METHOD STATEMENT

1. PACKAGE	
Project	69 Redington Road, London, NW3 7RP
Title	Installing perimeter underpinning bases
Method Statement No.	MS03
AP Contract No.	GA19787
Date	23/09/2014
2. DESCRIPTION	
Process	Excavate an access hole, tunnel beneath the existing footing, install a reinforced concrete "toe" and install a reinforced concrete wall beneath the existing footings of the flank walls.
Location	• Delivery – Take deliveries of materials and equipment into the front driveway of the existing property. Manually handle equipment and materials through the existing garage area and into the existing property through the side lower ground floor entrance. • First stage underpinning base installation – within the lower ground floor of the existing property initially along the flank wall adjacenet to the existing garage
Date / Time / Duration	25/09/14 for an anticipated 7 week duration
Sequence	01 – Mobilisation to site 02 – Remove existing floor slab **03 – Installing perimeter underpinning bases**
General Information	• Any medication being taken by site operatives must be communicated to the Whistlers Ltd. site supervisor at the induction stage. • Working hours will be between 08.00 and 18.00 Monday to Friday. • Transistor radios or other communication equipment including mobile phone hands free kits or ear pieces are not permitted on site. • No alcohol to be consumed on site or less than 8 hours coming to work. • Parking will be in the form of private parking at the car owner's risk. • All site operatives must sign in / out on a daily basis at the site entrance and must assemble in an emergency at the SAP Point. • The Whistlers Ltd. Site Management will brief all operatives on the contents of this Method Statement and the Associated Risk Assessment. • All operatives are to be competent and trained to carry out duties as detailed in the site/task specific method statement. • D&A tests may be randomly held by Abbey Pynford. • All plant operators will be competent and hold either a CITB CPC/CSCS card or a Certificate of Achievement from our internal training manager.

	• All original examination certificates (where possible) to be on site for inspection or supporting documentation. • Whistlers Ltd. to provide security fencing and safety signage to prevent unauthorised entry to the working area. • Access/egress lighting to be provided by Whistlers Ltd. to and from our place of work. • Whistlers Ltd. to demarcate the travel route for the items of plant/equipment etc. to and from the places of work. • Fire points to be provided and maintained by Whistlers Ltd. • All operatives will be dressed suitably before and after leaving the working areas (within hoardings). Safety footwear, shirt and long trousers will be worn at all times. • Eating and smoking is forbidden within the confines of the working area. • Weils Disease precautions MUST be adhered to. • Whistlers Ltd. to advise Abbey Pynford of all storage facilities for plant, equipment and materials. • Whistlers Ltd. to advise (in writing) Abbey Pynford of the disconnection of all utility services in the working area and issue to us a signed copy of a Permit to Dig. • Whistlers Ltd. to install a datum baton that directly relates to the Construction issue drawings issued from the Engineer and Architect on the existing walls for Abbey Pynford to use. • Whistlers Ltd. to clear the lower ground floor of the existing property to allow storage of Abbey Pynford's materials. • Whistlers Ltd. to install ramps into the working area to ensure safe access/egress to the area. • Whistlers Ltd. to complete all demolition within the Lower Ground Floor prior to Abbey Pynford's mobilisation to site. • Whistlers Ltd. will barrier off all areas of known asbestos whilst Abbey Pynford's operatives are on site to stop the transmission of fibres around the property. Key man to check working area and report all safety issues to the Contract and Safety Managers eg. poor access/egress, no site lighting etc.
Facilities/Requirements of Whistlers Ltd.	Whistlers Ltd. will provide and maintain the following facilities • Asbestos Survey Document • Abbey Pynford's Permit to Dig • Existing services drawing • Hot Works Permits • Welfare Facilities • Site security • Site protection • Site office
Accident Reporting	• Once the accident / emergency has been dealt with; the foreman is to report all / any accidents / incidents, in the first instance, to the Whistlers Ltd. Site Manager followed by the Abbey Pynford reporting procedures.
Risk assessment / method statement	• Whistlers Ltd. Site Manager to communicate risk assessments / method statements to site operatives and ensure that the operatives sign

communication	acceptance of the working procedures. • All operatives must have relevant personal protective equipment and must be aware of the requirement to wear it at all times.
Mark out the positions of the underpinning bases	Once the existing slab has been broken up and removed in the required locations use spray line paint to mark the bases on the existing Lower Ground Floor walls of the perimeter walls. Use Abbey Pynford's sketch at the rear of this method statement to set out the underpinning bases. Once the bases are marked and numbered, review the sizes of the existing walls, columns and beams above and check for any areas where excessive loads may be produced (at the ends of lintels, either sides of window openings and doorways, etc.). Ensure that the underpinning bases marked do not undermine any of these areas in one "hit" i.e. the heavily loaded columns and walls are separated into at least 2no. underpinning bases to ensure the loads are supported at all times. Assess the existing structure for fatigue or damage. Contact the Contract Manager immediately of any fatigue, damage or potential underpinning difficulties before beginning any underpinning bases.
Excavate underpinning hole	Decide the underpinning bases to excavate first, ensuring that bases directly either side of these are not opened at the same time. Set up temporary crash barriers around the proposed access pit location with a wheel barrow width section left out for ease of access. Set up the compressor with a FL22 pneumatic breaker. Ensure that oil lubricant is forced through the lines using an oily bottle and whipchecks are on each of the hose joints. Check the compressor for fuel and oil, check the hoses for damage and begin up the system. Using the Pneumatic breaker, break up the blinding in the marked location and use a wheel barrow to remove the spoil to the rear garden of the property and tip into the set in the garden where the masonry wall used to be. Using hand tools and the pneumatic breaker continue excavating the access pit to 600mm below ground level. Check the soil compared with the anticipated and contact the Contracts Manager immediately if there are any discrepancies. Check the existing footings for fatigue or damage, if safe, tunnel beneath the existing footing 450mm from the front masonry edge. Break out the existing masonry footing to a level no less than 98.671m AODfor the full width of the underpinning base. Install a ring of timber and plywood shoring as per the shoring design around the temporary base. Ensure the plywood protrudes at least 150mm above the current ground level to act as a toe board. Fix timber barriers to the shoring including a mid-rail and form an access rail for ease of excavation.

	Once the timber barriers are installed the temporary plastic barriers can be removed from the area. Excavate the base to 1.5m below current ground level and install a second shoring ring into the excavation. Again, check the ground for any discrepancies. At this point ensure that “deep excavation” signs are erected in close proximity to the access hole. The top of the excavation should be manned at all times when a labourer is excavating. If there are no operations in the excavation then the access hole must be suitably covered with timber to stop anyone or anything falling into the excavation. As the formation level extends below 1m BGL use only wooden ladders to gain access / egress from the excavation (angle of ladder must be 75 degrees, i.e. one step out for each four rungs). Ladders must be tied and/or footed and extend above the top of the excavation by at least 1 metre. As the base extends beyond 1.5m below current ground level use a gas detector at the start of each shift of excavating. If the gas detector alarms then no-one should enter the excavation until the area has been well ventilated for 15 minutes and the gas monitor is once again used to pick up the presence of gas or lack of oxygen. If the problem persists then contact the Contracts Manager. If the operative excavating the underpinning base feels dizzy or nauseous then the operative is to immediately exit the exaction in a controlled manner and shout “Gas, Gas, Gas”. The gas detector is to be used on the excavation again and air forced into the excavation is 15minute intervals until the gas detector does not sound. Continue excavating the underpinning base to 94.811m AoD ensuring that shoring is installed at a maximum of 1.2m intervals and the ground is as described in the ground investigation report.
Contact necessary parties to inspect the excavation and ground conditions at formation level.	
Install Toe detail to underpinning base	Once the excavation has been inspected, install the reinforcement for the “toe” of the underpinning as detailed in Abbey Pynford’s reinforcement drawing ref:101-A. Attach a timber kicker shutter on the front line of the steel reinforcement and secure using tying wire. Pour C35 concrete with Kryton additive into the toe detail to a level of 95.311m AoD for the toe and 95.411m AoD for the kicker. Ensure the concrete is adequately compacted.
Install wall for RC underpinning base	Strip the kicker shutter and install a Kryton internal joint along the top of the kicker. Fix the steel reinforcement as per Abbey Pynford’s RC detailed drawing to the

	correct level (98.596m AOD) Fix a timber shutter to the front of the underpinning base in line with the masonry wall above. Fix a birds mouth shutter to the top of the underpinning base to enable the concrete to be poured up to 75mm below the underside of the existing foundation. Pour C35 concrete with Kryton additive into the underpinning base and vibrate adequately. Continue to add concrete to 98.596m AOD ensuring the concrete is smooth and level.
Dry-pack between the concrete and the underside of the existing foundations	Once the concrete has set firm, form a dry-pack mix using a 3:1 sand to cement ratio, add Cebex100 and a small quantity of water until the mix holds with a small amount of compression (squeezed in your hand). Ensure the necessary PPE is worn whilst handling Cebex100. Place the dry-pack onto the top of the concrete underpinning and force to the rear of the gap. Use a piece of timber and a club hammer to fully compact the mix into the gap.
Strip the concrete shutter	Remove the timber shutter from the front of the underpinning from the bottom to the top of the underpinning base. Once out, replace the timber struts across to the face of the concrete underpinning. Cover the access pit using timber and plywood to stop anyone or anything falling into the hole.
Follow on works	Continue to excavate the underpinning bases in a Hit one miss two sequence and allowing at least 24hrs after dry-packing to excavating an adjacent base. Once the party wall awards have been granted and the asbestos cleared from the undercroft area then continue to install Pynwall underpinning bases to the remaining flank of the property.

3. RESOURCES	
Supervision	Foreman at all times, visiting Contracts Manager, visiting Health and Safety Advisor
Personnel	Foreman and up to 12 labourers for the te underpinning works.
Plant/Equipment	Conveyors, Compressors, Compressor Accessories, Heavy Duty Breakers, wheelbarrows, small tools, grab lorries, delivery lorries, angle grinders.
Materials	RMC, Steel reinforcement and accessories, Timber, Plyboard, Diesel, engine oil, sprayline paint

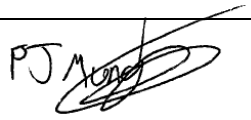
4. SPECIFIC RISK ASSESSMENTS REQUIRED

Associated RA's + MS's	RA03 – Installing perimeter underpinning bases TRA21 – Use of Abrasive Wheels TRA22 – Working In Excavations TRA23 - Use of Ladders TRA28 – Safe Work on Public Highways TRA32 – Use of Air Compressor TRA33 – Use of Hand Tools TRA34 – Use of Pneumatic Tools TRA54 – Load & Unload of Steel Delivery Vehicles MH 10 – Movement of waste and plant MH 12 – Reinforcement Materials Associated supplier RA/MS
Access / Egress	Designated walkways to be set up and altered to co-inside with the site operations.
Others at Risk	Building Control inspector, Client visiting site, Trespassers.
COSHH	COSHH 03 - RMC COSHH 04 – Mould Oil COSHH 05 – Kilfrost COSHH 09 – Sprayline Paint COSHH 10 – Diesel COSHH 14 – Soft Wood Dust COSHH 16 – Hydraulic Oil COSHH 28 – Diesel Engine Oil COSHH 30 – Bleach COSHH 31 – Battery Acid COSHH 32 – WD40 COSHH 51 – Cebex 100
Noise	NA05 – Diesel Engine Powered Air Compressor NA08 – Medium Duty Breakers NA17 – 9inch Angle Grinder NA22 – 9inch Electric Circular Saw
5. CONTROL MEASURES TO BE USED	
Permits	Permit to Dig to be issued by Whistlers Ltd.
Security	To be maintained by Whistlers Ltd.
Special Training	Operatives entering the underpinning bases should have basic confined space training.
6. PERSONAL PROTECTIVE EQUIPMENT	

Requirements	1. Always - Hard Hat, Safety Boots, Hi-vis vest. 2. Operatives excavating soil must wear eye-protection, ear protection and protective gloves. 3. Operatives cutting timber must wear eye-protection, ear protection and gloves at all times 4. Operatives cutting steel reinforcement to wear full face visor or safety goggles, appropriate gloves and hearing protection 5. Relevant PPE as stated in the COSHH 6. Hearing protection to SNR30 to be worn when operating breakers or excavators. 7. Operatives handling Cebex 100 must wear fitted RPE, gloves and eye protection. 8. Operatives handling Kilfrost must wear fitted vapour face mask, eye protection, PVC/rubber gloves.

7. EMERGENCY ARRANGEMENTS	
First Aid Requirements	Minimum of one day first aider on site at all times.
Rescue	In an emergency raise the alarm, contact emergency services and if necessary leave the premises by the nearest safe exit. All operatives to assemble outside the property on the opposite side of the road and the Foreman is to ensure that no persons are absent.

7. INFORMATION SUBMITTED TO	
Checking/Review	Gary Kebell
Change Requirements	If Method Statement cannot be followed, Stop work and inform Abbey Pynford Contracts Manager immediately.

8. AUTHOR	
Prepared By	Philip Mundy
Signed By	
Dated	23/09/14

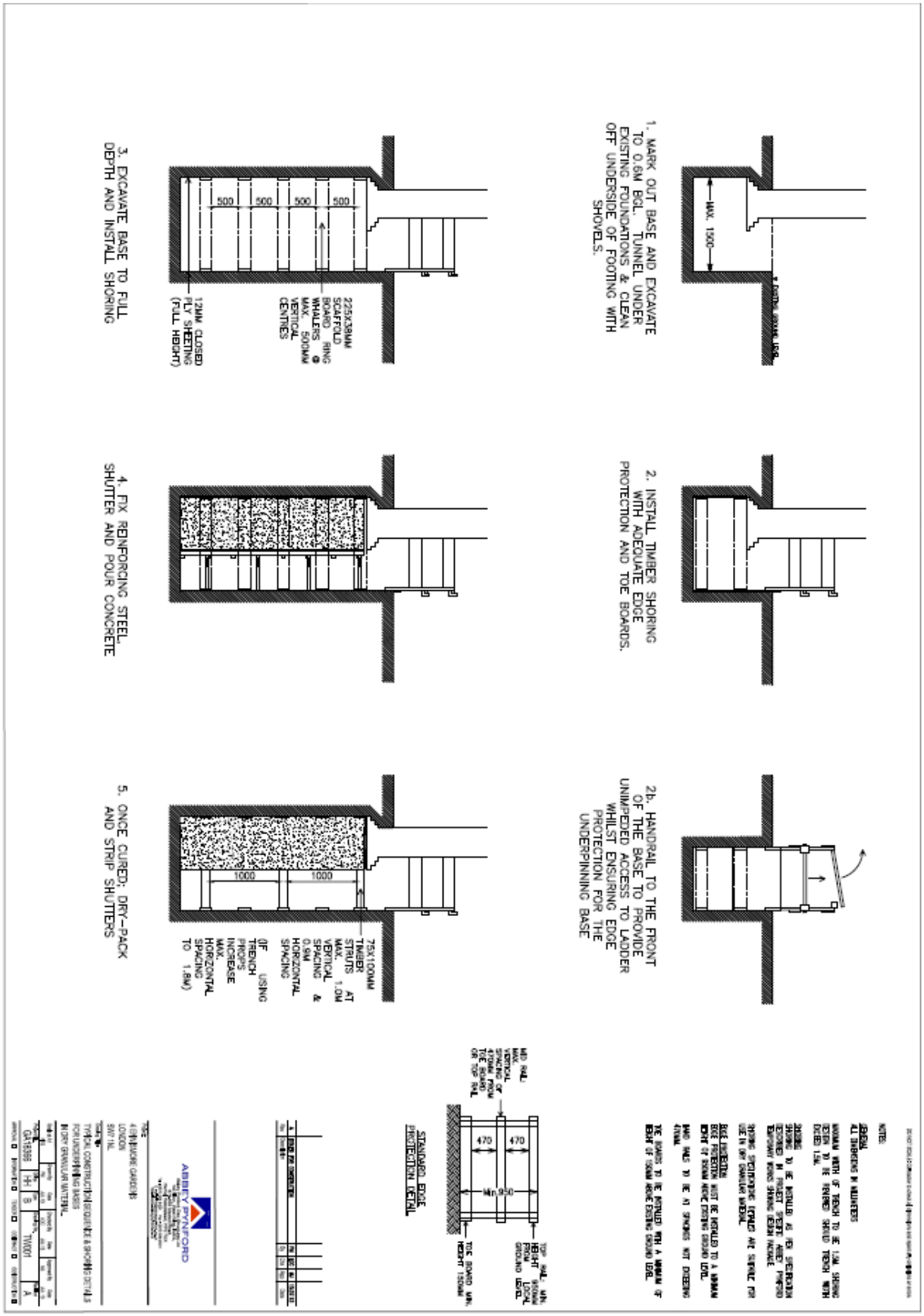
9. EMERGENCY CONTACTS	
Contracts Engineer	Philip Mundy – 07720 998078
H & S Manager	Andy Ridings – 07944 115286
Site Supervisor	Lee Bowen – 07983 618608
Principal Contractor	Gary Kebell – 07790 330529 Lee Atkinson – 07973 421418

Emergency Services	999

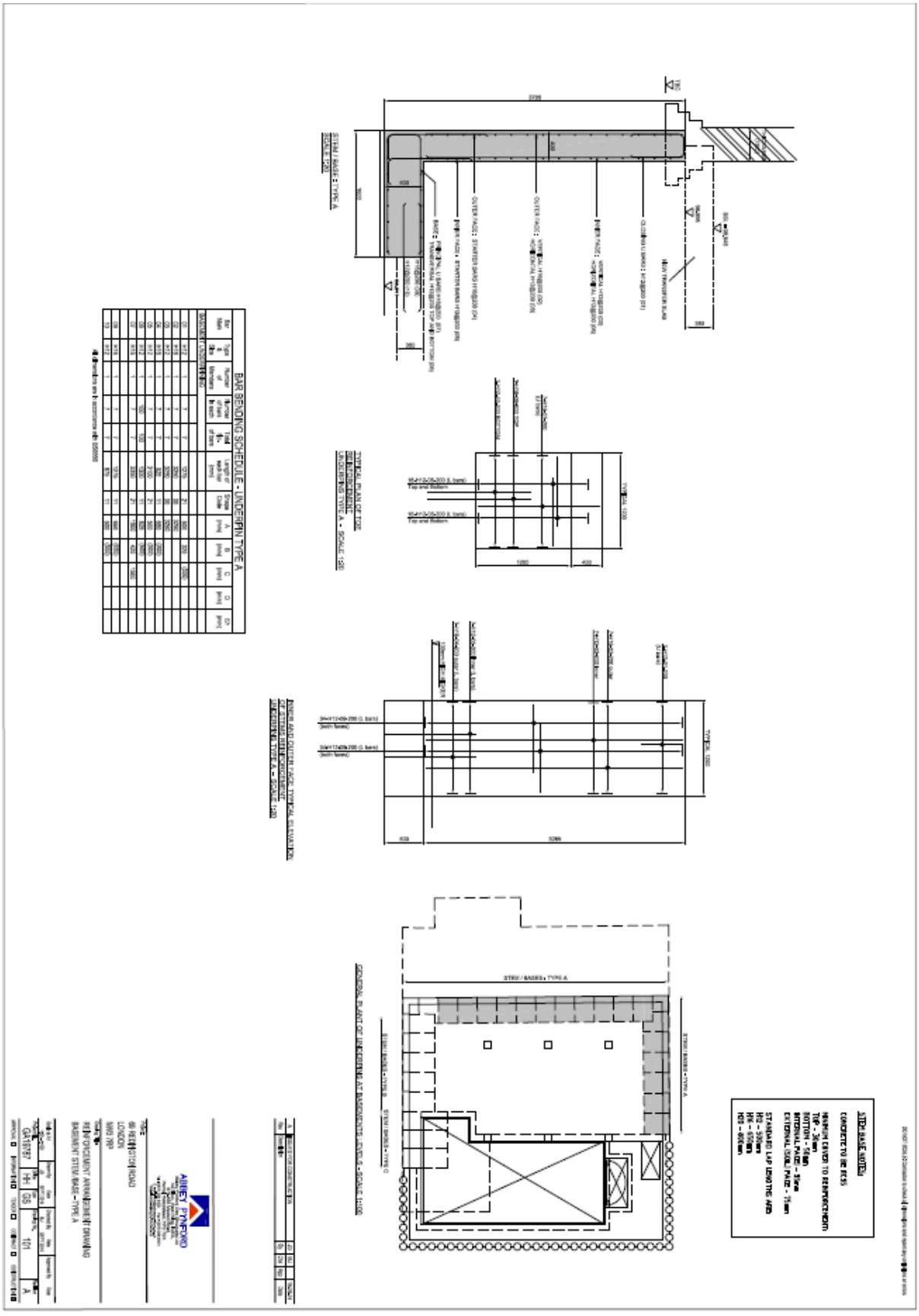
11. THE FOLLOWING PERSONNEL HAVE BEEN BRIEFED ON THE CONTENTS OF THE WORKS MS/RA

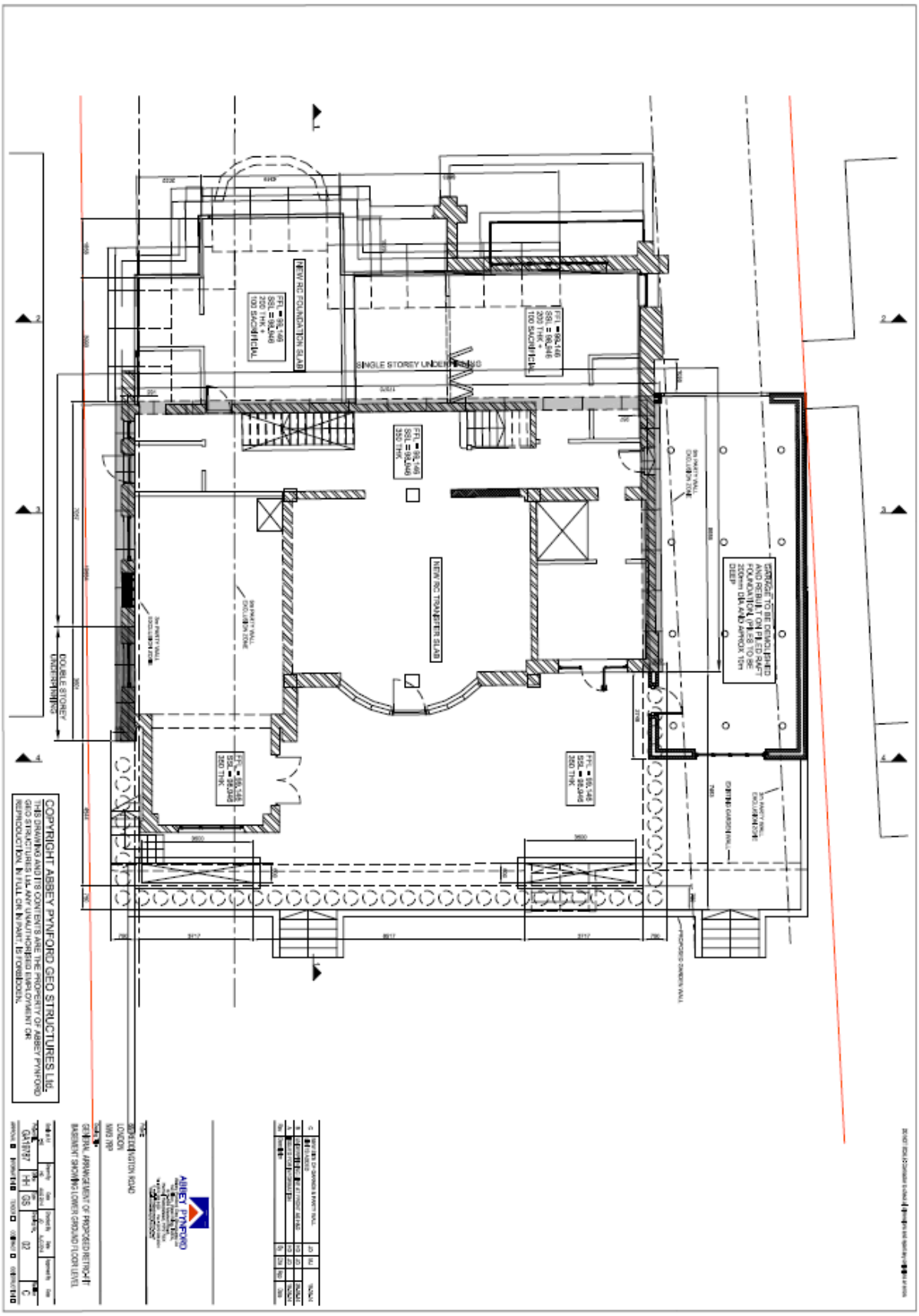
Name *(PLEASE PRINT)*	***Signature***	***Date***

12. COMMENTS


1. MARK OUT BASE AND EXCAVATE TO 0.6M BGL. TUNNEL UNDER EXISTING FOUNDATIONS & CLEAN OFF UNDERSIDE OF FOOTING WITH SHOVELS.
2. INSTALL TIMBER SHORING WITH ADEQUATE EDGE PROTECTION AND TOE BOARDS.
2b. HANDRAIL TO THE FRONT OF THE BASE TO PROVIDE UNIMPEDED ACCESS TO LADDER WHILST ENSURING EDGE PROTECTION FOR THE UNDERPINNING BASE
3. EXCAVATE BASE TO FULL DEPTH AND INSTALL SHORING
4. FIX REINFORCING STEEL, SHUTTER AND POUR CONCRETE
5. ONCE CURED; DRY-PACK AND STRIP SHUTTERS
MAX. 1500
500
500
500
500
225X38MM SCAFFOLD BOARD RING WHALERS @ MAX. 500MM VERTICAL CENTRES
12MM CLOSED PLY SHEETING (FULL HEIGHT)
75X100MM TIMBER STRUTS AT MAX. 1.0M VERTICAL SPACING & 0.5M HORIZONTAL SPACING
1000
1000
(IF USING TRENCH PROPS INCREASE MAX HORIZONTAL SPACING TO 1.8M)
STANDARD EDGE PROTECTION DETAIL
470
470
Min. 950
ABBEY PYNFORD

1. MARK OUT BASE AND EXCAVATE TO 0.6M BGL.
2. INSTALL PLY SHEETING, WHALERS, STRUTS AND EDGE PROTECTION. CONTINUE EXCAVATION.
3. AT DEPTH INSTALL FURTHER SHORING, FIX STEEL, FIX SHUTTERS AND POUR CONCRETE.
4. DRY-PACK BASE. MARK OUT AND EXCAVATE SECOND UNDERPINNING BASE, NOT ADJACENT TO FIRST.
5. ADEQUATELY SHORE THE SECOND UNDERPINNING BASE TO DEPTH.
6. SHUTTER AND POUR CONCRETE UNDERPINNING BASE.
7. DRY-PACK BASE. MARK OUT AND EXCAVATE THIRD UNDERPINNING BASE, NOT ADJACENT TO SECOND.
8. ADEQUATELY SHORE THE THIRD UNDERPINNING BASE TO DEPTH.
9. SHUTTER AND POUR CONCRETE UNDERPINNING BASE.
10. DRY-PACK BASE. ONCE CURED, MARK OUT AND EXCAVATE FOURTH UNDERPINNING BASE.
11. ADEQUATELY SHORE THE FOURTH UNDERPINNING BASE TO DEPTH.
12. SHUTTER AND POUR CONCRETE UNDERPINNING BASE.
NOTES
ABBEY PYNFORD
4 EMBSMORE GARDENS
LONDON
TYPICAL CONSTRUCTION SEQUENCE DETAIL




NEW RC FOUNDATION SLAB
SINGLE STOREY UNDERPINNING
NEW RC TRANSFER SLAB
GARAGE TO BE DEMOLISHED AND REBUILT ON PILED RAFT FOUNDATION (PILES TO BE 200mm DIA AND APPROX 10m DEEP
DOUBLE STOREY UNDERPINNING
PROPOSED GARDEN WALL
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GENERAL ARRANGEMENT OF PROPOSED RETAINT
BASEMENT EXCAVATION LOWER GROUND FLOOR LEVEL