Neutral Citation Number: [2014] EWHC 3868 (Admin)

Case No: CO/4175/2014

IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION
PLANNING COURT

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: Friday 28th November 2014

Before:

THE HONOURABLE MRS JUSTICE LANG DBE

- -

Between:

THE QUEEN
on the application of

THE HEATH & HAMPSTEAD SOCIETY — **Claimant**

- and -

THE MAYOR AND COMMONALTY
AND CITIZENS OF THE CITY OF LONDON
(acting by THE HAMPSTEAD HEATH,
HIGHGATE WOOD AND QUEEN'S PARK
MANAGEMENT COMMITTEE
(and the PROJECTS SUB COMMITTEE)) — **Defendant**

THE ENVIRONMENT AGENCY — **Interested Party**

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Stephen Tromans QC and **James Burton** (instructed by **Scott Fowler Solicitors LLP**) for the **Claimant**
David Elvin QC and **Richard Moules** (instructed by **Comptroller and City Solicitors Department**) for the **Defendant**
William Upton (instructed by **Legal Department (Exeter), Environment Agency)** for the **Interested Party**

Hearing dates: 13th & 14th November 2014

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Approved Judgment

I direct that pursuant to CPR PD 39A para 6.1 no official shorthand note shall be taken of this Judgment and that copies of this version as handed down may be treated as authentic.

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THE HONOURABLE MRS JUSTICE LANG DBE

Mrs Justice Lang:

1. The Claimant has applied for judicial review of the Defendant's decision, in June 2014, to approve and proceed with proposals for reservoir safety works to the ponds on Hampstead Heath ("the Heath"), at a cost of £17 million, subject to obtaining planning permission from the London Borough of Camden. The claim concerns the proper interpretation and application of the Reservoirs Act 1975 ("RA 1975")

2. By consent, the application was expedited and heard as a "rolled up" hearing, so the application for permission and the substantive application were heard together.

Facts

3. The Claimant is a charity whose objects include the preservation of the Heath in its "wild and natural state" and the promotion and maintenance of the amenities and characteristics of the environs of the Heath. It was founded in 1897 to oppose London County Council's attempts to develop the Heath into a park.

4. The Heath is classified as Metropolitan Open Land, a Public Open Space and a Site of Metropolitan Importance for Nature Conservation. It contains ancient woodland and a Site of Special Scientific Interest (though it is not touched by the proposals).

5. The Heath was described by Stanley Burnton J. as the greatest of London's open spaces (*Hampstead Heath Winter Swimming Club & Anor v The Corporation of London & Anor* [2005] 1 WLR 2930 at [1]). It is cherished by local residents and it is estimated there are about 7 million visits per year. The "timeless beauty" of its landscape (captured in many paintings) is a particular feature of the Heath, valued by its visitors.

6. The Heath is owned and managed by the Defendant, pursuant to the Hampstead Heath Act 1871 ("HHA 1871"). The HHA 1871 made provision for ownership of the Heath to be transferred from the Lord of the Manor and vested in the Metropolitan Board of Works. It was subsequently transferred to the London County Council and the Greater London Council. It was transferred to the Defendant, in its private capacity, by the Local Government Reorganisation (Hampstead Heath) Order 1989.

7. Since 1871, the Heath has been enlarged by the acquisition of further lands. It now comprises some 790 acres of grassland, woodland, meadows, formal grounds, wetlands and heathland. There are numerous lakes and ponds, of varying sizes, which are valued for their visual amenity and some are used for recreational purposes, such as swimming and angling.

8. Perhaps the best known are the two chains of ponds – the Hampstead chain and the Highgate chain. There are six ponds in the Hampstead chain and eight ponds in the Highgate chain (the top two of which are within the Kenwood Estate and are owned and managed by English Heritage). The ponds were originally built as reservoirs to provide fresh water for London. They were created by damming the natural springs and streams in the valleys, on either side of Parliament Hill, which were the source of the Rivers Fleet, Kilburn, Tyburn and Brent. Those rivers are now lost, having been incorporated into London's underground sewer system. Today, the ponds are still

supplied by natural springs. Each pond in the chain is linked by pipes and/or streams allowing the water to flow down to the adjacent lower pond. The lowest pond in each chain discharges into the sewers.

9. Despite the fact that they are no longer used as reservoirs, the three largest ponds come within the scope of the RA 1975, imposing legal duties upon the Defendant, as 'undertaker' within the meaning of the Act. The Defendant has concluded, on the advice of a series of consultant civil engineers, that substantial works are required to ensure that the dams to the ponds do not breach, and cause extreme flooding to the densely inhabited areas around the Heath. The last statutory inspection under the RA 1975 was in 2007 which recommended further assessments. The Defendant has commissioned reports from consultants Haycock Associates, CARES, AECOM and Atkins. Since 2010, it has received advice from its supervising engineer, Dr Andrew Hughes, appointed pursuant to the RA 1975.

10. Dr Hughes is a highly qualified and experienced specialist in dam engineering. In his witness statement, he explained the nature of dam failure as follows:

    i) An embankment dam requires a spillway to allow water to 'overflow' and pass safely downstream past the dam. Usually, this is via a channel, pipe or reinforced low portion of the bank. The capacity of the spillway must be sufficient to prevent the water level rising and going over the top of the dam.

    ii) If the spillway has insufficient capacity, then in storm conditions the water may overtop the embankment dam. As the water flows down the face of the dam it accelerates and it has the power to rip grass cover from the soil or to erode the face of the dam.

    iii) Where the face of the dam erodes there is a risk that the water in the reservoir behind the dam will break through and the dam will fail. Water would then be released from the dam with potentially catastrophic consequences.

    iv) It is difficult to predict exactly how quickly a dam will fail, but once overtopping starts then a dam could fail within minutes. Failures could occur at any time and at short notice. Once erosion starts it is a self-perpetuating process that is virtually impossible to stop. It is thus important that the mechanisms for dam failure are eliminated.

    v) When dams fail in built-up areas, it is likely lives will be lost. Dam breach releases a wall of water onto the community downstream, overwhelming any drainage system. The volume of water and velocity of flow can knock people and buildings over.

    vi) The propensity of a dam to overtopping is indicated by a 'return period' that signifies the number of years which one would expect between floods equal or greater than the stated magnitude. Thus, if a dam is overtopped with a return period of a 1 in 20 flood then it would be expected to overtop on average once every 20 years. This is a theoretical exercise. In reality, severe floods may occur at any interval, and their frequency cannot be accurately predicted.

11. Dr Hughes has advised the Defendant, based upon the studies which have been carried out, that in the event of a severe storm, there is a risk that the ponds could overtop, potentially leading to erosion and dam failure. The principal reason for this is that the spillway capacities of all of the dams in the Highgate and Hampstead pond chains are deficient. The Hampstead No.1 Pond and the Highgate No.1 Pond (the ponds at the bottom of each chain) start to overtop between a 1:100 year rainfall event and a 1:1,000 year rainfall event. Other ponds further up the chains overtop at a much lower return period (e.g. the Stock Pond starts to overtop in a 1:5 year event, while the Ladies Bathing Pond and Bird Sanctuary Pond overtop in a 1:20 year event).

12. There is evidence that the ponds have overtopped previously and been damaged by erosion, though there is no evidence that the dams have ever breached.

13. The next statutory inspection under the RA 1975 is not due until 2017, but Dr Hughes may recommend an earlier statutory inspection if the recommended steps are not taken.

14. Following a lengthy process of investigation, assessment and consultation, the Defendant's Hampstead Heath, Highgate Wood and Queen's Park Committee decided on 9th June 2014 to approve specific pond defence proposals and to apply for planning permission for them, following the recommendations made in the Joint Report of the Director of Built Environment and the Director of Open Spaces ("the Report").

15. The design principles which were applied may be summarised as follows:

    i) Each chain of ponds was considered as a whole system, so that increases in storage capacity could be focused in the least sensitive locations, in order to minimise increases in dam heights at more sensitive ponds and reducing residual works required elsewhere.

    ii) The safety standard applied to each pond was the "Probable Maximum Flood" (PMF). Applying the Institution of Civil Engineers guidance 'Floods and Reservoir Safety' ("the ICE guidance"), this was the applicable standard for the three largest Category A ponds. It was anticipated that all the ponds would come within the scope of the RA 1975 once the amendments introduced by the Flood and Water Management Act 2010 were fully implemented.

    iii) Tree loss was to be minimised

    iv) The system would be passive, without reliance on any mechanical system or human intervention.

    v) The engineering intervention would be balanced so as to minimise impact on the landscape.

16. Option 6 was the chosen option for the Highgate chain of Ponds, mainly because it focussed the works at the Model Boating Pond, rather than the Men's Bathing Pond. Strong objections were made to proposed works at the Men's Bathing Pond and the Defendant recognised that it was a more sensitive location, both visually and ecologically.

17. The works in Option 6 comprised:

i) **Stock Pond**: Restoration of the dam crest[1] by up to 500 mm and a new open grass spillway[2], 21 m wide at base with side slopes of 1:12, at the right hand end of the dam, Two new 900 mm overflow pipes to run parallel to existing overflow pipe. Pond to be de-silted. New marginal planting. 23 - 26 trees lost[3].

ii) **Kenwood Ladies' Bathing Pond**: Restoration of the dam crest and a new open grass spillway, 24.6. m wide at the base with side slopes of 1:3, over the right hand part of the dam. Loss of 15 – 18 trees. Pond to be de-silted.

iii) **Bird Sanctuary Pond**: Minor restoration of the dam crest and relocation of the overflow pipe to the right hand end of the dam. No spillway but the slope downstream to the Model Boating Pond to be smoothed and lined with a turf reinforcement mat. Additional channel to be dug to enhanced wetland area and development and extension of existing reed bed. New wetland habitat constructed.

iv) **Model Boating Pond**: Raising the existing dam by 2.5 m with an earth embankment on the upstream side. New open grass upper spillway over the raised and existing dams at the right hand end. New island with a causeway to be formed around preserved trees. Loss of 8 to 9 trees. New footpath across dam and re-aligned west bank. Excavation of the west bank to obtain earth for construction of new dam, with consequent enlargement of the pond. Further borrow pit for top of hill west of pond; to be filled with silt from Highgate ponds.

v) **Men's Bathing Pond**: Raising of the existing dam by 1 m, using sheet piling clad with timber. Designed to repair existing leak in dam. New open grass spillway, 25 m wide, at the right hand end. Loss of 15 trees. Marginal planting and a small reed area.

vi) **Highgate Pond No. 1**: Raising of existing dam with a maximum 1.25 m high wall, using sheet piling clad with timber. A new open grass spillway, 64 m wide, at the right hand end. Return wall along one side. Loss of 5 to 16 trees. Extension of the existing reed beds

18. Option M was the chosen option for the Hampstead chain of Ponds because it provided for lower dam height at the Mixed Bathing Pond and crest restoration instead of a 0.5 crest raising at Hampstead No. 2 Pond. It placed additional plane trees at risk, but dam heights were prioritised above tree loss because dam heights were considered to have a greater visual and landscape impact.

19. The works in Option M comprised:

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[1] The crest of a dam is its highest point or peak.
[2] A spillway is a structure which provides an alternative means of releasing excess water other than by overtopping the dam.
[3] Tree loss figures are assessed on a 'worst case scenario' basis. Where two figures are given, this reflects variations in the evidence before me.

i) **Vale of Health**: Crest restoration up to 560 mm. New grass lined spillway at the western end, 5 m wide. Additional overflow pipe. 1 tree lost. Marginal planting.

ii) **Viaduct**. Crest restoration up to 180 mm. New grass lined spillway at the eastern end, 4 m wide and 1:12 side slopes. New overflow pipe. Removal of silt. Marginal planting on eastern edge. 4 – 6 trees lost.

iii) **Catchpit**: New flood storage dam 5.6 m high at the lowest point in the valley and 40 m wide at the widest point. Crest of the dam approximately 100 m. Slopes 1:3 upstream and 1:4 downstream. Spillway along the whole crest of the dam. Pipe under the dam to pass normal flow. Second pipe or overland flow and wetland area. Two new silt collection ponds upstream of the dam. Wetland scrapes and informal flow channels. Reed beds to be planted. 60 - 71 trees lost.

iv) **Mixed bathing**: Dam raised by 1 m, creating a new crest surface path 4 m wide. 1:1 slope of the upstream face, 1:3 on the downstream slope, Downstream slope to be reinforced with a mat. Spillway over the majority of the crest of the dam. Existing overflow pipe extended further. 7 trees lost. Silt removal. Marginal planting.

v) **Hampstead No. 2**: Crest restoration with a 0.2 m high edging. A new overflow with precast concrete box culvert/s at the western end with a drop inlet. Culvert route and width redesigned so that the plane trees on the dam are preserved. Loss of 1 - 2 trees. Marginal planting.

vi) **Hampstead No. 1**: New box culvert overflow over the embankment at eastern end. 5 trees lost. Marginal planting

20. The Claimant strongly opposes the proposed works, which it considers damaging, unnecessary and over-engineered. In paragraph 83 of his first witness statement, Mr Hutchinson, Chair of the Claimant Society, stated that the Society "views the Projected Works as the most serious threat to the Heath's historic landscape since the 'parkification' of the Heath began in the 1890s which the Society was founded to oppose".

21. The Defendant considers that these steps are required to enable it to meet its legal obligations as owner and manager of the ponds, and that it has acted reasonably and lawfully.

Statutory framework

Hampstead Heath Act 1871 (as amended)

22. The long title is: "An Act for effecting a transfer to the Metropolitan Board of Works of the open space known as Hampstead Heath, and for enabling them to preserve, improve, and regulate the same; and for other purposes."

23. The Preamble provides, in so far as is material:

> "And whereas it would be of great advantage to the inhabitants of the Metropolis if the Heath were always kept uninclosed and unbuilt on, its natural aspect and state being as far as may be preserved, and if for that purpose the Heath were vested in the …. Board …"
>
> "And whereas it is expedient that the Board be empowered to manage and regulate the Heath … and that all proper powers for the several purposes aforesaid be conferred on them ….."

24. Section 12 provides:

> "**12. Heath to be kept open.**
>
> Subject to the provisions of this Act, the [Board] shall for ever keep the Heath open, uninclosed, and unbuilt on, except as regards such parts thereof as are at the passing of this Act inclosed or built on, and shall by all lawful means prevent, resist, and abate all encroachments and attempted encroachments on the Heath, and protect the Heath, and preserve it as an open space, and resist all proceedings tending to the inclosure or appropriation for any purpose of any part thereof. "

25. Section 14 prohibits any extraction of turf, soil or gravel for sale and prohibits the sale of any timber or plants from the Heath.

26. Section 15 provides:

> "**15. Power to drain &c.**
>
> [The Board] shall by virtue of this Act have the following powers; …
>
> To drain, level, and improve the Heath, as far only as may be in their judgment from time to time requisite, with a view to the use thereof for purposes of health and unrestricted exercise and recreation:
>
> To plant trees and shrubs on the Heath for purposes of shelter or ornament, and to make temporary inclosures for the protection thereof."

27. Section 16 provides:

> "**16. Preservation of turf, &c**
>
> [The Board] shall at all times preserve, as far as may be, the natural aspect and state of the Heath, and to that end shall protect the turf, gorse, heather, timber and other trees, shrubs, and brushwood thereon."

28. Section 17 makes express provision for inclosing and planting ornamental gardens. Section 18 provides:

> "**18. Power to build Heath keepers lodges, &c.**
>
> Notwithstanding anything in this Act, the [Board] may erect from time to time on the Heath, and maintain, such convenient or ornamental buildings, of an elevation not more than twenty feet in any case, as they think requisite for the accommodation of Heath keepers, constables, or other officers, or for other public or useful purposes."

29. Schedule 1 to the Act describes the Heath, and includes in paragraph 3 "all those pieces of land usually covered with water…."

Reservoirs Act 1975

30. The RA 1975 (as amended) establishes a safety regime for "large raised reservoirs". Under section A1, the Hampstead No 1, Highgate Men's Bathing Pond and Highgate Model Boating Pond are designated "large raised reservoirs" due to the volume of water (at least 25,000 m^3) stored above natural ground level. Section A1 defines "large raised reservoirs" as follows:

> "A1 "Large raised reservoir": England and Wales
>
> (1) In this Act "large raised reservoir" means—
>
> (a) a large, raised structure designed or used for collecting and storing water, and
>
> (b) a large, raised lake or other area capable of storing water which was created or enlarged by artificial means.
>
> (2) A structure or area is "raised" if it is capable of holding water above the natural level of any part of the surrounding land.
>
> (3) A raised structure or area is "large" if it is capable of holding 10,000 cubic metres of water above the natural level of any part of the surrounding land. …"

31. The Defendant is the "undertaker" of the reservoirs pursuant to section 1(4)(b)(ii) RA 1975 and the three large, raised reservoirs are registered with the Environment Agency, as required by section 2(2B) RA 1975.

32. Section 4 RA 1975 establishes a panel of civil engineers for the purposes of the RA 1975, to be appointed by the Secretary of State for the Environment after consultation with the Institution of Civil Engineers ("the ICE").

33. Section 10 RA 1975 requires that all large raised reservoirs must be periodically inspected by a qualified civil engineer ("the inspecting engineer"). The inspecting

engineer is required to make a report which shall be acted upon by the undertaker. Section 10 RA 1975 provides:

> "**10.— Periodical inspection of large raised reservoirs.**
>
> (1) The undertakers shall have any high-risk reservoir inspected from time to time by an independent qualified civil engineer ("the inspecting engineer") and obtain from him a report of the result of his inspection.
>
> (2) Unless it is at the time under the supervision of a construction engineer (or of an engineer acting under section 8 or 9 above) a high-risk reservoir must be inspected under this section at the times specified by regulations made by the Minister.
>
> (3) As soon as practicable after an inspection under this section, the inspecting engineer shall make a report of the result of the inspection, including in it any recommendations he sees fit to make as to—
>
> (a) the time of the next inspection;
>
> (b) the maintenance of the reservoir;
>
> (c) any measures required in the interests of safety and the period within which those measures must be taken.
>
> (3A) If the inspecting engineer has not provided a report before the end of the period of 6 months beginning with the date of completion of the inspection, the engineer must—
>
> notify the appropriate agency, and
>
> provide a written statement of the reasons.
>
> (4) An inspecting engineer shall consider the matters (if any) that need to be watched by the supervising engineer during the period before the next inspection of the reservoir under this section, and shall include in his report a note of any such matters.
>
> (5) An inspecting engineer, when he makes his report, shall also give a certificate stating that the report does or does not include recommendations as to measures to be taken in the interests of safety or as to the maintenance of the reservoir, if it includes a recommendation as to the time of the next inspection, stating also the period within which he recommends the inspection should be made.
>
> (5A) The undertaker must comply with a recommendation made under subsection (3)(b), unless the recommendation is the

subject of a reference under section 19 and the reference has not been determined.

(6) Where an inspecting engineer includes in his report any recommendation as to measures to be taken in the interests of safety, then subject to any references of the matter to a referee in accordance with this Act the undertakers shall, within the period specified in the report, carry the recommendation into effect under the supervision of a qualified civil engineer; and that engineer shall give a certificate, as soon as he is satisfied it is so, that the recommendation has been carried into effect.

(6A) The inspecting engineer must include in the report of the inspection—

(a) a statement as to whether all of the safety measures recommended in the previous report under subsection (3)(c) have been taken, and

(b) either (i) recommendations to take any safety measure that has not yet been taken or (ii) an explanation of why it is no longer required.

(7) Where it appears to the enforcement authority, in the case of any high-risk reservoir,—

(a) that an inspection and report thereon have not been made as required by this section; or

(b) that the latest report of the inspecting engineer includes a recommendation as to measures to be taken in the interests of safety that has not been carried into effect as so required;

the authority may by written notice served on the undertakers require them within twenty-eight days after the date when the notice is served to appoint an independent qualified civil engineer to carry out an inspection under this section, unless an appointment has already been made, and (in either case) to notify the authority of the appointment or, as the case may be, require them to carry the recommendation into effect within a time specified in the notice.

(8) Where an enforcement authority propose to serve a notice under subsection (7) above requiring the undertakers to carry a recommendation into effect, the authority shall consult as to the time to be specified in the notice a civil engineer, being a qualified civil engineer for the purpose of supervising under subs. (6) above the carrying into effect of the recommendation.

(9) For purposes of this Act “independent” when used of a civil engineer in relation to a reservoir means —

> (a) that he is not in the employment of the undertakers otherwise than in a consultant capacity; and
>
> (b) that he was not the engineer responsible for the reservoir or any alteration to it as construction engineer, nor is connected with any such engineer as his partner, employer, employee or fellow employee in a civil engineering business.
>
> The reference in this subs. to a construction engineer includes an engineer acting under section 8 or 9 above."

34. Thus, under section 10(3) RA 1975, the inspecting engineer can make recommendations as to "any measures required in the interests of safety". An undertaker may refer a disputed recommendation to an independent qualified civil engineer under section 19 RA 1975, and may appeal a requirement in an enforcement notice to the First-tier Tribunal under regulations made under section 19A RA 1975.

35. If an undertaker fails to comply with a recommendation of the inspecting engineer, the enforcement authority (the Environment Agency) has the power to issue an enforcement notice under section 10(7) RA 1975. In such circumstances, section 15 RA 1975 empowers the enforcement authority to cause the recommendation to be carried into effect under the supervision of a qualified civil engineer appointed by them, and to recover the expenses reasonably incurred from the undertaker.

36. Failure to comply with a recommendation of the inspecting engineer is also a criminal offence under section 22 RA 1975.

37. Under section 12 RA 1975 it is the responsibility of the undertaker to appoint a panel engineer (at its own cost) to act as supervising engineer and to monitor, report and advise on the condition and safety of the dams. The supervising engineer can call for an inspection by the inspecting engineer at any time under section 12(3) RA 1975 if he thinks that such is required:

> "12.— Supervision of large raised reservoirs.
>
> (1) At all times when a high-risk reservoir is not under the supervision of a construction engineer, a qualified civil engineer ("the supervising engineer") shall be employed to supervise the reservoir and keep the undertakers advised of its behaviour in any respect that might affect safety, and to watch that the provisions of section 6(2) to (4) or section 9(2) above and of section 11 are observed and complied with and draw the attention of the undertakers to any breach of those provisions.
>
> (2) It shall be the duty of the supervising engineer, so long as any matters are noted as matters that need to be watched by him in any annex to the final certificate for the reservoir or in the latest report of an inspecting engineer, to pay attention in particular to those matters and to give the undertakers not less often than once a year written statement of the action he has taken to do so.

> (2A) The supervising engineer must provide the undertaker with a written statement of any steps taken to maintain the reservoir in accordance with the recommendations of the inspecting engineer under s. 10(3)(b).
>
> (2B) The engineer must provide a statement under subs. (2A) at least once every 12 months.
>
> (3) The supervising engineer shall recommend to the undertakers that the reservoir be inspected under s. 10 above, if at any time he thinks that such an inspection is called for.
>
> (4) Where it appears to the enforcement authority that a high-risk reservoir is not for the time being under the supervision either of a construction engineer or of a supervising engineer, the authority may by written notice served on the undertakers require them within twenty-eight days after the date the notice is served to appoint a supervising engineer and to notify the authority of the appointment or, if the reservoir is at that date under the supervision of a construction engineer or of a supervising engineer, to notify the authority of that fact.
>
> (5) Reference in this section to a construction engineer include an engineer acting under s. 8 or 9 above.
>
> (6) The supervising engineer may direct the undertaker to carry out a visual inspection of the reservoir at specified intervals for the purpose of identifying anything that might affect the safety of the reservoir.
>
> (7) The undertaker must notify the supervising engineer of—
>
> (a) each visual inspection that is carried out, and
>
> (b) anything noticed in the course of it.
>
> (8) The Minister may issue guidance about supervision in accordance with this section (and may take compliance into account when making decisions under s. 4)."

The Flood and Water Management Act 2010

38. The Flood and Water Management Act 2010 ("the 2010 Act") makes a number of amendments to the RA 1975, not all of which have yet been fully brought into force.

39. Once the amendments in the 2010 Act are in force, the size of a large raised reservoir will be reduced to 10,000 cubic metres. This will bring more of the ponds in the Hampstead and Highgate chains within the provisions of the RA 1975. Although section A1(3) of the 1975 Act already refers to a figure of 10,000 m^3, references to "10,000" are to be read as references to "25,000" until the relevant provisions of the 2010 Act are brought fully into force – see articles 3 and 4 of the Flood and Water

Management Act 2010 (Commencement No 2, Transitional and Savings Provisions) (England) Order 2013 (SI 2013/1590). The transitional provisions reflect the previous definition of a large raised reservoir in section 1(1)(b) of the 1975 Act.

40. It is expected that new regulations under section A1(5) RA 1975 will also provide for cascading ponds in a chain to be classed as large raised reservoirs. If so, the Defendant anticipates that all of the ponds in the Hampstead and Highgate chains will be treated as large raised reservoirs, bringing them within the ambit of the RA 1975.

41. The 2010 Act introduces a new classification of a "high-risk reservoir" into the RA 1975, to which the main safety and inspection provisions will in future apply, once the provision is in force. Under section 2C RA 1975, one of the criteria for designating a large raised reservoir as high-risk is that human life (i.e. at least one person) could be endangered by an uncontrolled release of water. It is anticipated by the Defendant that all of the ponds in the Hampstead and Highgate chains will be assessed as high-risk reservoirs.

42. Transitional provisions are currently in force. Thus, although a reference to "high-risk reservoir" has now been substituted for "large raised reservoir" in section 10 RA 1975, section 10 continues to apply to any large raised reservoir until such time as the Environment Agency gives notice to the undertaker that it has or has not been designated as high-risk – see article 7 of the Reservoirs Act 1975 (Exemptions, Appeals and Inspections) (England) Regulations 2013 (SI 2013/1896). To date no such notice has been received for the ponds on the Heath.

43. The 2010 Act has already amended section 22 RA 1975, relating to the criminal liability of undertakers and their employees. Failure to carry into effect any recommendation of the inspecting engineer no longer has to be wilful, in order for the offence under section 22(1) to be made out. The defence of reasonable excuse for any default or failure has also been repealed. These changes were implemented in July 2013.

44. Mr Deakin, who is responsible for the Reservoirs Safety Team in the Environment Agency, made a witness statement explaining the progress of the amendments. He said, in paragraph 13, that Richard Benyon MP, Parliamentary Under-Secretary of State for the Environment, Food and Rural Affairs, informed the Seventh Delegated Legislation Committee on 4th June 2013 that the Government was committed to introducing the remaining provisions of the 2010 Act by the end of 2014. However, as at the date of this hearing, Mr Deakin was unable to provide any firm indications of the Government's timetable.

Grounds

45. The Claimant's first ground of challenge was that the Defendant's decision was based upon a flawed interpretation of the meaning of the words "measures required in the interests of safety" in section 10(3)(c) RA. Contrary to the view of the Defendant, and its supervising engineer Dr Hughes, this provision:

    i) was not concerned with absolute or near safety, but with a level of safety that was reasonable in all the circumstances;

ii) was to be read as subject to and qualified by the City's statutory duties not to build on and to preserve the natural aspect and state of the Heath pursuant to the Heath Act, which were contravened by the proposals;

iii) did not require that "measures" only involve physical engineering and a "passive system" when active measures such as early warning systems and human intervention could ameliorate risk;

iv) did not exclude consideration of safety measures in place under regimes outside the RA 1975;

v) did require consideration of the historical, social, ecological value of the Heath that will be disturbed or harmed by the proposals.

46. By applying ICE guidance which required that the pond dams be able to resist the "probable maximum flood" and so "virtually eliminate risk", the Defendant had construed the level of "safety" required as absolute, or near absolute. However, safety is a relative concept and means a level that is reasonable in all the circumstances. That is how section 10 should have been interpreted. The ICE guidance should not have been applied inflexibly and mechanistically, so as to exclude consideration of the duties under the Heath Act and other environmental factors.

47. In response, the Defendant submitted that the requirement in section 10(3)(c) RA 1975 that measures be taken "in the interests of safety" was not qualified by standards of reasonableness. Parliament's intention, as shown by the statutory language and ministerial statements, was to prevent escapes of water from reservoirs over a certain size. Factors such as the impact on amenity, heritage and landscape were immaterial.

48. Parliament conferred responsibility on panel engineers to make enforceable recommendations as to any measures required in the interests of safety. In doing so, it was appropriate for panel engineers to apply industry standard best practice guidance, developed by the ICE. The ICE guidance that Category A dams should be able to resist the "probable maximum flood" and so "virtually eliminate risk" was consistent with Parliament's intention.

49. The Defendant also submitted that, on a proper construction of the HHA 1871, the proposed works were not prohibited.

50. The Claimant's second ground was that the Defendant had adopted an irrational approach to risk based on the assumption that residents downstream of the ponds would have no advance warning of a dam breach. This approach disregarded a number of material considerations:

i) The flood warning mechanisms in place, including under the Civil Contingencies Act 2004 and the 2010 Act, will provide warning of possible flood and dam breach far in excess of the maximum 40 minute time frame which led the Defendant to proceed on the basis of "no warning".

ii) It was perverse to assume that the dams would collapse with little or no warning. The Defendant's own assessment was that breach would not occur

immediately but only several hours after the start of the probable maximum flood.

iii) In the event of a probable maximum flood, surface water would already have overwhelmed the sewerage system, causing widespread flooding, and risk to life.

iv) The Defendant's quantitative risk assessment concluded that in the event of a probable maximum flood, some 1,100 deaths would occur through flooding from water overtopping the dams prior to a single dam breach.

v) The prior flooding, whether from surface water or overtopping, would already have prompted warnings and evacuation measures, long before any dam breach.

51. The Defendant's response was that, since the purpose of the RA 1975 was to prevent dam failure, not to mitigate its consequences, the efficacy of early warnings and evacuation was irrelevant. In any event, it was impossible to predict with any accuracy how swiftly a dam might fail and whether safe evacuation could be achieved.

Conclusions

The purpose of the Reservoirs Act 1975

52. In my judgment, the Defendant was correct to submit that the purpose of the RA 1975 is to prevent the escape of water from large raised reservoirs to avert the potential danger to persons and property from such an escape. Its purpose is not to mitigate the effects of an escape, by flood warning and evacuation strategies.

53. The long title to the Act supports the Defendant's submission. It reads:

> "An Act to make further provision against escapes of water from large reservoirs or from lakes or lochs artificially created or enlarged." (emphasis added)

54. In ascertaining the purpose of the RA 1975, I was assisted by reading the ministerial statements presenting the bill, which explain that its purpose, and that of its predecessor Act, was to protect the safety of the public from dam escapes. In the House of Commons, the Minister (Mr Denis Howell MP) said (HC Deb, 22 January 1975, Vol 884 col 1687ff):

> "I hope that this important safety measure will be received with …. general approval …it is well recognised on all sides that we need to protect the public safety, particularly in respect of reservoirs holding large amounts of water ….
>
> The existing legislation on reservoir safety is contained in the Reservoirs (Safety Provisions) Act 1930. That Act was the result of two unfortunate experiences in 1925 which resulted in serious loss of life.... In Scotland, five people were drowned ….

> When a reservoir overflowed during a storm and destroyed the dam. The cause of the accident was found to be faulty design ….In the Welsh disaster, 16 people lost their lives when the dam collapsed as a result of poor construction.
>
> Therefore, Parliament at that time decided that measures were needed, and the 1930 Act was introduced. We have relied on that Act since that time, and it has served us reasonably well for 45 years. But it is clear, as a result of the growing demand for water, and because there are now larger and larger man-made lakes and reservoirs to contain the water ….that we need to strengthen further the safety provisions governing reservoirs.
>
> I can best illustrate the need to do this by giving the world picture. We estimate that there are 10,000 in the world over 45 ft high …. On average, during the past 40 years, one such dam has failed every 15 months, claiming an average of 40 victims each. That is the measure of the concern which the House is called upon to express and the reason for this measure, in the face of those figures we would be accused of great complacency if we did not from time to time review our existing legislation and strengthen it where necessary.
>
> The worst of these cases occurred in 1963 at Vajont, Italy, where a landslide into the reservoir caused 42 million cubic metres of water to splash over the dam and nearly 3,000 people lost their lives. That shows the tremendous, destructive force of water and the need for maximum safety measures. That tragedy, together with the others I have mentioned …. led to our own Institution of Civil Engineers to …produce its report on reservoir safety 1966 which proposed revisions for the 1930 Act. It is that set of circumstances which brings us here today, to consider those proposals and the conclusions of the government arising from them.
>
> ….
>
> The 1930 Act has proved to be workable and desirable. But one serious weakness is that there is no adequate provision to ensure that the Act is complied with…..The Government agree with the Institution that that is not a satisfactory situation. The law should be tightened to provide an absolute obligation on anyone holding a reservoir or lake … to ensure the safety of the reservoir at all times."

55. It is apparent from the definition of "large raised reservoir" in section A1, and its predecessor section 1, that the safety measures in the RA 1975 were intended to apply to both new and existing artificial lakes, such as the ponds, even if they were not used as reservoirs, and whether they were on private or public land. As Mr Howell MP told the HC:

> "the proposals not only cover all the major water undertakers of the country but include old mill dams, fishing lochs and lakes, ornamental lakes, and so on. Over 230 such lakes and lochs and amenity recreation lakes in this country … come within the ambit of the legislation."

56. In the House of Lords, the Minister (Baroness Birk) said (HL Deb, 19 November 1974, vol 354, col 965ff):

> "It re-enacts and strengthens the Reservoirs (Safety Provisions) Act 1930….I am sure the whole House will be united in its wish to make effective provision for the safety of reservoirs and for the protection of the public and their property."

57. The provisions of the RA 1975 have been re-considered in recent years by the Executive and by Parliament during the passage of the Flood and Water Management Act 2010 which made significant amendments to the RA 1975. During the major flooding of 2007 there was a near-miss incident at Ulley Reservoir where complete failure was averted only by emergency action. Sir Michael Pitt carried out a review of the 2007 flood event and included in his report recommendations for improvements to reservoir safety legislation. The recommendations for reservoir safety were addressed through the amendments to the 1975 Act, made by Schedule 4 to the 2010 Act. The statutory purpose of the RA 1975 remains unchanged, and the safety regime has been reinforced.

Standards of safety

58. The approach taken by the ICE in its guidance "Floods and Reservoir Safety" (3rd ed. 1986) is, in my view, consistent with the statutory purpose. It categorises the risks which dams present according to the risk to life and property in the event of a breach. As the risks to life and property increase, more stringent safety requirements are indicated. Contrary to the Claimant's submission, there is an assessment of risk but the risk which is assessed is the likely consequence of a breach, not the probability of a breach occurring. In many cases, including the three ponds, the statistical probability of a breach is low. However, because the ponds are located on a hill running down to a large, densely populated urban area, including many basement flats, the consequences of a breach are assessed in the highest category (A) as loss of life of 10 or more persons.

59. In Chapter 2, p.7, the Guidance states:

> "**Dam categories**
>
> The accidental, uncontrolled escape of water from an impounding or other reservoir can threaten life and property. Greater security is required against dam failure where there is a severe threat of a loss of life and extensive damage and a lower security where the threat is less severe. All dams should be assessed for the consequences of failure, and the categories shown in Table 1 indicate the degree of security required of a

> dam and the likely effects of the failure of the main dam … by which the reservoir is retained….
>
> ….
>
> **Category A dams**
>
> It is considered that public opinion will not accept conscious design for a specific threat to a community, even though it tolerates to an extent both random and accidental loss of life. Consequently, no dam above a village or town should be designed knowingly with a finite chance of a disastrous breach due to the under-provision of spillway capacity. A community in this context is considered to be not less than about 10 persons who could be affected; it is considered that inspection of any valley will soon reveal whether the presence of a hamlet, school or other social group means that a dam at its head should be in category A…..
>
> **Category B dams**
>
> Category B(i) is intended to refer to inhabitants of isolated houses and, for example, to operatives in treatment works immediately below a dam and in other places of work in the flood path…Category B(ii) refers to extensive damage, including erosion of agricultural soils and the severing of main road or rail communications.
>
> **Category C dams**
>
> Category C covers situations with negligible risk to human life and so includes flood-threatened areas that are "inhabited" only spasmodically; e.g. footpaths across the flood plain and playing fields. In addition this category also covers loss of livestock and crops.
>
> **Category D dams**
>
> Many small reservoirs with low earth dams may cause no real problem .. if they wash out. These special cases, many of which are ornamental lakes, kept full for aesthetic reasons, are given a separate category where they pose no significant threat to life or property."

60. The guidance sets out the standards appropriate to different types of dams, summarised in a table. At p.9 it states:

> "Table 1 is designed to take account of those factors which are weighed together by panel engineers both for the design of new dams and for dam inspections. Its main intentions are to ensure that, where a community could be endangered by the breach of

> a dam, the risk of any breach caused by a flood is virtually eliminated. However, where there is no community at risk, expenditure on safety works should be kept to a scale justified by the risk."

61. In relation to Category A dams, such as the three ponds, where a breach could endanger lives in a community, the 'minimum standard' is a 1 in 10,000 year flood. This is only applicable if overtopping of the dam is 'tolerable'. Overtopping of the dam (i.e. water passing over the crest of the dam when water levels are high) is only 'tolerable' if the pressure of the water does not jeopardise the structure, and thus the safety of the dam. If the impact of water overtopping the dam does jeopardise the structure of the dam, making a breach more likely, then it is not 'tolerable'. In that event, the 'general standard' must be applied which is the 'Probable Maximum Flood' ("PMF").

62. The PMF is a calculation of the maximum flood that could occur, based on the maximum amount of water that can be stored in the atmosphere, the size and topography of the catchment area, ground conditions etc. This is an extreme event. If it can be safely accommodated, it is reasonable to assume that the probability of dam collapse has been "virtually eliminated", in accordance with the guidance.

63. In the case of the three ponds, the inspecting engineer in 2007 applied the minimum standard (1:10,000 years) not the PMF. But he also found that the overflow capacity was insufficient and recommended a downstream impact assessment be carried out to determine the level of risk of breach and to establish the appropriate flood standard. In assessments carried out subsequently, by different engineers[4] at different dates, it has been concluded that the overflowing of the dams is not 'tolerable' and the general PMF standard should apply. The Claimant has not produced any expert evidence to contradict these findings.

64. The Claimant has submitted that supervising and inspecting engineers performing their functions under the RA 1975 should not apply the ICE Guidance mechanistically and inflexibly. It is not statutory guidance and it is not binding on them. Moreover, the PMF standard, designed to "virtually eliminate" a dam breach, is far in excess of the statutory standard under section 10(3) RA 1975, which merely requires the inspecting engineer to include in his report "any recommendations he sees fit to make as to … any measures required in the interests of safety….".

65. The Claimant submitted that safety was a relative concept and should be impliedly qualified to mean "so far as is reasonably practicable" (as in section 29 of the Factories Act 1961) or "as low as is reasonably practicable" (as in reg. 4 of the Control of Major Accident Hazards Regulations 1999).

66. I agree that safety is a relative concept. However, different safety standards apply to different situations. Under section 10 RA 1975 (replicating the provisions of the 1930 Act) Parliament expressly conferred responsibility upon independent civil engineers to decide what safety measures were required for any particular dam, exercising their professional judgment and expertise. Even a challenge to a section 10 recommendation is determined, pursuant to section 19, by another engineer acting as

[4] Haycocks, Cares, AECOM, Atkins and the Supervising engineer, Andrew Hughes

referee, not by a court. Section 4 provides for a panel of independent civil engineers to be appointed by the Secretary of State in consultation with the ICE.

67. Mr Howell MP said to the HC:

> "The fundamental principle [of the 1930 Act] is that only a qualified civil engineer can provide the professional expertise required to ensure the safety of the reservoir structure. A qualified civil engineer within the terms of the Act is an engineer who has been appointed by the Secretary of State, on the advice of a special committee of the Institution, to a panel specifically constituted for the purposes of the Act…."
>
> "reservoir construction and supervision is a highly technical subject and this Bill is not concerned with the details of civil engineering. It provides the legislative framework in which those best fitted to decide on technical matters – the qualified engineers – may operate."

68. Panel engineers will, quite properly, apply the safety standards generally recognised by their profession. These are to be found in the ICE guidance. Industry standard best practice guidance has been developed by the ICE in its publication 'Floods and Reservoir Safety' and it is applied to all large raised reservoirs nationwide. In the preface, it states that it is the product of a working party that includes "engineers and hydrologists .. dam owners, National Rivers Authority, Institute of Hydrology, Department of the Environment and also members from Ireland and France".

69. DEFRA recently stated in paragraph 4.2.1 of its report on 'Reservoir Safety in England and Wales' (19 July 2013) that the existence of the ICE guidance meant that it was not necessary to issue statutory guidance:

> "4.2.1 Guidance on Supervision
>
> Defra does not intend to issue statutory guidance on the supervision of reservoirs. We consider that the legislation is sufficient taken with non-statutory guidance produced in collaboration with the Institution of Civil Engineers (ICE) in the form of "A guide to the Reservoirs Act 1975". This guidance document is being revised by a working group at the ICE at the request of Ministers to reflect the amendments to the legislation and to reflect any changes in practice since its original publication in 2000. It should not be forgotten that civil engineers qualified under the 1975 Act are expected to demonstrate high professional standards to maintain this qualification."

70. There is no expert evidence from dam engineers before this court which calls into question the validity of the assessments which have been made under the RA 1971 and the ICE guidance.

71. The Introduction to the ICE guidance explains it is not mandatory and there will always be dams which need to be treated as exceptional cases. Dr Hughes' evidence was that the only "exceptional cases" which had arisen were those in which some engineers had exercised their judgment when applying the wave surcharge, usually adopting the calculated value of wave allowance rather than the minimum. According to the Environment Agency, all dams subject to the RA 1975 have been inspected in accordance with the safety standards in the ICE guidance – those standards have not been dis-applied on grounds of exceptionality in any individual case.

72. The Claimant submits that the ponds should be treated as an exceptional case because of the Heath's unique character and the need to preserve its natural aspect, pursuant to the HHA 1871.

73. Neither the RA 1975, nor the ICE guidance, provides for the inspecting engineer to balance considerations of safety against competing factors such as preservation of the landscape, protection of the environment, or heritage assets. In my view, it would have been evident to Government and Parliament when the 1975 Act was passed that reservoirs and dams are situated in a wide variety of locations, including areas of outstanding beauty, and in the case of ornamental lakes, in historic settings close to heritage assets. This knowledge would also be available to the authors of the ICE guidance. So it is significant that the only legislative consideration is public safety.

74. The RA 1975 s.1 does provide for exemptions. Mine and quarry lagoons were excluded, as were canals. Under section 1A(8), introduced by the 2010 Act, the Minister may by regulations provide for specified things not to be treated as large raised reservoirs within the meaning of the Act. Pursuant to this power, the Reservoirs Act 1975 (Exemptions, Appeal and Inspections) (England) Regulations 2013 were made on 27th July 2013. Reg. 3 provides that mine and quarry lagoons, canals and road/rail embankments are not to be treated as large raised reservoirs. It can be seen that neither the Minister nor Parliament has seen fit to exempt lakes and dams in environmentally sensitive locations.

75. The ICE guidance refers to balancing "the conflicting claims of safety and economy" but on my reading of the Guidance, it achieves this by reducing the safety standards required for dams where there is little or no risk to human life. As Mr Upton eloquently submitted, under the RA 1975, both rich and poor dam-owners alike must protect against loss of life arising from the failure of their dams.

Recommendations made under the RA 1975

76. It is apparent from the evidence that the required safety standards can often (though not always) be met in more than one way. In this case, the civil engineers have assessed and selected differing implementation options with the express aim of preserving the landscape and visual amenity, saving trees so far as possible, and reducing the intrusive impact of 'hard' engineering by using earth dams, timber cladding and grass spillways instead of concrete. These choices are generally available; they are not unique to this case. The recommendations to implement an integrated safety system across all the ponds; to raise the height of dams in the less sensitive locations; and not to install mechanical flood controls were all made, in part, to reduce the adverse environmental impact at the Heath.

77. The evidence in this case demonstrably disproves Mr Elvin's submission that it is outside the competence of a civil engineer to take into account environmental considerations when making recommendations. I do not accept that environmental considerations should simply be disregarded and left to the planning authority. They should inform the process of formulating the recommendations, as they have done in this case.

78. I accept that a civil engineer who is new to the site initially may not be aware of such considerations, but in most cases, the dam owner and any interested bodies are likely to draw to his attention any particular legal and environmental restrictions on development at the site, and invite him to adapt his recommendations accordingly, if it is possible to do so, whilst still meeting the required safety standards. That is what has happened in this case.

79. In this case, the Defendant is subject to statutory restrictions on development on the Heath, under the HHA 1871. Other landowners may also be subject to restrictions under private acts or environmental law (e.g. protected habitats, sites of special scientific interest, historic sites etc.).

80. Where an inspecting engineer makes recommendations following a section 10 inspection, the Environment Agency can enforce those recommendations, and the undertaker commits a criminal offence if he does not comply with a recommendation.

81. I do not consider that Parliament can have intended that the inspecting engineer should make his recommendations in complete disregard of legal restrictions which would prevent the undertaker from complying with those recommendations, thus undermining the efficacy of the whole legislative scheme. In my view, assessing the feasibility of the proposed solution to remedy the problem is an essential part of any professional person's exercise of judgment.

82. Furthermore, an independent inspecting engineer making recommendations under section 10 is performing a statutory function; he is not acting in a purely private capacity. He is therefore subject to general public law requirements to act rationally and fairly and to take into account all material considerations. Legal restrictions on development at the site are plainly material considerations when deciding the manner in which to secure the safety of the dam. So too are environmental considerations of the kind referred to in paragraphs 76 & 77 above.

The HHA 1871

83. In my judgment, the proposed works to the ponds would not constitute a breach of the HHA 1871.

84. Although section 12 requires that the Defendant should "for ever keep the Heath … unbuilt on", this is subject to two qualifications. First, it expressly excludes those parts of the Heath which were already built upon at the date of the passing of the Act. Second, it is subject to other provisions of the Act which do permit building.

85. The ponds were man-made by damming the natural spring and streams on the Heath, long before the passing of the 1871 Act. Over the years, the owners of the Heath have had to maintain, repair and re-build the banks of the ponds, dams, outlet and inlet

pipes and culverts at regular intervals. There have been variations in the position and height of the banks and dams and pipes. Modern building materials, such as sheet piling and concrete, have been introduced. Many of the current proposals are essentially a continuation of these previous works e.g. restoring and raising the height of the dams; replacing and relocating overflow pipes; re-aligning banks and footpaths; enlarging and creating an island in the Model Boating Pond; de-silting. In my judgment, all these past works fall outside the prohibition on building in section 12 because they relate to pre-existing development on the Heath.

86. In my judgment, section 15 confers power to carry out the proposed works. Section 15 gives the Defendant power to "drain, level and improve the Heath as far only as may be in their judgment from time to time requisite with a view to the use thereof for purposes of health and unrestricted exercise and recreation".

87. In interpreting the scope of section 15, it is relevant to have regard to the purpose of the Act. It is apparent from the long title and the preamble (set out above) that the purpose of the Act was not merely to preserve the Heath as open land, but also to ensure that it was improved.

88. The histories of the Heath shed some light on its condition in 1871, and why Parliament made provision for the Board to "drain, level and improve" it. The valleys were naturally marshy because of the springs and streams. When the steams were dammed to create the ponds, the land dried out to some extent, but there remained marshy areas in the vicinity of the streams and the ponds. In addition, the Heath had been extensively excavated for sand and gravel quarrying by its private owner, which had destroyed trees and vegetation. Its appearance was described in the Illustrated London News in September 1871 (quoted in Farmer: Hampstead Heath (1984)) as:

> "a dreary desert prospect of hideous pits and shapeless heaps as far as the view extends over the hill itself, with a few miserable furze-bushes here and there, a ragged tuft of dusty ling, or some wretched weed content to grow in its degraded situation, but without one square yard of verdant turf for a baby to roll upon…. The very body of the earth had been cut away to an amazing depth… holes are scooped out …. thirty feet or forty feet deep…."

89. In my judgment, the proposed works fall within section 15 as they both 'drain' and 'improve' the Heath and its ponds. In so far as they involve 'building' on the Heath in parts which were 'unbuilt' in 1871 (e.g. the new dam at the Catchpit and the creation of spillways), the power in section 15 overrides the prohibition in section 12, which is subject to the other provisions of the Act.

90. The material parts of section 15 are also to be found in section 39 of the Wimbledon and Putney Commons Act 1871. In *Evans v Wimbledon & Putney Conservators* [2013] EWHC 3411 (Admin), Wyn Williams J. held that section 39 empowered the Conservators to build mounds to prevent unauthorised vehicle access on to the common. Although the mounds were not themselves used for purposes of health or recreation, they had the beneficial purpose of preventing unauthorised access by vehicles thereby enhancing the aim of providing unrestricted exercise and recreation

on the common (at [56]). This analysis was not considered when the case went to the Court of Appeal ([2014] EWCA Civ 940).

91. Applying the same reasoning to this case, the proposed works at the ponds have the beneficial purpose of preventing the collapse of the dams (which would destroy the ponds), and protecting the Heath and its visitors from sudden flood, thus ensuring the continued safe use of the ponds and the Heath for "health and unrestricted exercise and recreation".

92. Section 18 gives the Defendant power to erect "convenient or ornamental buildings … for the accommodation of Heath keepers, constables, or other officers, or for other public or useful purposes". The building of a structure such as a dam or a spillway seems to me to be so far removed from the original intention behind section 18, and the type of building envisaged, that I am unable to agree with the Defendant's submission that it authorises the proposed works.

93. The Claimant submits that the proposed works breach section 16, which requires the Defendant to "preserve as far as may be the natural aspect and state of the Heath…" In *Evans v. Wimbledon and Putney Commons Conservators* [2014] EWCA Civ 940, the Court of Appeal considered the meaning of the expression "as far as may be" which was contained in s. 36 of the Wimbledon and Putney Commons Act 1871. S. 36 imposed a duty on the Conservators which was expressed in similar terms to the duty under s. 16 of the Heath Act: "the Conservators shall at all times preserve, as far as may be, the natural aspect and state of the Commons, and to that end shall protect the turf, gorse, heather, timber and other trees, shrubs and brushwood thereon".

94. The appellant contended that the expression "as far as may be" meant that the Conservators had to preserve the natural aspect of the Commons "as far as possible". Patten LJ rejected this construction, saying [21]:

> "The judge did not accept this construction of the Act and neither do I. Section 36 is specifically concerned with the preservation of the natural state of the commons and in particular with the grassland, gorse, heath and trees which grow there….But s.36 is essentially ancillary to s.34 in that any encroachment or building on the Common will necessarily interfere with the existing landscape. It would be odd if any powers which the Conservators may have under s.34 are nonetheless absolutely excluded by the provisions of s.36. One would expect the legislative scheme to be that which the Conservators should be under a duty to preserve the natural state of whatever parts of the Common they are obliged to maintain as open space under s.34. It seems to me that the natural construction of the words "as far as may be" in s.36 is " as far as required under the Act". I do not accept Mr McCracken's argument that s.36 provides an independent, absolute, and unrelated duty which would have the effect of making the scheme under s.34 largely irrelevant."

95. In my judgment, Patten LJ's analysis in *Evans* is equally applicable here. Section 16 was not intended to operate so as to prevent any works which could lawfully be

carried out pursuant to section 15, on the grounds that the works would alter the "natural aspect and state of the Heath".

Other emergency provision for floods

96. Both the London Borough of Camden and the Defendant are required to plan for emergencies, including flooding, under the Civil Contingencies Act 2004. The London Borough of Camden has responsibility for managing flood risks on the Heath, under the Flood and Water Management Act 2010. There are significant potential flood risks as a result of run-off of surface water from the heights of the Heath down to the plain below.

97. None of these provisions reduce the extent of the obligations under the RA 1975. The Defendant's proposals address one discrete issue: the risk of the dams breaching.

98. In Camden's flood risk management strategy it states that the risk of the ponds breaching is "unlikely" while noting that the impact of a breach could be "extremely severe", and that the Defendant is taking steps to improve the ponds' defences. The Borough's Risk Register lists the Reservoirs Act 1975 and regular statutory inspections as controls in place for major reservoir dam failure. Thus, Camden acknowledges that dam breach is a risk which is governed by the RA 1975.

Warning times

99. In ground 2, which I have set out in some detail above, the Claimant submitted that the Defendant had adopted an irrational approach to risk because it failed to take account of the fact that, in a probable maximum flood, residents downstream of the ponds would already be flooded by surface water running off the hill and overflowing sewers before the dams breached, and emergency warnings and evacuation would already be in place.

100. This ground must fail since I have already held that the purpose of the RA 1975 is to prevent the escape of water from large raised reservoirs, not to mitigate the effects of an escape by flood warning and evacuation strategies. The evidence from Dr Hughes, which I accept, was that it is difficult to predict how quickly a dam will fail, but that once overtopping started, a dam could fail very quickly. Even if the residents downstream were already flooded by surface water and overflowing sewers, they might not have evacuated in time. The escape of thousands of gallons of water from the ponds would be likely to have a catastrophic effect on people and property situated below the ponds.

The Defendant's decision

101. In my judgment, the Defendant's decision to approve the proposals and seek planning permission for them was lawful. In light of Dr Hughes' advice, and the studies obtained from other engineers, the Defendant was entitled to conclude that preventative action should be taken now.

102. The claim was arguable, and therefore I give permission to apply for judicial review.

103. However, for the reasons set out above, the claim is dismissed.