



# MILLER

# PILING LTD

**Method Statement / Risk Assessment for Rotary  
Piling Works**

**At**

**79 Camden Road, Camden Town**

**For**

**Barratt Developments Plc**

**Additional Information:**

**Contract Number: 14191**

**Document Number: 14191-SHE-01**

**Revision: 01**

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CURRENT REVISION

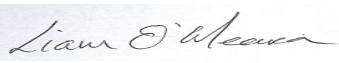
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Site location:	79 Camden Road, Camden Town
Company:	Miller Piling Ltd
Prepared by:	Liam O' Meara
Signature:	
Responsible manager:	Jonathan Wilson

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# INTRODUCTION

## **Miller Piling Safe Systems of Work**

The purpose of this document is to define a method of working for piling work to ensure a safe environment for all working personnel, members of the public, plant and property. It is designed to incorporate standard practices and procedures.

### **General**

All Miller Piling Ltd staff working on site will be site inducted by the Principal Contractor

The Principal Contractor will give toolbox talks to all operatives involved in the works concerning safety of the site.

### **Training**

All operatives will hold a Construction Skills Certification Scheme card (CSCS) or an appropriate level of training for the operation they are involved in

### **Lifting Equipment**

Competent personnel using approved techniques and the appropriate equipment will carry out all lifting. Please see Lifting Plan

### **Track Mounted Vehicles, Pressures and Working Platform Certificate**

The piles will be constructed using track mounted piling rigs as noted above. The calculation for bearing pressure and Working platform certificate (to be signed off by the Principal contractor or appointed Engineer) are shown in (Working Platform Certificates).

### **Protection of services, structures and public Highways.**

Protection of services, structures and public highways will be provided by the Principal Contractor. These will include but not be limited to:-

- Identification, excavation and or protection of all services (chartered or un-chartered) within the site access route and site area. These included but are not limited to electricity, water, telecoms, gas and sewerage.
- Protection / excavation and capping of all ducts, pipes, channels, culverts and sewers to prevent damage and or loss of concrete.
- Protection to adjacent buildings, pathways, highways from spoil, concrete slurry and bore spoil debris.
- Provision of service drawings (relevant to pile locations). Identification and maintenance of service locations and easements zones on site.
- The Principal Contractor will provide a permit to pile, confirming pile positions are clear of all site services. (chartered or un-chartered)
- Miller Piling Ltd will submit their own Permit to Dig for the Principal Contractor

*Note that if the piling works are within 15m of a live gas main, the principal Contractor should contact the gas supplier and seek guidance.*

### **Working at Heights**

All operatives working at height will use MEWP access plant. All operative required to operate MEWPS have IPAF training and relevant accreditation. A restrain harness will be worn at all time during the operation of said plant.

### **Temporary Lighting and Power**

General background and site safety lighting will be provided by the Principal Contractor with specific task lighting by Miller Piling Ltd. ( If required )

24Hr power will be provided by the Principal Contractor for concrete cube curing facilities.

### **Storage**

All materials will be stored in accordance with the manufactures instructions as detailed in the COSHH assessments held on site by the site supervisor.. No materials to be stored on site within 5.0m of Controlled Waters.

Upon completion of piling all materials will be removed from site as appropriate.

### **First Aid**

The Principal Contractor will provide first aid facilities as required.

Miller Piling Ltd personnel will be made aware of the identity and location of these facilities during the site induction.

### **Emergency Procedures, Hospital Plan and Contact Numbers**

The nearest accident and emergency hospital together with direction is to be provided to site operatives during the site induction by the Principal Contractor. (Indicated in Construction Phase Health & Safety Plan )

### **Personal Protective Equipment (mandatory)**

- Safety boots / protective helmets and high-visibility vests will be worn at all times are site.
- Hearing protection to be worn as necessary.
- Gloves to be worn at all times
- eye protection to be worn as required

### **Noise**

A survey has been undertaken to identify and establish noise levels emitted from the piling plant whilst operating at maximum output. The findings of the survey revealed that personnel are required to wear hearing protection within 10m of the working plant i.e.

- Piling Rigs and Service Crane
- Concrete Pump
- Concrete Holding Drum

### **Access and Egress**

Access on to site will be via the designated routes identified by the Principal Contractor. (In accordance with all local agencies i.e. Police, L.A. etc )

The track mounted piling rig will be delivered to site on a load loader. The maximum gross weight of the rigs in transit is between 50-80 Tonnes.



The Principal Contractor will provide clear and direct access into site for low loaders, wagons and cranes as required. Where the rig must be unloaded on the outside the site, the Principal Contractor shall provide any protection to paved surfaces and underground services, Miller Piling will provide “tracking boards”

The remaining plant and equipment will be delivered to site on 20/24ft or 40ft rigid flat bed vehicles.

Ancillary piling equipment will be unloaded using a 20/24ft Hiab flat bed vehicle and the attendant excavator provided by the Principal Contractor with suitably identified (SWL) on day of mobilisation.

*[NOTE the rig is designed to travel up and down a slope no steeper than 1m in 10m with the mast erected. Any ramps must not exceed this gradient.*

### **Working Area**

All machinery will be operated on a prepared and maintained, level working platform capable of safely supporting the piling rig. This will be a certified working platform which will be signed off by the Principal Contractor or their appointed Temporary Works designer, prior to commencement of the piling works. No piling operations will commence until this is in place.

Any services should be clearly marked, protected and or diverted by the Principal Contractor and will be covered by a permit to dig signed off by the Principal Contractor. No piling operations will commence until this is in place.

### **Welfare**

Miller Piling Ltd crew will make use of the shared welfare facilities and drying rooms provided by the Principal Contractor as agreed under the Contract.

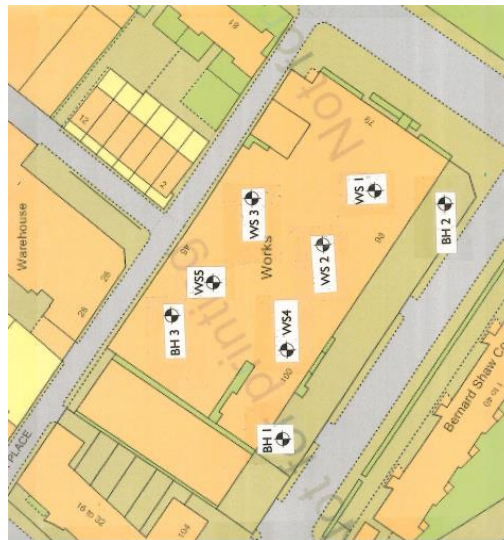
## **Test Pile Set-ups**

Where a test pile and anchors have been constructed, these must be sprayed in bright colours and barriered off to avoid damage to the dwyidag bars from site traffic and to prevent the bars causing damage or being a trip hazard.

## **Site Specifics**

### **Site Location**

The site is located within a mixed commercial residential and retail environment. As shown at in the picture below.

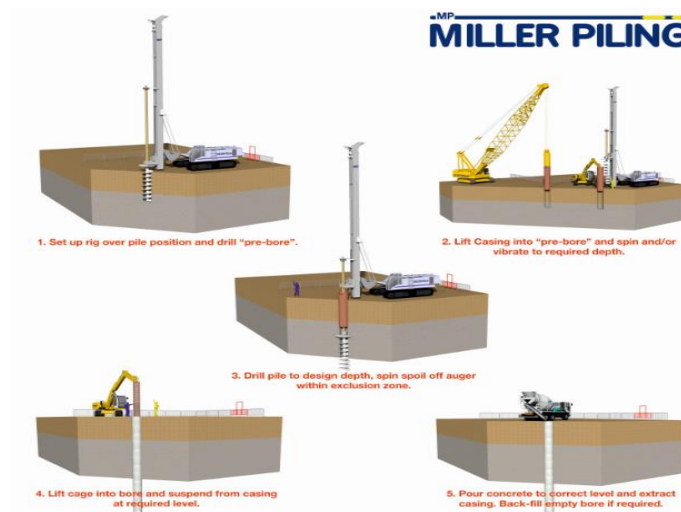


### **Proposed Project**

The proposed project on 79 Camden Road, Camden Town will be a multistorey block of up to eight storeys in height.

### **Rotary Piling**

The piling works proposed to work on 79 Camden Road, Camden Town is rotary piling and its operation is show the picture below:



## **Description of Works**

- Rotary Piling - 602 nr 450 mm dia Rotary Auger Bored bearing piles.
- 8nr 450 mm dia Rotary Auger bored Crane Base piles

## **Reasoning for Rotary**

Rotary bored piles have been proposed for the bearing piles due to the advantage of being able to pour concrete to just above cut off level, thus minimising the amount of pile that would need to be trimmed when digging the basement.

Rotary Piles create lower levels of noise & vibration than some other piling methods and are therefore considered preferable for sites within an urban environment, such as Camden Road.

If CFA piles were to be used, this would require the breaking down of approx. 3 to 4 metres of unrequired pile when the basement would be dug out. As well as cost implications, this would also be a relatively noisy operation either through the use of breakers and/or disc cutters.

# **SECTION 1**

## **METHOD STATEMENT**

## Method Statement/Safe System of Work Form SHE 4

To be completed when tasks involve multiple or complex activities that are not covered in their entirety by risk assessments and/or key procedures.

**Note:** it is absolutely essential to ensure that section L of this form SHE 4 is completed otherwise the form is invalid.

<b>DATE:</b>	08/01/15
<b>Site location:</b>	Camden - 79 Camden Road, Camden Town
<b>Company:</b>	Miller Piling
<b>Prepared by:</b>	Liam O' Meara
<b>Responsible manager:</b>	To be completed on Site

### A1: Brief description of work to be undertaken (e.g. Erection of formwork, fixing steel reinforcement)

Rotary Piling - 602 nr 450 mm dia Rotary Auger Bored bearing piles. 8nr 450 mm dia Rotary Auger bored Crane Base piles

Contacts	
<b><u>Piling Contractor</u></b>  <b>Miller Piling</b>  4 Elstree Way, Borehamwood, Hertfordshire, WD6 1RN  <b>Tel:</b> 0845 078 0321 <b>E-mail:</b> <a href="mailto:info@millerpiling.ltd.uk">info@millerpiling.ltd.uk</a>	<b><u>Principal Contractor</u></b>  <b>BDW Trading Limited</b>  Brentford (West London) Wallis House, Great West Road, Brentford, Middlesex, TW8 9BS  <b>Tel:</b> 020 8326 7100
<b><u>Consulting Engineer</u></b>  <b>Walsh Associates</b> Consulting & Structural Engineers  32 Lafone Street, London,  SE1 2LX  <b>Tel:</b> 020 7089 6800 <b>E-mail:</b> <a href="mailto:London@walshgroup.eu.com">London@walshgroup.eu.com</a>	<b><u>Site Location</u></b>  79 Camden Road, Camden, London  NW1 9EU
<b>Start date:</b>  To Be Completed on Site	<b>Duration:</b>  As per construction programme

## Method of work – Rotary Bored Piling

### Rigging up – Please see Task Sheet

Check that the piling mat is adequate to safely support the rig and all components and that the working platform certificate (WPC) has been completed and signed by the Principal Contractor (or their appointed representative). In the absence of a signed (WPC), 'rigging up' will not commence.

The area will be checked for stability and clearance from adjacent structure.

Obtain confirmation from the principal contractor that the area of works is free from obstructions or underground services prior to commencing works.



The rig will be erected by authorised personnel only, using the procedures detailed in the operator's manual.

### Concrete

Ready Mixed Concrete will be delivered to site in 6m<sup>3</sup> or 8m<sup>3</sup> trucks and discharged directly into the pile bore. The concrete delivery vehicles will reverse to the pile position (banksman in attendance at all times).



The concrete will be delivered as a 120mm slump mix (S3) for Rotary Bored Piling.

### Drilling of Rotary Bored Piles

The Rotary Rig will have exclusion zone barriers located around the piling rig. No unauthorised access into the zone while Miller Piling is operating. Signs erected around the piling rig with the following **Do Not Enter Piling in Progress**. Anyone who enters piling area without authorization will be immediately asked to leave.

A pair of reference markers at 1.0m from pile pin; approximately 90 degrees apart are established.

Rig operator sets up over pile pin position, directed by the Banksman. The auger position relative to reference markers is checked by Banksman.

Banksman stands clear and signals the rig driver to lower the tip of the auger to ground level. Banksman signals the rig driver that he can commence drilling

Once the pile bore is suitably formed a temporary liner is placed into bore and position checked. The liner is used to stabilise the bore through unstable material and to prevent ingress of water.



Drilling continues in conjunction with advancement of liner through non-freestanding soil and toed 0.5m into clay. Liner left projecting 0.75m to prevent loose spoil entering pile bore and as a safety measure.

Casing may be driven and withdrawn by the assistance of a Casing Vibrator or inserted by "mudding in" with the rig.



Rig operator augers to depth as specified in the Pile Schedule. The top of the liner is used as a reference for the depth of bore. When design depth is reached, the depth will be measured.

Rig operator directed by the banksman moves the piling rig onto the next pile position.

The piling rig withdraws auger from the bored hole and backspins (Reversing the auger to allow the spoil to fall off) the auger. The auger is close to the ground to minimize the spoil fall. Attendant machine directed by the banksman clears spoil.

Attendant machine directed by the banksman clears spoil.

### **Construction of Rotary Bored Piles**

*Reinforcement cage lifted into place by attendant excavator with a short drop chain secured to lifting point on dipping arm or bucket.*

*Banksman checks position of cage in pile, centering where necessary. If pile cut-off is low cage may be hung on edge of casing using hanging chains as illustrated below*



*Concrete is placed within the pile at the agreed tolerance above cut-off level. The casing is then removed and empty bore backfilled back to pile mat level. The normal piling cut off tolerance is given by the following formula  $[T=300\text{mm} + (H/12) + (C/8)]$ , where  $H$  is the depth to cut-off and  $C$  is the length of length of temporary casing.*

*Any empty bore is backfilled with suitable material to maintain support to the piling platform.*

*Daily pile record sheets to be handed to site manager for signature. One copy is retained by site*

manager; one copy is returned to Miller Piling office; one copy is retained by foreman.

**Obstructions**

*Should an obstruction be encountered that cannot be easily bored through, drilling should stop and the situation reported to the Principal Contractor and instructions sought.*

*The Principal Contractors will normally instruct one of the following options:*

*1. Abandon the pile position for the obstruction to be dug out*

***Cautions:*** *Where the Platform is dug out to remove obstructions, the area must be backfilled with suitable material and compacted. The piling platform is to be properly reconstructed and the platform certificate reissued to cover this area.*

**OR**

*Attempt to bore through the obstruction*

***C: Key health and safety procedures required (see SHE2 for guidance)***

HSP 3 Work at height  
HSP 4 Selection of safe work equipment  
HSP 6 Traffic management  
HSP 7 Controlling mobile plant on site  
HSP 9 Noise & Vibration  
HSP 11 Permits to work  
HSP 12 Use of harnesses and inertia reels  
HSP 14 Statutory inspections of plant and equipment  
HSP 15 Accident and reporting investigation  
HSP 16 Management of change  
HSP 17 Oil & pollution control  
HSP 19 Plant and equipment maintenance and inspection

Safe system of work form SHE 4 (cont'd)

**D: Relevant risk assessment guidelines** (see section 3 of the manual for list of risk assessment guidelines)

**Note:** Each relevant guideline to be in place and associated toolbox talk completed and signed

RAG MP02 – Rotary Rig  
 RAG MP03 – Site Set Up  
 RAG MP04 – Avoiding Danger from Underground Services  
 RAG MP05 – Unloading, Erection, Derig, & Load Away Rigs & Cages  
 RAG MP06 – Piling on Soft/Sloping Ground  
 RAG MP07 – Concrete Pump & Hoses  
 RAG 003 Fire prevention  
 RAG 008 Manual handling of plant and equipment  
 RAG 010 Handling of liquids  
 RAG 015 Working at Height Edge protection  
 RAG 017 Using mobile elevated work platforms (MEWPS)  
 RAG 018 Loading and unloading lorries and trailers  
 RAG 022 Driving and operating mobile plant and equipment  
 RAG 023 Portable power tools  
 RAG 026 Noise  
 RAG 032 Using portable petrol driven plant  
 RAG 034 Avoidance of contact with overhead electric power lines  
 RAG 035 Avoiding danger from underground services  
 RAG 039 Pedestrian access and egress  
 RAG 040 Vehicle access and egress to sites  
 RAG 041 Task Lighting  
 RAG 042 Working in adverse weather conditions  
 RAG 050 Mechanical lifting and handling




**E: Plant & equipment**

1 No. Rotary Hydraulic Piling Rig - Diesel/Hydraulic  
 1No. Compressor (CFA Piling) - Diesel/Hydraulic  
 1No. Concrete pump (CFA Piling) - Diesel/Pneumatic  
 1No. Agitator  
 1No. MEWP ("Cherry Picker") - Diesel/Hydraulic

**F: Resources, certified skills & competencies**

Site Supervisor  
 Piling Rig Driver – CPCS <> 15 Tonne  
 Slinger/Signaller – CPCS –Slinger/Signaller  
 MEWP Operator – IPAF

**G: Details of work permits or authorisations required** (tick which permits or other forms are required for the work activity)







Permit to work (general)		Permit to work (excavate)		Permit to work (hot work)		Permit to work (confined spaces)	
Permit to work (electrical)		Permit to work (working platform certificate)		Permit to work (mobile crane authorisation)		Permit to work (other)	
<p><b><i>If Other, please describe:</i></b></p>							

Safe system of work form SHE 4 (cont'd)

**H: Specialist skills and/or safety equipment required**

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**I: Personal protective equipment required**

Description of PPE	Required Yes/No?	Type of PPE (In accordance with PPE regulation or international standards)
Head protection <ul style="list-style-type: none"> <li>Filtering face-piece</li> <li>Half face mask</li> <li>Welder Mask</li> </ul>		EN 397 EN 812
Foot protection		EN 345 or EN ISO 20345
High visibility clothing, overalls etc.		EN 471
Hand protection		EN 420
Eye protection		EN 166
Hearing protection <ul style="list-style-type: none"> <li>Earmuff</li> <li>Earplugs</li> <li>Helmet earmuff</li> </ul>		EN 352 – 1 EN 352 – 2 EN 352 - 3
Respiratory protection <ul style="list-style-type: none"> <li>Filtering face-piece</li> <li>Half face mask</li> <li>Full face mask</li> <li>Other</li> </ul>	N/A	EN 149 FFP3 EN 140 EN 136
Fall arrest protection <ul style="list-style-type: none"> <li>Full body harness</li> <li>Fall arrest system</li> <li>Fall restraint system</li> </ul>		EN361 EN362 EN353

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**J: Are other contractors involved in the activity?** (If so state name, address and key contact details)

*Principle Contractor as specified on page 1.*

Safe system of work form SHE 4 (cont'd)

**K: Details of contacts, site management etc., or special emergency arrangements**

Title:	Name	Number	Email
MP Contracts Manager	Jonathan Wilson	07789901944	<a href="mailto:Jonathan.wilson@millerpiling.ltd.uk">Jonathan.wilson@millerpiling.ltd.uk</a>
MP Health & Safety Advisor	Liam O' Meara	07799694960	Liam.omeara@millerpiling.ltd.uk

**L: Details of those persons involved in the work and confirmation that relevant information/instruction (including safety controls) have been satisfactorily communicated**

Name	Position	Signature to confirm understanding
To be Completed on Site	To be Completed on Site	To be Completed on Site

**M: Name of person responsible for implementation of safe system of work**

Name (please print):	
Position:	Contact no:
Signature:	Date:

# **SECTION 2**

## **ROTARY PILING**

## RAG003 – risk assessment guidance and toolbox talk

**Assessment for:** –*Rotary*

**Location:** 79 Camden Road, Camden Town

**Date of assessment:** 08/01/14

**Responsible manager:** To Be Completed on Site

**Next review date:** Any Significant Changes

**Assessment conducted by:** To Be Completed on Site

**Signature:** To Be Completed on Site

**D: Relevant risk assessment guidelines** (see section 3 of the manual for list of risk assessment guidelines)

**Note: Each relevant guideline to be in place and associated toolbox talk completed and signed**

RAGMP02 – Rotary Rig  
 RAG MP03 – Site Set Up  
 RAG MP04 – Avoiding Danger from Underground Services  
 RAG MP05 – Unloading, Erection, Derig, & Load Away Rigs & Cages  
 RAG MP06 – Piling on Soft/Sloping Ground  
 RAG 003 Fire prevention  
 RAG 008 Manual handling of plant and equipment  
 RAG 010 Handling of liquids  
 RAG 015 Working at Height Edge protection  
 RAG 017 Using mobile elevated work platforms (MEWPS)  
 RAG 018 Loading and unloading lorries and trailers  
 RAG 022 Driving and operating mobile plant and equipment  
 RAG 023 Portable power tools  
 RAG 026 Noise  
 RAG 032 Using portable petrol driven plant  
 RAG 034 Avoidance of contact with overhead electric power lines  
 RAG 035 Avoiding danger from underground services  
 RAG 036 Use of pressure washing equipment  
 RAG 039 Pedestrian access and egress  
 RAG 040 Vehicle access and egress to sites  
 RAG 041 Task Lighting  
 RAG 042 Working in adverse weather conditions  
 RAG 050 Mechanical lifting and handling

## RAG MP01 – Risk Assessment Guidance and Toolbox Talk

**Assessment for:** *Rotary*

**Introduction:** Ensure the rig is set up in a safe manner

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

<b>ACTIVITY OR OPERATION</b>	<b>HAZARD AND HAZARDOUS EVENT</b>	<b>AT RISK</b>	<b>CONTROLS</b>
Pre-Construction	Mis- communication	All relevant parties	<ul style="list-style-type: none"> <li>Miller Pilings responsible managers will be provided with the relevant pre-construction information for the project.</li> </ul>
Access/Egress	Contact with operatives	Operatives Driver Public	<ul style="list-style-type: none"> <li>Establish the safest route for the piling rig to access the site.</li> <li>Ensure the access to the site is to the specified width of the piling rig.</li> <li>Ensure the site access is unobstructed for clear access for the piling rig.</li> <li>Establish the best method for the plant to exit the site, limit the amount of movement the hiab has to make.</li> </ul>
Setting Up the Rig	Contact with operative s	Miller Piling Operatives Other Operatives	<ul style="list-style-type: none"> <li>Establish an exclusion zone around the rig and plant while it is being set up.</li> <li>Place signs and around the exclusion zone area while rig is being set up.</li> <li>Ensure the rig is being erected by a trained and competent person.</li> </ul>
Working area	Rig Turning over	Operatives Public	<ul style="list-style-type: none"> <li>Ensure the Working Platform is in signed off and in place.</li> <li>Ensure the platform is to the specified working platform certificate</li> <li>Ensure the area is clear for the rig to operate.</li> <li>Ensure that all known services are identified and the permit to dig has been signed off before any work commences.</li> </ul>
Plant Setup	Operatives coming in contact with plant	Operatives	<ul style="list-style-type: none"> <li>Crane to lift casings into place.</li> <li>Ensure crane is to be the specified lifting requirements.</li> <li>Concrete delivery wagon to have clear access into exclusion zone.</li> </ul>
Exclusion Zones	Operatives coming in contact with plant	Operatives	<ul style="list-style-type: none"> <li>Establish exclusion zones around the plant.</li> <li>Erect sign stating only authorized access into to rigging area.</li> <li>Separate Access/Egress form the exclusion zone for both plant and personnel.</li> <li>Banks man to be in control of rig.</li> <li>Banks man control of both site personnel coming into exclusion zone.</li> </ul>
Piling Operations	Spoil Falling from Augers		<ul style="list-style-type: none"> <li>Operatives not to enter danger zone associated with the auger</li> <li>Auger to be cleaned of spoil above head height, by mechanical means</li> </ul>

Lifting Operations	Materials Falling	Operatives	<ul style="list-style-type: none"> <li>• Auger to be stationary before operatives enter danger done</li> <li>• Auger to be guarded with rubber mat</li> <li>• When working to adjacent boundary –adequate means of protection from falling debris – PC</li> <li>• Lifting procedure for both cages/casings in place.</li> <li>• Signs located near cages showing lifting procedure</li> <li>• Plan locations of both plant and materials before site set up.</li> <li>• Establish delivery and set down area for plant and materials.</li> <li>• Planned location of cages/casings in relation to pile locations.</li> <li>• Banks man to supervise lifting operation.</li> </ul>
Piling Operations	Migrating contamination into deeper geological formations and aquifers	Local Environments	<ul style="list-style-type: none"> <li>• The approved piling method does not increase the risk of near-surface pollutants migrating into deeper geological formations and aquifers. This works in accordance with <u><i>Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention</i></u></li> <li>• The pile is formed of high strength concrete.</li> <li>• The concrete is placed typically with an hour of the bore being completed, depending on the supply of ready-mixed concrete.</li> <li>• Placed concrete will achieve an initial set within 2-3 hours, increasing in strength over the succeeding 28 days.</li> </ul>

## **B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts**

Ensure Working Platform Certificate is signed off
Track the Piling Rig to an area of the piling mat before it is erected
Establish Exclusion Zones around the Piling Area
Establish the appropriate signs around the Piling area
Only authorised personnel to enter exclusion zone

## RAG MP03 – Risk Assessment Guidance and Toolbox Talk

**Assessment for:** *Site Set Up*

**Introduction:** Ensuring the site is set up for both the operatives and plant to work safely on.

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Plant Deliveries	Access/Egress from Site. Injury to operatives.	Operatives Plant Drivers	<ul style="list-style-type: none"> <li>Ensure the delivery driver is given the correct information for deliveries to site.</li> <li>Ensure enough space is provided for the plant to access the site.</li> <li>Ensure a competent banks-man is provided to instruct the driver safely onto site.</li> </ul>
Working Area	Rig Turning Over	Site Personnel Rig Driver Public	<ul style="list-style-type: none"> <li>Ensure the Working Platform is in signed off and in place.</li> <li>Ensure the platform is to the specified working platform certificate</li> <li>Ensure the area is clear for the rig to operate.</li> </ul>
	Operatives coming in contact with moving plant.	Site Personnel	<ul style="list-style-type: none"> <li>Establish exclusion zones around the plant.</li> <li>Erect sign stating only authorized access into the rigging area.</li> <li>Separate Access/Egress from the exclusion zone for both plant and personnel.</li> <li>Banks man to be in control of rig.</li> <li>Banks man control of both site personnel coming into exclusion zone.</li> </ul>
	Lifting Operations	Site Personnel	<ul style="list-style-type: none"> <li>Lifting procedure for both cages/casings in place.</li> <li>Signs located near cages showing lifting procedure</li> <li>Plan locations of both plant and materials before site set up.</li> <li>Establish delivery and set down area for plant and materials.</li> <li>Planned location of cages/casings in relation to pile locations.</li> <li>Banks man to supervise lifting operation.</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Ensure the exclusion zones are established around the plant.
Ensure the risk assessment procedures are followed
Erect Signs for Exclusions Zones, Restricted Access, Best Practice Guidelines for CFA, Lifting Cages and Planning Board for the scope of works.
Use only the designated pathways for pedestrians, only access exclusion zones from pedestrian access.
Follow the procedure for lifting the cages/casings - See Lifting Sigs and Lifting Plan

## RAG MP04 Risk assessment and toolbox talk

**Assessment for:** *Avoiding danger from underground services*

**Introduction:** Buried services are widespread and it should be assumed they are present unless it has been shown otherwise

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

<b>ACTIVITY OR OPERATION</b>	<b>HAZARD AND HAZARDOUS EVENT</b>	<b>AT RISK</b>	<b>CONTROLS</b> Miller Piling Site Manager to Ensure Principal Cont these are in Place
Excavating/Piling near underground cables and pipe work (services)	Electricity cables Gas pipelines  Fatal or severe injuries, burns, to hands, face and body  Fire  Explosion	Site operatives  Members of the public.	<ul style="list-style-type: none"> <li>▪ Ensure that the work is planned and appropriate for the site conditions &amp; constraints/proximity of underground services.</li> <li>▪ Ensure drawings have been provided of the underground services in the area being excavated.</li> <li>▪ Ensure Site Services have been marked out on site, highlighting the services.</li> <li>▪ Ensure signs are in place highlighting services</li> <li>▪ Provide training for personnel on avoidance of underground services.</li> <li>▪ Ensure there is no smoking, naked flames and other sources of ignition within any gas leak.</li> <li>▪ Miller Piling Engineers to use free standing pins when off-setting on section identified by the principal contractor.</li> <li>▪ Advise Machine drivers of cables/services as identified by the principal contractor</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Striking electrical cables can cause flash burns and electrocution. Rupturing gas lines can cause explosions and fires. The depth of services can never be assumed.
Underground services can be found in footpaths, roads and on sites. Always assume they are live. Accidents sometimes happen because one service is assumed to be another e.g. a blue plastic pipe may be carrying electrical cables and not water.
Connections to buildings may not be shown. Look for signs of connections e.g. gas meters or service connection entries into buildings.
Use cable locating equipment to trace electricity cables and metal pipes. Make sure that it is in date before you use it.
Always mark the position of services using a waterproof marker on the ground.
Wherever possible hand dig near buried services, spades and shovels are safer than picks. Watch out for signs of services as work continues.
Do not use powered hand tools within 500mm of services. Do not use a mechanical excavator within 500mm of the marked position of an electricity cable
Back fill around services with fine material. Do not use brick, flints or concrete etc.
If you suspect a gas leak evacuate from the immediate area and call the gas provider immediately
No smoking, naked flames and other sources of ignition near any leak.

## RAG MP05 – risk assessment guidance and toolbox talk

**Assessment for:** Unloading, erection, de-rigging and loading of Piling Rigs and cranes

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

<b>ACTIVITY OR OPERATION</b>	<b>HAZARD AND HAZARDOUS EVENT</b>	<b>AT RISK</b>	<b>CONTROLS</b>
Planning site set-up	Injury to persons, damage to property	Site Operatives, Public	<ul style="list-style-type: none"> <li>Ensure the site access is adequate for the low-loader to enter the site.</li> <li>Where this is not possible, plan to unload the rig outside the site and track in into the site</li> <li>Obtain necessary permissions for this activity.</li> <li>Arrange sufficient personnel to carry out this operation.</li> </ul>
Delivery of rig/crane	Injury to persons, damage to property	Site Operatives, Public	<ul style="list-style-type: none"> <li>Ensure the piling platform is in place before the rig is delivered.</li> <li>Ensure competent persons are scheduled to erect operate and dismantle the rig/crane</li> </ul>
Erecting and dismantling of the piling rig/crane	Injury to persons, damage to property	Site Operatives, Public	<ul style="list-style-type: none"> <li>Ensure a method statement is available for the rig erection</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Check the piling platform certificate is in place before the rig is unloaded
If unloading outside the site, ensure you have sufficient traffic marshals in place
Use tracking boards when tracking over the road.
Rig and derig the equipment according to the task sheet

## RAG MP06 – risk assessment guidance and toolbox talk

Assessment for: *Piling on Sloping or Soft Ground*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
General Piling Operations	Rig becoming unstable	Piling operatives	<ul style="list-style-type: none"> <li>• A suitable access route and piling mat to be constructed and capable of supporting the intended load</li> <li>• Rig to travel with mast down</li> <li>• The piling mat to be maintained throughout the working period</li> <li>• The rig to remain on the piling mat until a piling mat has been constructed for it to operate.</li> </ul>
Working on sloping ground	Rig becoming unstable and turning over	Piling Operatives	<ul style="list-style-type: none"> <li>• Assess the gradient against the machines manufacturers data</li> <li>• Ensure the gradient is suitable for travelling down</li> <li>• Travel with the piling rig downhill with the mast down</li> <li>• Counterweight down hill</li> <li>• Slew lock engaged</li> <li>• Only raise mast on level ground</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Operate Piling Rig in accordance with Manufacturer's Instructions
Do not operate Piling Rig on a platform which has not been maintained
Ensure before moving the piling that the working platform has been maintained
Ensure Working Platform Certificate is in place before operating piling rig
Ensure when traveling downhill the mast is down

## RAG007 – risk assessment guidance and toolbox talk

Assessment for: **Concrete Pump & Concrete Hose**

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
General Operating of the Concrete Pump	Failure of pressure system	Site Operatives	<ul style="list-style-type: none"> <li>• Ensure all suspended concrete hoses have safety chains fitted.</li> <li>• Ensure that compressors are in good condition.</li> <li>• Ensure that pressure gauges etc. are working correctly.</li> <li>• Ensure Compressors and hoses are inspected and certified</li> <li>• Ensure Concrete pump and hoses are inspected on a weekly basis.</li> <li>• Attach whip chains to large hose couplers.</li> <li>• Use blowout ball catcher or blowout box.</li> <li>• Blow out into pilot hole made by auger</li> <li>• Ensure operatives are in a safe position.</li> <li>• Ensure that the blow out gun is properly maintained.</li> <li>• Follow the concrete pump/line cleaning procedure.</li> <li>• Clean out into the “wash out pit”.</li> <li>• Cause Operatives involved to wear the necessary PPE. (glasses or face shield).</li> <li>• Follow the company maintenance procedure is completed on a scheduled basis.</li> <li>• Ensure concrete hose are adequately and are protected if they need to be tracked over.</li> <li>• Maintain exclusion zone around concrete pump and agitator.</li> </ul>
	Burst Pipes		
Use of Compressed air to Blow out Pipe Work	Sudden pressure release at end of blow out system		

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Ensure Maintenance of both the concrete hose and concrete pump are maintained
Ensure maintenance records are maintained
Ensure the correct PPE is worn on site
Ensure operatives are within their designated area and are not
Follow the procedures for cleaning/blowing out the concrete hose and agitator.

## RAG008 – risk assessment guidance and toolbox talk

Assessment for: *Hose s*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
General Operating of the Concrete Pump	Failure of pressure system	Site Operatives	<ul style="list-style-type: none"> <li>Cleaning to be carried out by experienced personnel only</li> <li>Exclusion zone to be formed around concrete pump area using fencing/barriers</li> <li>All couplings are to be checked to ensure safety pins are installed</li> <li>Shut-off valve to be installed at end of pipe line</li> <li>On completion of concrete pumping the pump is shut off and the valve closed</li> <li>Line to be disconnected on pump side of shut-off valve</li> <li>Foam ball is inserted</li> <li>Pipe is closed using blow-out adaptor</li> <li>Ensure all flexible hoses at discharge end are removed</li> <li>Compressor is connected via hose with whipcheck</li> <li>Discharge area is to be formed with a concrete skip or similar lined with polythene and a ply cover strapped down</li> <li>Install ball catcher on discharge end of pipe</li> <li>Ensure exclusion zone is in place</li> <li>Use compressed air at maximum 7 bar to move ball along full length of pipe</li> <li>On ejection of the ball, use release valves on compressor to depressurise the system before disconnecting couplings</li> <li>A second pass can then be made using water on the discharge side of the ball using the above method.</li> </ul>
	Burst Pipes		
Use of Compressed air to Blow out Pipe Work	Sudden pressure release at end of blow out system		

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Ensure Maintenance of both the concrete hose and concrete pump are maintained
Ensure maintenance records are maintained
Ensure the correct PPE is worn on site
Ensure operatives are within their designated area and are not
Follow the procedures for cleaning/blowing out the concrete hose and agitator.

## RAG003 – risk assessment guidance and toolbox talk

Assessment for: *Fire Prevention*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Hot work operations where building, materials or plant is flammable or contains flammable substances.	Fire resulting in injuries or fatalities and damage to property.	Operatives, visitors or contractors	<ul style="list-style-type: none"> <li>Consider, is there a safer method other than hot work (e.g. cold cutting).</li> <li>Issue a hot works permit (See HSP 11).</li> <li>Ensure area is clear of items that may burn.</li> <li>Ensure adequate first aid firefighting equipment is available.</li> <li>Ensure area where hot work is being undertaken is checked and monitored for fire; this may involve inspection after 1 hour.</li> <li>When issued, display or have the hot work permit available.</li> <li>Ensure combustible materials have been identified and adequate control measures are implemented to prevent a fire starting.</li> <li>Show principal contractor has provided operatives/contractors where the main escape routes out of the site are and the fire assembly points.</li> <li>Ensure Dry Powder Fire Extinguishers are available on site.</li> <li>Ensure Fire Extinguishers are serviced within the last 12 months.</li> <li>Ensure they are available in suitable positions</li> <li>Ensure operatives are made aware of their position.</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Remove flammable fixtures and fittings or protect with flame proof sheets (consider where necessary isolation of gas lines and cables).

Keep quantities of fuel and materials, required for the task to a minimum.

Do not leave hot work tools unattended when lit.

Place hot work tools on a non-combustible surface or in a container until cool.

Keep a fire extinguisher readily available while undertaking hot work.

Always keep a fire watch for at least 1 hour when work is finished.

Never cut into tanks / containers that have held flammable substances.

Never carry out hot work in a flammable gas risk area or a confined space unless you have the necessary permits.

Do not apply heat to any pressurised container, pipe work or vehicle wheel.

Ensure you have adequate PPE for the task, including safety goggles, fireproof apron etc.

## RAG008 – risk assessment guidance and toolbox talk

Assessment for: *Manual handling of plant and equipment*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Loading, unloading or transfer of plant and equipment.	<p>Dropping of load</p> <p>Slips trips and falls.</p> <p>Impact or crush injuries.</p> <p>Musculoskeletal injuries</p>	<p>Employees operation.</p> <p>Others who may be in the vicinity.</p>	<ul style="list-style-type: none"> <li>• Ensure practicable the use of mechanical means to tow, lift or manoeuvre heavy plant or equipment.</li> <li>• Ensure the adequate isolation of the plant or equipment from any sources of energy.</li> <li>• Ensure means to control the load to prevent overturning.</li> <li>• Ensure the provisions of, and enforce the use of, mechanical lifting aids such as trolleys, barrows, hoists, winches and lifts.</li> <li>• Provide pinch bars, pry bars, chocks and blocks to gain a mechanical advantage when moving the load.</li> <li>• Ensure the maintenance of clear, clean, well-lit walkways. Provide walk boards or matting on soft or slippery surfaces.</li> <li>• Ensure the provision of appropriate PPE, this may include safety footwear and gloves Ensure additional supervision, training and instruction is given to work experience pupils and young persons (including non-employees)..</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Inform your supervisor if you have a medical condition that may limit your ability to perform the required task to your manager.
Wear safety footwear and the required site PPE
Wear close fitting gloves to prevent cuts and abrasions and protect skin from hazardous substances such as cement.
Employ two persons or a team lifting technique for large moveable loads or where a single person lift cannot be performed safely.
Plan the method of handling and ensure route is clear prior to beginning the task.
Use mechanical aids where provided. Ask for help if required.

## RAG010 – risk assessment guidance and toolbox talk

**Assessment for:** *Handling of liquids*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

<b>ACTIVITY OR OPERATION</b>	<b>HAZARD AND HAZARDOUS EVENT</b>	<b>AT RISK</b>	<b>CONTROLS</b>
Loading, unloading or transfer of containers of liquid.	Partially filled containers are likely to shift. Awkward handling of the load. Dropping of load. Obstructed vision or uneven terrain. Musculoskeletal injuries. Splashes or spillage of harmful chemicals.	Employees conducting manual handling operation. Employees and others who may be in the vicinity of the work area.	<ul style="list-style-type: none"> <li>• Ensure, transfer by piping the liquid to the point of use from bulk containers that can be replaced or refilled mechanically.</li> <li>• Where practical purchase containers weighing 25kg or less.</li> <li>• Store items as close as possible to next location to minimise carrying distances.</li> <li>• Provide and enforce the use of mechanical lifting aids such as trolleys, barrows, hoists and lifts.</li> <li>• Ensure that hazardous substances are assessed for other properties.</li> <li>• Ensure the route the load is to be transported is free from trip hazards.</li> <li>• Ensure the provision of and reinforce the wearing of the appropriate PPE.</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Highlight any pre-existing limiting medical condition that may limit your ability to perform the required task to your manager.
Wear safety footwear.
Wear eye protection, gloves and overalls when handling containers of hazardous substances.
Do not use lifting equipment that is uncertified or has not been inspected.
Do not use lifting equipment you are not trained to use.
Employ two persons or a team lifting technique for large containers or where a single person lift cannot be performed safely.
Plan the method of handling and ensure route is clear prior to beginning the task.
Use mechanical aids where provided. Ask for help if required.
Ensure an emergency spill kit is located on site.

## RAG015 – risk assessment guidance and toolbox talk

**Assessment for:** *Working at height – Edge protection*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Working near edges	<p>Workers slipping at edge and injuring them selves</p> <p>Falling objects from elevated platforms</p>	<p>Workers at height</p> <p>Workers below elevated working platforms</p>	<p>Ensure only trained personnel who are provided with correct fall protection PPE erect edge protection.</p> <p>Ensure edge protection has correct dimensions, strength and rigidity.</p> <p>Ensure that edge protection is secured so that they do not become accidentally displaced.</p> <p>Ensure adequate edge protection of all elevated platforms.</p> <p>Ensure the top guard rail at least 950 mm above the edge it is fitted.</p> <p>Ensure a sufficient toe board to prevent the fall of materials or objects is fitted to all elevated platforms.</p> <p>Ensure an intermediate guard rail or other barrier is fitted, leaving no gap of more than 470 mm.</p>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Only install edge protection if you have received training or in addition
Never work on an elevated platform or edge without suitable edge protection.
Never interfere with any edge protection
Report defective or missing edge protection to a manager.

## RAG017 – risk assessment guidance and toolbox talk

**Assessment for: *Using mobile elevated work platforms (MEWPs)***

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Delivery and use of mobile elevated work platforms (MEWPs).	<p>Mechanical failure at high levels, injuries, damage to property and plant.</p> <p>Ground conditions (trenches, soft ground services, etc)/loss of control/ adverse weather conditions, resulting in overturning or bouncing of machine.</p> <p>Overhead conditions (power lines, cables, obstructions, etc).</p>	Operator, and nearby workmen.	<ul style="list-style-type: none"> <li>• Ensure that if powered access machine(s) are used a maintenance and inspection report are available.</li> <li>• Ensure barriers are available for isolating area of work from others.</li> <li>• Ensure correct type of machine to match terrain, consult provider if unsure.</li> <li>• Pre-plan and clear area for safe access.</li> <li>• Ensure correct PPE (fall restraint with adjustable lanyard) is available and in date for “cherry pickers” MEWPs.</li> <li>• Ensure only trained operators with valid cards are allowed to use MEWPs.</li> <li>• Ensure that checks are made for the presence of overhead power lines.</li> <li>• Never Use MEWP under any power lines are confirmed as isolated by a competent electrical engineer.</li> <li>• Ensure checks for overhead obstructions, e.g. low beams and do not use machine where there is a risk of being trapped.</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Only competent and suitably trained personnel to operate machinery
Before use, check for overhead obstructions and unsuitable ground conditions.
Ensure that harnesses and lanyards are used while operating machines such as “Cherry pickers” – these must be attached to dedicated point not to the handrail.
Mobile elevated work platforms to be tested and serviced and in date.
Before use, check for adverse weather conditions.
Do not over reach from cradle.

## RAG018 – risk assessment guidance and toolbox talk

Assessment for: *Loading and unloading lorries and trailers*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARDS	AT RISK	CONTROLS
Mounting/ dismounting lorry bed/trailer.	Heights.		<ul style="list-style-type: none"> <li>• Ensure, where possible, that employees work from ground level and avoid getting on to trailers or lorry beds.</li> </ul>
	Falling.		<ul style="list-style-type: none"> <li>• Provide safe access to trailer/lorry bed, either by suitable ladder or steps with hand rails.</li> </ul>
Working on lorry bed/trailer.	Falling material, being struck by falling materials.	Drivers, nearby workmen and all personnel assisting in loading and unloading.	<ul style="list-style-type: none"> <li>• Ensure flat bed trailers and lorry beds are provided with secure and strong edge protection in the form of secure hand rails or tensioned straps to prevent falls.</li> <li>• Ensure that the edge protection consists of two handrails or tensioned straps, the top protection at one metre above standing level and a further intermediate rail/strap</li> <li>• Ensure loading and unloading of cages by mechanical means</li> <li>• Ensure trailer/lorry beds are loaded so that it is not necessary to stand on loads. Pre-Slung Cages</li> <li>• Arrange for inspection of slings and chains, every six months and cranes every 12 months.</li> </ul>

/cont.

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Where possible, avoid getting on to trailers and lorry beds and work from ground level.
Report any missing or defective ladder/ steps/ edge protection to your supervisor immediately.
Use Ladder or steps with handhold when climbing on or off trailer/ lorry bed.
Do not work on trailer/lorry bed unless hand-rails or tensioned straps are provided that are one metre above standing level with an intermediate protection at about 500mm. Alternatively, soft landing bags should be placed to prevent injury.
Do not walk on top of loads, leave sufficient space to walk on the trailer/lorry bed.
Do not interfere with ladders, steps or edge protection. They are for your safety!
Keep other people away from the area when cranes or forklift trucks are operating.

## RAG 022 – risk assessment guidance and toolbox talk

Assessment for: *Driving and operating mobile plant and equipment*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Driving and operating mobile plant.	<p>Unauthorised use/operation.</p> <p>Roll over.</p> <p>Reversing.</p> <p>Impact with other plant/ pedestrians.</p> <p>Falls from height.</p> <p>Exhaust fumes.</p> <p>Use at night/poor light conditions.</p>	<p>Employees, public, mobile plant operators, co workers, and pedestrians.</p>	<ul style="list-style-type: none"> <li>• Ensure arrangements are in place to control access to keys, to ensure that only trained and authorised persons have access.</li> <li>• Ensure that all mobile plant is fitted with roll over protection structure/systems (ROPS) where necessary.</li> <li>• Ensure seat belts are fitted in mobile plant.</li> <li>• Ensure that plant is fitted with a reversing alarm and/or CCTV.</li> <li>• Where reversing alarms or CCTV is not possible, ensure that all reversing operations are supervised by a vehicle banksman.</li> <li>• Ensure that plant is not used on steep and/or excessive angles/inclines, e.g, greater than one in four).</li> <li>• Where operating close to edges – provide barriers or separation distance.</li> <li>• Plan routes and restrict speed limit.</li> <li>• Where possible restrict pedestrian access, i.e. ensure pedestrians are excluded from areas where plant may be operating. Through using barriers and warning signage.</li> <li>• Ensure vehicle safety barriers are fitted where fall may be a risk.</li> <li>• Ensure plant is <b>not</b> used or operated in confined spaces or enclosed areas where ventilation is poor.</li> <li>• Ensure all plant lights are operational.</li> <li>• Ensure Principal Contractor has provided adequate lighting on site.</li> <li>• Ensure Task Lighting is sufficient</li> </ul>

## A. MANAGEMENT ACTIONS – controls to be in place before work starts

<b>ACTIVITY OR OPERATION</b>	<b>HAZARD AND HAZARDOUS EVENT</b>	<b>AT RISK</b>	<b>CONTROLS</b>
Driving and operating mobile plant.	Lifting and lowering operations.	Employees, public, mobile plant operators, co workers, and pedestrians.	<ul style="list-style-type: none"> <li>• Ensure plant is suitable for work – SWL.</li> <li>• Ensure plant is maintained and records checked.</li> <li>• Ensure all lifting devices are inspected and examined (strops, chains, etc, every six months, cranes, etc, every 12 months).</li> <li>• Ensure weekly recorded inspections under LOLER are undertaken.</li> </ul>
Refueling.	Fire.	Person refueling plant.	<ul style="list-style-type: none"> <li>• Ensure plant is only refueled in designated areas.</li> <li>• Ensure that only approved containers are used to store and transport fuel.</li> <li>• Ensure there are safe refueling procedures in place.</li> <li>• Ensure appropriate fire extinguishers are provided in refueling areas/locations.</li> <li>• Ensure drip trays or plant nappies are used in the refueling process.</li> </ul>

## B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Only trained appointed persons to use mobile plant.
Always carry out an inspection of plant before use.
Ensure all mobile plant is locked when not in use and secured in a safe location.
Never leave mobile plant unattended and unlocked when not in use.
Always park plant in a safe and secure location.
Always wear your seat belt.
Never overload plant.
Always drive within the speed limit.
Never use plant in an enclosed area where ventilation is poor.
Always use lights in poor light condition and drive with caution.
Where plant has no reversing alarm/CCTV, always use a banks man for reversing.
When using plant for lifting or lower operations, check vehicle is suitable to do and check safe working load (SWL).

## RAG023 – risk assessment guidance and toolbox talk

Assessment for: *Portable power tools*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Using power tools.	Electric shock/electrocution.  Dangerous parts of machinery. Dust. Noise.  Flying particles. Cuts.	Those using portable power tools.  Those using portable power tools.  Those using portable power tools.	<ul style="list-style-type: none"> <li>Ensure that tools bearing the CE mark are chosen and used.</li> <li>Provide tables or stands for holding materials in position</li> <li>Provide battery powered tools where possible, where not ensure tools are PAT tested.</li> <li>Ensure where practicable, all mains power tools are used via a residual current device (RCD).</li> <li>Ensure tools are inspected and maintained in accordance with manufacturer's specification.</li> <li>Ensure all dangerous parts of the power tool are guarded to prevent contact.</li> <li>Ensure that PPE and eye protection are worn.</li> <li>Use of portable power tools in a confined space and/or flammable risk area must be subject to the requirements of a work plan and a permit to work.</li> <li>Damaged tools must be removed from service immediately and repaired.</li> <li>Health surveillance may be required for certain types of work. Contact your Health, Safety and Environment team member.</li> <li>Managers must carry out six monthly checks on employees using portable power tools to ask them if they are getting any symptoms of HAVS. Where necessary arrange a medical appointment via the Occupational Health team.</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Use only tools with the CE marking.
Damaged tools must be taken out of service immediately, clearly labelled as defective and reported to the manager.
Before using any portable power tool inspect them to ensure that they are in a clean and safe condition and that all appropriate guarding is in place and operational.
Use of portable power tools in a confined space and/or restricted area should be avoided. Where this is not possible, a permit to work must be issued before they are used.
When using portable power tools ensure that the appropriate PPE is used and worn (e.g. gloves, eye protection, ear protection, etc).

## RAG 026 – risk assessment guidance and toolbox talk

Assessment for: *Noise*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

<b>ACTIVITY OR OPERATION</b>	<b>HAZARD AND HAZARDOUS EVENT</b>	<b>AT RISK</b>	<b>CONTROLS</b>
Working in noisy areas, e.g. use of hand tools, working in the vicinity of pumps, powerhouses, piling rigs etc.	Temporary or permanent loss of hearing.  Mental/physical stress.  Noise nuisance.	Anyone likely to be exposed to loud noise (employees/contractors)  Neighbours & Pedestrians	<ul style="list-style-type: none"> <li>• Substitute noisy processes with quiet ones if reasonably practicable.</li> <li>• Control noise at source using noise enclosures.</li> <li>• Where practicable limit the amount of time employees are exposed to high noise levels.</li> <li>• Ensure hearing protection zones are set up where there is risk of hearing damage. Provide appropriate signs.</li> <li>• Ensure that hearing protection is provided and used for all operations including high noise levels.</li> <li>• Ensure hearing protection is worn in hearing protection zones.</li> <li>• Seek advice from Health, Safety and Environment team in any case of doubt.</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Ensure you wear hearing protection for noisy work, e.g. use of noisy hand tools, work in 'hearing protection zones', etc.
If you are not sure about noise levels please contact your health, safety and environment team member.
Always wash hands before inserting ear plugs.
Check seals on ear defenders regularly for splits, cracks and hardening. Replace if necessary or at six monthly intervals.
Report any problems to your manager immediately.

## RAG 032 – risk assessment guidance and toolbox talk

Assessment for: *Use of portable petrol driven plant*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Set up and refueling portable petrol driven plant.	<p>Exposure to fire resulting from unsafe refueling practices.</p> <p>Exposure to carbon monoxide fumes due to poor positioning.</p> <p>Injury due to handling and maneuvering the plant.</p>	<p>Operatives moving and refueling the plant.</p> <p>Employees working in the vicinity.</p>	<ul style="list-style-type: none"> <li>Where possible use diesel driven plant as an alternative to petrol driven plant.</li> <li>Ensure quantities of petrol are kept to a minimum i.e. no more than 10 litres on site at any one time.</li> <li>Ensure petrol is stored in purpose designed metal or plastic containers marked "Petrol Highly Flammable", with a capacity of no more than 5 litres. They must have an appropriate nozzle for pouring.</li> <li>Ensure containers are stored on site in a safe location and away from sources of ignition, other combustible materials and risks of mechanical damage.</li> <li>Where the plant is not provided with wheels provide lifting equipment.</li> <li>Ensure that, where used in enclosed areas, ventilation is provided.</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

No smoking.

Position the plant away from sources of ignition, in well ventilated areas, away from risks of mechanical damage and on stable even ground.

Ensure that there is a foam or dry powder extinguisher available in the vicinity.

Always switch off the equipment first and allow the unit to cool down before removing the fuel tank cap and starting to fill the fuel tank (this only requires 5-10 minutes after switching off).

Always use a nozzle or a funnel which fits the fuel tank for filling purposes and ensure fuel is transferred directly into the tank without spillage.

Do not overfill fuel tanks, allow for fuel expansion.

Wipe any spillages off the machine, clean any other spillage and change clothing if contaminated with petrol.

Ensure that the exhaust is positioned so that it discharges away from any excavation or other partially enclosed area.

Use lifting equipment to position or manoeuvre the plant into position where provided.

Never put portable petrol or diesel driven plant in a confined space or other enclosed area.

<b>RAG 034 Risk assessment and toolbox talk</b>
<b>Assessment for:</b> <i>Avoidance of contact with overhead electric power lines</i>
<b>Introduction:</b> Contact with live overhead lines kills people and causes serious injuries every year.

### **A. MANAGEMENT ACTIONS – controls to be in place before work starts**

<b>ACTIVITY OR OPERATION</b>	<b>HAZARD AND HAZARDOUS EVENT</b>	<b>AT RISK</b>	<b>CONTROLS</b>
Avoidance of contact with overhead electric power lines.	Electrical cables.  Severe shock and burns or fatality.	Site operatives	<ul style="list-style-type: none"> <li>• Ensure that work adjacent to overhead cables is pre planned.</li> <li>• Visually Check service locations</li> <li>• Request 6m clearance, physical barriers and signs from the principal contractor</li> <li>• Lower the Piling mast when travelling</li> <li>• Ensure precautions are maintained</li> <li>• Do not proceed unless precautions are in place</li> <li>• Safe clearance distances, required beneath the lines, should be ascertained from the owner of the lines.</li> <li>• Access for plant should be under the direct supervision of a suitable person appointed to ensure that safety precautions are observed</li> </ul>

### **B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts**

Obey height restrictions signs to ensure that no contact is made with overhead conductors.
Keep to defined traffic route and adhere to warning signs
Keep to required speed limit
Do not operate cranes near live conductors in windy weather
Do not store materials between the overhead lines and ground barriers
Report any defects to barriers, fences, goalposts or crossbars immediately to your line manager
If in any doubt ask your supervisor for advice.

## RAG 035 Risk assessment and toolbox talk

**Assessment for:** *Avoiding danger from underground services*

**Introduction:** Buried services are widespread and it should be assumed they are present unless it has been shown otherwise

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Excavating near underground cables and pipe work (services)	Electricity cables Gas pipelines  Fatal or severe injuries, burns, to hands, face and body  Fire  Explosion	Site operatives  members of the public.	<ul style="list-style-type: none"> <li>▪ Ensure that the work is planned.</li> <li>▪ Ensure plans are available of the underground services in the area being excavated.</li> <li>▪ Ensure that the Principal Contractor has made information available of the services.</li> <li>▪ Ensure services are clearly marked and identified on site</li> <li>▪ Provide training for personnel on avoidance of underground services.</li> <li>▪ Ensure there is no smoking, naked flames and other sources of ignition within any gas leak.</li> <li>▪ Ensure the Permit to Dig has been completed</li> <li>▪ Advise Machinery Drivers of cables/services locations</li> <li>▪ Monitor progress and cause re-tracing of services if necessary.</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Striking electrical cables can cause flash burns and electrocution. Rupturing gas lines can cause explosions and fires. The depth of services can never be assumed.

Underground services can be found in footpaths, roads and on sites. Always assume they are live. Accidents sometimes happen because one service is assumed to be another e.g. a blue plastic pipe may be carrying electrical cables and not water.

Connections to buildings may not be shown. Look for signs of connections e.g. gas meters or service connection entries into buildings.

Use cable locating equipment to trace electricity cables and metal pipes. Make sure that it is in date before you use it.

Always mark the position of services using a waterproof marker on the ground.

Wherever possible hand dig near buried services, spades and shovels are safer than picks. Watch out for signs of services as work continues.

Do not use powered hand tools within 500mm of services. Do not use a mechanical excavator within 500mm of the marked position of an electricity cable

Back fill around services with fine material. Do not use brick, flints or concrete etc.

If you suspect a gas leak evacuate from the immediate area and call the gas provider immediately

No smoking, naked flames and other sources of ignition near any leak.

## RAG 036 Risk assessment and toolbox talk form

Assessment for: *Use of pressure washing equipment*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Operation of electrical pressure washing equipment operating at or less than 120bar.	<p>Electricity both from faulty appliance and overhead cables.</p> <p>Electrocution</p> <p>Water at high pressure</p> <p>Eye injuries Skin abrasions</p> <p>Major wounds</p> <p>Aerosols and consequent infections.</p> <p>Wet floors and consequent slip hazards</p>	Employees	<ul style="list-style-type: none"> <li>• Ensure all persons using pressure washing equipment are trained by the manufacturer / suppliers or by a recognized training body. Alternatively ensure instructions <i>instructed</i> by a competent and experienced operator.</li> <li>• Ensure that a residual current device (RCD) is provided at the supply point and test it before use.</li> <li>• Ensure the equipment is inspected and maintained in accordance with the manufacturer's instructions.</li> <li>• Maintain records of maintenance.</li> <li>• Ensure that a portable appliance test is carried out at least every 3 months (frequency may be reduced on the advice of an electrician).</li> <li>• Ensure that electrical cables are protected from mechanical damage.</li> <li>• Position the equipment well away from overhead cables.</li> <li>• Provide barriers to exclude others from the work area.</li> <li>• Provide waterproof overalls.</li> <li>• Provide eye protection.</li> <li>• Provide steel toe capped Wellington boots.</li> <li>• Provide heavy duty waterproof gloves and clothing.</li> <li>• Ensure the Principal Contractor has established suitable barriers when working adjacent to the site perimeter.</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Confirm that you have received training instruction on the equipment being used.
Check that the RCD is working before using the equipment.
Check that the cable and plug are undamaged.
Report any defects immediately and do not use the equipment until repairs / checks have been carried out.
Erect barriers provided.
Wear the PPE issued.
Do not point the jet at other persons

## RAG040 – risk assessment guidance and toolbox talk

Assessment for: *Vehicle access and egress to sites*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Vehicle access and egress to operational sites.	<p>Site traffic.</p> <p>Condition of road.</p> <p>Pedestrians</p>	Employees, contractors, visitors.	<ul style="list-style-type: none"> <li>• Ensure vehicle traffic routes within sites are organised to give protection to pedestrians.</li> <li>• Ensure site traffic rules are adhered to.</li> <li>• Ensure Plant operators follow the speed limit on site and off the road.</li> <li>• Ensure site contractors and visitors informed of traffic routes via induction.</li> <li>• Ensure compliance with site rules wearing of personal protective equipment whilst on site.</li> <li>• Ensure traffic routes to be of sound construction and be maintained, by the principal contractor.</li> <li>• Ensure pedestrian routes identified on site traffic management assessment and communicated to site staff</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Follow site traffic routes and rules.

Wear personal protective equipment and stay on designated pedestrian routes.

Report all pedestrian and traffic defects to your manager.

Always observe the required speed limits.

## RAG041– Risk Assessment Guidance and Toolbox Talk

Assessment for: *Task Lighting*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Working in inadequate lighting conditions.	Inability to see work.  Poor lighting on walkways.  Poor lighting on traffic routes.  Inadequate emergency lighting.	Employees  Co workers  Contractors	<ul style="list-style-type: none"> <li>• Ensure lights are directed in towards the site and limit light pollution on neighbours.</li> <li>• Ensure as far as reasonably practicable that lighting is adequate for the task.</li> <li>• When lighting is inadequate ensure that task lighting is provided and used.</li> <li>• Ensure maintenance of existing lighting system including, cleaning and, regular tube or bulb changes is carried out.</li> <li>• Ensure that existing light is not being obstructed by items stored in the area.</li> <li>• Ensure that emergency lighting is maintained and tested.</li> <li>• Ensure that there is no lone working in poorly lit areas; ensure that adequate temporary lighting is provided.</li> <li>• For inspection work in poorly lit areas, ensure suitable torches or task lighting is provided and used.</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Report any defective lighting immediately to your manager.
Use task lighting if lighting is not sufficient in the building or area you are working in.
Ensure light is not being obstructed by tall items stored in the area.
Do not perform tasks in poor light areas.
No lone working in areas that has poor lighting. Obtain and use sufficient temporary lighting.

## RAG042– risk assessment guidance and toolbox talk

Assessment for: *Working in adverse weather conditions*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
Working in adverse weather conditions.	<p>Cold and or wet weather</p> <p>Sunny weather causing sunburn, or dehydration</p> <p>Heavy rainfall/snow</p> <p>High winds causing hazardous lifting/working conditions.</p>	Employees on site	<ul style="list-style-type: none"> <li>• Ensure that sites have adequate supplies of grit.</li> <li>• Ensure operational sites, heated welfare facilities are provided. This should include somewhere to eat and drink out of the weather and toilet facilities. Provide by the Principal Contractor</li> <li>• Ensure that where required personnel are provided with the following PPE for cold and wet conditions: safety boots, fleece, water proof high viz coat, water proof over trousers and gloves.</li> <li>• Ensure that in hot weather arrangements are made to allow workers to drink more fluids.</li> <li>• Encourage people to sit in shaded areas for their breaks.</li> <li>• Cease all lifting operations if wind speed exceeds 36mph.</li> </ul>

### B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts

Wear the appropriate protective clothing for the conditions.
Do not wear damp clothing in cold weather.
Increase fluid intake in hot weather conditions.
In hot weather conditions take your breaks in a shaded area.
Do not sling loads in winds speeds exceeding 36mph.
If you notice any defects in temporary works such as scaffold or excavations after adverse weather inform your manager.
Do not work off a MEWP in high wind speeds.

## RAG 050 – risk assessment guidance and toolbox talk

Assessment for: *Mechanical lifting and handling using cranes and hoists*

### A. MANAGEMENT ACTIONS – controls to be in place before work starts

ACTIVITY OR OPERATION	HAZARD AND HAZARDOUS EVENT	AT RISK	CONTROLS
<p>All mechanical lifting operations by:</p> <ul style="list-style-type: none"> <li>• Mobile crane.</li> <li>• Overhead crane.</li> <li>• Davit/gantry.</li> <li>• Lorry mounted crane (HIAB).</li> <li>• Piling Rig</li> </ul>	<p>Overloading of equipment or accessories.</p> <p>Detachment of load.</p> <p>Being struck by the load.</p> <p>Overturning of lifting equipment.</p> <p>Being struck by the equipment or accessory.</p>	<p>Employees carrying out the lift.</p> <p>Other employees or contractors who may be in the area.</p>	<ul style="list-style-type: none"> <li>• Ensure lifting equipment and lifting accessories are thoroughly examined (12 months for cranes, six months for accessories and passenger lifting equipment).</li> <li>• Ensure all lifting accessories have been correctly stored in a dry, clean location, off the floor and out of direct sunlight.</li> <li>• Ensure all equipment and accessories are marked with the safe working load (SWL).</li> <li>• Ensure young persons do not engage in lifting operations unless they have been trained and are under direct supervision.</li> <li>• Ensure that operators are trained to carry out the lifting operation.</li> <li>• NB: Competent persons may include, appointed persons (AP), lifting supervisors/banksman and crane operators.</li> <li>• Ensure there is a lifting supervisor/banksman where the lift is being done where the load cannot be seen by the crane operator.</li> <li>• Ensure arrangements are in place to inspect the equipment for obvious defects before use.</li> <li>• Ensure that a lifting plan (safe system of work for lifting) developed by the AP is in place for non-routine lifts.</li> <li>• Ensure all personnel are provided with PPE (hard hats, high visibility jackets and safety shoes or boots).</li> <li>• Ensure exclusion zone is maintained around the working area and no unauthorised into area.</li> </ul>

## **B: EMPLOYEE ACTIONS – toolbox talk must be given before work starts**

You may only operate any form of lifting equipment if you have been trained to do so.
Follow the lifting plan for non-routine lifts.
Check/inspect the equipment and the accessories for obvious defects, before you use them.
If the equipment has been left outside overnight, test brakes and clutches on cranes, etc, before use.
Always wear your PPE.
Make sure people are excluded from the lifting area.
Ensure route of lift and lay-down area is clear of obstructions.
When lifting outside, make sure the ground is capable of taking the weight of the crane or HIAB and the location for the equipment is flat and even.
Make sure there are no overhead obstructions on the route of the lift.
Ensure the lay down area is of sufficient size and is capable of bearing the load.
Ensure slings are protected by packing (if load has sharp or abrasive edges).
When lifting outside, stop the lift if a change in the weather threatens safety.

***We the undersigned have been made aware of the contents of this toolbox talk. If we are unable to carry out the work safely we agree that we must immediately stop work and inform our manager/supervisor.***

[illegible]

**WORK MUST NOT START UNTIL CONTROLS ARE IN PLACE AND THIS TOOLBOX TALK HAS BEEN DISCUSSED AND ALL SIGNATURES OBTAINED**

# **SECTION 3**

## **LIFT PLAN**

## SHE 4 Safe Systems of Work/Method Statement – Miller Piling Lift Plan

This Lifting Plan has been drawn up to meet the requirements of the Federation of Piling Specialists (FPS) Code of Industry Best Practice guide to LOLER, the LOLER Regulation's(1998) ACoP and BS7121, "Safe use of Cranes.

A FPS **Platform Certificate** will be requested for the site

Please note that one third of Dangerous Occurrences reported by FPS members to the HSE are related to inadequate working platforms leading to a piling rig or crane overturning, each one of which is a potential fatality. The HSE has worked closely with the FPS on this initiative and supports the principle of reducing accidents by the certification of properly designed constructed and maintained working platforms.

Lift Supervisor	Site Foreman		Prepared by	Ben Dixon [Appointed Person]	
Brief Description of the Work	Loading and unloading Plant and Equipment delivered to and loaded away from the site. Lifts by lorry hiab (specified below) and excavator.  Lifting of equipment and materials during piling operations by excavator.  Lifting equipment and materials using the Piling Rig auxiliary Winch. See notes regarding restrictions on this equipment.  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.				
Schedule of 'Routine' Lifts					
Description of load	Approx. Weight (Kg)	Load Characteristic	Method of Lifting	Centre of gravity	Lifting points/or method of slinging
Reinforcement Cages	T16, 1.6kg/m T20, 2.5kg/m T25, 4.0kg/m T32, 6.5kg/m T40, 10.0kg/m  Add 10% for helical's.	Cylindrical	<u>Excavator</u>  Horizontal lift: two chain lift;  Vertical lift: Secure lifting points to be provided.	Central	2 leg chains / Nylon slings  Vertical lift, secure at tied intersection of helical and main bar. Heavy cages require a welded lifting band.
Reinforcement	As above	Bundled steel bars  Or Helical	<u>Excavator</u>  Horizontal lift: two chain lift. Sling or chain hook to attach to bag handles	Central	2 leg chains Chain to pass through helical's, binding wires not to be used. Helical's may be bagged.
Drilling Auger	3.5t max depending on diameter	Up to 7.5m long Spiral	<u>Excavator</u>  Two chain choke lift (horizontal). Single choke for vertical lift to connect auger to rig	Central	2 leg chain.
Equipment to be used for the Lift	Approx. Weight (Kg)	Load Characteristic	Method of Lifting	Centre of gravity	Lifting points/or method of slinging
Concrete pump	4.2 tonnes	Engine/hopper	<u>Excavator/HIAB</u>  Lifting point on top	Central	Chain / Wire sling
Agitator [Lorry Loader crane lift only]	6 – 9 tonne	Cylinder on frame	<u>HIAB</u>  4 No. lifting points	Central	3 leg chain

Diesel bowser	3 tonnes	Cylindrical tank.	<b><u>Excavator</u></b> Nylon Straps	Central to tank	Single leg chain to nylon strops
Generator, compressor, power-pack etc.	3.5 tonnes	Steel box	<b><u>Excavator</u></b> Lifting Points (on top)	Central	Wire rope slings or single chain
Welfare cabins and containers.  [Lorry Loader crane lift only]	7 tonnes	3m x 3m cabin or container	<b><u>HIAB</u></b> Lifting points Ensure container loads are evenly distributed and secure	Central	4 leg chains
Unloading temporary casings from wagons	Weight as below.(15mm wall) 450=150kg/m 600=200kg/m 750=250kg/m 900=300kg/m 1200=400kg/m	Cylindrical, with pair of lifting holes	<b><u>Excavator</u></b>	Central	Casing is only to be hoisted excavator after it has been secured with casing clamps for lifting shackles and slings.
Extracting temporary casings from bores	Extraction friction plus weight as below.(15mm wall) 450=150kg/m 600=200kg/m 750=250kg/m 900=300kg/m 1200=400kg/m	Cylindrical, with pair of lifting holes for lifting shackles and slings	<b><u>Rig/Excavator</u></b>	Central	Casing is only to be hoisted by crane or rig after it has been freed by other means using lifting shackles and slings  (Refer to FPS/HSE Guidance on the extraction of temporary casings)

Equipment to be used for the Lift		1) Excavator
Make, Model, Attachments, Test Certificates, etc	Excavator supplied by Principal Contractor who is responsible for Checking all Documentation before releasing it to work for Miller Piling.	
Equipment to be used for the Lift		2) Hiab (Lorry Loader)
Make, Model, Attachments, Test Certificates, etc	Hiabs supplied by Haulage Contractor who is responsible for Checking all equipment and documentation before releasing it to work for Miller Piling	
	See Above, depending on Rig Capacity	
Equipment to be used for the Lift		3) Piling Rig Auxiliary Hoist
<b>Note:</b> The ancillary winch on the Piling Rig is designed to assist in “normal piling operations”, including assembling and de-rigging the auger string and lifting rebar cages into the bore. The operational capacity of the winch is as follows: CM48 = 3.6 t; CM50 = 3.0t; CM70 = 6.0t; R312 = 4.2 t. It is not designed for general crane duties.		
Date of Last inspection:	See LOLER Book.	
Date of Last Examination	Covered by Rig Annual Examination; Certification is retained by the Rig Operator or available from the Plant Yard]	
Max Safe Working Load(Kgs)	The operational capacity of the winch is as follows: CM48 = 3.6 t; CM50 = 3.0t; CM70 = 6.0t; R312 = 4.2 t.	

## Use of Fabric Slings

Types of Sling	<p>Fabric slings come in two types; <b>Flat Web Slings</b> and <b>Round Slings</b></p> <p>A <b>flat sling</b> is made of woven polyester and can be Simplex, Duplex or Quadplex depending on the number of layers.</p> <p>A <b>Round Sling</b> has an abrasion resistant outer cover</p>				
Capacity and Markings	<p>The lifting capacity of a sling is given by a colour code and the number of black stripes woven or printed onto the sling.</p> <p>The number of stripes gives the SWL in tonnes, up to a maximum of 8 stripes.</p>				
	Purple	1 tonne		Red	5 tonne
	White	1.5 tonne		Brown	6 tonne
	Green	2 tonne		Blue	7 tonne
	Yellow	3 tonne		Orange	8 tonne and over (check the tag)
	Grey	4 tonne			

Operator Competence	
<b>Excavator Driver:</b>	The competence of the driver supplied by the Principal Contractor or his subcontractor will be checked by the Principal Contractor prior to releasing the operative to attend Miller Piling
<b>Hiab Operator.</b>	The Haulage Contractor is responsible to ensure the driver supplied is competent to operate the hiab on his machine.
<b>Rig Driver.</b>	The Rig Driver will be a holder of a CPCS or CSCS (Piling Operations) card. The card will be available from the rig driver
<b>Crane Driver.</b>	The Rig Driver will be a holder of a CPCS card. The card will be available from the crane driver
<b>Slinger/Signaller:</b>	All the site crew involved in slinging and signalling operation will be holders of a CSCS Slinger/Signaller Card, which will be presented on request.

Configuration	<p>The load you can lift with the sling depends on the method of slinging. The above SWL refers to a vertical lift with one end fixed to the hook and the other fixed to a lifting eye. In other situations, the SWL is <b>increased</b> or <b>decreased</b> as below.</p>				
	Vertical lift	Choke lift	U basket	Basket meeting at 45°	Basket meeting at 90°
	100%	80%	200%	140%	100%
Use of Slings	<ul style="list-style-type: none"> <li>Do not use a damaged sling for lifting</li> <li>The sling must not be used on loads with sharp edges unless the edge is protected.</li> <li>Do not knot slings or use a sling with a knot.</li> <li>Do not use a sling to “snatch” a load.</li> </ul>				
Inspection and Testing	<p>Polyester slings are not load tested (unlike chains) when issued but have to be manufactured to a Quality Assurance scheme. A representative sample from each batch is tested to destruction to ensure that batch is safe to use.</p> <p>Because fabric slings can be easily damaged, it is important they are regularly inspected and if damaged, discarded, preferably by cutting off the lifting loops.</p> <p>In carrying out the inspection, take note;</p> <ul style="list-style-type: none"> <li>Carry out the inspection in good light.</li> <li>Inspect the length of the sling, both sides, including the inside of the eye.</li> <li>In a flat sling, the following are grounds to discard the sling; cutting of the longitudinal strands, oil or diesel impregnation, damage to the stitching.</li> <li>In a round sling, the outer covering does not take any load, but damage may suggest damage to the inner core which does the work.</li> </ul>				
Use of Slings to drag hoses	Worn slings not suitable for lifting can be looped onto the concrete hoses and used to drag hoses using the digger bucket to avoid damage to the hose braiding by any sharp edges on the bucket. Under no conditions are these slings to be used to lift the hose.				
“One-way” slings	One way slings must not be reused for lifting purposes although they can be used as drag slings as above.				

# SECTION 4

## QUALITY MATRIX

## QUALITY, INSPECTION & TEST PLAN

NO:	ACTIVITY	INSPECTION FOR TEST		REFERENCES e.g. Clause	RESPONSIBLE	OTHER CHECKS		Records			
		OPERATION	FREQUENCY			TYPE	BY WHOM	Type	To	Frequency	
1	DRAWINGS/SPECS	CHECK IF CURRENT	BEFORE USE	MILLER PILING LTD CIS	MILLER PILING LTD SUPERVISOR	REGISTER REVIEW	the Principal Contractor	CHECK SHEET	MILLER PILING LTD <b>NETWORK RAIL</b>	EACH TIME	HOLD POINT
2	SAFETY	SAFETY	EACH TIME	STATEMENT & RISK ASSESSMENT	ALL	WEEKLY INSPECTION	MILLER PILING LTD	SAFETY INSPECTION SHEET	the Principal Contractor	FORTHNIGHTLY	ENSURE WORK CAN BE DONE SAFELY
3	SETTING OUT	SERVICES	EACH TIME	CAT SCAN	the Principal Contractor	UTILITIES INFORMATION	the Principal Contractor	PERMIT TO DIG	the Principal Contractor <b>NETWORK RAIL</b>	EACH TIME	HOLD POINT <b>PERMIT MUST BE ISSUED TO GANGER/FOREMAN</b>
4	SETTING OUT	CALCULATIONS	EACH TIME	CONTRACT DRAWINGS/SPEC	the Principal Contractor	CALCULATIONS	the Principal Contractor	CHECK SHEET	the Principal Contractor	EACH TIME	
5	SETTING OUT	INDEPENDENT CHECK	EACH TIME	CONTRACT DRAWINGS/SPEC	the Principal Contractor	AS BUILT SURVEY	the Principal Contractor	SURVEY DATA	MILLER PILING LTD	DAILY (EACH PILE)	
6	AS-BUILT RAMPS AND MATS	DIMENSION FROM PROFILES	DAILY	GRADIENTS FOR PILING RIG TO WORK	the Principal Contractor	VISUAL	MILLER PILING LTD SITE SUPERVISOR	Working Platform certificate	MILLER PILING LTD	PER AREA	HOLD POINT-AVAILABLE FOR INSPECTION BEFORE RIG MOVES
7	EXCAVATION OF FORMATION	PLATE BEARING TESTING	ONCE	TW DESIGN	the Principal Contractor	VISUAL CHECK FOR SOFT SPOTS	MILLER PILING LTD SUPERVISOR				SOFT SPOT TO BE EXCAVATED AND BACKFIELD USING SUITABLE MATERIAL
8	CONSTRUCTION OF PILING MAT	METHOD COMPACTION	EACH TIME	HIGHWAYS SPEC	the Principal Contractor	PLATE BEARING as req'd	TESTING HOUSE	Working Platform certificate	MILLER PILING LTD <b>NETWORK RAIL</b>	PER AREA	
9	MOVING PILING RIG	CHECK TO MOVE <b>WORK PARALLEL TO THE RAIL LINE</b>	EACH TIME	METHOD STATMENT	MILLER PILING LTD SUPERVISOR	VISUAL	MILLER PILING LTD SUPERVISOR				HOLD POINT-CHECK MAT IS SOUND, LEVEL AND CLEAR OF OBSTRUCTIONS
10	CONCRETE MIX DESIGN	MIX DESIGN	EACH MIX TYPE	SPECIFICATION	MILLER PILING LTD C MANAGER	APPROVAL/ COMMENT	the Principal Contractor	MIX DESIGN	the Principal Contractor	EACH MIX TYPE	HOLD POINT-MIX TO BE ISSUED TO CONSULTING ENGINEER
11	PITCHING AUGER	ACCURACY MAST VERTICALLY	EACH PILE	MILLER PILING LTD QMS	LEADING HAND	Inclinometer	RIG DRIVER	NONE			
12	BORING PILE – <b>6 revs/m and mas 10revs/m</b>	OBSTRUCTIONS	EACH PILE	MILLER PILING LTD QMS	LEADING HAND	OBSERVE AS REQUIRED	SITE ENGINEER	DAILY REPORT	the Principal Contractor	DAILY (EACH PILE)	
13	BORING PILE <b>6 revs/m and mas 10revs/m</b>	STRATA CHECK DEPTH	EACH PILE	MILLER PILING LTD QMS	PILING RIG DRIVER	OBSERVE AS REQUIRED	SITE ENGINEER	DAILY REPORT	the Principal Contractor	DAILY (EACH PILE)	
14	CONCRETING	CONCRETE TICKET MATERIAL CHECK	EACH TIME	APPROVED MIX DESIGN	MILLER PILING LTD SUPERVISOR	VISUAL INSPECTION	PUMP MAN	CONCRETE TICKET	MILLER PILING LTD	WEEKLY	
15	CONCRETING	PRE-CHARGE OVERSUPPLY	EACH PILE EACH DAY	MILLER PILING LTD QMS	RIG OPERATOR	VOLUMETRIC CHECK	MILLER PILING LTD SUPERVISOR	SITE CONCRETE DELIVERY RECORD	MILLER PILING LTD	WEEKLY	
16	CONCRETING	VOLUME SUPPLIED PILE HEAD LEVEL	EACH PILE EACH DAY	MILLER PILING LTD QMS	MILLER PILING LTD SUPERVISOR	OBSERVE AS REQUIRED	SITE ENGINEER				
17	REINFORCEMENT	CAGE CONSTRUCTION	EACH PILE	DRAWING/SCHEDULE	MILLER PILING LTD SUPERVISOR	OBSERVE AS REQUIRED	SITE ENGINEER				
18	REINFORCEMENT	COVER TO REBAR CENTRALLY	VISUAL EACH PILE	CIS/CONTRACT DRAWINGS/SPECS	LEADING HAND	OBSERVE AS REQUIRED	SITE ENGINEER				
19	REINFORCEMENT	LEVEL	LEVEL	CIS/CONTRACT DRAWINGS/SPECS	MILLER PILING LTD SUPERVISOR	LEVEL CHECK IF req'd	the Principal Contractor	Survey			
20	SAMPLING CONCRETE	CONCRETE MIX DESIGN	CONCRETE MIX DESIGN	MILLER PILING LTD QMS	MILLER PILING LTD PUMPMAN	VISUAL	MILLER PILING LTD SUPERVISOR	CUBE RESULTS	the Principal Contractor	1@7/2@28/1@56	
21	SAMPLING CONCRETE	WORKABILITY	WORKABILITY	MILLER PILING LTD QMS	MILLER PILING LTD PUMPMAN	VISUAL	MILLER PILING LTD SUPERVISOR	SITE CONCRETE DELIVERY RECORD	MILLER PILING LTD OFFICE	weekly	
22	PILE TESTING	INTEGRITY	INTEGRITY	CONTRACT SPECS	the Principal Contractor	VISUAL	MILLER PILING LTD SUPERVISOR	TEST REPORT	the Principal Contractor	As tested	
23	PILE TESTING	STATIC LOAD	CONTRACT SPECS	CONTRACT SPECS	MILLER PILING LTD	VISUAL	MILLER PILING LTD SUPERVISOR	TEST REPORT	APOLLO GROUP LTD	As tested	

# **SECTION 5**

## **COSHH**

**Persons at Risk;** Piling operatives on site

**Absorption:** All substances listed (except Prim-a-pump) are dermally absorbed and can cause irritation and dermatitis.

Product and Usage	Hazard	Control mechanism inc PPE	Storage Requirements	First Aid	Comments	Residual Risk
<b>Ready Mixed Concrete [liquid]</b>  Poured from mixer truck to pump hopper; pumped to pile.	Irritant and alkaline burning to skin	PVC or waterproof gloves to be worn Splashes to be washed off with water.	Normally stored in agitator drum	Wash off concrete with warm soapy water.	Concrete mixes used in piling have a high cement content to give durability and are thus particularly alkaline and thus hazardous.	Low
<b>Diesel/Gas Oil [liquid]</b>  Decanted into fuel tanks	1) Skin Irritant 2) Flammable Product	1) Gloves to be used when handling	2) Double skinned tank and in accordance with the Petroleum Regulations	1) Was off product with warm soapy water.		Low
<b>Mould Oil [liquid]</b>  Smeared into cube mould	Skin Irritant	Gloves to be used when handling	5 litre container	Was off product with warm soapy water.		Low
<b>Engine Oil [liquid]</b>  Decanted into diesel engines	Skin Irritant	Gloves to be used when handling	25 litre container	Was off product with warm soapy water.	Precautions applies to both new and used oil, which is to be returned to the plant yard as "Hazardous Waste"	Low
<b>Hydraulic Oil [liquid]</b>  Decanted into hydraulic tank of piling rig.	Skin Irritant	Gloves to be used when handling	25 litre container	Was off product with warm soapy water.	Precautions applies to both new and used oil, which is to be returned to the plant yard as "Hazardous Waste"	Low
<b>Concrete pumping lubricant [fine powder]</b> [Trade Name <b>Prime a pump</b> ]  Mixed with water to form slurry and poured into concrete pipes as a lubricant.	None		Dry powder in 1 litre bottle	Non toxic		Low

# **SECTION 6**

**ROLES**

**&**

**RESPONSIBILITIES**

## Site Safety Responsibilities

### Foreman

- Read The Method Statement/Risk Assessment and ensure it is briefed out to the workforce, including subcontractors and signed for, at the beginning each contract.
- Ensure the WPC and Permit to Dig is signed before piling work starts.
- Daily liaison with the Principal Contractor.
- Weekly Tool box talk.
- Daily 5-minute briefing about the day's activities
- Ensure PPE and proper work-wear is worn.
- ***Ensure the site team below carry out their safety duties.***

### Rig Driver

- Daily and weekly inspection of rig, including documentation
- Maintenance of rig, fuel, lubes, cleaner brushes
- Shutting and securing the rig at the end of the day, parking in a safe location.

### Pump Operator

- Ensure the area around the pump is kept tidy and safe
- Ensure all hose joints are fitted with safety clips.
- Ensure the pump ramp is in good condition and rails fitted if necessary
- Ensure the daily and weekly checks on the Agitator and Pump are carried out and recorded.
- Ensure any defective hoses are reported to the Foreman.
- Walk the hose route every morning before work commences and inspect condition of hoses. On **Mondays** do a thorough check and record it in the inspection book.
- 

### Banksman

- Ensure piling work area is kept barriered off
- Ensure unauthorised persons are kept out of piling area.
- Ensure the area is safe before the rig is signaled to move.
- Ensure the rig work area is kept scraped clean and level.
- Ensure completed piles are left in a safe condition (backfilled, mushroom caps, covered, as appropriate)
- Alert the rig driver to any spoil being left on the auger and pause extraction so it can be dealt with.

And as a general rule, if you see anything amiss; remember ***“Sort it or Report it”***

<b>Emergency Response</b>	
<b>Emergency Situation</b>	<b>Response</b>
<b>Severe Injury</b>	Seek First Aider. Call Ambulance by dialling 999. Advise Principal Contractor.
<b>Fire</b>	Raise the Alarm. Advise Principal Contractor. Call Fire Brigade by dialling 999.
<b>Uncovering Asbestos or other dangerous substance.</b>	Stop work. Advise Principal Contractor for Instructions.
<b>Suspect unexploded ordinance</b>	Stop work.. Clear the immediate area.. Advise the Principal Contractor.
<b>Underground or overhead Electric cable strike</b>	Stop work.. Driver to stay in cab. Advise the Principal Contractor immediately.
<b>Gas main Strike</b>	Stop work. Switch off plant. Prohibit smoking. Advise Principal Contractor immediately.
<b>Data cable or BT cable strike</b>	Stop work. Advise Principal Contractor.
<b>Sewer strike</b>	Stop work. Advise Principal Contractor.
<b>Water main strike.</b>	Stop work. Use bunding to keep water from vulnerable areas and guide flow towards drainage or waterway. Advise Principal Contractor.
<b>Uncovering suspected archaeological or human remains</b>	Stop work. Advise Principal Contractor for instructions.
<b>Gross pollution Incident</b>	Advise Principal Contractor Contact Adler and Allan on 0800 592827 for assistance
<b>Subsidence of piling platform threatening rig stability</b>	Stop work and attempt to stabilize the rig immediately by among other methods: <ul style="list-style-type: none"> <li>• Use available diggers to hold down the tracks.</li> <li>• Screw the auger into the ground.</li> <li>• Track away from subsiding area.</li> <li>• Lean the mast back to vertical.</li> </ul>

**.....then phone the Office**