

GLA 69 Wanstead Flats	
Grid Reference: TQ 405 865	Site Type: Former gravel quarries
Site Area (hectares): 167.09	Current use: recreational ponds within public open space
Site ownership: City of London Corporation	Borough: London Borough of Redbridge
Field surveyor: Diana Clements/Peter Collins	Date: April 2015
Current geological designation: Recommended by Partnership as a LIGS	Other designation: part of Epping Forest SAC
Site Map	OS Topography © Crown Copyright
Stratigraphy and Rock Types	
Time Unit: Pleistocene	Rock unit: Hackney Gravel Member, Maidenhead Formation
Rock Type: Sand and gravel	Details: Sand and gravel, locally with lenses of silt, clay or peat.
Time Unit: Pleistocene	Rock Unit: Lynch Hill Gravel Member, Maidenhead Formation
Rock Type: Sand and gravel	Details: Sand and gravel, locally with lenses of silt, clay or peat.
Time Unit: Eocene	Rock Unit: London Clay Formation, Thames Group
Rock Type: Clay, silt, sand	Details: Fine, clayey silt, clay.
Site Description	
<p>The open flat ground of Wanstead Flats is formed by the terrace of the Hackney Gravel which overlies the London Clay. There are exposures all around the edges of Alexandra Lake but they are mostly ex-situ. The pond was created as an ornamental pond between 1882 and 1911 from an existing small quarry 'brick pit'. The gravel was piled up around the perimeters and to create two islands. The exposure near the car park at TQ 414 864 may be in situ. The Hackney Gravel is predominantly flint gravel within topographical range base 6-15m, top 16-18m above floodplain of River Lea.</p> <p>At the northwest tip of Wanstead Flats, in the area around Bush Wood the older Lynch Hill Gravel replaces the Hackney Gravel and beyond that, the London Clay lies at the surface. As the name implies, the whole area is extremely flat and although there is a gentle increase in height OD from < 15 m round Alexandra Lake to 20m at the southern extremity of Bush Wood and 25m in the middle of the wood, it is very difficult to find any clues as to where these junctions lie. The Thames Terraces in this area do not display the obvious steps in the topography noted elsewhere. This is possibly because the ground was artificially levelled to create sports facilities. Springs were only detected in the adjacent road names such as Leybourne and Leyspring Roads which align with the junction of the Lynch Hill Gravel and the London Clay as shown on the</p>	

BGS map.		
Assessment of Site Value		
Geodiversity topic: Lithostratigraphy; sedimentology.		
Access and Safety		
Aspect	Description	
Safety of access	Good access, public space, free parking, buses & tube nearby. Manor Park railway station approximately 5 mins walk to Alexandra Lake. Car Park for pond TQ 414 864. Slippery when wet, mostly unmade paths, flat area.	
Safety of exposure	Exposures at Alexandra Lake are kept exposed by park users	
Permission to visit	Open Access	
Current condition	Well maintained by City of London Corporation	
Current conflicting activities	none	
Restricting conditions	Permission required to excavate	
Nature of exposure	Ex-Quarry for Hackney Gravel, extended and filled by natural springs. Piles of excavated gravel around perimeter	
Culture, Heritage & Economic		
Aspect	Description	Rating
Historic, archaeological & literary associations	Historically important in the story of preserving Epping Forest as open space	3
Aesthetic landscape	Not very attractive as so flat and open but provides playing fields and space for fairs and circuses so is well-frequented. Area around Alexandra Lake more interesting.	5
History of Earth Sciences	In relation to Thames Terrace	4
Economic geology	Possible former Gravel extraction	3
GeoScientific Merit		
Geomorphology	Thames Terrace (Hackney Gravel) related to MIS 9-8 c. 250,000 years old at <15m OD. Older Lynch Hill Gravel at c. 20 m OD (MIS 10-9). London Clay at c. 25m	4
Sedimentology	Hackney Gravel predominantly flint, including Tertiary flint (Bridgland, et al, 1995). Almost entire ex situ	2
Palaeontology	None known	0
Igneous/mineral/ Metamorphic Geology	None	0
Structural Geology		0
Lithostratigraphy	Hackney Gravel exposed (unlike Springfield Park GLA 43 where it is inferred by the spring line). Lynch Hill Gravel and London Clay also represented but no exposures seen.	4
Potential use	Research; (off-site education on Thames Terraces)	
Fragility	Overgrown by moss or vegetation	
Current Site Value		
Community	Potential geotrail on Epping Forest Centenary Walk up the staircase of Thames Gravels starting here at Wanstead Flats to High Beech. Alexandra Lake could become Stop 1 (slight diversion) with Stops 2 and three within Bush Wood, particularly if any temporary exposures could reveal the presence of Lynch Hill Gravel and London Clay.	7
Education	Possible activities in Visitor Centre in Queen Elizabeth Hunting Lodge	5
Geodiversity value		
Recommended by Partnership as a LIGS: This warrants a LIGS rating for the exposure of Hackney Gravel (there is no exposure at GLA 25, Springfield Park). Lynch Hill Gravel and London Clay are also represented although no exposures were seen.		4

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Photos: Diana Clements, April 2015