

Works Package Plan

Project Name	Brunel walk	
Project Number	4061	
Revision Number	00	
Title/Task	CFA Load Bearing Piles	
Date of Issue	28-02-24	
Rig	SF 50	
Cannon piling Contact	Telephone	Cannon Piling Head Office: 01245 401 333
	Contact	George Newton
	Email	George@cannonpiling.com
Other Contractors to be copied with Method Statements and Risk Assessments for information, co-ordination and interface purposes:	Principal Contactor:	Selsdon Building Contractors Ltd
	Attendance Contractor:	TBC
	Other	TBC

Key	CP: Cannon Piling	LP: Lift Plan	GI: Ground Investigation
	MC: Main Contractor	MEWP: Mobile elevated work platform	SI: Soil Investigation
	PC: Principal Contractor	SBC: Selsdon Building Contractors Ltd	TMP: Traffic Management Plan
Project contacts	Client: Selsdon Building Contractors Ltd	Name: Tom Barker Email: Tom.Barker@selsdonpm.co.uk Contact: 07876801355	

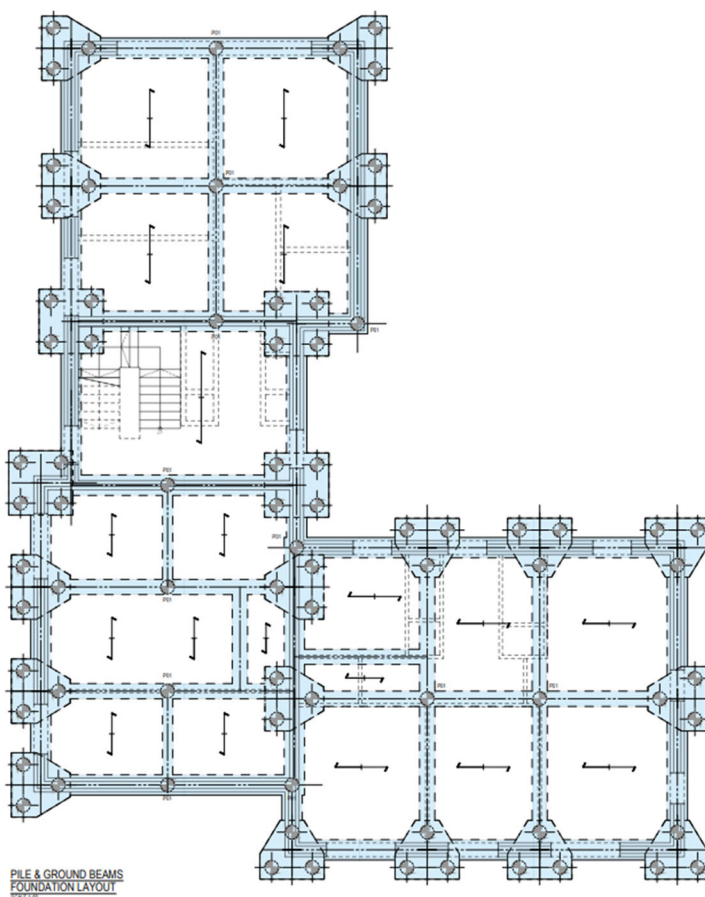
Cannon Piling Internal Approval							
Rev	Prepared by	Signed	Date	Checked by	Signed	Date	Status
00	SC	<i>SV Cooper</i>	28/02/24	TG	<i>TJ Goodchild</i>	29/02/24	Approved

By accepting this Method Statement, the PC/ Client are to follow this during our works. The Principal Contractor is not relieved of statutory obligation to provide, monitor, and revise their safe system of work during the progress of the task. Any revisions to the document must be agreed with Cannon Piling prior to execution with agreed notice period minimum of three days.

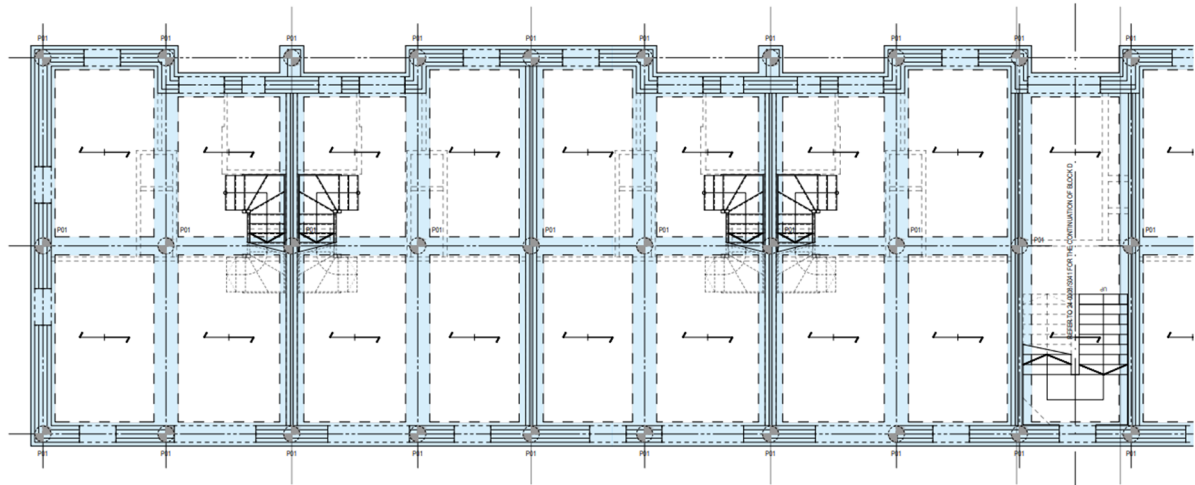
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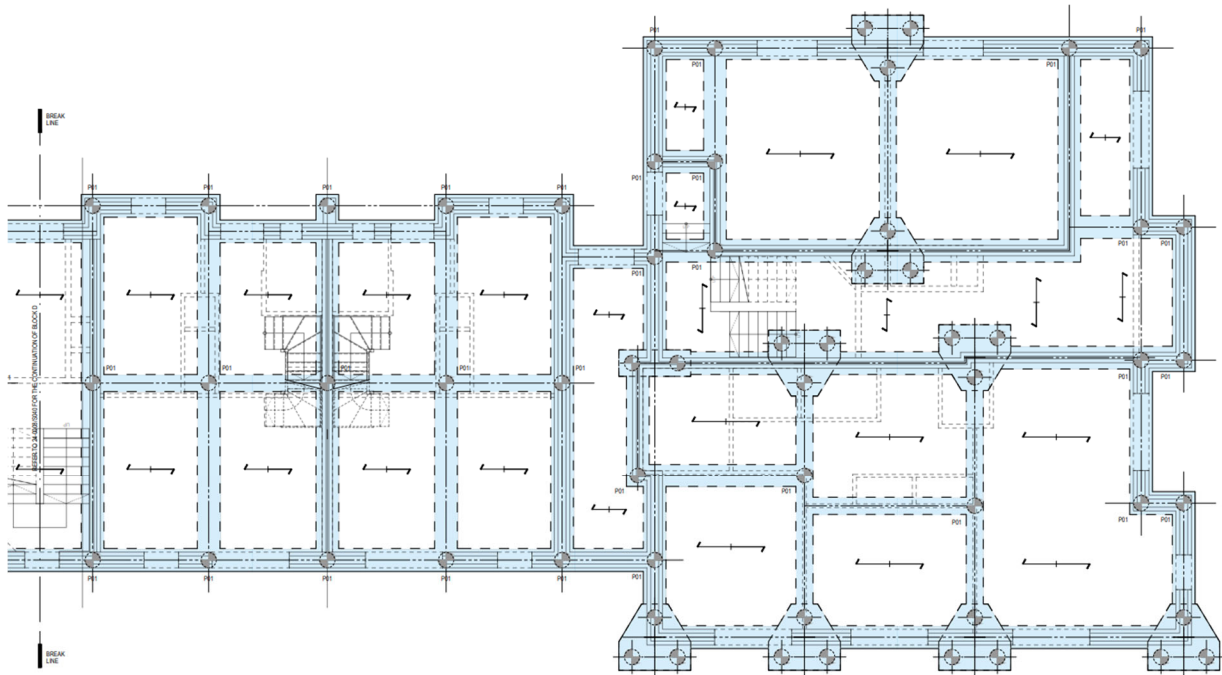
Notes

1.	Project Information		
1.0	Proposed Start Date		Proposed Working Hours
	Spring 2024		Monday to Thursday
			08:00-18:00
			Friday
			08:00-17:00
		Saturday (Potential)	08:00-13:00
1.1	Expected Duration		
	15 Working Days		
1.2	Exact Location (plan)		
	 PILE & GROUND BEAMS FOUNDATION LAYOUT 2024.12		





PILE & GROUND BEAMS FOUNDATION LAYOUT
SCALE 1:50



1.3	Sequencing & Programme		
	Item	Description	Duration
	Mobilisation	Delivery and site establishment: 1. SF 50 CFA bored piling rig 2. Associated Drilling equipment (Augers & Casings) 3. Reinforcement 4. Static concrete plant	5 hours
	CFA Load Bearing Piles	1. Bore, 2. Concrete 3. Reinforce all 350mm Bearing piles	15 Days
	De-Mobilise	Collection of 1. SF 50 pilling rig 2. Associated Drilling equipment (augers and Casings) 3. Reinforcement 4. Static concrete Plant	5 Hours
	Please note this is only used as a guideline, subject to ground conditions, site constraints & attendance capabilities and does not form part of the contract agreement.		

1.4	Scope of Works	
	Piles Designed	CP
	Piling Platform Designed	CP
	Piles to be constructed	CP
	Drawing Reference	Block A - 24-0008 S010 Rev A Blocks B and C – 24-0008 S020 Rev A Block D – 24-0008 S040 Rev A and 24-0008 S041 Rev A
	Pile Types	LB Piles
	Method	CFA
	Pile Diameter	350mm
	Pile Length	350mm = Av 20.7m
	Strata Summary	MADE GROUND LONDON CLAY
	Document Reference	BGS website
	Rig	SF 50
	Labour	3 operative per rig (minimum)

2.	Safe System of Works (Methodology)
	Work Instruction Before any work starts all operatives will attend a site induction from Selsdon Building Contractors Ltd (the PC) and provide proof of competency. Before work can start each day, the operative will attend and sign a daily briefing. As part of the Induction from Vidi (the Principal Contractor) and the daily briefing: this will include a briefing about the proximity of the adjacent railway and to ensure that works are carried out without oversailing the Network Rail boundary or any operational infrastructure. The location and orientation of the piling rig(s) have been chosen to avoid any collapse risk onto the railway, see site plans elsewhere for details. Once the piling platforms are signed off and the piling rigs are operational, Vidi Construction Ltd will manage the works with Cannon Piling Ltd to ensure there is no risk to the Network Rail managed infrastructure, and detail any controls required such as location and orientation of the rigs. As the piling platforms are fully designed and checked; the risk of collapse onto Network Rail property is deemed as low risk so far as is reasonably practicable. Any small plant required to support the piling works, shall be positioned so that the slew radius (including any component they are lifting) cannot foul the site boundary along the railway corridor, if there is any risk on this then works must be stopped and the CRE-Construction for VIDİ contacted. Before any work including rig erection take place, a Piling Platform Certificate is required (Temporary Works Permit to load, platform to be tested in accordance with the design requirements) to be signed and issued to the Cannon Piling site supervisor. Once the permit is signed and issued the mobilisation of the rig and associated equipment will be undertaken.
2.1	Mobilising on to Site
	1. Ensure the working platform certificate and permit to dig are signed and issued by SBC and the working area is adequately segregated from other trades. 2. Delivery of material to site must follow the Traffic Management Plan set out by SBC. All deliveries to site must obey any site speed limits or other signage and use the appropriate routes. Concrete will be delivered direct to site to avoid delays to the supply. The rig will also be sent direct to site in compliance with the routing and transport movement orders, set out by TFL and the Met Police. 3. The piling rig will be delivered to site on a low-loader. Using the abnormal load procedure, the approved transport routes and in line with SBC site meeting discussions. 4. Hiab and Artic lorry(s) will arrive on site to deliver the concrete pump and the auxiliary equipment, it will be banked into a position to unload, a lorry fall restraint will be placed around the lorry bed before the banksman accesses the lorry bed to start slinging, the pump operator will assist with the unloading and place the equipment in designated areas, making sure it is safe and secure. When unloaded the wagons will then be banked off site by the traffic marshal (supplied by others). 5. A reinforcement wagon will arrive to deliver the steel reinforcement which will be in bundles suited to the lifting capacity of the excavator/ Hi-ab. This will be banked on to the site by the traffic marshal. The Piling Operatives will assist in unloading the steel, aided by the 360 Excavator, placed on bearers in the designated area. When unloaded the lorry will be banked off site by the traffic marshal. 6. The remaining plant and equipment will be delivered using either 40ft articulated or 28ft flat-bed rigid wagons. Cannon Piling will ensure all deliveries are pre-slung, where appropriate, with fall protection in place.
2.2	Site Establishment
	1. Cannon Piling crew to be inducted by SBC on arrival. All operatives will be made familiar with the new surroundings, site constraints, and site-specific hazards. 2. Cannon Piling supervisor will brief the crew on mobilisation of plant, equipment, and materials along with site set up areas. All operative to sign up to Daily Briefing. 3. Cannon Piling supervisor will conduct a toolbox talk on lifting operation prior the works starting. All operative to sign up. 4. Permits signed briefed and issued. 5. Note all deliveries must adhere to SBC Traffic management plan. 6. Cannon Piling to supply attendance contractor with a schedule of lifts, prior to site arrival. 7. Lifting operations agreed with attendance contractor. All operatives to sign up to attendance contractors LP. 8. Plant and equipment positioned in agreed areas.

2.3	Rigging/ De-rigging Procedure
	- The rig will be mobilised in a designated area where a permit to dig and piling platform certificate is required and signed off before the mobilisation. Consideration must also be given for the orientation and collapse radius of the piling rig towards the Network Rail boundary, the rig must be sited to avoid this risk. To prepare the rig for drilling the rig operative under the instruction of two banksmen. Mobilising the machine from travel mode to working mode. See operator's manual for further method statements regarding using the machine. Manual stored inside the cab of the rig. - NOTE: Hand signals to be used when in lifting operations, moving plant and machinery and during any road vehicle actives. These signals will be used throughout this method of works to create a safe way of communicating. All signals to be established/ confirm during the briefing. - NOTE: During this entire operation, the site is to be sectioned off from other site users. Only authorising Cannon Piling qualified team alongside the attendant contractor in the area. Due to the nature of the site, no barriers and signs will be placed on the platform during piling works, the primary exclusion zone will be marked by the site boundary and the barrier off pedestrian routes and welfare. Only authorised CP and attendance staff allowed on the piling area during works. - Activities of unbolting temporary travel frames, that require working at height will be achieved via a static 4 tread podium. Following this the rigs mast will be erected, auger guides lifted into position via attendance excavator/ crane and concrete hoses connected. - Augers will be lifted under the drill head via the attendance excavator/ or the piling rigs service winch. Once the two hex are placed together. A banksman will be lifted to a max height of 6m to place 2 auger pins to secure the connection via the rigs service winch with the use of a Climbing harness, Bosun chair and additional rescue procedure of a fall arrest block. This will be repeated until the auger string is complete. - The attendance excavator will be used in lifting operations throughout this activity. De-mobilisation will be a mirror of this process of mobilisation.
2.4	Rig Calibration
	When: - Monthly as a minimum or when a re calibration event occurs. - At the start of the project and before the first pile is constructed. - The concrete pump is replaced. - The auger string extended or reduced. - The CFA rig is changed or reconfigure. Items to be calibrated: - Mast level - Depth Gauge - CFA DMS concrete filling instrumentation
2.5	Setting up to Pile Position
	Boring of the pile location will only commence once the correct reinforcement cage has been confirmed as arrived or has been made on site and relevant checks against the drawings for that pile have been carried out. Including checking the lifting point on the cage. - Load bearing pile position(s) will be marked by a 400mm re-bar pin driven into the platform vertically and referenced with a pile number written on the plastic mushroom cap, highlights with line marker by SBC - Secant Wall pile positions will be marked out within a pre-constructed guidewall. - The piling rig is tracked into position under the instruction of the banksman/slinger ensuring the auger string is positioned centrally over the pile position. - The bores must be installed at the exact position as set out and within our verticality tolerances, which must be checked frequently using either a spirit level or an inclinometer if any deviation, stop work and correct. - The bore is to be drilled in the exact position identified by the pin or paint, if unachievable the work cannot start and discuss with CP line manager and SBC. - A Three Meter exclusion zone will be set up whilst the auger is rotating.

2.6 CFA Piling

1. The piling rig is tracked into position under the instruction of the banksman/slinger ensuring the auger string is positioned centrally over the pileposition. Consideration must also be given for the orientation and collapse radius of the piling rig towards the Network Rail boundary, the rig must be sited to avoid this risk.
2. The hollow stem at the base of the digging head will be closed off with an expendable cap. During this operation the rig operative will immobile the controls.
3. With the mast in a vertical position and the auger closed, the auger top shall be lowered and maneuvered directly and precisely over the setting out pin. The mast foot shall then be lowered.
4. The pile number shall be confirmed by the banksman and briefed to the rig driver, verbally. The rig driver enters the design depth into the rig instrumentation. Before drilling commences, the mast shall be inspected and checked for verticality in both X and Y axis by reference to the gauges on the side of the mast and by the display on the rig instrumentation.
5. With the auger tip at ground level, the depth gauge is to be zeroed. Pile depth entered the system.
6. Drilling can commence. Bore the augers to the required depth observing the rate of penetration of the auger. Should it not be possible to progress the augers down to the required depth, the auger string shall be reverse screwed out of the pile bore, the shaft backfilled, and further instruction sought.
7. During the boring process the attending excavator shall clear away the spoil from the auger, at no point shall the auger stop for the operation to occur.
8. Upon achieving the required depth, the auger string is withdrawn some 200 to 300mm and a small amount of concrete pumped to allow the expendable cap to be blown clear of the digging head. The pile will be re-bored to full depth to clean the base prior to extraction.
9. Concrete is pumped through the hollow stem to the base of the auger and the pile constructed as the auger is withdrawn at a controlled rate, to the required over-break in relation the volume of the pile. As necessary, the auger string will be cleaned with the mechanical auger cleaner.
10. As per the above, on extraction of the auger the attending excavator shall clear away spoil, relieving the potential of spoil travelling up the stem auger. At no point shall the auger stop for the operation to occur.
11. Once the auger is extracted the rig is backed away and the top of concrete is carefully cleared off to expose the clean, wet pile shaft. The reinforcement cages will be installed by lifting and plunging the cage in to the pile with the aid of an excavator.
12. Following installation, the cage must be centralised and secured in place with mushroom caps placed over all exposed bars.

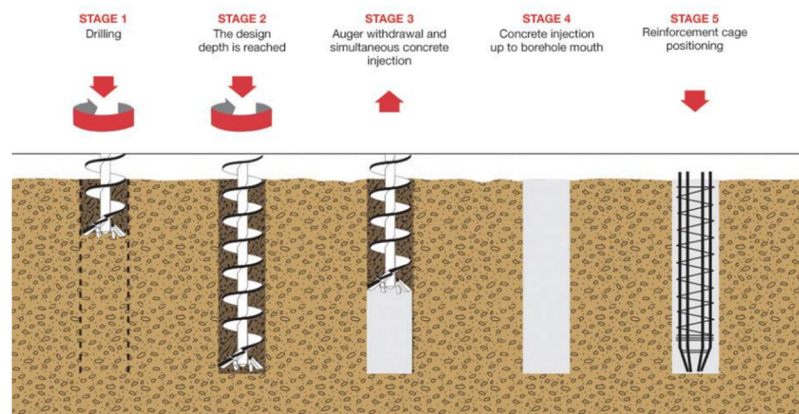


Figure 2.6.1: 5 stages for CFA piling

2.7	CFA Piling Concreting Procedure
	1. Prior to the commencement of piling works each day, the concrete pipeline is adequately lubricated with a grout/ primer mix. 2. The primer will be mixed with water and stored in a bulk 200L container. 3. This mix is poured directly into the pipeline before the first 10mm concrete delivery is pumped slowly through the lines until the concrete is flowing through the rig and the augers. 4. This priming process will reduce the chances of the concrete hoses blocking. 5. Each ready-mix delivery note will be checked prior to discharge against the pile design & mix design and accepted or rejected where applicable. Slump testing will be done if the concrete fails a visual inspection. 6. When signaled by the rig operator, concrete shall be pumped to the rig. 7. The concrete will then be dispatched into the hopper and pumped through the delivery pipe into the holding drum, furthermore, pumped into each pile shaft. 8. When the instrument confirms that the auger has been filled. The auger shall be raised the minimum amount to allow successful initial discharge under pressure of the pumped concrete. 9. The rig operator shall be briefed on which technique is to be employed to control the rate of placing concrete: a) Method 1, Positive Pressure. b) Method 2 over-supply (target range is also to be briefed) Generally and unless otherwise informed, method 2 shall be adopted. 10. As the auger is withdrawn, concrete shall be pumped through the auger stem to construct the pile. This stage of the operation shall be controlled by the rig operator using signals to the pumpman. The rig operator shall ensure that the withdrawal rate is not excessive and leads to loss of the auger tip embedment in concrete. The project engineer is to ensure that the rig operator is aware of the minimum and maximum over-supply target. When fitted to the rig, auto-lift for concreting shall be used. 11. The rig operator shall monitor the following parameters: a) Concrete flow, b) Pressure, c) Depth, d) Rate of Extraction. 12. As the auger is nearing the top of the pile, the banksman shall observe that clean concrete is being flighted from the pile, before the appearance of the auger tip. 13. When the concrete placement is complete the rig shall be tracked away from the pile to allow the attendance excavator to clear the spoil. The remainder of the spoil in the head of the pile, shall be removed by way of shovel, by the banksman.
2.8	Piling along Party Wall Elevations
	1. CFA piles are constructed by rotating a hollow stem continuous flight auger into the soil to a designed depth. Concrete or grout is pumped through the hollow stem, maintaining static head pressure, to fill the cylindrical cavity created as the auger is slowly removed. 2. The bore is never left open and unsupported using this method. When working on a retaining wall (Secant or Contiguous) we will work in a hit and miss two sequence to avoid any merging of wet pile shafts.
2.9	Concrete Line Cleaning Procedure
	NOTE 1 : cleaning the lines and clearing blockages is a potentially hazardous task, as workable concrete has a relatively short life. If the operator needs to open the delivery pipeline for any reason, he and others involved in the operation, must treat the line as being pressurised at all times, appropriate hand and eye protection must be worn at all times. NOTE 2 : Site supervisors and the pumpman are to ensure that ready-mixed concrete lorries do not wash out their chutes into the receiving hopper at any time. This can cause damage to the pump unit and affect concrete quality. NOTE 3: at no point shall ground lines and rig lines be blown out together in one go to remove existing concrete. NOTE 4: the blowing out process is to always be supervised by the site supervisor, other activities on site will have to wait whilst this is undertaken. 1. At the end of each day, the concrete hoses and augers are washed out after Piling is complete. 2. All operatives will be notified when this sequence of events is taking place and no site personnel will be in this permitted area. 3. The rig operator and pumpman shall ensure that any excess concrete is pumped through the lines in a normal manner, prior to cleaning. The line is then back pumped to relieve pressure, 5 reverse strokes.

	- Prior to using any compressed air, the concrete line is de-pressurised by reverse pumping. Once complete the pipe connection at the hopper can be disconnected as well as the T-piece cap at the rear of the piling rig. Releasing as much concrete via gravity as possible. - The compressor is connected to the end of the concrete hose and a pressure (8 bar) is built up to wash and blow out any concrete. This will be carried out in a safe manner. With whip checks and safety pins in place. - The blowout discharge can be controlled, using a blowout chamber this is positioned at the bottom of the auger stem to contain the discharge. A 6m exclusion zone shall be maintained around the blow out chamber. - A hard sponge ball will be placed into the concrete hose at the hopper end and is then blown through the pipeline the ball will eject from the pipe at the rear of the machine into a secured blow out chamber, along with the excess concrete. This is repeated for the piling rigs static pipework and augers, the same blowout chamber will be used to cover the auger tip to contain the sponge ball and excess concrete. - This process is repeated for a third time using water. - All excess concrete will be removed by the attendance excavator.
2.10	Reinforcement Site Fixing and Prefabricated Steel – CFA & Rotary Bored (site fixed)
	- Reinforcement steel will be delivered in straight lengths of bar and bundles of helical these will be stored in a designated area on timber bearers. - The cage will be fixed with annealed tying wire with sufficient ties to allow handling and placement. - Each cage can be removed from the fixing area by hand or via the attendance excavator. - The steel fixers will make the cages on heavy duty stands, whereby a pack of straight bar will be loaded onto. Stands are to be load tested, certified, and tagged. - All reinforcement will be placed flush with the piling platform or lower, no steel should project above the level of the piling platform. - Waste management will need to be in place by the SBC to accommodate the helical, foam, slings and excess wire waste created by this activity.
2.11	Reinforcement Installation – CFA
	- The pile cage will be checked by the banksman before the pile is bored and again before lifting/ plunging into the pile shaft. - The cage is to be lowered down into the wet pile shaft, concrete cover spacers are to be place at the bottom, middle, and top of the cage. Please, see figure 2.6.1. - Assistance for the excavator can be used in the way of tapping the cage down to the correct level.
2.12	Concrete Testing
	- Cube testing will be carried out to the SBCs and design engineers' specifications. 1 set of 4 cubes will be taken by R. P. Testing Solutions or CTSL Testing and stored off site, collection of cubes will occur daily. Slump and Flow testing will be carried out to the SBCs and design engineers' specifications. A slump test will also be undertaken during piling to ensure the concrete is in specification on delivery and safe to pump. This will be determined after a visual inspection from the pump operative and the piling supervisor.

3.0 Risk Assessments

3.1 Hazards

Moving Plant	Concrete	Working at Height
Spoil debris	Slips trips and Falls	Open Excavations
Lifting Loads	Overturning Plant	Unloading Deliveries

Hazard controls / Risk Assessments to be found in appendix

Hazard	Controls specified	Task where hazards need to be briefed. (or personnel)		
		Piling operations	Lifting operations	Attendance excavator/banksman
Rig overturning/collapse	- A signed and checked working platform certificate must be in place prior to the rig being off-loaded. - Always limit the amount of sprigging of the machine. - Ensure the rig is continually maintained as per the manufacturer's guidance. - Rig can only be operated when banksman of the machine is in attendance. - Rig to be located and orientated to avoid any collapse risk on the Network Rail adjacent property.	X		
Pipe work	- All hoses inspected during the start and end of each shift. Part of the pre-start checks. - Flexible hoses on the rig to be connected via whip checks as a fall arrest. - Flexible hoses on the rig to be bagged, should the hose burst at height, concrete shall be contained within the bagged pipework.	X		
Protecting Network Rail Assets	- All servicing, refuelling and storage of machinery will be as far from the network rail boundary as site constraints allow. - If hard obstructions are encountered, seek further advice from network rail before proceeding.	X	X	X
Lifting of cages	- Operation to be carried out by trained, briefed and competent person. - All cages to have a dedicated lifting band on the cages.	X	X	X
Rotation machine parts	- Auger cleaners must always be fully operational. - Auger guides to represent guards during rotation.	X		X
Open excavations	- Piles to be covered immediately following construction. - Wheeled plant must not travel over wet constructed piles. - Covered and cones to be used in substitution for spoil. - Marker such as spray paint to identify cast pile.	X	X	X
Concrete burns	- PPE to be worn. - Eye wash points to be identified in the site induction.	X		X
Moving plant	- All plant to be always accompanied by a banksman. - People plant segregation. - Training and familiarisation. 'Thumbs up' policy to apply at all times.	X	X	X

	Falling spoil debris	Auger cleaner to be always fully functional. Auger cleaner to be regularly maintained and inspected (pre-start). Site and soil specific Auger cleaner.	X		X	
	Un-loading deliveries	Operation to be carried out by trained, briefed and competent operator. Clients TMP adhered to. Banksman when maneuvering vehicles. Walk the course.	X	X	X	
3.2	COSHH					
	Data Sheets to be found in appendix					
	Diesel	Grease	Spray-liner			
	Hydraulic Oil	Ready Mix Concrete	Engine Oil			
	Pump Prime	AD Blue				
3.3	Manual Handling					
	Activities such as clearing concrete from top of pile shaft, lifting concrete hoses, light cages and general lifting and carrying of equipment. In-house training provided to all Cannon operatives, where available mechanical lifting aids to be used.					
3.4	Noise					
	Piling rig, concrete pump and holding drum and Deliveries are primary noisy works, this will be minimised by keep the machine switched off when operations are on break/hold. Using plant on lower revs when available. Hot works activities create noise, this will be monitored when in use through the hot works permit. This activity will be sporadic, and for short periods of time, for exemption using a metal cutting saw to cut a length of re-bar. All noisy works will be undertaken within the site hoarding, between the working hours 8am to 6pm.					
3.5	Hand Arm Vibration					
	Petrol cutting saw and club hammers may be used Vibration from the auger drilling is minimal as purely rotary boring techniques are being used. <u>For the limited time a petrol saw, and an impact gun is used during a 10-hour shift from a 4-person crew, HAVS register will not be required.</u>					
3.6	Vibrations					
	CFA & Bored piles have similar levels of vibration to standard site tracking plant, so the level of vibration anticipated because of the works is considered negligible. At present we have no plans on this project to use a cage vibrator. CFA & Bored piling are techniques used to minimise vibration, we would expect the site excavators, rollers etc to create greater levels of vibration. Monitoring of ground vibration to be undertaken by the client if required.					

3.7	Lifting	
	All lifting operations will be undertaken in accordance with the agreed excavator lift plan. All lifting operations will be supervised by a competent person and all lifting accessories & equipment will be certified. The Load Bearing cages at Brunel Walk are relatively small in length. Therefore, the attending excavator shall be used to install the cages into the freshly caged concrete. Stage 1. Each cage will be inspected prior to lifting to ensure all connections are intact and secure. Lifting tackle shall be attached to the designated lifting band. Stage 2. The cage will then be centered over the wet pile shaft and plunged into the pile to the depth of the top lifting band. Stage 3. The lifting chains will be detached, and the cage will be further lowered into the pile to the required depth by means of the attendance excavator, and finally centralised Stage 4. This sequence shall then be repeated for all piles throughout the works. Any piling rig auxiliary ancillary lifts will be covered under the 12 monthly thorough inspection & the piling rigs operators manual.	
3.8	Working Near Underground Services	
	It is the clients responsibility to provide Location drawings and identify the underground utilities in the area as in alliance with HSG47. A representative of SBC must sign the permit to work before any work can begin.	
3.9	Working in close Proximity to a Boundary Wall	
	When working near boundary wall, the auger will be cleaned by 2 mechanical auger cleaners 1 for bulk, second for fines and compressed air to ensure the auger always remains clean. A marshal will be present on nearby footpath in attendance to the public for when we are working within 3m. The same process will be applied when working along the Network Rail boundary to avoid any waste crossing onto the Network Rail land.	
3.10	Working with Electronic Devices	
	Mobile phones, personal radios and earphones are prohibited. These devices should be stored away in a safe place. Black hat ops may use a mobile phone if necessary, in allocated safe areas or within the machine cab when machine is stationary and controls discounted. Safe areas will be identified by TCL in the introduction.	
3.11	Site Details	
	Address	Brunel walk London N15 5RP
	Deliveries and Access to site	SBC traffic management plan should be adhered to at all times including the use of segregated walkways for access onto and around the site. All deliveries to site must obey any site speed limits or other signage. All deliveries to be pre-slung with flat beds having edge-protection prior to arrival.

3.11 Site Set Up

The piling rig will be mobilised to site on an articulated abnormal load, low loader and the associated equipment on Rigid Hi-ab wagons x3 under a permit, following approved transport routes. Please note that due to Highways/ Local authority restrictions, the rig will be subject to out of hours delivery times. Once known, all delivery times will be notified to the SBC in particular the piling rig delivery.

The low loader will park on Brunel Walk. Traffic marshals, road and curb protection to be supplied by SBC. The piling rig will be maneuvered off the trailer and tracked to an area with a firm, level platform suitable for rigging up by the piling crew.

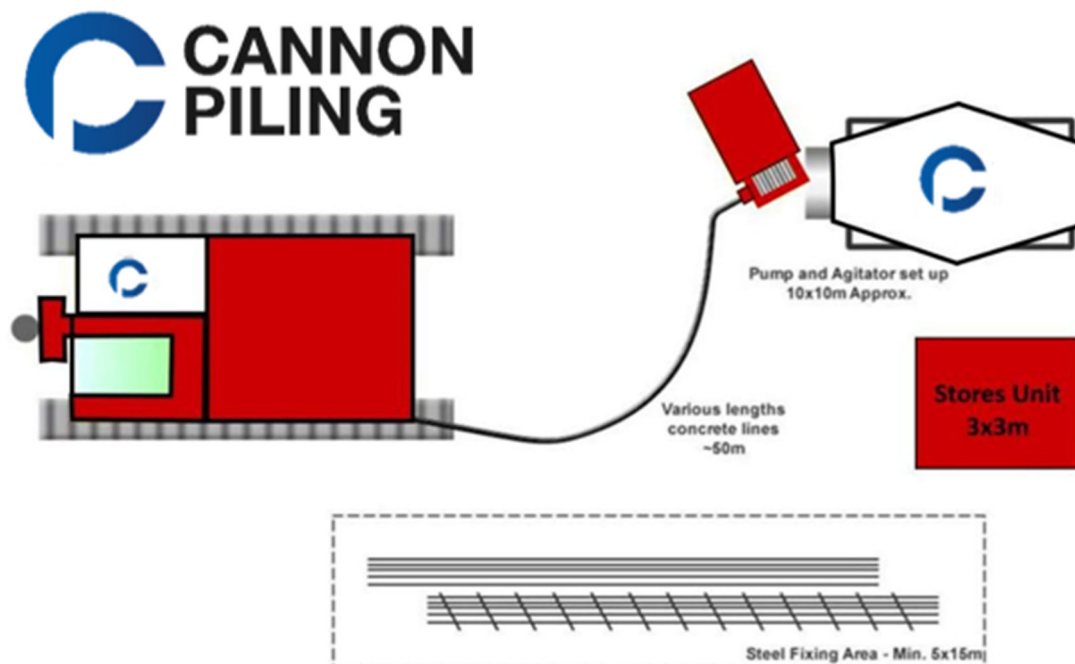
Pedestrian routes:

Pedestrian, site plant and their interface to be highlighted in the site induction, where all operatives will familiarise themselves with the new environment.

Site Layout/ Establishment

Details of the location of CP static plant and materials will be discussed following a site visit, by a project manager, and a plan marked to agreed set-down areas. This will include the Network Rail boundary and to agree rig locations and orientation to avoid any risk of collapse onto the Network Rail property.

A general site set up is shown below:



4.0	Resources		
4.1	Cannon Piling Personnel		
	Alistair MacDonald	Director	Alistairmacdonald@aarsleff.co.uk
	Jeff Newton	Senior Operations Manager	Jeff@cannonpiling.com
	George Newton	Operations Manager	George@cannonpiling.com
	Duncan Penning	Commercial Manager	Duncanpenning@aarsleff.co.uk
	Tom Goodchild	Contracts Manager	Tom@cannonpiling.com
	Sarah Cooper	Contracts Engineer	SarahCooper@cannonpiling.com
	Henry Newton	Geotechnical Engineer	Henry@cannonpiling.com
	Shaun Prill	Operations Manager	Shaun@cannonpiling.com
	Mark Hardy	HSE, Quality & Training Advisor	Markhardy@aarsleff.co.uk
	John Scarff	Transport Manager	John@cannonpiling.com
	Josh Wicks	Yard Manager	Josh@cannonpiling.com
	AshleyTokley	Plant Manager	Workshop@cannonpiling.com
	Site Operatives to be confirmed on Day 1		
	• 1 No. Supervisor – TBC (SSSTS) • Rig Operator – TBC (SSSTS + CPCS) • 1 No. Concrete Pump Operative – TBC (CPCS) • 1 No. Banksman (Rig) – TBC(CPCS)		
4.2	Training of Persons Involved		
	All Operatives to hold relevant qualifications for the tasks within their role.		
	• Supervisor to hold SMSTS (off site) • Working foreman to hold SSSTS • All plant operatives to hold valid CPCS cards • Banksman to hold slinger/signaler and/or rig attendant • Addition Qualifications ○ In house manual handling ○ Working at height ○ Abrasive Wheel ○ IPAF Persons under the age of 18 requirement: • Proof of competency • Copy of logbook (each site to be logged, collating experience) • References from trainers, project managers and clients that have experienced a young person on their site • Next of kin made aware when young person starts and finishes work each day • Young person to read, understand and sign up to the RAMS provided, stating that they are under 18 years of age • Site supervisor to be brief that a young person is within their crew. • Site supervisor will offer further assistance if required • Site supervisor to have copy of young person contact and any medical details		

4.3	Supervisor Details		
	George Newton – Project Manager - SMSTS – 07899 918 617 (Off site)		
	Details of Deputy Supervisor who will cover during absenteeism		
	Shaun Prill – Site Supervisor – SSSTS – 07824 955 605		
4.4	Plant/Equipment/Tools		
	Plant Equipment Tools		Qualifications & Training required
	CFA Bored piling rig (above 20t)	Static concrete drum	CPCS
	Rotary Bored piling rig (above 20t)	Lifting Accessories	CSCS
	Trailer mounted concrete pump	Hand Tools	IPAF
	Compressor	Associated piling ancillaries	MH
4.5	Materials		
	Diesel (lockable 110% bunded bowser)	COSHH	Ready-Mix Concrete
	Reinforcement	CARES certified	UKAS Certified
4.6	Technical Information		
	Please refer to: 1. Cannon Piling Pile design & latest drawing 2. SBCs site induction 3. Traffic Management Plan 4. Soil Investigation(s) 5. Piling Platform Design/ Certificate 6. Permit to Dig Info to be kept within the onsite folder		
4.7	Waste Management		
	Waste management will need to be in place by the SBC to accommodate the helical, foam, slings and excess wire waste created by the fixer. Prefabricated reinforcement cages, typically heavy or technical cages will be delivered to site and off loaded with the attendance excavator. Piling Auxiliaries will also generate waste. Skips and bins to be provided, monitors and regularly replaced by others.		
4.8	Housekeeping & Storage		
	Housekeeping will be ongoing, and the positioning of materials and equipment will be shown in a site phasing plan (see example in section 3.11). During our mobilisation, materials will be stocked and stored, on bearing timber and pre-slung. Concrete will be stored in a static concrete holding drum. Located within the allocated laydown area.		

4.9	Attendances & facilities for subcontract:
	The following attendances and facilities shall be provided and maintained at all times (including additional working hours) for the duration of and in relation to the specialist works, free of charge and in a manner that does not disrupt or restrict the regular progress of the specialist works.
	Main site attendances to be provided by other as follows: Full list of attendances is attached to CP quotation. 1. Full Welfare facilities. 2. Concrete wash out area. 3. Water supply at mains pressure. 4. Excavator and dumper in attendance for removal of pile risings. (22ton Zero Tail Swing) 5. Task specific and background lighting. 6. Setting out to all pile positions. 7. Car parking for 1No. Van. 8. Secure site hoarding. 9. Protection of works, roads, and adjoining buildings. A more comprehensive list of attendances attached to Cannon Piling Quotation.

5.0	Working Arrangements
5.1	Permits Required
	Yes; Permit to Break Ground
	Permit Type
	Prior to commencement of piling works, the following permits must be issued by SBC to CP: - Working platform certificate must be obtained before loading the working platform, renewed weekly and following any reinstatement of the platform, such as following removal of obstructions. - Permit to Break Ground – issued daily by SBC Services Avoidance Coordinator to the piling supervisor, confirming to be no services in the area. - Hot works permit for use of welding equipment or abrasives wheels. - Working at height permit for the use of MEWP. These documents must be signed by SBC and the CP supervisor prior to undertaking works. A copy of the Working Platform Certificate is attached in Appendix.
	Issued By
	SBC
5.2	Security Arrangements
	Provided by SBC The site compound will be secured from unauthorised entry when no work is being carried out, i.e. at night and during weekends or holiday periods. Signage will be erected to warn third parties of the dangers associated with unauthorised entry.
5.3	Mandatory Site PPE (As per British & European Standard)
	 As a Minimum to meet the SBC site rules the following CP branded or plain PPE will be worn by all CP personnel Mandatory PPE - Safety Hat - Eye Protection - Gloves - High Visibility Vest - Trousers - Steel Toe Cap Safety Boots

5.4	Task Specific PPE		
	Welding, Grinding or Cutting	○ Fire Retardant overalls	○ Ear defenders
		○ Ear plugs	○ Safety goggles
		○ Task grade gloves	○ Welding Mask
	Concreting	○ Long sleeve Top	○ Wellington Safety boots
		○ Waterproof Gloves	
	Working at Height	○ Harness	○ Lanyard
5.5	Special Measures to protect network rail assets		
	1. All work to be in accordance with the NR standard CP0063 Piling Adjacent to the Running Line. 2. De-rated all lifting equipment by 25% 3. Start Auger cleaner fitted to the rig to clean the auger. 4. No lights pointing at the train drivers. All plant lights and mirrors will be facing away from the track. 5. Pile mat to extend at least 2m past the centreline of the pile. 6. Pile Matt to be CAT 3 checked. 7. Pile matt to be plate bearing tested on a 10m-by-10m grid. 8. Checks on the pile mat condition will be done daily. 9. Servicing, refuelling and storage will be kept as far away from the NR assets as practically possible. 10. The rigs tracks are to site no closer than 1400mm away from the edge of the Working Platform. 11. Clearance between outermost extent of rig and OLE of 3.2m at its closest point on pile no. 1 – 3 – 5. 12. Vibration monitoring will be conducted on boundary wall by others. 13. Approximately 450mm clearance between auger and edge of foundation as tolerance for pile installation will be 75mm. 14. Earthing will be rigging to the piling rig when drilling along the NR elevation, including concrete feed pipe. 15. Rigs inclinometer limit switch will be set to restrict the rig from tilting forward no greater than 0.2 degree. 16. Concrete feed pipe to be protected with a Shannon sleeve.		
6.0	Emergency Arrangements		
6.1	Nearest Hospital		
	See Site Welfare		
6.2	First Aid		
	Provided by SBC ○ There will be a full time first aider on site for the duration of our works ○ The first aid box will be located in the site office ○ First aiders are to be identified during site induction.		
6.3	Pedestrian / Traffic Re-routing Arrangements		
	Provided by SBC ○ Traffic marshal(s) will coordinate interactions with traffic and pedestrians ○ People plant interface to be discussed daily in prestart meeting		
6.4	Fire Safety Arrangements		
	Provided by SBC In the event hearing the fire alarm: - ○ Turn off all plant and equipment and make your way to the designated assembly point for roll call by your Company's		

	fire Marshal. This can be located using the Company signboard displayed for this purpose. Stay at the assembly point until you are released by your Company fire Marshal. In the event of finding a fire: - ○ Leave the area and raise the alarm immediately. Do not attempt to fight the fire, and only use a fire extinguisher if you need it to help you get to a position of safety. Move to the assembly point and report the location of the fire and any details that may help brief the fire services.	
6.5	Responsibility for Task and Safety Lighting:	
	SBC to supply safety and task lighting.	
7.0	Communication of Information	
7.1	Induction, Works Package Plan briefing, daily briefing & toolbox talks	
	All personnel will attend an induction by the SBC, the site foreman/ supervisor will brief the crews on initial induction. All information training and briefings will be communicated verbally daily. The site supervisor/ foreman will brief the crews daily in their duties on site and their activities for the day including interaction with other trades. This will refer to any changes on site as appropriate. Toolbox talks will be carried out weekly and a training record will be made. These TBT generally follow a schedule which is common across foundation sites, made site specific.	
7.2	Confirmation of operatives briefing	
	Signed briefing sheets to be submitted prior to commencement of works. ○ All operatives to sign attendance contractors lift plan ○ All operatives to sign CP RAs, MSs and Works Package Plan located at the end of this form	
8.0	Environmental	
8.1	Pollution, Waste, Local Habitat	
	Environmental Impact	Action Taken to Mitigate
	Diesel engines	Minimise use
	Oil/ diesel spillage	Waste Management/ Spill kit
	General waste	Waste Management/ Recycle
	Material suppliers	Local to site to reduce travel distance
	Noise	Reduce when possible/ site working hours
	Light	Reduce when possible/ site working hours
8.2	For the avoidance of damage to sub surface drainage	
	The main contractor to ensure all existing sewer connections are terminated outside of the line of piling. The proposed methodology of pile construction ensures that the pile is installed in manner that ensures that the sides of the pile excavation are always supported, as per section 2.7 CFA Piling Concrete Procedure.	

9.0	Monitoring			
9.1	Monitoring			
	The permit system requires suitable supervision and monitoring to ensure that the conditions of the permit are complied with. Alteration to piling platform will be logged.			
9.2	Person Responsible for monitoring / review of the safe system of work and ensuring compliance.			
	Project Manager: responsible for overall project management, infrastructure, monitoring of works including safe systems of work on a day-to-day basis.			George Newton
	Contracts Manager:			Tom Goodchild
	Health and safety manager/ advisor:			Mark Hardy
9.3	Review Date			
	Every 6 Weeks from start of site works.			
9.4	Amendments Authorised by			
	Name		Signature	
	T Goodchild		<i>T Goodchild</i>	
	Status	Accepted	☒	Not Accepted
10	Cannon Piling Approval			
	The document has been prepared by S. Cooper, based on the scope of works and a visit to site in Spring 2024 I can confirm this document will cover all aspects of our contract, forming our safe system of work and titled Works Package Plan.			
	Name		Sarah Cooper	
	Signed		<i>S Cooper</i>	
	Position		Contracts Engineer	
	Date		29/02/24	
	Revision		00	
11	SBC / Client Approval			
	By signing below, you have read and accepted the method of works, and what is required by the Principal Contractor.			
	Name			
	Signed			
	Position			
	Date			
	Revision		00	

12	Risk Assessment / Method statement sign off		
	The undersigned confirm they have been briefed on the enclosed health and safety pack and are aware of all the risks and procedures detailed therein.		
	NAME	SIGNATURE	DATE

13	Weekly Toolbox Talk Sign off		
	The undersigned confirm they have been briefed on the enclosed health and safety pack and are aware of all the risks and procedures detailed therein.		
	Location		Supervisor Presenting TBT
	Subject		
	Date		Signature
	Duration		
	Name	Signature	Position
	Feedback and Comment from Cannon and site staff		