



# Hampstead Heath Ponds Project

## Glossary



# Glossary of Terms

## ORGANISATIONAL

**City of London Court of Common Council:** The Court of Common Council is the City of London's primary decision-making body, and meets nine times per year. It works through committees, but it is unique in that it is non-party political. Its main business focuses on the reports of committees, motions and Members' questions.

**City of London Members:** The geographical area covered by the City of London is divided into 25 wards. Each ward elects one Alderman and two or more Common Councilmen (collectively referred to as Members), depending on its population. There are 100 Common Councilmen and 25 Aldermen serving as elected representatives, representing public interest and informing how the City of London Corporation should carry out its various activities.

**Client Representative:** better known as Project Manager, individual represents the client, in this case The City of London, on the Design Team.

**Construction Contractors:** building professionals who construct the final design.

**DEFRA:** Department of Environment, Food and Rural Affairs

**Design Team:** consists of Hydrologists, Landscape Architects, Ecologists, Engineers, Communication and Planning experts who together are responsible for the design of the project.

**Hampstead Heath Consultative Committee:** consists of representatives from 25 local organisations and User Groups who together make representations to the Hampstead Heath Management Committee on any matter that affects the Heath.

**Hampstead Heath, Highgate Wood & Queen's Park Committee:** responsible for the implementation of policies and programmes of work in relation to the Heath and directs the staff in regard to that management.

**Health and Safety Executive (HSE):** The Health and Safety Executive (HSE) is a non-departmental public body responsible for the encouragement, regulation and enforcement of workplace health, safety and welfare.

**Landscape Architect:** a professional expert trained in the planning and design of a landscape, garden, or other space.

**Panel Engineer:** all reservoirs under the Reservoirs Act 1975 must be designed, constructed, inspected and supervised by a panel engineer. This person is a highly qualified professional engineer approved by DEFRA who is technically competent to give advice on the management of reservoirs. Appointments of panel engineers are

made by the Secretary of State after consultation with the Institution of Civil Engineers.

**Strategic Landscape Architect:** an independent landscape architect employed to act as a champion of the Heath's landscape. This individual will work closely with stakeholders to feed their views and concerns into the design process and challenge any design if necessary.

**Reservoir Undertaker:** someone who owns and is responsible for a reservoir, in this case it is the City of London.

**Ponds Project Stakeholder Group:** a working group of individuals who represent local organisations, Heath user groups and residents providing views and advice on the project, this input being fed into the Hampstead Heath Consultative Committee.

## LEGAL

**1871 Hampstead Heath Act:** The founding legislation that brought the original Heath into public ownership with a series of obligations.

**1975 Reservoirs Act:** the legal framework to ensure the safety of UK reservoirs that hold at least 25,000 m<sup>3</sup> of water above natural ground level.

**The Local Government Reorganisation (Hampstead Heath) Order 1989:** The Order which gives effect to the transfer of the management of Hampstead Heath from the London Residuary Body to the City of London Corporation.

**2010 Flood and Water Management Act 2010:** A piece of legislation which has been enacted but not brought into force. The Act will provide for more comprehensive management of flood risk for people, homes and businesses, help safeguard community groups from unaffordable rises in surface water drainage charges and protect water supplies to the consumer.

**Annual Inspection:** an inspection of dams which takes place yearly by the Panel Engineer

**Judicial Review:** legal review by a Court of Law of the actions of a government official or entity or of some other legally appointed person or body or the review by an appellate court of the decision of a trial court.

**LLOL:** Likely loss of life. A term used in dam failure risk assessment.

**PAR:** Population at risk. A term used in dam failure risk assessment

**Quantified Risk Assessment:** a structured approach to identifying and understanding the risks associated with hazardous situations, it requires an assessment of potential hazards, their likelihood, and consequences.

**Section 10:** an inspection required by law and carried out by a Panel Engineer who reports on the general condition of the reservoir paying special attention to the dam wall and dam crest, potentially including (legal) "Recommendations in the Interests of Safety" that an Undertaker is obligated to implement.

## SCIENCE & GEOGRAPHY

**1 in 10,000/1 in 1000/1 in 100/1 in 25 year event:** Statistical rainfall events that occur on average one in 10,000 years, one in 1000 years etc.

**Absorption:** the way in which rainwater soaks into the ground

**Aeration:** the process of how air/oxygen is circulated, mixed or dissolved in water.

**Aquatic ecology:** the study of the relationships between organisms in water ecosystems.

**Chain/Cascade:** a succession of ponds linked together with a flow of water between them

**Compaction:** the compression of the earth on the Heath giving it a denser mass and meaning it can absorb less water

**Convective storm :** storm generated by the heating of the earth and with deep moisture. The three key ingredients are, lift, moisture and instability. They produce, hail, strong winds and heavy rains.

**Cloud burst:** A sudden rainfall which is often heavy

**Design Flood:** The size of flood the dams must be engineered to withstand

**Flood:** an overflowing of water onto land that is normally dry.

**Hydrology:** the study of properties, distribution and effects of water.

**Hydrogeology:** the study of water movement through rock.

**Infiltration:** downward movement of water through soil.

**LIDAR data:** Data collected using airborne light detection and ranging. Produces accurate images of landscape.

**Reed bed:** a wetland habitat formed in waterlogged conditions, dominated by *Phragmites* reeds

**Run-off:** Water that does not soak into the ground and therefore, runs off the Heath.

**Terrestrial ecology:** the study of the relationships between organisms in land ecosystems.

**Wetland:** a habitat saturated with water, either permanently or seasonally, such as reed beds, marshes, bogs and fens.

## DAM ENGINEERING

**ALARP** ( As Low As Reasonably Practicable): This term arises from UK legislation, particularly the Health and Safety at Work etc. Act 1974, which requires "Provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health". The phrase So Far As is Reasonably Practicable (SFARP) in this and similar clauses is interpreted as leading to a requirement that risks must be reduced to a level that is As Low As is Reasonably Practicable (ALARP).

**Attenuation:** to reduce the volume of water flowing downstream by holding it back so allowing it to be released gradually.

**Breach:** to make a hole in or break through.

**Bund:** the area within a structure designed to prevent a flood or breaches of various types

**Causeway:** a road or path elevated across a body of water.

**Conduit:** A closed channel to convey the discharge through or under a dam. Usually pips constructed of concrete or steel.

**Controlled discharge:** When water is released in a controlled manner from a pond or reservoir.

**Crest:** the highest point or peak of a dam constructed at right angles to the downstream flow.

**Dam:** a barrier above normal ground level constructed across a waterway to control the flow or raise the level of water.

**Dam breach modeling:** a technique used to examine at what point a dam might overtop or fail and the consequences of this.

**Dam category:**

**Dam heel:** The junction of the upstream face with the foundation surface.

**Dam raising:** increasing the height of a dam to help with attenuation of water.

**Dam toe:** The junction of the downstream face of a dam with the natural ground surface

**Drawdown:** The resultant lowering of water surface level due to release of water from the reservoir or pond.

**Dredging/De-silting:** the removal of silt and mud from the bottom of ponds.

**Earth-fill dams:** also called **earthen dams**, or simply **earth dams**, are constructed as a simple embankment of well compacted earth.

**Erosion of dam:** the process of a dam wearing away or disintegrating.

**Inflow:** The water that arrives in a pond or reservoir usually from another body of water and through a pipe.

**Inundation (flood):** a flood of water

**Outflow:** The water that leaves a pond or reservoir usually through a pipe into another body of water or a sewer.

**Outlet:** An opening through which water can be freely discharged from a pond or reservoir.

**Overtopping:** when water passes over the top of a dam.

**Probably maximum flow:** the flood that may be expected from the most severe combination of critical meteorological and hydrologic conditions in an area.

**Quantum(in respect of hydrology):**the amount of rainfall and its subsequent impact

**Spillway/Natural Spillway:** A spillway is a structure used to provide the controlled release of flows from a dam into a downstream area. Spillways release floods so that the water does not overtop and damage or even destroy the dam. Except during flood periods, water does not normally flow over a spillway. A natural spillway is covered in grass and made to look natural.

**Reservoir:** an artificial lake, storage pond or impoundment from a dam-which is used to store water.

**Reservoir routing:** in hydrology, routing is a technique used to predict the changes in shape of water as it moves through a river channel or a reservoir. In flood forecasting, hydrologists may want to know how a short burst of intense rain in an area upstream of a city will change as it reaches the city. Routing can be used to determine whether the pulse of rain reaches the city as a deluge or a trickle.

**Total failure:** when a dam collapses

## TECHNICAL & GENERAL ENGINEERING

**Construction Management Plan:** the overall planning, coordination, and control of a construction project from beginning to completion.

**Global Positioning System (GPS):** a space-based satellite navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites

**Hydrological modeling:** simplified, conceptual representations of a part of the water cycle. They are primarily used for prediction of what way water will flow and for understanding hydrologic processes.

**Receiving Sewer Capacity:** the volume of water a sewer can take

**Revetment:** a facing added to a structure that provides additional support

**Sheet piling:** dams can be reinforced by sheet piling them with a metal such as iron

**Telemetry:** the system used to monitor the water levels in the ponds

**Valve gear:** the equipment that links ponds in a chain together and is used to maintain water levels in ponds

**Vortex:** this is produced when water whirls together and can speed up erosion of a dam.



## CONSULTATION & PROCESS

**Competitive Dialogue:** the tendering process the City is using to appoint the construction contractor

**Constrained List:** a list of technically feasible options available to protect dams from failing.

**Detailed Planning Permission:** the permission required in the United Kingdom in order to be allowed to build on land, or change the use of land or buildings.

**Environmental Impact Assessment:** is an information gathering exercise and assessment carried out to understand the potential environmental effects of a development and inform the decision as to whether and how the development should take place.

**Fundamental Review/Design Review:** The first piece of work undertaken by the Design Team to review the hydrological data which forms the basis of the project.

**ISOS** (Invitation to Submit Outline Solutions): A document used in the Competitive Dialogue procurement process.

**Long list of unconstrained options:** all the potential options available to protect dams from failing.

**Project Partnering Contract(PPC):** a type of contract used in construction projects where there is a multi-party contract relating to a single project whereby the client, constructor and the client's appointed advisers work together under the same terms and conditions.

**Preferred option:** the design options that achieves the best outcome in terms of protecting the Heath landscape whilst ensuring the dams will not fail releasing the impounded water and causing damage to people and property in the downstream community.

**Short list of options of constrained options:** see short list of options.

**Unconstrained list:** a list of all options available to protect dams from failing.