Athlone House

Athlone House,

Hampstead Lane, London N6:

Restoration of historic landscape: Conservation of the Pulhamite artificial rockwork and other associated historic garden landscape structures

Discharge of planning condition 9b (ref: 2017/4156/P)

Appendix 3;

Condition survey & restoration

April 2018

Catherine Bickmore Associates Ltd
ENVIRONMENTAL CONSULTANCY

LF 3.09, Lafone House,
11 - 13 Leathermarket Street,
London, SE1 3HN

Tel: 020 7357 6700
E-mail: info@bickmoreassociates.co.uk
Website: www.bickmoreassociates.co.uk

CONTENTS

Pulhamite pond **Area/Description**: NB. The numbering system below identifies the area of Pulhamite being described and is referenced on the sketch plan Appendix 1). Tree numbers are also used to help reference the areas under discussion. Note: PAR is used in this report as an abbreviation for Pulhamite Artificial Rockwork.	**Restoration works**	**Photograph.**

Area 1 Pulhamite pond: source at the north end	**Restoration works**	
Area 1 Encompasses the source at the north end (Rock head wall) up to the stepping stones. Trees no: 2976/2977/2738. Area 1 is subdivided into four 1a)-1d) below.		
1a. The area around the source pipe seems to be disrupted and is now largely a collection of loose laid natural stones. Some original Pulhamite features may exist either below this (under pipe area something is just visible) or further back up the route of the source. The current plan of this area is particularly different to earlier mappings. Looking at the historic maps and plans of the pond it is obvious that this area has changed radically, there was apparently significantly more to the north of this area, i.e. the current pipe wall. It is also possible that areas 1b and 1c (see below) were the bridge abutments or fixing points. This may become apparent when the PAR surfaces are cleared of soil etc.	*Further careful investigation and excavation or digging around required to try and define extent of Pulhamite, which may be either lost or partially buried. Control of root growth to adjacent trees/saplings.*	

1b. To the east of the source and adjacent; there is a substantial section of PAR. And a smaller section in front of this which appears to be partially submerged in mud. The larger section may include a plant pocket (to upper surface) or evidence of the bridge abutment fixings. The surface is now totally over filled and colonised by tree saplings. Other young trees established around the Pulhamite will threaten its integrity if allowed to continue to grow.	*Further careful investigation and excavation or digging will be undertaken to try and define extent of Pulhamite, which may be either lost or partially buried. Control of root growth to adjacent trees/saplings.* *Include excavation of plant pocket for future suitable planting.*	
1c. To the west of the source is a substantial PAR. With established tree growing on top and with boundary wall over. This area needs general cleaning and further careful excavation. The established fern is appropriate and should be retained. The tree (no 2977) will need to be cut down as it is likely to cause problems, though as yet there are no signs of structural cracking apparent.	*Further careful investigation and excavation or digging around will be undertaken to try and define extent of Pulhamite, which may be either lost or partially buried. Control of root growth to adjacent trees/saplings.*	

1d. To the south of 1c, on the west bank, and as far as the stepping stone there is partially broken PAR, in pieces and partially dispersed in the mud. This area and the area back to the boundary wall needs careful excavation and reassessment. At least one loose section of PAR here may belong to PAR area 3 (see below) which has a large missing section in the NW corner. Such items should be retained and re-bonded. At this stage all loose broken sections of PAR should be retained for the conservation phase works. It is possible that this area was the location of the bridge abutment, which would mean that the bridge was adjacent to the stepping stones. There is a large tree on the opposite bank (tree no. 2976), and young trees adjacent to area 1b and no obvious visible signs of PAR. Further excavation and investigation is recommended.	*Careful investigation of the area will be undertaken by excavation, trying to define any PAR that survives below the existing surface. All broken PAR elements will be retained, in situ if possible. Any exposed Pulhamite can be washed down with a simple hose pipe water supply.* *A re-assessment will be made for the full repair schedule.*	
Area 2. Pulhamite pond: Stepping stones	Restoration works	
The Stepping Stones are partially repaired with concrete (probably) with some loss of historic PAR surface. The repair area is cracked on the south side, and will need consolidation once this area has been fully defined. Needs careful excavation around area and further close inspection. There has been a suggestion that the concrete repairs may indicate that the stepping stones replace the bridge which may have been located here; however, it is not unusual for stepping stones to have such modern repairs and cautious investigations should be made. This will inevitably include some careful excavations around the stepping stones and closer investigation of any potentially historic PAR.	*Further careful investigation and excavation or digging around PAR will be undertaken to try and define the extent of Pulhamite, which may be either lost or partially buried. Control of root growth to adjacent trees/saplings is urgently required*	

It is possible that this area may have been a cascade as well and an investigation into the original water levels either side of the stepping stones should be made. Most (possible) repairs do not seem to be the same phase of work as the modern concrete pathway.		
Area 3. Pulhamite pond: To the south west of the stepping stones or west side of the pond.	*Restoration works*	
There is a large Pulhamite rock with plant pockets with an established tree (no 2979) to the south end causing disruption. There is a large missing section to the north end: this piece may be one of the loose/detached sections observed in area 1d. Small sections of PAR are partially buried on the east side.	*Further careful investigation and excavation or digging around will be undertaken to try and define the extent of Pulhamite, which may be either lost or partially buried. Control of root growth to adjacent trees/saplings.* *Cracking and detachment caused by tree and ivy growth will be consolidated after the tree is felled. Plant pockets will be emptied if possible in preparation for replanting. The missing area at north end will be re-fixed or rebuilt.*	

		 

3a. To the west and south side of the pond. The west side of the pond is low level and has some natural sand stone forming a bank with some possible low-level elements of PAR. This area will need further investigation once further clearing and possibly dredging have taken place.	*Further careful investigation and excavation or digging will be undertaken to try and define extent of Pulhamite, which may be either lost or partially buried. Control of root growth to adjacent trees/saplings.*	
Area 4. East side of pond (from tree no.2975 and south along the east side)	Restoration works	
General description: Note that the geological bedding gently dips down towards the east, and that bedding strata are continuous through-out the scheme. It has a clearly cantilevered and recessed profile representing hard and soft bedding strata. There is vertical fissure through the rocks which appears to be "continuous" with the PAR scheme east of the concrete path. These are all indications of geological authenticity which is characteristic of Pulhamite.		

		
4a. This area has several major cracks and missing areas of PAR coating. 2 to 3 established trees and some areas of exposed brick burr, which have been caused by the loss of PAR coating due to root action of ivy. Measurements indicate that there is approximately 1m to 1.25m from the lower plant pocket (just above the water level) to the hard base of the pond, though it is observed that some plant pockets along the east bank are under water. It is suspected that there is quite a lot of Pulhamite which is covered by water and the pond will be carefully dredged and pumped out for a full inspection. There is a large concrete slab over the root of tree 2974 which has a piece of attached tufa. There is also a concrete surface (layer/attachment) to the south side of 4a adjacent to tree no.2974 to be carefully removed.	*Apart from vertical cracking noted to the side (which will need consolidation) there is also some horizontal cracking which is probably associated with laminating cantilever material off which the plant pockets and rockwork are built. This is often in stone slabs (lime stone, sandstone or slate) which can laminate and result in expansive horizontal cracking. Such cracks could be filled with new PAR coating material but require less urgent action than those cracks which might lead to either small or large potential loss of historic PAR material; these areas are generally associated with vertical cracking.* *Some of the plant pockets have had trial excavations, which look successful: though herbicide*