GREEN
STRUCTURAL
ENGINEERING

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METHOD STATEMENT: PILING WORKS

This method statement has been prepared in response to planning condition No.13 [Application Ref; 2017/2883/P].

1. SCOPE OF WORKS

To construct circa 50 No. 500mm diameter piles maximum depths 10.0m to form foundation piles.

2. ACCESS AND METHOD

PHASE ONE (PILING)

Plant and piling equipment will be delivered on a flat bed lorry with crane off-loading facility. All plant and equipment will be off-loaded and placed in the materials bay set up in the site.

The calculations are based on the following:

- GeoTechnical Ground Investigation Report [Ref: GT-2019-000065]
- GSE Preliminary Structural Scheme [Ref: J001171]
- Sada Architecture Drawing package [Ref:17-010]

The main design details are as follows:

1. Foundation Piles

- 500mm diameter piles,
- Main reinforcement 6 No. T12s to 6.00m depths,
- Secondary links/stirrups R6s @ 150mm c/cs,
- Concrete cube strength 35N/mm^2,
- Concrete cover 50mm.

Once all plant has been successfully off-loaded, the contractor will then proceed to set up the piling rig on the first pile position. (All pile positions will be marked out by main contractor). Once the preparation and set up is completed, the piling operation will begin.

Please see attached Method Statement for CFA piles.

All spoil will be removed from the piling area by excavator and driver, supplied by main contractor.

Once the piles have been completed the piling equipment will be removed from site.

3. **LABOUR**

The following labour will be used to carry out the piling works:

1 x Foreman	TBA
1 x Labourer	TBA

4. **TRAINING**

All operatives will have Plant Operator Safety Awareness training and CTA Operators tickets for any relevant plant.

5. **PLANT**

The following plant will be used in connection with the works:

- Hydraulic 8T Tracked Piling Rig
- 500mm Diameter Hollow Stem Augers
- Petrol Disc Cutter
- Hand Tools
- Petrol Jet Wash
- Concrete Pump

6. **MATERIALS**

The following materials will be used in connection with the works:

- Ready Mix Concrete
- Reinforcing Steel in pre-fabricated cages
- Water

7. **TESTING**

The following testing regime will be used for the works:

TBA

8. **PROTECTION**

As well as the controls detailed in the attached risk assessment, the following controls will be applied:

a) **Site Induction:**
All operatives will be inducted by the main contractor/client and advised of any specific risks relating to the area of the proposed works.

b) **PPE**

Requirements:

The following PPE will be worn as required:

1. Goggles to BS2092
2. Gloves to BS EN 381.7
3. Safety Helmets to BS EN 397
4. Ear Defenders to BS EN 352
5. Safety Footwear to BS EN 345

c) **COSHH**

Assessment sheets for all hazardous substances will be available on site and COSHH briefings have been given to the relevant operatives.

d) **Existing Services & Surfaces**

Location of and protection of all existing surfaces and services is to be carried out by others prior to commencement of our works. A permit to dig form will be completed prior to us commencing drilling.

e) **Existing Structures**

Monitoring of existing buildings to be carried out by others. Should movement exceed limits then a site meeting to be convened to discuss alternative methods.

9 **SUPERVISION**

A Contract Manager will visit site at least 2 times a week during the course of the works.

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METHOD STATEMENT
CONTINUOUS FLIGHT AUGERED PILES

Plant/Equipment

- Auger Rig
- Segmental Auger Flights
- Reinforcement
- Concrete Pump
- Petrol Jet Wash

All plant and materials will be delivered to site by wagon and off-loaded and placed in the designated area.

NOTE: Before any piling can commence, an Underground Services Permit to Dig / Avoidance of Overhead Services Permit to Work must be completed by the Client/Main Contractor.

1. Set up the piling rig over the pile position. Ensure that rig is stable.

2. Ensure that no unauthorised personnel are within the works area and that all authorised personnel are using the required PPE.

3. Lift the lead flight into the guide on the rig and insert the drilling head.

4. Check verticality of auger flight then commence augering.

5. Continue augering until the required depth is reached. Spoil should be removed as a continuous process by the main contractor.

6. Establish concrete pump and connect to piling rig with 100mm diameter concrete hose. Commence pumping ready-mix concrete.

7. To extract the flights: lift the head and auger string out of the bore at the rate necessary to maintain a minimum concrete pressure of 1bar. Upon completion of concreting move rig away from pile position. Main Contractor to clear spoil using tracked excavator to expose head of pile.

8. Place the reinforcement into the pile using the handling crane on the piling rig.

9. Move piling rig to next position and repeat process.

10. Upon completion of works for day:

All augers, piling rig, concrete pump to be jet washed clean.

Environmental Controls

The skips, water bowser and licensed carriers will be provided by the Main Contractor, unless otherwise is stated in the contract.

11. Operation should only take place within specified working hours.

12. General waste shall be deposited into designated skips.

13. Special waste, such as oil contaminated materials, used oil spill kits, etc. shall be disposed of by a licensed carrier.

14. Metal waste generated shall be collected in designated skips.

15. Fuel/oil spills should be prevented. Drip trays and emergency oil spill kits shall be used to catch and clean the spills/leaks. Oil spill kits contain colour coded bags to contain any used spill equipment. These shall be disposed of by a licensed carrier.

16. Arising shall be collected in designated areas/skips and shall be removed by the main contractor, unless otherwise is stated on the contract.

17. The plant shall not be run unnecessarily. Engines shall be extinguished when not in use.

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METHOD STATEMENT
RESTRICTED ACCESS CONTINUOUS FLIGHT AUGERED PILES

Plant/Equipment

- Auger Rig
- Segmental Auger Flights
- Reinforcement
- Concrete Pump
- Petrol Jet Wash

All plant and materials will be delivered to site by wagon and off-loaded and placed in the designated area.

NOTE: **Before any piling can commence, an Underground Services Permit to Dig / Avoidance of Overhead Services Permit to Work must be completed by the Client/Main Contractor.**

1. Set up the piling rig over the pile position. Ensure that rig is stable.

2. Ensure that no unauthorised personnel are within the works area and that all authorised personnel are using the required PPE.

3. Lift the lead flight into the guide on the rig and insert the drilling head.

4. Check verticality of auger flight then commence augering.

5. Continue augering, adding segmental augers until the required depth is reached. Spoil should be removed as a continuous process by the main contractor.

6. Establish grout pump and connect to piling rig with 50mm diameter concrete hose. Commence pumping site mixed grout.

7. To extract the flights: lift the head and auger string out of the bore at the rate necessary to maintain a minimum pressure of 1bar.Upon completion of grouting move rig away from pile position. Main Contractor to clear spoil using tracked excavator to expose head of pile.

8. Place the reinforcement into the pile using the handling crane on the piling rig.

9. Move piling rig to next position and repeat process.

10. Upon completion of works for day:

    All augers, piling rig, grout pump to be jet washed clean.

    Environmental Controls

The skips, water bowser and licensed carriers will be provided by the Main Contractor, unless otherwise is stated in the contract.

11. Operation should only take place within specified working hours.

12. General waste shall be deposited into designated skips.

13. Special waste, such as oil contaminated materials, used oil spill kits, etc. shall be disposed of by a licensed carrier.

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