Works Method Statement
GSS Piling Ltd

GSS Piling Limited
PILING SPECIALISTS *part of the Morrisroe group*

	Project Name: Panther House	**Project Number: 20147**
	Works: Mini Piling works	**Method Statement Ref.:** 01

	GSS Contacts:		
	Health & Safety Manager	Malcolm Furniss	07988 629423
	Construction Manager	Paul Burr	07973 399252
	Site Manager	TBC	

	Date of Issue: 20-03-2020	Rev 00: Mini piling

	00	20-03-2020	Paul Burr	Devji Bhuva	
	Revision	**Date:**	**Author GSS CM**	**Reviewed by GSS CM**	**Accepted by MC**

Any sub-contractor or third party working in conjunction with GSS Piling under the remit of this document is not relieved of their statutory obligation to provide, monitor and review their safe system of work and should provide their own method statements and risk assessments. Any revisions to documents referencing this document must be agreed with GSS prior to execution with a minimum notice period of 3 days.

Contents

1 General Situation

1.1 Proposed Start Date of Task and expected duration

It is anticipated that GSS Piling works will commence (TBC dependant on Thames Water approvals).

All operatives are to be fully pre-briefed prior to commencement and to have read and fully understood the method statement prior to signing off. Should there be any questions or further information/ explanation required this is to be given on a one to one basis until suitably clarified.

All personnel are to be inducted by GSS Piling before any works commence.

1.2 Description of works

GSS Piling will be carrying out the following works.

- Installation of 1 no 340/300 diameter CFA bearing pile to a depth to a depth of 21.0M. The pile will be set out and checked for tolerance by a GSS Site manager or engineer after the excavation of a trial hole to expose existing services. This method of piling is low impact and virtually vibration free and is ideally suited for installation of piles around existing structures, existing services and occupied buildings.

A typical drawing layout extract attached below.

Due to the restricted nature of the project all materials will be delivered on a just in time basis.
The piling rig and inhole kit will be delivered by a Hiab lorry to the front entrance and the rig will be tracked directly into site. The inhole kit will be Hiabed directly off of the lorry into the site.

1.3 Site Information

Panther House 156-158 Grays Inn Road, London, WC1X 0AG

1.4 Attendances

The following attendances will be provided by the client:

- Safe access and egress routes to the works.
- Security of site
- Permissions from Thames Water
- WELFARE
- Party wall agreements

The following attendances will be provided by GSS Piling.

- Super Kitten
- Tools and casings
- Materials for completing the works.
- Barriers to segregate the work areas.
- Site set up
- Diesel jet wash for cleaning plant.
- All PPE required to safely carry out all the above operations.

2 Method Statement

The presence of other trades on site will be a factor to consider ensuring that tasks can be undertaken safely. Method Statements and Risk Assessments should be reviewed prior to starting each activity to ensure that other trades or site conditions do not compromise the safe system of work. All works to be barriored off for the piling zone

Mobile Phone Policy – no mobile phones will be allowed to be used on site, all operatives to use designated areas to use mobile phones. All operators of safety critical plant to have mobile telephones switched off when operating the plant.

2.1 General Sequence/Method.

GSS piling will mobilise to site on confirmation that the work areas are ready to commence.
This will also include permission from Thames Water to carry out the piling works.

The rig and all materials will be delivered and loaded out to the front of the site. The rig will be tracked and inhole will be Hiabed directly from the lorry. The area below the lifting works will be cordoned off as the landing zone. Only the slingers and rig operator will be allowed into the active lifting zone and this will be on a needs must basis.

The site is to be maintained by GSS to a standard that piling operatives are not walking through mud and water unnecessarily.

Piling set up

All items of static plant will have a fully bunded area below to allow for catching all accidental releases of fluid from the plant. This will be achieved by a bespoke made bund or a proprietary drip tray being placed under the plant. Size will be a minimum of the following. 100% of the liquids within the plant +80%.

All material storage zones will be marked up on the ground and will be kept as clean and tidy as practically possible.

A skip will be provided to dispose of spoil and rubbish and will be stored in the entrance to site.

Prefabricated piling cages will also be stored within the site on the outer edge of the site to either the side of the haulage road. This will need to be segregated for safe storage.

The piles will be filled via wheel barrows discharging directly in to the pile bore. Concrete will be supplied by Tarmac Minimix on a 4.0M cube lorry.

Piling Works

Absolutely no piling works are to commence until the permissions from Thames Water are in place.

There is 1 x 340/300mm diameter SFA pile to be installed in the location shown on the below drawing extract. The pile is located as shown and all spoil arising from the works will be cleared by GSS to the 8yd skip.

A trial hole will be excavated day 1 to expose and locate existing services within the pile zone. There were numerous services seen during the site visit that did not show up on the asset search.
All exposed services will be marked and a final location will be agreed on site between the Client and GSS Operations Manager.

The site target is to mobilise and complete the pile on the second day.

The pile is being installed using the SFA/Case method which is extremely low in both impact and vibration. This will eliminate any possible damage to adjacent footings or existing drainage as may be present.

The piling rig will be tracked into the piling zone and set up on a pile position against a pre-planned sequence issued by the rig foreman.

The pile position will be marked out with a 10mm x 200mm steel pin. The rig will set up over the pile position and checked for positional tolerance.

Piling operational sequence is set out below in full.

The pile spoil will be cleared by GSS as stated above.

All rebar projecting from the piles is to be capped immediately on excavation and caps are to be replaced if knocked off or broken. This will only be required if the cage is to be left above the PPL.

2.1.1 Selection of Plant

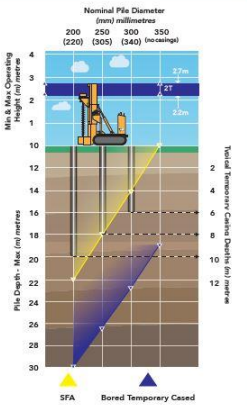
GSS Piling Ltd will provide all necessary plant to carry out the works. All operatives using mechanical plant will have the required training and/or certification. The plant will include all necessary transport equipment, concrete compaction equipment and hand-held electrical tools.

Piling will be undertaken using a Super Kitten as pictured below. Rig dimensions attached below for your information purposes only.

Super Kitten	
Weight	1900 kg
Nominal ground bearing pressure under tracks	47.5 kPa
Max ground bearing pressure under foot at max tear-out	400 kPa
Tractive effort	4300 N
Travelling speed	0.65 m/sec
Crowd force	15 kN
Retract force (Tear-out)	40 kN
Feed speed	6 m/min
Feed length	1400 mm
Clamp force	75 kN
Clamp maximum diameter	305 mm or 355 mm

Power Pack	60 HP
Weight	1100 kg
Engine	Hatz 60 HP Silent Pack
Hydraulic Pump	Rexroth A10VO H.P controlled
Maximum System Pressure	240 bar
Maximum flow rate	175 ltr/min
Control System	Danfoss load sense
Hydraulic oil tank capacity	250ltr
Fuel tank capacity	125ltr

Noise	Sound level dB(A)	
	Idle	Max Rev
2m	78	86
4m	75	84
10m	72	78



The performance and depth limitations is clearly subject to the ground conditions encountered, please contact for site specific detail.

The jet wash will be used to keep the public highway and all plant clean and free from spoil and concrete. High pressure jet washers are to be used carefully and any damage to the discharge hose is to be reported immediately and the jet wash is to be isolated until repaired.

Concrete pump works (If required)

The concrete pump to be used will be similar to the one pictured above and will be operated by a trained, competent operator.

The pump line will be set up from 100mm steel and rubber reinforced lines and all joints will be safely held together with steel wire. This will be installed in a position that will limit the amount of line needing to be striped daily which in turn will limit the amount of manual handling.
The pump is to be started and checked and greased before the piling commences each day. All mechanical operations including movement of the paddles are to be checked.

The pump requires a grout liner to be run through the lines before the grout can be pumped through, the grout acts as a lubricant. The grout will also be used to lubricate the stem of the augers. Primer pump will be used in this process as a primary primer and cement as a secondary.

Pumping operations will then commence, and communication will be as below.

Both the pump operator and the piling foreman are to keep a continual watch for blockages within the pump lines. If the pump lines become blocked, then the operator is to place the pump in to reverse to release the pressure from the lines. Once this is done the operator is to slowly release the wing clips on the joint and then free the 2 parts of the line. If at anytime the operator feels there is still pressure in the line then the 2nd clip should not be released until the pressure has had a chance to disperse.

Once the blockage has been cleared the pipeline is to be installed with the wire through the clips again.

On completion of the days piling the PUMP will be washed out in the spoil with the pipeline split and washed out in sections. This will allow the water to disperse and the grout to harden. This will then be cleared to the stockpile as hardcore.

2.2 Deliveries & Traffic Management

All deliveries will be called in as just in time deliveries due to the restricted nature of the site. Deliveries will be booked in the previous day at the dabs meeting TBC.
All Lorry's that are to be unloaded will be marshalled by a GSS operative/Traffic marshal within the site only and under no circumstances are the lorry's to be unloaded unattended.
The delivery zone needs to be cleaned daily or after any heavy soiling of the area.

All deliveries will adhere to instructions given by the site team and any deviations will be relayed to the site team as soon as practically possible.
All drivers are to contact the site team before arrival.

The rig will be delivered by a 26T rigid with Hiab.

All other delivery vehicles will be called in by the site Foreman and instructed on the route to be taken and where to park. All vehicles will be banked and Marshalled by a member of GSS Piling team and barriers will be installed to segregate the public from unloading operations if required.

2.2.1 Storage and protection

All protection works to the surrounding buildings and the footpaths and road are to be carried out by GCL and suitable for the piling rig to travel/work on.

Storage areas are to be agreed with the on-site management team/GSS Piling Foreman and all materials are to be stacked and left safely overnight.

Access is to be maintained to the fire escape at all times.

All plant and materials will be transported directly into the piling zone.

2.3 PILING OPERATIONAL PROCEDURES Case and auger

SETTING UP OF RIG ON A PILE POSITION

- The rig is to be positioned adjacent to the pile peg/marker and the ground around the peg is to be checked for stability.
- The surrounding area is to be checked for overhead obstructions. The head room above is very restricted, all pipe work and cable trays have been diverted by others. Measurements will be taken prior to set up and levelling of the mast.
- Once the above has been carried out the mast will be tilted vertically by the operator from the control arm side of the rig. At no time during this operation is the frontman to place himself in the blind spot to the front of the rig.
- The frontman will indicate to the operator via either hand signals or verbally until the mast is vertical in both planes. Again as mentioned previously the front man is not to put himself between any part of the mast or rig where a crush injury could occur.
- Once the mast is set up vertically the head is to be travelled up and down to ensure it is clear of all points and does not clash with any part of the existing column.
- The marker peg is then removed from the ground prior to any drilling operations commencing.

Drilling operations – CASE & AUGER PILING.

- On completion of the above setting up procedure the drilling operations will commence.
- The safety cage will be opened by the Frontman and will be controlled only by the Frontman not the operator. This will be done for every auger or casing to be installed and closed before the rotation unit is engaged.
- A lead casing will be lifted into the clamp foot with the attached cat head on the rig. The lifting of the casings and augers will be controlled by the Frontman on the rig.
- The casing will be secured by the clamps of the rig. The sub will then be rotated to match the hole alignment of the casing. **At no time is the frontman to place anything inside the hole of the casing especially fingers.** If the drive bar does not line up properly then the bar is to be tapped in with a hammer. The drive bar will be inserted from the operator side and if required the casing can then be spun back to give the operator a clear view of the drive bar.
- The lead casing will then be rotated in to the ground and re-clamped at a low level and the drive bar removed. The head of the rig is then lifted up to achieve installation of the augers.
- The lead auger is then placed within the casing as above lead casing but lifted in with the specially adapted lifting bale. The bale is detached by removing the top pin and then the head of the rig is attached to the auger. **It is essential that the top pin is in position when augering commences for each auger in turn.**
- The lead auger is then rotated into the ground until the hex drive of the auger is just above the casing and the top pin is removed. At this stage a second auger is installed as before and connected on to the hex drive of the lead auger. The pin is then inserted to connect the lead and second auger.

Once the pin has been driven in with a hammer the pin joint will be secured with a piece of tying wire.

- The augers are then connected to the head of the rig again and rotated into the ground. At low level the augers are stopped the cage is opened and the top pin is removed. The augers are then rotated down so that the hex drive is below the casing drive and the head is detached by joggling the rotation.

- Grease is then applied to the top of the casing thread by a tar brush each time to lubricate the next casing being threaded on.

- A second casing is then attached to the lead casing and the sub is connected as in stage 1 above for casing installation.

- The above sequence is then followed until the casings achieve seal into the underlying clay, which is estimated at up to 2no (none may be required)

- On achieving seal the augers will then only be inserted leaving the casings sealed in to the clay and clamped by the rig. Auger installation will then cease at the required design depth.

- The removal of the augers will require the cage to be open and this will require extra care on behalf of the rig operator.

- If the Frontman requires to work on the blind side of the rig then the operator using a safe agreed method of communication will take their hands off of the levers and only re-engage the levers on instruction from the frontman. Ideally all work needs to take place where the operator can see the Frontman.

- The augers are raised by the head of the rig and the auger plate is placed in just under the joint of the auger. The weight of the augers is then transferred from the rig to the plate. The pin wire is then removed, and the pin hammered out. The auger is then lifted and detached from the lower auger until the hex joints are clear.

- The head of the rig will then raise the and rest it on the side of the lower sections of auger. At this stage the top pin is removed and the auger is detached from the sub of the rig. The head is then lifted clear and removed by the frontman and lowered to the floor.

- Controlled dropping of the auger will require sufficient room around the rig for the frontman to step away once the auger is dropped. At no time is the Frontman to stand in a crush zone or try to catch a falling auger.

- Each extracted auger will be removed from the immediate piling zone before the extraction of the next auger.

- The above sequence will be used until all augers are retrieved from the pile bore.

- The pile cage is then installed by the piling crew, the first section of cage will be lifted into the bore and a trapping bar inserted below the welded band, the second section will be added and spliced into the first cage, the splice will be secured by a bulldog grip on two bars. The cage will be lifted and the trapping bar removed, then lowered to its design level and held in place by the trapping bar. The pile is filled with either grout.

- The casings will then be ready for removal. The casing is connected to the sub of the rig as above and raised until the joint of the casing is just above the clamps.

- The sequence of removal will then follow that of the augers above. If at any time the casing is overfilled with grout, then this will be cleared using a shovel to allow a full view of the drive bar hole. At no time is the Frontman to place his fingers in the drive bar hole or arms inside the casing to clear any spoil or overfilled grout.

- If at any time the above sequence cannot be achieved, then all work is to cease and the GSS Piling Construction Manager is to be contacted.

It is envisaged that due to the severely restricted nature of this site the cage will have to be removed and the crew will be briefed full on the below procedure. The working zone for the rig is restricted for access to just GSS piling crew members and no other operatives are permitted to enter if the rig is working unless permission is sought from the drilling foreman.

2.4 GUARDING OF PILING RIG

The default situation is that the guarding to the front auger area of the piling rig must be in place with all safety devices fully operational to ensure that no one can reach the augers when turning.

Owing to the position of some bearing piles close to the existing boundary walls, locally it will not be possible to operate the piling rig with the guarding in place – to achieve this aim the building would require a redesign to change the position of the piles.

The following Hierarchy of Control is to be used:

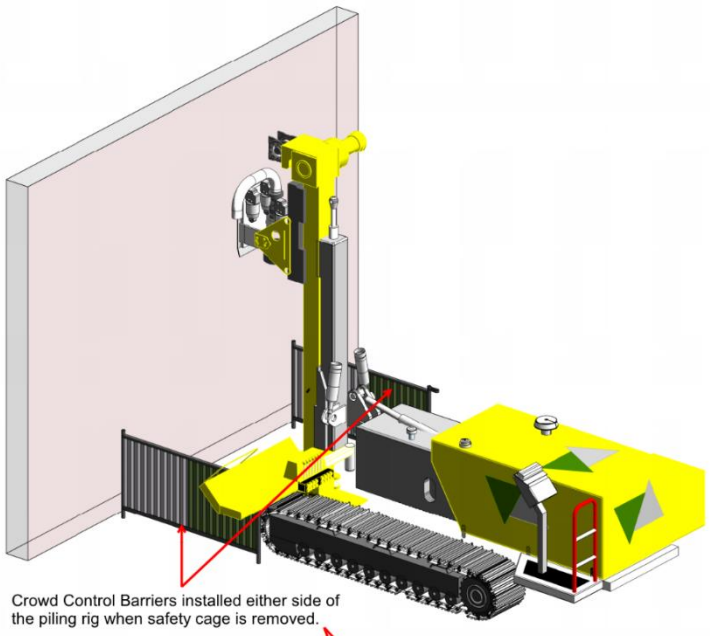
1	FULL CAGE IN PLACE – WITH ELECTRIC CONTROLS ON THE GATES	The cage is in place whilst the augers are rotating at normal speeds – once the gates are open the augers can only rotate in “inching” mode. Controlled by Piling Rig Operator Only
2	FULL CAGE IN PLACE – NO ELECTRIC CONTROLS – FRONT MAN CONTROLS	The cage when opened the front man has controls using “inching “ mode. The front man communicates with the Piling Rig Operator as he can still manually switch back to normal mode.
3	FULL CAGE IN PLACE – NO ELECTRIC CONTROLS	The cage when opened means that results in the piling rig operator using “inching “ mode. This is similar to No 2 above, as the so “life-line”, palm switch arm and safety barrier need to in place. Controlled by Piling Rig Operator, barriers need to be in place.

			
	4	PARTIAL CAGE IN PLACE – NO ELECTRIC CONTROLS	The cage when opened means that results in the piling rig operator using “inching “ mode. Use in areas of restricted access. This is similar to No 3 above, as the so “life-line”, palm switch arm and safety barrier need to in place.
	5	NO CAGE IN PLACE – BARRIERS & MANUAL CONTROL MEASURES	The works are controlled by the piling rig operator using barriers around the work area. He communicates with the front man to ensure it is safe to work at the front of the rig, barrier access is controlled by the front man. Safety Provision such as “life-line” or stop button on arm (larger rigs) are in place. Safety lights and arm are all being fitted to KLEMM 708 & 709. Traffic Lights and fly lead palm switches are being fitted to the KLEMM 702. No circuits are being fitted to the Super Kittens
	6	NO CAGE IN PLACE – BARRIERS -NO MANUAL CONTROL MEASURES	WORK STOPS – until manual control measures at the front of the rig are operational. This should never happen, the “life- line and the Traffic Lights must still be in place. An assessment by the Construction Manager is required at this point prior to any further operations of the Piling Rig

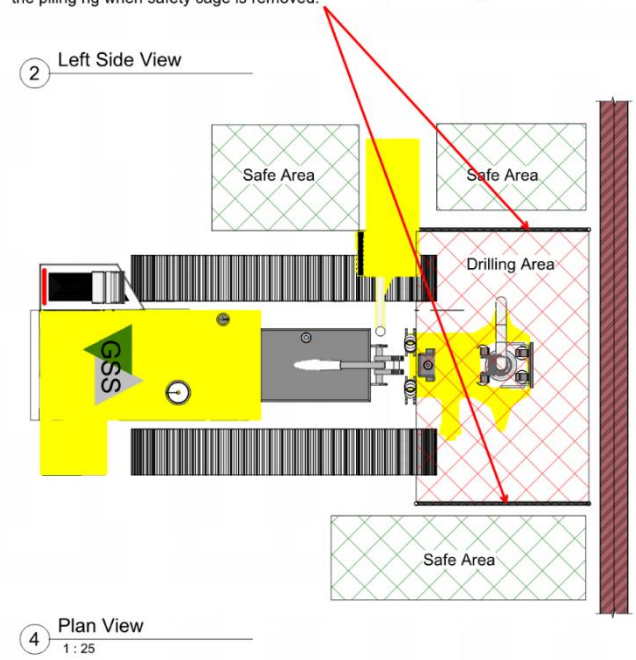
When cage is removed barriers must be in place as shown:

If the rig guarding must be removed the following additional controls will be implemented.

- A 2m exclusion zone will be in place around the rig where possible.
- The piling rig is not to ROTATE or TRACK whilst any operative is standing in the "drilling area" (see sketch above).
- Whilst piling, the front men will stand in "Safe Area" and within view of the rig operator.
- The piling foreman is to communicate with the PILING FRONTMAN at all times and ensure that the augers or casings are not rotating when he is within the "Drilling Area"



Crowd Control Barriers installed either side of the piling rig when safety cage is removed.



- The foreman is to ensure that the augers are cleaned off when they have stopped rotating by cleaning, rotating, then cleaning again.
- Additional care will be taken to ensure the ground around the front of the rig is kept as level and even as possible. The piling foreman will ensure that the area is cleaned during the piling operation and the spoil is removed from the auger areas.
- A daily briefing by the foreman to all operatives is necessary to ensure all are aware of these procedures.

3 Health, Safety & Environmental Considerations

3.1 Manual Handling:

A manual handling assessment is attached to this document.

3.2 COSHH

A list of materials below indicated which of materials are likely to be used for these works, COSHH assessments and material Safety Data Sheets for these will be kept on site.

☐ Asphalt
☐ Brick Cleaner
☐ DEB Pure Hand Wash
☐ DEB Swarfega Orange
☒ Dry Cement Powder
☐ Expanding Foam
☐ Formwork retarder - Aquatard
☒ Fuel Oil
☒ Grease (Turntable)
☒ Hydraulic Oil
☒ Mould Oil
☒ Readymix Concrete/Grout
☐ Resin - ADI Polyester
☐ Resin – Hilti HIT 500
☐ Sika Accelerator
☐ Silicone sealant
☐ Soft Wood Dust
☒ Survey Line
☐ Unleaded Petrol

3.3 Hand Arm Vibration

Use of vibrating equipment is to be minimised wherever possible by use of mechanical plant.

The plant and tools we use have been selected as being the best compromise between performance, vibration levels and cost to reduce the exposure of operatives to potentially harmful vibration.

Where hand operated vibrating plant is required the GSS Site Manager/Foreman will monitor and record using GSS HAV record sheet. Information regarding the equipment vibration levels will be held on site. Copies of records will be issued to the main contactors on a weekly/monthly basis, along with associated toolbox talks and additionally reiterated within on-going task briefings.

3.4 Noise

Initial noise monitoring is to be carried out and reviewed as the tasks being undertaken change throughout the job. Soundproofing on the Super Kitten guarantees a very low level of 86 DBA at 2.0M meaning that the rig is ideally suited for the application of urban job sites. Full levels are shown below.

Plant	SOUNDLEVEL dB(A)		
	2.0m	4.0m	10.0m
Super Kitten – Power Pack 	Idle: 78 Max Rev: 86	Idle: 75 Max Rev: 84	Idle: 72 Max Rev: 78

Action levels are:

- 80dB(A) is the Lower Action Value – hearing protection should be offered and additional methods to remove, reduce and prevent exposure should be assessed.

- 85dB(A) is the Upper Action Value – hearing protection zones set up, hearing protection to be worn at all times in these zones.
- 87dB(A) is the Exposure Limit Value (include SNR value of hearing protection). Daily exposure never to exceed a time weighted average of this value.

Noise assessments will be undertaken as required and revised as above. The plant and tools we use have been selected as being the best compromise between performance, noise and cost to reduce the exposure of operatives to potentially harmful noise levels.

3.5 Dust and Atmosphere

Dust will be kept to a minimum by controlling all works that could create dust.
Dry cutting of concrete and masonry is prohibited; wet cutting will always be used.

Note the site is open site and therefore ventilation will not be required.

3.6 Spillages

Storage, handling of use of substances must not permit any chemicals to enter the ground or water courses or drainage.

Any person or item of plant causing or identifying a problem will be dealt with as soon as possible to reduce any impact and ensure that harm is limited, and inform the site management of any spills, leaks or incidents relating to spillages so that (if necessary) it can be reported to the Environment Agency (or SEPA)

FUEL: The fuel will be kept in a bunded tank on kept on a bund of at least 110%. refuelling will only be allowed in designated areas with spill kits available and firefighting equipment. Any spillages will be contained and appropriated disposed of. In the event of a spill:

- Stem the flow, divert away from drains, use suitable PPE (e.g. Gloves, safety goggles).
- Surround the spill with absorbent materials (spill kit to be stored in suitable, close to hand position).
- Segregate the absorbent materials used as "special waste" and store in a marked-up container (e.g. COSHH bin)
- If it is a major incident contact the Environment Agency 24hr hotline on 0800 807060, complete form 43.

Grout: Grout spillages will be collected, allowed to cure and be disposed of as inert material. grout must not be washed into drains.

3.7 Permits

Permits Required: YES
Permit Type: Permit to dig + Hot Works Permit

3.8 Training of Persons Involved

All personnel will be suitably trained for the tasks that they are to undertake. All operatives will be Health and Safety trained and CSCS card holders. All plant operators to have CPCS cards and the site supervisor will hold an SSSTS as a minimum.

3.9 PPE

(as per British and European standard)

- Hard Hat EN397 -JSP Sky worker hats will be used on all ISG sites EN12492
- Safety Footwear EN345
- Hi-vis Clothing EN ISO 20471
- Gloves EN420
- Eye Protection EN1661349

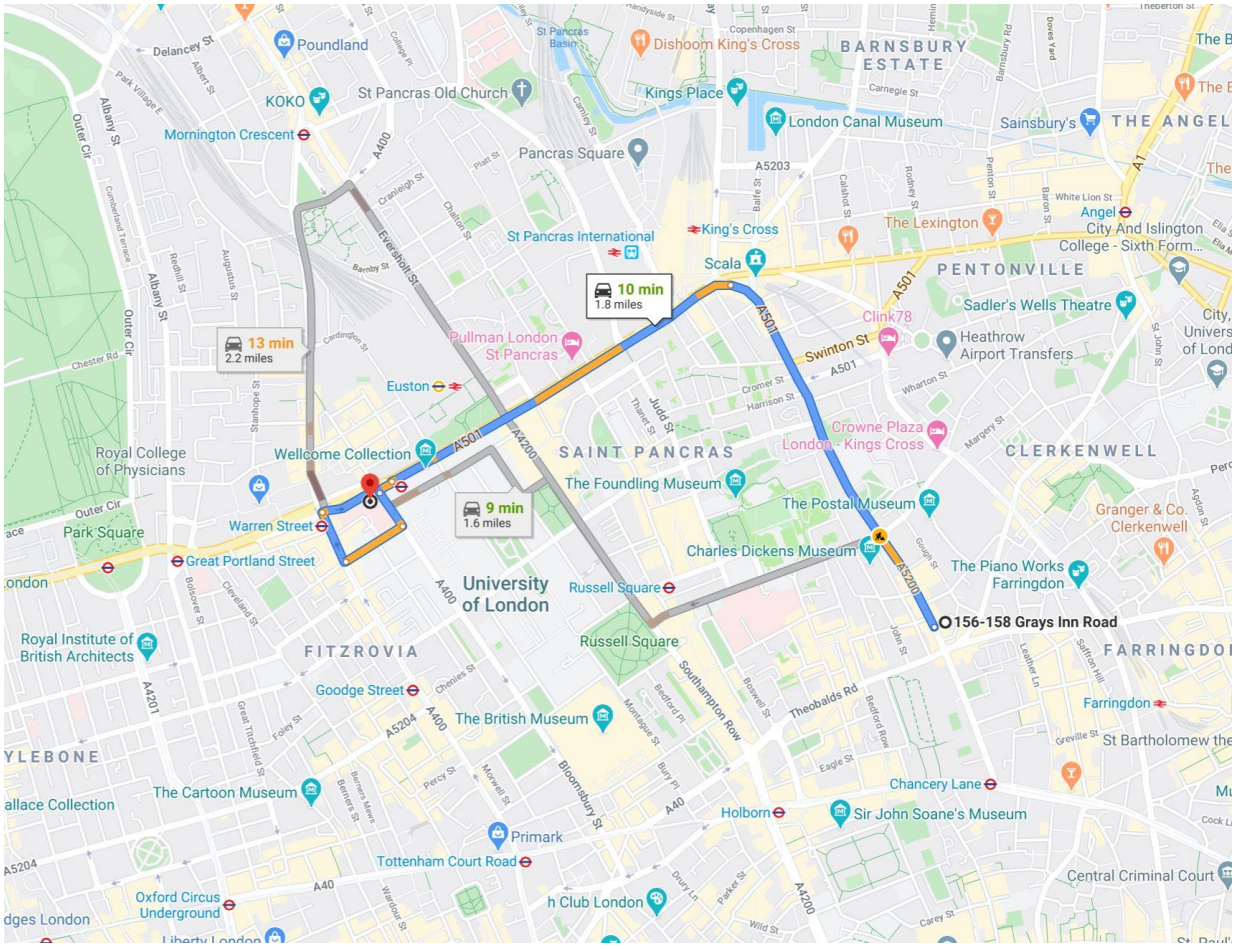
Additional task specific PPE to be used as per risk assessment.

- Handling cement FFP3 masks
- Ear plugs/ defenders 24-32 Db
- Gauntlets and wellington boots (steel toe cap) concrete pours
- Dual filter dust masks

3.10 First Aid

First aid kit/facilities are to be provided by the Principal Contractor and introduced within the site induction (awareness and communicated).
The nearest hospital is University College Hospital, 235 Euston Road, London, NW1 2BU

If 1st aid is required, then all incidents must be treated and recorded within the site accident book and a GSS Piling Construction Manager must be informed along with the main contractor.



3.11 Responsibility for & Review of Safe System of Work and Ensuring Compliance:

Malcolm Furniss BSc (HONS), MCIOB, CMIOSH
Safety Manager
Tel: 07988 629423

Manual Handling Operations Checklist (Mark boxes as appropriate, every activity must be marked)			
Company:	GSS Piling	**Project: Panther House**	**Activity:** Case and auger piling
Materials to be handled:	Reinforcement, 25kg bagged materials 25-10kg, Casings, augers.	**Hazardous contents:** N/A	**Location:** Existing ground level
Can manual handling be eliminated:	No but limited by use of mechanical aids where possible.		

TASK												
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LOAD											
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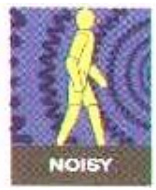
ENVIRO N												
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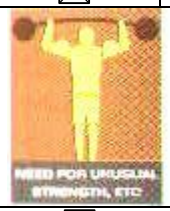
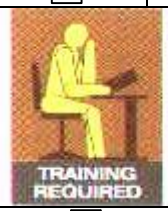
PERSON												
	☐	☒	☒	☒	☐							

Control measures (Mandatory Section to be completed)

Toolbox talks 'Manual Handling' before works commence and annual manual handling training.

Assessor Name:	P Burr	**Signature:**	P. Burr	**Date:**	20-03-2020

Noise Assessment Single Equipment

Project: Panther House	**Activity:** Case and Auger Piling.	**Sheet:** 1	**Completed By:** PB	**Date:** 20-03-2020
Project No: 20147	**People affected / at risk of being harmed:** (Include 3rd Parties) Operatives in area			

No	Activity	Tools in use	Pre Control Risk Rating High: >85dB Medium: 80-85dB Low: <80dB	Controls Required	Post Control Risk		
					High	Med	Low
1	**Piling**	Super Kitten	Medium	Ensure hearing protection in use.			**x**

Guidelines;
80dB(A) is the Lower Action Value – hearing protection should be offered and additional methods to remove, reduce and prevent exposure should be assessed.
85dB(A) is the Upper Action Value – hearing protection zones set up, hearing protection to be worn at all times in these zones.
87dB(A) is the Exposure Limit Value (include SNR value of hearing protection). Daily exposure not to exceed a time weighted average of this value.

4 RISK ASSESSMENT

Key to Risk Assessment

Risk are assessed by making a judgement about the severity and likelihood of an event occurring which constitutes the risk associated with the task. The following risk assessment has been carried out using the following descriptions for Severity and Likelihood.

Severity:

No Injury	1
Minor Injury	2
>3 day Injury	3
Major Injury	4
Death	5

Likelihood:

Almost Never	1
Seldom	2
Possible	3
Probable	4
Frequently	5

Risk Assessment Matrix:

The product of the severity and likelihood equates to the risk as per the table below. Low, Medium and High risk are defined as:

Low	1-6
Medium	7-12
High	13-25

		Severity				
		5	**4**	**3**	**2**	**1**
Likelihood	**5**	25	20	15	10	5
	4	20	16	12	8	4
	3	15	12	9	6	3
	2	10	8	6	4	2
	1	5	4	3	2	1

Risk Assessment

Nature of work: Case and Auger Mini Piling. **Risk Assessment Number:** 1

Project: Panther House **Project Number:** 20147

Assessed by: Paul Burr **Date:** 20-03-2020

Activity	Hazard	Initial			Control Measure	Residual		
		S	L	R		S	L	R
Deliveries Taking delivery of materials, plant etc.	Injury due to moving vehicles	5	3	15	Ensure warning signs are in place where vehicles might be moving. Provide regular training (tool box talks) about the risks of moving vehicles. Vehicles to be fitted with reversing bleepers. Mobile phone policy. Hi-vis clothing.	5	2	10
	Falls from delivery vehicles	4	3	12	Operatives are not to go onto delivery vehicles unless there is a proper handrail in place, or by using fall arrest block which must be secured at sufficient height above them to be effect.	4	1	4
	Lorry mounted crane offloading - crushing	5	4	20	Competent operator using the lorry mounted crane. Banksman Tethers on lifted plant/material.	5	2	10
Existing Services Excavation/Working in area where existing services may be present	Damage to Services Injury through explosion (gas) or electrocution (electricity)	5	4	20	Main Contractor to mark all services prior to works commencing Consult service plan prior to commencing works. Permit to dig system. CAT scan prior to excavation Scan prior to drilling holes in walls/floors	5	2	10
	Fire as a result of sparks	4	4	16	Hot Works procedures and permits system in use.Task fire extinguisher.Cut away from areas containing flammable materials	4	2	8
Control of Dust	Respiratory Problems	4	4	16	Suppress at source via dampening or use of extraction. Face fitted FFP3 Masks worn at all times	4	2	8
Control of Noise	Hearing Loss	4	4	16	Suppress at source via work method. Protection screens or use of ear defenders when above 80Db(a) Hearing action zones where required	4	2	8

Activity	Hazard	Initial			Control Measure	Residual		
		S	L	R		S	L	R
Abrasive wheels , Breaking Works Cutting of Reinforcement, concrete etc. with rotating blade cutter Breaking brickwork	Injury through debris in eyes	3	4	12	Training to ensure cutting debris being thrown away from face. Goggles	3	3	9
	Injury through disintegration of wheel	4	4	16	Training Use of correct wheel for the tool in use: diameter, width and bore diameter. Ensure wheel in attached correctly and tightened with the appropriate tool.	4	1	4
	HAVS	4	5	20	Monitor usage and record. Shift patterns and rotations to minimise exposure. Daily usage not to exceed 400 HSE points. Limit use to action value where possible Training	4	2	8
Protecting persons not involved in our works Undertaking work close to the public areas, this includes the footpath and other site activities.	Persons entering the work area, causing injury etc.	4	3	12	Ensure site gates are kept shut when not in use to prevent unauthorised access. barriers and warning signs in place.	4	1	4
	Slips, trips & falls	3	5	15	Ensure good housekeeping of work site. Open bores to be protected and covered or backfilled. Stick to defined walkways.	3	2	6
Rig guarding Removal of rig guarding in the event piles are too close to existing structures.	Persons coming into contact with the turning auger	4	4	16	Crowd control barriers to be placed around the front of the rig to prevent persons coming into contact with the turning auger. Persons only allowed to access the front of the rig when the auger has stopped turning. Driller to step away from the controls when a person is required to access the front of the rig. Driller to inform front man that it is safe to access the front of the rig.	4	1	4
Rig movements	Crushing	4	4	16	Only trained banksman / Frontman to direct the rig operator when tracking. Other operatives to stay out of the way and in sight of the rig driver. Barriers to be erected around the work area to prevent others from entering.	4	1	4
Case and Augering	Entrapment	4	4	16	Only frontman to be permitted in front of the rig. Auger cages to be always closed when possible. Chapter 8 barriers to be used if auger cages cannot be closed, Frontman and rig driver to have sighting of each other always.	4	1	4

					Under no circumstances is anyone permitted to enter the exclusion zone when the augers are rotating.			
Lifting of Augers and Casings.	Crushing / back pain.	3	3	9	Only trained frontman to remove augers and casings. Casings and augers to be stored on level ground. Keep the area clear when removing casings or augers. Do not place hands or fingers into casing holes.	3	1	3
Cage insertion	Entrapment	3	3	9	Do not place hands inside the cage. Use trapping bar under the welded ring. Use additional persons to lift the cage into the bore.	3	1	3
Concrete works Pouring site mixed concrete	Concrete burns	4	4	16	Training to ensure awareness of concrete burns Ensure that welly boots, rubber gloves and safety glasses are worn for concreting. Be fully covered while grouting. Ensure clean water is available on site to immediately wash any concrete from skin	4	2	8
	HAVS	4	5	20	Monitor usage and record. Shift patterns and rotations to minimise exposure Daily usage not to exceed 300 HSE points Training	4	2	8
	Spillage of concrete other than in the pile	3	4	12	Washdown thoroughly after concreting using a silt sock to prevent entering the drains. Ensure that grout/concrete is poured in a controlled manner by the pump operator. Ensure pile is not over filled with excessive grout/concrete.	3	2	6

SEVERITY **LIKELIHOOD** **Review Date:** Every 6 weeks **Assessor Signature:**

No Injury	1	Almost Never
Minor Injury	2	Seldom
3-day Injury	3	Possible
Major Injury	4	Probable
Death	5	Frequently

Paul Burr/Malcolm Furniss

Project Location:	**Panther House**
Principal Contractor:	TBC
Method Statement:	PILING - 20147 Rev.00

Great Britain	By signing below I confirm that I have a clear understanding of the briefing as above
Hungary	Aláírásommal megerősítem, hogy a fenti tájékoztatást teljes mértékben megértettem.
Latvia	Zemāk parakstoties, es apliecinu, ka skaidri saprotu iepriekš izklāstīto instruktāžu
Poland	Składając poniżej swój podpis, potwierdzam całkowite zrozumienie powyższych wytycznych
Russia	Ставя свою подпись ниже, я подтверждаю, что я четко понимаю инструкции, приведенные выше.
Albania	Albania Duke firmosur më poshtë unë konfirmoj se i kuptoj mirë udhëzimet më sipër
Romania	Prin semnarea prezentului document, confirm că am înțeles clar informarea de mai sus.
Bulgaria	Поставяйки подписа си по-долу, потвърждавам, че разбирам точно горния инструктаж

Full Name	Date	Company Position	Signed