--	--	---	--	--

ATTENDANT EXCAVATOR OPERATIONS

Work Activity & Hazard	Person At Risk	Initial Risk	Precautions/ Controls To Reduce Risk	Residual Risk	Who Provides The Precautions Controls
<u>Removal of Spoil from Pile Position by Excavator</u> Collision with operatives, plant or structures.	GP Personnel	High	When setting up on site, ensure consideration is given to storage of materials minimising the risk of crossing pedestrian routes.	Low	Principal Contractor
			A trained and competent Banksman must co-ordinate all excavator movements. No-one should be located within 1m of the excavator		Piling Foreman
			Excavator Operator must ensure 360° vision is available at all times.		Excavator Operator
<u>Lifting operations with Excavator</u> Mechanical failure, Injury or damage from machine / load movements Falling loads due to poor slinging, load characteristics or damaged loads Crushing between the machine, load & surrounding structures, Overloading of equipment, - lifting loads above the S.W.L	GP Personnel Other Contractors	High	All driver operators must be trained and competent. Daily pre-use checks by the driver Excavator to have current Thorough examinations/ testing in accordance with LOLER 1998. Excavator to be suitable for pick & carry duties with minimum 1T lift capacity. Fitted with a suitable lifting eye on the quick hitch or dipper arm to enable a shackle to be attached. Buckets must be capable of being removed for lifts. Accessories should be capable of hanging freely at all times	Low	Principal Contractor
			Lifting equipment must be attached to the dedicated lifting eye of the excavator. Do not wrap accessories around the bucket or dipper arm, or within the quick hitch Buckets must be removed for lifting All machine movements & lifts will be completed under the direction of a Rig Attendant or Slinger/signaller Make sure no one (pedestrians/ground workers etc) enters the danger zone while the machine is lifting / slewing; stand outside slew radius / route of load being lifted Controlled movements of the load to prevent pendulum effects; Loads will not be dragged or snatched. Where necessary, taglines to be used to stabilise loads being lifted Transport the load as low to the ground as possible and at walking pace to maintain stability. Particular attention on uneven ground and sloped Under no circumstances will the item of plant or any lifting accessory be overloaded. The operator will ensure he is aware of the safe working load before the lift commences. Safety devices must be fully functioning & not be disengaged. Do not stand between the body & tracks of the machine		Piling Foreman
<u>Use of Piling Rig/ Excavator to Insert Reinforcing Cage</u> Striking of operative during lift from horizontal to vertical. Cage falling from excavator. Underside of excavator bucket striking personnel when pushing cage in	GP Personnel Other Contractors	High	Area of lift to be kept clear. If it is required to hold the tail end of the reinforcement during lifting, mechanical means should be used. If this is not possible the area should be cleared off obstructions, the distance to lift is to be as short as possible and a constant line of sight is to be kept between operator and operative holding the tail end. The lifting operation must be controlled by the Banksman. Do not work beneath a raised bucket.	Low	Piling Foreman

STEEL FIXING

Work Activity & Hazard	Person At Risk	Initial Risk	Precautions/ Controls To Reduce Risk	Residual Risk	Who Provides The Precautions Controls
<u>Steel Fixing</u> Unsecured cages. Cuts from projecting wire. Slips, trips.	Steelfixer, GP employees, other contractors	Medium	Manual handling is to be kept to a minimum by the use of the attendant excavator. Heavy loads are to be split into loads that the operative is comfortable with lifting. Work area and access routes shall be cleared of obstructions and trip hazards. Collect excess tying wire. Stack reinforcement in approved laydown area. Reinforcement to be stored as such to avoid having to step over items. Eye protection steel toe capped boots to boots to be worn at all times. Gloves should offer adequate protection but maintain dexterity. Trestle tables to be suitably strong and placed on firm level ground. Tails on ties to be bent inward. Long tails must be cut. Ensure cages have enough ties, braces etc to allow safe slinging.	Low	Steelfixer
<u>Abrasive Cutting Tools</u> Fragmentation of the disc. Eye, face, hands and arm injuries. Contact with rotating wheel or disk Clothing/hair entanglement with moving parts, Fire risk from sparks Noise, Eye injuries & puncture wounds from wheel bursts, Hit by flying particles/debris, Exposure to Hand Arm Vibration (HAVs)	Operator, Others in close proximity	High	Ensure the equipment is in good working order, if electrical ensure current PAT tests are in date. Trained and competent person only to change cutting disc. Goggles to BS EN 166 B must be worn. Suitable gloves and ear protection to be worn. Equipment must not be used near combustible materials. If any fuel spillage on clothing, equipment must not be used. Equipment and disks/wheels will be inspected prior to use for damage. Ensure the face of the wheel is dressed evenly. Users will not use undue pressure. The operator will make sure that guards are fitted. Guards will not be removed except for maintenance purposes only. Ensure that all persons are kept away from areas where sparks or dust is directed. Remove all flammable substances from the immediate area.	Low	Operator

CFA Risk Assessment and Method Statement (RAMS)

			Minimise exposure to vibration by reducing the amount of time you use the tool in one go, by doing other jobs.. Keep hands warm & dry & avoiding gripping or forcing tools. Disc cutters will only be used when standing on a firm, level base. Make sure the material you are cutting will not move during the operation. Body positioning to prevent being struck by kick-back		
--	--	--	--	--	--

REFUELLING OF PLANT & MACHINERY

Work Activity & Hazard	Person At Risk	Initial Risk	Precautions/ Controls To Reduce Risk	Residual Risk	Who Provides The Precautions Controls
<u>Re-Fuelling</u> Bodily contact with fuel oil. Pollution of controlled waters.	GP Personnel Other Contractors Environment	Medium	Always store diesel bowser way from any wate course and surface water drainage systems. Ensure diesel bowzers are locked when not in use. Only store fuel in appropriate fuel cans. Ensure plant adequate drip trays and spill kits are located close by. Ensure plant nappies are used when ever filling up items of plant. All engines must be switched off when refuelling. Any spillage is to be reported immediately to the Foreman. A spill kit is to be used as and when required. Appropriate fire extinguishers must be located close by to any item of plant being refuelled. Always ensure the correct PPE is being worn as identified within the COSHH assessment.	Low	All

CFA Risk Assessment and Method Statement (RAMS)

ENVIRONMENTAL RISKS				
Work Activity & Hazard	Initial Risk	Precautions/ Controls To Reduce Risk	Residual Risk	Who Provides The Precautions Controls
<u>Mobilisation & Deliveries</u> Delays caused by blocking roads. Potential for noise and disruption to local community particularly during early deliveries to avoid peak traffic. Contamination of highways and surface drains if vehicles or plant being transported are not cleaned prior to leaving site.	Medium	Neighbour notifications and planning around busy times. Wheel wash provisions es and	Low	Principal Contractor
		Considerate driving and parking – large vehicles parked up clear of site and only brought in when vehicle can be accommodated on site. Use low emission fuels, ADBLUE		Contract Manager
		Cleaning down plant prior to transport if required.		Piling Foreman
<u>Piling Operations</u> Generation of large volumes of spoil. Likely for some of the spoil to be contaminated. Particularly on brownfield/ reclaimed land which may need to be treated as hazardous waste.	High	Correct disposal route; some spoil can be re-used provided any contaminant is separated. Ensure type of ground to be encountered on site has been ascertained. If contaminated set up safe regime to deal with.	Low	Principal Contractor
		Choice of work method to minimise spoil generation.		Contract Manager
<u>Concrete Pumping</u> May cause pollution of drains and watercourses, particularly when washing down wagons and pumps. Concrete blockages occur and concrete is ejected across site. Washing Out Ready-Mixed Concrete and Clearing Out Pump and Concrete Delivery Hoses at End of Shift. Use of water within concrete plant – wetting down mix & cleaning down drum and pump.	High	Install a protective bund to prevent wate/ slurry from entering watercourse	Low	Principal Contractor
		Reduction at design stage; accurate ordering; mix design and site set up to minimise blockages		Contract Manager
		Careful placing of concrete to avoid unnecessary spills. Positioning equipment away from watercourses; provision of wash out skips or other bunding away from watercourses and surface water drains. Maintenance of plant and equipment; protection of hoses from damage and containment of hose burst. Good water connections and hoses in good condition, switch off water supply when not being used. Sending excess concrete back to batching plant. Placing in designated area to allow the concrete to cure without polluting the ground or watercourses		Piling Foreman
<u>Mobile Plant Operations</u> Exhaust emissions; black smoke if plant is poorly maintained. Large volume of fuel during operation. Noise and vibration nuisance when working in urban areas.	Medium	Assess likely impact on local environment. If necessary, warn neighbours of extent of works.	Low	Principal Contractor
		Plant to be kept in good working order; service of plant. Reducing noise levels from all plant where possible; switching off plant when not in use; avoid long idle times; all plant to be fitted with efficient silencers if practical.		Contract Manager
		Restricted hours of operation to be observed.		Piling Foreman
<u>Storage and Use of Fuels and Oils</u> Pollution of water courses, drains and sewers through accidental spills, hose bursts and poor storage.	High	All lubricants to be stored within storage cabin when not in use, overnight and at weekends. Bunded Diesel bowser to be lockable. To be locked outside site hours and when not in use. (at least 10m away from watercourses) Spills to be cleared up promptly. Spill kits are available on site.	Low	Piling Foreman
<u>Poor Storage and Handling Waste</u> Waste being mixed or sent to incorrect landfill. Leaching into ground and entering drains and watercourses. Damage to plants/ animals, unsightly windblown rubbish.	Medium	Segregation of waste and recycling. Site waste management plans, use of licensed disposal routes. Provision of suitable waste containers.	Low	Principal Contractor
		Maintaining good housekeeping standards		Piling Foreman
<u>Handling of Materials, Over Ordering and Stock Control</u> Excess waste to landfill. Materials becoming damaged and unusable.	Medium	Order correct amounts of materials; avoid accepting incorrect deliveries; avoid double handling.	Low	Contract Manager Piling Foreman
		Re-use/ recycle materials, segregation of waste.		Piling Foreman



CFA Risk Assessment and Method Statement (RAMS)

COSHH ASSESSMENT

Tasks Covered: Installation of piles using concrete. Operatives will be exposed daily, and for long periods to cementitious materials. Various tasks related to the onsite inspection and basic maintenance of equipment. Includes refuelling, topping up fluids etc. Operatives will be exposed infrequently and for short periods.

Hazard	Who is harmed & how?	Initial Risk	Specific Control Measures	Emergency Procedures	Residual Risk
Batched concrete & admixtures Contains various chemicals including lime, calcium silicates and alkalis plus Soluble chromium (VI)	When dry, Respirable Crystalline Silica is a risk via inhalation. Inhalation can lead to developing acute rhinitis and localised irritation. Risk of chronic respiratory problems. Contact with skin and eyes can lead to irritation & burning due to the corrosive properties. Prolonged & repeated exposure may also lead to Irritant and allergic dermatitis developing Ingestion – the swallowing of small amounts of concrete products and admixture is unlikely to cause any significant reaction. Larger doses may result in irritation to the gastrointestinal tract, nausea, diarrhoea & vomiting	High	Standard Working Practices Keep exposed skin to a minimum to avoid contact – wear impervious gloves and protective clothing, including overalls with long sleeves and long trousers. Do not allow concrete to become trapped between the skin & clothing All concrete spills must be cleaned up	Standard First Aid measures. Prevent entry into drains and watercourses. Allow to dry before disposing of as hardcore	Low
Mould Release Oil	Not classed as a health hazard however contact with eyes may cause irritation & smarting. May cause discomfort if swallowed. Not considered to be an environmental hazard however contamination of watercourses or the land should be avoided	Medium	Standard Working Practices Keep exposed skin to a minimum to avoid contact – wear impervious gloves Store in well ventilated areas in suitable canisters away from naked lights and heat sources. Use funnels when decanting liquids Storage of containers on drip trays	Toxic fumes will evolve if involved in a fire Only attempt to fight fires if safe to do so. Evacuate if smoke is affecting your breathing, you cannot see the way out, or the fire continues to grow Turn leaking containers leak-side up to prevent further escape. Contain spillages using spill granules, sand or other inert absorbent. Protect drains.	Low
Pump Primer	Slight irritant properties towards the eyes, & may lead to redness & stinging. Swallowing of large amounts may result in localised burning	Medium	Standard Working Practices Keep exposed skin to a minimum to avoid contact – wear impervious gloves Use powder mixes in well ventilated areas	Standard First Aid measures	Low
Linemarkers Spray Paints	Can cause asphyxiation, irritating to the respiratory system, skin and eyes when used in areas with poor ventilation. Repeated & prolonged exposure to the propellant can result in the de-fatting of the skin.	Medium	Standard Working Practices Pressurised containers - Do not use or store near sources of ignition. Wear gloves to prevent paint coming into contact with skin. Ensure good ventilation. Do not inhale aerosol mist	Burning produces irritating, toxic and obnoxious fumes Only attempt to fight fires if safe to do so. Evacuate if smoke is affecting your breathing, you cannot see the way out, or the fire continues to grow	Low
Engine Oil	Fitters can suffer skin irritation from contact with engine oil. (long-term repeated) exposure to used oil may lead to the production of skin tumours. Hot oil may produce irritant fumes	Medium	- Standard Working Practices - Do not perform oil change on excessively hot oil - Do not breathe in oil mist from hot oil - No contaminated materials (oily rags) in pockets - Storage on drip trays / bunded areas	Turn leaking containers leak-side up to prevent further escape. Contain spillages using spill granules, sand or other inert absorbent. Protect drains. Once dry, sweep up and transfer to suitable, labelled containers for disposal.	Low
Hydraulic Oil	Not classified as hazardous however can become highly toxic if oil becomes injected into the body In common with most mineral oils, prolonged and repeated skin contact may cause dermatitis.	Medium	- Standard Working Practices - Prevention of injection injuries in accordance with hydraulic safety work instruction - Avoid generating & breathing in mists - No contaminated materials (oily rags) in pockets - Storage on drip trays / bunded areas	Seek immediate medical assistance if hydraulic oil is injected into the body Turn leaking containers leak-side up to prevent further escape. Contain spillages using spill granules, sand or other inert absorbent. Protect drains. Once dry, sweep up and transfer to suitable, labelled containers for disposal.	Low
Grease	Continuous & prolonged exposure to grease may cause skin irritation	Medium	Standard Working Practices	Standard First Aid measures.	Low
Petrol	Operator may be harmed if vapours are inhaled. May cause irritation to the respiratory system. Prolonged exposure to vapours may cause drowsiness and narcosis. May cause skin irritation and inflammation; prolonged or repeated contact may result in dermatitis. May also cause cancer.	Medium	- Standard Working Practices - Use in well ventilated areas - Keep chemicals away from heat sources, open flames & other sources of ignition.	Ingestion of petrol can lead to unconsciousness. If this occurs, place injured person in recovery position and protect airway. Seek immediate medical attention Turn leaking containers leak-side up to prevent further escape. Use foam extinguisher to smother spills to prevent ignition	Low
Diesel and exhaust fumes	Irritation of your eyes & respiratory tract; headaches and convulsions. Repeated contact with your skin can cause de-fatting & in some cases, dermatitis. Irritation of the mucous membranes, throat and stomach, nausea and vomiting. Liver and kidney damage is possible Continuous exposure to exhaust fumes can cause long term, or chronic, respiratory ill health including cancer. Carbon Monoxide poisoning	High	Turn off engines when not required; All re-fuelling to be carried out in well-ventilated areas away from sources of ignition. Store in well ventilated areas away from naked lights & heat sources. Store in bunded bowers or jerry cans. Do not allow to enter water supplies or soil.	Standard first aid measures Turn leaking containers leak-side up to prevent further escape. Contain spillages using spill granules, sand or other inert absorbent. Protect drains. Once dry, sweep up and transfer to suitable, labelled containers for disposal CO Poisoning – don't put yourself at risk – make sure the area is ventilated before you enter. get the casualty to fresh air before taking to casualty	Low

CFA Risk Assessment and Method Statement (RAMS)

GENERAL INFORMATION	
Standard Working Practices	Good housekeeping to be maintained in all work areas and welfare facilities; Use the welfare provided to dry clothes and change clothes regularly Change out of heavily soiled / contaminated clothing and wash hands & face before eating or drinking Regularly wash the skin with warm water and soap, and dry the skin afterwards. Refrain from touching face with soiled hands. Do not eat or smoke in areas where there is likely to be exposure; Cuts or wounds must be covered Apply work creams to exposed skin regularly Wear long-sleeved protective clothing; Wearing impervious vinyl or nitrile gloves when handling chemicals or contaminated equipment Eye protection must be worn at all times Always store in original containers that are correctly labelled. FOLLOW MANUFACTURERS INSTRUCTIONS
Instruction Information Training & Supervision	All operatives briefed on routes of entry, skin checks and health risks of working with hazardous substances Foremen completed 2-day SSSTS course which covers COSHH All staff briefed on correct fitting of respiratory protection as part of fit test programme Regular toolbox talks delivered on occupational health issues delivered by foreman fitter Copies of Safety Data Sheets kept on file. Instruction given that if a new product is being used, the COSHH assessment will need to be reviewed Regular manager visits carried out to ensure controls are being implemented Instruction given that if the product is being used in a manner different from the way specified, a separate risk assessment will be needed
Exposure limits	Cement has a Workplace Exposure Limits (WEL's) of 10mg/m³ total inhalable dust and 4mg/m³ respirable dust (8 hour TWA) Exposure limits are not exceeded during normal operating conditions & due to the quantities involved at any one time it is unlikely that the limits be exceeded in the event of an accidental release.
Health Surveillance	Health screening with occupational nurse covers dermatitis checks & spirometry. Induction training includes instruction to carry out self-checking
Thorough Exam & Test	Not required.
Emergency Provisions	Emergency First aid trained personnel present; Eye wash & first aid facilities shall be kept in an easily accessible place. Fire extinguishers (dry powder) maintained and readily accessible Spill granules and absorbent pads readily accessible. Use correct waste stream
Standard First Aid	In all cases should exposure be excessive or symptoms develop seek medical attention.
	Ingestion - wash mouth / nose out with water, and give patient plenty of water to drink. DO NOT induce vomiting. Seek medical attention
	Skin – Remove contaminated clothing as soon as possible and wash with soap and water. If irritation, pain or other skin conditions occur, seek medical advice
	Eyes – Do not rub eyes, remove any contact lenses. Hold the eyes open and wash with emergency eye wash solution (if available) or clean water for up to 15 minutes. Seek medical attention
	Inhalation - Remove casualty from exposure ensuring your own safety whilst doing so. If possible, remove any excess substances from the nasal passages. Keep casualty warm & at rest. Seek medical attention

MANUAL HANDLING – GENERAL MANUAL HANDLING ACTIVITIES DURING PILING WORKS					
Task involves the offloading and moving equipment and materials around site. Includes concrete hoses, sections of auger, reinforcement cages, bags of auger bungs, tools etc.					Duration of task – 4 to 8 hours
Load Considerations				Notes	Control Measures
Uneven distribution of weight	✓	Bulky / unwieldy	✓	Lacerations and crush injuries to hands, fingers, legs and feet whilst handling loads. Long cages can flex whilst being carried which can result in imbalance. Likely to encounter bulky loads without handholds, with uneven centre of gravity or loads difficult to grasp.	Process can be mechanised by use of excavator to lift concrete hoses, auger sections and reinforcing cages. Operatives to consider the task at hand and plan ahead regard to reducing carrying distances through positioning/ storage of materials adjacent to work area. Handling of light – medium weight loads will be subject to on-site assessment by Foreman and Operatives. Completion of manual handling training – use good lifting techniques and awareness of own limitations. Plan the lift to ensure the route is clear of all hazards. Ensure ground is scraped and kept firm and level. Make sure load can be handled effectively – check stability and centre of gravity before lifting, moving. Wear protective gloves at all times. Take into consideration the weather conditions (ice etc). Ensure task lighting is available and operational. Check for shadow areas for trip hazards. Health screening including musculoskeletal assessment.
Unstable / contents likely to shift	✓	Difficult to grasp?	✓		
Intrinsically harmful (sharp/hot)?	✓				
Task Considerations				Notes	
Holding load away from trunk		Strenuous pushing / pulling		Storage on site is generally ground level, or low head height of if the body twists. Significant stooping and twisting when carrying loads. Moderate/ high forces are exerted to move loads. Head/ neck is bent or twisted part of the time; back is bent or twisted part of the time; wrists are bent or deviated part of the time.	
Twisting	✓	Repetitive handling			
Stooping	✓	Carrying distances (10m+)	✓		
Reaching above head height		Lifting from floor level	✓		
Frequent/ prolonged physical effort		Large vertical movements			
Work organisation / pace		Force exerted	✓		
Poor coordination, communication and control?		Insufficient rest			
Individual Factors				Notes	
Unusual strength / height required		Risks to the pregnant?		PPE does not affect abilities.	
Risk to those with health problems/ disability	✓	Requires special information or training			
Movement affected by PPE					
Environmental Considerations				Notes	
Slippery ground?	✓	Strong air movements		Increased risk of slips/ trips during wet weather if ground conditions deteriorate. This will be affected by quality of principal contractor.	
Variations in levels? (steps/slopes)	✓	Poor lighting?	✓		
Extreme heat / cold?		Postural constraints			
Uneven ground?	✓	Dust and fumes			