

Revision A: 10/07/2025

Now containing Appendix A relating to Groundwater

Revision B: 15/07/2025

Further revisions after response from Portsmouth Water catchment management team resulting in amendments in **RED**

Revision C: 29/07/2025

Further revisions after response from Portsmouth Water catchment management team resulting additions to Wheel washing in amendments in **BLUE**

Construction Environment and management plan

For
Belmont Castle Nursing Home



Figure 1: Proposed development

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1 PROJECT DETAILS

1.1 Introduction

This document has been prepared to assist with the discharge of planning conditions for the application for the Development of Belmont Castle Nursing Home, Bedhampton.

The Belmont Castle proposal has received detailed planning consent for residential development on the Avenue Cottage site and this document has been prepared to discharge the associated planning conditions.

The main contractor considers this document to be a 'live' Construction Management Plan that will be updated and improved upon as the project progresses and any logistical changes force a change to the Programme and method of working.

The contractor has identified the following headings to provide the response to this condition:

- Project Details.
- Programme of Works, including hours of work.
- Welfare and Management of construction works.
- Construction Traffic Management Plan and Logistics including specification of plant and equipment to be used, construction route and parking.
- Construction Environmental Management Plan/Carbon Reduction – Minimisation of dust emissions arising from construction activities on the site, and an undertaking that there shall be no burning of material on site at any time during construction.

This document sets out the approach that will be taken to respond to this condition and the mitigation that will be put in place to reduce the impact of the works on the environment, neighbours and the surrounding area.

Please Note this document has been amended to include an Appendix speaking specifically about Ground Water

1.2 Site Details

The site is located on Portsdown Hill road, Bedhampton. Belmont Castle is a practicing Nursing Home. The new development consists of an expansion to the rear of the existing Belmont Castle.

1.3 Contractors Commitment

The main contractors aim and commitments, are to be a good neighbour and minimise the impact on the local community caused by construction activities.

The main contractor will endeavour to minimise the effect of the works on the surrounding area. Where possible, deliveries will be scheduled around off-peak times, managing parking and waiting on site/surrounding roads and controlling the noise and dust from the site.

Our neighbours will be encouraged to communicate with the main contractor either directly with the site team or via the head office, any feedback or complaints received will be addressed and managed by the Project Manager with a log held on site detailing any actions required and the outcome.

Before any works start, the main contractor must approach Portsmouth Water to agree the Emergency Preparedness Plan (EPP) in advance.

Contact Details: catchment.management@portsmouthwater.co.uk

2 PROGRAMMES OF WORKS

This section will address the timeline of the project which consists of:

- Outline of the scheme
- Sequence of works
- Programme

2.1 Outline of scheme



Figure 2: Proposed Development Ground Floor Plan

2.2 sequence of works

The development will be constructed in one phase and will follow the sequence set out below:

- Enabling works: Site Setup, Hoardings/Fencings, Temporary Entrance, Services
- Groundworks & Superstructure
- Fit Out
- Landscaping

3 WELFARE & SITE SET-UP

3.1 Welfare and Office Compound

The first operation on site will be the establishment and demarcation of the contractors area with solid hoarding/Heras fencing. Next will be the demarcation of the first and second contractor compounds. It is proposed that the First offload compound will be situated on the existing carpark, alongside welfare and office space and wheel washing space. At such a time as the ground floor of the proposed development has been constructed, the welfare and office will be moved to said area.

Vehicles on the site roads will be inspected and subject to jet washing as required to manage cleanliness of the highway. The site team proposes to allow outside vehicles into the contractor parking and first offload site and use part of that area as a jet washing site. This is to ensure that all jet washing is completed within the site on a hard surface which distils into the soil around the access road and not distilled into highways or existing drainage around the site. Heavy deliveries will be coordinated by the construction site team where a just in time delivery system with subcontractors will be incorporated to avoid construction traffic on the public highway.

3.3 Welfare Facilities

Welfare facilities will be provided on site in strict compliance with the Construction Design and Management Regulations 2015. These facilities will be made available from the outset of construction work until completion. Male and female toilets, washing facilities, changing rooms, rest facilities and a canteen will be available for office staff and operatives sized to meet the expected number of workers on site.

3.4 Hoardings & Site Gates

The main contractor intends to line all edges of the site with 2.4m high close boarded timber hoarding to provide privacy along the boundary of the site accompanied with heras fencing where needed both along the line boundary and within the site with assurance that the hoarding will not affect the visibility splay. Gates will be put in at the site entrance along which will be managed by the site team and secured after working hours. All hoardings/fencing will be inspected regularly by the Site Manager who will ensure that the site access points are clearly marked with all necessary and appropriate health and safety signage installed.

3.5 PPE & First Aid

Specific PPE will be worn as identified in the specific method statements and risk assessments along with hard hats, safety boots, high visibility vests as mandatory. It is the responsibility of individual persons to inspect their PPE for damage before each use. Damaged PPE must be replaced.

The site manager will monitor the use of PPE and issue verbal and written warnings for non-conformance as necessary.

Adequate provision will be made for suitable persons to be trained in First Aid. Equipment and facilities will be made suitable to Health & Safety (First Aid) Regulations 1981. First aid equipment will be in the site offices and the welfare facilities. The equipment will be checked regularly by a designated person to ensure that supplies are sufficient. First aiders will be posted inside welfare facilities and the site offices.

First aid procedures are as follows:

- 1 no. first aider per 50 persons on site and they will be present on site at all times of working.
- Notices will be posted to notify all the names of first aiders and will be included in induction talks.
- First aiders will hold a 'First aid at work' certificate, or equivalent 3-day course.

3.6 Monitoring, Supervision & Training

All workers and visitors to the site will be briefed on the fire and emergency arrangements during the induction process. Upon entering the site for the first time, persons will be required to have a site safety induction briefing. This will be carried out before starting any works. The induction will make persons aware of the site rules, the key safety hazards, safety procedures, PPE requirements, 1st aid arrangements and fire evacuation procedures.

Operatives will also receive task specific method statement briefings before starting works, and regular toolbox talk training sessions aimed at appropriate site related issues.

3.7 Emergency Procedures and Incident Reports

Procedures will be implemented to respond to any emergency incidents which may occur on site. In order to ensure that compliance with the requirements of the

relevant legislation and to avoid or mitigate against any significant environmental impacts, an Emergency Preparedness Plan (EPP) will be developed by the Principal Contractor following appointment.

Once completed, all staff will be trained and made aware of the EPP set in place. In the event of any incident the Principal Contractor's Environmental Health and Safety Team will be notified as well as the Client. Additionally, the UDC Environmental Health Department and any other interested bodies will be notified as required.

3.8 Management of Construction Works

The Main contractor has an established team of construction management professionals that are all experienced in managing and delivering very tight and challenging sites.

4 CONSTRUCTION TRAFFIC MANAGEMENT

4.1 Site Access & Egress

Vehicles will access and egress from the eastern access point. This access point shall be commandeered by the contractor for the duration of the construction used only for traffic related to the project. The staff and visitors of the nursing home shall use the western access point and associated carpark for access parking and egress for the duration of the construction.

Upon the completion of the perimeter fences and gates, construction vehicles will arrive on site from Portsdown road. A banksman will be present, as necessary, at the site entrances to guide vehicles onto the development.

4.2 Controlling Access

A 2.4m solid hoarding/Heras fencing will be installed to secure all boundaries to the site (as noted in Section 3.4 - Hoardings & Site Gates above). The main contractor will strictly control access to site and always ensure the health and safety of all people in the proximity of the site. To control access on site, the site team will install a gate to the East access point on Portsdown road to ensure access to the site is supervised and monitored to only allow access to those who have been inducted on site and so understand the health and safety requirement of working on the development. It is also particularly beneficial as it inhibits unauthorised access on site. The site boundaries and the hoardings will be inspected daily and repaired immediately if any damage is found. Furthermore, gates will be always shut when not in use and secured after working hours.

4.3 Deliveries & Construction Traffic Details

The main contractor will plan works including vehicle movement, deliveries, temporary routes and facilities to ensure that the safety of the public is maintained at all times. In the event of HGV's entering site, footpaths will be blocked off from pedestrian access using temporary barriers. Footpaths shall reopen once HGV's have left site.

All deliveries will be co-ordinated, and programmes amended, to alleviate pressure on the existing road network, mindful of the rush hours and local amenities, such as schools etc. However, if during these hours' deliveries are essential to the continuation of the works due to the nature of the construction works, the contractor will ensure the deliveries vehicles are escorted to the construction site prior to these hours to wait within the boundary until these restricted hours are over to avoid waiting. During this vehicle movement in the area, the contractor will ensure a Traffic Marshall is present to secure the safe routing of the vehicles.

All suppliers and sub-contractors will be issued with a transport plan, which will include a prescribed route into the site to deliver materials.

4.4 Parking

There will be dedicated on-site parking for site staff and site operatives within the contractor parking and first offloading site.

The unloading areas will be accessed from Portsdown Road. To encourage a sustainable transportation system, the contractor currently promotes van/car sharing.

4.5 Plant Details

Noise & Vibration Management:

In order to manage the noise and vibration around site, the main contractor will ensure that modern plant is being used and that it has been properly serviced and silenced. Vibration will be minimal. Noise and vibration would be closely monitored by the site Manager.

Crane Details:

Mobile cranes will be hired when required with trained banksmen and co-ordinators to assist with construction works. There will be no fixed cranes on site for these works.

Forklifts:

Telescopic forklifts will move materials from an unloading point and into site to dedicated loading bays and Material storage compound to the east of the proposed main building. These will vary to suit the progress of the works. All movement of the forklift will be carried out by a fully trained driver and marshalled by a banksman. Lorries and vans making deliveries will be brought into site except for special pre-arranges circumstances.

Delivery Vehicles:

There will be a variety of delivery vehicles that will be supplying plant and materials for the project.

4.6 Parking of vehicles for site operatives and visitors

There will be restricted on-site parking for site staff and site visitors, located within the site welfare area adjacent to the site. All contractors will be briefed on the parking restrictions on their respective pre-start meetings.

4.6 Wheel Washing

The Contractor will keep nearby roads clean. - The site has access to public roads and the contractor must make sure that silty run-off, or soil and debris from vehicles does not end up on the highway.

The contractor will make sure that drainage on the site takes run-off away from roads and will provide some wheel-washing facilities for vehicles that leave the site.

Clean water should be prevented from leaving your site onto nearby roads, as this can cause a hazard for traffic and can lead to icing in the winter months.

The Wheel washing system will capture wash-water then filter and allow it to settle before being reused for washing other vehicles. This systems reduce the demands for clean water and reduce the amount of contaminated water that needs to be dealt with.

Note: Water that may be contaminated with hazardous substances, such as concrete, cement or grout is not suitable for re-use in wheel washing systems or for dust suppression.

Wheel washing will be carried out without the use of a bespoke system, which must include the treatment of the run-off by allowing settlement of the suspended solids. A settlement tank/pond will be used. Note: no detergents are used in the washing process.

The run-off from this treated water should be directed to surface water management. The contractor must not carry out wheel washing where the run-off goes directly into surface water drains or into watercourses.

If wash water can't be treated then it must be collected and tankered off-site for treatment and disposal in accordance with the Duty of Care for Waste.

Recycle concrete wash down water

Wash down water arising from the washing of equipment that has come into contact with concrete must be collected in an impervious container and, if possible, treated to enable recycling/re-use within the wash down area or concrete batching process.

Note: Wash down water cannot be used for wheel washes or dust suppression purposes.

The wheel washing area is to the west of the entrance to the site. In order to keep the roads and footpaths free from deposits of soil, mud and the like, the main contractor will ensure that the wheels of any vehicles leaving this site are thoroughly cleaned and hosed down prior to going on the public roads. If any mud or construction debris does get onto the street within the vicinity of the site, then these areas will be cleaned via the use of water hoses and manual sweeping. In addition, a mechanical road sweeper will be used periodically to clear any debris on the public highway.

5 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN / CARBON REDUCTION

5.1 Techniques to Control PM10 and NOx Emissions from Vehicles and Plant

This Construction Environmental Management Plan includes information detailed in Section 4 referenced above.

The legislative guidance has been reviewed and will comply with in connection to environmental controls for the site are:

- Control of Pollution Act 1974
- Environmental Protection Act 1990 (ss79-82)
- BS 5228:2009, Code of Practice for Noise and Vibration Control on Construction and Open Sites
- Non-Road Mobile Machinery Register (NRMM)

5.1 Techniques to Control PM10 and NOx Emissions from Vehicles and Plant

The main contractor will adopt the following measures in connection with the control of PM10 (Dust) and NOx (Nitrogen Oxide):

- All vehicles will be covered or in the case of waste disposal lorries, have mechanical dust covers.
- During dry weather footpaths and roads will be kept clean and wet to reduce the incidence of dust.
- Once a delivery has arrived on site and parked within the site, it will be instructed to turn off its engine.
- Mechanical plant will not be left running unless it is needed for the work in hand.
- Low emission plant fitted with catalysts, diesel particulate filters or similar devices which are regularly maintained shall be used.
- Non-road mobile machinery will use ultra-low Sulphur tax-exempt diesel and be fitted with appropriate exhaust after-treatment such as catalysts. Diesel particulate filters as stated on the approved list managed by the Energy Saving Trust – this will be established with the sub-contractors at each order stage.
- All construction vehicles shall comply with the Euro 4 Emissions standard and where possible use low emission fuels if possible.

Overall fuel and chemical storage will be in mobile bowsers moved around site as work proceeds. Bowsers will be double skinned to protect against damage with trigger hoses and drip trays to prevent contamination spillage when in use. Bowsers will be recharged periodically from tankers located on the estate road, inside the site.

5.2 Techniques to Control Dust Emissions from Construction

Prior to construction works commencing on site The main contractor will undertake an assessment procedure which outlines the works to be completed and outline procedures to ensure that dust is managed during the time of works being completed which also takes into consideration the various stages of the construction build.

A vital part of dust control throughout the construction phase is the supply of water during works which produce dust. A temporary water supply will be connected to the site via an outlet installed near to the site entrance and then distributed into and around the site from there in order to supply water for all construction works.

Connections will be to the access points where the wheel washing will occur and to the mortar silo located within the site. Taps will also be located around the site during fit out for water supplies whilst plastering, screeding etc. To address any abnormal wear and tear to the highway, the contractor will take a full photographic survey of the highway at least two weeks before works commences including footpaths, kerbs etc and make provision for the council highways contractor to reinstate to the same condition at the end of the project if needed. This will be recorded by a full photographic survey at the end of the project. Copies of these pictures will be kept for record purposes.

The next stage will commence during construction works where site operatives will:

- Plan site management and logistics so that receptors for construction arising are not located where they might cause a nuisance to our neighbours.
- Regular boundary inspections.
- Clean down hoardings/fencing using wet cleaning methods.
- Damp down any stockpiled excavated materials on site.
- Water suppression will be used where required.
- Tools will to be modern design and well maintained and will be fitted with dust and noise suppression where appropriate.
- Damping to reducing vibration and dust as necessary
- Any dust or debris / mud which may go beyond the site boundary will be managed by wetting down and mechanical road sweeping as necessary.

5.3 Noise and Vibration from Construction

Predicting noise levels arising from construction works will be based on the methodology set out in the BS5228- 1:2009+A1:2014 which will adhere to the

minimum standards set when assessing the impact of construction noise upon the existing noise environment at nearby sensitive receptors such as the surrounding residents. BS5228- 1:2009+A1:2014 provides variety of examples of acceptable noise limits for construction noise by using the assumed sound power levels as well as associated period of operation of plan on site also known as the 'on-time'. The contractor will ensure the figures collated from the noise impact assessment using the noise modelling software to ensure disruption to surrounding residents is kept to the acceptable standards.

The contractors construction logistics mirrors the criteria to ensure these standards are met. This includes ensuring the hoarding is a 2.4m timber hoarding/fencing to the perimeter of the site with no gaps between the vertical panels.

It also takes into consideration that all plant will be operated at ground level and when not on the ground or operated at a level above ground, the predicated noise level has been allowed for particularly as all plants are located within the site boundary with is all located within the site boundary.

- Wherever possible, avoid exposure to noise and vibration by considering alternative ways of working which eliminates the use of vibrating equipment altogether. If this is not possible, reduce the risk by minimising the level of noise and vibration and limiting exposure time.
- Isolate noise and vibrating machinery or components from their surroundings, e.i. with anti-vibration mounts or flexible couplings.
- Obtain the vibration rating for each piece of equipment to be used in m/s^2 from either the supplier or manufacturer and use the HAVS calculator and ready reckoner to assist.
- Provide information, instruction and training regarding the duration of use for noise and vibrating equipment taking account of manufacturers' recommendations, daily exposure limits and informing of the exposure limit value (ELV). Use the HAVS calculator and ready reckoner to assist.
- Use suitable low vibration tools and anti-vibration accessories.
- Low vibration is not the only answer however, a higher vibrating tool that does the job in half the time may be the best option.
- Use the right tool for each job to do the job more quickly and expose users to less vibration and noise.
- Check tools before use to make sure they have been properly maintained and repaired to avoid increased vibration caused by faults or general wear.

- Keep cutting tools sharp so they remain efficient.
- Reduce the amount of time used on a tool in one go, by doing other jobs in between.
- Avoid gripping or forcing a tool or work piece more than necessary.
- Consider the materials being worked on as harder materials can present a higher risk.
- Store vibrating tools so that they do not have very cold handles or grips when next used.
- Instruct users to report any health problems to their supervisor promptly.
- Alternative methods of construction will be considered to reduce dust, vibration and noise.
- Display posters and signage to advise surrounding resident of noisy works prior to commencing

5.4 Techniques to reduce CO2 Emissions from Construction Vehicles

The main contractor will adopt the following to reduce CO2 emissions from construction vehicles and plant:

- Select the right size plant for the job in hand, i.e. do not over size plant.
- Establish a site accommodation set up that does not need generators – use the local power supply
- Once a delivery has arrived on site the engine will be turned off.
- Ensure that all delivery vehicles have passed the necessary DoT vehicle inspection tests.
- Promote the use by the supply chain of modern low emission vehicles.
- Ensure deliveries are using the most efficient route to the site – this will be communicated via pre-start meetings and the sharing of knowledge of the local transport network
- Restrict on-site car parking therefore promoting workers to travel to site via public transport.
- Develop site toolbox talks that raise plant operator awareness of the benefits and savings of fuel-efficient plant operation.

- Work with employer federations and equipment manufacturers to reinforce the message within the workforce.
- Promote the purchase and hire of efficient plant.
- Promote and adopt 'green fleet management practices' with the supply chain to seek a 10% reduction on CO2 emissions.

Appendix A

A1 GROUNDWATER

A1.1 Introduction

The site is on the northern slope of eastern end of Portsdown Hill just over the crest. Portsdown Hill is a chalk formation and has for many years been used by Portsmouth Water as an integral part of the water supply to the city and beyond. To the west is a collection of reservoirs reinforcing this position.

Therefore the whole of Portsdown Hill is treated as an important reserve of water which flows into the supply and naturally Portsmouth Water are extremely watchful of any application which may affect this resource.

Portsmouth Water have raised specific concerns in respect of this site in the following areas:

A1.2 Contamination (Condition 3): The Desk Study, Site Investigation and Remediation reports provided by GCC have been amended to address the groundwater concerns of Portsmouth Water. It is imperative that the principal contractor appraises themselves of all this available information and recommendations.

A1.3 Piling (Condition 6): A piling method statement by a specialist piling contractor is being prepared to address Portsmouth Waters concerns about the possible affect of piling on groundwater and the avoidance of contamination. Again it is imperative that the principal contractor appraises themselves of all this available information and recommendations.

A1.4 CEMP (Condition 7): This document has been prepared as an Appendix to the original CEMP.

A2 Water Resources and Flood Risk

A2.1 The appointed Principal Contractor will take precautions during construction activities to protect the local drainage system, nearby watercourses and groundwater from siltation or pollution. Any effluent encountered during the construction phases will not be directly discharged to surface or foul drains without the prior consent of the appropriate body.

A2.2 The following additional mitigation measures will be implemented, where applicable, to protect the water environment and surface water quality during all construction activities:

- An Emergency Preparedness Plan (EPP) will be created prior to site preparation activities starting on site and will be reviewed and updated regularly by the Principal Contractor. The EPP will be an up-to-date document containing information on the location of spill response equipment, the location of sensitive receptors (e.g. live drainage systems and watercourses) and the incident response procedure to be followed;
- All staff will be trained and made aware of the EPP set in place. In the event of any incident, the Site Manager will be immediately notified and will coordinate necessary remedial actions. Additionally, the UDC Environmental Health Officer and the Environmental Agency be notified of any significant pollution event (noting that this is highly unlikely to occur given the nature of the works and the lack of hazardous substances used in the construction);
- Spill kits will be on hand to address any minor incidents such as fuel leaks from vehicles. If any fuel, oil or solvents which are temporarily stored on site will be contained within bunds or drum pallets, and covered where possible to prevent the accumulation of rainwater or damage;
- Wheel wash facilities will be provided for vehicles leaving and entering the construction site to prevent the transfer of mud and sediment to the surrounding road system drains;
- The Principal Contractor will take precautions during the construction works to protect the entire drainage system from siltation or pollution, including installing any temporary drainage as required;
- Wastewater generated from construction activities such as dewatering trenches will be disposed of in accordance with relevant legislation and should not be discharged directly to surface or foul drains without appropriate licences in place; and
- Roads and hard surfaces will be kept clean, to prevent a build-up of mud and sediment.

A2.3 The site is not in an area at risk of flooding. The drainage system will be designed in respect of the groundwater issues on site.

A3 Ground Conditions, Contamination and Hazardous Material

A3.1 The Emergency Preparedness Plan (EPP) will set out any procedures to deal with contamination if any issues were to arise, including for the negligible risk of historic contamination or buried waste being encountered during the cable trenching works.

Therefore, all the workers on-site will be made aware of potential contamination issues on the site and will use best practice techniques during all activities.

The operation of construction vehicles and the handling, use and storage of hazardous materials will be undertaken as follows:

- Construction vehicles and plant will be regularly maintained and supplied with spill kits and drip trays to reduce the risk of hydrocarbon contamination;
- Refuelling would not be expected to take on site. However, were this to prove necessary, this activity would take place in specified areas with drip trays installed to collect leaks from diesel pumps;
- The handling, use and storage of hazardous materials will be undertaken in line with the current best practice, this includes secure storage of any substances falling under the Control of Substances Hazardous to Health (COSHH) system;
- If necessary, adequate bunded and secure areas will be provided for the temporary storage of fuel, oil, solvents and chemicals, as far away from drainage as possible; and
- Spill containment equipment such as absorbent material will be held on site.

A3.2 A member of staff will be nominated to control and monitor the COSHH system (if applicable). Suppliers must send data sheets for every hazardous substance to the site. The assessment information sheet is completed in conjunction with Supervisors and Safety Managers who then brief staff members who will be using the substance, on its safe use, disposal and any emergency procedures. Written records of these briefings will be kept in A COSHH file held on the site.

A4 Hydrogeology

A4.1 The Environment Agency Groundwater Vulnerability Map extracts (see GCC's Desk Top Study) indicate the northern part of the site to be underlain by a superficial Undifferentiated Secondary Aquifer, interpreted as the Head Deposits over a bedrock Principal Aquifer, interpreted as the Portsdown Chalk Formation.

A4.2 The southern part of the site is shown to be directly underlain by a bedrock Principal Aquifer, interpreted as the Portsdown Chalk Formation.

A4.3 Secondary Undifferentiated Aquifers are assigned where it is not possible to attribute either category A or B to a rock type. In general, these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

A4.5 Principal Aquifers are geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally, principal aquifers were previously major aquifers.

A4.6 The site is located within Groundwater Source Protection Zone – Inner Zone.

A4.7 A 1977 BGS regional aquifer contour plan suggests groundwater in the vicinity of the site to be 0m to -50m AOD. While this is an old map, it is anticipated that groundwater levels would have potentially reduced over time, due to increased demand.

A5 Conclusions and Recommendations (Geotechnical)

A5.1 Ground conditions at the site of the proposed structure comprise, in a localised area, Topsoil over Made Ground (WS102 and 103) in turn overlying Portsdown Chalk Formation to the full depth of the ground investigation. The Made Ground (where present) comprises the unregulated backfill of a historic chalk pit and attains a maximum thickness of 7.50m in WS102. In the majority of the site the Portsdown Chalk Formation (Chalk) is to be encountered immediately beneath the Topsoil in WS101. The Chalk was recovered as Ciria Grade Dc structureless Chalk. It is likely that the Chalk grade improves with depth but the percussive drilling techniques have destroyed the fabric of the Chalk. Groundwater was not encountered during the ground investigation which achieved a maximum depth of 8.50mbgl.

A5.2 The Made Ground is not a suitable founding stratum due to its compositional variation and the apparent unregulated placement of the material as evidenced by the presence of a large concrete boulder at 5.40mbgl (WS102) and the presence of organic material at its base. Therefore, it is recommended that consideration is given to a piled foundation. Detailed pile design will require additional ground investigation works to a minimum depth of 18mbgl which would allow for the design of CFA pile socketed by 5.00m into the Chalk.

A5.3 A preliminary pile socket design has been carried out assuming that geotechnical conditions within the Chalk remain unchanged to the full depth of the pile socket. It must be stressed that the assumptions made would not be acceptable to the Local Authorities or underwriters and are presented herein as a guide only.

A5.4 A suspended floor slab should be adopted given the significant and variable thickness of Made Ground present beneath the proposed structure footprint

A5.5 With regard to piling impact on groundwater, it is anticipated that the base of piling at 18mbgl would be approximately 30m above the anticipated groundwater level

in the chalk aquifer and therefore not likely to result in deterioration of the aquifer quality.

A5.6 With regard to the CEMP, the principal contractor is to be aware of the hydrogeology and the geotechnical conclusions and recommendations.

A6 GROUNDWATER CONDITIONS

A6.1 Although groundwater was not encountered during the on-site investigations it must not be forgotten that it is certainly present and, as the formation is chalk, any contaminants will have the ability to percolate down through the rock and could reach the groundwater below. It is the principal contractor's responsibility to be aware of this and take all steps to stop contamination of the ground through the construction works. This includes the following items which could be bought onto the site through the construction process:

A6.2 Storage of Chemicals and Polluting Materials

During construction there is the potential for polluting materials to enter the environment as a result of leaks, spills or pollution incidents. Good housekeeping and environmental management will reduce this risk and regular maintenance of plant and machinery on site will ensure best practices are followed.

Bulk storage of chemicals and hydrocarbons (oils) will only be acceptable in double bunded vessels and refuelling should be carried out on impermeable surfaces and in accordance with British Standards. The principal contractor is to put in place measures for secondary containment and an incident response plan, including spill kits on site and training of site staff on how to use them.

A7 FOUNDATION AND GROUND ENGINEERING

A7.1 The geotechnical assessment below relates to the details of the proposed development, which it is currently understood will comprise the construction of a low rise extension to an existing residential care home.

3no. windowless sample boreholes (WS101 to WS103) were undertaken across the site and indicated ground conditions to comprise Topsoil over Made Ground in turn overlying Portsdown Chalk Formation to the full depth of the ground investigation. Topsoil was present at all locations where it achieved a thickness of 0.40m. Immediately below the Topsoil, Made Ground was identified in WS102 and 103 achieving a maximum thickness

of 7.50m in WS102. An historic chalk pit was backfilled in the late 1970s / early 1980s and the Made Ground identified during the ground investigation is representative of the backfill of this chalk pit.

The basal stratum of the ground investigation comprised the Portsdown Chalk Formation, which was encountered at a depth of between 0.40 and 7.90mbgl. The Portsdown Chalk Formation (Chalk) was recovered as CIRIA Grade Dc structureless, although it is likely that the Chalk grade is better than that recorded but the percussive drilling techniques have destroyed the fabric of the Chalk.

Groundwater was not encountered during the ground investigation in any of the exploratory hole locations.

A8 FOUNDATIONS

A8.1 The Made Ground is not a suitable founding stratum due to its compositional variation and the apparent unregulated placement of the material as evidenced by the presence of a large concrete boulder at 5.40mbgl (WS102) and the presence of organic material at its base.

Therefore, it is recommended that consideration is given to a piled foundation. Detailed pile design will require additional ground investigation works to a minimum depth of 18mbgl, which would allow for the design of CFA pile socketed by 5.00m into the Chalk.

A preliminary design has been carried out assuming that geotechnical conditions within the Chalk remain unchanged to the full depth of the pile socket. It must be stressed that the assumptions made would not be acceptable to the Local Authorities or underwriters and are presented herein as a guide only.

Suspended floor slabs should be used at this site due to the presence of up to 7.50m of unregulated fill material. In addition, by adopting a suspended floor slab, additional loading of the ground adjacent to the piles will not occur and negative shaft resistance can be discounted.

With regard to piling impact on groundwater, it is anticipated that the base of piling at 18mbgl would be approximately 30m above the anticipated groundwater level in the chalk aquifer and therefore not likely to result in deterioration of the aquifer quality.

A8.2 Background

This document presents a brief summary of the actions to be taken if suspected contamination of the soil or groundwater is encountered during the development of the

site and follows on from the GCC Ground Condition Assessment Report and Remediation Strategy.

A8.3 Evidence of contamination

Any evidence of contamination is likely to be in the following form, although other indicators may be observed.

- Dark staining of the soil
- Ash in soil
- Oily sheen on soil or water
- Tanks and pipework
- Smell of oil/diesel/petrol
- Asbestos-containing material fragments
- Large deposits of made ground (e.g. waste deposits)
- Broken glass on and in the ground

A8.4 Actions following identification of evidence of contamination

Contractors encountering evidence of contamination are to report the discovery to the site office.

- Further development of the potentially contaminated area should cease and the Site Engineer should contact the Client's Environmental Consultant to attend site and assess the implications of the discovered impact.
- The Environmental Consultant will in turn inform the Local Authority and/or the Environment Agency as appropriate.
- Potentially contaminated material is to be left in situ where possible or stockpiled in bunded areas where it is not possible to leave in situ, until an assessment is complete and appropriate action is agreed with the relevant regulator. Bunds are to be lined with plastic sheeting to prevent leaching of contaminants to the underlying soil and to allow a clear distinction between the suspected contaminated soil and the material used to form the bund.
- Potentially contaminated material to be disposed of off site may require further chemical testing.