Public Document Pack

Epping Forest & Commons Committee

Date: **MONDAY, 16 NOVEMBER 2020**

Time: **11.30 am**

Venue: **VIRTUAL PUBLIC MEETING (ACCESSIBLE REMOTELY)**

Members:
Graeme Doshi-Smith (Chairman)
Benjamin Murphy (Deputy Chairman)
Deputy Philip Woodhouse
Peter Bennett
Caroline Haines
Alderman Robert Howard
Alderman Robert Hughes-Penney
Gregory Lawrence
Sylvia Moys
Jeremy Simons
Oliver Sells QC (Ex-Officio Member)

For consideration of Business Relating to Epping Forest Only
Verderer Michael Chapman DL
Verderer Paul Morris
Verderer Nicholas Munday
Verderer H.H William Kennedy

Enquiries: **Richard Holt**
Richard.Holt@cityoflondon.gov.uk

Accessing the virtual public meeting
Members of the public can observe the virtual public meeting at the below link:
https://youtu.be/kmYX6VigkHw
This meeting will be a virtual meeting and therefore will not take place in a physical location following regulations made under Section 78 of the Coronavirus Act 2020. A recording of the public meeting will be available via the above link following the end of the public meeting for up to one municipal year. Please note: Online meeting recordings do not constitute the formal minutes of the meeting; minutes are written and are available on the City of London Corporation's website. Recordings may be edited, at the discretion of the proper officer, to remove any inappropriate material.

John Barradell
Town Clerk and Chief Executive

AGENDA

Part 1 - Public Agenda

1. APOLOGIES

2. MEMBERS' DECLARATIONS UNDER THE CODE OF CONDUCT IN RESPECT OF ITEMS ON THE AGENDA

3. MINUTES

To agree the draft public minutes and non-public of the previous meeting of the Epping Forest and Commons Committee held on the 7th of September 2020.

For Decision
(Pages 1 - 8)

4. EPPING FOREST AND COMMONS COMMITTEE 2021 DATES

Report of the Town Clerk.

For Information
(Pages 9 - 10)

Epping Forest

5. DRAFT MINUTES EPPING FOREST CONSULTATIVE COMMITTEE

To note the draft minutes of the Epping Forest Consultative Committee meeting held on the 21st of October.

For Information
(Pages 11 - 18)

6. SUPERINTENDENT'S UPDATE

Report of the Superintendent of Epping Forest.

For Information
(Pages 19 - 40)

7. EPPING FOREST CONSULTATION POLICY SEF 24/20B

Report of the Director of Open Spaces.

For Decision
(Pages 41 - 52)

8. WANSTEAD PARK PONDS PROJECT - INITIAL ENGINEERING ASSESSMENT

Report of the Director of Open Spaces.

For Decision
(Pages 53 - 80)

9. THE GROTTO, WANSTEAD PARK: CONSERVATION MANAGEMENT PLAN (SEF 22/20B)

Report of the Director of Open Spaces.

For Decision
(Pages 81 - 236)

10. PATH MANAGEMENT: POLICY DEVELOPMENT NOTE (SEF 23/20B)

Report of the Director of Open Spaces.

For Decision
(Pages 237 - 274)

11. NIGHT-TIME GATING PROPOSALS FOR MANOR ROAD, HIGH BEACH (SEF 26/20B)

Report of the Director of Open Spaces.

For Decision
(Pages 275 - 284)

12. EPPING FOREST CAR PARKING -INTRODUCTION OF PARKING CHARGES (28/20B)

Report of the Director of Open Spaces.

For Decision
(Pages 285 - 294)

13. SAC MITIGATION STRATEGY UPDATE (SEF 27/20B)

Report of the City Surveyor.

For Decision
(Pages 295 - 428)

14. LONDON BOROUGH OF WALTHAM FOREST LOCAL PLAN CONSULTATION (SEF 34/20)

Report of the Director of Open Spaces.

To follow.

For Decision

15. LAND EXCHANGE IN RELATION TO CLOSURE OF PART OF HIGHWAY AT BELL COMMON, EPPING BY ESSEX HIGHWAYS (SEF 30/20)

Report of the Director of Open Spaces.

For Decision
(Pages 429 - 440)

Burnham Beeches & The Commons

16. SUPERINTENDENT'S UPDATE

Report of the Superintendent of the Commons.

For Information
(Pages 441 - 448)

17. APPROVAL TO AUTHORISE EXTERNAL AGENTS TO SUPPORT ENFORCEMENT OF PUBLIC SPACES PROTECTION ORDERS AT BURNHAM BEECHES

Report of the Director of Open Spaces.

For Decision
(Pages 449 - 456)

18. PROPOSED CAR PARK TARIFFS -BURNHAM BEECHES, RIDDLESDOWN AND FARTHING DOWNS

Report of the Director of Open Spaces.

For Decision
(Pages 457 - 468)

19. REPORT OF ACTION TAKEN

Report of the Town Clerk.

For Information
(Pages 469 - 470)

20. QUESTIONS ON MATTERS RELATING TO THE WORK OF THE COMMITTEE

21. ANY OTHER BUSINESS THAT THE CHAIRMAN CONSIDERS URGENT

Part 2 - Non-Public Agenda

22. EXCLUSION OF THE PUBLIC

MOTION: That under Section 100A(4) of the Local Government Act 1972, the public be excluded from the meeting for the following items of business on the grounds that they involve the likely disclosure of exempt information as defined in Part I of Schedule 12A of the Local Government Act.

For Decision

23. NON-PUBLIC MINUTES

To agree the draft non-public minutes of the previous meeting of the Epping Forest and Commons Committee held on the 7th of September 2020.

For Decision
(Pages 471 - 472)

24. GRANT OF EASEMENT (SEF 31/20)

Report of the Director of Open Spaces.

For Decision
(Pages 473 - 488)

25. WAYLEAVE FEE (SEF 32/20)

Report of the Director of Open Spaces.

For Decision
(Pages 489 - 498)

26. DEED OF EASEMENT (SEF 33/20)

Report of the Director of Open Spaces.

For Decision
(Pages 499 - 512)

27. KENLEY REVIVAL PROJECT

Report of the Director of Open Spaces.

For Information
(Pages 513 - 518)

28. NON PUBLIC QUESTIONS ON MATTERS RELATING TO THE WORK OF THE COMMITTEE

29. ANY OTHER BUSINESS THAT THE CHAIRMAN CONSIDERS URGENT AND WHICH THE COMMITTEE AGREE SHOULD BE CONSIDERED WHILST THE PUBLIC ARE EXCLUDED

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EPPING FOREST & COMMONS COMMITTEE
Monday, 7 September 2020

Minutes of the meeting of the Epping Forest & Commons Committee held remotely on Monday, 7 September 2020 at 11.30 am

Present

Members:
Graeme Doshi-Smith (Chairman)
Benjamin Murphy (Deputy Chairman)
Peter Bennett
Caroline Haines
Alderman Robert Howard
Alderman Robert Hughes-Penney
Jeremy Simons
Deputy Philip Woodhouse
Oliver Sells QC (Ex-Officio Member)
Verderer Michael Chapman DL
Verderer H.H William Kennedy
Verderer Paul Morris
Verderer Nicholas Munday

Officers:

Richard Holt	-	Town Clerk's Department
Polly Dunn	-	Town Clerk's Department
Kristina Drake	-	Media Officer, Town Clerk's Department
Colin Buttery	-	Director of Open Spaces
Paul Thomson	-	Superintendent of Epping Forest
Andy Barnard	-	Superintendent of The Commons
Jacqueline Eggleston	-	Head of Visitor Services, Epping Forest
Jeremy Dagley	-	Head of Conservation, Epping Forest
Martin Newnham	-	Head Forest Keeper, Epping Foest
Helen Read	-	Conservation Officer, Open Spaces
Jo Hurst	-	Business Manager, Epping Forest

1. **APOLOGIES**
   Apologies were received from Gregory Lawrence and Sylvia Moys.

2. **MEMBERS' DECLARATIONS UNDER THE CODE OF CONDUCT IN RESPECT OF ITEMS ON THE AGENDA**
   No declarations were received.

3. **ORDER OF THE COURT OF COMMON COUNCIL**

The Committee received the Order of the Court of Common Council dated 16 July 2020 appointing the Committee and setting its Terms of Reference. The Town Clerk noted the change to include the newly elected Verderers.

A member of the Committee commented that the Committee's Terms of Reference was not constitutional. The Town Clerk replied that the Comptroller would be informed of this concern.

RESOLVED- That the Epping Forest and Commons Committee Order of the Court of Common Council be noted.

4. **ELECTION OF CHAIRMAN**

The Committee proceeded to elect a Chairman in accordance with Standing Order No. 29. The Town Clerk informed that Graeme Doshi-Smith, being the only Member expressing their willingness to serve, was duly elected Chairman of the Epping Forest and Commons Committee for the ensuing year and took the Chair for the remainder of the meeting.

RESOLVED- That Graeme Doshi-Smith be elected Chairman of the Epping Forest and Commons Committee for the ensuing year.

5. **ELECTION OF DEPUTY CHAIRMAN**

The Committee proceeded to elect a Deputy Chairman in accordance with Standing Order No. 30. The Town Clerk informed that Benjamin Murphy, being the only Member expressing their willingness to serve, was duly elected Deputy Chairman of the Epping Forest and Commons Committee for the ensuing year and took the Chair for the remainder of the meeting

RESOLVED- That Benjamin Murphy be elected Deputy Chairman of the Epping Forest and Commons Committee for the ensuing year.

6. **MINUTES**

The Committee considered the draft public minutes and non-public summary of the last meeting of the Epping Forest and Commons Committee held on the 6th of July 2020.

RESOLVED- That the public minutes and non-public summary of the Epping Forest and Commons Committee held on the 6th of July 2020 be approved as an accurate record.

7. **2019/20 COMMITTEE APPOINTMENTS**

The Committee considered a report of the Town Clerk, inviting Members to make their appointments to various Consultative Committees and Groups for 2020/21.

The Committee agreed that the Consultative Committees and Groups would continue with their membership for the previous year with Verderers elected in January appointed in the place of previously elected Verderers. The Director of Open Spaces explained that the Epping Forest Joint Consultative Committee

was oversubscribed with relation to the agreement with the Forest Skills Centre and that only three Members should be appointed to the Committee.

The Town Clerk informed the Committee that two Members had stated their interest to be appointed as the local observer on the Open Spaces & City Gardens Committee and therefore the Committee would move to vote on this appointment. A vote on this appointment was conducted with nine votes in favour of Deputy Phillip Woodhouse and three in favour of Jeremy Simons. Deputy Phillip Woodhouse was therefore approved as the Epping Forest and Commons Committee appointed local observer on the Open Spaces & City Gardens Committee.

RESOLVED – That the following appointments be agreed:

Ashtead Commons Consultation Group
Graeme Doshi-Smith (Chairman)
Benjamin Murphy (Deputy Chairman)
Sylvia Moys
Jeremy Simons

Burnham Beeches and Stoke Common Consultation Group
Graeme Doshi-Smith (Chairman)
Benjamin Murphy (Deputy Chairman)
Sylvia Moys
Alderman Robert Hughes-Penney

Coulsdon Commons, West Wickham & Spring Park Consultation Group
Graeme Doshi-Smith (Chairman)
Benjamin Murphy (Deputy Chairman)
Sylvia Moys
Jeremy Simons

Epping Forest Joint Consultative Committee
Graeme Doshi-Smith (Chairman)
Benjamin Murphy (Deputy Chairman)
Sylvia Moys

Epping Forest Consultative Committee
Graeme Doshi-Smith (Chairman)
Benjamin Murphy (Deputy Chairman)
Sylvia Moys
Caroline Haines
Verderer Michael Chapman DL
Verderer Paul Morris
Verderer H.H. William Kennedy
Verderer Nicholas Munday

Epping Forest Management Plan Steering Group
Graeme Doshi-Smith (Chairman)
Benjamin Murphy (Deputy Chairman)

Sylvia Moys
Benjamin Murphy
Verderer Michael Chapman DL
Verderer Paul Morris
Verderer H.H. William Kennedy
Verderer Nicholas Munday

Open Spaces and City Gardens Committee Representative
Deputy Phillip Woodhouse

8. **EPPING FOREST AND COMMONS COMMITTEE 2020 DATES**
The Committee received a report of the Town Clerk on the dates for 2020 relating to the Epping Forest and Commons Committee. The Town Clerk clarified that the next meeting of the Committee would be held on the 16th of November and not the 17th as had previously been listed.

RESOLVED- That the report be noted.

9. **SUPERINTENDENT'S UPDATE**
The Committee received a report of the Director of Open Spaces which provided a general update on issues across the nine sites within 'The Commons' division.

The Committee's Deputy Chairman and the Chairman of the Open Spaces & City Gardens Committee highlighted the contribution of car parking charges to funding the management of the open spaces noting the importance of this in the period of increased pressures on the management budgets. The Chairman commented that there would be a further discussion of ideas for increasing revenue later in the meeting. The Director of Open Spaces explained that proposals for car parking charges in Epping Forest would be considered at the November meeting of the Epping Forrest and Commons Committee.

RESOLVED- That the report be noted.

10. **DRAFT MINUTES OF THE MEETING OF THE BURNHAM BEECHES AND STOKE COMMON CONSULTATION GROUP 18TH AUGUST 2020**
The Committee received the draft minutes of the Burnham Beeches and Stoke Common Consultation Group meeting held on the 18th of August 2020. The Director of Open Spaces noted that it was a productive and well supported meeting which was particularly positive when considering the difficulties associated with remote committee meetings.

RESOLVED- That the draft minutes of the Burnham Beeches and Stoke Common Consultation Group meeting held on the 18th of August 2020 be noted.

11. **TIMETABLE UPDATE - PRODUCTION OF NEW MANAGEMENT PLANS AND ASSOCIATED PUBLIC CONSULTATION - KENLEY COMMON, COULSDON COMMON, RIDDLESDOWN AND FARTHING DOWNS/NEW HILL**

The Committee considered a report of the Director of the Open Spaces on the Timetable Update regarding the production of New Management Plans and Associated Public Consultation for Kenley Common, Coulsdon Common, Riddlesdown and Farthing Downs/New Hill. The Director of Open Spaces introduced the report and highlighted the key elements to Members.

RESOLVED- That the amended timetable for the production of the 10-year management plans for Kenley Common, Coulsdon Common, Riddlesdown and Farthing Downs/New Hill be approved.

12. **PROPOSAL TO EXTEND THE USE OF PUBLIC SPACES PROTECTION ORDERS AT BURNHAM BEECHES - OUTCOME OF THE PUBLIC CONSULTATION PROCESS**

The Committee considered a report of the Director of Open Spaces concerning the continued use of the five existing PSPOs (Public Safety Protection Orders) at Burnham Beeches and the outcome of the public consultation process. The report provided a summary of the key elements of the proposal and the previous actions taken on this project.

RESOLVED- That: -

I. Option 1, as explained in the report, to extend the effect of the existing PSPOs at Burnham Beeches for a further three years from 1st December 2020 be approved; and
II. That the Comptroller and City Solicitor be authorised to make the replacement/extended Orders; and
III. That authority be delegated to the Director of Open Spaces to authorise officers at Burnham Beeches to issue Fixed Penalty Notices in relation to Public Spaces Protection Orders; and
IV. That the set the fixed penalty for breach of a Public Spaces Protection Orders at Burnham Beeches be approved at £80 with a reduction to £50 if paid within 10 days.

13. **SUPERINTENDENT'S UPDATE**

The Committee received a report of the Director of Open Spaces which provided a summary of the Epping Forest Division's activities across July 2020. The Chairman commented on the work of Officers across an extremely busy summer period.

Replying to a query from a member of the Committee the Director of Open Spaces confirmed that the engineer's report on the Wanstead Park reservoirs had been completed and would be incorporated into a Committee report for consideration at the November meeting. Responding to a further comment, the Director of Open Spaces confirmed that the Dams in question were regularly inspected by Officers including the water levels.

Responding to a query from the Deputy Chairman the Director of Open Spaces explained the City of London Corporation's policy with regard to rough sleepers in Epping Forest, noting the Corporation's adherence to the 'No Second Night Policy' and cooperation with relevant local authorities to assist rough sleepers.

The Chairman of Open Spaces and City Gardens Committee referenced a recent publication on the voltage shocks to cattle in invisible fencing and requested further information on the use of electric collars in the management of the cattle in Epping Forest. The Director of Open Spaces explained that the shocks to cattle in the invisible fencing system were less than the equivalent from physical fences and observed that, as an audio warning precedes the shock administered, cattle quickly learn to avoid these prohibited areas and therefore rarely experienced any shock. In addition, the Director of Open Spaces explained that the invisible fence system could not be extended to deer in the Forest as these were wild animals.

The Director of Open Spaces explained that the Deer Strategy was due to be completed and ready for the Committee's consideration at the meeting in November. In addition, it was confirmed that the Cooped Hall management plan, which was also due for Committee consideration, would look at the management of the reservoir present at the site.

RESOLVED- That the report be noted.

14. **DRAFT MINUTES OF THE EPPING FOREST CONSULTATIVE COMMITTEE**
The Committee received the draft minutes of the Epping Forest Consultative Committee held on the 24th of June 2020.

RESOLVED- That the draft minutes of the Epping Forest Consultative Committee held on the 24th of June 2020 be noted.

15. **QUESTIONS ON MATTERS RELATING TO THE WORK OF THE COMMITTEE**
A member of the Committee commented on the issue of maintaining swan nesting sites within Epping Forest and expressed that something needed to be done to resolve these issues. The Director of Open Spaces explained that combating these issues would likely be an expensive undertaking. The Committee discussed the possibility of involving volunteers and the Vintners Livery Company in this process.

It was noted by a member of a Committee that the increased visitor numbers had demonstrated that the communication, including signage and the City of London Corporation open spaces website, were not working in an optimal manner. The Chairman noted that there was a balance to be reached between maintaining aesthetic quality of the Forest and providing appropriate signage. In addition, the Chairman commented that the City of Corporation's open spaces website was not of the quality required and suggested that this matter be escalated by Officers.

16. **ANY OTHER BUSINESS THAT THE CHAIRMAN CONSIDERS URGENT**
There was no urgent business considered in the public session.

17. **EXCLUSION OF THE PUBLIC**
RESOLVED: That under Section 100A (4) of the Local Government Act 1972, the public be excluded from the meeting for the following items of business on the grounds that they involve the likely disclosure of exempt information as defined in Part I of Schedule 12A of the Local Government Act.

18. **NON-PUBLIC MINUTES**
The Committee considered the draft non-public minutes of the last meeting of the Epping Forest and Commons Committee held on the 6th of July 2020.

RESOLVED- That the non-public minutes of the Epping Forest and Commons Committee held on the 6th of July 2020 be approved as an accurate record.

19. **LOCAL PLANS UPDATE - BURNHAM BEECHES SAC**
The Committee received a report of the Director of Open Spaces which provided a summary of the work undertaken regarding Local Plans and the Burnham Beeches SAC.

RESOLVED- That the report be noted

20. **FARM BUSINESS TENANCY UPDATE**
The Committee considered a report of the Director of Open Spaces on the Farm Business Tenancy Update.

RESOLVED- That the report be agreed.

21. **NON-PUBLIC QUESTIONS ON MATTERS RELATING TO THE WORK OF THE COMMITTEE**
There were no questions received in the non-public session.

22. **ANY OTHER BUSINESS THAT THE CHAIRMAN CONSIDERS URGENT AND WHICH THE COMMITTEE AGREE SHOULD BE CONSIDERED WHILST THE PUBLIC ARE EXCLUDED**
The Committee considered one item of urgent business in the non-public session.

The meeting ended at 1.45 pm

Chairman

Contact Officer: Richard Holt
Richard.Holt@cityoflondon.gov.uk

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Date	Committee/Meeting/Visit
	2021 Epping Forest and Commons Committee dates
18 January,11.00am Late January	Epping Forest & Commons Committee Burnham Beeches and Stoke Common Consultation group
17 February, 7.00pm	Epping Forest Consultative Committee
8 March, 11.00am March	Epping Forest & Commons Committee West Wickham, Spring Park and Coulsdon Commons Consultation Group
22 April, 11.00am	Epping Forest Joint Consultative Committee
8 May, 10.00am 10 May, 11.00am	Provisional Epping Forest & Commons Committee Epping Forest Saturday Visit Epping Forest & Commons Committee
16 June, 7.00pm	Epping Forest Consultative Committee
10 July, 10.00am 12 July, 11.00am	Provisional Epping Forest & Commons Committee Epping Forest Saturday Visit Epping Forest & Commons Committee
11 September, 10.00am 13 September, 11.00am	Provisional Epping Forest & Commons Committee Epping Forest Saturday Visit Epping Forest & Commons Committee
20 October, 7.00pm 21 October, 11.00am	Epping Forest Consultative Committee Epping Forest Joint Consultative Committee
15 November, 11.00am	Epping Forest & Commons Committee

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EPPING FOREST CONSULTATIVE COMMITTEE

Wednesday, 21 October 2020

Minutes of the meeting of the Epping Forest Consultative Committee held remotely at 7.00 pm

Present

Members:

Graeme Doshi-Smith (Chairman)
Benjamin Murphy (Deputy Chairman)
Judith Adams, Epping Forest Heritage Trust
Martin Boyle, Theydon Bois & District Rural Preservation Society
Susan Creevy, Loughton Residents Association
Matthew Frith, London Wildlife Trust
Andy Irvine, Bushwood Area Residents Association
Gill James, Friends of Wanstead Park
Deborah Morris, Epping Forest Forum
Robert Levene, Bedford House Community Association
Carol Pummell, Epping Forest Riders Association
Tim Wright, Orion Harriers
Verderer Michael Chapman DL
Verderer H. H William Kennedy
Verderer Paul Morris
Verderer Nicholas Munday
Janet Charlesworth
David Jennings
Tim Payne

In attendance:
Deputy Philip Woodhouse

Officers:

Colin Buttery	-	Director of Open Spaces
Jeremy Dagley	-	Head of Conservation, Epping Forest
Jacqueline Eggleston	-	Head of Visitor Services, Epping Forest
Juliane Heinecke	-	Open Spaces Department
Jo Hurst	-	Business Manager, Epping Forest
Laura Lawson	-	Open Spaces Department
Ben Rosendale	-	Open Spaces Department
Geoff Sinclair	-	Head of Operations, Open Spaces Department
Paul Thomson	-	Superintendent, Epping Forest
Richard Holt	-	Town Clerk's Department
Kerry Nicholls	-	Town Clerk's Department
Ellen Wentworth	-	Chamberlain's Department
Paul Monaghan	-	Department of the Built Environment
Tim Munday	-	Department of the Built Environment

1. **APOLOGIES**
   Apologies were received from Mark Squire and Jill Carter.

2. **MEMBERS' DECLARATIONS UNDER THE CODE OF CONDUCT IN RESPECT OF ITEMS ON THE AGENDA**
   There were no declarations received.

3. **MINUTES**

The Committee considered the minutes of the previous meeting of the Epping Forest Consultative Committee held on the 24th of June 2020.

RESOLVED- That the minutes of the Epping Forest Consultative Committee 24th of June 2020 be approved as an accurate record.

4. **EPPING FOREST AND COMMONS COMMITTEE DRAFT MINUTES**

The Committee received the draft minutes of the Epping Forest and Commons Committee on the 7th of September 2020.

RESOLVED- That the minutes be noted.

5. **REVIEW OF CONSULTATIVE COMMITTEE MEMBERSHIP**

The Director of Open Spaces was heard in relation to the review of the Epping Forest Consultative Committee membership which, as specified in the Committee's Terms of Reference, is required to be untaken every three years. It was noted that the website page for prospective Committee members to register their interests in serving on the Committee was due to go live on the 21st of October and that the Town Clerk would be sending a letter detailing this process to current membership of the Epping Forest Consultative Committee.

It was confirmed that existing members were required to register a new statement of interest.

RESOLVED- That the update be noted.

6. **EPPING FOREST - SUPERINTENDENT'S UPDATE FOR JULY 2020 (SEF 20/20)**

The Committee received a report of the Director of Open Spaces which summarised the Epping Forest Division's activities across July 2020.

RESOLVED- That the report be noted.

7. **VISITOR SURVEY**

The Director of Open Spaces was heard in relation to the Epping Forest Visitor Survey for June and July 2020. The Director of Open Spaces informed the Committee that the Survey was undertaken as a response to the huge increase in visitor numbers. In addition, the Committee were informed of the methodology of the Survey and its key conclusions.

The Chairman noted that it was clear that there was a large increase in the visitor numbers in this period and its effect should be noted.

In response to a query regarding the scope of the Survey it was noted that due to resource limitations not all of the Forest could be included but that every effort had been made to include a variety of sights.

RESOLVED- That the update be noted.

8. **EPPING FOREST CONSULTATION POLICY SEF 24/20**

The Committee received a report of the Director of Open Spaces on the Epping Forest Consultation Policy. The Director of Open Spaces noted that key events such as the establishment of the Epping Forest Consultative Committee and the introduction of GDPR are reflected in an updated policy in line with more modern communication methods.

Replying to a query from a Committee member it was confirmed there was no reduction in the matters which requires consultation.

RESOLVED- That the update be noted.

9. **EPPING FOREST CYCLING STRATEGY SEF 25/20**

The Committee received a report of the Director of Open Spaces on the Epping Forest Cycling Strategy. The Director of Open Spaces introduced the report and invited the Committee to email any further questions which, due to the length of the Committee's Agenda, could not be considered on the 21st of October. The Committee suggested a number of possible cycle routes to Officers for further consideration.

It was requested that further consideration be given to the bicycle parking and safety concerns including the relationship between bicycles and horse riders sharing the roads. The Committee noted the changes to the Highway Code with relation to the horse riders and bicycles. In relation to this it was suggested that the Horse Riding Fee be reviewed. The Director of Open Spaces confirmed that this review would be undertaken.

Responding to a query from a Committee member the Director of Open Spaces informed that the report would not be ready for inclusion in the November Epping Forest & Commons Committee and would be targeting January for the report to be considered by the Grand Committee. Further to this it was confirmed that further consultation would be undertaken.

RESOLVED- That the report be noted.

10. **WANSTEAD PARK PONDS PROJECT - INITIAL ENGINEERING ASSESSMENT**

The Committee considered a report of the Director of Open Spaces which provided the Initial Engineering Assessment in relation to the Wanstead Park Ponds Project. The Director of the Built Environment commented that the Assessment had confirmed that the works required were not as extensive as originally expected, however the interaction between the ornamental water and the river was complex.

It was stated by a Committee member that the City of London Corporation should act to manage the chain of ponds at Wanstead Park in the short and medium term while the further study was being undertaken. The Director of Open Spaces confirmed that complementary management activity would be completed with the further study outlined in the report will be taking place.

Replying to a query raised by a Committee member it was confirmed that work had begun with Thames Water and discussions were taking place with Cadent Gas to resolve issues present at the site.

RESOLVED- That the update be noted.

11. **THE GROTTO, WANSTEAD PARK: CONSERVATION MANAGEMENT PLAN SEF 22/20**

The Committee received a report of the Director of Open Spaces regarding the Grotto, Wanstead Park Conservation Management Plan. The Director of Open Spaces introduced the report and outlined the future plans for the site.

Responding to a query from a Committee member the Director of Open Spaces explained the security measures which were to be introduced to keep the Grotto site safe.

It was commented by a Committee member that a summary report on the Grotto project would be helpful for members of the public to be better informed on this subject. The Chairman noted that a webpage with all these details would be a useful reference for members of the public interested. The Director of Open Spaces explained that the Issues Report due to be considered by the Epping Forest and Commons Committee would include a brief summary of the issues present at Wanstead Park.

RESOLVED- That the report be noted.

12. **PATH MANAGEMENT: POLICY DEVELOPMENT NOTE SEF 23/20**

The Committee received a report of the Director of Open Spaces on the Path Management Policy Development Note. The Director of Open Spaces explained the process undertaken to produce the Policy Development Note and issues going forward. It was noted that the Policy was just the beginning of the process regarding path management in Epping Forest.

A member of the Committee highlighted that Epping Forest was not a park and, therefore, required this to be reflected in the number of paths present in the Forest. Replying to this the Director of Open Spaces confirmed that the Forest was considered as semi-rural environment noting that access to the Forest was also an ongoing issue.

Replying to a point raised by a Committee member the Director of Open Spaces explained any paths created by users of Epping Forest which were deemed harmful to the Forest would be resolved.

RESOLVED- That the report be noted.

13. **NIGHT-TIME GATING PROPOSALS FOR MANOR ROAD, HIGH BEACH FOR AMENITY PURPOSES SEF 26/20**

The Committee received a report of the Director of Open Spaces on the Night-time Gating proposals for Manor Road, High Beach for amenity purposes. The Director of Open Spaces introduced the report and explained the context of this

proposal to gate the Manor Road car park. It was noted that while there was risk of displacing antisocial behaviour to other sites but that it was clear that more decisive action was required to resolve issues present which had been commented on by local residents.

Responding to a Committee member's query the Director of Open Spaces commented that the decision to recommend the introduction of car parking charges was separate to the decision to gate Manor Road car park.

RESOLVED- That the report be noted.

14. **EPPING FOREST CAR PARKING - POLICY AND STRATEGY, INTRODUCTION OF PARKING CHARGES AND ENFORCEMENT**

The Committee received a report of the Director of Open Spaces on the Epping Forest Car parking Policy and Strategy, introduction of Parking Charges and Enforcement. The Director of Open Spaces explained the challenge relating to management of the car parks in Epping Forest and the reasons for the proposed introduction of car parking charges.

The Committee commented on the requirement for adequate consideration to be given to pricing structure to allow for appropriate discounts for certain users. The Director of Open Spaces agreed confirming that a blue badge concession scheme would be in place. In addition, it was explained the Epping Forest and Commons Committee annually reviewed fees and charges review which this car parking charge would be added to. A Committee member suggested that voluntary car parking charges options be explored. Replying to this the Director of Open Spaces explained that voluntary schemes had been trailed at Burnham Beeches which achieved only minimal fees collected.

The Committee discussed the suitability of differing payment methods noting that car park payment machines using cash leave the sites vulnerable to vandalism and would substantially increase maintenance costs.

It was commented by a member of the Committee that the public transport in the north of Epping Forest was insufficient for the public to access the Forest without using cars and that internet reception was not of a standard to allow access to online payment systems. In addition, the member noted that he believed that the Epping Forest Act precluded the introduction of Car Parking Charges and that their introduction was not within the ethically spirit of this act. Further to this it was suggested that the funds raised from car parking charges be ring fenced for expenditure at Epping Forest. The Director of Open Spaces replied that he did not agree with the ethical issues relating to the introduction of car parking charges and that many other local authority car parks in the area did charge.

A Committee member highlighted that the experience of car parking charges at Burnham Beeches would help the City of London Corporation with the introduction at Epping Forest but noted it was not going to be a simple or easy process. The Director of Open Spaces emphasised that lessons learnt at sites

such as Burnham Beeches would be incorporated into the introduction of car parking charges in Epping Forest.

A Member commented that there was never going to be an ideal time to introduce the car parking charges but noted that the increasing costs of the running the Forest required new measures to increase income. In addition, he confirmed that he was fully in favour of the introduction of car parking charges for these reasons. In response to this a Committee member commented that the proposed introduction of car parking charges had not been consulted on and was now being introduced as a fait accompli. The Director of Open Spaces outlined the budgetary position of Epping Forest and the City of London Corporation noting the requirement for increased income and efficiencies. Responding to this a Committee member commented that the introduction of car parking charges was clearly an income generation exercise and should be presented as such. The Deputy Chairman stated that the City of London Corporation should be unequivocal in confirming that part of this decision is motivated by the requirement to raise funds for the Forest. The Chairman noted that the City of London Corporation contributes over £29M a year to open spaces management and there was clearly a need to find new ways of increasing income to maintain this expenditure.

RESOLVED- That the report be noted.

15. **LOCAL PLANS: ON-SITE SAMM PROPOSALS**

The Committee received a report of the Director of Open Spaces on the Epping Forest SAC mitigation of Local Plans on site SAMM Proposals. The report presented the proposals of the City of London Corporation in its capacity as The Conservators of Epping Forest (CoLC) for within site Strategic Access Management & Monitoring (SAMM) mitigation measures for the Epping Forest Special Area of Conservation (EFSAC).

The Chairman commented on the importance of this work to safeguard the future of Epping Forest. It was agreed that other relevant wildlife trusts would, with the City of London Corporation, write to support the comments in the report to relevant local authorities and Greater London Authorities.

RESOLVED- That the report be noted.

16. **QUESTIONS**

Responding to a question from a Committee member the Chairman explained that balance needed to be reached on the items for discussion on Epping Forest Consultative Committee agendas. The Deputy Chairman suggested that this be considered as part of the City of London Corporation's Governance review to ensure the efficiency and effectiveness of the various groups and meetings relating to the governance of Epping Forest.

Replying to a query from a Committee member on planning permission in Epping Forest the Director of Open Spaces explained that the proposed development specified had not referenced SAC mitigation strategies and therefore was not approved. It was added that developments which included

details of SAC mitigation funding, such as Whipps Cross University Hospital, would likely be approved. The Chairman confirmed that the City of London Corporation had been involved actively in the Whipps Cross University Hospital consultation.

Replying to a member's query it was confirmed that a substantial response to Government's white paper 'Planning for the Future' was being developed by the City of London Corporation which included contributions from the Open Spaces Department.

17. **ANY OTHER BUSINESS**
There was no further

The meeting closed at 21:31

Chairman

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Committee(s)	Dated:
Epping Forest and Commons	16112020
Subject: Epping Forest - Superintendent's Update for August to September 2020 (SEF 29/20)	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	**2, 5, 11 & 12**
Does this proposal require extra revenue and/or capital spending?	**No**
If so, how much?	**N/A**
What is the source of Funding?	**City's Cash** **Local Risk**
Has this Funding Source been agreed with the Chamberlain's Department?	**N**
Report of: Director of Open Spaces	**For Information**
Report author: Paul Thomson – Epping Forest	

Summary

This purpose of this report is to summarise the Epping Forest Division's activities across August to September 2020.

While all work continued to be dominated by COVID-19 restrictions, of particular note was work to restore of Cow Pond, Leyton Flats led by the amphibian charity Froglife, and Wanstead Flats, led by staff, to restore the acid grassland at the former Temporary Mortuary Site. Cattle grazing was trialled at Wanstead Park with positive public and conservation results. Considerable work has been undertaken on Planning matters both in relation to the EFDC and LBWF Local Plans, in addition to individual responses on development control matters. There has been good interest in the reopening of The View and a 52% increase in rounds on Chingford Golf Course.

Recommendation(s)

Members are asked to:

- Note the report.

Main Report

Staff and Volunteers

1. A Visitor Experience Assistant retired at the end of September, after 12 years of service.

Budgets

2. At end of September, halfway through the financial year, spend is at 51% of total budget. Due to protracted negotiations with the Rural Payments Agency RPA) grant income for this year has not yet been finalised and may vary significantly from the amount factored during budget setting. Activity, including a stop on all non-essential spending, to address COVID-19 shortfalls, due to essential additional spend and reduced income, has reduced the anticipated budget deficit to approximately £250,000, with work continuing to further reduce the deficit.

Weather

3. August 2020 was the wettest August recorded since rainfall data collecting began at High Beach (1979) 140.4mm rain of fell over the space of 15 days. The average rainfall for August is 43.15mm.

4. In contrast, September was slightly drier than the average for this time of year (42.76mm) with 34.8mm of rain falling over 9 days throughout the month.

5. Storms Ellen and Francis were two of the most notable August storms in the UK in the last 50 years. Storms Ellen (19th to 21st) and Francis (25th) brought wind gusts of 4-50mph across inland areas.

Forest Services

Fly-tipping

6. There were a total of 75 fly-tips recorded over the period of August-September 2020, this is a 18% decrease over the same period in 2019.

7. Roadside locations represented 80% of the tip locations over the period, while household waste represented the largest category of items tipped over the period at 26 (35%), builders waste represented 17 tips (23%). There were 11 fly-tips in the Wanstead Flats area over the period which represents 15% of all tips. 4 of these tips were on Centre Rd and 3 on Capel Rd.

Enforcement Activity

8. Due to COVID-19 court restrictions no Environmental Protection Act prosecutions took place during the period under report. Two Fixed Penalty Notices were issued totalling £100.

Licences

9. A total of 51 licences for events were issued during the months being reported, which yielded an income of £ 16,017.85 plus VAT. 43 licences were issued during the same period in 2018/19 (income of £19,914.54).

Unexplained Deaths

10. There have been no unexplained deaths over the reporting period.

Rough Sleepers

11. There were 10 rough sleeper camps over the reporting period which have been managed in line with No Second Night Guidance (NSNO) in partnership with the St Mungo's Trust, and subsequently cleared:

- Victoria Rd J/W Forest Side
- Bushwood South
- Bushwood North
- St Thomas Quarter
- Great Monk Wood
- Triangle Wanstead Flats
- Gilberts Slade
- Warren Pond Rd
- Piercing Hill/Green Ride
- Bushwood, Wanstead

Unauthorised Occupations

12. There have been no traveller incursions over this reporting period.

13. There have been 13 Spontaneous Social Gatherings and 4 Unlicensed Music Events on Forest Land, which were addressed by Forest Keepers with, where necessary, excellent support from local Police Forces.

Dog Incidents

14. During the period there were two reports of dog related nuisance over the reporting period:
    - 30/08/2020 Dogs molesting cattle
    - 17/09/2020 Dog biting young girl

15. Both incidents refer to the failure to control a particular dog and the owner has settled a Fixed Penalty Notice (FPN) and has agreed to a trial of specific precautionary measures to end of March 2021.

Deer Vehicle Collisions

16. Epping Forest staff dealt with a total of 10 deer vehicle collisions (DVC) during this reporting period with 4 around the Wake Arms roundabout, Woodredon Hill and A104 near the Shell garage.

Open Riding

17. As from 00:01 on Monday 12 October 2020, Open Riding closed in Epping Forest, with activity restricted to the surfaced and posted ride network

Heritage; Landscape and Nature Conservation

Biodiversity

18. In partnership with the national amphibian conservation charity *Froglife,* and its contractor Maydencroft with funding provided by the National Heritage Lottery Fund (NHLF) and Veolia Environmental Trust, the second phase of the restoration works at Cow Pond (Leyton Flats) was completed in mid-September. This work is part of *Froglife's* "The London Toad" project. The scheme is focusing on habitat work on wildlife sites within London with an aim on creating and maintaining green corridors to allow UK amphibian species safe movement between natural spaces. This conservation work is imperative for the survival of the common toad, as recently published research undertaken by the University of Zurich analysing *Froglife's* 30+ year toad database, has concluded that toads have suffered a population decline of around 68%. This significant decline has mostly been due to habitat fragmentation and loss with particular declines being in the south east.

19. Cow Pond was reprofiled and deepened, alongside the removal of some dominant carr vegetation, which had blanketed and contributed to reduced water retention in the pond, to help create an open water habitat supporting a greater diversity of wildlife. This restoration work sits close by the new meadow at Whipps Cross junction that was created on land restored to the Forest in October 2019. Together these two conservation restoration projects should significantly enhance the environment of this area of Leyton Flats and provided for an important new gateway into this area of the Forest.

20. The **Temporary Mortuary Facility** on Manor Park Flats at Wanstead Flats was removed, the fencing was taken down and replaced with temporary mesh fencing in the first week of August. Remediation funding from London Council was used to restore acid grassland habitat.

21. Before this restoration work could take place the area, which lies within an Archaeological Protection Area (APA) for Greater London was examined carefully by archaeological consultants (LP Archaeology) and a report prepared on the history of uses of the site and its heritage context. The report found no archaeological remains of significance in the immediate area requiring restoration. Therefore, no heritage mitigation work was required.

22. The whole area (1.67ha) was then prepared for re-seeding by harrowing and rolling in early September. A wildflower seed mix was sown on 28th September, of which 25% by weight was made up of seeds harvested in August from the neighbouring SSSI area on Wanstead Flats. The site remains protected by the mesh fencing with two noticeboards explaining the phases of restoration work. All the neighbouring residential properties were sent a leaflet explaining the work before it took place. The restoration also attracted considerable national media attention.

23. Wanstead Flats was also the centre of attention on 30th September when the Chairman, a Verderer and officers met the Wren Group for a walk around the

area and a discussion of its biodiversity importance in relation to the staging of large events. In addition to the important acid grassland, the site is regionally significant as a stop-over and feeding area for threatened migratory passerine birds, like **Spotted Flycatchers** and **Whinchats**, two birds subject to enormous declines in numbers nationally. Both species were present on the Flats during the morning and a group of three Whinchats were observed early in the site visit.

24. **Fungi**: considerable interest in the Forest's importance for fungi, and on the problems of fungi-foraging, continues in the national and regional media. On 25th September Radio Essex made it the focus for one of its morning programmes. Other print media outlets also picked up the story. Seven people were successfully prosecuted during this autumn for foraging large quantities of fungi.

25. In the meantime, on the Forest itself the fungi fruiting season has seen abundant fruiting bodies because of the warm wet late summer and autumn weather. Amongst the species noted was the Clustered Bracket Fungi (*Inonotus cuticularis)(* a relatively uncommon fungi found on an ancient beech. A report also came to light that a rare and legally protected Oak Polypore (*Piptoporus quercinus*) was found and damaged near the Furze Ground, (Compartment 12). Unfortunately, the perpetrators of the damage were not identified.

26. The Barbastelle bat **(***Barbastella barbastellus*) was recorded for the first time at Connaught Water. This is currently the third location for this species within the Forest. This is a rare species within the UK and is listed as Near Threatened on the global IUCN Red List of Threatened Species.

Agri-environment Schemes

27. The Conservation Team continue to liaise with the RPA on the long-delayed 2019 Countryside Stewardship Scheme grant application. While the Director signed the agreement in July, the RPA has now determined that this offer should be withdrawn and replaced. This has resulted in the detailed and complex tender process being put on hold. In addition, the new issues raised by the RPA, a year after the application, are now being examined in consultation with the Director and Legal Services.

28. A response on behalf of the City Corporation Open Spaces Department to a consultation on funding trees in urban and peri-urban areas for the future agri-environment scheme (Environmental Land Management scheme (ELMs)) was submitted. The Environmental Stewardship Officer represented the organisation in a workshop on the same topic run by the Forestry Commission and will attend a follow-up workshop in November 2020.

Grazing

29. In the 10th year in which the *Boviguard*™ system is being used, trials of a new invisible fence technology using GPS have been on-going on several sites with 8 cows involved. These trials have been a significant success. This technology will be a direct successor to the wired *Boviguard*™ system, which is nearing the end of its lifespan.

30. One of the successes for the new system was the trial at Wanstead Park with 3 cows utilising the GPS based NoFence™ system to graze The Plain and its

important acid grassland with old anthills and significant butterfly populations. The trial was largely to determine whether the behaviour of park users would facilitate animals living in the park for periods of time. The trial received significant media attention in national and local papers. The project also attracted very considerable help from volunteers who were of great assistance in overseeing the cows and speaking to visitors. Overall, feedback from volunteers and many local users, many of whom visited the park specifically to see the cows, has been very positive.

31. Replacement fencing works were completed at Copped Hall Deer Park around the privately-owned lake. Combined with a successful extension to the grazing on a privately-owned part of the deer park next to the ha-ha, this project has improved relations with the neighbouring landowner and should assist in providing for more integrated management of this important heritage landscape.

32. A representative from Ashdown Forest Conservators visited to gain insight from the grazing management and use of collar-based containment systems at Epping Forest.

33. An annual veterinary assessment of the cows wearing collars was undertaken. This involves catching them up and holding them in a crush (restraining equipment) while the vet inspects the collar and their neck. No health issues were recorded and the high standards of cattle welfare were confirmed.

Heritage

34. A change in the approach to Corporate Work Programme funding in 2021/22 is likely to impact on schemes submitted for The Grotto and Copped Hall *Ha-ha*. The updating of the Conservation Statement for Knighton Woods continues to be progressed by mapping of detailed heritage features.

35. A PhD has started at University College London on researching archaeological evidence of Romany activity which will include Epping Forest as one of the study sites.

Forest Protection and planning matters

Town & Country Planning

36. **Epping Forest District Council (EFDC) Local Plan:** meetings continue to be held by EFDC officers and their consultants with your officers and Natural England in relation to the update of the Habitats Regulations Assessment of the Local Plan and proposed mitigation. On 6th August detailed proposals for an Air Pollution Mitigation Strategy were discussed.

37. In late August, the updated **Habitats Regulations Assessment** was published with 10 days given by EFDC for consultation due to its requirement to provide tranche 4 of its proposed Main Modifications to the Inspector by 14th September. Following the September Committee (7th Sept), a letter of response (attached) was sent to EFDC from the Chairman detailing our continuing concerns with the Habitats Regulations Assessment (HRA) and particularly with the lack of

recreation mitigation proposals for alternative visitor destinations outside the Forest.

38. In late September, the **London Borough of Waltham Forest** (LBWF) published one of its two consultations on its forthcoming **Local Plan**. This first document concerned site allocations for the Borough and included significant housing with 1km of the Epping Forest SAC boundary. Overall, up to 27,000 dwellings are proposed within the Borough over the next 15 years, all within the recreational zone of influence of the Forest.

39. The second LBWF consultation document on the Local Plan policies is due out at the time of writing this report. It is not yet clear when the LBWF Local Plan HRA will be made available for review. A separate report on the two LBWF Local Plan documents is provided for your Committee's consideration.

40. More detailed consultations on re-development of the library for housing and a new cultural centre adjacent to **Chingford Green** were promised in a briefing document in September. Chingford Green is part of the Forest under care and maintenance by LBWF and as well as protected as Forest is also listed as important heritage in London as an Archaeological protection Area (APA). The consultation is expected in November. Your officers responded to an enquiry by the local heritage group that is currently mounting a campaign against the proposals.

Town & Country Planning – Development Control

41. Comments were submitted to Planners for this reporting period as follows:

- Cornerstone (Infrastructure Services Company) applied a second time to place a 5G mast at the bottom of Warren Hill, Loughton. Despite being on Forest Land and having been previously refused by EFDC.
- A planning application has been made for 8 dwellings at the former Duke of Wellington PH in High Beach. City Corporation Officers are preparing a three-minute statement at the planning hearing on the 4th November.
- A planning application for the former Rising Sun PH on Woodford New Rd, was objected to due to its vicinity to the SSSI and SAC.
- 89 The Avenue, was a flat complex of 5 units next to the Forest.
- Santa Maria Nursery, objected to development of 2 new properties in replacement of 1. Objected to on grounds of being in Greenbelt.

Land Registration and Access Audit

42. Work continues with the mapping and referencing of all access routes across Forest Land to neighbouring properties by the Wayleaves Officer with the majority of compartments now completed as desk studies. In addition, the GIS officer has mapped a detailed grassland gazetteer for over 30 of the Forest's 38 Compartments. During this work, encroachments have been discovered by examining the 2019 aerial photographs, that recently became available, and overlaying these with the Land Registration information on the GIS system. A considerable amount of fieldwork will be required to follow up on both these important research and mapping projects.

Operations

Habitat Works

43. Contract and inhouse grass cutting works are on schedule for completion with additional areas also worked, especially on the Buffer Lands as part of the pasture management. Maintenance of the cleared areas of wood pasture has progressed with the main areas worked however we are still struggling to complete work on all areas and this will need a review and reassessment for the start of the 2021 season.

44. Wanstead Park: The contractor undertook two monitoring visits and identified one colony of Floating Pennywort in the Perch Pond. This was removed and a follow up survey found no other signs. It is proposed to continue with the contract monitoring inspections in 2021. Thames Water have also started a series of investigations into the condition and possible impact on drainage of their infrastructure around the Ornamental Waters. It is hoped the owner of a gas main under the Ornamental Waters will undertake the same assessment. Both studies will hopefully identify whether these utilities contribute in some way to the significant water loss of the Ornamental Waters.

45. Highams Park Lake: A proposal for financing the improvement of the lake edge vegetation at Highams Park Lake has been submitted to the London Borough of Waltham Forest. This is linked to compensation proposals linked to a planning application for a new fence around Woodford Primary School. The proposal at Highams Park would see a new reed bed created helping to clean surface water drainage entering the lake as well undertaking education work with pupils from the school.

Insurance works

46. There have been two public liability and two subsidence claims during the reporting period. One of the liability claims is complicated by the fact it has occurred on a path covered by multiple wayleave holders and the City Corporation Insurance Department will be working to ascribe liability on this. One claimant progressing a liability case which has been pending for nearly three years and was due in court in September, chose not to progress the case at the last minute. The following day another case elected to go to court. This is challenging as it asserts how the City Corporation should manage the safety of its visitors with respect to utility companies' infrastructure on the Forest.

Risk Management Works

47. Tree safety works are progressing and are the main focus of the Arborist Teams at present. With the delay of the Countryside Stewardship Application there has been an opportunity to catch up on the works postponed due to COVID-19 and it is hoped to significantly advance the amber tree safety zones.

Access Works

48. The annual program of work to improve the condition of main paths in the Forest continued during this period working of the path from Whitehall Plain to Charter road, Highams Park via Woodford Golf course. This involved a widening of the overstorey to allow air and sunlight to the path surface with the hope it will dry out quicker each year….a challenge for this October!

Visitor Services

Events

49. Queen Elizabeth's Hunting Lodge was re-opened to the public on 20 August via Eventbrite-bookable costumed tours allowing us to provide an enhanced visitor experience within COVID-19 health and safety guidelines. The tours introduce a topical note with displays and chat about Tudor medicine alongside the established history of the building. A single £25 ticket covers a maximum of 5 people. Three tours have been booked to date.

50. In September, Visitor Services researched and developed an Ambresbury Banks guided tour, offered at £25 for a maximum of 5 people, and used Twitter to get a sense of which days and times the public might be interested in attending. Walks were promoted via Eventbrite and sessions in October and November were quickly booked up prior to the first session.

Learning and Education

51. Following concerns over the impact of lockdown on mental health, the learning team developed a summer programme for families with activities designed to promote wellbeing through spending time in nature, learning new skills, being creative, and working together as a family. Activities such as eco-art and habitat building proved to be very popular. The team used an evaluation toolkit developed by UCL to measure wellbeing and are thrilled to report that participants' wellbeing increased by an average of 22%. Feedback from participants was very positive:

    "*We had a brilliant outdoor session in Epping Forest organised by the Learning Team and led by Katie. Our 9-year-old daughter had so much fun building a shelter in the forest and engaging in eco art activities such as leaf bashing and stick spider webs. As a busy family, it was fantastic to spend time outdoors together, work as a team and join in the fun and creative activities while learning new skills. The session was professionally organised, led by a very friendly and welcoming team member who put us at ease straight from the beginning. We highly recommend this session, we enjoyed it a lot!"*

52. In September, the team launched their new COVID-19-safe school offer. The majority of the Epping Forest based programme has been adapted in line with COVID-19 safety measures, and the team are also offering two new programmes for delivery in schools, including a 'Nature and Wellbeing' session.

Chingford Golf Course

53. The golf course continues to be very busy compared to previous years. For August and September, the total number of rounds for this year was 7,504 compared to 4,941 for the same period last year, an increase of 2,563 (52%). Tee time intervals have remained slightly higher than normal to help avoid any congestion out on the golf course and help increase social distancing between groups. Essential renovation works were carried out in September on the greens which involved hollow coring the green, removing the cores and top dressing with sand. This helps to elevate compaction, increases air and water percolation deeper into the rootzone improving the soil structure and will help prevent any turf disease in the winter months, all allowing for longer use of the surface increasing playability all year round. This is the first time this process has been carried out in 8 years and will be done once a year at a minimum going forwards.

54. Total revenue from online sales this period is £45,994.00, total revenue from reception was £72,773.34 broken down into:

Breakdown of figures from Reception			
	2020/21	**2019/20**	**Difference (+/-)**
Green fees:	£54,941.10	£53,911.72	+£1,029.38
Drinks:	£1773.70	£1810.80	-£37.10
Hire Equipment:	£7850.00	£6255.00	+£1595.00
Shop Sales:	£3875.80	£4179.20	-£601.00
Wanstead:	£3382.15	£2229.50	+£1152.65
Horse Riding:	£653.59	£280.18	+£373.41

55. Online bookings for the same period last year was £8,281.50 compared to £45,994.00 this year, an increase of £37,712.50 - *all bookings continue to be pre-booking over the phone or online*. Total income from reception last year was £60,384.93. Overall income for this period last year amounted to £68,666.43 Compared to £118,767.34 this year, an increase of £50,100.91 (73%).

Wanstead Flats

56. Start of season prep work was carried out by the grounds team installing the goal posts and line marking the pitches. Each site went through a COVID-19 secure risk assessment putting in places safety measures to protect all staff and visitors ready for the re-start. Due to the decline in football over the past few years and COVID-19, this year to help reduce unofficial play, staff labour and materials we have reduced the number of pitches down from 42 to 30

57. The season started in mid-September, with a total income from 1st instalments for season bookings and casual matches amounting to £19,326.93.

58. Parkrun still not in operation due to COVID-19.

Visitor Numbers

59. COVID-19 secure measures which have been in place at the visitor centres since re-opening and continue to restrict the capacity of the built space.

60. The Queen Elizabeth's Hunting Lodge remains accessible via pre-booked tours only.

61. The Temple remains closed pending the completion of surveyors work to assess the impact of the recent pest infestation issues.

Visitor Numbers	QEHL 2020	*2019*	View 2020	*2019*	Temple 2020	*2019*	High Beach2020	*2019*	Total	*Total 2019*
August	0	*2957*	1239	*3221*	0	*463*	0	*2592*	1239	*10670*
September	0	*1719*	1137	*3604*	0	*69*	0	*1684*	1137	*6693*

Communication and Information

62. As of 23 October our social media following is:

- Twitter followers: 8,483
- Facebook likes: 3,508
- Instagram followers: 2,326

Major incidents

incidents – COVID-19 National Health Emergency

63. The response to current COVID-19 restriction remain in place and planning is well advanced for managing any emergence from a second-wave lockdown.

Appendices

- Appendix 1 – Letter to EFDC on Habitats Regulations Assessment.

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The City of London Corporation (CoL) as Conservators of Epping Forest *Interim* Response to:

- **Epping Forest District (EFDC) Local Plan Habitats Regulations Assessment (HRA) Appropriate Assessment August 2020**
- **amended Policies DM2 and DM22**

A. INTRODUCTION

1. Introduction to The Conservators' interim response

We welcome the opportunity to comment on the HRA-AA update but have to note the limitations constraining our response (below). We recognise the considerable amount of work on mapping and analysing the impacts of nitrogen pollution with which we have assisted by providing information to the consultants. We welcome the direction of travel and acknowledge that further work is being done to develop the strategies for air pollution and recreational impacts.

1a. Limitations

Due to shortage of time, this is an *interim* response to the Epping Forest District Council (EFDC) Local Plan Submission Version (LPSV) Habitats Regulations Assessment Appropriate Assessment 2020 (HRA-AA) and the proposed amended wording to Policies D8, DM2 and DM22. Natural England agreed to provide an interim response, to a short response deadline requested by EFDC, to enable the Council to provide feedback to the Planning Inspector by 11th September 2020.

The HRA-AA was provided to Natural England and The Conservators on Friday 21st August along with its detailed technical appendices on traffic and air pollution modelling. Further GIS information on the air quality isopleths was provided subsequently on 24th and 25th August. This *interim* CoL response is provided on 9th September as a response later but before the required deadline is not possible. **Therefore, the air quality analysis of the HRA-AA and its technical appendices will require further scrutiny and we reserve the right to raise further substantive issues on the HRA.** Having seen the Natural England (NE) response to the Policies DM2 and DM22, in relation to air quality matters, we can confirm that we agree with all NE's comments about the need for greater precision and specificity of those policies and this accords with our comments below on DM2 in relation to recreation impacts.

In addition to this short response deadline, another key limitation is that the HRA-AA has been provided without the complete mitigation strategies upon which it relies for its conclusions. On page 126, the HRA-AA states that with "*the delivery of the urbanisation/recreational pressure and air quality mitigation packages*" a "*sufficient protective framework*" would be provided for the HRA-AA to conclude that "*there **will** be no adverse effect on the integrity of ….Epping Forest SAC*" [our

emphasis]. However, these mitigation packages do not, at the current time, provide any certainty that mitigation can be delivered, in our opinion. A Suitable Alternative Natural Greenspace (SANGS) Strategy has not been set out with any specificity to demonstrate effective mitigation of recreational pressures on Epping Forest SAC. The Air Pollution Mitigation Strategy (APMS) contains commitments but no detailed timetable or clear, deliverable steps for action.

As a result of both of the above limitations, the City Corporation as Conservators of Epping Forest reserves the right to raise further issues in relation to updates of both the SANGS and Air Pollution Mitigation Strategies. In our opinion, therefore, the HRA-AA remains premature in its conclusion of no adverse effect on integrity of Epping Forest SAC because mechanisms for delivery of the required mitigation are not embedded in the Local Pan Policies DM2 and DM22 or the requisite Strategies.

B. <u>POLICIES</u>

2. <u>Policies DM2 and DM22 (and D8)</u>

We welcome the opportunity to comment on the current draft of the amended policies and we acknowledge the work the Council has undertaken to reach this stage and establish mitigation approaches for recreation/urbanisation and for air quality. We are broadly supportive of the general approaches to mitigation. For recreation/urbanisation this approach involves an exclusion zone around the SAC and the commitment to SANG and SAMM. For air quality the mitigation measures involve the commitment to develop a Clean Air Zone and a 30% shift to electric cars by 2033. As Conservators of Epping Forest our concern is to see adequate protection for the Forest and the legislation requires that likely significant effects are accurately identified and then adverse effects on integrity are ruled out.

Given the risks to Epping Forest SAC from the quantum of development contained within the Plan, it is essential that the mitigation is adequate, achievable, effective and timely. We recognise that the strategic nature of the plan has implications for the detail of mitigation that can be provided. The Habitats Regulations Handbook (Tyldesley, Chapman, & Machin, 2020) is clear: "*Because the integrity test incorporates the application of the precautionary principle as a matter of law, and because plan assessments are, by their nature, less precise than project assessments, it is important for the assessment process to eliminate the prospect of adverse effects on site integrity in so far as that is possible at the level of specificity inherent in the nature and purpose of the particular plan*".

Case law provides precedent that there must be sufficient detail to have confidence that mitigation is practical, can be delivered and that necessary checks or brakes are put in place to ensure development will not proceed if mitigation does not come forward. If mitigation is not delivered when required, then permission should not be given for the development provided for by the plan. For example, in the High Court case of *No Adastral New Town*[1] the Suffolk Coastal Core Strategy was challenged by a local action group on the grounds that it was unlawful for the Council to leave detailed mitigation measures over for assessment at lower tier stages – i.e. area action plan or project level HRA. The leading judgement identified that the "*important question in a case such as this is not whether mitigation measures were considered at the stage of CS in as much detail as the*

[1] NANT v Suffolk Coastal District Council and the Secretary of State for Communities and Local Government (Court of Appeal [2015] EWCA (Civ) 88 17th February 2015

available information permitted, but whether there was sufficient information at that stage to enable the Council to be duly satisfied that the proposed mitigation could be achieved in practice".

In reviewing the updated policies, it is therefore necessary to ensure that the mitigation is practical and achievable and that there is confidence that the mitigation is fit for purpose and deliverable. This is essential for the Inspector to be able to rule out adverse effects on integrity. In the current version of Policy DM 2 we have particular concerns with respect to:

- The definition of the zone of influence for recreation;
- Lack of clarity on SANGs;
- Lack of detail on SAMM;
- Lack of policy caveats and restrictions to remove the uncertainty in mitigation.

We consider these further below.

While DM2 B2 does refer to a sphere of influence, it simply states that "*all residential developments within the zone of influence identified by visitor survey work are required to be mitigated for through SAMM measures*." We would advocate that the policy should clearly define where likely significant effects would be triggered and the relevant distance set out, albeit subject to review as further evidence becomes available. The distance is relevant not only for SAMM but also for SANG.

The references to SANGs also lack precision and clarity. For example, DM2 B3 refers to the adopted Green and Blue Infrastructure Strategy. We note that this strategy is yet to be adopted and – as already reflected in our comments on a draft of the strategy (see below and also see attached letter of 8th July) – it is very broad with a lack of detail (based on the first draft that we have seen) to adequately secure viable SANGs. We have been raising the issue of a need for an adequate strategy for 3 years (see CoL letter of 29th January 2018 for example) and note that a strategy was promised at the Examination-in -public hearings in June 2019. Given the time it has taken to get to this point, we raise concerns as to when the strategy might be finalised, adopted and be adequate to provide sufficient SANG. The policy wording in DM2 is vague. Phrasing such as SANGs "*could involve*"; "*development proposals may be required to make a financial contribution*" do not provide the confidence and clarity that we consider is necessary in policy.

In terms of SAMM, there is currently only an interim SAMM approach. The policy wording (DM2 B2), as drafted, simply states that all residential developments in the Zone of Influence are required to be mitigated for through SAMM measures. Policy wording should be clear in how the SAMM strategy is referred to and what measures are required. More critically, the SAMM strategy needs to be further developed and comprehensive, coordinated with other local authorities (such as London Borough of Waltham Forest) given the reliance placed on it to deliver mitigation.

Given the concerns with the current status of the Green and Blue Infrastructure Strategy and the further work needed on the SAMMs, and the vague nature of the wording in the current policy, the mitigation for recreation and urban effects cannot be regarded as secure. For Air Quality mitigation the measures are also complex and extend over a considerable time period, with some like the Clean Air Zone not coming in for many years. Policy wording must reflect the uncertainty and ensure firm policy caveats and restrictions are in place. These will need to be explicit and embedded within policies, ensuring commitment to particular steps by particular times and levels of growth, with brakes applied to growth should mitigation not be delivered.

C. HABITATS REGULATION ASSESSMENT

Our concerns with the policy wording (above) and the lack of certainty feed through into the HRA-AA as set out below.

3. Impact pathways (Section 3)

The HRA-AA fails to fully set out the issues relating to recreation and urbanisation and this undermines the later sections (appropriate assessment). Omissions include wildfire, which can start from nearby gardens/adjacent land or directly from recreation use (barbeques or discarded cigarettes for example). Another omission is the spread of non-native species which relates not just to fly-tipping but from recreation use too (as seeds can attach to clothes and footwear).

4 Recreation/Urbanisation (Section 5 of HRA, appropriate assessment, paragraphs 5.17 to 5.40)

4a. Current baseline of recreational pressure

As paragraph 5.17 of the HRA-AA points out The Conservators have "long-standing concerns" about the increasing recreational impacts on the Forest. The impacts of the recent Covid-19 crisis on visitor numbers have deepened those concerns and demonstrated that the Forest Special Area of Conservation (EFSAC) is already vulnerable, at the current levels of local residential populations, to significant, chronic damage from recreation, including wildfires started deliberately or accidentally by visitors (see Figure 1 below) and soil compaction from increased footfall leading to significant vegetation and soil changes/losses on both grasslands and within the wood-pasture areas.

A brief survey of visitors conducted over June and July this year during the COVID pandemic (Footprint Ecology 2020 commissioned by The Conservators), along with additional observations and counts by our staff, has shown up to a 268% increase in visits across the Forest. There are also many accompanying changes in behaviour from visitors, particularly with the increasing density of people, and this has resulted in some cases of significant damage to the SAC (including wildfires and soil erosion). These problems have bee observed with the current residential population and they demonstrate that there is little resilience should such trends continue. Green space alternatives to the SAC are vital as mitigation for its future protection.

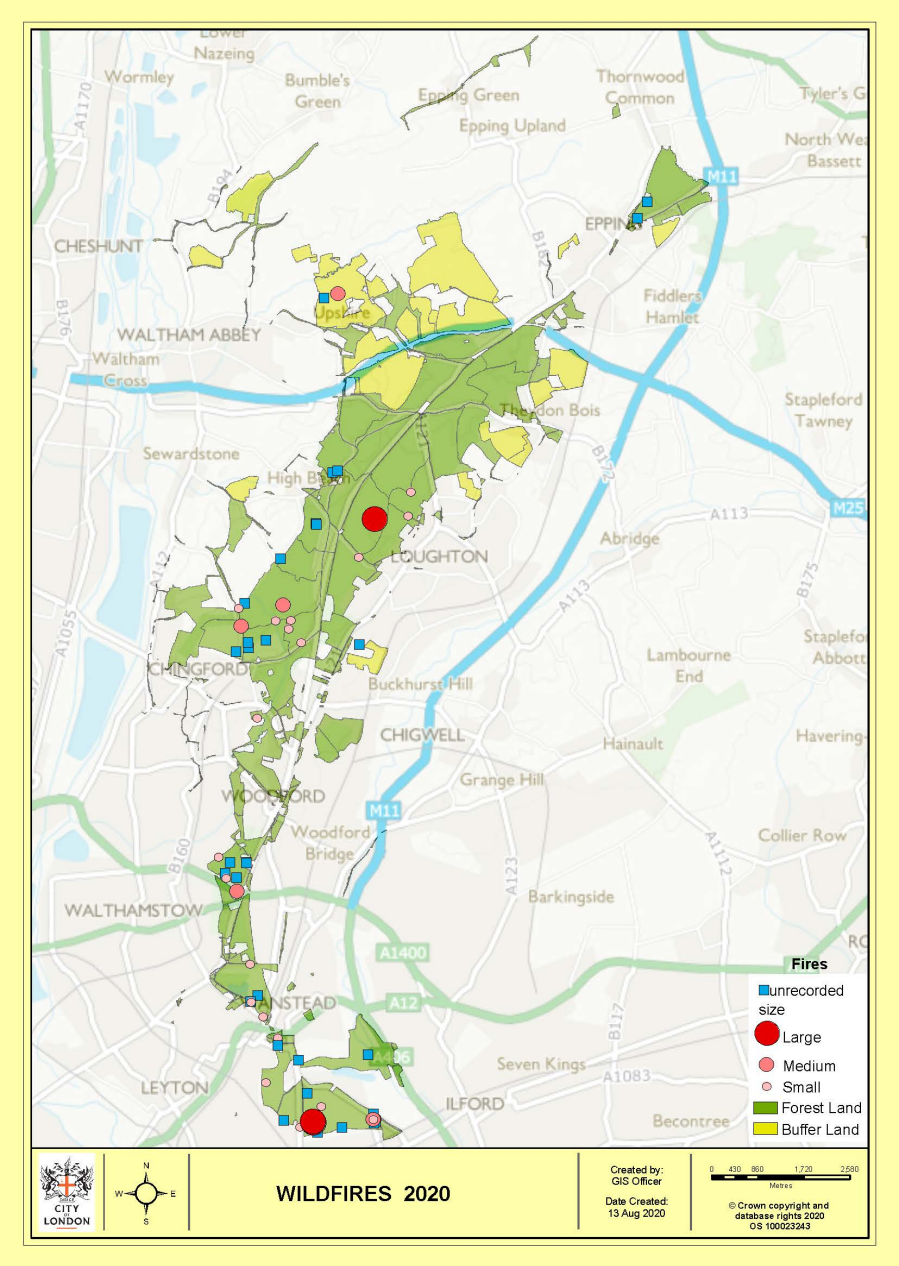


Figure 1: the distribution of wildfires attended by Forest Keepers & Fire Services up to August 2020

These results highlight the current pressures from recreation/urbanisation. The appropriate assessment fails to highlight the current baseline and to adequately set out the impacts arising from the scale of growth proposed. The following key failings in the HRA-AA are identified and discussed in turn below:

- Avoidance and exclusion zone (inadequacy of the avoidance zone proposed and contradictions with Policy DM2);
- SANGs strategy (lack of clear strategy in place and instead draft and muddled overarching GI & BI strategy);
- SAMMs strategy (interim approach incomplete and not sufficient);
- Overall reliance on mitigation to rule out adverse effects.

4b. Avoidance and exclusion zone

As paragraph 5.20 of the HRA-AA states: "*additional recreational activity resulting from new residential development within 3km of the SAC in Epping Forest District would result in an adverse effect 'in combination' with growth in adjacent authorities".* In relation to development between 400m and 1km distant from the SAC (and that equally applies to proposed residences within 400m), the HRA-AA in paragraph 5.22 goes on to add: *"It will generally be more difficult to get people who live this close to the SAC to visit alternative greenspaces as an alternative to (rather than in addition to) the SAC*".

We fully support the implementation of an exclusion zone as a pragmatic policy response to avoid the complex problems of increased recreational pressure and urbanisation. Ultimately development that is close to the SAC will result in greater risks and is harder or impossible to mitigate. Policy DM2 includes the provision of a 400m zone around the SAC (amended Policy DM2C).

In our response to the Inspector's MIQs on Matter 16, (25th April 2019 response to Matter 16 Issue 1 MIQ 4a), we proposed an exclusion zone of 800m. The HRA's admission in para 5.22 that SANG isn't likely to be effective for development within 1km seems to make the case for just such a larger exclusion zone. However, the HRA-AA also recognises that there is significant growth (7 sites, see para 5.19) proposed within 400m. The conflict with these sites and the policy requirement of DM2C is not adequately addressed in the HRA. In particular para 5.19 seems to suggest that small sites within 400m or those screened by existing housing can be excluded from the policy. This seems to totally undermine the 400m approach and creates considerable confusion. **There is no justification for such a stance. An absence of analysis of this contradiction of policy completely undermines the contention of the HRA-AA in paragraph 5.37 that the policies provide an "appropriate framework" for the protection of EFSAC.**

4c. SANGS strategy (HRA-AA paragraphs 5.26 & 5.27 and see attached letter from Conservators dated 8th July)

In our response to the Inspector's Matter 1 (Legal Compliance) at the Examination-in-Public, we emphasised the need for adherence to the mitigation hierarchy approach. This approach would emphasise the avoidance of harm, the need for *no net loss* and a *net positive impact* on Epping Forest through the Local Plan. In addition to the choice of site allocations for housing and the avoidance and exclusion zone discussed above, the mitigation hierarchy for recreation requires off-site interventions to reduce the risks of adverse effects on integrity.

Amongst the most effective off-site mitigation measures are suitable alternative natural greenspaces (SANGS) that can attract the increased numbers of residences to other areas outside the EFSAC (and SSSI) boundaries. An effective and clear SANGS Strategy is essential for the Local Plan and we have dealt with this in detail in our response of 8th July to the Council's Green & Blue Infrastructure Strategy (G&BI Strategy) and, as stated above, we have been advocating this for 3 years.

The HRA-AA does not provide further detail or any proposed enhancement of the measures in the published *draft* G&BI Strategy. Therefore, we do not intend to repeat our response in detail but instead attach our letter of 8th July so that our full response to the G&BI Strategy can be viewed alongside this response to the HRA.

The lack of financial contributions towards SANGS from housing within 3km, although a matter of choice for the Council as competent authority, is of concern to The Conservators. More importantly, the lack of offer of SANGS for these developments (apart from EPP.R1 about which we have commented concerning its quality – see paragraphs 32 and 33 of 8th July letter) does not seem to

meet the requirements of the mitigation hierarchy and the securing of a District-wide network and appropriate quantum and quality of SANGS.

Although we welcome the adoption of the SANGS standard of 8ha per 1,000 population (HRA-AA paragraph 5.29), we take issue with the contention in the subsequent paragraph 5.30 that 8-10ha is a "*large*" SANG. Given that this kind of hectarage would not be able to accommodate the types of walks taken by most of the visitors to the EFSAC, as evidenced by the Epping Forest Visitor Surveys (2017 and 2019, *Footprint Ecology*), the HRA-AA needs to provide justification for this statement or make a more in-depth assessment of the Visitor Surveys' evidence.

Therefore, we remain concerned about the lack of a coherent SANGS Strategy with a clear quantum of SANGS and a District-wide network of alternatives to those provided by development sites. The HRA-AA has not examined this in sufficient detail to justify its conclusions in paragraph 5.37. As we stated in our letter of 8th July:

''*Our key concerns are:*
i. The G&BIS only sets out a requirement for SANGS associated with the master-planned developments and there is not enough clarity to provide confidence that the mitigation is fit for purpose for these developments on their own;

ii. More widely, there is no SANGS provision for housing away from the master-planned developments. A clear, comprehensive strategy that provides effective mitigation for the quantum of housing growth is necessary. A wider range of infrastructure, away from the master-planned developments, is required and needs to be clearly secured;

iii. Mitigation measures should be effective, reliable, timely, guaranteed to be delivered and as long-term as they need to be to achieve their objectives. The strategy as drafted does not provide the fundamental information necessary to demonstrate that the Council is able to comply with the Habitats Regulations and would be able to rule out adverse effects on integrity as a result of the housing growth proposed in their plan;

iv. There is no clear timetable or governance for delivering SAC mitigation, including SANGS.

v. We suggest that the SANGs component should be a separate strategy, ensuring that the measures that are necessary as mitigation are clearly set out for developers and others. These measures need to be separated from more aspirational elements within the G&BIS so that there is no doubt as to how SANGs will be provided, how they will function and how the legal obligations are fulfilled. Such an approach would provide a much better opportunity for SANGs delivery to be joined-up with neighbouring authorities to provide certainty that the in-combination effects of growth on recreation use of Epping Forest SAC are addressed."

The City of London Corporation (CoL), as owners and managers of almost the entire SAC area and also managing significant land holdings outside the SAC (and SSSI), is in a unique position to help the Council secure mitigation measures. However, ultimately, CoL as the The Conservators, wants to see adequate protection for the SAC in the long-term, however it is secured. The Conservators want the certainty in the Local Plan that such mitigation measures will be achieved and maintained 'in perpetuity'. However, given our concerns set out in i to v above, and in more detail in our letter of 8th July, we have little confidence that the G&BI Strategy, in its current guise, will provide effective, long-term mitigation.

4d. <u>SAMMS strategy (HRA-AA paragraph 5.28)</u>

Paragraph 5.28 of the HRA-AA states that SAMMS is necessary "to further address recreational pressure, particularly from those living within 1km of the SAC". Given the reliance on SAMM, it is clearly necessary to have confidence that the SAMM approach is adequate The SAMMS proposals contained in the interim SAC Mitigation Strategy published by EFDC in October 2018 were incomplete and did not cover or assess popular areas of the SAC such as Leyton Flats or Chingford Plain in any detail, due to time constraints formulating the proposals at the time, ahead of the EFDC's intended LPSV submission to the Inspectorate. Therefore, further work has been carried out by The Conservators on the SAMMS measures, since the EFDC LPSV Examination-in-Public, entirely at their cost, as referenced in the HRA-AA at paragraph 5.28.

This work has developed the measures in greater detail allowing the clear ascribing of costs to the separate elements proposed to mitigate potential damage to the SAC's three most visited areas of the SAC. In addition, a wider framework of costs is in the process of being developed to cover other areas and mitigation measures across the SAC. Both these reports will be presented to The Conservators for approval at their committee meeting in November and to the SAC Oversight Group at a meeting subsequent to this date. **The costs have increased significantly, and the competent authorities will need to review these measures, consider apportionment of costs amongst themselves and adjust SAMMS tariffs accordingly.**

4e. <u>Overall reliance on mitigation to rule out adverse effects</u>
We have highlighted that the HRA-AA has failed to adequately present the baseline condition and range of impacts associated with recreation/urbanisation. Nonetheless, impacts are recognised and a need for avoidance and mitigation agreed. The mitigation strategies (SANG and SAMM) are not currently adequate or sufficiently secured to provide confidence that adverse effects can be ruled out. Mitigation needs to be secured over the necessary timescales and it is necessary to have confidence that the mitigation can be secured in practice. At present this is not the case.

In addition to these concerns, further doubt and confusion comes from reference to various elements of mitigation delivery that are vague and appear to be included in the HRA-AA to bolster the other weaknesses. As an example, para 5.31 suggests that the Council will "work with the Conservators of Epping Forest to explore the potential for introducing parking charges". **We do not believe parking charges to be effective as mitigation and certainly they should not be relied upon by the Council to provide mitigation.**

Furthermore, the commitment to mitigation appears to be spread across multiple policies (see paras 5.3 and 5.38), with some seven policies cited. This further contributes to the vagueness and lack of certainty.

Para 5.37 relies on the various policies, SANG and SAMM as a "framework". This framework is at present not sufficient, robust or secured enough to rule out no adverse effect on integrity to Epping Forest SAC from recreation and urbanisation effects. The HRA-AA argues that the framework allows in-combination effects (from other local authority plans) to be ruled out, through joint working as "it is the responsibility of each relevant authority to ensure that they mitigate adequately". This fails to highlight the current lack of a consistent approach across local authorities, for example in relation to SANG. Given that there are marked differences between neighbouring authorities in how mitigation measures for Epping Forest SAC are being progressed, the in-combination assessment requires more detail and considerably better analysis.

5. Air pollution (Section 6 of HRA)

As stated in the introduction to this response there has not been sufficient time for the air quality section of the HRA-AA to be analysed and commented on in any depth. We, therefore, reserve the right to raise further substantive issues in relation to air quality.

In terms of the HRA-AA we welcome the much more detailed analysis of ammonia that we called for 3 years ago, following the evidence gathered by The Conservators through the PhD work of Gadsdon (2007) and the more recent work of Ben Marner of Air Quality Consultants.

5a. Policy DM22

In terms of Policy DM22, we welcome the reference to the Air Pollution Management Strategy (APMS) and its inclusion of a commitment to explore a Clean Air Zone (CAZ). This accords with our request, in our response (25th April 2019) to Matter 1, MIQ 44, for consideration to be given to "innovative approaches" such as "enlargement of the AQMA" on the roads around the Forest. The innovative proposals – made in outline in the APMS – are a step forward and we recognise the level of commitment and resources that this form of mitigation will require of the Council.

However, as with our comments on Policy DM2 above, and those more detailed comments of NE in its letter of 1st September 2020, the current DM22 Policy wording is not adequate, or indeed appropriate, to provide the certainty required for the HRA-AA to makes its conclusion of no adverse effects on integrity of the EFSAC (page 126 of the HRA-AA).

The HRA-AA states on page 116 that there need to be "strong, clear initiatives" for inclusion in the Air Pollution Mitigation Strategy (APMS). The two key initiatives proposed in the APMS, a 30% shift from petrol to electric and a Clean Air Zone (CAZ) are clear in their endpoint. However, the APMS does not set out **how** either initiative would be achieved and nor are there precise timetables with measurable steps.

5b. Deliverability of CAZ

In this interim response, we also wish to register our considerable concern with the deliverability of the CAZ proposals. We are aware of the CAZ proposals elsewhere in the UK, in particular the A10 in Hertfordshire. In the cases of these CAZ proposals, and also this one for Epping Forest, one of the major issues that could be a significant hurdle on deliverability, particularly in the timeframe set out in the APMS (1st draft), is the issue of the diversion of traffic along other routes and the subsequent congestion and pollution impacts. As we stated throughout the EiP and at the hearing on the Transport Policy T1 in particular, the road and junction network does not have the capacity to deal with elevated levels of traffic. Essex County Council Highways in their response at the EiP made this same point. Diversion along roads avoiding the Wake Arms roundabout, for example, such as through Theydon and Bell Common could result in the build-up of queue lengths that impinge on other junctions and feedback into the main Forest roads.

5c. Phased development and mitigation

We remain very concerned that the HRA-AA foresees that the APMS will provide for sufficient mitigation to allow for the phased introduction of housing developments (paragraph 6.75). However, CAZ cannot be phased in and will not appear before 2025. Between 2021 – 2025, the hoped-for shift of 10% of petrol vehicles to electric (ULEVs) (5% of the District "fleet"), described in paragraph 6.75, relies on the uptake of a variety of incentives outlined in 6.67 -6.70 of the HRA. However, this uptake cannot be controlled and may not in any way match the phasing of the many minor developments that make up around 300 housing units currently awaiting planning permission. It is not clear from the HRA-AA how the increased pollution from vehicles potentially emanating from these many small

developments would be mitigated effectively. Currently, neither the HRA-AA nor the 1st draft APMS provide any certainty that such mitigation would be in place and that a significant uplift in nitrogen pollution would be avoided. It is, therefore, unclear to us how the HRA-AA concludes with such confidence that adverse effects on the integrity of the EFSAC would be avoided with certainty. **As stated above, we require further time to assess the air quality and traffic modelling data (and any road infrastructure assumptions lying behind those data).**

6. Governance of SAC Mitigation Strategy

The HRA-AA in paragraph 5.25 describes the governance arrangements as "in place". However, we do not consider this is the case. Although there have been two meetings of an SAC Oversight Group in 2020 (on 24th February and 5th June), there are no terms of reference and no clear decision-making process by which issues like the Zone of Influence or mitigation tariffs can be agreed. There is no cross-border (London-Essex) framework through which Local Plan policies can be aligned and standardised with respect to the SAC, or through which supplementary planning guidance for developers can be coordinated between the authorities or by which the interim SAC Mitigation Strategy itself can be updated.

Although an apportionment of interim SAMMS tariffs was agreed in 2018, following a meeting of a much wider group of authorities, there is no mechanism or timetable for tariff review and no agreed repository for SAC Mitigation funding, its distribution and the auditing of monies. Of the current constituent competent authorities of the SAC Oversight Group only Essex County Council, Epping Forest District Council and ourselves (CoL as The Conservators) have signed the Memorandum of Understanding. The MoU is itself now out-of-date and requiring review or replacement with a legally- binding agreement such as an SAC Mitigation Framework for supplementary planning guidance.

A written and mutually approved governance structure needs to be in place before the adoption of this Local Plan and the Policy DM2 needs to contain precise wording to ensure that this is the case prior to any developments being approved.

7. Conclusions: - Proposed HRA-AA and Policy reviews

- The HRA-AA needs further work to ensure the full gamut of recreation and urban effects and fully considered and clearly set out.
- The HRA-AA needs to propose clear changes and much more precise wording for both Policies DM2 and DM22, to ensure they are compliant with the Habitat Regulations in relation to both recreational and air quality impacts. Policy wording changes are essential to ensure the Plan overall is sound.
- All mitigation that is referred to needs to be effective, timely, secured for the relevant time period and sufficient to address the impacts identified.
- For the in-combination assessment, other plans need to be considered and the mitigation needs to be effective cross-boundary.

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Committee(s): Epping Forest Consultative Epping Forest and Commons – for decision	**Date(s):** 21102020 16112020
Subject: Epping Forest Consultation Policy SEF 24/20b	**Public**
Does this proposal require extra revenue and/or capital spending?	**N/A**
If so, how much?	**N/A**
What is the source of Funding?	**N/A**
Has this Funding Source been agreed with the Chamberlain's Department?	**N**
Report of: Director of Open Spaces	**For Decision**
Report author: Jo Hurst – Business Manager Epping Forest	

Summary

Epping Forest has a large and active group of beneficiaries, consisting of residents, Forest users, clubs, groups et al who may need to be consulted on matters of Forest management policy where issues affect them.

The Epping Forest Consultation Policy explains the routes for such consultation and how beneficiaries may involve themselves.

This policy recognises and embraces the increasing power of electronic communication and social media as well as the need to comply with the General Data Protection Regulation (GDPR). It includes the Epping Forest Consultative Committee as a principle route of consultation, set up since the Statement of Community Involvement, which this policy replaces.

Recommendation

Members are asked to:

- Note the report
- Approve the adoption of the Epping Forest Consultation Policy as a replacement to the Epping Forest Statement of Community Involvement 2011

Main Report

Background

1. English law has in recent decades recognized a common law duty to consult as an aspect of the duty of fairness. It was the subject of a comprehensive treatment by the Supreme Court in R. Moseley v. London Borough of Haringey, [2014]

2. The Epping Forest Statement of Community Involvement (SCI) was adopted in 2011 and outlined in detail when and how Epping Forest would consult with individuals and groups.

3. The SCI has been a crucial and important document over the last ten years but with recent changes to consultative processes and data management legislation this is an ideal time for it to be revised.

Current Position

4. In the almost ten years since the SCI was drawn up there have been significant changes to both our consultation community, and our methods of communicating with them. The introduction of the General Data Protection Regulation (GDPR) has also required change in the way we store, maintain and use information.

5. Social Media, particularly Twitter and Facebook has increased in power and popularity and has become the primary route for informing our community of changes, issues or events that may impact them.

6. The Epping Forest Consultative Committee met for the first time in 2018, with sixteen groups (with a further member later co-opted) representing a wide range of Forest users meeting three times a year with Members, Verderers and Officers.

7. Inovem, a state-of-the-art consultation and reporting platform, which is particularly effective for long and complex consultations has been adopted. For smaller, simpler consultations the use of Survey Monkey or similar has also proved to be popular and effective.

8. The Epping Forest Management Strategy and Business Plan includes targets and outputs for communications and Governance which, in order to be effective, require an update to the SCI to a more simple and flexible Consultation Policy.

9. A key change in the Consultation Policy to the SCI is to allow consultees to be responsible for their own data, and the information being shown or sent to them. This not only allows improved compliance with GDPR and greater control and transparency for consultees, but also simplifies and reduces the administrative burden at Epping Forest.

10. The Epping Forest Consultation Policy reflects the above changes and allows for much greater flexibility in method, scope and timing of consultations, whilst not

excluding the ability and requirement for large-scale wide-ranging consultation as established in the SCI.

Options

11. Continue with the SCI unchanged. This fails to recognise the changing environment of consultation, both internally and externally and it's requirement to maintain contact data for a large number of individuals and groups can be administratively burdensome as well as contrary to the opt-in principles of GDPR **This option is not recommended.**

12. Adopt the new Epping Forest Consultation Policy which reflects changes experienced since the establishment of the SCI and brings greater flexibility to Consultation at Epping Forest. **This option is recommended.**

Proposals

13. The Epping Forest Consultation Policy is at Appendix 1.

14. The Policy outlines the three main routes for Consultation, being the Epping Forest Consultative Committee, use of digital consultation platforms or correspondence with Verderers.

15. The overarching principles of GDPR are for 'data subjects' (any individual who can be identified through that data) to have opt-in control over how their data is managed and used.

16. The Policy replaces the requirement for Epping Forest to maintain a large, fixed list of Consultees, instead stressing the importance of individuals and groups to utilise the routes outlined as fits them best, with those individuals and groups able to maintain and manage their own contact data and preferences.

17. The Policy acknowledges and adopts the use of social media platforms, such as Twitter and Facebook as the chief 'noticeboard' for alerts and news relating to Epping Forest – including invitations to engage in consultation processes.

Corporate & Strategic Implications

18. The Consultation Policy supports the City of London Corporate Plan 2018-23, particularly outcomes within "Contribute to a flourishing society" and "Shape outstanding environments".

19. Update to Epping Forest Consultation policy is necessary to support a number of threads of the Epping Forest Management Strategy and Business Plan 2020-2030 from site based specific changes, to broader aspects of policy and management.

Implications

20. Adoption of the Epping Forest Consultation Policy allows easier compliance with GDPR as individuals and groups are responsible for their own data and contact preferences.

21. No HR, property or other implications are foreseen.

22. **Charity** - Epping Forest is a registered charity (number 232990). Charity Law obliges Members to ensure that the decisions they take in relation to the Charity must be taken in the best interests of the Charity.

Epping Forest Consultative Committee

23. Consultative Committee considered the report on 21 October 2020 and were reassured that this policy did not represent a reduction of consultation activities at Epping Forest. There were no further questions or comments.

Conclusion

24. The Epping Forest Consultation Policy has been formulated to represent a simpler more flexible replacement to the previous SCI, now almost ten years old.

25. The Policy reflects many changes, including the establishment of the Epping Forest Consultative Committee, current expectations of data management and control as well as the rise in the use of social media for messaging.

Appendices

- Appendix 1 – Epping Forest Consultation Policy

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Author: Jo Hurst
Date: September 2020

Epping Forest
Registered Charity

Epping Forest Consultation Policy

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Introduction

1. The Epping Forest Act (1878) entrusted the ownership and care of Epping Forest to the City of London Corporation as the Conservators of Epping Forest and its obligations still govern how the Forest is managed today.
2. As Trustees representatives of Epping Forest (Charity number 232990) the Conservators, staff and volunteers all work to safeguard the Forest from external pressures in an ever-evolving environment, and to enhance visitor access and experience.
3. We want to empower the beneficiaries of the charity, consisting of residents, Forest users, clubs, groups et al to have the opportunity to participate in decisions which affect the future of the Forest.
4. This document sets out the ways in which Epping Forest engages with the local community and other key stakeholders when preparing plans or projects which will affect the future of the Forest.
5. This document replaces the previous Epping Forest Statement of Community Involvement 2011.

Planning and management at Epping Forest

6. London's Great Forest – A strategy and management plan for Epping Forest 2020 – 2030 sets out plans and strategies for Epping Forest in the ten years from 2020 to 2030.
7. The plan lists a number of documents, strategies, policies and objectives, ranging from site specifically detailed Integrated Site Plans (ISP), Local Area Plans (LAP) Policy Development Notes (PDN) and Conservation Management Plans (CMP) through to more subject-specific policies and wide ranging Visitor strategies, financial and income generation plans, governance and charity reviews etc.
8. Documents at a higher level include the Open Spaces Business Plan and the City of London Corporate Plan. Together, all these documents, plans and policies are sometimes referred to as "the golden thread" to be considered in the context of organisational alignment.
9. By following the procedures contained within these documents, we ensure that our actions are fair, efficient and transparent for all, including members of staff, Forest visitors and local people.

Decision Making and Governance

10. Epping Forest is managed by the Epping Forest and Commons Committee (EF&CC), made up of twelve appointed Members of the City of London Court of Common Council, plus four Verderers, locally elected under the terms of the Epping Forest Act 1878 (Schedule 4). The Committee are also the Trustees representatives for the Epping Forest Charity. The Committee sits formally six times per year and also has many other local and project specific meetings.
11. Chairman, Deputy Chairman, Verderers and other members of the Epping Forest and Commons Committee attend local liaison meetings with Boroughs overlapping the to discuss shared issues and matters raised to Ward Councillors.
12. The Epping Forest and Commons Committee papers, minutes and agendas can be found here http://democracy.cityoflondon.gov.uk/mgCommitteeDetails.aspx?ID=122
13. A range of broader and strategic policy matters are considered by the Open Spaces Committee when necessary. A number of other Committees within the City of London have ultimate decision-making powers over financial management and budget setting, project management and other critical strategic factors. These are all overseen by the City of London Court of Common Council.
14. Further information on City of London Governance is here http://democracy.cityoflondon.gov.uk/"

Who we consult and when

15. It is vital that the needs of our charity beneficiaries (visitors, Forest users, residents et al) are fully recognised and integrated with the ecological, and financial health of the Forest and its long-term management and conservation. We understand that the ability to influence decisions on these specific, special areas is important to those who use or enjoy them.
16. As demonstrated above, matters of policy or otherwise vary widely, in subject matter, geographical area and scope for change. When a project or plan is outside of, or a change to established policy or management protocols, and there is the scope for the views of charity beneficiaries to influence or change that project or plan, then we would seek to consult using processes explained herein.
17. Charity beneficiaries may be consulted on specific local policies. However, the majority of policies are implemented at a corporate or departmental level, based on best practice, legislative changes or

efficiency purposes. These policies would not usually be subject to consultation by Epping Forest

18. We are also very aware that our consultees, be they statutory bodies, stakeholder groups or individuals are likely to be different in each case. Individuals and groups are constantly changing and those involved in one project may not be interested, present or able to be involved in the next.
19. We will abide by the UK Government Consultation Principles 2018 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691383/Consultation_Principles__1_.pdf
20. Whenever we consult, we will as far as is possible ensure that:
    a. Consultations are accessible and written or explained in plain English.
    b. The timing of consultation is appropriate to as many potential consultees as possible.
    c. Deadlines for responses from consultees are realistic and achievable
    d. Project timescales are adequate to allow full consideration of consultation responses in the next stages of that project
    e. The results of consultations, and reasoning for subsequent decisions are communicated in a timely manner (no more than 12 weeks from completion of consultation) and in an appropriate format (e.g. a similar route to the original consultation).
21. When we work in partnership other organisations, funders or statutory bodies, they may have their own consultation pathways which make take precedence or run in tandem.
22. The Forest itself crosses boundaries of multiple local authorities. We must ensure that our processes are complementary across the whole of the Epping Forest Estate.
23. Other than statutory consultation (where organisations and timescales are clearly defined) when it is important for us to provide advice and information about a plan or policy and to seek and hear the views of all of those interested in any individual area we will use the routes outlined below.

Routes for Consultation

24. There are four main routes for individuals and groups to engage with consultation processes at Epping Forest as outlined below

25. The use of these channels allows individuals and groups to choose when they wish to engage with us and on which issues.
26. Epping Forest may collate equalities data alongside some of our surveys or consultations in order to monitor the effectiveness of communication and to help us improve. Provision of this information is optional.
27. All data stored by us is kept, maintained and used in compliance with the City of London Data Protect Policy, the General Data Protection Regulation (GDPR) and all other relevant legislation.

Epping Forest Consultative Committee

28. The Epping Forest Consultative Committee (EFCC) was formed in late 2017 with its first meeting in January 2018. The full Terms of Reference of the Committee are available on the City of London Committee web pages.
29. The Epping Forest Consultative Committee considers and discusses areas of current concern or debate at Epping Forest. It receives public reports prior to their consideration by Epping Forest and Commons Committee and provides advice or opinion on those matters.
30. Minutes of meetings and outcomes of the Consultative Committee's discussions are considered by the Epping Forest and Commons Committee in a public report to inform decision making. Likewise, most recent minutes of the Epping Forest and Commons Committee are reviewed by the Consultative Committee.
31. The EFCC is not a formal decision-making body, but views will be noted in formal reports to the Epping Forest and Commons Committee.
32. Consultative Committee meetings are scheduled several weeks prior to each Epping Forest and Commons Committee to consider papers and matters arising, with sufficient time scheduled for revisions to papers to be made for Epping Forest Committee if necessary, or feedback to be noted.
33. The Consultative Committee is made up of approximately sixteen groups with local or national subject matter interest. They broadly represent the following themes of interest:

Conservation *Conservation groups in Forest, or with wider remit*	3
Friends/Voluntary *Formal working groups e.g. litter pickers groups, 'Friends of' etc.*	3
Heritage *Historical societies, rural preservation etc.*	2
Informal users *Schools, Youth groups, families associations, local forums and interest bodies*	2
Recreation	3

Recreational user groups – e.g. walkers, riders, cyclists	
Sports *Formal organised sports on Forest e.g. Golf, Football, cricket running etc.*	3
	16

34. Membership is reviewed and renewed three-yearly and administered by City of London Town Clerks Department. Agendas, minutes and other details are here http://democracy.cityoflondon.gov.uk/mgCommitteeDetails.aspx?ID=1253

35. Individuals or groups who are not Consultative Committee Members may attend the meetings (although may not always be permitted to speak) or may approach members who represent their area of interest to express and share their views.

The Forest Verderers

36. Verderers are locally elected every seven years under the terms of Schedule 4 of the Epping Forest Act 1878. Although historically they represent the Commoners of the Ancient Forest Parishes, they now fill a much broader local representation role, sitting on the Epping Forest and Commons Committee.

37. Two Verderers are elected in the southern parishes of the Forest, and two in the North, although the geographical split for elections is not necessarily carried through to their roles, and any or all may be involved in any matter across the length or breadth of the Forest.

38. All Verderers live locally and attend the Epping Forest and Commons Committee as full Members regarding Epping Forest business.

39. Contact details for the Verderers are on the City of London webpage https://www.cityoflondon.gov.uk/things-to-do/green-spaces/epping-forest/how-we-manage-epping-forest and they may be contacted for discussion on any matter concerning the management of Epping Forest. They may also proactively seek views of local organisations or individuals pertinent to projects or management themes.

Digital Consultation Platforms

40. Epping Forest uses various digital platforms to carry out consultation, from short polls and surveys through to full complex consultation on wide ranging policies.

41. Epping Forest subscribes to an online consultation portal and database provided by Inovem, accessible via the City of London website when consultations are active.

42. This database is designed specifically for consultation and subsequent reporting on large and complex matters, for example the earlier stages of the Epping Forest Strategy and Management Plan.
43. Individuals and organisations are encouraged to register their contact details, and interests should they wish, to receive notification of relevant consultation processes they may want to contribute to.
44. Individuals or groups who 'sign up' to such platforms are responsible for updating and maintaining their own contact details and preferences through that account.
45. Brief snapshot surveys may also be carried out electronically through platforms such as Survey Monkey and publicised through our literature, signage or social media feeds as below.

Face-to-face

46. In some circumstances it may be appropriate or necessary for Epping Forest representatives to consult face-to-face with individuals or groups regarding certain projects.
47. Such circumstances include new or unusual site-specific works or changes, where views of user groups and residents are critical to the planning and success of that project.
48. Face-to-face consultation events organised by us will be advertised in advance, particularly via social media or by local posters or leaflets where possible.

General Information and Notifications

49. Epping Forest share information about services, projects and important changes and events through a number of means. This may include notice of consultation surveys or meetings, Verderer elections and calls for expressions of interest for the Consultative Committee for example. These include but are not limited to:
    a. Epping Forest pages on the City of London website. https://www.cityoflondon.gov.uk/things-to-do/green-spaces/epping-forest
    b. The City of London Consultation web pages https://www.cityoflondon.gov.uk/footer/consultations
    c. Epping Forest publications and literature, particularly Forest Focus.
    d. Epping Forest news feed on Twitter @CoLEppingForest. This is staffed periodically through normal office hours.
    e. Epping Forest on Facebook @EppingForest.

f. Epping Forest on Instagram
g. Site specific signage or leaflets.
h. Local Press (especially if a legal requirement)

Contacting us

50. The postal address for Epping Forest office is:
City of London Epping Forest
The Warren
Nursery Road
Loughton, Essex
IG10 4RW

51. Epping Forest central office 24hr telephone
020 8532 1010

52. Epping Forest email address
epping.forest@cityoflondon.gov.uk

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Committees: Corporate Projects Board *[for decision]* Epping Forest and Commons Committee *[for decision]* Projects Sub *[for decision]*	**Dates:** 11 November 2020 16 November 2020 30 November 2020
Subject: Wanstead Park Ponds Project **Unique Project Identifier:** *12058*	**Gateway 2** Complex **Issue Report**
Report of: Director of Open Spaces **Report Author:** Tim Munday, Department of the Built Environment	**For Decision**
PUBLIC	

1. Status update	**Project Description:** An engineering assessment of the EA designated 'High Risk' ponds at Grade II* Wanstead Park. Identifying solutions that fulfil both the City's statutory duties and other works in the Wanstead Parkland Plan, contributing to the removal of the Heritage at Risk status **RAG Status:** Amber (Green at last report to Committee) **Risk Status:** High (High at last report to committee) **Total Estimated Cost of Project (excluding risk):** £750 000 - *1 Million* **Change in Total Estimated Cost of Project (excluding risk):** Decrease of **£7 - 11 million** since last report to Committee due to a lower requirement on the dam structures than anticipated. **Spend to Date:** *£52 000* **Source of Funding:** City Cash **Costed Risk Provision Utilised:** N/A; **Slippage:** *Change in anticipated size of works required and delay in progressing the project to Gateway 3 until Spring 2021.*
2. Requested decisions	**Next Gateway:** Gateway 3 - Outline Options Appraisal (Complex)

	Requested Decisions: 1. That additional budget of **£40 000** is approved and **£30 000** from the existing budget is reallocated to reach the next Gateway; 2. Note the categories assigned to each of the lake's dams; 3. Note the Panel Engineer's recommendation; 4. Note the revised project budget of **£190 000** (excluding risk) including reallocation of funds; 5. Note the change in extent of the project and the reduced total estimated cost of the project now at **£750 000 - 1 million** (excluding risk); 6. Approve Option **3,** to undertake a further engineering study including into the water management of the lakes.
3. Budget	1. The existing project budget of £150 000 had been allocated to progress this project to the next gateway. Of this, £77 000 was allocated for the initial engineering assessment of which only £47 000 has been needed. The remainder was allocated to staff costs, including a communication officers post which will be appointed soon. 2. It is proposed to undertake a further engineering study which is estimated to cost £70 000. To progress the recommendations ahead of proceeding to the next gateway it is requested that the £30 000 not spent on the initial engineering assessment be reallocated to the further engineering study and that a further £40 000 is allocated from central funding. 3. This project was agreed for progression outside of the fundamental review. The request to draw down an additional £40,000 from central City's Cash resources will require the approval of the Resource Allocation Sub Committee and Policy and Resources Committees. (This request will form part of the next Chamberlain's project funding update report.)

Item	**Reason**	**Funds/ Source of Funding**	**Cost (£)**
Further engineering study	It has been recommended in the initial engineering assessment.	Existing budget reallocation, Additional draw down	30 000

	<table><tr><td></td><td></td><td>of central funding</td><td>40 000</td></tr><tr><td>**Total**</td><td></td><td></td><td>70 000</td></tr></table> **Costed Risk Provision requested for this Gateway: 0**
4. Issue description	1. The scope of the project has reduced following the initial engineering assessment which now requires a change in approach. This will cause a delay in the project's progression to the next gateway as there is a need to carry out a further engineering study. 2. Wanstead Park is East London's oldest public park and considered to be London's greatest surviving designed waterscape. At its most extensive (circa 1800) there were nine artificial lakes within the Park. Five lakes remain today and form a cascade with the lower four lakes the responsibility of the City of London Corporation. A substantial proportion of the Park and Out Park were added to Epping Forest by the City Corporation between 1876 and 1880. In 2001 the Park was designated a Grade II* – 'a garden of special interest' - Registered Park and Garden (RPG) by English Heritage (now Historic England), following an earlier Grade II designation in 1987. Since 2009 Wanstead Park has been on Historic England's Heritage at Risk Register (HARR). 3. Wanstead Park faces four key challenges to its continued integrity. **Heritage** - The Park was placed on the Heritage at Risk Register in 2009 due to differences in management by the four owners and the deteriorating condition of the Park's heritage features. **Water Supply** - The largely City-owned lake cascade at the heart of the listed landscape has a long-term negative water budget with insufficient inflow and widespread leakage which is currently augmented by aquifer pumping and is likely to see future reductions in abstraction permissions if the water holding capacity of the lakes is not stabilised. **Local Flooding** - The Park is also at risk of occasional flooding from the River Roding and the City Corporation has been identified since 2012 as a private riparian owner expected to match fund in partnership upstream flood alleviation works grant-aided by DEFRA

	Reservoir Safety – In 2018, The Environment Agency designated three of the cascade's lakes, for which the City Corporation is the reservoir owner, as 'High Risk' in a risk assessment of dam safety during the Probable Maximum Flood. 4. The Wanstead Park Ponds Project was initiated in July 2019 as a Gateway 2 project to fulfil the City Corporation's statutory duties as the reservoir owner of the ponds at Wanstead Park and to identify the solutions to achieving this and other works in the Wanstead Parkland Plan, contributing to the removal of the Heritage at Risk status of the listed landscape. This was required following the Environment Agency's designation of the Large Raised Reservoirs as being 'High Risk'. The essential flood prevention works were approved for progression outside of the fundamental review. 5. Dams and Reservoirs Limited, and their Panel Engineer were contracted to undertake an initial engineering assessment of the four ponds (Shoulder of Mutton, Heronry, Perch and Ornamental Water). This was to establish the requirement for each of the pond structures and if they were currently able to safely overtop. This was undertaken to fulfil the City Corporation's statutory duties under the Reservoirs Act 1975 and the Flood and Water Management Act 2010, following the Environment Agency's designating the cascade of lakes as 'High Risk' Large Raised Reservoirs. 6. It was expected that the dam structures would be assessed against the Probable Maximum Flood, as had been the case for the Hampstead Heath Ponds Project. It was initially envisaged that the amount of work required would be similar in scope to that required to the two chains of ponds at Hampstead Heath. 7. In summer 2020 the initial engineering assessment was concluded by Dams and Reservoirs Limited. The Panel Engineer's report (Appendix 3) sets out the rationale of the assessment and makes recommendations. 8. The 'High Risk' designation did not change the categorisation of each of the lake's dams. Shoulder of Mutton, Heronry and Perch are Category C and the Ornamental Water is Category D. These categories are assigned based on the consequence of the dam's failure. The category of a dam determines the level of the safety

check, with lower consequences of failure requiring the use a less onerous performance criteria.

9. In the Panel Engineer's report (Appendix 3) it is noted that; in some cases, owners of dams decide to provide a higher degree of protection for a number of reasons that could include the marginal cost of providing higher protection or that the organisation wishes to avoid reputational loss should a dam fail. This is not considered to be necessary in this case and the categories assigned and the level of protection required are considered by Dams and Reservoirs Ltd to be appropriate.

10. The Wanstead Park cascade of lakes have dams which have been categorised as having a lower consequence of failure than was the case at Hampstead Heath. This has had ramifications on the extent of working being recommended to ensure that the dams remain safe. This has resulted in a significant reduction in the anticipated total cost of the project.

11. In the report (Appendix 3), based on the initial engineering assessment, the Panel Engineer has made recommendations for work to each of the dams and in addition recommended that a further study should be undertaken to review the interaction between the dam structures of the lowest lake, Ornamental Water, and the adjacent River Roding. The recommendations are summarised here:

Pond	**Recommendations**
Shoulder of Mutton	- Regulation of the dam's crest. - Maintenance of short grass cover to dam's embankment.
Heronry	- Regulation of the dam's crest. - Installation of a concrete edging beam. - Grass improvement to the dam's embankment. - Regrading of the dam's embankment.
Perch	- Regulation of the dam's crest. - Installation of a concrete edging beam.
Ornamental Water	- Works to ensure overtopping occurs only at overflow embankment.

	- Regulation of the dam's crest. - An 'engineered' reinforced grass system to the overflow embankment's downstream face. - A further study to understand the effects of the interaction with the River Roding.

12. The cascading nature of the lakes has been considered in the engineering assessment, specifically the mechanism for a chain reaction of failures and the capacity of the dams to accommodate this. The flooding routing undertaken demonstrates that the penultimate lake in the chain (Perch Pond) has the capacity to accommodate the required design flows without overtopping. This effectively cuts the chain in two. As such only minimal interventions have been recommended to the upper three lakes (Shoulder of Mutton, Heronry and Perch).

13. The lowest lake in the chain, Ornamental Water, which is also the lowest category of dam, does overtop in the considered flood events and it is recommended that work should be carried out to ensure this is accommodated safely.

14. The Panel Engineer also notes that the Ornamental Water sits in the effective flood zone of the River Roding (which would likely to be in flood during the considered event). Due to this there could be a greater risk of erosion from the Roding effecting the dam than that caused by the overtopping. The Panel Engineer has therefore recommended that study be undertaken to understand the complex effects of this interaction.

15. It is necessary to undertake this study ahead of proceeding to the next gateway as it will have a material impact on determining the works considered at that stage. This study would require the reallocation of funding that was not spent as part of the initial engineering assessment, £30 000 and require the further allocation of £40 000.

16. The lake system at Wanstead Park makes up a key component on the park's Grade II* listed status and long term issues with the water supply to the lakes have also been noted as a major factor in the park's Heritage at Risk status and has been raised as a significant concern by other stakeholders. The Roding/Ornamental Water Study would be an opportunity to investigate further the

	implications, particularly on reservoir safety, to changes to the water supply; including winter pumping from the Roding and other options as considered by the Wanstead Parkland Plan. 17. The Panel Engineer has estimated the costs for the recommended works on site to be approximately £500 000. The estimated total cost of the project is now likely to be up to £1 million. This is significantly less than was anticipated for the project initially which was £8-12 million. 18. The reduction in the cost of this project has a direct impact on previous funding considerations for the Wanstead Parklands Plan. As it was intended to utilise this expenditure as match funding for the wider work in the Park. A review into the implication of this will now be required.
5. Options	***1. Do nothing.*** *Should this option be chosen the project will remain delayed but will continue to progress to the next gateway. This would include a significant risk that the options proposed for work to improve the Ornamental Water would be ineffective and that further work would be required.* ***This option is not recommended.*** ***2. Follow the recommendation to carry out the Roding/Ornamental Water study.*** *Should this option be chosen a further engineering study would be commissioned and used to inform the options recommended at Gateway 3. This would result in a delay to the project.* ***This option is not recommended.*** ***3. Follow the recommendation to carry out the Roding/Ornamental Water study and investigate water supply issues.*** *Should this option be chosen a further engineering study would be commissioned including aspects concerning the water supply to the lakes. This would inform the options recommended at Gateway 3. This would result in a delay to the project.* ***This option is recommended.*** ***4. Consider the dams as having a higher category.*** *Should this option to be chosen a further review of the dams and recommendations would need to be undertaken by the Panel Engineer at additional cost and delay, with the expectation that more intrusive and expensive works would be required. The current*

	categorisation is considered to be appropriate. ***This option in not recommended.***

Appendices

Appendix 1	Project Coversheet
Appendix 2	Risk Register
Appendix 3	Wanstead Park Ponds Flood Study

Contact

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Telephone Number	020 7332 1949

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Project Coversheet

[1] Ownership & Status

UPI: 12058
Core Project Name: Wanstead Park Ponds Project
Programme Affiliation (if applicable): Not applicable
Project Manager: Tim Munday
Definition of need: The City of London Corporation has statutory duties as a reservoir owner under the Reservoirs Act 1975 to ensure the integrity of the structures within the cascade of ponds in the Wanstead Park lake system. The Environment Agency has identified three ponds as being High Risk. This project will carry out flood modelling to determine if the reservoirs meet the standards required for safe overtopping during the Probable Maximum Flood. If the engineering study finds the reservoir structures to be inadequate the City Corporation will have a statutory duty to make improvements. Potential solutions will be explored, including those that address further long-term issues affecting the ponds. Future work could be carried out in conjunction with works in the Wanstead Parkland Plan addressing the Heritage at Risk status of the park.

Key measures of success:

1) The reservoirs will comply with the statutory requirements.
2) Completion of the project without enforcement by the EA.
3) The public and other stakeholders will be kept informed during the process, of any conclusions and next steps.

Expected timeframe for the project delivery:
Original progression to Gateway 3: March - October 2020
Revised progression to Gateway 3: March 2021.

Project completion: June 2024 – January 2026 (no change)

Key Milestones: Progression to Gateway 3
Are we on track for completing the project against the expected timeframe for project delivery? No. Progression to Gateway 3 needs to be delayed to enabled more detailed engineering studies to be undertaken which will materially impact the options at that stage.
Has this project generated public or media impact and response which the City of London has needed to manage or is managing?
No, but the project is of significant interest to local stakeholders and the project includes the appointment of a communications officer.

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes:

'Project Briefing' G1 report (as approved by Chief Officer 22/03/2019):

- Total Estimated Cost (excluding risk): £150 000 (engineering assessment only) £8-12 million (anticipated total cost of project)
- Costed Risk Against the Project: £0

- Estimated Programme Dates:

Engineering assessment only: (8-10 months)

Lower Range estimate: Start: April 2019, Finish: November 2019
Upper Range estimate: Start: June 2019, Finish: March 2020

Should additional work be required the anticipated timeframe is:

Lower Range estimate: Start: December 2019, Finish: June 2024
Upper Range estimate: Start: April 2020, Finish: January 2026

Scope/Design Change and Impact: Approval by the Court of Common Council (18/07/2019) given for project to proceed outside of the Fundamental Review and for in year budget increase.

'Project Proposal' G2 report (as approved by PSC 22/03/2019):

- Total Estimated Cost (excluding risk): £150 000 to Gateway 3, £8-12 million total.
- Resources to reach next Gateway (excluding risk): £150 000
- Spend to date: £0
- Costed Risk Against the Project: 0
- CRP Requested: 0
- CRP Drawn Down: 0
- Estimated Programme Dates:

Engineering assessment only: (8-10 months)

Lower Range estimate: Start: April 2019, Finish: November 2019
Upper Range estimate: Start: June 2019, Finish: March 2020

Further works anticipated timeframe is:

Lower Range estimate: Start: December 2019, Finish: June 2024
Upper Range estimate: Start: April 2020, Finish: January 2026

Scope/Design Change and Impact: Approval by the Court of Common Council (18/07/2019) given for project to proceed outside of the Fundamental Review and for in year budget increase.

Total anticipated on-going commitment post-delivery [£]:0
Programme Affiliation [£]: Not applicable

City of London: Projects Procedure Corporate Risks Register

Project Name:	Wanstead Park Ponds Project	**PM's overall risk rating:**	High	**CRP requested this gateway**		**Average unmitigated risk**	9.1	**Open Risks**	23
Unique project identifier:	PV12058	**Total estimated cost (exc risk):**	£ 1,000,000	**Total CRP used to date**	£ -	**Average mitigated**	5.7	**Closed Risks**	0

General risk classification										Mitigation actions						CRP used to date	Use of CRP	Ownership & Action				
Risk ID	Gateway	Category	Description of the Risk	Risk Impact Description	Likelihood Classification pre-mitigation	Impact Classification pre-mitigation	Risk score	Costed impact pre-mitigation (£)	Costed Risk Provision requested Y/N	Confidence in the estimation	Mitigating actions	Mitigation cost (£)	Likelihood Classification post-mitigation	Impact Classification post-mitigation	Costed impact post-mitigation (£)	Post-Mitigation risk score			Date raised	Named Departmental Risk Manager/ Coordinator	Risk owner (Named Officer or External Party)	Date Closed OR/ Realised & moved to Issues	Comment(s)
R1	2	(10) Physical	One of the dams to the ponds collapses.	This causes a chain reaction of collapse in the other ponds resulting in rapid innundation to the surrounding area and downstream of the river Roding	Possible	Extreme	24	£0.00	N		Six monthly statutory inspections by the inspecting Engineer will be carry out and their recommendations implemented. Intermediate monthly inspection by open spaces staff will be carried out and concerns raised.	£0.00	Unlikely	Extreme	£0.00	16	£0.00		30-Mar-20	Paul Monaghan	Colin Buttery		Risk on corporate risk register (CR32)
R2	2	(1) Compliance/Regulatory	Statutory action is taken by the Environment Agency (EA)	The City of London Corporation if forced to carry out work within a fixed three year period.	Unlikely	Extreme	16	£0.00	N		Engagement with both the EA and Panel Engineer will continue to ensure they understand the sincerity and determination with which the CoLC are addressing the issue.	£0.00	Unlikely	Extreme	£0.00	16	£0.00		30-Mar-20	Colin Buttery	Colin Buttery		
R3	3	(3) Reputation	Exception is taken to the project by one or a number of stakeholder groups.	This reuslt in Legal Action against thed City Corporation and the need to defend.	Possible	Major	12	£54,000.00	N		A communciation officer will be engaged to liase with stakeholders ensuring that their perspectives and concerns are raised to the Project Team such that they can be duly considered at the earilerst stage.	£0.00	Unlikely	Major	£0.00	8	£0.00		30-Mar-20	Geoff Sinclair	Colin Buttery		
R4	2	(3) Reputation	Exception is taken to the project by one or a number of stakeholder groups.	This results in professional conduct procedures against project team members and consulatnat	Possible	Serious	6	£0.00	N		Due diligence will be undertaken before appointing consulants and contractors to ensure that they are competnant for the work they are being appointmed to. Internal staff will be expected to follow a relevant professional code of conduct.	£0.00	Unlikely	Major	£0.00	8	£0.00		30-Mar-20	All	Colin Buttery		
R5	2	(3) Reputation	Key staff members leave the organisation.	Staff leaving reduces momentum for the project and results in a lost of institutional memory.	Possible	Major	12	£0.00	N		Should a staff memebr leave additioanl organsiational reasource should be secured to carry on their duties, this should include the opportuntity for a through handover.	£0.00	Possible	Minor	£0.00	3	£0.00		30-Mar-20	Colin Buttery	Colin Buttery		
R6	2	(2) Financial	The proposed project costs exceed the alloted funding.	The project has to be halted until additional funding is identified and/or its scale of ambition reduced with consequences for the acceptability of the project.	Unlikely	Major	8	£0.00	N		Options will be developed in line with the proposed budget. Savings and efficienies will be reviewed throughout the project. The chosen option will be set in such a way as to avoid scope creep.	£0.00	Unlikely	Serious	£0.00	4	£0.00		30-Mar-20	Tim Munday	Colin Buttery		
R7	4	(2) Financial	External funding sources are not realised.	Scale of non-statutory work will have to be adjusted to suit available funding, this could adversely impact the projects acceptability	Likely	Major	16	£0.00	N		Options will be consdiered that accoutn for a broad range of funding sources with opportunities at decision stages to alter scheme on availability. The project timeline will be aligned with a HLF bid.	£0.00	Likely	Serious	£0.00	8	£0.00		30-Mar-20	Tim Munday	Colin Buttery		
R8	3	(9) Environmental	Design does not deliver an appropriate scheme.	There is a permenant adverse impact on the historic and landscape value on the park. This would damage the City Corporation's relationship with the local community and Historic England.	Unlikely	Major	8	£0.00	N		Options will be developed that seek to improve the historic and landscape value of the park, this will be done in consulation with internal heritage officer and external stakeholders were appropriate	£0.00	Unlikely	Serious	£0.00	4	£0.00		30-Mar-20	Tim Munday	Colin Buttery		
R9	3	(9) Environmental	Design does not deliver an appropriate scheme.	There is an adverse impact on the natrual environemtn of the park. This would damage the City Corporation's relationship with the local community and Historic England.	Unlikely	Major	8	£0.00			Options will be developed that seek to enhance and protect the natural environment of the park, this will be done in consulation with internal heritage officer and external stakeholders were appropriate	£0.00	Unlikely	Serious	£0.00	4	£0.00		30-Mar-20	Tim Munday	Colin Buttery		
R10	3	(9) Environmental	Design does not deliver an appropriate scheme.	There is a permenant adverse impact on the access in and around the park. This would damage the City Corporation's relationship with the local community and Historic England.	Unlikely	Major	8	£0.00	N		Options will be developed that seek to protect access in and around the park.	£0.00	Unlikely	Serious	£0.00	4	£0.00		30-Mar-20	Tim Munday	Colin Buttery		

R11	3	(9) Environmental	Design does not deliver an appropriate scheme.	The chosen option fails to address other non-statutory water issues such as leakage and supply. This may impact on the ability to demonstrate that the project is justifiable.	Possible	Major	12	£0.00	N		Outline options will be considered that will have wider impacts beyond the statutory requirements. Funding will be sort to simultaneously implement these.	£0.00	Unlikely	Major	£0.00	8	£0.00		30-Mar-20	Tim Munday	Colin Buttery		
R12	4	(1) Compliance/Regulatory	Planning permission is denied by London Borough of Redbridge	This would cause delays in programme and increase cost in either challenging the decision or changing the design	Unlikely	Major	8	£0.00	N		Designs will be developed in consulation with LBR to ensure that local plannign requirments are met.	£0.00	Rare	Major	£0.00	4	£0.00		30-Mar-20	Tim Munday	Colin Buttery		
R13	4	(1) Compliance/Regulatory	Objections are raised by involved statutory bodies (ie Historic England/EA/etc)	This would cause delays in programme and increase cost in either challenging the decision or changing the design	Unlikely	Major	8	£0.00	N		The communication strategy will identify major institutional stakeholders and will ensure design intentions are communicated to them.	£0.00	Rare	Major	£0.00	4	£0.00		30-Mar-20	Tim Munday	Colin Buttery		
R14	4	(1) Compliance/Regulatory	Corporate approval is not granted to proceed to next gateway.	The would cause delays in programme.	Unlikely	Major	8	£0.00	N		Regular updates will be given to members to keep them aware of developments to enable them to be well placed to make decisions.	£0.00	Rare	Major	£0.00	4	£0.00		30-Mar-20	Colin Buttery	Colin Buttery		
R15	5	(5) H&S/Wellbeing	Unepxected ground conditions are found on site.	The could cause delays in the programme and increase costs due to additional work.	Possible	Serious	6	£0.00	N		Preliminary ground investigations and desktop study of site.	£0.00	Possible	Serious	£0.00	6	£0.00		30-Mar-20	Tim Munday	Colin Buttery		Risk to be held by appointed contractor.
R16	5	(5) H&S/Wellbeing	Unexploded ordinances is found during works.	This poses a risk to those on site and could cause delays in the programme.	Possible	Serious	6	£0.00	N		An UXO review will be carried out before work begins onsite/ Appropriate RAMS shall be adopted.	£0.00	Possible	Serious	£0.00	6	£0.00		30-Mar-20	Tim Munday	Colin Buttery		Risk to be held by appointed contractor.
R17	4	(4) Contractual/Partnership	Appointed design contractor goes out of business.	Would delay project and could result in increased costs.	Unlikely	Major	8	£0.00	N		Due dilligence will be undertaking before appointing all contract to ensure that the appointee is sufficently capable fo undertaking the full scope of work.	£0.00	Rare	Major	£0.00	4	£0.00		30-Mar-20	Tim Munday	Colin Buttery		
R18	4	(4) Contractual/Partnership	Appointed works contractor goes out of business.	Would delay project and could result in increased costs.	Unlikely	Major	8	£0.00	N		Due dilligence will be undertaking before appointing all contract to ensure that the appointee is sufficently capable fo undertaking the full scope of work.	£0.00	Rare	Major	£0.00	4	£0.00		30-Mar-20	Tim Munday	Colin Buttery		
R19	5	(10) Physical	Unexpected utilities are found during construction.	Would delay project and could result in increased costs.	Possible	Serious	6	£0.00	N		Contarctors would be required to carry out deskstop studis to identifed any utilities, trail pits may aslo be untaken were necessary.	£0.00	Unlikely	Serious	£0.00	4	£0.00		30-Mar-20	Tim Munday	Colin Buttery		Risk to be held by appointed contractor.
R20	5	(4) Contractual/Partnership	Complaints of park users and neighbours about construction works.	Could damage relationships with key stakeholders	Possible	Serious	6	£0.00	N		The contractor will be requried to have a complaints procedure were members of the public can raise concerns, this will include feedback to the user on what is being done to resolve the issue. The contractor will be required to communicate to key stakeholders the impact of work in advance.	£0.00	Possible	Minor	£0.00	3	£0.00		30-Mar-20	Tim Munday	Colin Buttery		Risk to be held by appointed contractor.
R21	5	(5) H&S/Wellbeing	Trespass to construction sites.	Potential to delay project should damage be caused.	Possible	Serious	6	£0.00	N		Contractor will be required to have security regime and to uphold health and safety requiresment for construction sites.	£0.00	Unlikely	Serious	£0.00	4	£0.00		30-Mar-20	Tim Munday	Colin Buttery		Risk to be held by appointed contractor.
R22	5	(9) Environmental	Accidental damage to trees and other natural feature.	Damage to ecology of the park and to relationship with key stakeholders.	Possible	Serious	6	£0.00	N		Contarctor will be required to have a ecological protection plan which will need to be monitored throughout the ptorject.	£0.00	Unlikely	Minor	£0.00	2	£0.00		30-Mar-20	Tim Munday	Colin Buttery		Risk to be held by appointed contractor.
R23	2	(3) Reputation	Difficulty in appoitning a commu	Will not be able to effectively communicate with stakeholders about the project and its progress.	Possible	Minor	3	£0.00	N		Ensure that the role is attractive and competetively fundeded.	£0.00	Unlikely	Minor	£0.00	2	£0.00		20-Sep-20	Geoff Sinclair	Colin Buttery		
R24								£0.00				£0.00			£0.00		£0.00						
R25								£0.00				£0.00			£0.00		£0.00						
R26								£0.00				£0.00			£0.00		£0.00						
R27								£0.00				£0.00			£0.00		£0.00						
R28								£0.00				£0.00			£0.00		£0.00						
R29								£0.00				£0.00			£0.00		£0.00						
R30								£0.00				£0.00			£0.00		£0.00						
R31								£0.00				£0.00			£0.00		£0.00						
R32								£0.00				£0.00			£0.00		£0.00						
R33								£0.00				£0.00			£0.00		£0.00						
R34								£0.00				£0.00			£0.00		£0.00						
R35								£0.00				£0.00			£0.00		£0.00						
R36								£0.00				£0.00			£0.00		£0.00						
R37								£0.00				£0.00			£0.00		£0.00						
R38								£0.00				£0.00			£0.00		£0.00						
R39								£0.00				£0.00			£0.00		£0.00						
R40								£0.00				£0.00			£0.00		£0.00						
R41								£0.00				£0.00			£0.00		£0.00						
R42								£0.00				£0.00			£0.00		£0.00						
R43								£0.00				£0.00			£0.00		£0.00						
R44								£0.00				£0.00			£0.00		£0.00						
R45								£0.00				£0.00			£0.00		£0.00						
R46								£0.00				£0.00			£0.00		£0.00						
R47								£0.00				£0.00			£0.00		£0.00						
R48								£0.00				£0.00			£0.00		£0.00						
R49								£0.00				£0.00			£0.00		£0.00						

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Wanstead Park Ponds
Flood Study

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1 Introduction

1.1 Purpose of Study

Wanstead Park contains four reservoirs in cascade which are classified as large raised reservoirs under the provisions of the Reservoirs Act 1975. These are:

- Shoulder of Mutton Pond (Category C),
- Heronry Pond (Category C),
- Perch Pond (Category C) and
- Ornamental Water (Category D).

The meaning of the categorisation will be explained in later sections.

These reservoirs have not been subject to a flood study since the introduction of the current standards as set out in the 4th Edition of "Floods and Reservoir Safety" (FRS4) or the release of the FEH 2013 rainfall depth model.

1.2 Location

The lakes are located in Wanstead Park in in the London Borough of Redbridge, as shown in *Figure 1 and* Figure 2.

Wanstead Park is in the middle of a heavily built up area of London. The River Roding runs down the north east boundary of the Park and Ornamental Water is in the flood plain of the Roding. "The Basin" is also a reservoir under the Act but is in separate ownership and is considered to have no net effect on the flood safety of the downstream reservoirs.

For clarity the 'Basin' is situated on the golf club to the west of the chain and was inspected by myself recently. It appears to be fed by an urban drainage system to the northwest and there are two small piped feeds into the reservoir. As a result, the catchment to the north of the A12 and indeed Overton Drive as shown.

1.3 Classification of the Reservoirs

The reservoirs are classified as 'High Risk' by the EA. This definition is such that a high risk reservoir must be considered so if*, 'in the event of an uncontrolled release of water from the reservoir, human life could be endangered'* (Clause 2C(i) of the Reservoirs Act 1975 as modified by the Flood and Water Management Act 2010).

The designation of High Risk involving the situation where human life could be 'endangered' applies if:

- the likely loss of life is greater or equal to one;
- the rate of flow is greater than or equal to 3 m^3/s per metres (this is when structural damage is likely to occur);
- there is a significant population at risk of flooding to say more than 200 people or 20 businesses within the downstream flood plan;
- it also includes where infrastructure could lead to direct loss of life which could include destruction or flooding of road and rail infrastructure.

The designation High Risk or Low Risk in England merely defines whether the reservoir is subject to the legislation or not. High Risk reservoirs are subject to the legislation and Low Risk reservoirs are not. This classification is at the moment for reservoirs which hold more than 25,000 cubic metres of water above the level of the natural ground.

So, Michael Pitt's report after the 2007 floods led to suggestions to modify the Reservoirs Act 1975 and provision is made in the Flood and Management Act, 2010 to bring about amendments.

One of the amendments, which has been adopted by Wales (who has the same legislation) is the reduction in qualifying capacity to 10,000 cubic metres. The English Government is still considering this matter but at the moment is unlikely to bring in the 10,000 capacity criteria, and so 25,000 cubic metres exists.

Another suggestion was for cascades of reservoirs, such as that at Wanstead, where the capacity considered would be the total volume of water in the cascade – so you could have a situation where the volume of an individual reservoir means that the reservoir is not subject to the Reservoirs Act 1975 but because of the domino effect the total volume is more than 25,000 cubic metres (or 10,000 cubic metres if brough in) – where one dam fails and that causes the next dam downstream to fail and so on.

Once subject to the Act each reservoir is considered by the Inspecting Engineer during his 10 yearly inspection and what the consequence of failure would be.

The higher the consequence of failure then the plan is protected against larger and larger flood events. Where the failure would result in the loss of 10 or more lives then the dam has to be able to pass the most extreme event possible – the Probable Maximum Flood (PMF) – without the dam failing i.e. reducing the probability of a failure due to a flood to a very small number. The PMF has a return period of about 1 in 400,000 years.

As the consequence of failure reduces then one is able to spend less money to pass a lesser flood. However, the adoption of a lesser flood at a particular site does not mean that the flood event will be exceeded at that site and cause failure of the dam.

In some cases, owners of dams decide to provide a higher degree of protection for a number of reasons. This could include an understanding that the marginal cost of providing higher protection is not very much, or the organisation does not want to suffer any reputational loss should a dam fail.

The classification with regard to floods is as follows:

Dam Category	Consequence of failure	Safety Check Flood Flood inflow	Design Flood Flood Inflow
A	Where a breach could endanger lives in a community	PMF	10,000 year flood
B	Where a breach (i) could endanger lives not in a community, or (ii) could result in extensive damage	10,000 year flood	1,000 year flood
C	Where a breach would post negligible risk to life and cause limited damage	1,000 year flood	150 year flood
D	Special cases where no loss of life can be foreseen as a result of a breach and very limited additional flood damage would be caused	150 year flood	150 year flood

- **Design flood** - is the inflow that must be discharged under normal conditions with a safety margin provided by an accepted freeboard limit. This means that the water level in the reservoir rises but does not reach the top of the dam and start flowing over it. For an earthfill dam this could result in a situation where erosion of the downstream face takes place which if it continues could cause failure of the dam.
- **Safety Check flood** – the inflow beyond which the safety of the dam cannot be assured. This means water goes over the dam and overtopping is likely to occur and cause damage to the dam and it could fail as a result.

Thus, to try to prevent a failure of any earthfill dam due to floods one would design to the highest standard – the Probable Maximum Flood.

1.4 Key Catchment Characteristics

	Perch Pond (gross catchment)	Ornamental Water (gross catchment)
NGR (for FEH-Web Service catchment)	TQ 41900 87150	TQ 41500 88050
Catchment Area from FEH-Web Service (km^2)	0.855	1.4725
SAAR (mm)	602	601
SPRHOST (%)	22.66	24.26

1.5 Key Lake Characteristics

	Shoulder of Mutton Pond	Heronry Pond	Perch Pond	Ornamental Water
Water area from 2019 survey (m^2)	10,488	31,379	21,566	51,338
Water area shown by OS mapping	11,366	23,465	19,518	65,021
Previous estimates of water area	N/A	35,600 (Wren Group)	22,000 (Record sheet))	55,700 (Record Sheet)
Overflow level from 2019 survey (m OD)	14.20 (IL of 225mm pipe)	12.65 (sill in front of piped outlet)	11.425 (sill in front of piped outlet)	6.66 (sill in front of piped outlet)
Minimum crest elevation of Dam (m OD)	14.50 (2019 survey)	13.82 (2019 Survey & 0.5m LiDAR)	11.94 (2019 survey)	6.73 (0.5m LiDAR; from "The Canal" to the overflow)

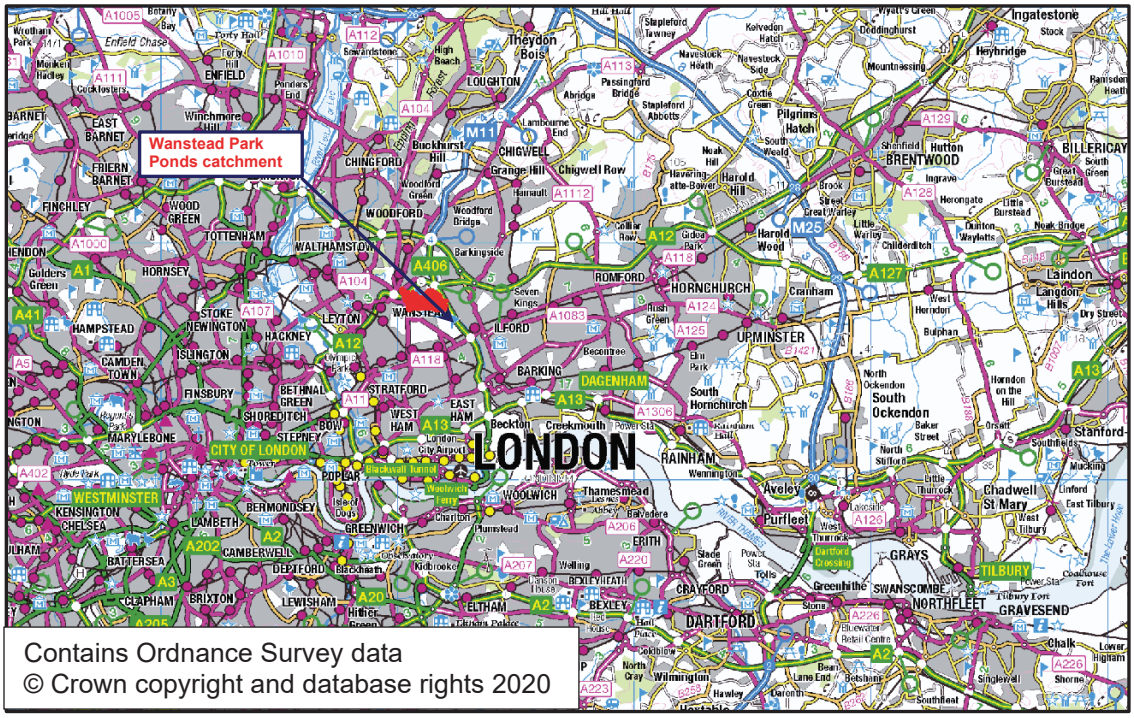


Figure 1 – Wanstead Park Ponds - Catchment Location

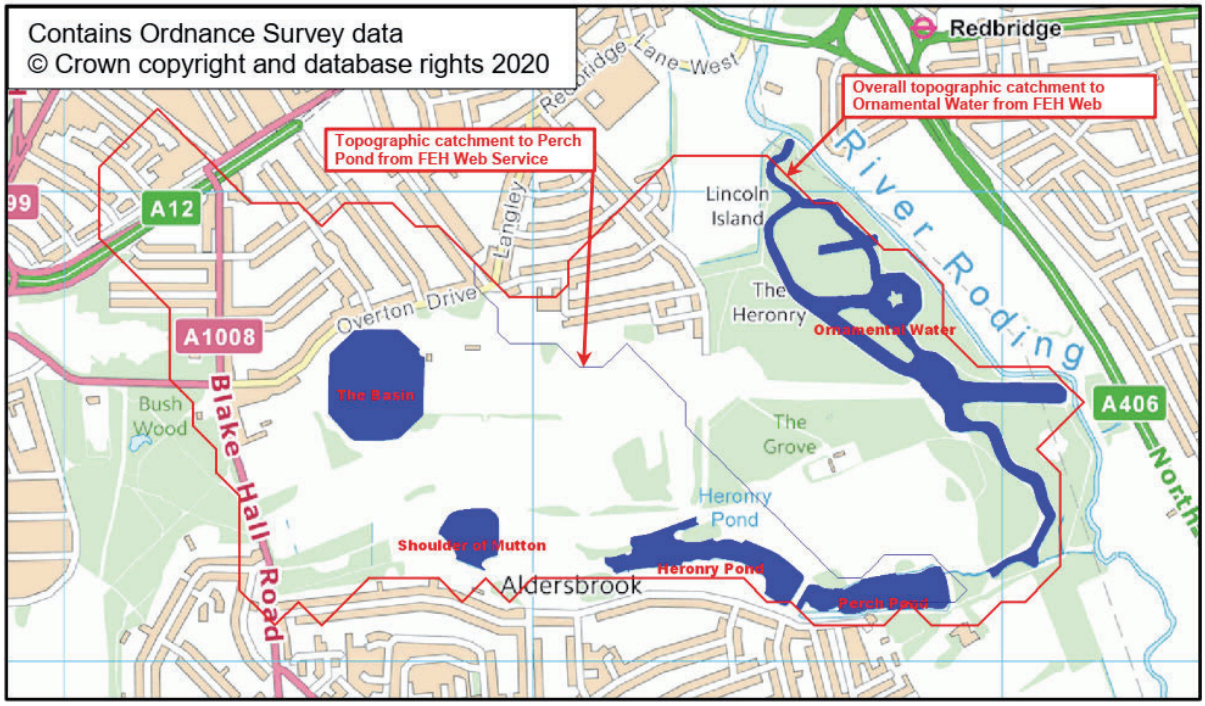


Figure 2 – Wanstead Park Ponds – Catchment Boundaries

2 Flood Assessment

2.1 Basis for Design Flood Inflow Calculations

The standard approach to spillway design flood estimation requires the use of topographic and hydrological parameters derived using the Flood Estimation Handbook (FEH) methodology as implemented in the FEH Web Service. This methodology makes use of a 100 metre resolution gridded ground model to define catchment areas, drainage paths and slopes.

The original UK Government guidelines for reservoir safety flood estimation combined the Flood Estimation Handbook (FEH) rainfall-runoff modelling technique with the rainfall depth assessment techniques previously proposed in the Flood Studies Report (FSR). This approach arose from observations that the rainfall figures, and corresponding flood flows, given by the FEH were sometimes considerably in excess of the FSR figures, particularly when considering events with return periods of some hundreds of years, upwards. The Probable Maximum Flood (PMF) was however still to be determined using the methodology set out in the FEH.

This approach has now been augmented by the “Flood Estimation Handbook Web Service”, launched in 2015, which provides “FEH2013” rainfall depth estimates which are intended to replace both the original FEH rainfall depth estimates, now referred to as “FEH1999”, and the FSR rainfall depth estimates. T-year floods (150 year, 1000 year and 10,000 year return periods) are now calculated following the FEH rainfall-runoff methodology but using the FEH2013 rainfall depth estimates.

2.2 Selection of Appropriate Flood Magnitudes

Table 2.1 of FRS4 indicates that a Category C dam should be able to accommodate a 150 year flood with no wave overtopping and pass a 1000 year flood safely. A Category D dam is required to be able to pass a 150 year flood safely. Acceptable overtopping rates are given in FRS4 together with a recommended assessment methodology.

Since publication of FRS4 in 2015, further guidance on wave overtopping flows has been published in the EurOTop manual, as set out in Figure 3. The most significant aspect of this update is that grassed embankments are deemed not to be at risk from overtopping flows when the significant wave height is less than 0.3 metres.

Table 3.1 Limits for wave overtopping for structural design of breakwaters, seawalls, dikes and dams

Hazard type and reason	Mean discharge q (l/s per m)	Max volume V_{max} (l per m)
Rubble mound breakwaters; H_{m0} > 5 m; no damage	1	2,000-3,000
Rubble mound breakwaters; H_{m0} > 5 m; rear side designed for wave overtopping	5-10	10,000-20,000
Grass covered crest and landward slope; maintained and closed grass cover; H_{m0} = 1 – 3 m	5	2,000-3,000
Grass covered crest and landward slope; not maintained grass cover, open spots, moss, bare patches; H_{m0} = 0.5 – 3 m	0.1	500
Grass covered crest and landward slope; H_{m0} < 1 m	5-10	500
Grass covered crest and landward slope; H_{m0} < 0.3 m	No limit	No limit

Figure 3 – Limits for wave overtopping from EurOTop 'Wave Overtopping of Sea Defences and Related Structures - Assessment Manual' – 2nd Edition (2016) Table 3.1

2.3 Catchment Area Allocation

The gross catchment to Ornamental Water, given by the FEH Web Service, is 1.4725 km^2 and is shown outlined in red in Figure 2. The equivalent catchment to Perch Pond is 0.855 km2 and the sub-catchment boundary is shown in black in Figure 2, whence the intermediate catchment between the two lakes is 0.6175 km^2.

On the same basis, the incremental area between Perch Pond and Heronry Pond is 0.045 km^2, the area between Heronry and Shoulder of Mutton ponds is 0.21 km^2 and the area upstream from Shoulder of Mutton is 0.60 km^2. It should be noted that the latter includes "The Basin" which is assumed to have no net effect on flood flows.

These areas have been reviewed against LiDAR elevation data and appear to be realistic, though the fringes of the catchment are significantly affected by urban development. The area is too flat for OS contours to be of use in defining catchment areas at this scale. It is considered that the Web Service areas are appropriate for reservoir safety flood calculations.

According to the S10 report for Ornamental Water, the 1984 record sheet stated that the catchment area of Ornamental Water was 2.61 km^2 of which 2.18 km^2 drained through Perch Pond, making the intermediate catchment between Perch Pond and Ornamental Water 0.43 km^2. The basis for those rather larger areas is not known but it is likely that a proportion of the, now urbanised, area to the south was originally seen as draining towards the Park; the reduction in gross catchment area relative to the earlier assessment is 1.1375 km^2.

From current OS mapping, the urban area immediately to the south of Wanstead Park is about 0.57 km^2. That area is essentially level and it is likely that a significant proportion of its surface water drainage could actually be directed towards the ponds. Despite this, the combination of flat gradients and continuous lines of houses across the possible flow routes is likely to make peak flood flows from the area relatively small. It would however be appropriate to take the potential for a flow component from this area into account when considering any possible works to the pond spillways. As an initial estimate of this effect, the gross catchment to Perch Pond has been increased by half this additional urban area to 1.140 km^2.

2.4 Flood Inflow Allocation

Following initial trial assessments, it was concluded that the most appropriate methodology would be to distribute the overall flood flows from the catchment to Perch Pond between the top three reservoirs in proportion to their direct catchment areas. The inflow to Ornamental Water is then the sum of the outflow from Perch Pond and flow from the Perch Pond to Ornamental Water intermediate catchment factored by area from the overall catchment to Ornamental Water flows.

2.5 Flood Routing Parameters

For the purposes of flood routing through a reservoir it is necessary to estimate the storage available above the overflow level and the hydraulic characteristics of the overflow arrangements.

The latest figures for the lake areas are set out in Section 1.5, above. There has been some variation in the areas quoted over time which may reflect siltation, weed growth and/or fluctuating retained water levels. For consistency, the areas given by the 2019 survey have been adopted for flood routing purposes, without allowance for increasing area with elevation.

For each pond, the dam crest has been treated as a weir with a conservative discharge coefficient of 1.4 and a profile based on a combination of ground survey and 0.5 metres LiDAR elevation data.

The Shoulder of Mutton overflow is modelled by treating the twin 225mm dia. overflow pipes as orifices. The other three pond overflows are all modelled as a weir flowed by a nominal storage connected to the next pond, or the downstream boundary, by an orifice representing the overflow pipe.

In the case of Ornamental Water, the downstream condition is initially modelled by an arbitrary fixed water elevation of 6.00 metres OD. This should ideally be replaced by water levels of an appropriate return period in the River Roding at that location, though it should be noted that Ornamental Water falls within the flood plain of the Roding and is likely to be entirely flooded from the Roding in a 100 year flood on that watercourse

2.6 Event Duration

Initial trials showed that the critical event duration varied substantially across the four lakes. The routing has therefore been carried out for a range of events of 3.5, 5.5, 7.5 and 10.5 hours in duration, based on a nominal lag for Shoulder of Mutton up to 4 hours for Heronry.

2.7 Flood Assessment and Routing Results

Shoulder of Mutton Pond	Event Duration	Rainfall Depth	Peak Flood Inflow from upstream lake	Peak Flood Inflow from direct (intermediate) catchment	Peak wave-free water level	Maximum rise above overflow level (14.20 mOD)	Maximum discharge from overflow	Maximum discharge over dam crest
Event:	hours	mm	m^3/s	m^3/s	m OD	m	m^3/s	m^3/s
10,000 year FEH2013 flood:	3.5	168	N/A	3.84	14.71	0.51	0.16	3.67
	5.5	185	N/A	3.67	14.71	0.51	0.16	3.51
	7.5	195	N/A	3.37	14.70	0.50	0.16	3.20
	10.5	203	N/A	2.91	14.69	0.49	0.16	2.75
1000 year FEH2013 flood:	3.5	121	N/A	2.50	14.67	0.47	0.15	2.34
	5.5	136	N/A	2.44	14.67	0.47	0.15	2.29
	7.5	145	N/A	2.26	14.66	0.46	0.15	2.10
	10.5	152	N/A	1.95	14.65	0.45	0.15	1.81
150 year FEH2013 flood:	3.5	83	N/A	1.54	14.63	0.41	0.14	1.39
	5.5	95	N/A	1.53	14.63	0.41	0.14	1.38
	7.5	102	N/A	1.43	14.63	0.41	0.14	1.28
	10.5	108	N/A	1.25	14.62	0.40	0.14	1.09

Figure 4 – Initial Flood Routing – Existing Conditions – Shoulder of Mutton Pond

Heronry Pond	Event Duration	Rainfall Depth	Peak Flood Inflow from upstream lake	Peak Flood Inflow from direct (intermediate) catchment	Peak wave-free water level	Maximum rise above weir level (12.65 mOD)	Maximum discharge from overflow	Maximum discharge over dam crest
Event:	hours	mm	m^3/s	m^3/s	m OD	m	m^3/s	m^3/s
10,000 year FEH2013 flood:	3.5	168	3.83	1.34	13.94	1.29	0.59	0.98
	5.5	185	3.67	1.29	13.97	1.32	0.60	1.98
	7.5	195	3.36	1.18	13.98	1.33	0.60	2.11
	10.5	203	2.91	1.02	13.97	1.32	0.60	1.94
1000 year FEH2013 flood:	3.5	121	2.49	0.87	13.49	0.84	0.45	0.0
	5.5	136	2.44	0.86	13.62	0.97	0.49	0.0
	7.5	145	2.25	0.79	13.67	1.02	0.51	0.0
	10.5	152	1.96	0.69	13.70	1.05	0.52	0.0
150 year FEH2013 flood:	3.5	83	1.53	0.54	13.13	0.48	0.31	0.0
	5.5	95	1.52	0.53	13.22	0.57	0.34	0.0
	7.5	102	1.42	0.50	13.26	0.59	0.36	0.0
	10.5	108	1.23	0.44	13.28	0.61	0.37	0.0

Figure 5 – Initial Flood Routing – Existing Conditions – Heronry Pond

Perch Pond	Event Duration	Rainfall Depth	Peak Flood Inflow from upstream lake	Peak Flood Inflow from direct (intermediate) catchment	Peak wave-free water level	Maximum rise above weir level (11.425 mOD)	Maximum discharge from overflow	Maximum discharge over dam crest
Event:	hours	mm	m^3/s	m^3/s	m OD	m	m^3/s	m^3/s
10,000 year FEH2013 flood:	3.5	168	1.57	0.28	11.65	0.23	1.21	0.00
	5.5	185	2.58	0.27	11.77	0.35	1.57	0.00
	7.5	195	2.71	0.25	11.82	0.40	1.61	0.00
	10.5	203	2.54	0.22	11.81	0.39	1.61	0.00
1000 year FEH2013 flood:	3.5	121	0.45	0.18	11.54	0.12	0.46	0.00
	5.5	136	0.49	0.18	11.55	0.13	0.51	0.00
	7.5	145	0.51	0.17	11.56	0.14	0.54	0.00
	10.5	152	0.52	0.15	11.56	0.14	0.55	0.00
150 year FEH2013 flood:	3.5	83	0.31	0.11	11.51	0.09	0.30	0.00
	5.5	95	0.34	0.11	11.52	0.10	0.34	0.00
	7.5	102	0.36	0.11	11.53	0.11	0.36	0.00
	10.5	108	0.37	0.09	11.53	0.11	0.38	0.00

Figure 6 – Initial Flood Routing – Existing Conditions – Perch Pond

Ornamental Water	Event Duration	Rainfall Depth	Peak Flood Inflow from upstream lake	Peak Flood Inflow from direct (intermediate) catchment	Peak wave-free water level	Maximum rise above weir level (6.66 mOD)	Maximum discharge from overflow	Maximum discharge over dam crest
Event:	hours	mm	m^3/s	m^3/s	m OD	m	m^3/s	m^3/s
10,000 year FEH2013 flood:	3.5	168	1.21	2.39	6.92	0.26	1.48	1.03
	5.5	185	1.57	2.41	6.94	0.28	1.50	1.58
	7.5	195	1.61	2.27	6.95	0.29	1.50	1.62
	10.5	203	1.61	2.03	6.94	0.28	1.50	1.48
1000 year FEH2013 flood:	3.5	121	0.46	1.55	6.86	0.20	1.10	0.34
	5.5	136	0.51	1.60	6.87	0.21	1.20	0.44
	7.5	145	0.54	1.52	6.88	0.22	1.21	0.45
	10.5	152	0.55	1.37	6.87	0.21	1.18	0.41
150 year FEH2013 flood:	3.5	83	0.30	0.95	6.81	0.15	0.68	0.08
	5.5	95	0.34	1.00	6.82	0.16	0.77	0.12
	7.5	102	0.36	0.96	6.82	0.16	0.80	0.14
	10.5	108	0.38	0.87	6.82	0.16	0.79	0.13

Figure 7 – Initial Flood Routing – Existing Conditions – Ornamental Water

3 Ornamental Water and EA Flood Information

3.1 EA Flood Zones and River Levels

Figure 8 shows the location of Ornamental Water relative to the Environment Agency's Flood Map for Planning (Rivers and Sea) Flood Zones 2 and 3, February 2020 release. It is clear that Ornamental Water falls entirely within Flood Zone 2 where flooding is expected, on average, once in 1000 years.

Flood elevations from the modelling used as the basis for the flood zones have been obtained from the EA and can be found in Appendix B to this report. Water levels for selected locations are also shown in Figure 8.

Comparison with the lake flood levels in Figure 7 shows that the maximum calculated level of 6.9 5metres OD in a10,000 year event is only 0.43 metres above the 1 in 100 flood level in the adjacent main river as estimated by the EA. Additionally, the 1000 year river levels are above the surveyed embankment levels for Ornamental Water.

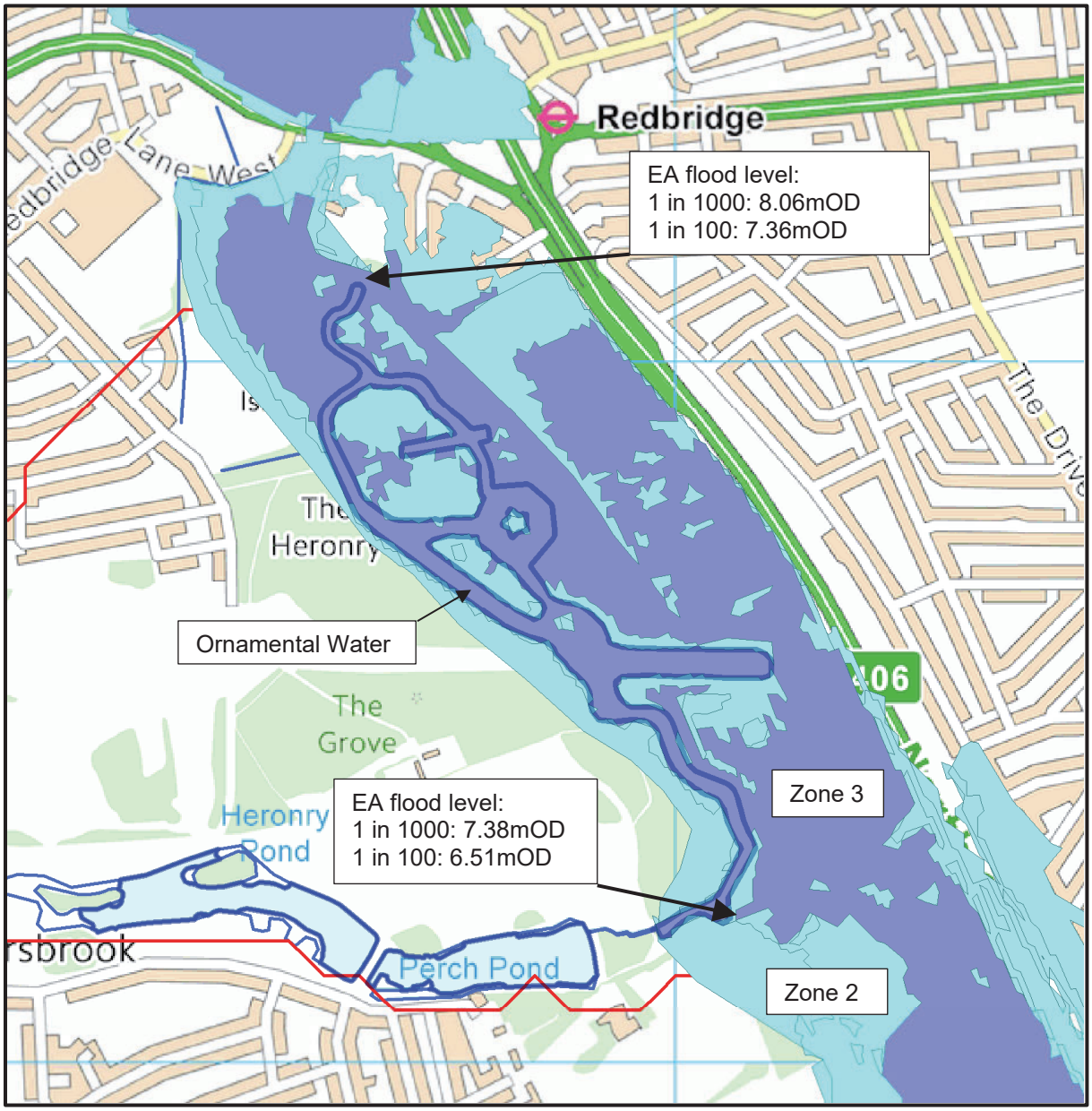


Figure 8 – Flood Zone Mapping and Ornamental Water

4 Conclusions

The results are taken in turn from the top of the cascade.

4.1 Shoulder of Mutton

One can see that, for the Shoulder of Mutton, which is a very low embankment at the top of the cascade, is overtopped during the 1000 year event by about 5.5 hrs with a maximum discharge of about 2.3 cumecs. This sort of flow could be easily accommodated over the long low embankment as long as the grass cover is good without any significant damage. The embankment is likely to withstand the safety check flood without failure, as long as the embankment crest is kept as level as possible and the grass cover is maintained and the grass cut short.

Works here should include some regulation of the crest at the left-hand end (when viewed looking downstream).

4.2 Heronry Pond

At Heronry Pond, the safety check flood causes the water level to rise but the 1,000 year event is retained within the embankment and no overtopping occurs and the still water flood event stays within the embankment crest.

Even in the 10,000 year event the embankment is only overtopped for 5 hrs or so by up to 2 cumecs. Again, an embankment of this size, with a level crest and a good grass cover might be damaged, but is not likely to fail. It would be necessary to try to keep the crest level, and to maintain a good grass cover on the downstream face.

Here works would include regulation of the crest and installation of a concrete edging beam to 'control' the flow. Grass improvement and some regrading of the downstream face would be beneficial.

4.3 Perch Pond

The next reservoir in the cascade has a significant surface area, albeit smaller than Heronry Pond, and a freeboard which is able to absorb the inflow from both the 1,000 and 10,000 year events.

Some benefit would be advised by regulating the crest, raising the crest at the right-hand end and installation of a concrete edging beam to again control the flow.

4.4 Ornamental Pond

Here there is significant overtopping in the 1,000 year and 10,000 year events. As a Category D dam, the safety check flood and design flood is the 150 year event, which fills the reservoir and causes a small degree of overtopping.

The interaction of the dam within the River Roding could mean that there is a greater risk of erosion from the Roding rather than from the dams above.

Thus, **I recommend a study be undertaken to understand the effect of the interaction of the River Roding and works which might be put into effect not only to protect the structure from failure of the dams or from flooding from the River Roding.**

4.5 Summary

My recommendation to safeguard the system of reservoirs, is to ensure that the levels of the embankment at the river are such that overtopping occurs only at the 'overflow embankment' and here the crest is regulated and the downstream face is 'engineered' with a reinforced grass system to provide some erosion resistance.

The City of London should consider these reservoirs as a formal cascade in which case it might be sensible to do elements of improving the resilience of dams on the cascade to cope with the larger floods and protect the reputation of the City.

5 Costings

A very rough estimation of costings are as follows (including preliminaries).

		Costings	Consideration as a cascade
Shoulder of Mutton		£40k	£40k
Heronry Pond		£60k	£150k
Perch Pond		£60k	£150k
Ornamental Pond		£80k	£120k
	Total	£240k	£460k
	Say	£250k	£500k

Dr A K Hughes

Committee(s)		Dated:
Epping Forest Consultative – For consultation Epping Forest and Commons – For decision		21102020 16112020
Subject: The Grotto, Wanstead Park: Conservation Management Plan (SEF 22/20b)		**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?		**11, 12.**
Does this proposal require extra revenue and/or capital spending?		**N/A**
Report of:	Director of Open Spaces	
Report Author:	Geoff Sinclair, Head of Operations, Epping Forest Julian Kverndal, Senior Historic Building Surveyor, City Surveyors	**For Decision**

Summary

The Grotto was constructed within the designed landscape of Wanstead Park as an ornamental building known as a folly, during the height of the 18th Century Picturesque Movement. The building originally consisted of a boathouse and a first floor shellwork entertaining room possibly with servant quarters at the rear. Constructed between 1760-64 by the second Earl Tylney, the building was subsequently listed Grade II in 1954, within a wider Grade II listing for the Registered Park and Garden, which was revised to Grade II* in 2001. Following a devastating fire in 1884 which destroyed much of the building, The Grotto façade has been retained as an enigmatic ruin which continues to be a popular focal point in Wanstead Park, as well as an important remaining component of the designed Parkland landscape.

The condition of the remaining elements of The Grotto are now at a point where significant interventions are required to ensure their future, with the folly being added to the Heritage at Risk Register (HARR) in 2017. Two further key concerns are highlighted: The Grotto presents an ongoing Health and Safety concern and being on the HARR means the Local Authority has the right to undertake repairs and recharge the City of London Corporation the full cost for doing so. This report outlines the conclusions of The Grotto, Wanstead Park Conservation Management Plan prepared by Alan Baxter Ltd (Appendix 1).

Recommendation(s)

Members are asked to:

i. Adopt The Grotto Conservation Management Plan as a resource to guide the management, fundraising planning and investment decisions of the Wanstead Park Project Board.

Main Report

Background

1. Wanstead Park is East London's oldest public park and considered to be London's greatest surviving designed waterscape. At its most extensive (circa 1800) there were nine artificial lakes within the Park. Five lakes remain today and form a cascade with the lower four lakes administered by the City of London Corporation.

2. Following a spectacular decline in the 1820s, followed by 60 years of neglect a substantial proportion of the Park and Out Park were added to Epping Forest by the City Corporation between 1876 and 1880. Other parts of the original Park were later purchased by the London Borough of Redbridge and the Wanstead Sports Ground Limited. The City Corporation originally managed the acquisition as a formal Public Park under its 'ornamental grounds' power, before changing the management approach post-1945 to fully revert the site as part of Epping Forest.

3. The Park has been subsequently listed as a Grade II* – 'a garden of special interest' - Registered Park and Garden (RPG) by English Heritage (now Historic England) in 2001, following an earlier Grade II designation in 1987 and has been on Historic England's Heritage at Risk Register (HARR) since 2009. In 1954, The Grotto and the Temple were designated as Grade II Listed Buildings, while in 1970 the Wanstead Park area, including parts of Overton Drive, was designated as a Conservation Area. The Wanstead Park Conservation Area was added to the HARR in 2010 while The Grotto was separately added to the HARR in 2017.

4. The Grotto is one of a series of follies – buildings built primarily for decoration - constructed in the Park between 1760 and 1764 by the 2nd Earl Tylney, acting as both a boat dock and shellwork entertaining room possibly with servant quarters at the rear. Grottos were natural or artificial caves which formed a decorative feature within a number of large 18th century gardens. The Grotto is located on the banks of the Ornamental Water, the largest and lowest lake in the cascade, in the eastern section of Wanstead Park. It is an enigmatic focal point situated at the boundary between the more formal early eighteenth-century landscape and the more naturalised, Picturesque, later eighteenth-century landscape. It is considered emblematic of the Park's important eighteenth-century phase of landscape design and has been a notably popular feature in the Park for visitors, both in its 18th Century heyday and for people today.

5. Only two years after it was acquired by the City Corporation, The Grotto was severely damaged by a fire, which destroyed the internal rooms and left only the front façade and a few other sections of the building standing. The structure was insured for £1,000, considerably less than the cost of £2,000 for the materials alone spent in the 1760s, and it was subsequently decided by the City Corporation not to restore The Grotto.

6. The general impression of the extant Grotto structure today is that it is in a poor condition, the result of vandalism and continued decline despite various consolidation schemes instigated to safeguard the remaining elements of The Grotto. Richard Griffiths Architects' reported on the repair and reuse of The Grotto in 2011 for the City Corporation and identified fourteen areas of concern with The Grotto Structure. Significant unknowns are the nature of the foundation of the façade wall and how the fluctuation of the water level in the Ornamental Waters affects the stability of the wall.

7. Alan Baxter Ltd were commissioned in November 2018 to liaise with key stakeholders and prepare a Conservation Management Plan (CMP) for The Grotto. The CMP approach has been developed by Historic England and the National Heritage Lottery Fund as a tool to help manage change in historic features, bringing together an understanding of what matters and why, and how to conserve and manage it. From this informed basis, plans are then used to develop programmes of repair, restoration or to draw up proposals for change.

8. This report outlines the CMP prepared by Alan Baxter Ltd and presents recommendations on the next steps to be taken.

Current Position

9. Wanstead Park is presently the focus of four significant project streams for the City Corporation and the other Park landowners, with the management of The Grotto sitting alongside these projects, namely:
    a. *Heritage Management:* On the 18 November 2019, your Committee approved the Wanstead Park Parkland Plan which set out a management approach to help move towards the removal of the Park from the HARR.
    b. *Large Raised Reservoirs*: In November 2019, after a 3-year hiatus, the Environment Agency informed the City Corporation that three of the reservoirs at Wanstead Park that hold more than 25,000 cu m of water above ground level are to be revised following a national reassessment of large raised reservoirs to a 'High Risk' Category. The implications of this change form part of an Engineering assessment being undertaken by the City Corporation's Department of the Built Environment (DBE) and was completed in September 2020.
    c. *Flood Alleviation Scheme*: The City Corporation is a significant riparian landowner in relation to the River Roding. To better manage the flood risk in the Roding catchment at South Woodford and Wanstead, the Environment Agency is proposing the construction of a £7.5 million Flood Storage Scheme (FSS) on farmland at Ongar. The Environment Agency expects the cost of the scheme to be part-funded by riparian owners,

including the City Corporation, on a discretionary non-statutory basis. The London Borough of Redbridge has pledged £517,000 towards the project.

d. *Water supply.* Detailed hydrological assessments undertaken by specialist engineers have shown that there is insufficient natural water to keep the lakes filled. Water losses from leakage and evaporation outstrip the amount of water entering the lakes and if water is not pumped into the lakes, they would ultimately be much reduced in size, if not lost. The City Corporation has been advised that increasing pressure for drinking water in London could lead to increased restrictions on the City Corporation's ability to pump water into the lakes. Finding a solution to this issue is an important longer-term management challenge that underlies much of the Parks future development proposals.

10. A Wanstead Park Project Board was established by the Director of Open Spaces and the City Surveyor in summer 2019 to coordinate the City Corporation's response to these significant project streams.

11. The Grotto, Wanstead Park: Conservation Management Plan (CMP) is provided in full, at Appendix 1 and outlined in paragraphs 12-16 below. The aim of producing the CMP is to help the City Corporation to remove The Grotto from the HARR and to help determine a successful and sustainable future for The Grotto.

Proposals

Overview of the CMP

12. The Grotto CMP provides a comprehensive and interdisciplinary evaluation of The Grotto today, including a summary of existing knowledge about its historical development (Chapter 3) as well as a consideration of its current condition and eCity Corporationogy. This information was then shared with both internal and external stakeholders, (Chapter 2) as well as discussed at two workshops, both of which helped to clarify the requirements for removing The Grotto from the HARR and to outline a proposed medium-term solution for The Grotto's future. A series of recommended policies and an action plan to help the City Corporation to achieve this end are set out in Chapter 5.0 and Chapter 6.0 respectively.

Significance of The Grotto

13. The cultural importance of The Grotto was assessed using criteria set out in Historic England's *Conservation Principles, Policies and Guidance* (2008). This makes use of four different value groups; Evidential Value, Historic Value, Aesthetic Value and Communal Value (Page 23) with the significance assessment an amalgam of these values. Alan Baxter Ltd added a fifth value, ECity Corporationogial Value, to their signifance assessment process for The Grotto.
    a. *Evidential Value* (Page 24): The Grotto offers evidence for one of the ways in which historic landscapes were embellished. This is limited by the fact that there are many other similar examples;
    b. *Historic Value* (Page 24): The historic value of The Grotto primarily derives from its association with the Childs family and the fact that, despite its ruined state, it is one of the few legible reminders of the important mid-eighteenth century phase of landscape design. This is strengthened by

two additional factors, the high level of documentation and the juxtaposition with the Temple, a contempoary structure constructed in a contrasting archaeological style;

c. *Aesthetic Value* (Page 26):The aesthetic value of The Grotto derives primarily from the surviving legibility of its complex design (especialy the front façade and legibility of the original structure outline (Page 27) and a unique multi-use history;
d. *Communal Value* (Page 26): The Grotto is one of the most recognisable features of Wanstead Park today with a continuity of interest from the time of the Tylney family to the late 19th century.
e. *ECity Corporationogical Value* (Page 26): The Grotto provides eCity Corporationogical niches not found elsewhere in the Park with crevices and cavities in walls, arches and alcoves of particular note for bat roosts.

14. As a landscape and waterscape feature The Grotto's overall significance is fundamentally connected to its setting (Page 28) and it is highly sensitive to changes within it. Historically the setting of The Grotto at the edge of a lake and framed by dark, dense, overhanging tree cover would have added to its sense of mystery and magic. Three developments were identified which have detracted on The Grotto's overall significance:

    a. *Vegetation changes*: Over the last 5-10 years vegetation management has undermined The Grotto's role as a surprising incident that is alternatively obscured and revealed as an observer journeyed around the park;
    b. *Water Level*: The relationship of the Ornamental Water and The Grotto is of fundamental importance to its overall significance with the prolonged low water levels of the lake obsuring this key relationship;
    c. *Galvanised steel fence*: The current fence installed to protect The Grotto from Anti-Social Behaviour undermines visitor's appreciation of The Grotto.

Policy Recommendations

15. A conclusion of the CMP is that The Grotto is at a turning point in its history (Page 33). It is over a century since it was severely damaged by fire and since then the structure has continued to decline alongside the cumulative loss of material undermining the current visitors' appreciation of The Grotto's significance.

16. Working with the key stakeholders (Page 7) to identify a sustainable future for The Grotto and to see its removal from the HARR it was considered that in the medium term the City Corporation should, as far as possible, restore the façade to its 18th century appearance. Eight key priorities were identified (Page 33) for the City Corporation to consider:

    a. *Responsibilities and maintenance*: the split management between the City Surveyors and Epping Forest departments of the City Corporation means that careful co-ordination is required in its ongoing management and maintenance.
    b. *Structure and surviving fabric*: the works required to achieve a restored façade needs to be defined further.

c. *Security*: one of the main concerns throughout the twentieth century has been the security around The Grotto. The location and form of these security measures needs to be carefully considered.
d. *Accessibility*: it is proposed that City Corporation should explore opportunities to enhance public access to The Grotto where possible.
e. *Interpretation and presentation*: A well thought out and creative scheme of interpretation, which places The Grotto in its wider setting and context, would enhance visitors' appreciation of The Grotto's significance.
f. *ECity Corporationogy*: careful thought will be needed in order to balance the eCity Corporationogical and heritage significance of The Grotto.
g. *Relationship to the Ornamental Water* (immediate setting): The Grotto was designed to be seen and experienced primarily from the water. The fact that due to low water levels there is little appreciation of this relationship today detracts from The Grotto's significance. Other elements of The Grotto's immediate setting, notably planting and views also need to be taken into account.
h. *Relationship to Wanstead Park* (wider setting): as part of a designed landscape The Grotto's relationship to the wider Park is an important consideration in its future development and management and should be seen in the context of the wider, future vision for the Park as a whole.

Options

17. Your Committee are asked to consider two options:

18. **Option 1**: It is proposed that The Grotto Conservation Management Plan be adopted as a resource by the Wanstead Park Project Board to guide the management of The Grotto.

19. The Restoration and maintenance plan (the first item in the above Action Plan table) will produce costed options, all of which should remove The Grotto from the HARR. These options, some of which will help identify potential uses of the property, will be reported to your Committee in due course, along with a recommendation to seek appropriate funding. **This option is recommended.**

20. **Option 2**: Do not approve the use of The Grotto Conservation Management Plan in planning and developing conservation polices for The Grotto.

21. This would prevent progress towards stabilising the current structure with the consequent cointinued decline of a Grade 2 Listed Building and it will remain on the HARR. **This option is not recommended**

Key Data

22. Each of the eight key priorities were made up of polices with 39 recommendations to the City Corporation in total. Nineteen of these policies related to additional studies and reports which would contribute to the removal of The Grotto from the HARR. These were compiled into a costed prioritised 'Action

Plan' (page 43) summarised in Table 1 below. This identified an essential spend of £57,500 with an annual cost of £2,750 for monitoring fabic loss, an advisable spend of £19,500 and desirable spend of £8,000.

Table 1:

Work Required	Est Cost (£)	Urgency
Restoration and maintenance plan	35,000	Essential
Structural investigations into The Grotto's foundations and historic bridge	20,000	Essential
Installation of CCTV	2,500	Essential
Monitoring loss of historic fabric	2,750/year	Essential
Feasibility Study into different potential uses of The Grotto	TBC	Essential (long-term)
Archaeological and geological recording of loose material	13,000	Advisable
ECity Corporationogical surveys	4,500	Advisable
BS5837 tree survey	2,000	Advisable
Interpretation boards	8,000	Desirable

23. The remaining 20 policies relate to management procedure and process related to The Grotto, with the first policy being, " The Conservation Management Plan will be formally adopted as policy by the City Corporation as one of the principal sources of guidance in the management of The Grotto".

Corporate & Strategic Implications

Strategic implications

24. Open Spaces Department Business Plan: The Alan Baxter Ltd Grotto CMP exercise and background research follow from three of the Open Spaces Department's Strategic aims of: providing high quality accessible open spaces, involving communities in site management and adopting sustainable working practices.

25. Corporate Plan 2018-23: The Alan Baxter Ltd Grotto CMP exercise and background research meets the objective of the Corporate Plan to provide thriving and biodiverse green spaces and urban habitats.

26. Statement of Community Involvement: The City of London has consulted on the preparation of the original Conservation Statement for Wanstead Park (2011) and in 2015 consulted on the LDA Wanstead Park: Parkland Plan. The Alan Baxter Ltd Grotto CMP was prepared in consultation with key stakeholders, including The London Borough of Redbridge, Historic England, Natural England, Friends of Wanstead Parklands, The Georgian Group, The Wren Group, London Parks and Gardens Trust.

Financial implications

27. An 'Essential' spend of £57,500 has been identified in the CMP. The Cyclical Works Programme (CWP) budget for 2020/2021 has allocated the sum of £65,000 towards these works. Further CWP bids for funding can be made, but with the current reviews of the CWP programme and Capital spending priorities it is likely that your Committee will need to consider wider fundraising opportunities to support any restoration of the building.

28. Grant support mechanisms. The Wanstead Park Project Board are investigating Lottery funding for works in Wanstead Park. Some of this CMP's proposals may be appropriate to form part of any Lottery funding application.

29. Local authorities (in this case the London Borough of Redbridge) have the right to undertake essential repairs to listed buildings where the owner fails to do so and recharge their costs, including officer time, legal charges and the actual repair costs to the owner.

Legal implications

30. Subject to the provisions of the Epping Forest Acts 1878 & 1880 the Conservators are under a duty at all times to keep Epping Forest uninclosed and unbuilt on as an open space for the recreation and enjoyment of the public. They are also under a duty at all times as far as possible to preserve the natural aspect of the Forest.

31. The Epping Forest Act 1880 includes an additional power at section 5 to maintain *" ornamental inclosed lands"* which most probably reflects the City Corporation's purchase of Wanstead Park in 1880 and requires the Conservators to make proper provision for securing the enjoyment thereof by the public for exercise and recreation at all reasonable times during the day.

32. The CMP has been prepared in the context of the Conservators' statutory functions.

33. Apart from general Occupiers Liability Acts responsibilities, there is no specific heritage duty on owners of registered parks and gardens to take steps to have them removed from the HARR. However, taking steps to address the issues which have led to entry on the register is consistent with the Conservators' statutory functions and objects of the charity.

Charity Implications

34. Epping Forest is a registered charity (number 232990). Charity Law obliges Members to ensure that the decisions they take in relation to the Charity must be taken in the best interests of the Charity.

Risk implications

35. Specialist building assessments have shown that the façade of The Grotto is at risk of City Corporationlapse and falling masonry is a regular occurrence and a Heritage as well as Health and Safety concern. Low water levels in the Ornamental means that the existing surrounding fence to exclude people is regularly bypassed, despite it being extended, and the site is frequently a gathering point for unauthorised users to socialise.

36. The essential actions proposed for being progressed will clarify the structural integrity of The Grotto and may further highlight public safety concerns.

Equalities implications

37. The Grotto is currently not subject to public access. An equalities assessment would need to address access implications once the Feasibility Study was concluded.

Climate implications

38. None.

Security implications

39. None.

Epping Forest Consultative Committee

40. Members of the Epping Forest Consultative raise the following issues:

- A request that trees be felled towards the front of The Grotto which were blocking views and potentially impacting the structure;
- A query on the measures being taken to ensure the security of The Grotto from anti-social behaviour;
- The suitability of creating a moat around The Grotto;
- The need for a simple issues report concerning Wanstead Park.

41. It was reported at the meeting in response to these questions that recent tree felling in the area of The Grotto to create views had been criticized by the consultants in the CMP and that going forward there was a need to discuss more fully with key stakeholder the implications of further tree felling. Regarding the security of the site, there are presently no proposals to remove the surrounding fence and secure the lake levels which further adds to the security but is however a significant problem. The possibility of CCTV being installed is being

investigated by the City Surveyors Dept. Locating The Grotto within the confines of a moat is a significant design modification and at this stage of the CMP the priority is securing the stability of the façade and wider design modifications are later developments. An issues report for Wanstead Park is shortly to be presented to members of your Committee and Members of the Epping Forest Consultative Committee were reminded of the Wanstead Park Briefing Report presented to them in October 2018.

Conclusion

42. It is over a century since The Grotto was severely damaged by fire and since then the remaining structure has continued to decline. The Grotto is at a turning point in its history and there is a pressing need to resolve significant concerns on the structural integrity of the remaining elements of The Grotto both for Heritage and Health and Safety reasons.

43. The Grotto is a significant and distinctive element of the Grade II* Registered Park and Garden Wanstead Park as well as it being a Grade II Listed Building. The Park, Grotto and Conservation area have been included in the HARR by Historic England. The London Borough of Redbridge has the right to undertake any necessary repairs and recharge the City Corporation for their full costs in doing so.

44. The CMP prepared by Alan Baxter Ltd, in consultation with key stakeholders, draws together an extensive body of research and identified a medium-term strategy that could with the correct fundraising strategy achieve the removal of Grotto from the Heritage at Risk register. It is therefore proposed that the plan be adopted as a resource to guide the investment decisions and fundraising planning of the Wanstead Park Project Board.

Background Papers

- Richard Griffiths Architects Report on the repair and reuse of The Grotto, Wanstead Park (2011)
- Wanstead Park: Landscape conservation and regeneration progress update. Epping Forest and Commons Committee, 11th May 2015
- Wanstead Park: - Briefing note for Members, Epping Forest and Commons Committee, 11th September 2017
- Wanstead Park: - Briefing note for Members (SEF 38/18), Epping Forest Consultative Committee, 10th October 2018
- Wanstead Park: Conceptual Options Plan and Cost Planning Study – Rev J

Appendices

- Appendix 1 – The Grotto, Wanstead Park Conservation Management Plan, September 2019

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The Grotto, Wanstead Park
Conservation Management Plan
Prepared for City of London Corporation
September 2019



Alan Baxter

How to use the Plan

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Navigation

The document can be navigated in several ways:

- Via the bookmarks panel on the left hand side of the screen (revealed by clicking ).
- Clicking on hyperlinks in the contents page or embedded in the text (identified by blue text).
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The Grotto, Wanstead Park
Conservation Management Plan
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CITY OF LONDON

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Executive summary

Purpose

The aim of this Conservation Management Plan (CMP) is to help the City Corporation to remove the Grotto from the Heritage at Risk Register and to help determine a successful and sustainable future for the Grotto. It provides a framework for making decisions about the Grotto's future and also sets the direction of travel for emerging proposals. To this end, various options for the future of the Grotto were discussed at the two stakeholder consultation workshops.

The outcome of this consultation was a consensus that the most realistic path for removing the Grotto from the Heritage at Risk Register whilst not precluding a building (whether that is a full or partial restoration or a new build) in the longer-term, would be to restore the façade to its eighteenth-century appearance (as far as possible) and improve its setting. This was considered to be a realistic medium-term ambition which would substantially improve visitors' appreciation of the Grotto's significance.

Context

The CMP should be read in the context of:

- the need to repair the structure and decide on a sustainable future in order to remove the Grotto from Historic England's Heritage at Risk Register
- the designation of Wanstead Park's water bodies as 'high risk' by the Environment Agency in November 2018, which means that statutory remedial works must be undertaken by 2021
- the City of London Corporation's vision for Wanstead Park as a whole, set out in recent documents such as Chris Blandford Associates' 2011 *Conservation Statement* and Ref-F of LDA Design's *Conceptual Options Plan*
- the City Corporation's statutory obligations under the 1878 and 1880 Epping Forest Acts to maintain 'the natural aspect' of the Forest – an aesthetic judgement based on the principles of the picturesque movement – which includes follies designed to enhance the character of the Forest, together with its power to maintain any buildings and ornamental inclosed lands
- the London Borough of Redbridge's proposals for the preservation or enhancement of Wanstead Park set out in the *Wanstead Park Conservation Area Preservation and Enhancement Scheme Supplementary Planning Document* (2007)

Description and history

The Grotto is located on the banks of the Ornamental Water, in the eastern section of Wanstead Park in the London Borough of Redbridge. It is statutorily listed at Grade II and was added to Historic England's Heritage at Risk (HAR) Register in November 2017. The Wanstead Park Grade II* Park and Garden has been on the HAR Register since 2009, together with the Wanstead Park Conservation Area which was added in 2010. The London Borough of Redbridge has also designated the Park a Tier 1 Archaeological Priority Area, a Site of Metropolitan Importance for Nature Conservation and a Conservation Area.

The Grotto was constructed c. 1760–64 by the 2nd Earl Tylney. In 1882 a portion of the Park, including the Grotto, was sold to the City of London Corporation. Only two years after this, the Grotto was severely damaged by a fire, which destroyed the internal rooms and left only the front façade and a few other sections of the building standing. During the twentieth century it was subject to vandalism but various consolidation schemes have been instigated in the last twenty years.

Current condition

A number of condition surveys have been undertaken in the last decade, all of which have concluded that the Grotto is in poor condition with some areas at risk of collapse. This is due primarily to the exposure of the structure to plant growth and weather, the combination of which has resulted in decay and loss of areas of soft, red brickwork which in turn have undermined the structure's overall stability. This has been exacerbated by two further factors. Firstly, the problems associated with the numerous pieces of embedded ironwork and use of very hard cement mortar in previous repairs when compared to the original lime mortar construction. Secondly the inherent weakness of the Grotto's structure which includes many voids and hollows, some designed and some the result of wildlife activity.

Therefore, whilst recent repairs have stabilised certain areas in the short-term, the whole structure will continue to be at risk in the medium to long-term unless works are implemented which protect the structure from the effects of plant growth and weather as well as address the Grotto's inherent structural problems.

Current ecological condition

The Grotto's walls, arches, and alcoves support several crevices and cavities. These provide nest sites for birds such as wren and potentially others such as kingfisher (which nested in the past), pied wagtail, etc. These crevices and cavities also have high potential to support bat roosts of species such as common pipistrelle, soprano pipistrelle, Daubenton's bat, etc.

The recent clearance of vegetation from the land around the Grotto has left disturbed ground which has largely been colonised by ruderal plant species of no significant ecological value. The lake side of the Grotto supports a very small strip of marshy grassland and beyond is a large area of emergent vegetation – these habitats are of some ecological value supporting invertebrates, birds, etc.

Significance

The Grotto is an enigmatic focal point in Wanstead Park, situated at the boundary between the more formal, early eighteenth-century landscape and the more naturalised later eighteenth-century landscape. It is emblematic of the Park's important eighteenth-century phase of landscape design and today, as historically, it is experienced both as an intriguing and surprising incident, alternately obscured and revealed along tours of the Park, as well as reflected in long views across the Ornamental Water.

It is the surviving fabric of the Grotto, rather than its ruined state, which is of heritage significance. Therefore its current condition partially obscures the aesthetic value of the Grotto's historic design. Historically the Grotto housed three uses, a boat dock, a grotto dining/entertainment room and keepers' accommodation. Whilst multi-use landscape buildings were common during the eighteenth-century, this combination of uses housed in a building of rustic style is highly unusual.

As a landscape and waterscape feature the Grotto's overall significance is fundamentally connected to its setting and it is highly sensitive to changes within it. Historically the setting of the Grotto at the edge of a lake and framed by dark, dense, overhanging tree cover would have added to its sense of mystery and magic. However, the recent vegetation clearances and drop in water level mean that the Grotto is currently disconnected from the lake and highly visible in a recent clearing. This change in setting undermines the surprise and mystery of the Grotto and detracts from its overall significance.

©ABA



Significance plan of the Grotto

Policy recommendations

The policies set out below seek to help the City Corporation achieve their ambition to remove the Grotto from the Heritage at Risk Register and secure its successful, long-term future.

Responsibilities and maintenance

001. The Conservation Management Plan will be formally adopted as policy by the City Corporation as one of the principal sources of guidance in the management of the Grotto

002. The City Surveyors and Epping Forest will be jointly responsible for ensuring the Conservation Management Plan is observed in the management of the Grotto and its policies are implemented

003. The Conservation Management Plan will be used as a tool to actively promote understanding and appreciation of the site's significance among staff, volunteers and contractors working on the Grotto

004. The Conservation Management Plan will be reviewed periodically by the City Corporation, at intervals of no more than five years

005. As part of the Restoration and Maintenance Plan, the City Surveyors and Epping Forest will commission a joint maintenance plan for the Grotto (to take effect following the completion of restoration works) which includes a schedule for both periodic surveys and vegetation maintenance

006. The City Corporation will commission yearly visual surveys that compare the current state of the Grotto to rectified photography in order to track further loss of historic fabric

007. The City Corporation will continue to work closely with Historic England, London Borough of Redbridge and Natural England to ensure both cyclical maintenance and new works take place in a timely manner and with all the necessary consent requirements

008. The City Corporation will look into updating the list entry for the Grotto through Historic England's Enhanced Listing service

009. The City Corporation will regularly review the Grotto's level of heritage and ecological protection to ensure its significance continues to be effectively protected

Structure and surviving fabric

010. The City Corporation will commission a Restoration and Maintenance Plan to specify works to restore the Grotto's façade, repair its structure and assist in its removal from the Heritage at Risk Register

011. The City Corporation will commission trial pit investigations at the locations specified in Richard Griffiths Architects' 2011 report prior to any further work at the Grotto

012. The City Corporation will work with Historic England to investigate a more secure way to store the recovered material on site, including the construction of a temporary structure

013. The City Corporation will commission an archaeological recording exercise to determine each stone's geology and likely historic location (if possible)

Security

014. The City Corporation will review the Grotto's security as part of the Restoration and Maintenance Plan

015. The City Corporation will ensure that future security measures do not, as far as possible, adversely impact visitors' experience of the Grotto in its setting

016. The City Corporation will install CCTV in the vicinity of the Grotto in the short-term to immediately improve the site's security

Accessibility

017. Through the Restoration and Maintenance Plan the City Corporation will explore ways to increase public access to the Grotto, including utilising volunteers, as part of any future works

018. The City Corporation will investigate the surviving foundations of the historic bridge to the bank east of the Grotto and will conduct investigations to determine loading requirements

019. The City Corporation will ensure the new bridge is designed to be 'read' as distinct from the Grotto, with its western end hidden from strategic viewpoints

Interpretation and presentation

020. The City Corporation will explore options to better present the Grotto both as a single structure of significance as well as part of a designed landscape

Ecology

021. The City Corporation will review the ecological impact of any future scheme and will seek a net gain in biodiversity where possible

022. The City Corporation will investigate ways to enhance biodiversity in the vicinity of the Grotto through the introduction and translocation of appropriate, native species as part of any proposed works

023. The City Corporation will take into account the findings of any ecological surveys of the Ornamental Water when making decisions about the Grotto's future management

024. The City Corporation will commission a tree survey to BS5837 of all trees in the immediate setting of the Grotto

025. The City Corporation will commission an ecological survey of the existing vegetation present on the structure of the Grotto in order to better understand its ecological interest

026. Where species of ecological interest are identified, the City Corporation will commit to retaining these where they do not adversely affect the integrity of the Grotto structure

027. If species of nature conservation significance require removal the City Corporation will implement appropriate mitigation measures, in consultation with Natural England

028. The City Corporation will look into introducing, translocating and encouraging appropriate species of wildflowers and ferns where they would not adversely affect the Grotto's structural integrity or its nature conservation interest or that of the adjacent designated area

029. The City Corporation will commission bat dusk emergence and dawn re-entry surveys of the Grotto from June to August to record any current bat roosts

030. The City Corporation will look into creating additional bat roosting features, where this does not conflict with plans for the future of the Grotto, in order to increase the site's ecological significance

031. The City Corporation will commission a nesting bird survey to ascertain which species currently nest within the Grotto structure and where

Immediate setting

032. The City Corporation will review the Grotto's immediate setting as part of the Restoration and Maintenance Plan, which should include a discussion of the merits of reinstating a good cover of trees in the Grotto's immediate vicinity as well as clearing vegetation from significant viewpoints

033. The City Corporation will ensure the relationship between the Ornamental Water and the Grotto is taken into account during the Large Raised Reservoir Works taking place until 2021

034. In the area of the Ornamental Water around the Grotto, the City Corporation will prioritise reinstating the historic water level (which is of heritage significance) over the ecological interest of the current emergent vegetation

035. The City Corporation, as part of the Restoration and Maintenance Plan, will determine the optimum level of the Ornamental Water in the vicinity of the Grotto in terms of its heritage significance

036. The City Corporation will investigate the ecological impact of achieving the optimum level of the Ornamental Water

037. The City Corporation will seek a net gain in biodiversity during work to the Ornamental Lake including the possibility of re-profiling banks to allow marsh and emergent vegetation to re-establish

Wider setting

038. The City Corporation will decide the form, character and use of any potential building behind the Grotto in the context of the wider, future management of Wanstead Park

039. Once the future needs of Wanstead Park are more fully understood, the City Corporation will commission a Feasibility Study to evaluate the financial and operational viability of different potential uses for the Grotto

1.0
Introduction

1.1 Purpose and context

This Conservation Management Plan has been commissioned by the City of London Corporation in order to manage the future of the Grade II listed Grotto at Wanstead Park, located in the London Borough of Redbridge. In November 2017 the Grotto was added to Historic England's Heritage at Risk (HAR) Register. Wanstead Park has been on the HAR Register since 2009, along with the Wanstead Park Conservation Area which was added in 2010.

This Conservation Management Plan provides a comprehensive and interdisciplinary evaluation of the Grotto today, including a summary of existing knowledge about its historical development as well as a consideration of its current condition and ecology. This information was then shared with both internal and external stakeholders, as well as discussed at two workshops, both of which helped to clarify the requirements for removing the Grotto from the Heritage at Risk Register and to outline a successful and realistic medium-term solution for the Grotto's future. A series of recommended policies and an action plan to help the City Corporation to achieve this end are set out in Chapter 5.0 and Chapter 6.0 respectively.

This Plan should be read in conjunction with other documents produced on Wanstead Park as a whole, including Chris Blandford Associates' 2011 *Conservation Statement* and Rev–F of LDA Design's *Conceptual Options Plan* (2018, also known as the *Parkland Plan*), in order to integrate the future of the Grotto into that of the wider Park.

1.2 Methodology and structure

The Plan's structure is derived from the standard template for Conservation Management Plans, adapted to the specific needs of this project. Following this introduction (**Chapter 1.0**), it is therefore organised into six Chapters:

Chapter 2.0 Consultation
This Chapter provides an account of the CMP's consultation process and how this has shaped the content of the final CMP.

Chapter 3.0 Understanding the Grotto
This Chapter sets out a summary of the current knowledge and the historical development of the Grotto in addition to its current management, structural and ecological condition.

Chapter 4.0 Assessment of significance
This Chapter analyses the historic, architectural, ecological and communal value of the Grotto. Identifying this significance enables those considering its future to make informed decisions about management, care and development.

Chapter 5.0 Policy recommendations
This Chapter sets out policy recommendations for the City Corporation to help them remove the Grotto from the Heritage at Risk Register and secure a successful and realistic future of the Grotto in the medium-term, as agreed during consultation.

Chapter 6.0 Action Plan
This Chapter includes approximate costings for the additional studies and reports recommended by policies in the preceding Chapter. This sets out what should be the City Corporation's immediate actions concerning the Grotto.

Sources are included in **Chapter 7.0**.

A selection of supporting information is appended to the Plan including:

Appendix A	National Heritage List Entries for the Grotto and Wanstead Park
Appendix B	Measured survey drawings (produced by James Brennan Associates)
Appendix C	Recent condition surveys: Survey & Design Partnership (2018), Odgers Conservation (2017) and Richard Griffiths Architects (2011)
Appendix D	Richard Griffiths Architects' 2011 Feasibility Study
Appendix E	Plant Survey of the Grotto (Ecoconsult, November 2018)
Appendix F	Search results map from the Historic Environment Record for the site
Appendix G	'The Gardens of Wanstead House' by Dr Sally Jeffrey contained in *The Gardens of Wanstead: Proceedings of a Study Day held at the Temple, Wanstead Park, Greater London, 25th September 1999* by London Parks & Gardens Trust (1999).

1.3 Authors

The interdisciplinary nature of the Plan is a product of the contribution of a variety of leading specialists including:

- Alan Baxter Ltd, as lead consultant and author
- Survey & Design Partnership, for a condition survey of the Grotto
- James Brennan Associates, for a measured survey for the Grotto
- Ecoconsult, for ecology
- Dr Kate Felus, an expert on eighteenth-century landscapes.

1.4 Scope and limitations

The scope of this document relates to the Grotto and its immediate surroundings, as shown in Figure 3. The Grotto's relationship to the wider Wanstead Park will be covered in so much as it relates to the Grotto's historical development and significance.

The archaeological significance of the site will not be described in detail in the Plan. However, the search results map from the Historic Environment Record is included as Appendix F.

It is the nature of existing buildings and structures that details of their construction and development may be hidden or may not be apparent from a visual inspection. The conclusions and any advice contained in this report – particularly relating to dating and nature of the fabric – are based on our research, and on observations and interpretations of what was visible at the time of the site visit. Further research, investigations or opening up works may reveal new information which may require such conclusions and advice to be revised.

1.5 Naming conventions and abbreviations

The Grotto at Wanstead Park has also been referred to as the Boathouse Grotto, in light of its historic use and to distinguish it from an earlier Island Grotto. In this report it will simply be called 'the Grotto' or 'the Grotto at Wanstead Park'.

Archaeological Priority Area	APA
City of London Corporation	City Corporation
Conservation Management Plan	CMP
Epping Forest - City Open Spaces (City of London Corporation)	Epping Forest
Historic Environment Record	HER
London Borough of Redbridge	LB Redbridge/LBR
Rev–F of LDA Design's Conceptual Options Plan for Wanstead Park.	Parkland Plan

1.6 Sources

A large amount of research has already been conducted into Wanstead Park, and the Grotto in particular as one of its earliest surviving features. This report draws on this wealth of knowledge (outlined in Chapter 7.0) and supplements it with additional desktop and archival research. Site visits were conducted for fieldwork in November and December 2018 as well as March 2019.

1.7 Acknowledgements and credits

The City Corporation have given much of their time in communicating with us about the management of the Grotto and provided access both to the site and their records. Dr Sally Jeffrey was also consulted on the history of the Grotto and her work, particularly the Chapter included as Appendix G, has been most useful in writing this Plan.

1.8 City Corporation copyright

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2.0
Consultation

2.1 Introduction

2.1.1 Outline of consultation process

Effective consultation is essential to the preparation of a useful CMP. It both stimulates discussion, fostering new thinking about old problems, and creates a sense of ownership amongst participants. A rigorous and thorough programme of consultation was proposed for this CMP:

- Production of a first (interim) draft
- First stakeholder consultation workshop to discuss the first (interim) draft followed by an opportunity to provide more formal, detailed comments
- Revision of the first draft
- Second stakeholder consultation workshop to discuss the revised draft followed by an opportunity to provide more formal, detailed comments
- Production of the final draft

This process has been very positive and has steered both the content and overall policy direction of the CMP throughout the project. The following Sections offer an overview of this process.

2.1.2 List of stakeholders

The City Corporation

Epping Forest

- Paul Thompson, Superintendent
- Geoff Sinclair, Operations Manager
- Nick Clayden, Safety and Assets Manager
- Sophie Lillington, Heritage and Museums Manager

City Surveyors

- Julian Kverndal, Senior Heritage Estate Officer
- Susana Barreto, Heritage Estate Officer
- Nicholas Welland, Principal Surveyor - Asset Manager

Stakeholders

- Bruce Edgar and Allan Jones, London Borough of Redbridge
- Chris Laine and Verena McCaig, Historic England
- Neil Fuller, Natural England
- Richard Arnopp, Friends of Wanstead Parklands
- David Adshead, The Georgian Group
- Tim Harris, The Wren Group
- Helen Monger, London Parks and Gardens Trust

2.2 Preparation of first (interim) draft

A first (interim) draft of the CMP, including information on the site's historical development and significance was produced for consultation at the first workshop. This included a framework for discussing options for the Grotto's future at the first stakeholder consultation workshop.

2.3 First round of stakeholder consultation

2.3.1 First stakeholder consultation workshop

This first stakeholder consultation workshop was held on 7 January 2019. It was attended by both City Corporation staff as well as representatives from Historic England, The Georgian Group, Friends of Wanstead Parklands and The Wren Group.

This workshop briefly discussed the Grotto's significance before focusing on future options for the Grotto, of which managed ruin, restored façade and fully restored building were the three proposed by the City Corporation in the project brief.

During the course of discussions the consensus that emerged was that despite being the preferred option of many attendees prior to the workshop and specified in the 2011 Conservation Statement the managed ruin option was not feasible because it would not solve the problems of the Grotto's current condition and it would not improve the site's security or public access. In summary, it would not better reveal or enhance the Grotto's significance. Therefore, there was a consensus that some level of restoration or recreation would be most appropriate for the future of the Grotto.

The restoration or reinstatement of a building was briefly discussed. This was viewed positively for its benefit of protecting the surviving structure. However, this is subject to securing suitable funding.

2.3.2 Comments

In addition to the workshop attendees above, the first (interim) draft of the CMP was also circulated to the London Borough of Redbridge, the London Parks and Gardens Trust and Natural England for comments. Out of these consultees all but LB Redbridge and the London Parks and Gardens Trust provided comments. These included:

- Historic England's comments on the minimum expectations it would expect to be met for them to consider removal of the Grotto from the Heritage at Risk Register, which include:
  - The current structure stabilised and consolidated
  - Loose material fully recorded (and preferably used as appropriate)
  - Security addressed
  - Sustainable long term plan for its regular maintenance and conservation implemented
  - Improvement in setting and integration into landscape of Park
- Comments from various stakeholders on the history and significance of the site

Although London Parks and Gardens Trust did not provide comments they stated they are supportive of the project.

2.4 Preparation of second (revised) draft

Following the consultation workshop and subsequent stakeholder comments the draft CMP was substantially reworked to include:

- A more robust assessment of significance
- A complete draft of the policies recommended by the CMP for the Grotto's future. These were arranged into two phases to be discussed at the second workshop: the first to help the City Corporation to remove the Grotto from the Heritage at Risk Register and the second concerning longer-term aspirations for the Grotto in the context of Wanstead Park.

2.5 Second round of stakeholder consultation

2.5.1 Second stakeholder consultation workshop

The second stakeholder consultation workshop was held on 7 March 2019. It was attended by both City Corporation staff as well as representatives from Historic England and Friends of Wanstead Parklands.

The first part of this workshop concerned comments on the revised draft including concerns over the role of an artist in any remaking process and the Grotto's structural stability as well as ideas to finesse the two-phase approach to the CMP's policies. The latter was discussed in detail with four more refined options being presented including stabilisation and consolidation, sufficient protection of the structure to prevent further deterioration, full façade restoration and restoration/reinstatement of a building. This discussion was situated in the wider context of Wanstead Park, in particular the works required to the Large Raised Reservoirs of Wanstead Park (including the Ornamental Water) which have to occur before 2021 as a result of the Environment Agency's 'high risk' designation.

The consensus that emerged from this discussion was that, whilst a building (whether that be a restoration or a new-build) is desirable in the long-term owing to funding and operational realities this option is not likely in the medium-term. However, it was also agreed that no short- to medium-term works should preclude the construction of a building in the future. Having agreed this, the restoration of the façade, so that visitors to the Park could appreciate the front of the Grotto as it was initially intended to be experienced, was selected as the best and most feasible option. It was also discussed that this should be accomplished in phases which should fit in with the 2021 works.

2.5.2 Comments

In addition to the workshop attendees above, the second (revised) draft of the CMP was also circulated to The Georgian Group, The Wren Wildlife and Conservation Group, London Borough of Redbridge and the London Parks and Gardens Trust. However, no comments were received from the additional stakeholders on this draft.

Comments from the workshop attendees included:

- Request for clarification on the Grotto's condition and structural stability
- Reworking of policies to reflect discussions at the workshop, in particular that the Grotto's protection from water ingress and plant growth should be part of works to remove the structure from the Heritage at Risk Register
- Inclusion of an Action Plan to specify next steps and provide ballpark costings

2.6 Preparation of third (final) draft

Following the second consultation workshop and subsequent stakeholder comments the revised draft of the CMP was amended to include a clearer approach to policies with a set direction of travel for the Grotto's future.

3.0
Understanding the Grotto

3.1 Introduction

3.1.1 Location

The Grotto is located in Wanstead Park, south of Wanstead in the London Borough of Redbridge, north-east London (Figure 1). Wanstead Park is one of the southernmost parts of Epping Forest, which is held in trust by the City Corporation (Figure 2).

The Grotto is situated adjacent to a bend in the Ornamental Water, on the eastern edge of Wanstead Public Park (Figure 3).

3.1.2 Ownership

The Grotto is located in Wanstead Public Park, held in trust by the City Corporation. The ownership of the rest of the historic Wanstead Park estate is split between Wanstead Sports Ground Ltd, the Parish of Wanstead and Wanstead Sports Club LLP under lease from LB Redbridge.



Contains Ordnance Survey data © Crown copyright and database right [2016]

Figure 1: Location plan

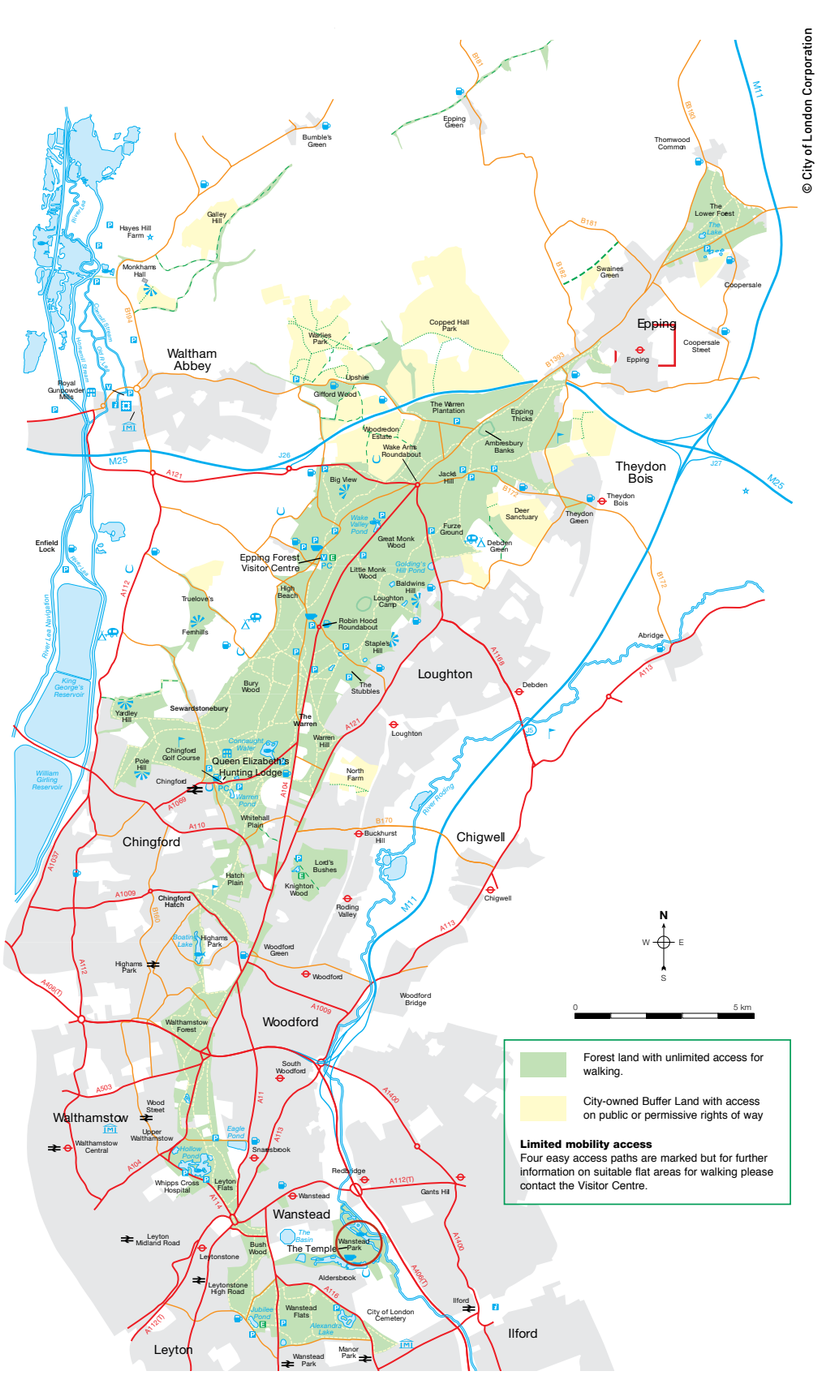
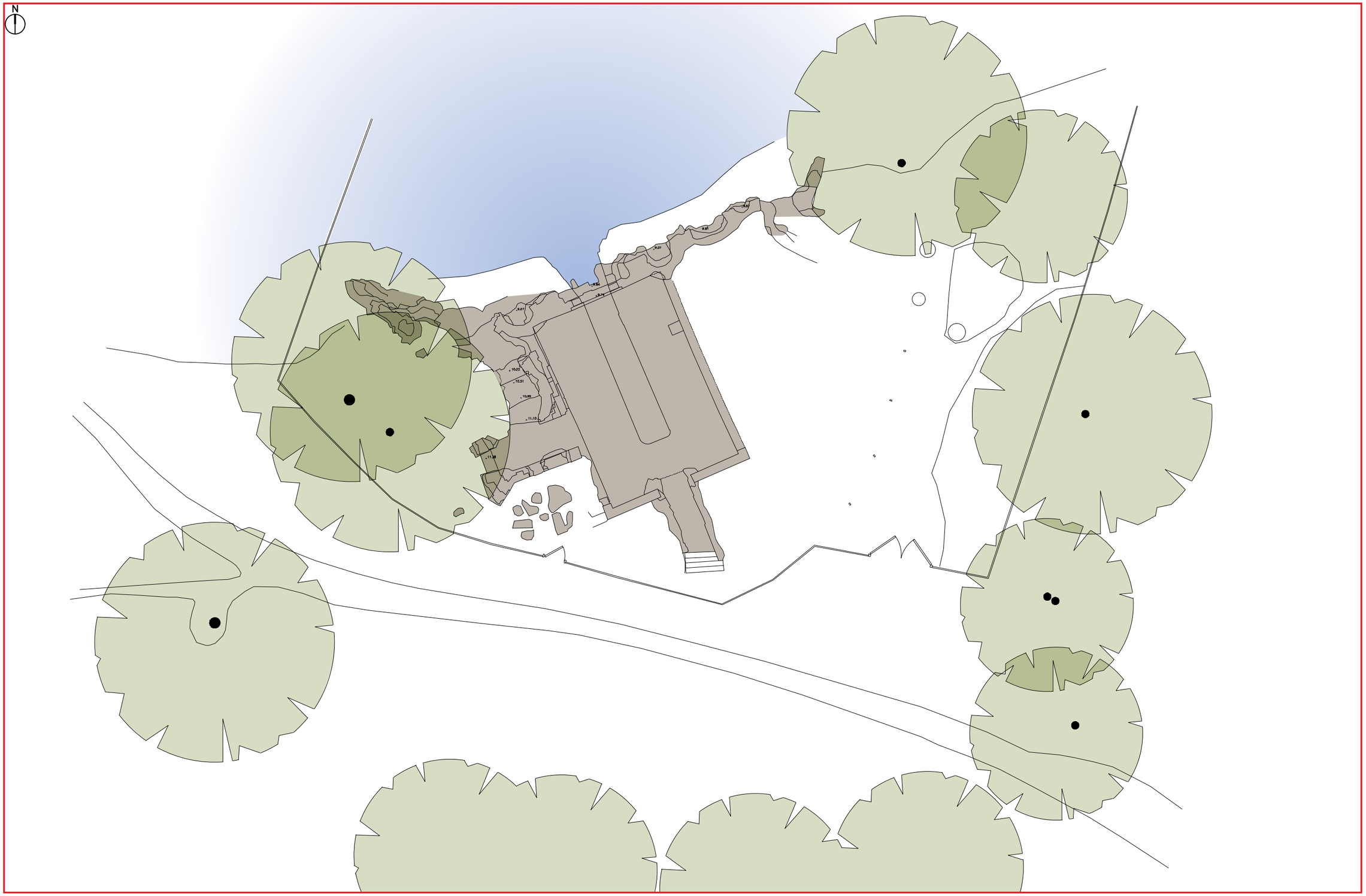


Figure 2: Plan of Epping Forest



© James Brennan Associates and ABA

Figure 3: Site plan (red line indicates the site studied as part of the CMP)

3.1.3 Designations

Heritage

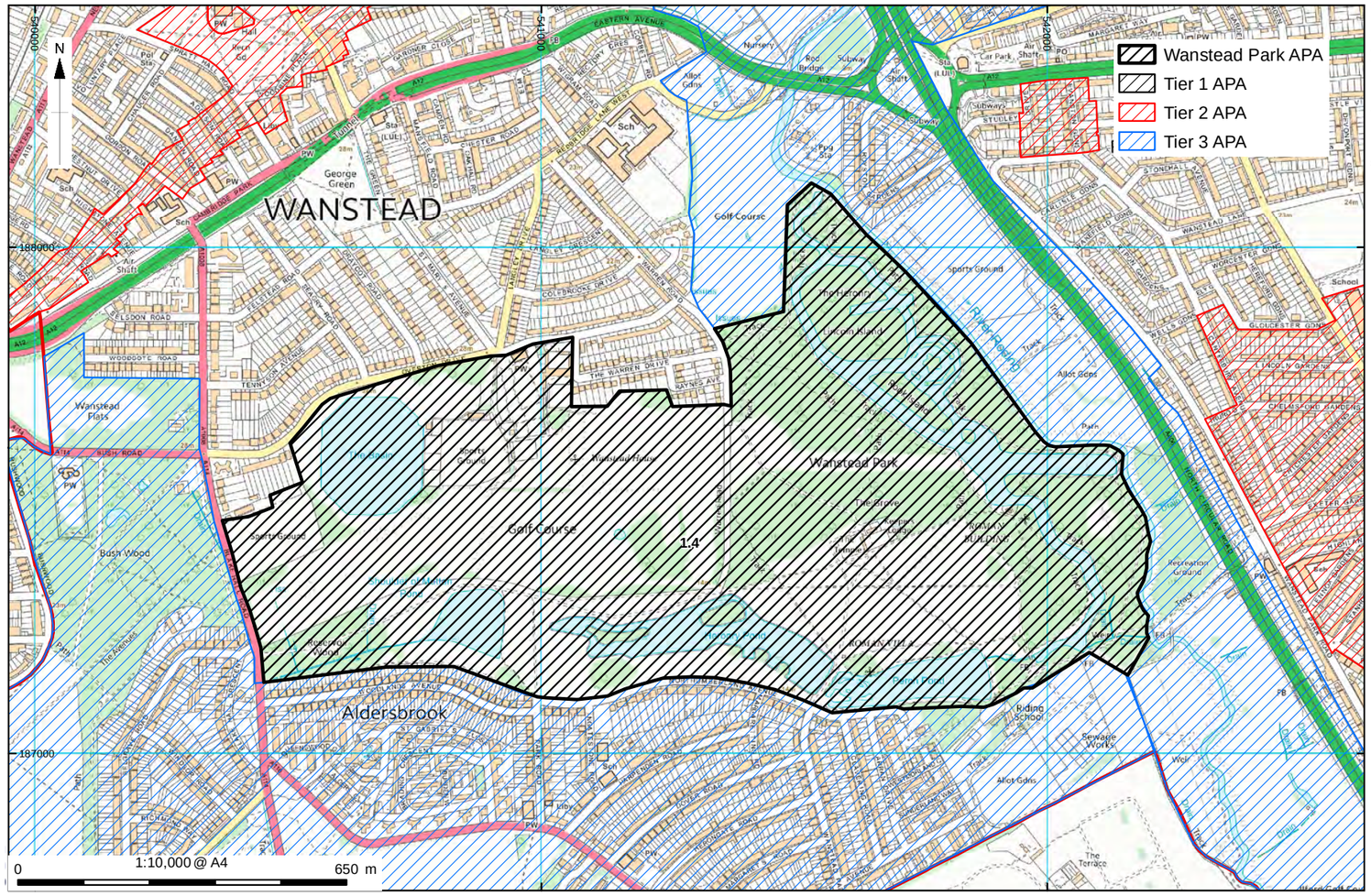
The Grotto was statutorily listed at Grade II in 1954 (list entry no. 1183624). It was added to Historic England's Heritage at Risk Register in November 2017 at the lowest priority (F).

Wanstead Park in which the Grotto sits is a Grade II* registered park and garden (list entry no. 1000194). The Park has been included in Historic England's Heritage at Risk Register since 2009.

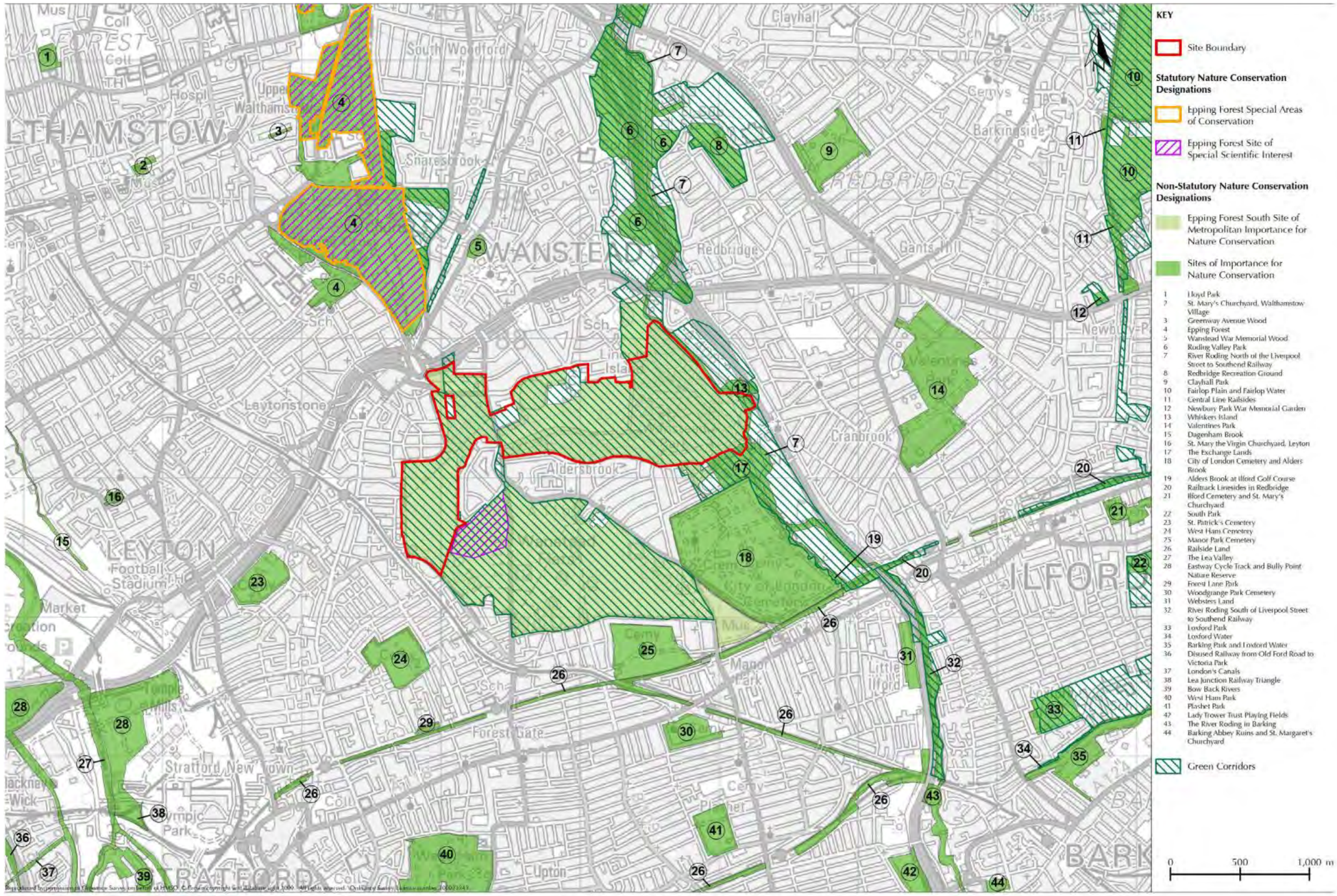
Wanstead Park was also designated as a Conservation Area by LB Redbridge in 1970. This conservation area is also included on Historic England's Heritage at Risk Register.

In addition to its other heritage designations, Wanstead Park is also classified as a Tier 1 Archaeological Priority Area (APA), defined as an area

> *which is known, or strongly suspected, to contain a heritage asset of national important (a Scheduled Monument or equivalent); or is otherwise of very high archaeological sensitivity* (LB Redbridge, 2016).


Wanstead Park APA
Tier 1 APA
Tier 2 APA
Tier 3 APA
WANSTEAD
Aldersbrook
Wanstead Park
Golf Course
Wanstead Flats
Bush Wood
George Green
Sports Ground
Lincoln Island
The Heronry
The Grove
Alder Carr
Alder Wood
Hollow Pond
Ornamental Water
Reservoir
Riding School
Sewage Works
Recreation Ground
Allot Gdns
Nursery
Sch
Lib
Pub
Path
Track
Drain
Weir
Fd
FB
PW
PH
Sta (LUL)
Air Shaft
Subway
Ped Bridge
Car Park
Pond
Wall
Fence
Hedge
Trees
Scrub
Marsh
Built Up Area
Rough Grass
Open Land
Water
Woodland
Deciduous
Coniferous
Mixed
Orchard
Parkland
Boundary
Railway
Roads
A12
A406
A1400
A1400 (Slip)
Minor Roads
Footpaths
Bridleways
Cycleways
Contours
Spot Height
Buildings
Non-Residential
Residential
Glasshouses
Tanks
Tunnel
Cutting
Embankment
Level Crossing
Station
Tramway
Electricity Transmission Line
Pylon
Electricity Substation
Gas Governor
Gas Holder
Gas Pipeline
Pipeline
Pumping Station
Telecommunications Mast
Telephone Kiosk
Post Box
Public Convenience
Milepost
Milestone
Boundary Stone
Bus Stop
Bus Station
Fuel Station
Slipway
Ferry
Ferry Terminal
Pier
Lighthouse
Beacon
Mooring
Mooring Buoy
Harbour
Harbour Wall
Groyne
Sea Wall
Sea Defence
Foreshore
Rocks
Sand
Shingle
Mud
Saltmarsh
Dune
Beach
Cliff
Cliff Face
Landslip
Quarry
Spoil Heap
Opencast Mine
Opencast Mine Boundary
Adit
Shaft
Mine Working
Mine Working Boundary
Mine Entrance
Mine Shaft
Mine Tip
Mine Tip Boundary
Mine Water Feature
Mine Water Feature Boundary
Mine Water Feature Boundary
Mine Water Feature Boundary

© City of London Corporation



CHRIS BLANDFORD ASSOCIATES
environment landscape planning

WANSTEAD PARK CONSERVATION STATEMENT

FIGURE 15
Ecological Designations

MARCH 2011

Figure 5: Ecological designations for Wanstead Park. Red line represents the historic boundary of Wanstead Park

3.2 Summary of historical development

3.2.1 Introduction

The history and development of Wanstead Park, from the earliest times to the present day, has been extensively excavated, researched and written about by many different historians, though important aspects of the development of the historic gardens remain uncertain. This work has already been collated in the form of Chris Blandford Associates' *City of London – Wanstead Park: Conservation Statement* (2011).

It is not the purpose of this report to provide a detailed history of the estate but to focus specifically on the Grotto. To this end, the following Sections provide a summary of the historical development of the Grotto, with references to other sources for more information about the development of the wider estate and the Child/Wellesley family.

One of the most comprehensive accounts of the development of Wanstead Park under the Child/Wellesley family is Dr Sally Jeffrey's *The Gardens of Wanstead House* in *The Gardens of Wanstead: Proceedings of a Study Day held at the Temple, Wanstead Park, Greater London – 25th September 1999,* a copy of which is included in Appendix G.

3.2.2 Early landscape features (to c. 1760)

Sir Josiah Child of the East India Company purchased Wanstead estate for £11,500 in 1673–74. Under his tenure – as well as that of his son Richard (created Viscount Castlemain in 1718 and Early Tylney in 1732) who succeeded to the estate after the former's death in 1699 – a series of major developments were initiated, including the construction of a new house in 1715–22 (to designs by Colen Campbell) and the creation of the existing lake system, fed by the River Roding between 1725 and 1745 (Jeffrey, 1999, p. 24).

A plan of Wanstead Park, drawn up by James Craddock in 1725, shows an extensive bastioned earthwork feature, labelled as 'theatres', on the site of the current Grotto. This is shown surrounded by a planted area and with a small structure at its southern edge, on the site of the existing Grotto adjacent to the Ornamental Water. This structure is shown in Craddock's plan, and also in Charles Catton's 'Bird's eye view of Wanstead Park from the east' c. 1750. However, it is not shown in either of John Rocque's maps of the estate (1735 and 1744–65) and, although some of the earthwork ridges survive and have been identified in archaeological surveys, there is little other evidence for its existence. Therefore, either this structure was only partially built or had a very short existence of *c.* 10 years.

Rocque's 1735 map of the estate shows both the proposed and executed works of this phase of landscape design. One of the views is labelled 'The Island in the Great Lake' and shows a rockwork grotto surrounded by leafy vegetation located on an island in the Great Lake. Although this earlier grotto does not survive, evidence from maps dating from the mid-eighteenth century suggests that both it and the existing Grotto may, for a short period at least, have existed at the same time.

3.2.3 Construction (c. 1760–1781)

Richard's son John (2nd Earl Tylney), inherited Wanstead upon his father's death in 1750. Although he lived abroad almost permanently from 1763 he took a keen interest in the development of the landscape, and during the early years of his tenure undertook several improvements to the grounds, including the construction of two of the Park's most legible surviving landscape features, the Temple and the Grotto (both now listed at Grade II). The Grotto was constructed 1760–64 and, whilst the exact date of the Temple's construction is unknown they appear to be contemporary and were linked by an informal path.

According to James Dugdale's The New British Traveller (1819), the Grotto cost £2,000 exclusive of materials. Subsequent accounts from later in the nineteenth-century (such as an article in the Essex Herald on 23 May 1843) mistakenly report its cost as £20,000, although this exaggerated sum does testify to the fact that it was held to be an impressive example of its type.

The construction chronology of the Grotto has been the subject of several architectural studies and extensive archaeological investigation during the last 20 years. One of the principal reports on the subject, produced by M. Beasley in 1993, puts forward a three-phase chronology for the Grotto's initial construction:

1. 1760–64: the original façade including the east and west flanks and the boat channel.

2. The west wing, including the tunnel and passageway to the south. This is identified as a separate phase to phase one, but it is possible that this phase is contemporary with phase one and represents a distinct phase of the original construction.

3. 1781: the renovation of the work constructed under phase one, including the reconstruction of the main door and semi-circular arch in the main façade. (This date is suggested by Compass Archaeology's 2013 report *Strategic Assessment and Conservation Measures for Wanstead Park*).

This is typical of other grottos such as those at Stowe (constructed c. 1740, romanticised c. 1780) and Painshill (late-eighteenth century).

The first phase of construction appears to have begun around 1760, from a reference to 'rocks for the Grotto' in the family's 1760–62 accounts, and was virtually completed in 1763, when Jérôme Lalande visited Wanstead and makes reference to a 'rock-work grotto where all conceivable curiosities of natural history are assembled' in his diary. Material for the Grotto was imported from many places, with internal decoration provided by the Revered William Borlase, a Cornish antiquarian, naturalist and mineralogist and Fellow of the Royal Society.

A detailed description of the original design, form and use of the Grotto is provided in Dr Sally Jeffrey's chapter on Wanstead Park in Appendix G. Evidence for the Grotto's original form and design (both inside and out) is provided by an 1822 sketch and accompanying description by Charles Heathcote Tatham (a visitor to the Park) as well as a small selection of early photographs. In summary, the Grotto's tunnel entrance, interior decoration and use of mirrors are all typical of other contemporary grottos (see grey box on grottos) and were intended to create an air of theatricality and mystery.

One such account of entertainment at the Grotto is given in Julian Litten's *The English Way of Death: The Common Funeral Since 1450* (1991, p. 104–5) and is reproduced in the grey box Entertainments on the water on page 14. Litten lists Stuart Campbell Adams as the source for the account, which is said to have come from the journal of an Italian noblewoman who spent time at Wanstead House. Adams claims this account was rescued from the Tylney papers by a maid or relative prior to many of the records being burnt. The dubious provenance of the source, coupled with the chronology of Lord Tylney's time in Italy, casts doubt on its veracity. However, it has been reproduced here, heavily caveated, because it offers a flavour of the possible, theatrical uses for the Grotto.



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Figure 6: Undated watercolour of the Grotto



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Figure 7: Decorative material recovered from the Grotto including (from top left): a variety of shells, fragments of pebble floor set in mortar, different types of crystal, bottle ends, spar and triangular pieces of coloured glass with bevelled edges

Entertainments on the water

Many lights appear in the trees and on the water. We are off and have great excitement fishing up treasure (fake) tied to bladders. His Lordship is hailed from the shore by a knight, who we are told is King Arthur, have you the sacrifice my Lord, who answers no, then take my sword and smite the water in front of the grot and see what my wizard has done, take also this dove and when asked, give it to the keeper. Off again to some distance from the grotto, the lights are small and water still, the giant eagle appears and asks, have you the sacrifice, no my Lord answers, so be it and disappears in steam.

His Lordship smites the water with King Arthur's sword, all the company are still, a rumble sucking nose comes in front of the opening of the grotto the water as if boiling and to the horror of all the company both on the water and on the shore scream with fright, appearing as though from the depth of hell arose a ghastly coffin covered with slime and other things. Silence as though relief, when suddenly with a creaking and ghostly groaning the lid slid as if off and up sat a terrible apparition with outstretched hand screeching in a hollow voice, give me my gift with such violence, that some of the company fell into the water and had to be saved, and those on the shore scrambled in allways confusion was everywhere. We allmost fainted with fright and was only stayed from the same fate by the hand of his Lordship, who handed the keeper the dove (fake) the keeper shut its hand and with a gurgling noise vanished with a clang of its lid, and all went pitch. Then the roof of the grotto glowed two times lighting the water and the company a little, nothing was to be seen of the keeper or his coffin, as though it did not happen.

Grottos

History

The earliest grottos date to antiquity and took the form of natural caves at sites of sacred springs in ancient Greece. They became popular in ancient Rome and were resurrected by architects in Renaissance Italy in order to add an air of historical authenticity to their neo-classical villas and gardens (Jackson, 2001). This Roman influence persisted in the design of later, British grottos, including the decidedly Roman oculus present at Stourhead's grotto (Felus, 2016).

Although grottos were constructed in Britain during the seventeenth century, they were at their most popular during the following century. This was driven by wealthy Britons who, having finished their Grand Tour around Europe, returned to their estates with a passion for classical art and architecture. These individuals then used their fortunes to recreate an element of the splendours they had witnessed on their travels at home.

Siting

Landscape features, such as obelisks, temples, ruins, pagodas and Chinese bridges, as well as grottos, were essential landscape devices that enhanced designed views, created a certain mood or added 'interest' to a tour of the grounds (Jackson, 2001). Echoing the association of the earliest grottos with springs, water was a much prized feature in or near a grotto. They were often sited overlooking a lake, near a natural spring or beside a waterfall and were designed to be viewed reflected in the water. In cases where bathing pools were located inside a grotto, there was usually a designed visual link between the bath and the water of the lake, which, when in the bath, appeared practically on a level (Felus, 2016).



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Figure 8: Grade II* grotto at Stowe (constructed c. 1740, romanticised c. 1780)



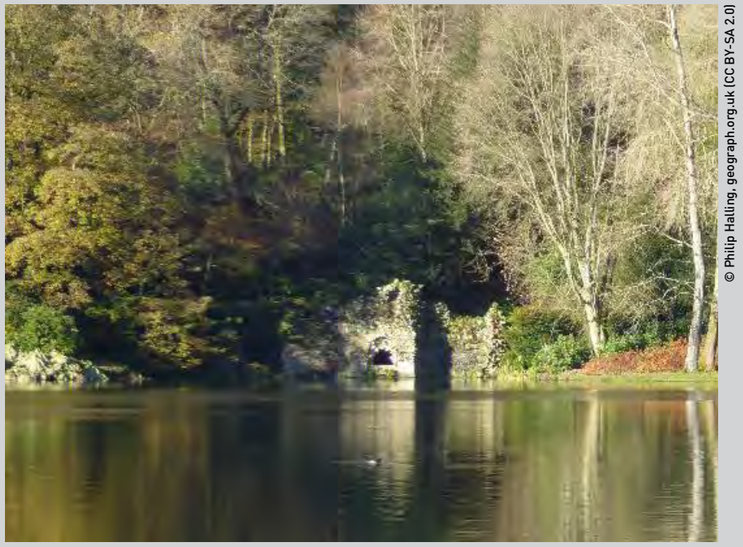
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Figure 9: Grade II grotto at Old Wardour Castle (1792)



© ABA

Figure 10: Grade II grotto at Painshill Park (late eighteenth century and recently restored)



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Figure 11: Grade I grotto at Stourhead (c. 1748, entrance added 1776)

Construction

The underlying structure of grottos was often brick which was then dressed with 'grotesque' rocks or the much-sought-after 'holey' limestone (or '*pierre antediluvienne*'), pinned on with iron pins and stuck in place with lime mortar (Jackson, 2001). The Grotto at Wanstead Park uses a distinctive limestone from the west of England also used at the grotto at Painshill Park, Surrey (1750s) and the shell house at Hampton Court House, Richmond (1760s) (Jackson, 2001).

Decoration

The insides of grottos were often decorated with shells. The collection of rare and exotic shells was the height of fashion in the eighteenth century and many wealthy grotto-owners spent small fortunes importing exotic shells from around the world for their grottos (Jackson, 2001). Floors were usually decorated with carefully matched pebbles set in mortar and arranged in geometric patterns.

Grottos were intended to be candlelit so bottle-glass, mica chips and other crystalline minerals were also popular elements of internal decoration as they reflected candlelight and added to the magical atmosphere of grottos.

Use

Whilst grottos were constructed for their atmosphere and novelty value they were also actively used in a variety of ways which have been investigated by academics such as Melanie Doderer-Winkler and Kate Felus. For example, Henry Hoare, the owner of Stourhead, enjoyed bathing in a pool in his grotto which, with the constant running of spring water into the bath may have had a mild Jacuzzi-like effect (Felus, 2016, p. 79). Stowe's grotto was the Earl Temple's favourite place for al fresco dining, set as it was in an intimate, steep-sided and wooded valley. For dinner the trees surrounding the grotto would have been hung with lanterns, and for grander occasions musicians would have been stationed on boats on the water (Kate Felus, 2016, p. 153).



Figure 12: Limestone and crystals of Painshill Grotto (late eighteenth-century and recently restored)



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Figure 13: Photograph of the interior of the Grotto, before the fire in 1884

3.2.4 Decline (1820–1882)

The 2nd Earl Tylney never married and therefore, when he died in 1784, all the family titles became extinct and the ownership of Wanstead Park passed to his sister's son and his heirs.

In 1808 Wanstead was inherited by Catherine Tylney Long, one of the wealthiest heiresses in England. In 1812 she married William Wellesley Pole, nephew of the Duke of Wellington. Over the next six years the couple consulted both Humphry Repton and Lewis Kennedy about improvements to the Park including a bridge connecting the Grotto to the riverbank opposite it to the north-east. However, this bridge only appears on Doyley's c. 1815–16 map of Wanstead Park and it is unclear exactly when it was constructed or when it was demolished. Its foundation survives and was revealed by excavations conducted by MOLA in 1997.

William subsequently ran up huge debts which, with the majority of the couple's money tied up in trusts, they were unable to repay. The couple's financial situation deteriorated sharply and in 1822 an auction was held for the contents of the house and included several pieces from the Grotto, including Three Ostrich Eggs and Other Curiosities (lot 62) and Two large petrified Stones (lot 63) (City Corporation, 1998). These were not the only objects to be taken from the Grotto during this period as Jeffrey (1999, p. 34) also states that the Grotto had to be closed because souvenir hunters 'conveyed away fragments'.

Wanstead House itself was sold in 1823 and demolished in 1825. The grounds, which remained in possession of the family, entered a period of decline, although the Grotto appears to still have been used and enjoyed. An article in the *Essex Standard* (21 September 1838, p. 2) states that the South Essex Horticultural Society held their seasonal exhibition at the Park and that '[t]he fineness of the weather, with the additional attractions of the Park and beautiful Grotto, induced the attendance of a very numerous and highly respectable company of subscribers and visitors'.

3.2.5 Sale (1882)

In 1882 the then owner of Wanstead, Henry Wellesley, 1st Earl Crowley (cousin of William Wellesley Pole), sold 184 acres of the Park to the Corporation of London as the Conservators of Epping Forest and on 1 August 1882 Wanstead Park was opened as a public park.

From contemporary newspaper reports, the Grotto, which could be visited for a sixpence, appears to have been one of the main attractions of the Park. An account of a visit to Wanstead in an article in the *Shoreditch Observer* on 21 July 1883 includes a detailed description of the 'renowned' Grotto with its 'wondrous' rooms.

3.2.6 Destruction (1884)

On the morning of Thursday 20 November 1884 a fire broke out in the cottage (historically keeper's accommodation) part of the Grotto, which had been used as a storeroom since the Corporation took over the Park in 1882. The alarm was raised by a passer-by and the Wanstead fire-brigade arrived quickly but not before the fire had spread to the Grotto itself.

To make matters worse, the fire brigade were forced to draw water from the River Roding (250 yards away) because the lake immediately in front of the Grotto was being cleaned and was empty. By the time the fire was put out the Grotto had been completely destroyed, with only the outside walls and entrance remaining.



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Figure 14: Early photograph of the public entrance to the Grotto

3.2.7 Aftermath (1884–1904)

Contemporary newspaper articles, including the *Essex Newsman* on 29 November 1884, reported that the Grotto was insured for £1,000, a paltry sum compared to £2,000 excluding materials it cost to construct it. Despite this there is some evidence of discussions about whether or not to restore it as the *Chelmsford Chronicle* reported on 27 March 1885 that 'the question of re-construction is still under consideration'.

However, over the following years discussion about restoring the Grotto died down. A satirical article by Captain Cuttle in the *Shoreditch Observer* on 6 April 1889 lampooned the City Corporation for this decision:

> *Just one more word before leaving the Park. "Look at the Grotto," observed the Captain; "since it was burnt out the City people have not taken the trouble to restore it."*
>
> *"No," replied the Boy; "the greedy gormandisers tried to charge the public sixpence to see it; the place was burnt down as a judgement on their rapacity."*

Despite the City' Corporation's decision not to restore the Grotto, it was still 'usually considered one of the attractions of the Park' (*London Evening Standard*, 2 April 1904).

3.2.8 Deterioration (1904–1990)

Following the fire and the decision not to restore to Grotto, a fence was constructed around its southern side, presumably to maintain public safety. A photo from the 1890s shows that this fence was approximately four and a half feet high and consisted of an open iron railing with pointed finials. A gate at the rear of the boat dock is also visible between two square-section, iron columns (City Corporation Archive, reference Stratford Reference Library).

1968–1971
In 1968 the damage to the Grotto attracted the attention of the Wanstead Residents' Society who made representations to the City Corporation. Following this, the City Architect put forward a proposal for the:

- removal of tree and shrub roots;
- support of overhanging arches and other masonry;
- removal and re-bedding of loose masonry;
- capping of wall tops with mortar rendering to throw off water; and,
- raking out defective pointing and re-pointing.

The cost for this work was estimated at £500 and it was undertaken in the summer of 1969. However, during the two weeks that it took place vandals attacked the structure, undoing all the conservators' work. Following this, an additional £750 was requested but there was little enthusiasm to continue with repairs when there was such a dire lack of security.



© James Brennan Associates

Figure 15: Rectified photography of a section of the Grotto, showing the variety of different repairs

This led to the City Corporation petitioning Redbridge Council for permission to demolish the structure in 1969. Redbridge Council pushed strongly for the preservation of the façade and by August 1970 a full set of proposals had been worked up including:

- repairs to the façade;
- the construction of a moat around the surviving structure to protect it against vandals; and,
- a mound to the apex of the façade (with concrete retaining wall) to hide it from the landward side.

However, the cost for this scheme, an estimated £11,000, was considered too expensive so a reduced scheme, with a smaller mound without a retaining wall, was put forward at a cost of £6,000. However by June 1971 the City Corporation had resolved not to take the matter further.

Post-1976
During archaeological investigations in 1993 it was revealed that major renovation and consolidation work was undertaken to the entire structure at some point after 1976 (Beasley, 1993). This date was identified through the fact that photographs taken at this time do not show this work.

The major elements of this phase consisted of the re-building of the top of the main façade with brickwork and stone. It also included the construction of a doorway of random worked stone to the west of the passage.

1982
The problem of the Grotto's condition raised its head again ten years later in 1982 after continued damage and substantial pieces of masonry falling from the ruin. Three options were put forward:

1. Total demolition
2. Reduction of the ruin, consolidation of the remains, and re-fencing
3. Minimum repair to ensure structural integrity, and re-fencing

The City Corporation opted for the third option and repair work, including the rebuilding of the gable fronting the lake, was conducted in 1983. It was at this time that the current galvanised steel fence was installed.

3.2.9 Recent works (1990–present)

Following the works in the early 1980s, the appetite for the Grotto's preservation seems to have increased, perhaps in line with the development of conservation philosophy and guidance over this period. Below is a list of all the reports and work commissioned by the City Corporation since 1990.

Date	Company	Title of report/description of works
1993	Newham Museum Service	A Trench in the Grotto, Wanstead Park
1994	Debois Landscape Survey Group	Wanstead Park: A Survey of the Landscape
1996	Hirst Conservation	Exploratory Excavation as Part of Conservation Work
1996	Flynn & Rothwell	Survey by Flynn & Rothwell of the Ornamental Water including the Grotto
1997–98	MOLA	Archaeological Survey and Evaluation 1997–98
1998	Fullers	• Lifting of masonry • Excavation of dock and front of Grotto • New gate in fence • Repair of dock and causeway surfaces
1999	Nimbus Conservation	Report on Conservation of Sculpture Fragments at Wanstead Park Grotto
1999	London Parks & Gardens Trust	Proceedings of Study Day held at the Temple, Wanstead Park, Greater London
2000	Dr Sally Jeffrey	The Boathouse Grotto, Wanstead Park
2011	Brian Dix	Wanstead Park Project – The Boathouse Grotto
2011	Richard Griffiths Architects	Report on Condition with Recommendations (July, 2011)
2011	Fullers	Consolidation works carried out to front façade
2011	Chris Blandford Associates	Wanstead Park – Conservation Statement
2013	Compass Archaeology	English Heritage – Strategic Assessment and Conservation Measures for Wanstead Park
2016	City Surveyor's Department	Quinquennial Inspection Report
2017	Odgers Conservation	Condition Survey and Conservation Appraisal for the Low Level Standing Remains (Recommendations implemented by Priest Restoration in 2018)
2017	MOLA	Report on a Survey of Stone Masonry
2017	City Corporation	Fence extended into the Ornamental Lake to try to prevent ingress into the Grotto site as a result of low water levels
2018	LDA Design	Wanstead Park – Conceptual Options Plan and Cost Planning Study – Rev F
2018	City Corporation	Removal of dead tree stumps and roots from side walls of the dock

Figure 16: Table of recent works and surveys

3.3 The Grotto today

3.3.1 Management

The management of the Grotto is split between two different branches of the City Corporation which meet periodically to discuss the Grotto at Heritage Liaison Meetings.

The City Surveyor's Department look after the Grotto's structure including producing quinquennial surveys and instigating major works. They have a 20 year budget plan for potential works, which gets reviewed by the City Surveyor's facilities managers, in consultation with the Senior Heritage Estate officer.

The Operations Team at Epping Forest carry out cyclical maintenance of landscape elements of the Grotto and its surroundings, including cutting the grass and spraying the structure with herbicide 2–3 times a year. They are currently in the process of producing a Draft Management Strategy for the Forest which will set out a schedule of routine maintenance for key areas of the forest, including Wanstead Park. This document, a draft of which is to be produced in early 2019, will build on the work and consultation undertaken as part of the preparation of the Parkland Plan.

3.3.2 Condition

A number of condition surveys of the Grotto have been undertaken in the last decade, most recently Richard Griffiths Architects' 2011 Report on Condition with Recommendations and Odgers Conservation's 2017 Condition Survey. An additional condition survey was also undertaken for this CMP in December 2018. These reports state that much of the surviving fabric of the Grotto has been rebuilt or repaired at one time or another.

The main findings of Richard Griffiths Architects on the Grotto's overall condition are reproduced below. These relate to the overall condition of the Grotto in the medium-term and are still relevant today. Following this, the current area-by-area condition of the Grotto is summarised in Figure 17. This draws on information given in both Odgers Conservation's 2017 report and the recent survey conducted in December 2018.

Richard Griffiths Architects' 2011 Report on Condition with Recommendations

This report was undertaken as part of a feasibility study to determine the future of the Grotto, which in turn was part of the wider process of preparing a Conservation Statement for Wanstead Park as a whole. It recommended a series of urgent repairs which were commenced in April 2011. The report's conclusions concerning the Grotto's condition are reproduced below. The full report can be found in Appendix C.

General condition

- The principal wall was found to be in poor, but reasonably stable state and now that temporary works have been completed the worst decay has been arrested. However, it will require major reconstruction work in the medium term to secure its long-term future.
- The brick walls on the west side are in danger of loss and need urgent works to stablise them.
- The walls around the boat dock are under pressure from the higher ground levels behind them and need to be strengthened or rebuilt.

Water levels

- Significant fluctuations in the water level could affect the stability of the structure, both above and below ground.

Foundations

- The nature of the foundations is not known and further investigations are required to determine this.

Structural condition

The general impression is that the main elements of the extant structure are in poor condition and that certain areas remain in danger of collapse. In the medium term the whole structure could be at risk. It is evident from photographs that there has been a significant loss of brickwork on the west side since the previous repairs. The longer these areas are exposed to plant growth and the weather, the greater the likelihood of losses. As the decay of brickwork accelerates, the more vulnerable areas are likely to reach a critical point of irreversible instability in perhaps five to ten years. The previous repairs to the principal wall have stemmed the worst decay, but there is evidence that a number of stones have fallen from the lake elevation since they were carried out. In addition, the structure contains many voids and hollows, some designed and some the result of wildlife activity, so it is inherently weak. The numerous pieces of embedded ironwork and the use of a very hard cement mortar in previous repairs, including wall head capping, will in the longer term create problems with the original lime mortar construction.

Of particular concern are:

- The stability of the arch roof to the 'tunnel path'
- The overhanging brickwork at the extreme west end of the principal wall (now propped)
- The cracked brickwork at the extreme east end of the principal wall (now partly stitched)
- The overall plumbness of the principal wall
- The stability of the detached pier beyond the east end of the principal wall
- The invasive effect of ivy roots, some of them very large, in the mortar joints particularly to the brickwork of the corridor
- The presence of built-in timbers including the decayed timber lintel over the entrance
- The unknown method of fixing the stonework facing to the principal wall, particularly over the central arch
- Corrosion and expansion of built-in metalwork dislodging the stone facing
- The very poor state of the mortar to the walls around the rear of the boat house
- The stability of the retaining walls (e.g. east side of boat house)
- The slump of the paving around the boat dock
- The proximity of trees to the structure – dead ones which may fall on to the structure, or live ones which may endanger it through root growth
- The long term failure of cement mortar cappings, allowing moisture into the structure.

3.3.3 Ecology

The Grotto is now a ruin which has recently been cleared of natural vegetation (i.e. trees, climbers and shrubs) with the exception of a small number of trees within the Grotto fence. Wanstead Park was originally a formal landscape with a man-made landform, lakes and planting. The Park has largely been reclaimed by nature. It has significant ecological value comprising mixed deciduous woodland, acid grassland and lakes. The Park's ecology is well documented on local websites.

The Grotto occupies a very small part of the Park but complements the Park's ecology by providing a different habitat supporting different ecological niches. This habitat is the stone and brick masonry.

The masonry provides a substrate on which a range of plants and animals can live. Woody species (trees, shrubs, climbers) dominated the structure until recently (shading out most other plants) and have been removed. If the structure is kept free of 'woody' vegetation and not sprayed with herbicide, other plants including wild flowers, grasses, ferns, bryophytes and lichens will gradually colonise and increase in abundance and diversity.

The remaining walls, arches and alcoves support several crevices and cavities. These provide nest sites for birds such as wren and potentially others such as kingfisher (which nested in the past), pied wagtail, etc. Nesting birds and their nests are legally protected (kingfisher receives special protection) under UK legislation. These crevices and cavities also have high potential to support bat roosts of species such as common pipistrelle, soprano pipistrelle, Daubenton's bat, etc. All bats and their roosts are legally protected under UK and European legislation.

A small number of trees have been retained within the fence and these include two mature yew *Taxus baccata* to the west side of the Grotto. Other trees include poorly grown sycamore *Acer pseudoplatanus*, hawthorn *Crataegus monogyna* which are of no significant ecological or other value.

The recent clearance of other vegetation from the land around the Grotto has left disturbed ground which has largely been colonised by ruderal plant species of no significant ecological value. The lake side of the Grotto supports a very small strip of marshy grassland and beyond is a large area of emergent vegetation – these habitats are of some ecological value supporting invertebrates, birds, etc. As the lake levels have dropped, the wetland plant communities will have changed and no doubt will continue to change over time to adjust to changing water levels in future and the deposition of silt and leaf litter.

Area	Description	Condition	Comments
A	South side of passageway	Fair	• Horizontal surfaces mortar capped and some pointing carried out in 2017 • Some capping has cracked • Few areas where pointing is deficient and few hollow areas • Older areas of repairs have cracked
B	Western entrance to passageway	Generally sound	• Some areas have been repaired with hard cement mortar and concrete. Cracks around these areas • Timber lintel above the door opening is rotten (although there is anecdotal evidence this may be cladding to a steel or concrete beam) • Voids on east face of wall
C	North side of passageway	Sound	• Plants removed, cracks repaired, small areas of rebuilt brickwork and some repointing carried out in 2017
D	Tunnel	Very sound	• Areas of concrete repairs • Cracks repaired and recently repointed
E	Front elevation (facing boat dock)	Fair, but with deteriorating areas	• Significant areas of soft red brickwork are in very poor condition • Vertical crack along west jamb of large opening to boat dock, with unsupported brickwork at low level • Repointing urgently required at eastern end of the wall and top surface needs to be stabilised
F	Stand-alone section of masonry	Sound	• Limited repairs carried out • Several loose stones at eastern end need to be pointed to secure them
G	Western section	Deteriorating	• Dangerously loose portions of masonry, large crevices, individual loose stones and bricks and plant growth
H	Front elevation (facing the lake)	Good, but with deteriorating areas	• Low-level cracks recently repaired and some crevices filled in • Fissures and areas of loose pointing • Vegetation growth
J	Entrance ramp	Good	• Comprehensively repaired in 2017. Two low retaining walls repaired/ rebuilt and repointed and steps replaced with railway sleepers in 1990s
K	Retaining wall to west of boat dock	Good	• Comprehensively repaired/rebuilt and furnished with tile capping
L	North-west corner of boat dock	Unstable	• Lower parts repaired recently but still deteriorating
M	Retaining wall to east of boat dock	Good	• Rebuilt and capped in 2017 • One small area to south poorly pointed

Figure 17: Summary of the current condition of the Grotto by area



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Figure 18: Areas specified in Odgers Conservation Condition Survey (2017)

4.0
Assessment of significance

4.1 Introduction

Assessing significance is the means by which the cultural importance of a place and its component parts is identified and compared, both absolutely and relatively. The purpose of this is not merely academic, it is essential to effective conservation and management because the identification of elements of high and lower significance, based on a thorough understanding of a site, enables owners and designers to develop proposals that safeguard, respect and where possible enhance the character and cultural values of the site. The assessment identifies areas where no change, or only minimal changes should be considered, as well as those where more intrusive changes might be acceptable and could enrich understanding and appreciation of significance.

Statutory designation is the legal mechanism by which significant historic places are identified in order to protect them. The designations applying to the Grotto are listed in Section 3.1.3. However, it is necessary to go beyond these in order to arrive at a more detailed and broader understanding of significance that considers more than matters archaeological and architectural-historical. Here, this is achieved by applying the criteria set out in Historic England's *Conservation Principles, Policies and Guidance* (2008), a document that has helped to bring a much-needed clarity to the use of the term 'significance.'

Conservation Principles describes four different value groups that contribute to the significance of a place:

Evidential value: derives from the potential of a place to yield primary evidence about the past. It can be natural or man-made and applies particularly to archaeological deposits, but also to other situations where there is no relevant written record;

Historical value: derives from the ways in which past people, events and aspects of life can be connected through a place to the present. A place may illustrate some aspect of the past, and thus helps to interpret the past, or be associated with an important person, event or movement;

Aesthetic value: this may derive from conscious design, including the work of the artist or craftsman; alternatively it maybe the fortuitous outcome of the way a building or place has evolved; and,

Communal value: regardless of their historical or aesthetic value, many places are valued for their symbolic or social role, often as a source of identity to people and communities. This may encompass a spiritual or commemorative role.

In assessing the significance of Grotto an additional value has been identified:

Ecological value: an assessment of the importance of sites, habitats and species. They can be considered significant at a wide range of scales from international to local. Present interest may differ from past and potential interest.

The assessment of significance is usually an amalgam of these different values, and the balance between them will vary from one case to the next. What is important is to demonstrate that all these values have been considered. This is achieved by assessing the significance of the whole site relative to comparable places, and the relative significance of its component parts.

4.1.1 Assessing the significance of the Grotto

The following assessments have been informed by the historical development of the site (summarised in **Chapter 3.0**) as well as site visits and fieldwork assessments. In addition to the different types of interest that contribute to significance, four levels of significance have been identified:

- **Highly significant**: elements of the site that make a major contribution to the Grotto's special interest (i.e. the listed status)
- **Moderately significant**: elements of the site that contribute to special interest
- **Neutral**: elements that make no contribution to the Grotto's special interest but do not detract
- **Detracts**: elements that are considered negative features that obscure or harm the Grotto's significance.

These terms will be used in the following Sections and significance plans.

4.2 Summary statement of significance

The Grotto is an enigmatic focal point in Wanstead Park and, in conjunction with The Temple, is emblematic of its important eighteenth-century phase of landscape design. It is situated at a key historic location within the wider landscape and today marks the boundary between the more formal, early eighteenth-century landscape and the more naturalised later eighteenth-century landscape. Today, as historically, it is experienced both as an intriguing and surprising incident, alternately obscured and revealed along routes of the Park, as well as reflected in long views across the Ornamental Water.

The Grotto's heritage significance derives primarily from its surviving fabric. It was not designed as a ruin and therefore its current condition partially obscures the aesthetic value of the Grotto's initial form and character. Historically the Grotto housed three uses, a boat dock, a grotto dining/ entertainment room and keepers' accommodation. Whilst multi-use landscape buildings were common during the eighteenth-century, this combination of uses housed in a building of rustic style is highly unusual.

As a landscape and waterscape feature the Grotto's overall significance is fundamentally connected to its setting and it is highly sensitive to changes within it. Historically the setting of the Grotto at the edge of a lake and framed by dark, dense, overhanging tree cover would have added to its sense of mystery and magic. However, the recent vegetation clearances and drop in water level mean that the Grotto is currently disconnected from the lake and highly visible due to recent vegetation removal. This change in setting undermines the surprise and mystery of the Grotto and detracts from its overall significance.

4.3 Significance by value

4.3.1 Evidential value

The Grotto offers evidence for one of the ways in which historic landscapes were embellished, as a structure situated purposefully in a highly visible location in order to create interest and/or terminate an important view.

The surviving standing fabric of the Grotto also offers evidence about how this type of structure was constructed, namely from a brick masonry shell with stone fixed to the exterior via iron pins and lime mortar. From a consideration of other grottos (see grey box Grottos – comparative analysis on page 25) this was a common method of construction used at many other grottos.

Therefore although the Grotto has evidential value by nature of its location in a designed landscape and evidence of construction, this is limited by the fact that there are many other, similar examples.

4.3.2 Historic value

The historic value of the Grotto primarily derives from its association with the Child family and the fact that, despite its ruined state, it is one of the few legible reminders of the important mid-eighteenth century phase of landscape design at Wanstead Park, unlike, for example, the earthworks of The Fortification. However, this association is currently undermined by the condition of Wanstead Park, which has been degraded through both the demolition of the historic house and subsequent development pressures on the estate.

The historic interest of the Grotto itself is strengthened by two additional factors. Firstly, by the high level of documentation on both its appearance and use from the time it was built in the 1760s to its destruction in the 1880s. Heathcote Tatham's plans, elevations and sections in particular make the Grotto as well documented as those at Stourhead and Painshill (both drawn in a similar manner by Fredrik Magnus Piper). Secondly, by the group value it has with the Temple, a contemporary structure, which also survives. The juxtaposition of their two contrasting architectural styles – the cool classical and the fantastical rustic – complement each other and add to the significance of each. To a lesser extent, the Grotto also has historic value due to its association with the City Corporation and the history of Epping Forest.

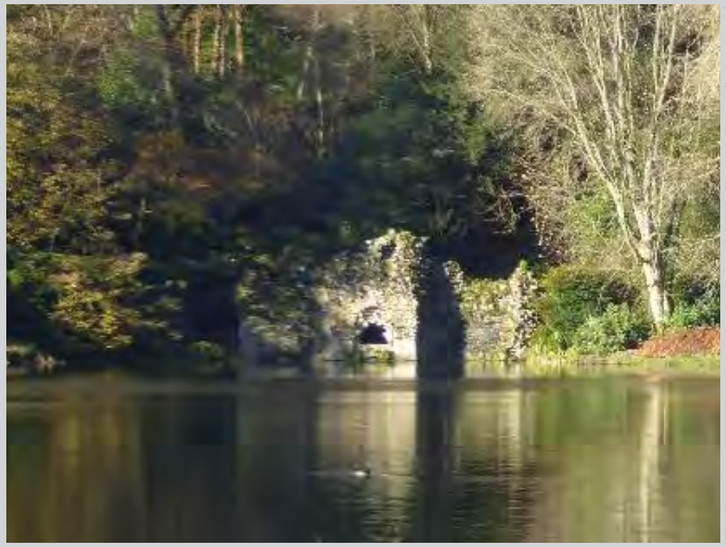
The Grotto also has historic interest as part of the wider eighteenth century craze for grottos, which was inspired by the grottos of the Italian Renaissance seen by young aristocratic men on trips to Italy (the so-called 'Grand Tour'). Even in its current condition, the Grotto at Wanstead is an important part of a group of surviving grottos of a similar date, scale and plan which are also associated with water, including those at Stowe (Bucks), Painshill (Surrey), Fonthill (Wilts), Oatlands (Surrey), Stourhead (Wilts) and St Giles House (Dorset).

Grottos – comparative analysis

Grottos are highly diverse and eclectic in their planform and overall design. In addition, other landscape structures such as boat houses could be 'grotto-ised' in a rustic style such as those at Powerscourt, County Wicklow and Stourhead, Wiltshire.

Relatively few mid-eighteenth-century grottos of the scale of Wanstead's Grotto survive intact and several of the best have been brought back from the brink of dereliction in the last few decades (e.g. Stowe, Painshill, St Giles House etc.). Its closest contemporary in terms of experience, was probably that at Painshill Park in Surrey. This grotto would also have been approached via both lake and land and was covered in the same distinctive limestone. However, this grotto did not house the diversity of uses as that at Wanstead.

One example of a landscape building which did propose to combine three similar uses to those seen at Wanstead's Grotto was Humphry Repton's 1793 unexecuted design for the boathouse at Highams in London Borough of Waltham Forest, which included a boat house at lake level, a fishing pavilion above and keepers' accommodation split over two-storeys to the rear. It is possible, given the fact it was proposed thirty years after Wanstead's Grotto was constructed and the fact that Highams is only four miles from Wanstead Park, that the mix of uses at Wanstead informed the design at Highams, albeit in a classical rather than a rustic style.



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Figure 19: Grade I grotto at Stourhead (c. 1748, entrance added 1776)



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Figure 20: Grotto (1740) adjacent to Japanese Garden (1908) at Powerscourt



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Figure 21: Grade II rockwork boat house at Stourhead (1794)



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Figure 22: Boat house at Powerscourt (Italianate gardens designed in 1840s)

4.3.3 Aesthetic value

The Grotto's aesthetic value is the cornerstone of its significance as a designed landscape feature. It can be broadly divided into two distinct but interrelated facets; the aesthetic value of the Grotto derived from its role in the wider landscape and the aesthetic value of the design and structure of the Grotto itself. These are discussed separately below.

Role in the landscape

The Grotto site, on the banks of the Ornamental Water, has always been an important point in the landscape. Today it marks the intersection between the remains of the formal, early-eighteenth-century design and the mid-eighteenth-century, more naturalistic incarnation.

Historically the Grotto fulfilled two dual design purposes within the wider landscape design, firstly as an interesting, surprise incident on visitors' journeys around the estate; even in its current ruined state the Grotto remains a visually arresting presence in the landscape. Secondly, as a focal point for views across the Ornamental Water, again a function it still fulfils today. Water had a special significance in the canon of the landscape style as William Gilpin wrote in (1748):

> *Water is of as much Use in a Landskip, as Blood is in a Body; without these two essentials, it is impossible there should be Life in either one or the other.*

Therefore, the Grotto's relationship with the Ornamental Water is of the upmost importance to its overall significance.

As specified in Section 4.3.2, the Grotto also has group aesthetic value with another contemporary structure, the Temple. These represent polar opposites in terms of the style. However, it is this juxtaposition – the cool classical and the fantastical rustic – that enhance the significance of each.

Design

Aside from its role as an eye-catcher in the landscape discussed in the previous Section, the Grotto building also housed three other uses: a boat dock, an upper room for dining and entertainment and keepers' accommodation to the rear. The precise construction sequence for the Grotto, including whether it was envisaged as single building from the start or added to or extended later, is still unclear.

Multi-purpose garden buildings were common during the eighteenth-century. However, the combination of these uses (boat dock, dining/entertaining grotto room and keepers' accommodation) in one building is unusual, particularly when contained in a building decorated in the rustic style.

The aesthetic value of the Grotto itself does not derive from it being a ruin. Indeed, its current condition can be said to partially obscure the aesthetic value of the Grotto's historic design, although the damage wrought by the fire also has limited aesthetic value. Rather, the Grotto's current aesthetic value derives primarily from the surviving legibility of its complex design and unique multi-use.

4.3.4 Communal value

The communal value of Wanstead Park as a whole was investigated in Chris Blandford Associates' (2011) *Conservation Statement*, which concluded that:

- the public park is highly valued as a wild and natural place of great beauty, particularly within a relatively dense urban context;
- people value the access to nature, wildlife and active recreation that the Park provides in addition to the sense of tranquillity and surprise; and,
- there is a strong sense of ownership of the site within the local community, evident in the strength of local community organisations such as the Wanstead Parklands Community Project, the Friends of Wanstead Park and the Wren Conservation Group.

The Grotto, as one of the most recognisable features of Wanstead Park (even in its degraded state), contributes to the communal interest identified above. This is strengthened by the continuity of interest in the Grotto, which was used by the Tylney family and was still being shown to visitors in the later 19th century. This is unusual as by this time the Victorians had cultivated something between indifference to total contempt for relics of the Georgian era.

4.3.5 Ecological value

Wanstead Park is significant at a local (borough) level. It is part of *Epping Forest South Site of Metropolitan Importance for Nature Conservation* which lies in a *Green Corridor*. The Park supports a diverse range of habitats. 'Lowland Mixed Deciduous Woodland', 'Lowland Dry Acid Grassland', 'Mesotrophic Lakes' and 'Ponds' which are UKBAP priority habitats (equivalent to Habitats of Principal Importance listed in the NERC Act, 2006).

The Grotto provides a habitat and ecological niches which are not found elsewhere in the Park. Of particular potential value are crevices and cavities in the walls, arches and alcoves of the Grotto which may support roosts of bats such as common pipistrelle, soprano pipistrelle and the less common Daubenton's bat. These crevices and cavities in the stonework and brickwork have different thermal properties to tree roosts or roosts in buildings around the Park. The proximity of the Grotto to water increases the potential for Daubenton's bats to roost.

If an important roost were present, this could be significant at a local (borough) level. Soprano pipistrelle bats are a United Kingdom Biodiversity Action Plan (UKBAP) priority species (equivalent to Species of Principal Importance under NERC Act, 2006). Bats and their roosts are legally protected under UK and European law. Bats are also regarded as keystone species due to the critical role that they have on the ecosystem. A keystone species is often a dominant predator whose removal allows a prey population to expand and often decreases overall diversity.

Other features of ecological value include nest sites for birds (including kingfisher in the past) and the marshy grassland and large area of emergent vegetation on the lake side of the Grotto.

4.4 Significance by area

4.4.1 Front façade

The façade to the water (front façade) is **highly significant** as the Grotto's primary elevation. The loss of statues and other material, its current degraded condition and the variety of repairs **detracts** from the Grotto's overall significance.

4.4.2 Planform

The historic planform of the Grotto, as shown in Charles Heathcote Tatham's 1822 sketch is still legible and as such is **highly significant**. However, as with the front façade, the condition of the surviving materials **detracts** from the Grotto's overall significance.

4.4.3 Rest of the structure

The remainder of the surviving Grotto structure, particularly materials that are thought to be historic, are **moderately significant**. However, the further loss of material following the fire and a range of different types of repair **detracts** from the Grotto's overall significance.

In some cases, historic elements have been preserved but in unsympathetic ways. For example, whilst the soft, historic material of the boat dock floor survives it is currently protected by geotextile and concrete slabs which **detract** from the Grotto's overall significance.



Figure 23: Significance plan of the Grotto

4.5 Setting

4.5.1 Introduction

The definition of setting given in the National Planning Policy Framework (NPPF) (2018, Annex 2: Glossary) is:

> *The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.*

This means that all heritage assets have a setting, separate from the concept of curtilage, character and context. However, the contribution made by the setting to the significance of heritage assets varies considerably and is subject to change over time. Where a setting has been compromised by cumulative change, consideration still needs to be given about the effect of additional change.

Defining the extent, nature and contribution of a heritage asset's setting can be challenging. Historic England offers guidance on this in its Historic Environment Good Practice Advice in Planning Note 3 (Second Edition): The Setting of Heritage Assets (December 2017).

This states that one of the most used expressions of a setting's contribution to the significance of a heritage asset is through views. These can be either static (from a fixed point and with a distinct focus) or dynamic (an evolving view that changes as one moves through a place). They can also encompass a variety of different views of, from across, or including the asset.

However, the setting of a heritage asset encompasses more than just this purely visual impression. It is influenced by other environmental factors such as dust, noise, vibration from other land uses and our understanding of historic relationships between places.

Historic England has divided these additional attributes into two different categories; the asset's physical surroundings and the experience of the asset.

A setting's attributes that relate to physical surroundings include:

- topography
- other heritage assets
- orientation and aspect
- historic materials and surfaces
- openness, enclosure and boundaries
- functional relationships and communications.

A setting's attributes that contribute to the experience of the asset include:

- views from, towards, through, across and including the asset
- intentional intervisibility with other historic features
- visual dominance, prominence or role as a focal point
- tranquillity, remoteness, 'wildness'
- scents and smells
- sense of enclosure, seclusion, intimacy or privacy.

The following Sections outline the contribution of the Grotto's setting its significance, both historically (as it was designed) and today. This is followed by an evaluation of significant views of the asset.

4.5.2 Contribution of the Grotto's immediate surroundings to its significance

Historically

As a structure within a designed landscape, the setting of the Grotto is fundamental to its overall significance. Two elements in particular are of the highest importance: the Grotto's relationship to the lake (discussed in more detail in Section 4.3.3) and the surrounding planting.

Historic maps may offer some evidence for the initial planting design around the Grotto, but, because they cover the entire estate or large parts of it, they often do not show the area in enough detail to be able to determine a certain design approach definitively. However, from the evidence available and from later, early-twentieth-century photos it appears that for most of its history the Grotto was secluded in an area of woodland. This would fit with the setting of many other grottos (see grey box Grottos on page 15), in which the heavily wooded backdrop enhances the rustic, romantic and naturalised architectural style of the grotto itself. A wooded setting also fits with the Grotto's role as a surprising element of interest when touring the landscape (which would be alternately obscured and revealed).

In light of this, the yews around the building – and stumps of lost yews – make a very important contribution to the Grotto's overall significance. Yew was a fairly standard backdrop-forming tree at the time. Its dark foliage helps buildings to stand out and the dense evergreen nature allows concealment from strategic points. The plane trees, concentrated around the water (one just east of the Grotto outside the perimeter fence), also make a very important contribution to the Grotto's overall significance. They appear to be of different dates but the oldest could date from Humphry Repton's alterations to the Park in the mid–1810s.

Today
The Grotto's immediate surroundings have changed throughout the course of its history. There are three main differences, all of which have an impact on the Grotto's overall significance. These are:

1. **Vegetation changes**
   The immediate vicinity south of the Grotto was largely cleared of vegetation *c.* 5–10 years ago. In addition, the vegetation in and around the Grotto has been removed in order to protect its structural integrity. It continues to be treated with herbicide 2–3 times a year.

   The loss of vegetation in the immediate vicinity of the Grotto, in addition to the new clearing to the south, means that the Grotto is more visible, undermining its role as a surprising incident that is alternately obscured, revealed and happened upon when journeying around the Park. The loss of surrounding vegetation has also resulted in a loss of the dark, naturalised backdrop that historically complemented and enhanced the Grotto's mysterious atmosphere. Therefore the current lack of vegetation around the Grotto **detracts** from its overall significance.

2. **Water level**
   As set out in Section 4.3.3, the relationship between the Ornamental Water and the Grotto is of fundamental importance to its overall significance.

   The level of the Ornamental Water has fluctuated both within and between years since it was created. On the whole, however, the water has been near level to the bottom of the Grotto's front façade, meaning it could be viewed reflected in the water in long views across the lake, as intended.

   However, since 2015 the water level has dropped substantially (c. 0.5–1m) and the area in front of the Grotto is now dominated by emergent vegetation. Whilst this is acknowledged to have some ecological interest (see Section 4.3.3), it effectively separates the Ornamental Water from the Grotto, obscuring their relationship. Therefore it **detracts** from the Grotto's overall significance.

3. **Galvanised steel fence**
   A fence appears to have been erected around the Grotto soon after the fire in 1884, in order to protect the structure and secure public safety. This fence appears to have taken various forms over the intervening century, including an iron railing in the late-nineteenth/early-twentieth century, a wooden fence with barbed wire during the mid-twentieth century and the present galvanised steel fence, installed in the early 1980s.

   The current fence, despite being painted green in order to help it blend in with the surrounding vegetation, undermines visitors' appreciation of the Grotto and therefore **detracts** from its overall significance.

4.5.3 Important views

Views are fundamental to the way in which visitors experience landscapes and structures and are therefore an important part of their significance.



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Figure 24: Early-twentieth-century postcard of the Grotto


©ABA

Figure 25: The Grotto in 2018

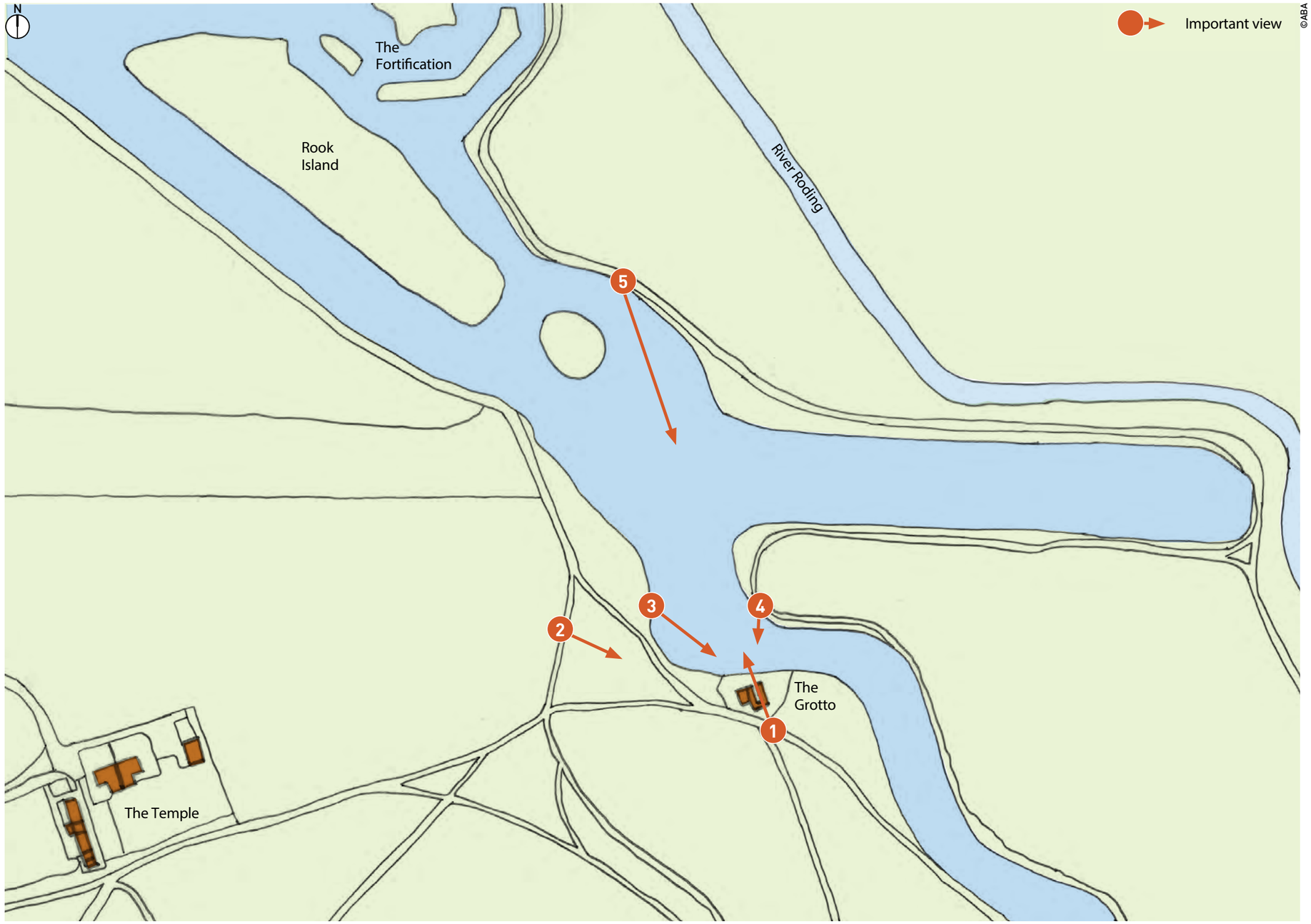


Figure 26: Important views


© ABA

View 1
This view looks north through the rear of the Grotto ruins to the Ornamental Water beyond. It was created purely as the result of the 1884 fire and today it allows visitors to appreciate the Grotto's intimate relationship with the Ornamental Water. This view is gradually revealed or obscured as visitors walk respectively towards or away from the structure on the path to the south. Before the fire, this area would have been the location of the rear of the Grotto building and the privileged views out over the Ornamental Water would have been experienced from the boat dock and the Grotto above.


© ABA

View 2
This view looks east towards the side of the Grotto from the path connecting the Ornamental Water to the Temple. Because of its proximity to the Temple, this is often visitors' first experience of the Grotto. Due to the planting of trees in this area, the Grotto is gradually revealed as visitors walk further northwards along this path.


© ABA

View 3
This view looks south-east towards the front of the Grotto from the eastern bank of the Ornamental Water. It is one of two short-distance, oblique views of the Grotto and, because of its proximity to the Temple, is likely the most familiar view to visitors.


© ABA

View 4
This view looks south-west towards the front of the Grotto from the western bank of the Ornamental Water. This is the second of two short-distance oblique views of the Grotto. However, as this bank is located closer to the Grotto than View 3, this view offers a better viewpoint to appreciate the Grotto's facade.


© ABA

View 5
This long view looks south towards the Grotto from a point on the eastern bank of the Ornamental Water just south of The Fortification. This view demonstrates the glimpse of the Grotto in the distance, which is gradually revealed and obscured, which is experienced by visitors along this route.

5.0
Policy recommendations

5.1 Introduction

The Grotto is at a turning point in its history. It is over a century since it was severely damaged by fire and since then the structure has also suffered from vandalism. The cumulative loss of material undermines current visitors' appreciation of the Grotto's significance; as a result, it was added to Historic England's Heritage at Risk Register in November 2017. In addition to the historic loss of material, various condition surveys commissioned by the City Corporation over the last decade have confirmed that, whilst recent repairs have stabilised certain areas in the short-term, the whole structure will continue to be at risk in the medium to long-term unless works are implemented which protect the structure from the effects of plant growth and weather as well as address the Grotto's inherent structural problems. However, there are many other examples of eighteenth-century grottos that have been brought back from the brink and the City Corporation is dedicated to ensuring a sustainable future for the Grotto.

5.2 The Grotto's future

The aim of this CMP is to help the City Corporation to remove the Grotto from the Heritage at Risk Register and to help determine a successful and sustainable future for the Grotto. It provides a framework for making decisions about the Grotto's future and also sets the direction of travel for emerging proposals. To this end, various options for the future of the Grotto were discussed at the two stakeholder consultation workshops (see Chapter 2.0).

The outcome of this consultation was a consensus that the most realistic path for removing the Grotto from the Heritage at Risk Register whilst not precluding a building (whether that is a full or partial restoration or a new build) in the longer-term, would be to restore the façade to its eighteenth-century appearance (as far as possible). This was considered to be a realistic medium-term ambition which would substantially improve visitors' appreciation of the Grotto's significance.

The policies set out in the following Sections seek to help the City Corporation achieve this ambition to remove the Grotto from the Heritage at Risk Register and secure its successful, long-term future.

5.3 Key priorities

Responsibilities and maintenance: the many different facets of the Grotto's significance and its split management between the City Surveyors and Epping Forest departments of the City Corporation means that careful co-ordination is required in its ongoing management and maintenance.

Structure and surviving fabric: although the direction of travel for the Grotto's future – as a restored façade – has been determined, both the works required to achieve this end and the approach taken needs to be defined further.

Security: one of the main concerns for the City Corporation, now as throughout the twentieth century, is the security. As the Grotto will remain a ruin in the medium-term, some sort of fence or other security measure will be necessary in order to protect the surviving fabric. However, the location and form of these security measures needs to be carefully considered.

Accessibility: ideally the Grotto would be publically accessible but given that it is likely to remain a ruin in the medium-term full public access is likely not possible. However, accessibility makes a large contribution to understanding heritage assets' significance and as such the City Corporation should explore opportunities to enhance public access, including utilising volunteers, where possible.

Interpretation and presentation: the Grotto does not need to be fully restored in order enhance visitors' appreciation of its significance. A well-thought out and creative scheme of interpretation, which places the Grotto in its wider setting and context, would enhance visitors' appreciation of the Grotto's significance.

Ecology: the Grotto has some ecological interest both in its own right and also as a part of Wanstead Park. The fact that the Grotto is a landscape feature means that ecology must be a priority in its future management, a fact reinforced by its current condition as an open ruin. However, careful thought will be needed in order to balance the ecological and heritage significance of the Grotto.

Relationship to the Ornamental Water (immediate setting): the biggest problem facing the City Corporation in relation to the management of Wanstead Park as a whole is the management of its water system. This directly impacts the Grotto, which was designed to be seen and experienced primarily from the water. The fact that there is little appreciation of this relationship today detracts from the Grotto's significance. Other elements of the Grotto's immediate setting, notably planting and views also need to be taken into account.

Relationship to Wanstead Park (wider setting): the Grotto, aside from being a significant structure in its own right, was constructed as part of a designed landscape. This relationship to the wider Park is an important consideration in its future development and management and any scheme for the Grotto should be seen in the context of the wider, future vision for the Park as a whole.

5.4 Responsibilities and maintenance

5.4.1 Implementing the Plan

Risks

- Without high-level endorsement and a collective responsibility for ensuring the plan is used, policies may not be implemented effectively
- If it is not regularly reviewed and updated the plan will quickly go out of date, undermining the relevance of the policies and the plan's credibility as a source of information

Opportunity

- Adoption and implementation of the plan will improve management of the Grotto's significance and awareness of the importance of conserving it

Discussion

This Conservation Management Plan is intended to be an active tool for the long-term management of the Grotto. It will be adopted as one of the primary documents for guiding the future care and preservation of the Grotto and its setting, to establish a coherent and unified approach amongst all parties who participate in its management. Therefore, the Plan should inform all proposals for care or change so that the conservation and enhancement of the site's significance are placed at the heart of all decision-making and all actions. For this to happen, the Plan must be formally adopted as policy by the City Corporation.

In addition, those involved in the Grotto's management – namely the City Surveyors and Epping Forest (City Open Spaces) – have a joint responsibility for ensuring that the Plan and its policies are executed. To help achieve this, an additional agenda item will be added to the currently held Heritage Liaison Meeting between these bodies to discuss and track progress of the implementation of the CMP.

The City Surveyors and Epping Forest will also see to it that those responsible for the management and care of the site are aware of the Conservation Management Plan; understand its purpose, principles and format; and, implement its policies when making decisions and carrying out action. Copies of the Plan (electronic or paper as appropriate) should be made available to all those responsible for the management of the site, and the understanding of history should be used to inform interpretation.

Finally, for the Plan to remain relevant, it also needs to be reviewed regularly and revised as appropriate to take account of new understanding, changing priorities and external influences.

Policies

001. The Conservation Management Plan will be formally adopted as policy by the City Corporation as one of the principal sources of guidance in the management of the Grotto

002. The City Surveyors and Epping Forest will be jointly responsible for ensuring the Conservation Management Plan is observed in the management of the Grotto and its policies are implemented

003. The Conservation Management Plan will be used as a tool to actively promote understanding and appreciation of the site's significance among staff, volunteers and contractors working on the Grotto

004. The Conservation Management Plan will be reviewed periodically by the City Corporation, at intervals of no more than five years

5.4.2 Routine maintenance

Risks

- Without an agreed schedule for maintenance the significant, historic fabric of the Grotto will continue to deteriorate

Opportunity

- Agreeing a set maintenance schedule will allow routine works to the Grotto to be undertaken in a proactive, timely manner that would help to safeguard its historic fabric and overall significance

Discussion

Maintenance encompasses both non-reversible building repairs as well as the strimming of annual vegetation growth on site. Therefore, it falls into the responsibilities of both the City Surveyors and Epping Forest. At the present the only maintenance schedule associated with the Grotto is a 20 year budget plan for potential works, which is reviewed by the City Surveyor's facilities managers, in consultation with the Senior Heritage Estate officer. Activities such as the spraying of herbicide, organised by the Epping Forest office, take place in an ad hoc manner.

As discussed in Chapter 2.0, the CMP consultation reached the consensus that continuing with the 'business as usual' approach and managing the Grotto as a maintained ruin was not feasible. This was due to a combination of the continuing decline of the structure and the lack of improvements in security, interpretation and presentation. Therefore, the immediate focus for the Grotto's future should be on the commissioning and implementation of a Restoration and Maintenance Plan (see Section 5.5.1). This will include immediate works required to stabilise and consolidate the structure. In addition, it will include a maintenance plan for use at the end of these works, encompassing a schedule for both periodic surveys of the Grotto's built fabric and vegetation maintenance, to be agreed in conjunction with the City Surveyors and Epping Forest. As this Plan may take time to commission and produce, the Grotto's existing fabric should be periodically monitored (for example yearly) against the rectified photography in Appendix B in order to record and track further loss of historic fabric.

Policies

005. As part of the Restoration and Maintenance Plan, the City Surveyors and Epping Forest will commission a joint maintenance plan for the Grotto (to take effect following the completion of restoration works) which includes a schedule for both periodic surveys and vegetation maintenance

006. The City Corporation will commission yearly visual surveys that compare the current state of the Grotto to rectified photography in order to track further loss of historic fabric

5.4.3 Statutory controls

Risks

- The need to obtain consent could delay or prevent works to the Grotto, leading to a deterioration of the historic fabric
- The need to obtain consents adds to the cost of administration and management

Opportunities

- An efficient and stream-lined process of consent means that repairs and other works can be carried out in a timely fashion, reducing administration costs, helping forward planning and budgeting as well as minimising the risk to the significance of the site

Discussion

The Grotto is statutorily listed at Grade II and as such work to the structure will require listed building consent. In addition, works may require planning permission and/or species licensing requirements. The City Corporation will continue to work closely with Historic England, London Borough of Redbridge and Natural England to help make sure cyclical maintenance takes place in a timely manner. In addition, the City Corporation will liaise with these bodies at an early stage during any proposed new works to the Grotto in order to ensure the project programme and design adequately takes account of any necessary consent or mitigation requirements.

Policies

007. The City Corporation will continue to work closely with Historic England, London Borough of Redbridge and Natural England to ensure both cyclical maintenance and new works take place in a timely manner and with all the necessary consent requirements

5.4.4 Enhanced Listing

Risks

- The current list entry does not reflect the full history or significance of the Grotto, making it harder for all stakeholders to make decisions about the impact of proposed changes to the site

Opportunities

- Updating the list entry to reflect new knowledge gained from excavations and research will result in a more thorough understanding of the site's significance, making it considerably easier for stakeholders to make decisions about the impact of proposed changes to the site

Discussion

The current list entry for the Grotto dates from when it was initially included in the National Heritage List in 1954. It contains only a very brief and factual description about the structure. No information is offered about the Grotto's history or significance.

The Grotto's list entry can be updated and expanded through Historic England's Enhanced Listing. Following the first workshop on 7 January 2019, Historic England recommended that the City Corporation undertake this as part of the long-term future of the Grotto, to make considering the impact of future proposals easier.

Policies

008. The City Corporation will look into updating the list entry for the Grotto through Historic England's Enhanced Listing service

5.4.5 Level of protection

Risks

- An insufficient level of protection of the Grotto's historical and/or ecological significance could lead to an erosion of its overall significance

Opportunities

- Formal recognition of the Grotto's various strands of significance, codified in designations, would ensure its overall significance is preserved

Discussion

The Grotto, both in itself and as part of Wanstead Park, is currently subject to several designations, concerning both heritage and ecology, outlined in Section 3.1.3. The scope and level of these designations should be reviewed periodically, in addition to any potential new designations, in order to take account of new historical research and changing ecological conditions. This will ensure that the level of protection remains commensurate with the Grotto's assessed level of significance.

Policies

009. The City Corporation will regularly review the Grotto's level of heritage and ecological protection to ensure its significance continues to be effectively protected

5.5 Structure and surviving fabric

5.5.1 The Grotto and the Heritage at Risk Register

Risks

- Without implementing a realistic programme of works the Grotto will continue to degrade and will be characterised as a higher priority on the Heritage at Risk Register

Opportunities

- By implementing works to restore the Grotto's façade and improve its setting, its significance will be better revealed, ultimately leading to its removal from the Heritage at Risk Register

Discussion

As set out in Chapter 2.0, the most realistic approach for the Grotto's medium-term future, which would achieve all of Historic England's minimum requirements for removing the Grotto from the Heritage at Risk Register, is to restore its façade. In order to achieve this, the City Corporation needs to commission a costed Restoration and Maintenance Plan, setting out all of the necessary works, organised in a schedule of discrete work packages, required from now over the next two to seven years. This plan needs to be commissioned in the next few months in order to maximise the efficiencies and funding opportunities presented by the wider mitigation works which will take place as a result of Environment Agency's 'high risk' designation of Wanstead Park's Large Raised Reservoirs.

Policies

010. The City Corporation will commission a Restoration and Maintenance Plan to specify works to restore the Grotto's façade, repair its structure and assist in its removal from the Heritage at Risk Register

5.5.2 Investigating the Grotto's foundations

Risks

- Without a thorough knowledge of the Grotto's foundations works could either cause further damage to the structure or inadequately protect it

Opportunities

- A thorough understanding of the Grotto's foundations would enable engineers and architects to better plan future works

Discussion

The nature and extent of the Grotto's foundations are not known. Richard Griffiths Architects' 2011 Report on Condition with Recommendations recommends a number of trial pit investigations in specific locations, conducted under archaeological observation, in order to establish the depth of the footings. The City Corporation should commission this investigation prior to any further work to the Grotto so that this can be planned more.

Policies

011. The City Corporation will commission trial pit investigations at the locations specified in Richard Griffiths Architects' 2011 report prior to any further work at the Grotto



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Figure 27: Lead statue of Andromeda, historically located on the Grotto's front facade

5.5.3 Recovered material

Risks

- Without cataloguing and a more secure storage solution the recovered material could be lost or damaged and the opportunity to re-use it in the restoration of the Grotto would be lost

Opportunities

- Re-use of recovered material will reinstate historic fabric and better enhance the Grotto's overall significance

Discussion

Following the fire in 1884, which severely damaged the Grotto, the structure has continued to lose fabric as a result of structural deterioration and vandalism. Some of this fabric has been recovered, particularly from the lake, and is currently stored in the open on site. As a priority, the City Corporation should investigate a more secure way of storing the stones, preferably on site. This could take the form of a temporary, lockable structure.

Following the safe storage of the recovered material, the City Corporation should commission an archaeological recording exercise of all the recovered material. This should include both geological identification and comparison with historic photos in order to ascertain, if possible, their historic location.

Policies

012. The City Corporation will work with Historic England to investigate a more secure way to store the recovered material on site, including the construction of a temporary structure

013. The City Corporation will commission an archaeological recording exercise to determine each stone's geology and likely historic location (if possible)



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Figure 28: Recovered material currently stored in the open

5.6 Security

Risks

- Insufficient or inadequate security could lead to further damage of Grotto's fabric and harm to its overall significance

Opportunities

- Appropriately sited and discreet security would help to protect the Grotto's fabric without obscuring its overall significance

Discussion

The question of security is fundamental to the management of heritage assets because it is essential in order to protect the historic fabric and by extension the site's significance. Most grottos are located in private, secure landscapes and are situated in areas within them that lend themselves naturally to security, such as hollows or depressions. In addition, most grottos have only one or two entrances which can be secured via a locked gate. This is not the case for the Grotto at Wanstead Park which is located in a public park and within that, in a fairly open, flat location. As such, the issue of security has consistently been one of the main management problems throughout its history. This has been exacerbated in recent years by the drop in the level of the Ornamental Water which has allowed people access to the Grotto via the banks.

Up to now, the City Corporation's approach to the Grotto's security has taken the form of three successive types of fencing. The current galvanised steel fence is large and unsightly and detracts from the Grotto's overall significance. However, due to its location in a public park, which is likely to remain open for the foreseeable future, it will always be necessary to have some form of security. The nature of this, including the possibility of creating a ha-ha or moat in addition to different types and locations of fending, should be reviewed as part of the Restoration and Maintenance Plan (see Section 5.5.1). In this great weight should be given to the appreciation of the Grotto within its setting. Ways to improve security in the short-term, such as installing CCTV cameras in the Grotto's vicinity, should be implemented by the City Corporation immediately whilst this longer-term review is undertaken.

Policies

014. The City Corporation will review the Grotto's security as part of the Restoration and Maintenance Plan

015. The City Corporation will ensure that future security measures do not, as far as possible, adversely impact visitors' experience of the Grotto in its setting

016. The City Corporation will install CCTV in the vicinity of the Grotto in the short-term to immediately improve the site's security

5.7 Accessibility

5.7.1 Public access to the Grotto's structure

Risks

- A lack of public access obscures appreciation of the Grotto's significance

Opportunities

- Public access would increase visitors appreciation of the Grotto's significance and that of Wanstead Park as a whole

Discussion

The Grotto is an instantly recognisable feature of Wanstead Park and one of its few surviving and instantly identifiable historic landscape features. The Grotto's visibility in views from points around the Ornamental Water, as well as a long tradition of public access and continuity of interest in Wanstead Park as a whole, accounts for the Grotto's high communal value. However, public access to the Grotto's structure itself was historically low and constrained largely to privileged guests of the Child family and paying visitors in the late-nineteenth century. Since the fire, even this minimal access has been lost through legitimate concerns over the safety of the structure.

Public access, in addition to views, of heritage assets is a substantial public benefit. Therefore, ways of increasing the public's access to the Grotto should be explored as part of any future works, including the Restoration and Maintenance Plan. This could involve the possibility of tours and supervised open days in addition to involving volunteers in the actual works. Implementation of any one of these options will require effective management by the City Corporation in order to ensure that the significance of natural and built assets is not adversely affected. For example, whilst the inclusion of volunteers in any future work is encouraged their involvement will need to be carefully defined and supervised by relevant staff and/or experts.

Policies

017. Through the Restoration and Maintenance Plan the City Corporation will explore ways to increase public access to the Grotto, including utilising volunteers, as part of any future works

5.7.2 Eastern approach and new bridge

Risks

- Lack of access to the bank east of the Grotto means two important views are not experienced by most visitors, undermining their appreciation of the Grotto's overall significance

Opportunities

- A discreet new bridge, giving easier access to the bank east of the Grotto, would improve visitors' appreciation of two important views on this side of the Ornamental water, thereby enhancing its significance

Discussion

During the early nineteenth century a bridge was constructed from the eastern side of the Grotto to the far bank of the Ornamental Water. Although since demolished the foundations survive. This impacts visitors' appreciation of the Grotto as two important views of it from a bank to the east are less accessible.

The Parkland Plan proposes to reinstate a bridge in order to improve access to the eastern side of the Ornamental Water, which is currently underused. Prior to any design development the City Corporation should commission investigations to determine the loading requirements of these foundations in order to decide if these could be reused.

As any proposed bridge is likely to be visible in views of the Grotto, it should be of a discreet design which should not 'read' as part of the Grotto, but be distinctly separate from it. Suggestions for hiding its western end when seen from strategic viewpoints, for example with vegetation, should be explored.

Policies

018. The City Corporation will investigate the surviving foundations of the historic bridge to the bank east of the Grotto and will conduct investigations to determine loading requirements

019. The City Corporation will ensure the new bridge is designed to be 'read' as distinct from the Grotto, with its western end hidden from strategic viewpoints

5.8 Interpretation and presentation

Risks

- A lack of engaging presentation and interpretation fails to fully reveal the Grotto's significance

Opportunities

- A thoughtful and intuitive strategy for interpretation and presentation would help to better reveal the significance of the Grotto and its contribution to Wanstead Park's wider history

Discussion

The way in which heritage assets are presented to visitors and, in turn, how people interpret them, lies at the heart of successful conservation management. An engaging, well-thought out presentation and interpretation strategy is essential for visitors to understand and fully appreciate a site's overall significance.

Although there is currently no set decision about the long-term future of the Grotto, there are many ways in which its interpretation and presentation could be improved. Ideas discussed at the first stakeholder consultation workshop included:

- Marking out the historic footprint of the Grotto
- Explore ways of reinstating elements that recreate a sense of the opulent and eccentric atmosphere of the Grotto
- Providing information boards with information and photographs of the Grotto's history
- Publicising (via leaflet or board) a walk around the circuit of the lake based on the historic route, allowing viewpoints of the Grotto to be better appreciated.
- Provide more benches at significant viewpoints

The City Corporation should explore these, and other, options as part of the Grotto's longer-term management to produce a robust interpretation and presentation strategy for the Grotto. These should be viewed and, where possible, integrated into the wider interpretation and presentation strategies for the rest of Wanstead Park and linked to other contemporary structures, particularly the Temple.

Policies

020. The City Corporation will explore options to better present the Grotto both as a single structure of significance as well as part of a designed landscape

5.9 Ecology

5.9.1 Overall approach

Risks

- Biodiversity is not considered in any long-term strategy for the future of the Grotto, undermining its significance as a landscape feature

Opportunities

- By considering ways to enhance the site's ecology as part of any scheme for its future development, the ecological value of the site at various scales will be preserved and enhanced

Discussion

The Grotto is an historic structure of high heritage value. However, it is also a landscape structure with ecological value both in and of itself and as part of Wanstead Park and the wider designated Green Corridor. Therefore, any scheme for its future must consider its ecological impact and the City Corporation should seek a net gain in biodiversity where possible.

To be successful, the management of the area surrounding the Grotto's structure needs to be practical, low cost and avoid the development of tall ruderal vegetation (such as thistles, willowherbs, nettle etc.) which, although of some ecological value, is unlikely to be appreciated by most visitors. There are two main options:

1. To plant trees and shrubs and introduce plants which live in semi-shade (such as bluebell, primrose, red campion, ferns etc.)
2. To cut the grassland twice a year in early spring and late summer/early autumn, raking off cuttings into heaps and planting a range of suitable wildflowers appropriate to the soil conditions around at the Grotto (such as oxeye daisy, cowslip, knapweed, bird's-foot trefoil etc.)

The preferred option may change in the short-, medium- and long-term depending on the various stages of works to the Grotto. However, throughout any proposed works the City Corporation should seek to introduce a selection of appropriate, locally native species which would help to sustain and enhance biodiversity.

The Grotto is also a waterscape feature and its relationship to the Ornamental Water is fundamental to its significance. The current ecological condition and significance of the Ornamental Water – both in terms of its water quality as well as its flora and fauna – will need to be investigated as part of the wider 2021 Large Raised Reservoir works. The results of these studies, particularly in the vicinity the site, should be taken into account in any proposals for the Grotto's future management.

Policies

021. The City Corporation will review the ecological impact of any future scheme and will seek a net gain in biodiversity where possible

022. The City Corporation will investigate ways to enhance biodiversity in the vicinity of the Grotto through the introduction and translocation of appropriate, native species as part of any proposed works

023. The City Corporation will take into account the findings of any ecological surveys of the Ornamental Water when making decisions about the Grotto's future management

5.9.2 Existing trees

Risks

- A lack of information on the trees in the immediate setting of the Grotto could lead to their mistreatment or removal which would undermine the Grotto's overall significance

Opportunities

- A better understanding of the trees' age and condition would aid the management of the site and enhance its overall significance

Discussion

The immediate setting of the Grotto includes two mature yew *Taxus baccata* trees. Currently little is known about these trees and following the first stakeholder workshop Historic England advised that a tree survey be carried out of the trees in the immediate setting of the Grotto to BS5837 (BSI Standards Publication: Trees in relation to design, demolition and construction – Recommendations, 2012) in order to collect information on the age and health of trees in the area. This would inform analysis of their heritage and nature conservation contribution and guide decisions on retention, management or removal with mitigation if necessary. This should be completed as part of the wider review of the Grotto's immediate setting (see Section 5.3.5).

Policies

024. The City Corporation will commission a tree survey to BS5837 of all trees in the immediate setting of the Grotto

5.9.3 Vegetation on the Grotto

Risks

- Vegetation removal to protect masonry can result in destruction of plants of ecological interest

Opportunities

- By introducing small wildflowers and ferns, where it does not affect the structural integrity of the Grotto, its romantic and natural character would be enhanced, and in turn its overall significance

Discussion

Stone and brick masonry of different aspects can support a range of specialist plants which are adapted to exposed and impoverished conditions. These are of ecological interest. At present, only very small areas support crustose lichens or other plants. This is due to the fact that until very recently the Grotto was covered and shaded by trees, shrubs and ivy, meaning there has not been sufficient time for plants to colonise the structure.

Before works are conducted on the Grotto, the City Corporation should commission an ecological survey of these plants in order to better understand their ecological interest and contribution to the site's significance. Where plants of interest are identified, the City Corporation will commit to retaining these where they do not adversely affect the integrity of the Grotto structure. If removal of species of nature conservation significance is required the City Corporation will commit to mitigation measures, in consultation with Natural England.

The introduction and encouragement of wildflowers, grasses and ferns (including spleenworts) should be considered as part of the restoration of the Grotto and the immediate surroundings, both to increase the naturalised and romantic nature of the Grotto itself as well as enhance the site's overall ecological interest. Species should be selected, sourced and planted in consultation with relevant stakeholders.

Policies

025. The City Corporation will commission an ecological survey of the existing vegetation present on the structure of the Grotto in order to better understand its ecological interest

026. Where species of ecological interest are identified, the City Corporation will commit to retaining these where they do not adversely affect the integrity of the Grotto structure

027. If species of nature conservation significance require removal the City Corporation will implement appropriate mitigation measures, in consultation with Natural England

028. The City Corporation will look into introducing, translocating and encouraging appropriate species of wildflowers and ferns where they would not adversely affect the Grotto's structural integrity or its nature conservation interest or that of the adjacent designated area

5.9.4 Bats

Risks

- Works which disturb bats and/or damage/destroy bat roosts cannot be legally carried out without a Natural England bat mitigation licence

Opportunities

- A bat survey would aid understanding of the ecological interest and potential of the site
- Additional roost sites could be created at the Grotto, increasing its ecological interest

Discussion

Bats are keystone species due to their important role in the ecosystem. Some species are listed as UKBAP priority species and all UK bats are legally protected. They are of high ecological interest and help to maintain insect diversity and abundance.

There is potential for the crevices and cavities within the Grotto to support roosting bats. Where roosts are affected by works, a bat mitigation licence can be obtained to allow those works to legally be carried out whilst retaining or replacing those roost sites in a 'like for like' way.

A range of roosts sites can be created without affecting the integrity or the appearance of the Grotto. Such roost sites could include small cavities within the walls or even a bat cave (with a locked grate which bats could pass through but which would prevent human access) which bats could use for hibernation and also potentially as a maternity roost.

Policies

029. The City Corporation will commission bat dusk emergence and dawn re-entry surveys of the Grotto from June to August to record any current bat roosts

030. The City Corporation will look into creating additional bat roosting features, where this does not conflict with plans for the future of the Grotto, in order to increase the site's ecological significance

5.9.5 Nesting birds

Risks

- Undertaking works which would disturb nesting birds is illegal

Opportunities

- A survey of nesting bird sites at the Grotto would aid understanding of the ecological interest and potential of the site

Discussion

Nesting birds are legally protected in the UK. Small cavities within the masonry of the Grotto may be used by nesting birds such as wren, pied wagtail, grey wagtail, kingfisher, etc. These can also be used as night roosts by small birds and can be particularly important in harsh weather conditions.

There are signs that wrens have nested in the Grotto and a number of other species may also nest. The City Corporation should commission a full survey of these sites in order to better identify the nature and number of nesting sites.

Policies

031. The City Corporation will commission a nesting bird survey to ascertain which species currently nest within the Grotto structure and where

5.10 Immediate setting

5.10.1 Immediate setting

Risks

- The current open setting of the Grotto does not reflect its historic character and undermines its overall significance

Opportunities

- Restoring a more secluded setting to the Grotto will enhance visitors' appreciation of its significance as a landscape feature that is 'discovered' at various points in the historic landscape

Discussion

Evidence from historic maps, paintings and twentieth-century photos show that historically the Grotto was surrounded by trees which provided a secluded setting. In addition, historic photographs from the first half of the twentieth century show the Grotto romantically overshadowed by large trees.

As an element of an eighteenth-century landscape, the Grotto was designed to be partially obscured and revealed at certain points in the landscape in order to cultivate a sense of surprise and delight in visitors. Its current open character detracts from visitors' appreciation of this element of the Grotto's significance. Therefore, as part of the Restoration and Maintenance Plan (see Section 5.5.1) the City Corporation should commission a review the Grotto's current setting, which would identify potential improvements such as reinstating a good cover of trees in the vicinity of the Grotto and clearing vegetation from significant viewpoints. The City Corporation will ensure that any proposed work resulting from this review will comply with nature conservation legislation and planning policies. This may mean implementing avoidance, mitigation or compensation-type approaches as necessary to ensure compliance and environmental sustainability objectives are met.

Policies

032. The City Corporation will review the Grotto's immediate setting as part of the Restoration and Maintenance Plan, which should include a discussion of the merits of reinstating a good cover of trees in the Grotto's immediate vicinity as well as clearing vegetation from significant viewpoints

5.10.2 Relationship with the Ornamental Water

Risks

- Appreciation of the Grotto's significance as a waterside feature will continue to be obscured by the low water level that disconnects the Grotto from the Ornamental Water

Opportunities

- Reinstating a water level adjacent to the Grotto will enhance visitors' appreciation of its significance as a waterside feature

Discussion

In recent years the water level of the Ornamental Water, adjacent to the Grotto, has dropped substantially. This has resulted in a large shallow area of emergent vegetation dominated by Purple loosestrife *Lythrum salicaria*. Although this wetland vegetation is of ecological interest the water level has a fundamental impact on the Grotto's overall significance and its current level considerably detracts from visitors' appreciation of it as a waterscape feature and boathouse.

A detailed plan for the future of Wanstead Park's waterscape is included in the Parkland Plan. This aims to make the lakes sustainable in terms of water supply, ecology, invasive species, habitat provision and heritage. In addition, in January 2018 the Ornamental Water, in conjunction with other Large Raised Reservoirs (designated under the 1975 Reservoirs Act) in Wanstead Park, was designated at 'high risk' of economic damage and/or loss of human life by the Environment Agency. Under the 1975 Act, this means the City Corporation are statutorily obliged to undertake remedial works within the next three years (to 2021).

As part of this project the City Corporation should ensure the relationship between the Grotto and the Ornamental Water, so fundamental to its overall significance, is fully taken into account. This would build on the Parkland Plan which states that the ornamental aspect of the waterscape around the Grotto should take priority over the 'natural' or unmanaged edges and margins. The Ornamental Water's optimum level should be determined in consultation with an historic landscape specialist as part of the Restoration and Maintenance Plan.

Raising the level of the lake will inevitably change the extent and types of wetland habitats (which are nearly always of ecological importance) as well as the various water depths used by different waterfowl (which require different depths to feed). Therefore, it is essential that the impact of any proposed works on both the Grotto and the Ornamental Water's natural conservation significance as a whole are assessed prior to commencement. In deciding on proposals, the City Corporation should seek a net biodiversity gain where possible through measures such as profiling banks where appropriate to create suitable conditions for marsh and emergent habitat to re-establish.

The City Corporation will ensure that any proposed work resulting from this review will comply with nature conservation legislation and planning policies. This may mean implementing avoidance, mitigation or compensation-type approaches as necessary to ensure compliance and environmental sustainability objectives are met.

Policies

033. The City Corporation will ensure the relationship between the Ornamental Water and the Grotto is taken into account during the Large Raised Reservoir Works taking place until 2021

034. In the area of the Ornamental Water around the Grotto, the City Corporation will prioritise reinstating the historic water level (which is of heritage significance) over the ecological interest of the current emergent vegetation

035. The City Corporation, as part of the Restoration and Maintenance Plan, will determine the optimum level of the Ornamental Water in the vicinity of the Grotto in terms of its heritage significance

036. The City Corporation will investigate the ecological impact of achieving the optimum level of the Ornamental Water

037. The City Corporation will seek a net gain in biodiversity during work to the Ornamental Lake including the possibility of re-profiling banks to allow marsh and emergent vegetation to re-establish

5.11 Wider setting

Risks

- Long-term proposals do not acknowledge the Grotto's wider relationship with Wanstead Park, undermining their success and obscuring the Grotto's overall significance

Opportunities

- Developing long-term proposals for the Grotto in conjunction with those for Wanstead Park as a whole means that both sites will have a better chance of a sustainable, successful future

Discussion

Although the Grotto is a significant structure in and of itself, it forms part of the wider site of Wanstead Park. Like the Grotto, the Park is currently on the Heritage at Risk Register and as a result various documents, particularly the Parkland Plan, have been commissioned in recent years which aim to reach a consensus on how best to secure the Park's future.

In light of this, and the 2021 Large Raised Reservoir works, various packages of major works are likely to be implemented across the Park in the next few years. Although, as discussed in Section 5.5.1 proposals for the Grotto should form part of these works in order to maximise efficiencies and funding opportunities, it is realistic to state that the Grotto is not an operational priority in the context of this wider scheme. During the CMP's consultation process, this was the main reason why the construction of a building, whether a full or partial restoration or new build, was deemed unfeasible in the short- to medium-term. However, this consultation process also concluded that in the longer-term a building was desirable, and so no works in the short to medium-term should preclude the construction of such in the future. The use of any such building should be guided by the future needs of Wanstead Park. As these become clearer, a Feasibility Study should be commissioned to evaluate the financial and operational viability of different potential uses, taking into account the Parkland Plan and this CMP, in order to ensure the Grotto's optimum viable use.

Policies

038. The City Corporation will decide the form, character and use of any potential building behind the Grotto in the context of the wider, future management of Wanstead Park

039. Once the future needs of Wanstead Park are more fully understood, the City Corporation will commission a Feasibility Study to evaluate the financial and operational viability of different potential uses for the Grotto

6.0
Action plan

6.1 Introduction

The policies in Chapter 5.0 recommended a number of additional studies and reports which would help the City Corporation remove the Grotto from the Heritage at Risk Register and determine a path towards its successful and sustainable future. During consultation (see Chapter 2.0) a consensus developed that the most realistic path to achieve both these ends would be to restore the façade to its eighteenth-century appearance (as far as possible).

The table presented in this Section provides both costings for the recommended additional studies as well as organising them in order to urgency, from essential to desirable. This provides the City Corporation with a clear picture of the immediate next steps they need to take to achieve their aims for the Grotto. These costs are indicative and based on our experience, industry contacts and current rates. These costs may need to be revised subject to detailed requirements, timescales and other factors.

Work required	Relevant policies	Description	Assumptions	Approximate cost	Urgency
Restoration and maintenance plan	005 010 014 017 032 035	• RIBA Stage 3 design for the restoration of the front (waterside) façade of the Grotto, in line with Policy 009. • Combined team of heritage consultant, architect, landscape specialist and cost consultant • To include: - drawings showing restored façade - drawings showing planting proposals - costings for proposed works - sufficiently detailed schedule of works - information on materials & workmanship - consultation with stakeholder groups • To consider: - design of fence and other security measures - enhanced public access - enhanced interpretation - optimum water level	• No more than three meetings to discuss the development of the Restoration and Maintenance Plan with stakeholders including LB Redbridge, Historic England, Natural England and the Friends of Wanstead Parklands	£35,000	Essential
Structural investigations into the Grotto's foundations and historic bridge (Watching Brief)	011 018	• Prepare a scope for the investigations and a brief project design for the Watching Brief, coordinate tender process • Attend site during the works and record archaeologically trial pits excavated manually by attendants, maximum of 6 trial pits and 2–3 window samples (a day's work) • Direct the excavation of the brick piers as necessary • Prepare a brief note to summarise the findings of the investigations aimed at establishing the extent and shape of the foundations • Undertake an initial assessment of the capacity of the bridge foundations to carry a new bridge structure and prepare a brief summary note	• The site investigations for the Grotto and the bridge will be procured together at the same time as a single piece of work • The foundations to the Grotto and bridge are less than 1.5m deep, and trial pits will not need shoring or dewatering ¬ – we have assumed each trial pit takes one day, with a daily rate of £600. • We have allowed for window sampling to confirm ground conditions below the bridge foundations – we have assumed that one day of sampling will be sufficient.	£20,000	Essential
Installation of CCTV	016	• Installation of two camera IP system with Alarms and Audio challenge including: - Two 4MP IP cameras with IVS Tripwire alarms 128GB SD card will record when movement is detected - One 8 Ohm line level class D amp and one speaker - One custom camera pole 6 m - One 4G router	• A 240 volt power supply is already provided on site	£2,500 £35/ month for one year SIM contract £18 / week monitoring charge	Essential

Work required	Relevant policies	Description	Assumptions	Approximate cost	Urgency
Monitoring loss of historic fabric	006	• Yearly visual examination of the Grotto to identify loss of historic fabric, measured against the baseline of the 2018 rectified photography • Production of a short note of findings	• Only one site visit will be necessary per review • The reviews will be undertaken at yearly intervals during the spring months. This will allow any winter damage to be captured and any recommended works to commence before the next winter.	£2,750 (yearly)	Essential
Feasibility Study	039	• A Feasibility Study to evaluate the operational and financial viability of different potential uses of the Grotto. This can only take place once the future use of Wanstead Park as a whole, and the Grotto's role in it, is more clearly defined.	• TBC	TBC	Essential (long-term)
Archaeological and geological recording of loose material	012 013	• Prepare a project design in accordance with the CIFA guidance on the documentation of archaeological materials and Code of Conduct • Record stones on site archaeologically. The recording will include the creation of a context register, photographs of individual items, measurements and labelling for storage (it is assumed that the City of London will be responsible for storing the stones) • The recording exercise will be supported by the geological examination of the stones, to be outsourced to Pre-construct Archaeology • Examination of documentary evidence to identify former location of individual items on façade, where possible, aimed at helping with the reconstruction of the asset • Production of photographic report to summarise the findings of the investigation, including photographic evidence of each item with a brief interpretive summary. The report will also include a drawing of the former locations of the stones on the façade (where understood) and it will also include the information resulting from the geological analysis of the stones.	• No more than 200 individual items will need to be recorded • The City Corporation will provide some means of secure storage following the assessment	£13,000	Advisable
Ecological surveys	023 025 029 031	• Take account of the findings of any ecological surveys of the Ornamental Water • A survey of existing vegetation on and around the Grotto (higher plants) • A survey of lichens and bryophytes (mosses and liverwort) • Two bat dusk emergence surveys and a dawn re-entry survey • Two nesting bird surveys	• The survey of existing vegetation will take place in summer, on the same day as the bat dusk emergence surveys • The bat dusk emergence surveys can only be undertaken between May and September inclusive, with the optimal months being June to August. • The first nesting bird survey will be undertaken between April and mid-May, immediately prior to the bat dusk emergence survey. • The second nesting bird survey will be undertaken between mid-May and the end of June, immediately prior to bat dusk emergence survey or after dawn survey.	£4,500	Advisable
BS5837 tree survey	024	• Tree survey undertaken in accordance with BS5837: 2012 to review all tree stock within influence of the Grotto. • Provision of a baseline Tree Constraints Plan and accompanying survey schedule, along with a covering note detailing the survey findings, policy and Tree Preservation Order data searches. The document will set out any recommendations for enhancement, vegetation removal or replanting as required to demonstrate betterment and sound conservation enhancements with regard to arboricultural matters.	• Tree survey to include those trees marked on the site plan given in the Conservation Management Plan for the Grotto. • Full site access will be provided for site visits. • Details of any known site hazard will be provided prior to site visits in order to inform a risk assessment. • Only one draft and one final version of the report are required. • No attendance is required at team meetings or consultation events	£2,000	Advisable
Interpretation boards	020	• Design three A0 information boards to display around the Grotto • Printing and delivery of boards to Epping Forest's central office	• No more than three, A0 boards will be required	£8,000	Desirable

7.0 Sources

7.1 Reports

Beasley, M., 1993. *Wanstead Park, The Grotto. Assessment Phase 1. Level III Assessment Report.*

Chris Blandford Associates, 2011. *Wanstead Park – Conservation Statement*

City Surveyor's Department, 2016. *Quinquennial Inspection Report.*

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Debois Landscape Survey Group, 1994. *Wanstead Park: A Survey of the Landscape*

Dix, B., 2011. *Wanstead Park Project – The Boathouse Grotto*

Jeffrey, S., 2000. *The Boathouse Grotto, Wanstead Park*

LDA Design, 2018. *Wanstead Park – Conceptual Options Plan and Cost Planning Study – Ref F.*

Litten, J. 1991. *The English Way of Death: The Common Funeral Since 1450.* Hong Kong: Bookbuilders Limited.

London Borough of Redbridge, 2016. *Archaeological Priority Area Appraisal.*

London Parks & Gardens Trust, 1999. *Proceedings of Study Day held at the Temple, Wanstead Park, Greater London*

Museum of London Archaeology, 2017. *The Grotto, Wanstead Park, London E11 – Report on a survey of stone masonry*

Odgers Conservation, 2017. *The Grotto, Wanstead Park, London - Condition Survey and Conservation Appraisal for the low level standing remains*

Richard Griffiths Architects, 2011. *Wanstead Park, The Grotto - Report on Condition with Recommendations*

7.2 Newspaper articles

Essex Newsman, 29 November 1884, 'Destruction of Wanstead Park Grotto', p. 3.

Essex Standard, 21 September 1838, 'South Essex Horticultural Society', p. 2.

Essex Standard, 23 May 1843, 'South Essex Horticultural Society', p. 3.

London Evening Standard, 2 April 1904, 'The Herons of Wanstead Park', p. 6.

Shoreditch Observer, 21 July 1883, 'A Visit to Wanstead Park', p. 3.

Shoreditch Observer, 6 April 1889, 'Notes by Captain Cuttle', p. 3.

St James's Gazette, 22 November 1884, 'Destruction of Wanstead Park Grotto', p. 12.

7.3 City Corporation Archive

A variety of files including:

- WP6 – Correspondence
- CTU-GRO-2 – Wanstead Grotto
- Chronological Account of the Grotto of Wanstead (February 1998)
- The Journal of Samuel Curwen, loyalist Volume 1, April 1776 [extract]

7.4 Published

Dugdale, J. 1819. *The New British Traveller.*

Felus, K. 2016. *The Secret Life of the Georgian Garden*. London: I. B. Taurus.

Jackson, H., 2001. *Shell Houses and Grottos*. Peterborough: PrintOnDemand-Worldwide.com

Appendix A:
National Heritage List Entries

The Grotto

Overview

Heritage Category: Listed Building

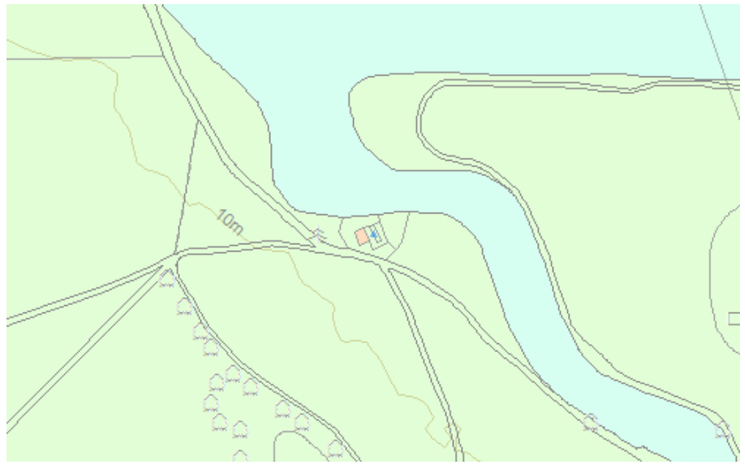
Grade: II

List Entry Number: 1183624

Date first listed: 20-Dec-1954

Statutory Address: THE GROTTO, WANSTEAD PARK E11

Map



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The above map is for quick reference purposes only and may not be to scale. For a copy of the full scale map, please see the attached PDF - 1183624 .pdf

The PDF will be generated from our live systems and may take a few minutes to download depending on how busy our servers are. We apologise for this delay.

This copy shows the entry on 28-Nov-2018 at 11:26:21.

Location

Statutory Address: THE GROTTO, WANSTEAD PARK E11

The building or site itself may lie within the boundary of more than one authority.

County: Greater London Authority

District: Redbridge (London Borough)

National Grid Reference: TQ 41926 87480

Summary

Legacy Record - This information may be included in the List Entry Details.

Reasons for Designation

Legacy Record - This information may be included in the List Entry Details.

History

Legacy Record - This information may be included in the List Entry Details.

Details

WANSTEAD PARK 1. 5027 E11 The Grotto TQ 48 NW 5/18 20.12.54 II GV 2. Circa 1762 (VCH). Large honeycomb rockwork facade of segmental plan, having 7 arches at lake level, and 3 windows above. The structure rises in pediment form.

Listing NGR: TQ4192687480

Legacy

The contents of this record have been generated from a legacy data system.

Legacy System number: 204882

Legacy System: LBS

Sources

Books and journals

Page, W, The Victoria History of the County of London including London within the bars Westminster and Southwark, (1909)

Other

Register of Parks and Gardens of Special Historic Interest in England, Part 17 Greater London

Legal

This building is listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 as amended for its special architectural or historic interest.

End of official listing

Wanstead Park

Overview

Heritage Category: Park and Garden

Grade: II*

List Entry Number: 1000194

Date first listed: 01-Oct-1987

Map



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The PDF will be generated from our live systems and may take a few minutes to download depending on how busy our servers are. We apologise for this delay.

This copy shows the entry on 28-Nov-2018 at 11:26:24.

Location

The building or site itself may lie within the boundary of more than one authority.

County: Greater London Authority

District: Redbridge (London Borough)

Parish: Non Civil Parish

County: Greater London Authority

District: Waltham Forest (London Borough)

Parish: Non Civil Parish

National Grid Reference: TQ4104087270

Summary

Legacy Record - This information may be included in the List Entry Details.

Reasons for Designation

Legacy Record - This information may be included in the List Entry Details.

History

Legacy Record - This information may be included in the List Entry Details.

Details

Remains of formal gardens, landscape park and lakes, the form of which dates mainly from the late C17 to early C19, on the site of a C16 deer park. Developed late C19 as a public park and early C20 as a private golf course, with associated sports facilities.

HISTORIC DEVELOPMENT

In 1545 a deer park was enclosed from the royal hunting forest at Epping, and included a hunting lodge built in 1499. The park included the plateau and the scarp that comprise the present (early C20) park and was bounded to the east by the River Roding. By 1549 the lodge was a ruin and it was replaced by a new house, enlarged in the late C16 by Robert Dudley, Earl of Leicester, who used it to entertain Queen Elizabeth in 1578.

The 300-acre (125ha) estate was purchased by Sir Josiah Child (1630-99) in 1673-4, who had lived there since 1667. Pepys commented that it was a 'fine seat, but an old-fashioned house' (Jeffery 1997). Sir Josiah started a massive programme of garden works, laying out a garden around the old house, with walled gardens of fruit trees, walnut plantations, and tree planting in the park. The structure of the gardens, the initial large-scale use of water, and the pattern of rides and avenues are likely to date from this period. The centrepiece of the avenues to the west was the approach from Leytonstone, and that to the east was the triple avenue along the Long Walk.

Sir Josiah died in 1704 and work was carried on by his son Richard, later Viscount Castlemain, 1718, and Earl Tylney, 1732. The initial work (1706-13) was a development of his father's work and was designed by George London (d 1714). The work included formal parterres, two large canals, a bowling green, wilderness areas, two mounts, clearings and seats, a large orangery, and a banqueting house. The gardens and old house were illustrated in bird's-eye views by Kip c 1713. Shortly afterwards, dramatic changes were made to the house and gardens in the period 1715-35. The old house was demolished and replaced by a Palladian mansion designed by Colen Campbell. The late C17 formal gardens were removed and replaced by a lawn. The Ornamental Water was made with the associated Fortification (a sham fort with battlements and guns on an island). The result of this work is depicted in John Rocque's Plan of the House Gardens Park & Plantations of Wanstead, 1735. A third phase of work was carried out between 1735 and Lord Tylney's death in 1750 (depicted in Rocque's Survey of London, 1744-6). This included irregular paths through the woodland to the east of the house and a series of ponds on the south side of the house (the Square, Perch, Heronry, Formal and Reservoir Ponds, and the Great Lake).

John, second Earl Tylney (d 1784) inherited the estate in 1750 and was responsible for building the Temple and Boathouse Grotto and for producing a less regular and formal landscape. The estate passed to the nephew of the second Earl in 1784 and then, in 1808, to Catherine Tylney Long who married William Wellesley Pole, a nephew of the Duke of Wellington, in 1812. William took the name of Pole Tylney Long Wellesley, and Catherine became Catherine Tylney Long Wellesley. Extensive alterations were carried out on the landscape in the period 1813-18, mostly under the guidance of Humphry Repton (1752-1818) and with planting by Lewis Kennedy. The work included plantations around the lakes, reshaping the Ornamental Water, a parterre to the west of the house, and draining the Reservoir Pond. In 1818 Lewis Kennedy made a report on the design and planting of an American Garden (recorded by J C Loudon (1822) as 'one of the largest ... in the kingdom'). Following the work, Repton described Wanstead as 'one of the most magnificent places in this country'. Unfortunately the extravagance of Catherine's husband resulted in the loss of her fortune and in 1822 the contents of the house were auctioned to satisfy the creditors. The house was demolished and the materials sold in 1824. Catherine died the following year. The parkland was let for grazing, mature trees were felled, and the gardens were neglected.

In 1882 the Corporation of London purchased part of Wanstead Park and it was opened to the public as part of Epping Forest, which includes Bush Wood. The remaining land was retained by Lord Cowley and much of the land on the edges of the park and estate was sold off to developers in the late C19 and early C20. The land at the centre of the park (including the site of the house and gardens) was sold in 1920 and became the Wanstead Golf Club, in which use it remains. The Corporation of London started a programme of replanting in the 1970s but many trees were lost in the 1987 and 1990 storms. In 1992 the Corporation of London initiated a ten-year management plan of their part of the park.

DESCRIPTION

LOCATION, AREA, BOUNDARIES, LANDFORM, SETTING Wanstead Park, c 129ha, is located to the east of Leytonstone, south of Epping Forest and north-west of Ilford, in the London Borough of Redbridge. The public park and the golf course are bounded by Overton Drive to the north-west, Warren Road and Redbridge Lane West to the north-east, the River Roding with the North Circular (A406) to the east, the City of London Cemetery to the south-east, Northumberland Avenue and Woodlands Avenue to the south-west, and Blake Hall Road (A114) to the west. Bush Wood is bounded by Bush Road (A114) to the north, Blake Hall Road and the gardens of the houses on Belgrave Road to the east, Lake House Road to the south-east, Harrow Road (B161) to the south, the east end of Ferndale Road and the gardens of the houses of Montague Road to the south-west, and Bushwood to the north-west. The ground at Wanstead has a slight slope, falling generally from west-north-west to east-south-east, towards the course of the River Roding. The boundaries of the park are marked by a mixture of wooden and metal fences, and open boundaries.

ENTRANCES AND APPROACHES There are pedestrian entrances to the public park from Blake Hall Road to the west, from Warren Road to the north-east, and numerous entrances from the south, including four channelled entrances, direct access from the rear gardens of the houses along Woodlands Avenue, and open access (where no barriers exist) along Northumberland Avenue. There are vehicular access points from Warren Road (which leads to the Temple and Keepers' Lodge), from Park Road to the south-west and from Wanstead Park Avenue to the south-east (to the Keepers' Lodge). The Golf Club is approached from Overton Drive, directly into a car parking area on the north side of the former stable and outhouse courtyard, the buildings of which now form the Clubhouse. A track leads southwards from Overton Drive, down the west side of St Mary's churchyard to the sports ground and the Basin. This track and the one from Warren Road to the Temple existed in the C18 but the remaining access points and paths are largely early C20 ones, associated with the public park. A pair of early C18 Portland stone gate piers (listed grade II*; outside the boundary of the site registered here) stand at the entrance to Overton Drive from Blake Hall Road, marking the former main entrance to Wanstead Park from the west. Access to Bush Wood can be gained from the surrounding roads.

PRINCIPAL BUILDING The early C18 house was demolished in 1824 and not replaced. The site of the house is marked by a large indentation in the ground within the golf course, which runs from c 100m south-south-east to c 250m south-south-east of Wanstead Golf Club House.

To the south of Overton Drive is the north side of a courtyard of late C18 outbuildings (coach house and stables), now the Wanstead Golf Club House (listed grade II; c 50m east of St Mary's with Christ Church). It consists of two-storey brick buildings around the sides, with round-headed archways through to the courtyard from the north and south. Additional one-storey buildings have been added to most sides and a modern (late C20) extension has been added to the south.

Also on Overton Drive and c 50m to the west of Wanstead Golf Club House is St Mary's with Christ Church (listed grade I), completed in 1790. It was built by Thomas Eamwick in a neo-classical style.

GARDENS AND PLEASURE GROUNDS The landscape is divided between the golf course (which itself is in two parts), the public park, and Bush Wood (the last two described under PARK below). The main part of the golf course (c 32ha) lies in the north-west third of the site, and includes the site of the former Wanstead House, gardens and the main C18 entrance from the west. The rest of the course (c 6ha) is divided by Warren Road and lies to the north of Wanstead Park.

Entering the site through the courtyard of Wanstead Golf Club House, a path leads south from the building and then circuits a bowling green (Wanstead Bowls Club) before emerging on to the main part of the golf course, which lies to the south, west and east. Immediately to the west are tennis courts, and a second bowling green with a pavilion, and beyond these to the west is a sports ground, with further tennis courts along the west side and a pavilion to the north (used by Linkside Tennis Club, Wanstead Cricket and Hockey Club and the Lakeside Play Group). Adjoining the tennis courts to the west is the Basin, a large octagonal lake (4.09ha), close to the north boundary of the site. Along the east side of the sports ground is a drive, which leads north onto Overton Drive. To the west of the drive is a car park and to the east the churchyard of St Mary's (c 2ha), with the church at the northern end, surrounded by wrought-iron spear railings (together listed grade II). The churchyard has a collection of early C19 and Victorian monuments, including the memorial to Joseph Wilton RA (1803, listed grade II), in Portland stone and in the form of a Greek aedicule.

The Basin, aligned on an east/west axis, was, up until the early C20, part of the main approach from the west. It was formed in the 1720s and replaced two late C17 semicircular basins with a causeway in between. From the 1720s the carriage drive circuited the Basin to the south and north. Radiating out from the Basin were avenues and rides cut through the surrounding plantations. The west/east axis continued to the east, through the centre of the house and beyond through the gardens and into the pleasure grounds and park.

A further area of sports ground lies on the west side of the golf course, adjoining Blake Hall Road and is entered from there. This includes the pitches for the Blake Hall Sports and Leisure Centre with the Redbridge Rugby Football Club.

The remaining ground is laid out as an 18-hole golf course with tree planting between the holes. The site of the house and the earthwork and archaeological remains of the gardens are within the course. The site of the house is apparent as a large indentation in the ground and to the west of this is the site of Repton's quartered 'Union Jack' parterre (1810s, replacing the late C17 and C18 forecourt), still visible as earthworks. To the south of this is an earthwork bank, which runs west in a straight line from the south side of the house site and then skirts the Basin, levelling off at the south-west edge. This marks the south side of the levelled approach from the west. To the east of the house site are the earthwork remains of the gardens, which in the late C17 consisted of parterres on either side of a garden canal (on the same axis as the Basin, c 500m to the west), with an orangery to the north, and a circular bowling green at the east end of the canal, with a pavilion to the north. In the early C18, the canal and formal gardens were removed and replaced by a lawn linked to the house by a terrace. The C17 walled gardens to the south-east of the house were removed in the mid C18 and replaced by open parkland. To the north of the gardens (mostly outside the boundary of the registered site described here, having been developed for housing in the early C20), were formal pleasure grounds, with a Wilderness, walks, clearings and a small amphitheatre. Throughout the gardens to the east of the house vistas along clearings, terraces or avenues linked the features and provided the framework of the layout. The main axes ran west/east, north/south and along the garden boundaries, and these were linked by lesser vistas and avenues which ran diagonally between them.

Within the golf course there are also the remains of medieval ridge and furrow and Roman antiquities were found in the area in the C18 and C19. The detached part of the golf course to the north-east occupies level ground and is largely open, with areas of mostly C20 tree planting.

PARK The public park, known as Wanstead Park (56ha), wraps around the south and east sides of the main part of the golf course. Wanstead Park includes a chain of lakes which extend along the south and east perimeter, the pleasure grounds, the site of the kitchen garden and much of the park. Until the early C19 the park was much more extensive, including further land to the south, south-west and north, and with extensive rides and ornamental planting over the common land and forest to the north, west and south. After being leased as agricultural land from the 1820s, much of this land was developed for housing in the late C19 and early C20, but areas survive such as Wanstead Flats to the south of the houses in the Aldersbrook area, and George Green (both outside the boundary of the registered park described here).

In the centre of Wanstead Park is the Temple (c 1760s, in present form by 1779, listed grade II), a two-storey building with a four-columned pedimented Tuscan stone portico and lower wings to each side. The Temple is placed on a mound which screens the ground floor from view from the west front, which terminates a vista from Heronry Pond up an avenue (reinstated in the 1990s as a double avenue of sweet chestnut). In the late C18 it was used as a poultry house and by the early C19 as a keeper's lodge with a garden and a pheasantry. On the north side of the enclosure on the east side of the Temple is a building, now known and used as the Keepers' Lodge.

To the north of the Temple is The Grove, which is cut through by the Long Walk, on the same west/east axis as the Basin and the centre of the former house and gardens. The Long Walk is a wide, grassy clearing which leads eastwards down to the late C17 Canal (again on the same west/east axis as the Basin, 1km to the west). The Canal is joined to the Ornamental Water on the west side, the two having been merged in the C18, but juts out as a formal canal to the east. The east end of the Canal adjoins the east boundary of the park. To the north and south of the Long Walk are the North and South Mounts (George London, early C18), visible on Kip and Knyff's view (c 1713). They were later integrated into the less formal mid C18 landscape. They survive as mounds but are now overgrown with trees. The Mounts are marked by yew hedges planted in the 1990s on the lines of the original hedges. The remains of the early C18 Great Amphitheatre lie c 100m north-west of the North Mount and are also marked by a yew hedge.

The Ornamental Water (6.4ha of water and 4ha of island) is an extensive lake set in woodland which runs south-east/north-west for 1km close to the east boundary. The southern end is quite narrow, with a meandering shoreline. This section is divided by the Canal from the northern end which is wider and has three large islands: Rook Island (c 300m north-east of the Temple), with the Fortification island c 30m to the north-east, and Lincoln Island c 30m to the north. At the northernmost point of the Ornamental Water is a pump house which draws water from the River Roding. The River Roding runs c 50-100m to the east of the Ornamental Water (the east boundary of the registered site described here), and is canalised along some sections. On the west shore of the lake, c 70m to the south of the Canal, is the Boathouse Grotto (c 1762, listed grade II), which faces north and acts as a focal point of views across the Ornamental Water. It consisted of a boathouse below and domed chamber above but was severely damaged by a fire in 1884 and now survives only as a shell. The Ornamental Water was made with the associated Fortification (a sham fort with battlements and guns on an island) in the early C18. The fort no longer survives but its island site remains with its bastions. The result of this work is depicted in John Rocque's Plan of the House Gardens Park & Plantations of Wanstead, 1735 and Rocque's Survey of London, 1744-6. In the mid C18 the lake edge was altered to provide a more natural outline, which included merging the Canal into the lake.

Along the south side of the park is a string of lakes, which run from west to east for 1km: Shoulder of Mutton Pond (1.42ha), shaped as its name suggests and with an informal edge; Heronry Pond (3.4ha), a long thin pond lined with concrete and with two large islands; and Perch Pond (2.23ha), a long thin pond with a group of small islands by the Wanstead Park Avenue entrance. Lakes were formed on this site in the early C18 and were altered to approximately their present form in the mid C18. To the west of the Shoulder of Mutton Pond lies Reservoir Wood, on the site of Reservoir Pond, which was formed in the early C18, altered mid C18 and drained by Repton in the early C19. To the west of Reservoir Pond was the early C18 Great Lake (outside the boundary of the registered park here described), which became part of the garden of the C19 Lake House, and was then drained in the early C20 and developed for housing as Blake Hall Crescent, Windsor Road, Richmond Way, Belgrove Road and Lake House Way.

The remaining ground in the park consists of areas of mature woodland (predominantly oak and sycamore - some of the oaks dating from the C17 and C18 - and elm scrub), with large open areas of grassland with scattered trees to the south of the Temple and around the southern ponds, and belts of trees along the southern boundaries. A late C20 cafe stands on the east side of the path between the Heronry Pond and Perch Pond. The C18 design still provides the framework for the footpath system but a network of smaller C20 paths have been laid out in addition.

Bush Wood, c 33ha, lies to the west of the public park, on the far (west) side of Blake Hall Road. It is an oak/hornbeam wood, with a mature canopy, and a number of large C18 sweet chestnuts. The line of the C18 approach from the west is along Bush Road, which cuts through Bush Wood and forms the northern boundary of the site described here. An avenue, known as the Lime Avenue, cuts diagonally across the Wood, south-west to north-east, from Ferndale Road to the south-west across to Blake Hall Road. It was renovated in the late C20 with standard limes and a new copse was planted at the western end. The lime avenue formed the diagonal approach towards the Basin from the south-west, mirroring one from the north-west, now lost due to C20 development.

KITCHEN GARDEN The C17 kitchen gardens were located to the south-east of Wanstead House, immediately north of Heronry Pond. In the mid to late C18 the walled productive gardens were moved to the site of former orchards and vineyards adjacent to the Ornamental Water. No walls or glasshouses survive at either site.

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Maps John Rocque, Plan of the House Gardens Park & Plantations of Wanstead, 1735 [copy in Jeffery 1997] John Rocque, Plan of the Cities of London and Westminster..., 1744-6 John Rocque, Plan of London on the same Scale as that of Paris... 1762 with new improvements 1766 Cruchley¿s New Plan of London and its Environs, 1835

OS Old Series 1" to 1 mile: Sheet 1 1805 OS 25" to 1 mile: 1st edition surveyed 1863 2nd edition published 1893-5 3rd edition published 1915

Description written: January 1999 Amended: March 2000 Register Inspector: CB Edited: May 2000

Legacy

The contents of this record have been generated from a legacy data system.

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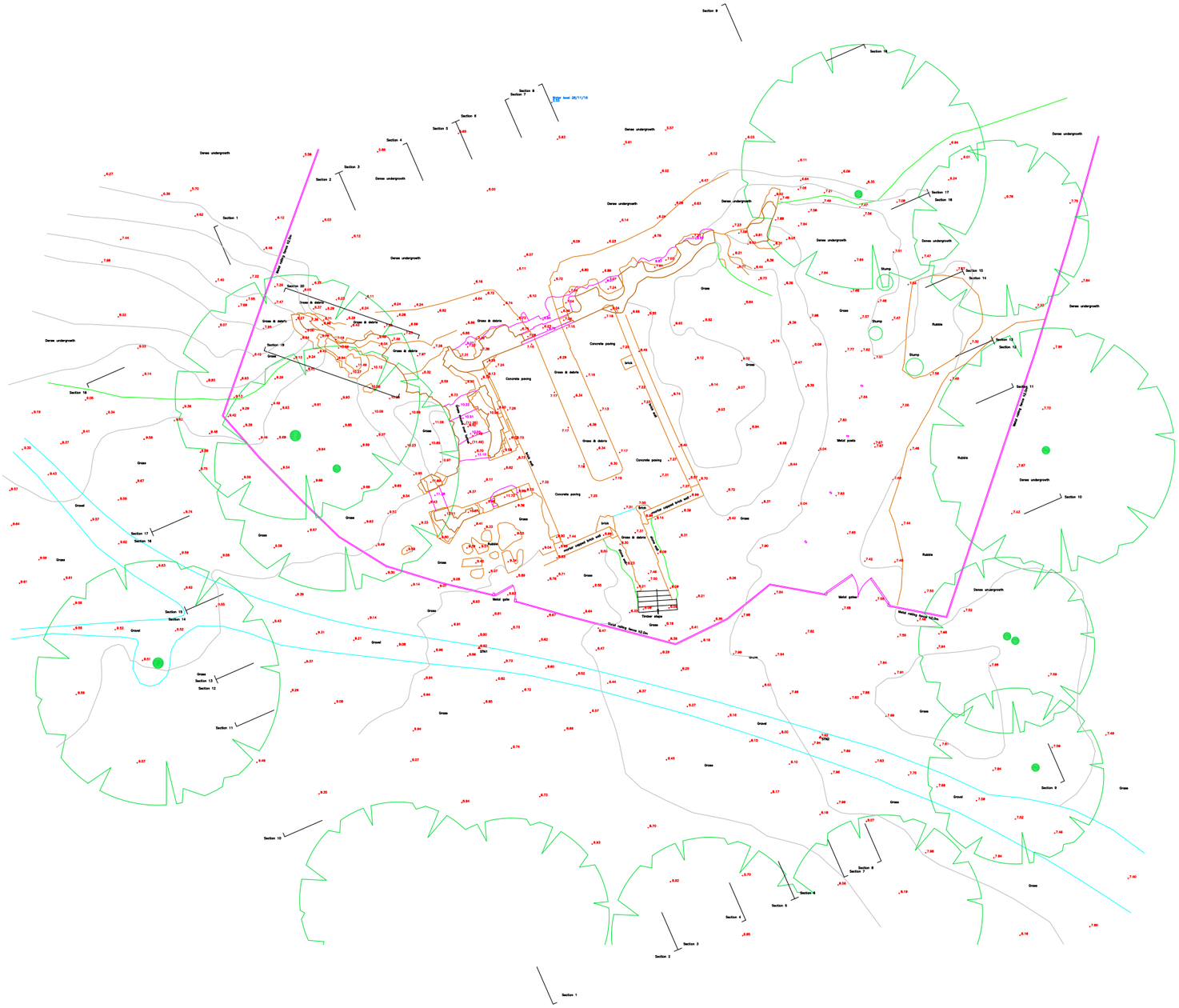
Legacy System: Parks and Gardens

Legal

This garden or other land is registered under the Historic Buildings and Ancient Monuments Act 1953 within the Register of Historic Parks and Gardens by Historic England for its special historic interest.

End of official listing

Appendix B:
Measured survey drawings



Notes:
Drawing units are metres.

Stair slope arrows point up
Direction of floor boards
Direction of roof slope (up)
2.06 Floor to Ceiling Height
AH Arch Height
SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum, Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are metres.

Wanstead Grotto, Wanstead Park, London, E11
TOPOGRAPHIC SURVEY

0 2.0 4.0 10.0 20.0 metres

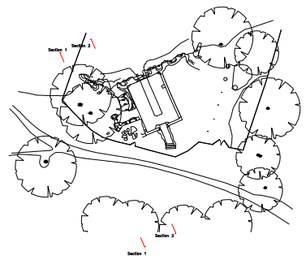
SURVEYED & DRAWN BY:
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Chartered Surveyors
www.jbrennanassociates.co.uk
UNIT 6 WARREN HOUSE,
DEEPDALE BUSINESS PARK
ASHFORD RD, BAKEWELL, DE45 1GT
TEL: 01629 814654
EMAIL: mail@jbrennanassociates.co.uk

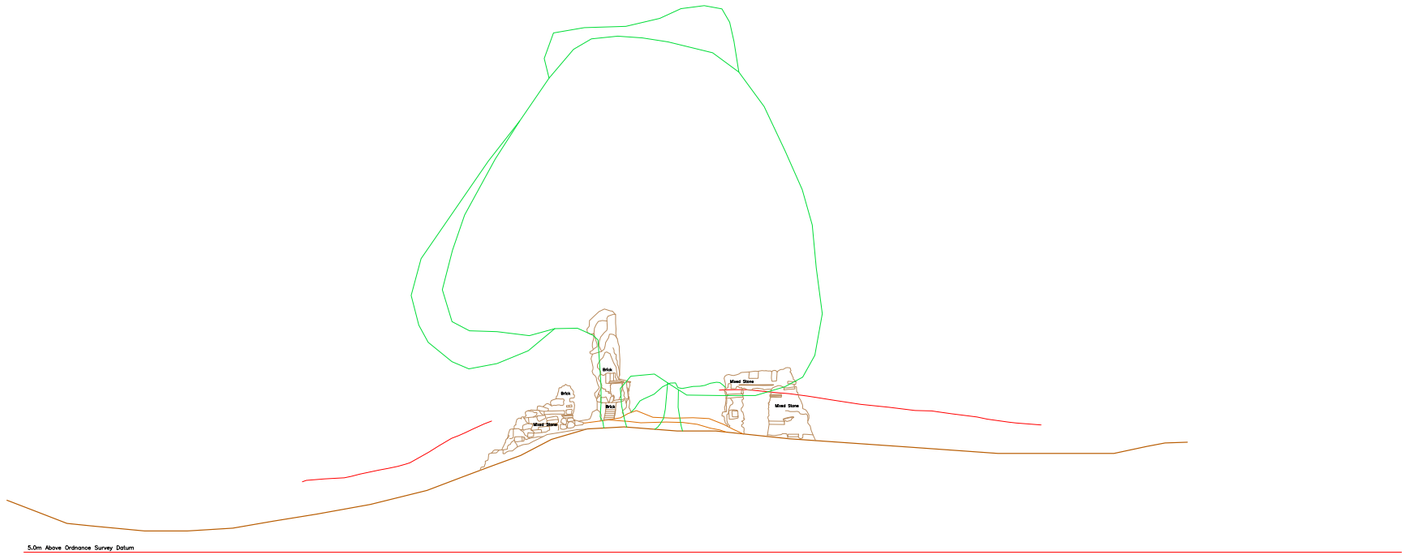
Architect:
Alan Baxter Ltd
75 Cowcross Street,
London,
EC1M 6EL

Client:
City of London Corporation

Drawing no.	18-088-TOPO
Issue date	DEC 2018
Issue status	-
Scale	1:100@ A1

Location Plan:





ELEVATION 1

ELEVATION 2

Notes:
Drawing units are metres.

- Stair/ slope arrows point up
- Direction of floor boards
- Direction of roof slope (up)
- 2.06 Floor to Ceiling Height
- AH Arch Height
- SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum. Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

SITE ELEVATIONS

0 2.0 4.0 10.0 20.0 metres

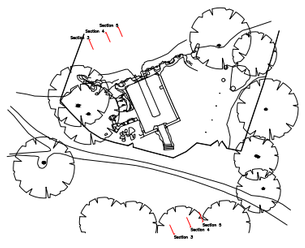
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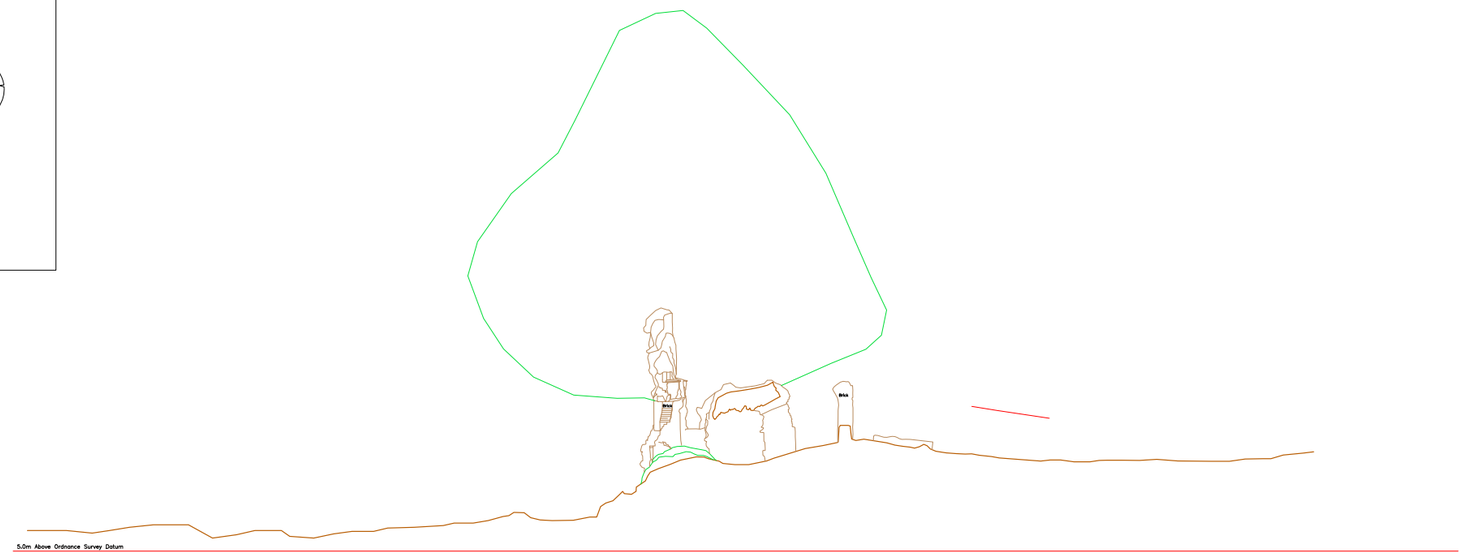
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EC1M 6EL

Client:
City of London Corporation

Drawing no.	18-088-EL-01
Issue date	DEC 2018
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Scale	1:100@ A1

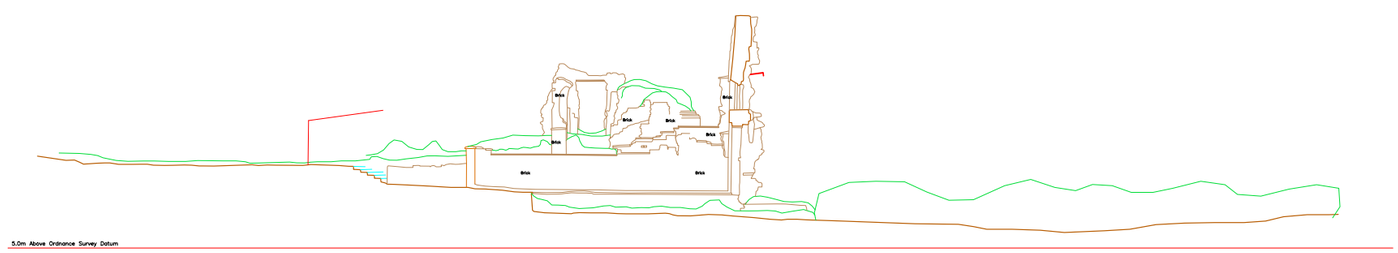
Location Plan:





ELEVATION 3

ELEVATION 4



ELEVATION 5

Notes:
Drawing units are metres.

- Stair/ slope arrows point up
- Direction of floor boards
- Direction of roof slope (up)
- 2.06 Floor to Ceiling Height
- AH Arch Height
- SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum. Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

SITE ELEVATIONS

0 2.0 4.0 10.0 20.0 metres

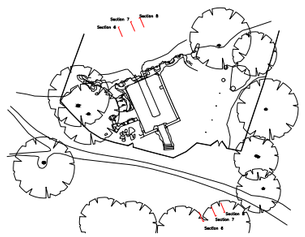
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Client:
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Drawing no.	18-088-EL-02
Issue date	DEC 2018
Issue status	-
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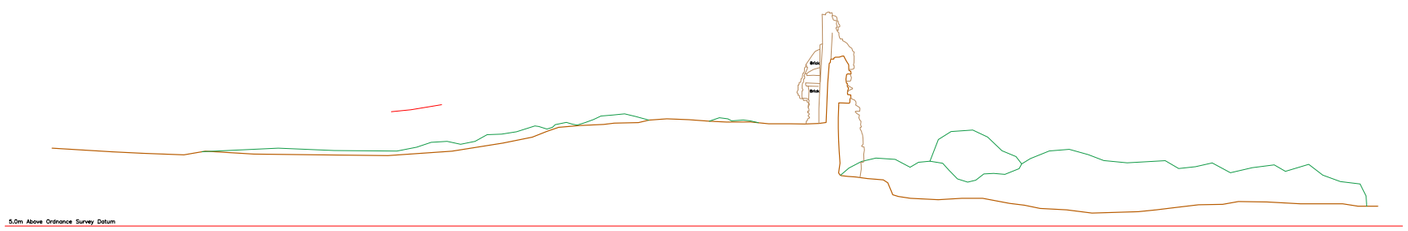
Location Plan:





ELEVATION 6

ELEVATION 7



ELEVATION 8

Notes:
Drawing units are metres.

- Stair/ slope arrows point up
- Direction of floor boards
- Direction of roof slope (up)
- 2.06 Floor to Ceiling Height
- AH Arch Height
- SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum. Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

SITE ELEVATIONS

0 2.0 4.0 10.0 20.0 metres

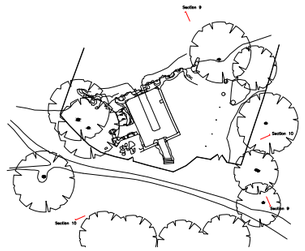
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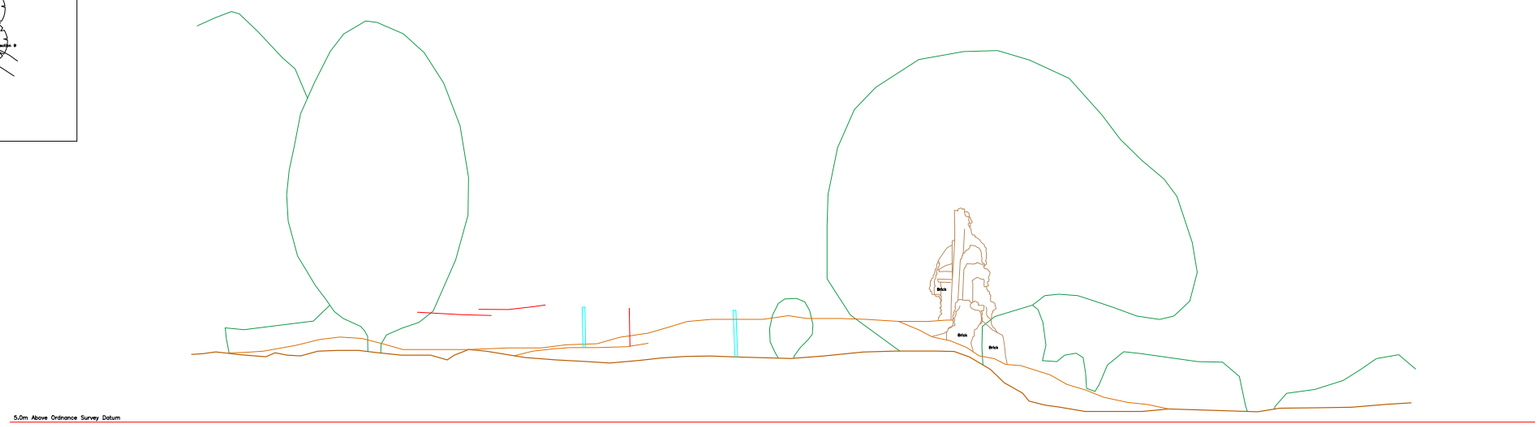
Architect:
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EC1M 6EL

Client:
City of London Corporation

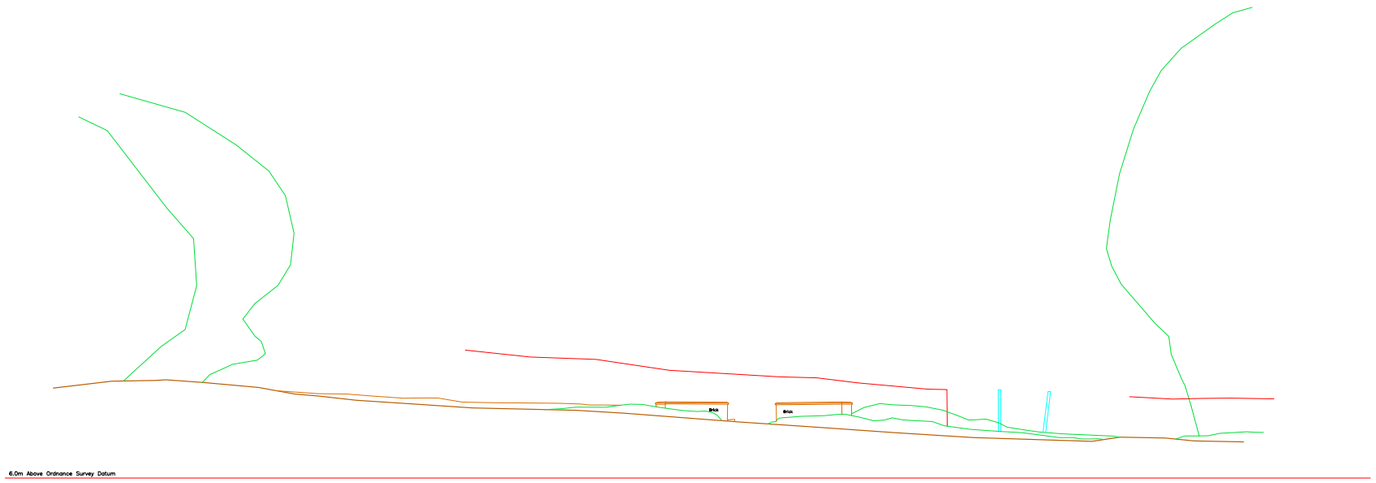
Drawing no.	18-088-EL-03
Issue date	DEC 2018
Issue status	-
Scale	1:100@ A1

Location Plan:





ELEVATION 9



ELEVATION 10

Notes:
Drawing units are metres.

- Stair/ slope arrows point up
- Direction of floor boards
- Direction of roof slope (up)
- 2.06 Floor to Ceiling Height
- AH Arch Height
- SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum. Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

SITE ELEVATIONS

0 2.0 4.0 10.0 20.0 metres

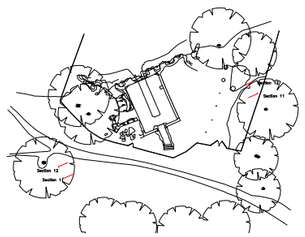
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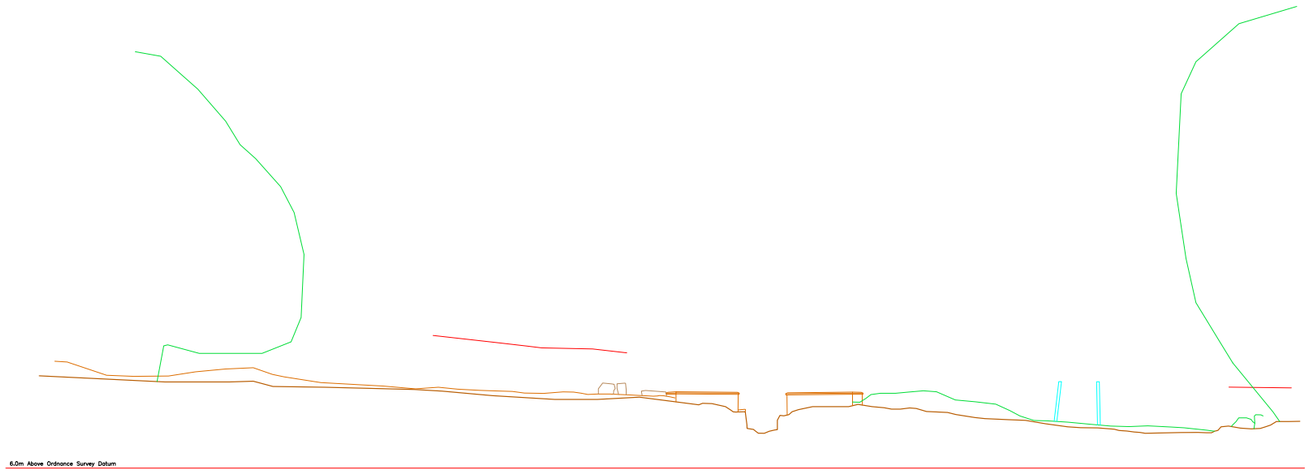
Architect:
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EC1M 6EL

Client:
City of London Corporation

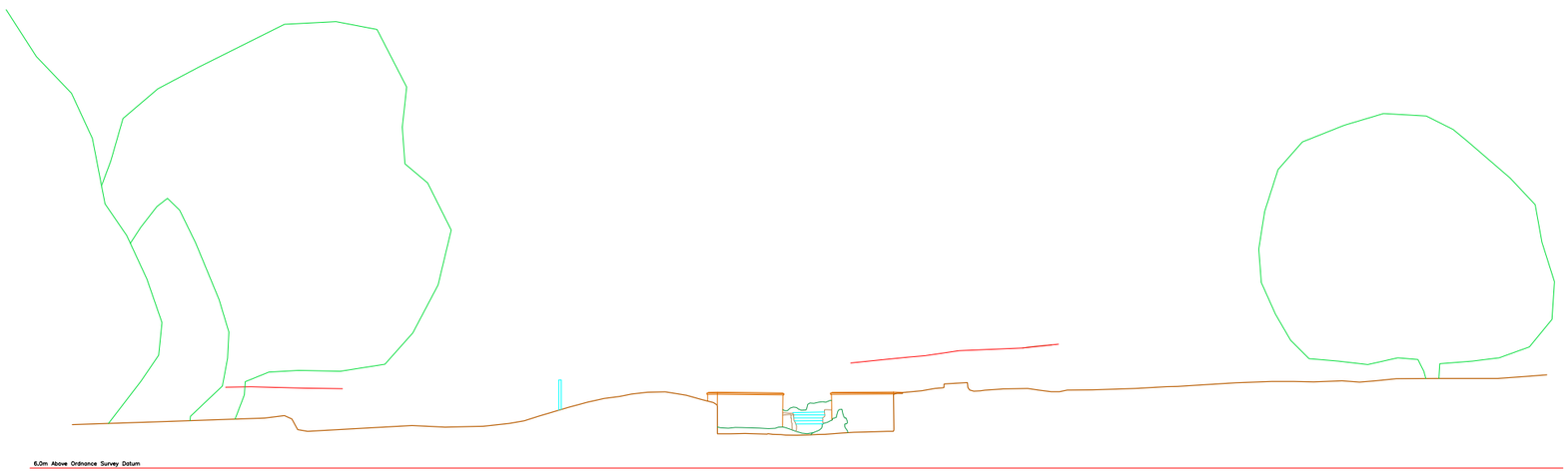
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Issue date	DEC 2018
Issue status	-
Scale	1:100@ A1

Location Plan:





ELEVATION 11



ELEVATION 12

Notes:
Drawing units are metres.

- Stair/ slope arrows point up
- Direction of floor boards
- Direction of roof slope (up)
- 2.06 Floor to Ceiling Height
- AH Arch Height
- SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum. Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

SITE ELEVATIONS

0 2.0 4.0 10.0 20.0 metres

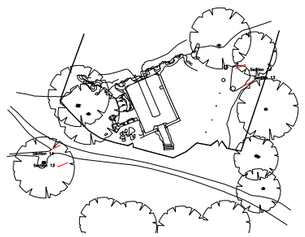
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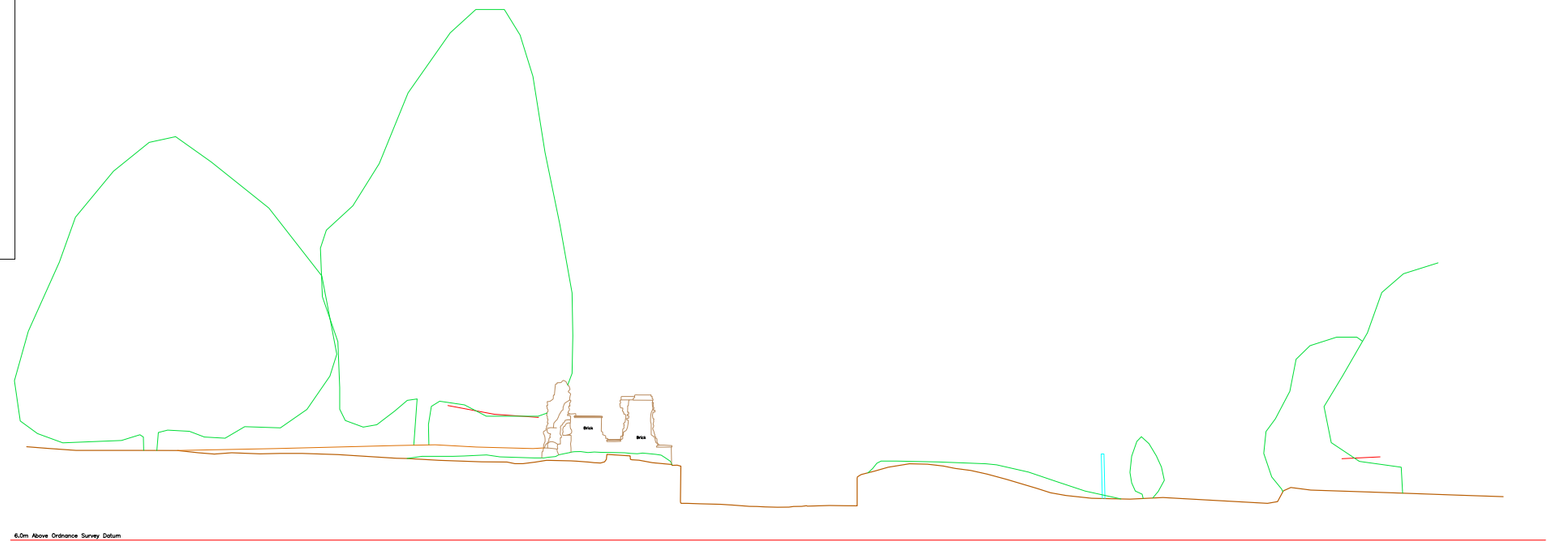
Architect:
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London,
EC1M 6EL

Client:
City of London Corporation

Drawing no.	18-088-EL-05
Issue date	DEC 2018
Issue status	-
Scale	1:100@ A1

Location Plan:





ELEVATION 13



ELEVATION 14

Notes:
Drawing units are metres.

- Stair/ slope arrows point up
- Direction of floor boards
- Direction of roof slope (up)
- 2.06 Floor to Ceiling Height
- AH Arch Height
- SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum. Survey Grid is OS GPS.

Notes:
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Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

SITE ELEVATIONS

0 2.0 4.0 10.0 20.0 metres

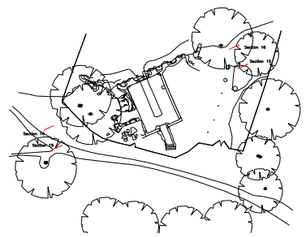
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Chartered Surveyors
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TEL: 01629 814654
EMAIL: mail@jbrennanassociates.co.uk

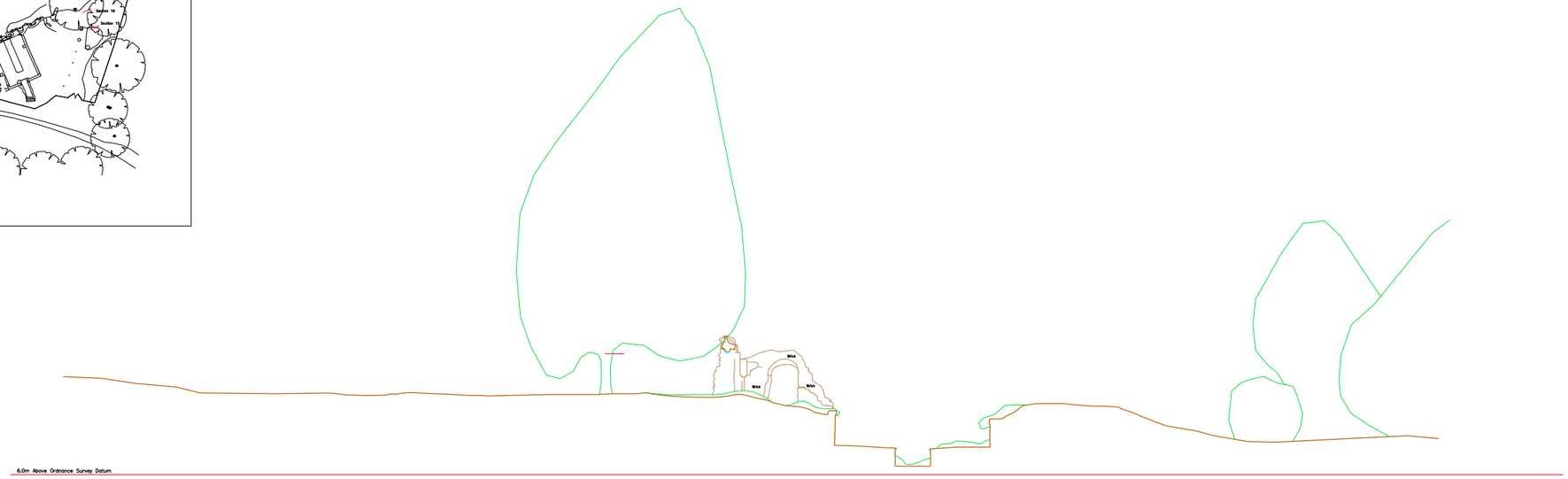
Architect:
Alan Baxter Ltd
75 Cowcross Street,
London,
EC1M 6EL

Client:
City of London Corporation

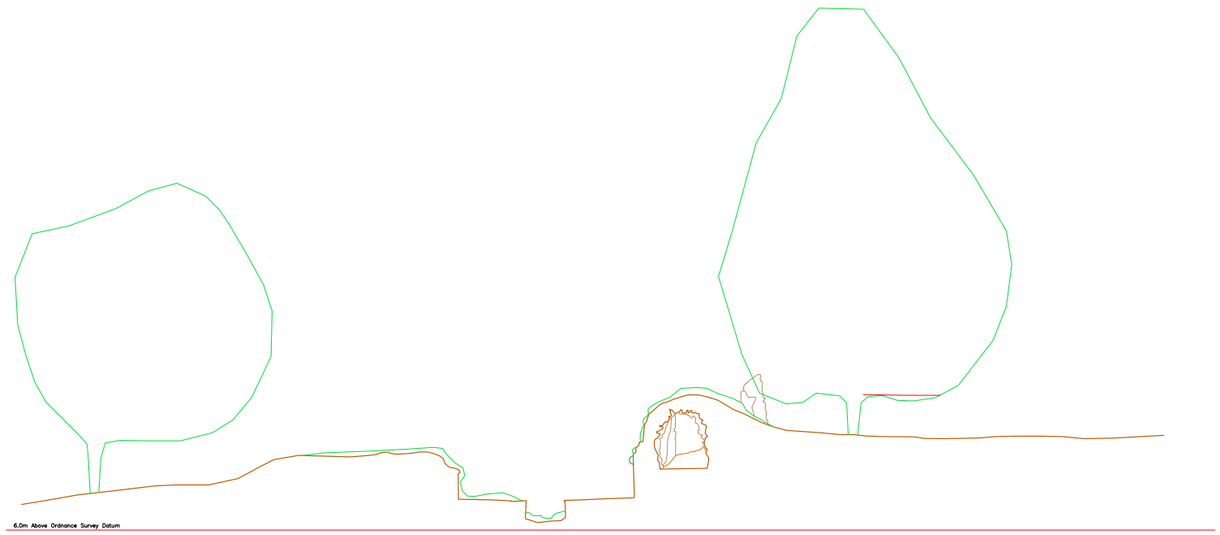
Drawing no.	18-088-EL-06
Issue date	DEC 2018
Issue status	-
Scale	1:100@ A1

Location Plan:





ELEVATION 15



ELEVATION 16

Notes:
Drawing units are metres.

- Stair/ slope arrows point up
- Direction of floor boards
- Direction of roof slope (up)
- 2.06 Floor to Ceiling Height
- AH Arch Height
- SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum. Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

SITE ELEVATIONS

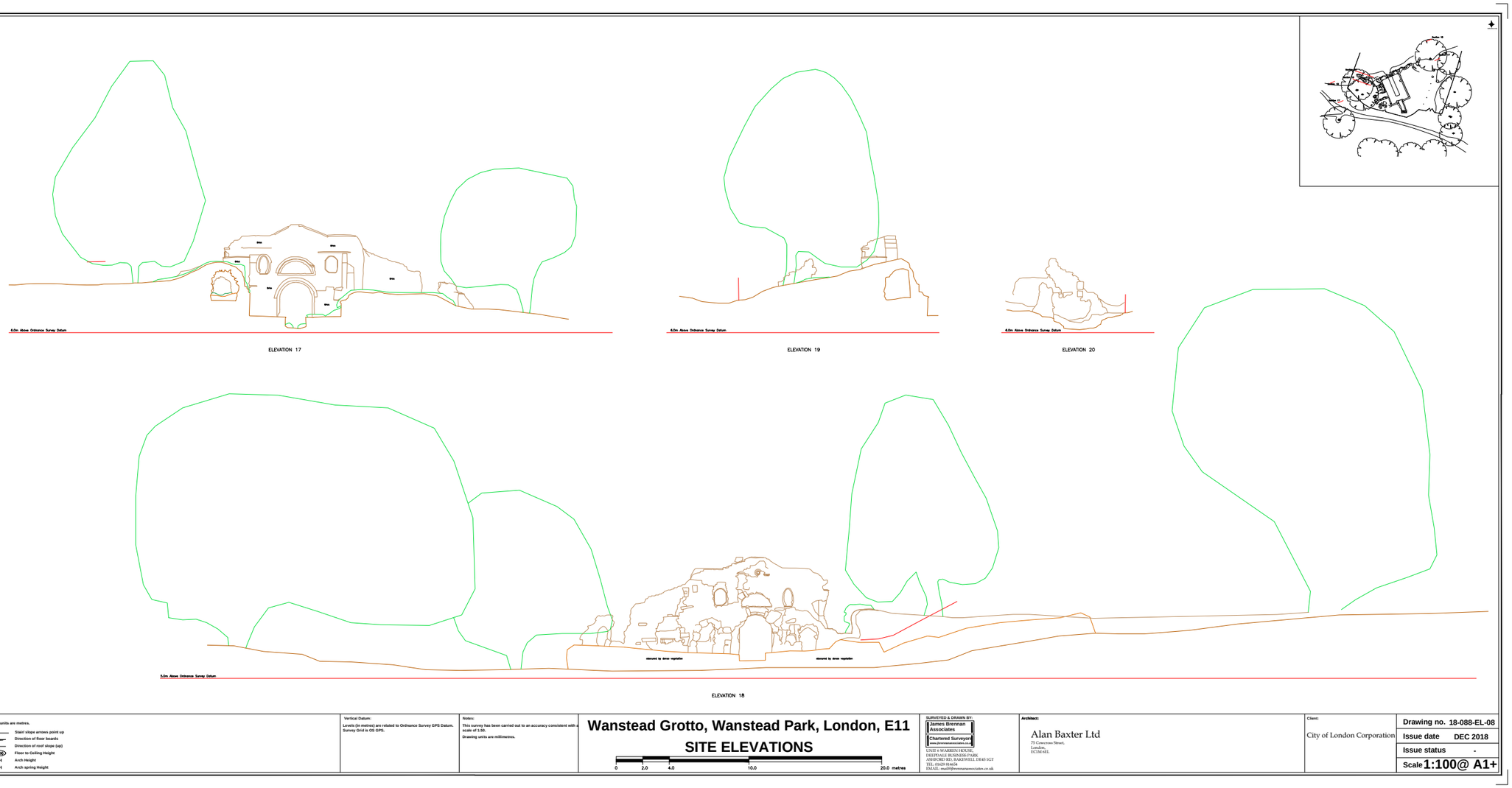
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TEL: 01629 814654
EMAIL: mail@jbrennanassociates.co.uk

Architect:
Alan Baxter Ltd
75 Cowcross Street,
London,
EC1M 6EL

Client:
City of London Corporation

Drawing no.	18-088-EL-07
Issue date	DEC 2018
Issue status	-
Scale	1:100@ A1



Notes:
Drawing units are metres.

Stair/ slope arrows point up
Direction of floor boards
Direction of roof slope (up)
2.00 Floor to Ceiling Height
AH Arch Height
SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum. Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

SITE ELEVATIONS

0 2.0 4.0 10.0 20.0 metres

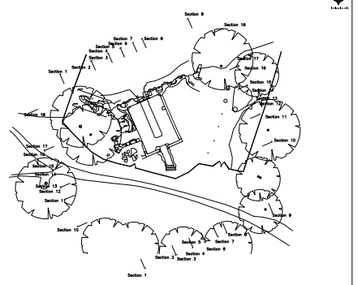
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Architect:
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75 Cowcross Street,
London,
EC1M 6EL

Client:
City of London Corporation

Drawing no.	18-088-EL-08
Issue date	DEC 2018
Issue status	-
Scale	1:100@ A1+

Location Plan









8.0m Above Ordnance Survey Datum

ELEVATION 1

8.0m Above Ordnance Survey Datum

ELEVATION 2

Notes:
Drawing units are metres.

Stair slope arrows point up
Direction of floor boards
Direction of roof slope (up)
2.06 Floor to Ceiling Height
AH Arch Height
SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum, Survey Grid is OS GPS.

Notes:
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Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

RECTIFIED ELEVATIONS

0 1.0 2.0 3.0 4.0 metres

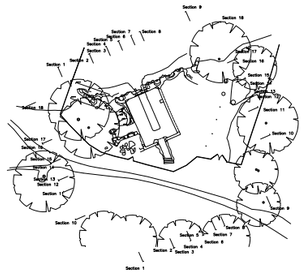
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Architect:
Alan Baxter Ltd
75 Cowcross Street,
London,
EC1M 6EL

Client:
City of London Corporation

Drawing no.	18-088-R-01
Issue date	DEC 2018
Issue status	-
Scale	1:20@ A1

Location Plan





6.0m Above Ordnance Survey Datum

ELEVATION 5

Notes:
Drawing units are metres.

Stair slope arrows point up
Direction of floor boards
Direction of roof slope (up)
2.06 Floor to Ceiling Height
AH Arch Height
SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum, Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

RECTIFIED ELEVATIONS

0 1.0 2.0 3.0 4.0 metres

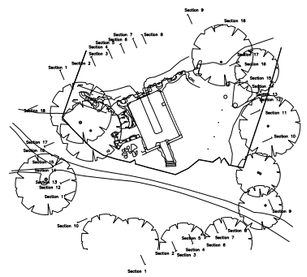
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Architect:
Alan Baxter Ltd
75 Cowcross Street,
London,
EC1M 6EL

Client:
City of London Corporation

Drawing no.	18-088-R-02
Issue date	DEC 2018
Issue status	-
Scale	1:20@ A1

Location Plan



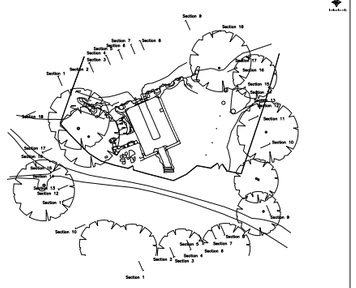


6.0m Above Ordnance Survey Datum

ELEVATION 6

Notes: Drawing units are metres. Stair slope arrows point up Direction of floor boards Direction of roof slope (up) 2.06 Floor to Ceiling Height AH Arch Height SH Arch spring Height	**Vertical Datum:** Levels (in metres) are related to Ordnance Survey GPS Datum, Survey Grid is OS GPS.	**Notes:** This survey has been carried out to an accuracy consistent with a scale of 1:50. Drawing units are millimetres.	**Wanstead Grotto, Wanstead Park, London, E11** **RECTIFIED ELEVATIONS** 0 1.0 2.0 3.0 4.0 metres	**SURVEYED & DRAWN BY:** James Brennan Associates Chartered Surveyors www.jbrennanassociates.co.uk UNIT 6 WARREN HOUSE, DEEPDALE BUSINESS PARK ASHFORD RD, BAKEWELL, DE45 1GT TEL: 01629 814654 EMAIL: mail@jbrennanassociates.co.uk	**Architect:** Alan Baxter Ltd 75 Cowcross Street, London, EC1M 6EL	**Client:** City of London Corporation	Drawing no. 18-088-R-03 Issue date DEC 2018 Issue status - Scale 1:20@ A1

Location Plan







6.0m Above Ordnance Survey Datum

ELEVATION 10



6.0m Above Ordnance Survey Datum

ELEVATION 12

Notes:
Drawing units are metres.

Stair slope arrows point up
Direction of floor boards
Direction of roof slope (up)
2.06 Floor to Ceiling Height
AH Arch Height
SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum, Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11
RECTIFIED ELEVATIONS

0 1.0 2.0 3.0 4.0 metres

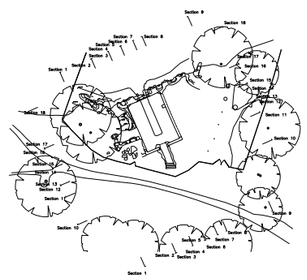
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Architect:
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75 Cowcross Street,
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EC1M 6EL

Client:
City of London Corporation

Drawing no.	18-088-R-04
Issue date	DEC 2018
Issue status	-
Scale	1:20@ A1

Location Plan





8.0m Above Ordnance Survey Datum

ELEVATION 13

Notes:
Drawing units are metres.

- Stair slope arrows point up
- Direction of floor boards
- Direction of roof slope (up)
- 2.06 Floor to Ceiling Height
- AH Arch Height
- SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum, Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

RECTIFIED ELEVATIONS

0 1.0 2.0 3.0 4.0 metres

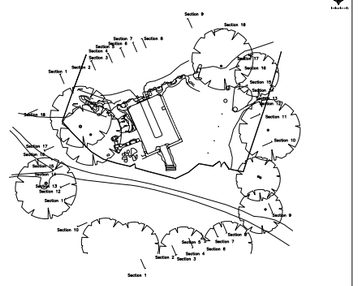
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Client:
City of London Corporation

Drawing no.	18-088-R-05
Issue date	DEC 2018
Issue status	-
Scale	1:20@ A1

Location Plan





8.0m Above Ordnance Survey Datum

ELEVATION 14



8.0m Above Ordnance Survey Datum

ELEVATION 15

Notes:
Drawing units are metres.

- Stair slope arrows point up
- Direction of floor boards
- Direction of roof slope (up)
- 2.06 Floor to Ceiling Height
- AH Arch Height
- SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum, Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

RECTIFIED ELEVATIONS

0 1.0 2.0 3.0 4.0 metres

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Drawing no.	18-088-R-06
Issue date	DEC 2018
Issue status	-
Scale	1:20@ A1

Location Plan:



6.0m Above Ordnance Survey Datum

ELEVATION 17

Notes:
Drawing units are metres.

Stair slope arrows point up
Direction of floor boards
Direction of roof slope (up)
2.06 Floor to Ceiling Height
AH Arch Height
SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum, Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11
RECTIFIED ELEVATIONS

0 1.0 2.0 3.0 4.0 metres

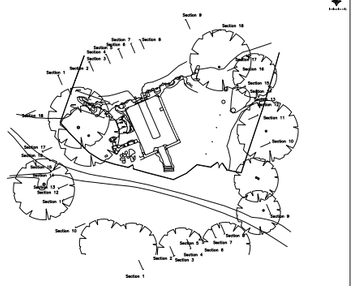
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Drawing no.	18-088-R-07
Issue date	DEC 2018
Issue status	-
Scale	1:20@ A1

Location Plan



6.0m Above Ordnance Survey Datum

ELEVATION 17

6.0m Above Ordnance Survey Datum

ELEVATION 18

Notes:
Drawing units are metres.

- Stair slope arrows point up
- Direction of floor boards
- Direction of roof slope (up)
- 2.06 Floor to Ceiling Height
- AH Arch Height
- SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum, Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

RECTIFIED ELEVATIONS

0 1.0 2.0 3.0 4.0 metres

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Drawing no.	18-088-R-08
Issue date	DEC 2018
Issue status	-
Scale	1:20@ A1

Location Plan:



6.0m Above Ordnance Survey Datum

ELEVATION 18

Notes:
Drawing units are metres.

Stair slope arrows point up
Direction of floor boards
Direction of roof slope (up)
2.06 Floor to Ceiling Height
AH Arch Height
SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum, Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

RECTIFIED ELEVATIONS

0 1.0 2.0 3.0 4.0 metres

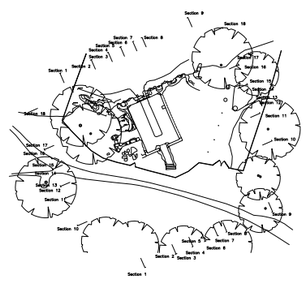
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Drawing no.	18-088-R-09
Issue date	DEC 2018
Issue status	-
Scale	1:20@ A1

Location Plan





6.0m Above Ordnance Survey Datum

ELEVATION 20

Notes:
Drawing units are metres.

Stair slope arrows point up
Direction of floor boards
Direction of roof slope (up)
2.06 Floor to Ceiling Height
AH Arch Height
SH Arch spring Height

Vertical Datum:
Levels (in metres) are related to Ordnance Survey GPS Datum, Survey Grid is OS GPS.

Notes:
This survey has been carried out to an accuracy consistent with a scale of 1:50.
Drawing units are millimetres.

Wanstead Grotto, Wanstead Park, London, E11

RECTIFIED ELEVATIONS

0 1.0 2.0 3.0 4.0 metres

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Issue date	DEC 2018
Issue status	-
Scale	1:20@ A1

Appendix C: Condition surveys

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The Grotto
Wanstead Park

Condition Survey

November / December 2018

INTRODUCTION

The site was visited on 30 November 2018, in cold, dry, sunny weather.

For the sake of simplicity, and to ensure that results can be compared with and traced back to earlier reports, we have decided to retain the zones defined in the report by Odgers Conservation of May 2017. Please refer to the map on page 3 of that report for the definition of zones A to M.

General condition

The condition of the structure was viewed from ground level only. As part of the first stage of maintenance work, we would recommend that scaffolding needs to be erected so that all parts can be viewed from elevated platforms.

As noted in previous reports, the principal wall is in a poor, but reasonably stable state. However, it will require major reconstruction work in the medium term to secure its long-term future. The longer the structure is exposed to plant growth and the weather, the greater the likelihood of losses. As the decay of the brickwork continues, more vulnerable areas are likely to reach a critical point of irreversible instability. The previous repairs to the principal wall have stemmed the worst decay, but the structure contains many voids and hollows, some designed and some the result of wildlife activity, so it is inherently weak.

The numerous pieces of embedded ironwork and the use of a hard cement mortar and concrete in previous repairs, including wall head cappings, will in the longer term create problems in relation to the original lime mortar construction.

A thorough structural survey involving trial holes has been recommended in the past, but has to our knowledge not yet been carried out.

Foundations

The nature of the foundations is not known and further investigations are required to determine this. In a previous report from 2011, the structural engineers suggest excavating trial pits in a number of locations to establish the depth of the footings; this should be done under archaeological observation.

Condition Survey

Ground levels

The extent to which present ground levels around the Boathouse Grotto relate to historic levels is not known. Exploration to uncover the historic levels under archaeological supervision would be useful, and would enable a more precise condition survey.

Mortar

Two mortar samples were analysed as part of the 'Report on Condition with Recommendations' by Richard Griffiths Architects of July 2011. The findings need to be taken into account when repairs are carried out.
In recent repairs (especially in Zones A, C, D, K, L and M) a soft lime mortar has been used. This is of course generally the right course of action. But because mortar cappings and large areas of the pointing are subject to continuous or at least frequent rainwater saturation, frost damage has occurred.

Safety

The site and structure are inherently unsafe to access. Adequate safety precautions must be put in place for those entering the site for surveying and maintenance work.

Some of the concerns raised in the Richard Griffiths Architects report still remain, namely:

- The stability of the arched roof to the 'tunnel path'
- The overall plumbness of the principal wall
- The stability of the detached pier beyond the east end of the principal wall
- The presence of built in timbers including the decayed timber lintel over the entrance
- The unknown method of fixing the stonework facing to the principal wall, particularly over the central arch
- Corrosion and expansion of built-in metalwork dislodging the stone facing
- The proximity of trees to the structure - dead ones which may fall on to the structure, or live ones which may endanger it through root growth
- The long term failure of cement mortar cappings, allowing moisture into the structure

ZONE A

This is a substantial brick wall running east - west, with the remnants of window openings. Its original purpose apart from providing access to the tunnel leading down to lake level is not known.
It has been cleared of vegetation, but smaller plants and roots (probably dead) remain and should be carefully removed.

Condition Survey

Recently, as recommended by the Odgers Report, horizontal surfaces have been mortar-capped and some pointing has been carried out (using an appropriate soft lime mortar). Also areas of brickwork around the openings appear to have been rebuilt.
Because the original brickwork is quite loose, some of the capping has already cracked and – curiously – top-most surfaces have not been capped, probably because they were difficult to reach, and there wasn't a proper scaffolding. This needs to be remedied urgently, because there is new plant growth in this area, and water can freely penetrate into the structure.

There are areas of brickwork where the pointing is deficient, and a few hollow areas that need to be filled with mortar.

Older areas of sand-and-cement / concrete repairs have cracked and need to be carefully repaired, without disturbing surrounding areas unnecessarily.

On the north-face of the wall, about 20 soft red bricks will need to be replaced.

ZONE B

This section includes the doorway on the west elevation and surrounding masonry with some brick inclusions.
As the Odgers Report points out, areas have been repaired using a hard cement mortar and even concrete. There are cracks surrounding these areas especially on the south and west faces.

The timber lintel above the door opening is now rotten and should be replaced before it collapses.

There are voids on the east face of the wall that need to be filled with mortar.

As in Zone A, top surfaces have not sufficiently been dealt with. Plants need to be removed, and areas of hard cement mortar need to be repaired, plus additional mortar capping put in place.

ZONE C

This represents the entrance to the south side of the tunnel. It is contiguous with Zone B and connects to a large volume of brickwork to the east of the entrance (Zone D).

As recommended in the Odgers Report, plants have been removed, cracks have been repaired, and some repointing has been carried out. Small areas of brickwork have been rebuilt.
But more pointing will need to be done, and soon at least 20 soft red bricks surrounding the opening will need to be replaced.

Condition Survey

ZONE D

This is the tunnel itself, constructed from random masonry. There are areas of concrete repairs.

By dint of its arched construction, the tunnel is stable, but individual stones may well come loose over time.

Cracks have been repaired, and inside the tunnel some repointing has recently been carried out. But more pointing will need to be done in the medium-term.

On-top of the tunnel, smaller plants and weeds, as well as old roots remain. It can be argued that the thin layer of earth and plants protect the tunnel structure, but I would suggest that in the long run, this arrangement is not sustainable – constant ingress of water will damage the structure and endanger the stability of the tunnel by weakening the mortar.
As a minimum, more weathering needs to be carried out, which will require the removal of earth and all plant growth.

ZONE E

This is the elevation of the main two-storey structure that faces the boat dock. It represents the structural brick-built core of the grotto, and will originally have been hidden behind layers of decorative stonework and plaster on the south.
The wall is a 2-brick thick wall (18inch or 450mm thick) with an undulating plan form to provide for decorative alcoves on the lakeside and providing structural strength to an otherwise two-dimensional structure. The abutting walls to the boathouse and passageway originally gave lateral support

The wall is faced with random masonry on the side that faces the lake (Zone H).

A structural engineer's report form 2011 recommends that the structural stability of the wall needs to be established, by excavating trial pits to investigate footings and sub-soil.
At this point, we are not sure whether this work has been carried out, and whether the stability of the wall has been established. But this assessment needs to be completed before any repairs are attempted.

Less than half of the visible brickwork is original 18th century construction. There are significant patches of brickwork at high level where rebuilding has taken place in a mixture of Fletton and common bricks laid in cement mortar, not in character with the original work. A sizeable portion around the elliptical eastern window opening has been rebuilt in non-matching bricks, using a hard cement mortar, and distorting the original shape of the opening (assuming that the two openings originally had the same shape). Other areas have similarly been rebuilt or extensively repaired.

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Condition Survey

Significant areas of the soft red brickwork are in a very poor condition, and are continuously being weathered away, as witnessed by red powdery residues on the ground. Since the brick wall constitutes the structural core of the wall, large areas will need to be replaced over time. In the short term, about 60 soft red bricks need to be carefully replaced.

There is a vertical crack along the west jamb of the large opening to the boat dock, with unsupported brickwork at low level.

At the eastern end of the wall, repointing is urgently required (about 5m2) and the top surface needs to be stabilised.

ZONE F

This is a freestanding section built of random stones, with a recessed flint-faced niche facing the lake. Originally it was probably connected to the main wall (Zone D) with an arch, remnants of which remain.

Limited repairs have been carried out, but several loose stones at the eastern end need to be pointed in order to secure them. Weeds need to be removed, and the top needs to be capped to protect if from the weather. (Similar to other sections of masonry, this was probably not carried out properly because scaffolding wasn't available.)

ZONE G

The Odgers report describes this as "a confusing collection of masonry. Urgent works were proposed in 2011 but these were not carried out and, as a result, this section has continued to deteriorate…"
Unfortunately this is still the case.
There are dangerously loose portions of masonry, large crevices, individual loose stones and bricks and plant growth.

In the past, repairs have been carried out using concrete, but a thorough overall stabilisation is now required, especially since the wall acts as a retaining structure for the mound behind.

ZONE H

This is the major front elevation of the grotto facing the lake, faced with a mixture of volcanic tuff, Kentish Ragstone, limestone, sandstone and flint. In the niches, flint and a soft red brick have been used.

6

Condition Survey

As mentioned earlier, a structural engineer's report form 2011 recommends that the structural stability of the wall needs to be established; this will have to be completed before any repairs are attempted.
Low-level cracks have recently been repaired, and some crevices have been filled-in with mortar and tiles. But fissures and areas of loose pointing remain.
The soft red brick in some of the niches will need to be replaced in the medium term.

It was not possible to determine the condition of the wall at high level. We would suggest that a full scaffolding will be required, which will need to be entirely freestanding, with a distance of say 200mm from the wall. Before the scaffolding is erected, the area in front of the wall needs to be cleared of plants. At the same time, stones that have dropped from the wall can be salvaged in order to re-use them in the repairs and / or rebuilding.

As well as checking the integrity of the wall at high level, and the fixing method for the irregular masonry, the scaffolding can also be used for the removal of any plant growth, and for the careful removal of old dead roots that remain embedded in the masonry.

ZONE J

This is the entrance area at the south of the ensemble. It has recently been comprehensively repaired, in accordance with the recommendation in the Odgers Report. The two low retaining walls constructed of random masonry have been repaired / rebuilt and pointed (although a few loose stones remain), and the steps have been replaced with railway sleepers (a curious anachronistic decision, since railways weren't built until nearly a century later).

ZONE K

This is the retaining wall to the west of the boat dock area. In accordance with the recommendations of the Odgers Report, it has been comprehensively repaired / rebuilt to a height of about 1m, and furnished with a tiled capping. It can now be said to be in good condition. However the raising of this wall to a uniform 1m height might not be historically correct - the corridor leading from the main entrance (Zone B) to the tunnel might have also provided direct access to the boat dock with an opening through this wall.

The manner of the rebuilding also appears to us to be in conflict with the original idiosyncratic character of the grotto, particularly in conjunction with the new concrete paving stones that have been laid around the dock that give a municipal feel to the area.

Condition Survey

ZONE L

This is a substantial volume of brickwork raking up from the height of the retaining wall in Zone K. The original function of this structure is not known.
Lower parts of the brick structure have been capped with creasing tiles and mortar, and this appears to have been repaired and added to more recently, using a soft lime mortar. However, the area is still not stable, as evidenced by bricks dropping into the area around the boat dock, although this might have been caused by unauthorised access. i.e. climbing onto the structure.

Again, the uppermost part of this volume of brickwork has not been dealt with, so the brickwork is topped with soil, grass and weeds, and is loose and cracked, with many open joints.
A decision needs to be made how to weather this area, since leaving it uncapped will mean it will continue to deteriorate.
But it is our opinion that the recent mortar repairs and creasing tile copings are negatively affecting the appearance of the structure. A more sensitive method for weathering and securing the brickwork should be found.

ZONE M

This is the retaining wall to the east of the boat dock area, facing the wall Zone K. Similar to that wall, as a response to the recommendation in the Odgers report, this wall has been rebuilt and capped to a height of about 1m. One small area towards the south has been poorly pointed, and will need to be re-done. Other than that, it is in good condition.

THE BOAT DOCK

As already mentioned, the two recently rebuilt retaining walls together with the concrete paving and the low-level walls that line the actual boat dock lend the entire area an inauthentic modern feel.
Future repairs and further rebuilding should be carried out in a fashion that is more in sympathy with the original character of this extraordinary structure.

SUMMARY

The grotto will continue to seriously deteriorate despite maintenance endeavours, because the structure contains a mixture of concrete, very soft brick laid in a soft lime mortar, different forms of masonry, and areas of hard cement mortar repairs. We consider that within a few decades

large parts of the fabric will have crumbled and might be in a dangerous condition. Even now some areas are dangerously unstable and must be protected from unauthorised access.

Already very little of the original 18th century structure remains. Repairs and rebuilt areas now account for more than half of the remaining fabric. It will soon no longer be possible to contend that we are talking about preserving an original 18th century structure – instead, we will be preserving an idiosyncratic feature that will give no indication of its original appearance or purpose. Maintenance in the past has been using methods that ensured some form of stability, but has changed the appearance of the ruin virtually beyond recognition.

THE GROTTO

WANSTEAD PARK

LONDON

CONDITION SURVEY AND CONSERVATION APPRAISAL FOR THE LOW LEVEL STANDING REMAINS



THE GROTTO, WANSTEAD PARK

CONDITION SURVEY AND CONSERVATION APPRAISAL FOR THE LOW LEVEL STANDING REMAINS

BACKGROUND

The Grotto was originally constructed in 1761 as part of the ornamentation of the gardens of Wanstead Manor. It was severely damaged by fire in 1884 only two years after it was acquired by the City of London Corporation. Since then it has essentially been a managed ruin with a number of interventions over the years including programmes of reconstruction.

Most recently there was conservation work to the entrance and retaining wall (zones A – D, K – M; see Fig 1)) in 1990, to the dock area in 1998 and to the main elevations (Zones E, F and H) in 2011. Full details of the history of the Grotto can be found in various documents including *'Wanstead Park – Boathouse Grotto; Feasibility Study into Repair and Re-use',* Richard Griffiths Architects (July 2011) . A video account of the works carried out in 2011 can be found at http://www.wansteadpark.org.uk/arch/stabilising-wansteads-grotto/

As part of the regular maintenance of the standing remains, this report was commissioned by the City of London Surveyor's department with the following brief:

- Carry out a survey of the accessible parts of the remains of the grotto
- Identify works needed to prevent further deterioration including mortar capping, reinstating fallen masonry, soft capping etc
- Identify works needed on health and safety grounds
- Identify areas where a minor rebuild will significantly reduce the deterioration of that area
- Provide illustrated report detailing results of survey, recommendations for repair, outline schedule of works and budget estimate

The site was visited on March 2017 when vegetation was low.

CONDITION SURVEY

For convenience and in order to allow easy identification, the site has been divided into a number of zones (see Fig 1).



Fig 1: outline of the surviving parts of the Grotto showing the zones that have been used in the survey

Zone A:

This is a brick wall with the remnants of window openings at the east end and in the middle. The north elevation has remnants of plaster particularly within the reveals of the arch. It is generally clear of vegetation although some of the substantial - but now dead – ivy roots are pulling material off the wall. Lower plants are becoming established on some horizontal ledges. There is evidence of previous mortar capping but this is mostly deteriorated.

The current condition is fair but there are quite a lot of areas where the mortar is crumbling and if this continues, it will inevitably lead to loss of bricks. Already some bricks on the top surface are loose and there are others on the broken section to the west of the opening (Fig 4), especially on the south side. There is some localised crumbling of bricks themselves. There are loose bricks at the east end adjacent to the void at low level (Fig 5).



Fig 2: north elevation of Zone A



Fig 3: south elevation of zone A



Fig 4: loose bricks on west side of opening of Zone A



Fig 5: east elevation of zone A of showing voids and loose bricks

Zone B:

The section includes the doorway on the west elevation. It is mostly constructed from masonry with some brick inclusions. It appears to have been reconstructed with hard coarse cement mortars used for laying stones and a finer cementitious mortar used for (perhaps later) repointing and flaunching. The buttress of random stones in the SW corner includes bricks and a number of iron bars. There is a timber lintel over the door which has surface rot but still retrains structural integrity

The condition appears generally sound with no obvious signs of current deterioration or imminent collapse. There is one void in the SW buttress that has a loose stone; there are also others voids and fissures in this area. These are not compromising the structure but they provide ideal locations for vegetation to become established. There are some areas of concrete at the north end. A mortar capping has been applied to the top horizontal surface but this has started to deteriorate and some of the capping is now loose (Fig 8).



Fig 6: east elevation of Zone B



Fig 7: west elevation of Zone B – note voids in buttress on the right



Fig 8: detail of top of wall showing decayed mortar capping

Zone C:

This is the brick entrance to the south side of the tunnel. It starts adjacent to Zone B and slopes up over the top of the arch and down to the buttress of the arch on the east side. This area had clearly been infested with substantial ivy growth; this has now been killed but tendrils and roots remain; some of the bricks beneath this residue are loose. There are higher plants (sycamore?) which are well-established on the top surface; these have been cut back but are still alive and new shoots are appearing.



Fig 9: front face of Zone C – note sycamore tree growing on top left

The west side has some original plaster at low level and the high level brickwork has a number of loose bricks. There is a void between the brickwork and the masonry arch; there is some ivy still growing in this void (Fig 10). A large ivy root remains on top of the west side of the arch.

The front face of the arch has previously been consolidated with stainless steel mesh and mortar but this has failed and now hangs down. The underlying brickwork still seems sound. On the west side of the arch, there are some loose bricks on top of the quoin but overall the front face is sound.



Fig 10: Zone C – east jamb of door showing void



Fig 11: Zone C – east section

Zone D:

This is the tunnel constructed from many random facing stones applied onto the brickwork lining which provides the structural integrity. There are a few areas of concrete repairs and in a couple of places, the stones have become dislodged and the brickwork is revealed. The overall condition is very sound with a few sections of loose mortar but these are not a problem.

Zone E:

This is the elevation to the boat dock and was the subject of extensive repair and consolidation works in 2011. These were well carried out, remain intact and have been very successful. The whole of the elevation remains in good condition. There is some ivy and plant growth (Budleia) on the window on the east side of the central arch; the area of brickwork at the bottom of the opening shows slight disruption (Fig 15) but there are no other issues of decay. The mortar capping seems sound.



Fig 12: Tunnel (Zone D) looking north



Fig 13: Tunnel (Zone D) looking south



Fig 14: overall view of Zone E



Fig 15: detail of window opening with ivy and Budleia

Zone F:

This stand-alone section of masonry has a flint arch and is otherwise constructed from random stones. It has been capped with mortar and the section on the east side has been rebuilt. The current condition is sound except for one loose stone at the foot of the extreme east side of the structure. The tile creasing is sound but there is slight deterioration of the mortar capping on the top; there is also some cracking which provides a potential location for vegetation to become established.



Fig 16: Zone F, north elevation



Fig 17: Zone F, south elevation

Zone G:

This area to the west of the main elevation is a confusing collection of masonry. Urgent works were proposed in 2011 but these were not carried out and, as a result, this section has continued to deteriorate. There is still live ivy growth and there is also a large live tree stump at the top of the slope on the west side.

The sloping area on the west side is currently stable but there is some erosion at low level and there are many voids where vegetation has become established. When viewed from the top of the slope (Fig 19), the visible masonry has been heavily capped but remains sound.

In the central area (facing east), although the masonry has a haphazard appearance, it remains mostly sound although much of the area is obscured by ivy so detailed investigation was difficult. There is one massive root system at the top but this may have been killed off; there appears to be a fissure in the masonry associated with this root (Fig 20) although this may have been part of the original design. There is one section in the middle that has detached and there is a loose brick on the front face; there may be more behind the web of roots.

The eastern section (including the area over the arch to the tunnel, Fig 21) has a number of large live well-established trees and one of these has caused a substantial vertical crack. There is some powdering of mortar at low level just to the east of the crack. At high level, there is quite a lot of loose material but there is also erosion of the clay soil on the top of the masonry; this is evident particularly at the top of the arch. This has led to water ingress into the masonry and, as a consequence, there are a number of loose bricks.

Much of the top of this section has a naturally developed soft capping of grass and lower plants. This has been broken down by the growth of higher plants (shrubs, trees) and by the erosion around the edges.



Fig 18: Zone G – north elevation (west section)



Fig 19: Zone G – south elevation from top of mound



Fig 20: Zone G – east facing section with fissure



Fig 21: Zone G – north elevation (east section)

Zone H:

This is the major front elevation of the grotto and was the subject of a substantial programme of repair and conservation in 2011. The works have been successful and, as a result there is little ongoing decay. There is some ivy growth around the western window opening and there are lower plants established in other localised areas. There is some powdering of brick and mortar within the niches at low level; this is due to local environment and the higher ground level at the back rather than as a result of any defect.

There is a higher plant (Budleia – see Zone E)) established in the cill of the eastern window; this will cause further damage unless removed. A bramble has become established to the east of the springing of the central arch and there is some vegetation on the top of the wall adjacent to the capping.



Fig 22: overall view of Zone H

There is powdering of brick and mortar within the eastern niche and some small sections of loose material at low level (Fig 23); these do not constitute a hazard. The eastern return also has some areas of loose brick and stone.



Fig 23: Zone H - detail of niche at east end

Zone J:

The entrance steps consist of timber treads between low-level stone walls that were probably constructed with mortar but most of it has been washed away; the walls retain the earth bank behind. On the east side, there are some loose blocks, some of them quite large. One stone at the south end has fallen out completely. On the west side there is significant bulging of the wall and some quite large loose sections of masonry. At the north end, attempts have been made to provide stability by the crude application of cementitious mortar (Fig 25). There are other loose stones adjacent to the brick wall (zone K).



Fig 24: Zone J – east side



Fig 25: Zone J – west side

Zone K:

This brick wall stands about 1 metre high and consists of an inner and outer skin. It has been extensively colonized by vegetation and has many loose bricks from both skins. Bricks continue to become dislodged. There is one vertical crack towards the centre at the junction with zone L.



Fig 26: Zone K

Zone L:

This is a large raking wall of brick construction. The lower section has been substantially capped with creasing tiles and mortar in 2011 and this has been generally successful although some of the capping mortar has cracked. Although the lower section of the wall is generally sound, the upper section of the wall is less sound with a number of whole and part bricks that are loose or dislodged; many of them are kept in place by the mat of (now dead) ivy. There is a significant fissure parallel with the front face due to substantial root growth (Fig 28); this root has been killed but its effects have not been treated. Although the area appears generally stable, there is evidence of recent fall of bricks so some consolidation of the whole of the upper area is required.



Fig 27: Zone L with tile creasing

Fig 28: detail of brickwork showing separation of front face due to root growth

Zone M:

This brick wall stands throughout its length at a fairly consistent level of approximately 1 metre. The top few course are disrupted over the entire length with bricks either loos or missing. As a result the bank behind the wall is giving way in places. There is some animal burrowing activity at the north end along with some vertical cracking.



Fig 29: Zone M

SUMMARY CONSIDERATIONS AND RECOMMENDATIONS FOR REPAIR

The standing remains of the Grotto have been subject to a number of interventions and it is certain that much of what now exists has been rebuilt at some stage or another. The structures suffer from three main causes of decay:

Vegetation: The comparatively wild parkland environment inevitably allows vegetation to become established. There have been a number of recent programmes of clearance (see Figs 30 and 31) and currently there is a maintenance regime in place to try and keep on top of the problem.



Fig 30: Zone H in 2015



Fig 31: Zone H in 2005

Despite this, vegetation continues to be the most damaging cause of deterioration. This happens in a number of ways:

- existing higher plants (shrubs and trees) continuing to grow with roots penetrating deeper into the fabric and causing major stresses and fissures
- new higher plants (especially elder and buddleia) seeding in small cracks in the fabric
- ivy can be a problem either through new growth or, even when cut back, attempts to remove the web of roots can cause disruption to masonry

Mortar failure: The original construction mortar and recent repair mortars have been based on lime binders. This is as it should be but they are susceptible to frost damage particularly on horizontal surfaces (e.g. masonry over door of Zone B) or in permanently damp environments (e.g. retaining walls in Zone K – M). Once the mortars have lost their binding strength, elements of masonry and brickwork will become loose.

Use of the site: Although the site is currently fenced off, the lake is drained down because of invasive species of aquatic weed in the upper lake. As a result, access to the site is quite easy from the lakeside and there is evidence that people have been walking over the site and causing elements of masonry and brickwork to become loose (especially in Zone A and the pathway that has become established through the door of Zone B and into the dock area via the top of the wall in Zone K). Animals are also responsible for some disruption o the masonry as evidenced by the burrowing in the Zone M wall.

The prime purpose of any works undertaken must be to ensure that the site is safe and secure and that further deterioration is minimised. This is best accomplished by addressing the causes such as removing vegetation but it is also possible to reduce decay in the future by undertaking preventive conservation;

this includes regular targeted maintenance. In this case, the use of soft capping in suitable areas will help to prevent vegetation growth and allow better control of water ingress into the fabric. This treatment is best suited to larger flatter areas; it is not appropriate for thinner sections of wall with steep slopes.

One of the biggest problems over the years is that as any element of masonry/brickwork becomes dislodged, it loses its context and is just added to the pile of salvaged material that is stored on one side of the site. This is clearly not a sustainable way forward as there will just be a continuing depletion of the fabric. It is therefore imperative that steps are taken to reintegrate any loose or fallen areas as soon as they occur.



Fig 32: accumulated fallen masonry materials (stone and brick) stored on the site

The following outline schedule of works has been developed by considering the requirements for each zone of the site. They have then been categorized according to the report brief.

OUTLINE SCHEDULE OF WORKS

Drawings where included are indicative only and do not necessarily show all the area or all the repairs

Zone A:

A1 Lift off, clean off and re-set loose bricks (60 No)

A2 Install salvaged bricks in voids and other vulnerable areas to provide support and effective water shedding (20 No)

A3 Apply mortar capping on horizontal surfaces



Zone B:

B1 Remove mortar capping above door and lay slate capping to allow water run-off

B2 Using salvaged masonry and mortar, fill voids in buttress (allow 6 No mostly at low level)

Zone C:

C1 Remove remaining ivy roots taking care not to dislodge underlying bricks

C2 Using appropriate brush killer or copper nails into each stem, kill off all sycamore roots

C3 Lift off, clean off and re-set loose bricks (20 No)

C4 Provide mortar flaunching to ensure effective rainwater run-off

C5 Flush out and fill fissures (1 linear m)

C6 Flush out, deep pack and fill void between brick and zone B

C7 Apply soft capping to upper horizontal surface including whole area of raised ground flanked by zones G, C and L (see http://www.geog.ox.ac.uk/research/landscape/rubble/swc/swc-report.pdf (pages 51 - 56) for methodology)



Zone D:

- No work required

Zone E:

E1 Remove ivy and Budleia from eastern opening

E2 Flush out and fill any cracks in cill area

E3 Allow to lay tile creasing on cill of eastern opening



Zone F:

- No work required

Zone G

G1 Clear off vegetation taking care not to disrupt masonry

G2 Cut back and remove as far as possible the root systems of 5 No trees; using appropriate brush killer or copper nails into each stem, kill off any roots that cannot be removed

G3 Cut back and treat other shrubs from upper horizontal surface

G4 Consolidate front edge of masonry especially around arch (allow to re-set 20 No bricks)

G5 Apply soft capping to upper horizontal surface including whole area of raised ground flanked by zones G, C and L (see http://www.geog.ox.ac.uk/research/landscape/rubble/swc/swc-report.pdf (pages 51 - 56) for methodology)

G6 Flush out, deep pack and fill any fissures that become apparent once vegetation has been cleared





Zone H:

H1 Remove higher plant from eastern window cill (see E1)

H2 Flush out and fill any cracks in cill area (see E2)

H3 Provide tile creasing for eastern window cill (see E3)

H4 Cut back and remove or treat other higher plants (brambles, etc)

H5 Remove and re-set loose stones and bricks from eastern return (10 No)

H6 Apply mortar capping to eastern return area to ensure water run-off

Zone J:

J1 Using planning frame, record location of existing stones

J2 Mark, dismantle and set aside stones of walls on both sides

J3 Excavate sufficiently to provide sound base of well compacted hardcore (150mm deep); archaeological watching brief may be necessary

J4 Rebuild stones in original location incorporating (as required) additional stones from pile of salvaged stone retained on site

Zone K:

K1 Carefully cut back and remove all vegetation

K2 Remove and set aside all loose bricks (approx. 100 No)

K3 Reconstruct removed bricks to form wall to follow profile of existing (allow 3 sq.m. reconstruction in all)

K4 Allow to introduce tile creasing to exposed ledges to ensure effective run-off (total area 2 sq.m)

K5 Lay soft capping over top horizontal face (see http://www.geog.ox.ac.uk/research/landscape/rubble/swc/swc-report.pdf (pages 51 - 56) for methodology)



Zone L:

L1 Remove remaining ivy and other roots taking care not to dislodge underlying bricks

L2 Lift off, clean off and re-set loose bricks (100 No)

L3 Introduce new creased tiles capping on south end (2 No locations)

L4 Flush out, deep pack and fill fissures

L5 Remove cracked flaunching at lower level and replace

L6 Apply soft capping to upper horizontal surface including whole area of raised ground flanked by zones G, C and L (see http://www.geog.ox.ac.uk/research/landscape/rubble/swc/swc-report.pdf (pages 51 - 56) for methodology)



Zone M:

M1 Take down, clean off and set aside bricks along the whole length to four courses beneath the top

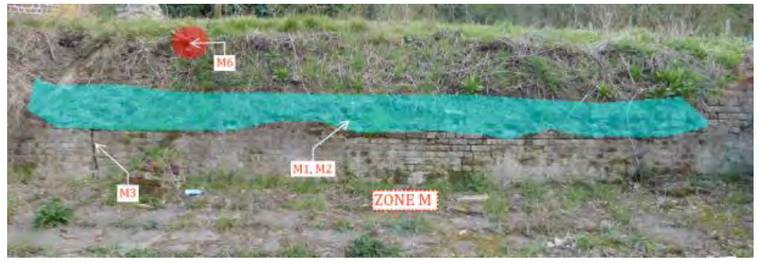
M2 Re-set bricks incorporating (as required) additional bricks from pile of salvaged material retained on site; finished wall can have variable height

M3 Flush out and fill fissures at north end

M4 Apply tile creasing to top horizontal surface; this should be set slightly proud of brick wall beneath

M5 Lay soft capping over top horizontal face

M6 Remove or treat all higher plants from bank behind brick wall



CATEGORIES OF REPAIR AND BUDGET ESTIMATE

The original brief required the works to be divided as follows:

- Identify works needed to prevent further deterioration including mortar capping, reinstating fallen masonry, soft capping etc
- Identify works needed on health and safety grounds
- Identify areas where a minor rebuild will significantly reduce the deterioration of that area

This has proved a difficult division to make and it would seem inappropriate to do a certain amount of work on one area without doing all that is required. However it is apparent that there are no significant structural issues that require works to be done on heath and safety grounds. It could be argued that any loose material poses some sort of risk either from tripping or potential use as a missile but, given that the public are excluded from the area, these considerations are not thought to be relevant.

The division between the other two categories is a hard one to make. Reinstating fallen masonry is to carry out minor rebuilding and it is not part of these proposals to recreate already missing areas. The divisions below therefore are based on need and priority. They also assume that maintenance - and particularly cutting back of vegetation – is continuing.

Priority A - URGENT **Budget estimate** **£18000**

Zones A, C, G, L to include the soft capping to the top of the mound flanked by Zones C, G and L. This approximates to the area that was intended to be carried out in 2011 although the works never took place

Priority B – NECESSARY **Budget estimate** **£10000**

Zones J, K and M

Priority C – DESIRABLE **Budget estimate** **£8000**

Zones B, E, F and H

David Odgers

May 2017

RICHARD GRIFFITHS ARCHITECTS

Wanstead Park
Boathouse Grotto



Report on Condition with Recommendations
July 2011

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RICHARD GRIFFITHS ARCHITECTS

1.0 EXECUTIVE SUMMARY

We have been commissioned by the City of London Corporation to look at the condition and future of the ruined Boathouse Grotto on the shore of the long water in Wanstead Park. The ruin was until recently very over grown, although it has now been cleared sufficiently to make an assessment of its condition. It is clear that it has been through cycles of neglect and repair, followed by further neglect, since it was severely damaged by fire in the 1880's. It is therefore essential to find a long term sustainable future for the site, as part an overall strategy for the park, to avoid further damage to what remains and the associated health and safety risks this could pose, and also to avoid the waste of resources involved in the cyclical pattern of repair and neglect. A long term strategy for the site must be put in place to remove the Boathouse Grotto from the Heritage at Risk Register (HAR). Engaging with stakeholders seems essential through the CMP process and beyond. Out of this we see a vision for a repaired and partially restored Boathouse Grotto, with an element of new building, returning it to an active role in the park and therefore protected and secured for the future. This report is aimed to be the first step in this process. It recommends both short term urgent repairs to secure the structure and a programme of major repairs and reconstruction within the next five years. It should be read in conjunction with the relevant sections of the Draft Conservation Statement and the structural engineering report (see Appendices).

2.0 INTRODUCTION

Commission

Following an approach by James Clare, Historic Buildings Architect at the City of London, now retired, Richard Griffiths Architects (RGA) were briefed on 16 December 2010 by Peter Wilkinson project manager of the Epping Forest group acting for the Corporation of London, who own and manage Wanstead Park **(Works Order Ref 447705 dated 10.01.2011).** Nicholas Sommerville has represented the City Surveyor's Department and project managed the survey and emergency works.

Purpose of report

RGA have been asked to carry out the following tasks in conjunction with the structural engineer, Stuart Tappin of Stand Consulting Engineers, quantity surveyor, Stephen Scammell of Sawyer and Fisher, and Brian Dix, the Corporation's archaeological advisor for this project:

1. Report on the condition of the Grotto and make recommendations for its repair
2. Produce submissions on the Grotto as part of the Conservation Statement currently being prepared by Chris Blandford Associates
3. Carry out a feasibility study into the future of the Grotto in the context of the Park.

This report has been prepared by John Woodcock and comprises the first item in this list. A preliminary draft was issued in February 2011 and this final report has been complied after the structure was inspected from a scaffold at close quarters.

Urgent repairs were carried out between May and July 2011 and a record of the work instructed is included in the appendices for future reference.

Location

The Boathouse Grotto is situated at grid reference TQ4195 8748 in the London Borough of Redbridge, London E11. It lies on the southern shore of the Ornamental Water which is an artificial lake in the valley of the river Roding at the eastern edge of Wanstead Park. The park is surrounded by suburban residential development but links the open spaces of Wanstead Flats to the south and Epping Forest to the north along the Roding valley.

Statutory protection
The Boathouse Grotto is a Grade II Listed Building and Wanstead Park is designated as Grade II* in the English Heritage *Register of Parks and Gardens of Special Historic Interest.*

Outline history and description
The Boathouse Grotto was a feature in Wanstead Park, an extensive landscape garden on the eastern edge of London developed in the 18th Century by John 2nd Earl Tylney. It was a two storied structure, with a shell and mineral decorated upper floor room overlooking the lake and a boat house below. There was a garden on the east side and from 1818 an adjacent bridge over the lake. It is best seen from the opposite bank of the lake or from the adjacent shore to the west, where the elevation of decorative stones formed an artificial cliff face with a cave-like entrance for the boats and various recesses and features. The landward side was originally disguised by landscape mounds and climbing plants. It is approached on a track from the Temple, another landscape feature, which has recently been converted to offices, a museum and function rooms.

The building was severely damaged by fire in 1884, only two years after the park was acquired by the City of London Corporation for public recreation and opened to the public. It became ruinous, but was apparently repaired on a number of occasions and finally in March 1997. Since then it has been allowed to become thoroughly overgrown by ivy and saplings, such that English Heritage entered it on their Heritage at Risk Register (HAR) in 2009. However, the City of London wishes to build on the success of the Temple restoration and return the Boathouse Grotto to a role in the landscape of the park.

For a further explanation of the history of the site see the Conservation Statement.

Archaeology
Initial archaeological investigations were carried out from the 1950's to 1970's by the Wanstead Historical Society under Mr J Elsden Tuffs. Items uncovered during this exercise are on display in The Temple. Various reports and investigations were carried out in the 1990's, culminating in an excavation of the boat dock and water front causeway by the Museum of London Archaeological Service (MoLAS) in 1997- 8. MoLAS also produced a digital survey following their work, establishing the historical water level from the original outfall of the lake.

Research
There are a certain number of historical documents and photographs available to assist with analysis of the structure. An article by Mike Collins in *Follies Magazine* (autumn 2007, Pp.6- 11) summarizes the history and reproduces early illustrations and descriptions. One of the key documents is a sketch drawing showing plans, a section and elevations of the Boat House Grotto in its completed form by Charles Heathcote Tatham dating from June 1822, at the time of an auction of the contents. A water colour by Basil Holmes and a series of photographs also show the interiors and exterior before the fire. The historical evidence is however incomplete; other drawings and further historic photographs of the building and the surrounding landscape design, if they exist, would greatly inform conservation decisions and such research should be made a priority together with analysis of the surviving fabric.

Survey information
A digital measured survey of the Boathouse Grotto was made by MoLAS in 1997 and is reproduced as a plan in their report of October 1999 (see Appendices). There is a sketch elevation of the inside face of the Grotto wall, however, survey elevations have not been plotted. A further set of plans appear to show both extant fabric and archaeological reconstructions of the lost original elements. These drawings need to be amplified by a full laser measured survey, including all elevations, in sufficient detail to allow a more thorough condition survey to be carried out. They would also be

required for scheduling work and maintaining a record of repairs when completed. If further clearance of the site is undertaken this would best be done before the new survey. A series of sections through the principal elevation would assist the structural engineer to assess the plumbness and therefore the stability of the wall.

Survey Visits
The remains of the Grotto were visited by the consultant team between December 2010 and February 2011. A further inspection was made from scaffolding in April 2011. Once cleared of ivy and saplings the structure was surveyed and its Condition Survey prepared. Once urgent repairs had been commenced, visits were made to discuss progress of the work.

3.0 DESCRIPTION OF STRUCTURE

The ruins of the Boathouse Grotto consist of a substantial brick wall, approx 15m (50') long, embellished with a variety of decorative stones and flints on the side facing the lake. A central archway gives access to the narrow rectangular boat dock, which is surrounded by the low perimeter wall of the former boathouse. This is a rectangular space approx 9.5m x 6.5m (30' x 21') internally. The principal wall extends to east and west of the boathouse with 'out-riggers' at the extreme ends. To the west of the boathouse are the remains of a brick entrance passage at first floor level and vaulted passage leading down to the lake side. Significant areas of the masonry have been lost and other areas been repaired in cement mortar. Patches have been rebuilt using different bricks and stones or reconstructed reusing materials. It is therefore difficult to determine the original form of certain areas. A thorough measured survey and archaeological analysis is therefore required to inform the repair strategy.

The extant structure is of soft red brickwork laid in a lime mortar (or apparently dry laid in the boat dock). The principal elevation consists of a two-brick (18in/450mm) thick wall in header bond faced on the lake side in a variety of second hand stonework to provide the rustic appearance. Many of the stones are of a substantial size and project beyond the face of the wall. The central part is of two storey height with a semi-circular headed archway approximately 2.7m (9') wide spanning the dock entrance and a further semi-circular opening above flanked by two smaller (original) elliptical window openings. The wall extends to the east, where it forms a retaining wall to higher ground behind. It has an undulating plan form, providing recesses facing the lake. There is a detached pier of masonry to the east. To the west is a separate section of the stonework wall is partly buried in the bank.

Between this section of wall and the west side of the boat dock is an arched tunnel structure in brickwork and stone spanning a rising path which connects to a first floor corridor. Parts of the first floor brick corridor structure survive, evidently having a barrel vaulted ceiling. The entrance doorway consists of a flat-headed opening spanned by a timber lintel and appears to have been substantially reconstructed. A photograph taken of the archaeological explorations probably in the 1960's shows a greater extent of the structure surviving to the passage with a temporary flat roof over the vault and the remains of plastered finishes inside.

The walls around the boat dock have been reduced to less than half the original ground floor ceiling height (approximately 900-1200mm (3'- 4') extant) and are bonded by a very week sandy mortar. The ground level on all sides is banked up much higher than this; as a consequence, the east wall is leaning and has been buttressed.

4.0 CONDITION

General condition

The remains of the Boathouse Grotto were visited by the consultant team on 15 December 2010 and found to be completely overgrown with ivy, with many saplings having taken root in the structure. Sections of brick walls were standing beneath the undergrowth, notably the grotto elevation facing the lake. The boat basin could be seen and accessed. After an initial clearance of ivy and cutting saplings, the structure could then be seen sufficiently to undertaken a preliminary survey on 12th and 19th January 2011. However, in view of health and safety considerations, many areas could only be viewed from a distance.

Preliminary proposals were made for urgent repairs to the surviving structure, and these were commenced in April 2011. The condition of the structure was reviewed in more detail from a fixed scaffold during April and May. The principal wall was found to be in poor, but reasonably stable state and now that temporary works have been completed, the worst decay has been arrested. However, it will require major reconstruction work in the medium term to secure its long-term future. A thorough stone-by-stone survey and assessment will be necessary as part of any programme of repair, to include the numerous loose stones on the site, which has been stacked together on the east side of the compound. The brick walls on the west side are in danger of loss and need urgent works to stabilize them. The walls around the boat dock are under pressure from the higher ground levels behind them and need to be strengthened or rebuilt.

Location and approach

The Grotto lies on the south bank of the Ornamental Water at one of its meanders just south of the axis of the former house. The principal elevation faces North West across the water and the boat dock is orientated at right angles to this. Thus it is designed to be viewed from across the water to the North West and north east, but is approached from an unmade track immediately to the south. The extent of the original curtilage and the layout of the surrounding landscape is not currently known, although Tatham's sketches suggest it was largely hidden by rocks and vegetation, with a small paved forecourt in front of the west entrance. Repton recommended enlarging the 'Grotto Garden' in 1813, thereby providing proof of such a feature. He also proposed two walks through the park leading to the Grotto. A bridge was built in 1818 and landed to the east of the Grotto. The ground immediately around the structure is uneven and banked up on the west and east sides, which may reflect the original landscape scheme and/or may conceal demolition materials.

Water level

We understand that the water level of the long water and therefore in the boat dock, can vary considerably with seasonal conditions and due to flood control measures in the river Rodding. Photographs taken at the time of previous works in the 1990's suggest that the water level was lowered to allow work to be carried out on the Boathouse Grotto; areas of rocks strewn in the water in front of the grotto can be seen. The MoLAS archaeological team in 1998 determined that the historic water level in the lake, and therefore the boat dock was 6.67m OD. That was 7cm (70mm or 2 3/4 in.) below the level of the pavement of the causeway in front of the Boathouse Grotto wall. This is marked on their drawings, but it is difficult to establish if it accords with current level of the water because of the extent of obscuring vegetation and the unevenness of the paving.

Significant fluctuations in the water level could affect the stability of the structure, both above and below ground, as well as the appearance of the grotto from the lake. It would therefore be advantageous to introduce measures designed to maintain the level of the lake at its historic level and protect the Boathouse Grotto from significant changes. It may be that a local weir could be introduced across the lake in the vicinity of the Grotto.

Foundations

The nature of the foundations is not known and further investigations are required to determine this. MoLAS recorded exposing the top of the footings to the Boathouse wall immediately to the east of the north arch at a height of 6.95 OD (MoLAS, 1999, P.10). The structural engineer suggests excavating trial pits in a number of locations to establish the depth of the footings (see Appendices); this should be done under archaeological observation.

Ground levels

The extent to which present ground levels around the Boathouse Grotto relate to historic levels is not known either. Tatham's drawings suggest that the ground was banked up to the east and west sides hiding the external walls. Exploration to uncover the historic levels will require archaeological supervision and recording, so as to avoid damage to fragile archaeological strata, such as evidence of paths or planting. It may also expose abutting structures. It might be advisable to clear debris and top soil down to a base level (e.g. historic ground level if this can be determined), under archaeological supervision before carrying out the measured survey. The structural engineer is concerned not to undermine any of the walls, so the work to reduce levels will need to be done carefully. However, some reduction of the ground pressure against the boat dock walls would be beneficial.

Structural condition

Initial comments from the structural engineer are included in the appendices. The general impression is that the main elements of the extant structure are in poor condition and that certain areas remain in danger of collapse. In the medium term the whole structure could be at risk. It is evident from photographs that there has been a significant loss of brickwork on the west side since the previous repairs. The longer these areas are exposed to plant growth and the weather, the greater the likelihood of losses. As the decay of the brickwork accelerates, the more vulnerable areas are likely to reach a critical point of irreversible instability in perhaps in 5-10 years. The previous repairs to the principal wall have stemmed the worst decay, but there is evidence that a number of stones have fallen from the lake elevation since they were carried out. In addition, the structure contains many voids and hollows, some designed and some the result of wildlife activity, so it is inherently weak. The numerous pieces of embedded ironwork and the use of a very hard cement mortar in previous repairs, including wall head capping, will in the longer term create problems with the original lime mortar construction.

Of particular concern are:

- The stability of the arched roof to the 'tunnel path'
- The overhanging brickwork at the extreme west end of the principal wall (now propped)
- The cracked brickwork at the extreme east end of the principal wall (now partly stitched)
- The overall plumbness of the principal wall
- The stability of the detached pier beyond the east end of the principal wall
- The invasive effect of ivy roots, some of them very large, in the mortar joints particularly to the brickwork of the corridor
- The presence of built in timbers including the decayed timber lintel over the entrance
- The unknown method of fixing the stonework facing to the principal wall, particularly over the central arch
- Corrosion and expansion of built-in metalwork dislodging the stone facing
- The very poor state of the mortar to the walls around the rear of the boat house
- The stability of the retaining walls (e.g. east side of boat house)
- The slump of the paving around the boat dock
- The proximity of trees to the structure- dead ones which may fall on to the structure, or live ones which may endanger it through root growth
- The long term failure of cement mortar cappings, allowing moisture into the structure

Safety
The site is inherently unsafe to access. Adequate safety precautions must be put into place for those entering the site for surveying and maintenance work. The security fence excludes the public from the site and this must be maintained until any repair works are complete and the structure is made safe. The City is responsible for health and safety issues on the site and is advised to appoint a CDM Coordinator for the project.

Security
The Boathouse Grotto is surrounded by a steel security fence and also much overgrown, but this evidently does not deter all intruders. The line of the fence does not appear to relate to any historic curtliage and new security measures, including CCTV should be considered as part of any repair or redevelopment project. Making the structure more visible from the paths, where it can be observed by wardens, may help. The plant and tree growth around the Grotto does not appear to be of historic interest, except for the two cedars to the west, being of recent growth and could be cleared.

Wildlife
The park is an important habitat for wildlife and this will be assessed in the Conservation Statement. Within the park each area has its own micro climate and local habitat. Since it has been left derelict, the Boathouse Grotto has been colonized by a variety of species. There is evidence of a Kingfisher's nest in the sandy soil above the archway on the west side of the structure. There are many voids and hollows which may also be suitable for other species. Kingfishers are a protected species, but there is no record of the site being used in recent years. Other species of bird, as well as plants (snowdrops, ornamental Mock Orange) and butterflies have been noted. The building works will therefore need to be sensitive to these wildlife issues. A substitute nesting box for the Kingfishers could be built into the structure. A new landscape design should seek to reinstate habitats.

Former bridge
A bridge spanned the lake immediately to the east of the Boathouse Grotto from c.1818 and its abutments can be seen on the north bank. It may have landed at the end of a flight of steps and an arched opening at the east end of the principal elevation. Further research and archaeological investigations on site are required to establish the form of the bridge and its exact location.

5.0 STRUCTURE IN DETAIL

Brickwork
The walls are constructed of a soft red brick laid in lime mortar. The bricks are of good quality and well bonded where they survive undisturbed. The principal elevation is a 2-brick thick wall (18in. or 450mm) with an undulating plan form to provide for decorative alcoves on the lake side and to provide structural strength to an otherwise 2-dimensional structure. The abutting walls to the boat house and passageway originally provided lateral support, and their ragged-ends can clearly be seen bonded into the structure. The surviving wall on the east side of the boat house is acting as a retaining wall and this has cracked the brickwork in a number of places. The remnant of a later buttress can be seen above the paving. The return sections of wall at the south end of the Boathouse have been rebuilt in a much poorer mortar. There are significant patches of brickwork at high level on the principal elevation where rebuilding has taken place in a mixture of fletton and common bricks and cement mortar, not in character with the original work. The brickwork has cracked vertically at the junctions between the principal walls and the abutting walls. The rear elevation to the east of the boat house has vertical cracks relating to the curve of the wall. At the extreme end a group of cracks may relate to tree root action. Cracks at the west end of the wall and the overhang of the surviving brickwork at high level indicated this area is unstable and it has been propped with brick piers (May 2011). The brickwork piers which survive as remains of the first floor corridor are fragile because the

mortar joints have been invaded by ivy roots. In contrast the doorway has been rebuilt in a very hard cement mortar. However, the built-in timber lintel is decaying and could cause instability.

Stonework
There is a great variety of stone types present at the Boathouse Grotto, both built-into the rock wall and lying loose on the site. These include:

- Limestone 'sponge stone' which has frequent hollows forming a rusticated appearance and may be from a number of geological strata and quarries;
- Large pieces of 'pudding stone' conglomerate probably locally sourced;
- A significant number of dressed and moulded limestone pieces from another site/s including carved capitals, sections of cornice and mouldings;
- Pieces of a grey-veined polished marble;
- Flints, some of them large;
- Stones with a glazed finish;
- Bath stone, which is evidently of a later date being uniformly dressed.

A thorough survey of stone types including geological identification needs to be undertaken. A stone-by-stone measured survey will be necessary first. The survey should include the loose stones on the site.

The carved and moulded stones may have come from the demolition of the former Wanstead Manor House. The marble may be a gift from George Scott of Woolston Hall, Essex (Collins, 2007, P.8), but this needs further research. The stones which are built into the principal wall structure appear to be significantly larger than the visible part, so as to anchor them. In one location the rear portion of two stones is visible in the back of the wall. They may also be held by iron cramps and this will require further investigation. It is not clear how the stones above central arch are secured or if they were re-fixed when the backing brickwork was rebuilt. Judging from a photograph at the time of 1997-8 works, a great number of stones were reset in the higher parts of the elevation at this date. There is a large section at high level towards the east end of the wall which has been rebuilt and refaced in coursed Bath rubble stone and this is out of character with the original work.

Mortar
The principal wall of the Grotto was originally constructed in a good quality lime mortar, with black inclusions giving it a distinctive 'speckled' appearance. There are variations in the content of ash in the mortar in some areas of the principal wall but it is not clear if this represents different phases of work because the mortar is otherwise very similar. The corridors and areas on the west side appear to have been constructed in a similar mix. As commented above the low level walls around the boat house are later and use a very weak yellow sandy mortar which is powdering.

Two samples of mortar from the principal wall and one from the corridor wall were sent to a laboratory for analysis. The three samples were considered to be very similar or the same mortar with additional kiln ash in one. The test result from the corridor wall sample is included as an appendix.

The various types of mortar should be replicated in the repairs instead of the cement previously used. Lime mortars will accommodate movement in the structure, whereas hard cement mortars will tend to crack. An hydraulic lime mortar which does not match the original has been used in the emergency repairs this year, but it is recommended that a lime putty or feebly hydraulic lime mortar, matching more closely the original, is used in any consolidation or reconstruction work. It is essential that lime mortars are protected properly during the curing period if they are to be effective.

The cement mortars used latterly will be detrimental to the brick and stonework in the long-term, releasing salts into the structure, which are an agent of decay in both brick and limestone, and concentrating decay in the softer original work. The extent to which previous repairs can or should be undone and renewed in lime mortar was considered at the time of the detailed survey and is discussed below. The archaeological recording and analysis will help to inform this decision making.

Metalwork

There is a significant amount of wrought iron work, presumably original, built in to the structure. This consists of:

- Large straps with hooked ends – one is visible near the apex of the wall;
- Pintel hinges to the central arch;
- A projecting spike above the central arch;
- A large number of slag 'nodules' between and behind the stones.

Rusting of this metalwork is an agent of decay, exerting pressure on the surrounding masonry and loosening stones from the face of the wall. Exposing and treating this metalwork is therefore an important objective of any repairs programme.

The origin of the slag 'nodules' is uncertain. They might be imported bi-products from the newly expanding iron smelting industry in the mid 18th Century. However, the shape of the ironwork appears to mirror that of the surrounding stones, suggesting that it may have been poured molten into structure. A further theory is that the heat of the fire in 1884 may have melted the conventional cramps and ties built into the structure. The rusticated appearance of the 'nodules' and their careful integration into the pattern of the stonework does suggest that they were part of the original design. This being the case, their retention and careful treatment will be important.

6.0 RECONSTRUCTION

Evidence of lost elements

The drawings produced in 1997- 8 (see Appendices) reconstruct the lost elements of the Boathouse Grotto indicated on the 1822 sketch i.e. the upper floor rooms and corridor, the roof profile and skylight. There is a level of interpretation in these drawings and there are many unresolved points, particularly about the layout of the service areas. However, the records of the 1997- 8 excavations corroborate the evidence of the historic photographs, drawings and descriptions. The historic layout of the curtilage and landscaping are at present largely unknown. The approach and entry to the building can be deduced in general terms from Tatham's drawings and photographs.

The lake-facing elevation has been significantly reconstructed at high level, but there are numerous areas including the interiors of the niches where decorative stones and sculpture are missing, leaving an impression in the mortar behind. The stone edge to the water front causeway and the pavement of the boathouse was uncovered by MoLAS in 1997- 8 and this is shown on early photographs and the survey drawing, but they are now covered in vegetation. At the east and west ends, passageways lead up from the water's edge and the ragged ends of the brickwork suggest arched openings or other enclosures.

On its inside face, the principal wall has scars made by the former abutments of the flank walls with 45˚ corbelled springers in the two corners of the boat house. There is much evidence of repairs, notably to the arched openings and at high level. A line of disturbance at approx. 1.95-2.00m (7'4-7'6) above the paving level indicates the former floor level, which cut across the arch of the boat opening. Built-in iron pintels indicate that there were once inward-opening gates. The western of the

two side windows has enough of the original rubbed brickwork in place to suggest an original elliptical opening, where as the other has been rebuilt in a much distorted form.

Standing brickwork survives to indicate the form of the arched first floor corridors. Although the lintel and stonework above the entrance are clearly rebuilt, the springing of an arched opening can be detected on the north side, if indistinctly.

The overall impression is that enough survives to verify the general form, configuration and dimensions of the building, however significant details remain unresolved. In particular none of the roof structure survives, apart from the arched 'tunnel' passage. The appearance to the landward side of the building and its curtilage are only indicated in very general terms on the 1822 sketches. The interiors, including measurements and paving patterns are also shown at a small scale and on photographs. A high degree of speculative reconstruction would therefore be required to rebuild the Boathouse Grotto as a facsimile.

7.0 RECOMMENDATIONS

Generally

The following recommendations are ranked in order of priority to help the City of London plan and fund the necessary repair and reconstruction work. The immediate items were commenced in April 2011 and should be completed within the next six months. We recommend that the immediate repair work is negotiated with a suitably experienced conservation contractor. The medium term consolidation work will require schedules of work to be drawn-up from scaffolding and marked on measured surveys. The work may need Listed Building Consent, therefore it is more realistic for this to be undertaken in a subsequent year. An appraisal of the future options for the site needs to be brought forward over the next two years in parallel with the repairs, so that a long term sustainable strategy can be in place within 5 years. This is the subject of the feasibility study prepared in parallel with this report. All repair works should be carried out by experienced conservators or conservation contractors under the supervision on an accredited conservation Architect and should be fully documented. An archaeological watching brief and record will be required, preceded by a desk top assessment and perhaps site evaluation/s.

Approvals

Repair work on a like-for-like basis does not need listed building consent. However, removing material to lower ground levels, additional temporary supports or any reconstruction would need consent. Given the sensitivity of the site and its potential 'at risk' status, consultation with the conservation officer at an early stage would be advisable. Likewise, although the building is Grade II, the park is a Grade II* landscape, and English Heritage may therefore wish to be involved in the approval process.

Health and safety

A CDM Coordinator should be appointed immediately to fulfil the City's legal obligations to ensure that work, including surveys and investigations, are carried out safely. The Boathouse Grotto is an inherently unsafe site, both because of the condition of the structure and the surrounding ground, but also the presence of water. Contractors, including archaeologists and surveyors, will have to prepare method statements to show how they are to carry out their tasks safely. An access scaffold will be necessary for us to carry out a detailed survey with the structural engineer prior to scheduling the work; a budget cost is included in the appendices.

7.1 IMMEDIATE ACTION – CLEARANCE AND PROTECTION (within 6 months)

Site clearance

- Remove to storage loose stones: stones; provide a covered storage shelter or container on site within compound area on temporary base on geotextile membrane;
- Record loose stones and catalogue by archaeologists with a view to reusing them;
- Remove top soil from site (maximum 300mm depth) under archaeological observation and cart away to another part of the Park (down to existing geotextile membrane);
- Remove further soil to reduce levels immediately behind retaining walls to boat house under archaeological observation (±300mm); this item is PROVISIONAL and dependant upon prior archaeological evaluation;
- Cut and poison all remaining ivy and saplings stems;
- Grub-out sapling roots under archaeological observation – this may disturb areas of masonry, which should be set aside for rebuilding immediately after.

Archaeological investigation

- Archaeologists to carry out initial evaluation to determine original levels and surface materials around perimeter of Grotto and at thresholds etc;
- Remove further surface material in agreed areas (see marked up plan) to expose and record original floor surfaces or ground levels and evidence of surrounding landscape;
- Structural engineers advice to be taken as to extent of removal adjacent to walls;
- Cover in geotextile protection and lay temporary hoggin surface over when complete.

Structural investigation

- Undertake structural trail holes and backfill under archaeological observation to uncover footings in 3no. locations shown on structural engineer's drawing – These could coincide with removal of sapling roots.

Measured Survey

- Commission laser measured survey to enhance existing MoLAS survey, including stone-by-stone elevation of principal elevation and reflected ceiling plan of tunnel vault; check verticality of walls; include topographical survey of immediate surrounding landscape; to be carried out after archaeological reduction of levels but before scheduling consolidation works (see Appendices).

Access Scaffold

- Erect scaffold both sides of principal wall with lifts at 2m height for surveying and light works; lakeside to be cantilevered over water and restrained by scaffold in boat dock to contractors design; provide platforms around outlying walls (see Appendix).

Structural stability

- Prop overhanging area at west end of principal wall as shown on structural engineer's drawing 283/ SK2 using brickwork and slate packers; carry out from scaffold;
- Stitch cracks at east end of wall as shown on structural engineer's drawing 283/ SK2 using stainless steel helical bars and fill cracks with mortar (see Appendix).

Protection

- Re-bed loose bricks and re-point top 2-3 courses of walls;
- 'Soft cap' walls with lime mortar and tile creasing;
- Remove ivy and provide further temporary propping to vulnerable areas on lakeside.

7.2 SHORT TERM ACTION – CONSOLIDATION (within 2 years)

Survey and Schedule

- Carry out from scaffold access detailed conditions survey and schedule of work to be marked up on survey drawings for all areas of structure.

Research

- Carry out further historical research and collate information to establish thorough knowledge base for repair works.

Consolidation Works

- Draw up schedules and specifications;
- Seek tenders;
- Survey scaffold could be left in place or new scaffold erected depending upon programme;
- Building contract to include consolidation works to all brickwork, paving and stonework
- Remove all roots and rebuild locally;
- Remove, de-rust and refix built-in metalwork;
- Dismantle and reconstruct unstable areas of brickwork in matching mortar;
- Refix and re-bed loose or detached stones using stainless steel cramps and ties
- Reform copings with tile creasings or coping stones;
- Reform red rubber openings to principal elevation;
- Consolidate and provide supporting ties for arched tunnel to structural engineer's detail
- Stitch further cracks with helical stainless steel bars and point-in;
- Lift and bed new York stone paving to boathouse floor and waterfront causeway.

Recording

- Archaeological record of work completed to aid future reconstruction/repairs and deposited in public archives;
- Cataloguing and recording of loose stones by archaeologist; analysis of survey fabric and historic photographs to determine how much of the rockwork is in its original location;
- Updating measured survey after works;
- Exhibition for benefit of public.

Security

- Install power and CAT 5 supplies for CCTV cameras;
- Improve physical security and patrols of site;
- Clear more undergrowth.

Maintenance

- Put in place continuing annual maintenance programme for landscape and ruins
- Put in place quinquennial inspection and repair cycle for building/s and ruins.

7.3 MEDIUM TERM ACTION – OPTIONS APPRASIAL FOR FUTURE DEVELOPMENT (within 3 years)

See Feasibility Study into development of site. These should be developed in parallel with the repair works, including business planning and fund-raising, in order to work towards a long term future for the site.

7.4 LONG TERM ACTION – IMPLEMENTATION OF DEVELOPMENT (within 5 years)

Implement preferred option to make site more assessable, to restore the setting and landscape, and to provide for a sustainable future with a new function.

APPENDICES

1. Registered Park and Garden map (English Heritage)
2. Text of Listing (London Borough of Redbridge)
3. Survey Drawings (1997)
4. Drawing with Reconstruction of historic layout (MoLAS 1998)
5. RGA Survey Drawings with notes on condition
6. Initial Structural Engineering Comments
7. Structural Engineer's Drawings with notes on condition
8. Structural Engineer's Drawings showing Urgent Repairs May 2011
9. Schedule of Urgent Repair work Rev A May 2011
10. RGA Drawings showing Urgent Repairs May 2011
11. Indicative Budget for Emergency Repairs
12. Scaffolding proposal
13. Digital Measured Survey Proposal
14. Plan marked up with extent of Measured Survey
15. Archaeological Investigation Proposal from MoLAS
16. Plan marked up with possible scope of Archaeological Work
17. Comments from Brian Dix on Archaeology
18. Report on Mortar Analysis
19. Photographs

Appendix D: Richard Griffiths Architects' 2011 Feasibility Study

RICHARD GRIFFITHS ARCHITECTS

Wanstead Park
Boathouse Grotto



Feasibility Study into Repair and Reuse
July 2011

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RICHARD GRIFFITHS ARCHITECTS

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1.0 EXECUTIVE SUMMARY

We have been commissioned by the City of London Corporation to look at the history, condition and future of the ruined Boathouse Grotto on the shore of the Ornamental Water in Wanstead Park and this report forms the third part of this commission. The ruin was until recently very over grown but clearance and repairs have now commenced. It has been through cycles of neglect and repair followed by further neglect since it was severely damaged by fire in the 1880's. The objective of this study is to find a long term sustainable future for the site, as part of an overall strategy for the park. It establishes that further neglect or demolition are not viable options and promotes a vision which returns the site to an active role in the park and therefore protects and secures it for the future. A radical approach now needs to be taken at this juncture. The repaired and/or restored Boathouse Grotto, perhaps with an element of new building, will have a new function and be publically accessible. Three different approaches to 'revalorization' of the building and its surrounding landscape are proposed. These options are not mutually exclusive and need to be investigated in more detail before a favoured approach can be adopted. A wide variety of new uses might be feasible in the restored grotto or new building and these also need to tested further through a more detailed study and through consultation. Engaging with stakeholders as part of the evaluation process is essential and this begun with an exhibition and public consultation for the park as a whole in February 2011. This report should be read in conjunction with the relevant sections of the Draft Conservation Statement and our Condition Survey report. The attached appendices include reports by the structural engineer and quantity surveyor on the three options.

2.0 INTRODUCTION

Commission

Following an approach by James Clare, Historic Buildings Architect at the City of London, now retired, Richard Griffiths Architects (RGA) were briefed on 16 December 2010 by Peter Wilkinson, Project Manager of the Epping Forest group acting for the City of London, who own and manage Wanstead Park (Works Order Ref 447705 dated 10.01.2011). Nicholas Sommerville, has represented the City Surveyor's Department and project managed this study.

Purpose of report

RGA have been asked to carry out the following tasks in conjunction with the structural engineer, Stuart Tappin of Stand Consulting Engineers, quantity surveyor, Stephen Scammell of Sawyer and Fisher, and assisted by Brian Dix, the City's archaeological advisor for this project:

1. Report on the condition of the Grotto and make recommendations for its repair
2. Produce submissions on the Grotto as part of the Conservation Statement currently being prepared by Chris Blandford Associates including display panels.
3. Carry out a feasibility study into the future of the Grotto in the context of the Park.

This report comprises the third item in this list and includes the three approaches developed for the Conservation Statement and public consultation exhibition (item 2). The Introduction section draws upon the Conditions survey report, but does not reproduce the full text.

Location

The Boathouse Grotto is situated at grid reference TQ4195 8748 in the London Borough of Redbridge, London E11. It lies on the southern shore of the Ornamental Water which is an artificial lake in the valley of the river Roding at the eastern edge of Wanstead Park. The park is surrounded by suburban residential development but links the open spaces of Wanstead Flats to the south and Epping Forest to the north along the Roding valley.

RICHARD GRIFFITHS ARCHITECTS

Statutory protection

The Boathouse Grotto is a Grade II Listed Building and Wanstead Park is designated as Grade II* in the English Heritage *Register of Parks and Gardens of Special Historic Interest.*

Outline description and history

The Manor of Wanstead, a former hunting lodge of Henry VII and Henry VIII, was purchased by Josiah Child, 1st Baron Wanstead, in 1673- 4. He developed extensive formal gardens around the old manor house, including the lakes along its eastern edge. From 1715 to 1722 his son, Richard Child, 1st Earl Tylney, built a great neo-Palladian house designed by Colen Cambell and formal landscape garden recorded by John Rocque. From 1750 his son John Tylney, 2nd Earl redeveloped the gardens in the fashionable informal landscape manner and a later earl employed Repton to remodel the park in 1814, including enlarging the Grotto garden and laying out paths. The Boathouse Grotto was built in c.1761 as part of the ornamentation of the Park. Stones, coral, minerals and sea shells were procured and donated by friends of the second Earl. It was used as a boathouse and as a setting for macabre dramatic presentations and fire work displays. An adjacent bridge constructed at the suggestion of Lewis Kennedy in 1818 allowed spectators to cross to the other bank of the lake.

The building was severely damaged by fire in 1884, only two years after the park had been acquired by the City of London Corporation for public recreation and opened to the public. It became ruinous, but was apparently repaired on a number of occasions and finally in March 1997. Since then it has been allowed to become thoroughly overgrown by ivy and saplings, such that English Heritage entered it on their Heritage at Risk Register (HAR) in 2009. However, the City of London wish to build on the success of the Temple restoration and return the Boathouse Grotto to a role in the landscape of the park.

For a further explanation of the history of the site see the Draft Conservation Statement.

Archaeology

Initial archaeological investigations were carried out from the 1950's to 1970's by the Wanstead Local History Society under Mr J Elsden Tuffs. Items uncovered during this exercise are on display in The Temple. Various reports and investigations were carried out in the 1990's, culminating in an excavation of the boat dock and water front causeway by the Museum of London Archaeological Service (MoLAS) in 1997- 8. MoLAS also produced a digital survey following their work, establishing the historical water level from the original outfall of the lake.

Research

Historical research is currently being carried out as part of the Conservation Statement commissioned by the City of London from Chris Blandford Associates. More information is needed on the historical development of the Boathouse Grotto, in particular, to inform this feasibility study. An article by Mike Collins in *Follies Magazine* (Autumn 2007, Pp.6- 11) summarizes the history and reproduces early illustrations and descriptions. One of the key documents is a sketch drawing showing plans, a section and elevations of the Boat House Grotto in its completed form by Charles Heathcote Tatham dating from June 1822, at the time of an auction of the contents. A water colour by Basil Holmes (see cover illustration) and a series of photographs also show the interiors and exterior before the fire. The historical evidence is however incomplete; other drawings and further historic photographs of the building and the surrounding landscape design, if they exist, would greatly inform conservation decisions and such research should be made a priority together with analysis of the surviving fabric.

Condition
The remains of the Grotto were visited by the consultant team between December 2010 and February 2011. Further inspections were made from scaffolding in April and May 2011, once cleared of ivy and saplings, and a Condition Survey prepared. Sections of the brick walls remain standing, notably the grotto elevation facing the lake, which is embellished with a variety of stones. The boat basin lies behind the wall and is surrounded by low walls in poor condition. To the west are the remains of brick vaulted corridors at a higher level, which originally led from the forecourt into the grotto and down to the lake side.

Preliminary proposals were made for urgent repair of the surviving structure, and these commenced in April 2011. The condition of the structure was also reviewed from a fixed scaffold in April and May 2011. It was concluded that the principal wall will be in a reasonably stable state when the temporary works had been completed, however, it will require major reconstruction work in the medium term to secure its long-term future. A thorough stone-by-stone measured survey and archaeological assessment will be necessary as part of any programme of repair, to include the numerous loose stones on the site, which have now been stacked on a base to one side of the compound. The brick walls on the west side are in danger of further loss and need urgent works to stabilize them. The walls around the boat dock are under pressure from the higher ground levels behind them and need to be strengthened or rebuilt.

3.0 APPROACHES TO FABRIC REPAIR

'Revalorization'
The Draft Conservation Statement includes reference to three different approaches to the historic fabric of the Boathouse Grotto:

1. Abandonment
2. Maintain as a ruin
3. 'Revalorization'

The three options presented in this report are all variations of 'revalorization' This is a concept whereby an historic building or other historic asset, such as the Boathouse Grotto, is given a viable and sustainable future by reinterpreting, representing, reconstructing and /or reusing it in some way which recognises and enhances its historical and other values. In other words, 'giving it a new lease of life'. The options given below all propose a capital investment in the site now, which will enable public enjoyment, to justify the necessary continued maintenance costs and possibly to generate revenue.

Abandonment
The reason for perusing 'revalorization' rather than either abandonment or demolition, is that both these alternatives come with a cost, but have limited public benefit. In fact in the case of demolition they would cause a serious loss of public amenity; not only the loss of an important feature in the historic landscape, but also, by running counter to local and national planning and historic buildings policies. Demolition would involve short term expenditure to level and re-landscape the site and remove any residual health and safety risks. Abandoning the ruin to natural decay would involve both immediate and on-going costs to secure the site, because of the increasing health and safety risks associated with the deteriorating state of the structure. Above all, abandonment is likely to be unpopular and would send out a negative message about the City's approach to historic buildings and Wanstead Park in particular. Demolition would require listed building and conservation area consents, which might be unlikely to be forthcoming. Abandonment would leave the Boathouse Grotto on the HAR Register and run the risk of enforcement action to insist on repairs.

Repairing as a ruin
Repairing the remains of the Boathouse Grotto as a ruin is the most conservative approach to the historical asset, but it would need to become a continuing process. Photographs taken over the last 50 years or so show the degree to which decay has caused loss of the surviving fabric during this period. Added to this the various programmes of repair carried out during this time, have been carried out in a manner which would not now be deemed as good conservation practice: for instance, using cement mortars and non-matching stones or reusing materials such as decorative stones, apparently without authenticity and without keeping records of the work. This means that as time passes the ruin looses some of its historic and cultural value, as well as being physically reduced. The rapid establishment of samplings rooted in the structure since the 1997- 8 repairs shows that without annual control of vegetation growth, decay of the structure would be rapid. Further sections of masonry would become unstable and require ever more structural intervention if they were to survive. Ongoing maintenance as well as a cycle of 5- yearly (quinquennial) inspections and repair works is therefore essential.

Structural issues
Sections of the surviving structure of the Boathouse Grotto are in a fragile condition, other areas are subject to deterioration. The principal elevation is significantly out of plumb. There are a great number of voids where the weather can penetrate and large ivy roots are established in the joints. There is much built-in metalwork which is an agent of decay. Sections of the main elevation have had emergency work carried out recently which will postpone further decay, but a comprehensive programme of repair to the structure will provide greater structural stability in the longer term. Much of the brickwork in other areas is eroded or potentially unstable particularly on the west side and around the boathouse, where consolidation is urgently required. Any new building could be used to provide bracing and support to the surviving walls, whereas any programme of repairs alone would still leave the extant structure vulnerable to further decay and losses.

Authenticity
As referred to above, there is a question as to archaeological authenticity of the surviving remains of the Boathouse Grotto due to the extent to which original fabric has been lost and the methods adopted in successive phases of repair. The first essential step in understanding the ruin in more detail, is for a stone-by-stone measured survey and from this an archaeological record of the extant standing structure and loose stones. With this evidence it will then be possible to devise a repair strategy. The key issues to agree are:

- The extent of dismantling and reconstruction (including reversing earlier repairs);
- The extent to which stones can be authentically reinstated;
- The extent to which materials can be reused without archaeological evidence of location;
- The structural methods to be adopted (ties and reinforcement);
- The treatment of embedded metalwork (*insitu* or removal).

Continued piece-meal repair will ensure the survival of the structure in some form and providing it is more regular (quinquennially) and a record is kept, this would be a good conservative approach to adopt. At the other end of the spectrum, an attempt could be made to reconstruct the original elevation based upon historical evidence and analysis of the surviving fabric. A composite approach is likely to be most successful, based upon an agreed strategy.

Reversibility
The three option A, B and C take distinct approaches to the surviving fabric of the Boathouse Grotto. Option A accepts the ruin as it is, repaired and maintained; the interventions are intended to be 'reversible'; i.e. they could be removed and made good with minimal effect on the standing remains or archaeology. The piled footings would inevitably be retained underground, but could be covered.

Option C also accepts 'repair as a ruin' as the basic treatment for the remains, however the new building within it involves a greater level of intervention, including the rebuilding of the walls around the Boathouse. It is therefore theoretically 'reversible', but in practice would leave a greater mark on the surviving structure.

Option B is at the opposite end of the spectrum to 'A', involving the rebuilding of the structure. Much of the surviving fabric would need to be dismantled and rebuilt from the footings, particularly around the Boathouse in order to support the new superstructure. This would be entirely 'irreversible'. Furthermore, the repair of the lake side elevation will involve significant dismantling and rebuilding. Therefore, even with archaeological recording the restored Boathouse Grotto would be substantially a new building. However, the benefits of the new building may be considered to out way the negative impact on the archaeological remains

Landscape
The Boathouse Grotto is an important feature in the lake side landscape of Wanstead Park. Its immediate landscaped surroundings are therefore as significant as the building itself. It is clear from surviving illustrations, such as the watercolour by Basil Holmes, that the present pattern of planting, paths and ground configuration is not as originally designed. Further archaeological investigations are required to verify the earlier landscape layout. However, from descriptions it appears there was a small paved forecourt in front of the entrance on the west side and a landscape garden on the east side of the boathouse, surrounded by tall elm trees, and with willow trees on the shoreline. Paths through the park lead to the grotto and the bridge over the lake landed immediately to the east. In any repair or restoration of the Boathouse Grotto, reinstating the landscape surroundings will be important. The landscape design also has the potential to be used for security, by defining protected spaces around the building.

M& E Services
The City have laid two ducts and a water pipe to the Grotto site from the Temple. An electrical cable has been pulled through one duct and the other could be used for CCTV. There is no mains drainage near the site, so a cess tank, filtration or composting installation might be required. The proximity to the lake may prove difficult because pollution of the water courses must be avoided.

Conclusion
Expenditure on the Boathouse Grotto is required both immediately and over time, whichever approach is pursued. 'Revalorization' postulates ways in which this expenditure can be used constructively and sustainably for the public benefit.

4.0 APPROACHES TO USE OF THE SITE

Need for activity
The problem with the Boathouse Grotto is neglect and the consequential vandalism and risks to public health and safety. Opening up the site and providing for activities there would return the building to an important role in the park. This would justify the capital cost of repairs and restoration works, as well as the continuing expenditure on maintenance of both the building and the landscape. A wide range of possible activities have been considered, each with its own opportunities, as well as draw backs. Some are discussed below.

Exhibition/ display
A room could be made available for relocating the exhibition from the Temple and enlarging it to include more historical background, as well as the results of the archaeological work carried out as part of the repair and restoration of the Boathouse Grotto. This would require only a simple interior, as long as it could be made secure at night. However, without a staff presence all day, the exhibition

might be vulnerable to vandalism and there would be insurance considerations (see note below on sculpture gallery). The original boat house could be restored below the exhibition space and visited under supervision.

Education facility
To function as an educational facility, the Boathouse Grotto would need to be linked to other facilities, such as toilets and cloak rooms, so it might be that an additional new building is required adjacent to it. If the grotto room were restored inside, or a contemporary reinterpretation was created, this could provide an education resource as an on-going project for local schools. It could be a valid basis for teaching the social and economic history of the 18th century, as well as geology, and if it were tailored to the National Curriculum, could be a fee-earning enterprise.

Wildlife centre
A facility to allow the public to learn about the wildlife of the park and watch the birds on the lake from the upper windows would be relatively simple to provide. The facility could be an unheated space which could be self-maintained, with the wardens visiting occasionally during the day. Such facilities have been created successfully in other parks and nature reserves.

Sculpture gallery
A full height space under a simple roof behind the grotto wall could provide a setting for local artists as well as visiting sculpture exhibitions. A large space could attract large works, but might have a limited appeal. A well planned and regular programme of events would need to be organized and well-advertised, in order to keep the gallery in use. Staff would be required for security whenever the gallery was open and CCTV or similar security at other times. If the gallery were to be used for visiting exhibitions it would need a higher degree of security and environmental control to satisfy insurance requirements.

Boathouse
The original function of the building could be restored. A punt-like boat (possibly a reconstruction of an 18th Century boat) could be kept in the dock for pleasure trips at weekends in the summer. This would need to be carefully supervised because of the health and safety risks associated with the proximity to the lake. Alternatively it could be a store for a working boat used by staff for maintenance of the lake.

Water sports
Converting the site into a small water sports centre, such as a canoe club, is an attractive idea, but there are serious health and safety as well as environmental issues. The boat dock could be reconstructed to accommodate canoes and a club house room created above. A separate block may be required for toilets and changing rooms.

Café
There is a real need for a larger and higher quality café with indoor seating in the park. One opportunity might be to create one in the Boathouse Grotto. Although there is already some provision for mains services, there may be difficulties in providing drainage and access for delivery vehicles. The upper room would provide a good vantage point. However, it is thought better to build the café further along the shore of the lake, so that the grotto elevation could be viewed from there, in its landscape setting. A new building could then be located where services, drainage and delivery access are easier.

Holiday accommodation:
A full restoration of the Boathouse Grotto could provide interesting accommodation for holiday use, such as that run by the Landmark Trust, Vivat Trust or National Trust. There would need to be mains services and car access to the site and an area of private space delineated from the park. This proposal could generate income, but may be difficult to arrange within the terms of the City's standing regulations for leaseholders. The building would need to be available for public access on regular occasions each year to justify public investment in the restoration.

5.0 OPTION A:

An accessible ruin (see Drawing no.497B/ D01)
This option accepts 'repair as a ruin' as the basic approach to the remains of the building as described above. However, with re-landscaping and sensitive physical interventions, it brings people onto the site to enjoy and benefit from the Boathouse Grotto. This could be done in a more or less temporary manner, allowing either of the other two options to be pursued in the longer term. It is a well tried approach taken by English Heritage at many of its sites, yet brought up to date with a more contemporary built form.

An accessible pedestrian route is proposed through the site connecting two viewing areas on either bank of the lake via a high level walkway across the boathouse and a reconstruction of the historic bridge across the lake. The proposal could be combined with a shore side café to the northwest giving views of the grotto elevation. The design of the elevated walkway and bridge is kept simple, with two parallel steel beams supported on engineered piled foundations. A timber deck spans between these beams with steel balustrades and timber handrails, reinterpreting the wrought iron bridges of the 18th and early 19th Centuries. The walkway would broaden out to form a viewing gallery above the boathouse dock, with views out through the original four openings in the lakeside elevation.

6.0 OPTION B:

Restored (see Drawing no.497B/ D02)
This option is at the opposite end of the conservation spectrum to option A and attempts a full restoration of the building and its surrounding landscape as shown on Tatham's sketch and later photographs. Historically authentic materials would be used in the reconstruction, for example handmade bricks and lime mortar, lath and lime plaster finishes internally. Decorative stones would be reincorporated, following careful analysis by archaeologists of the standing remains and loose stones. A new tiled roof and timber framed lantern to the grotto would again follow Tatham's drawing. The rear elevations would be clad with trellises for climbing vegetation as shown on his drawings. The openings to the lake will be reconstructed based upon evidence of the surviving rubbed brick surrounds and fitted with glazing and shutters.

The extent to which the interiors are reconstructed would depend upon the budget and their proposed function. The main grotto room on the first floor could be reconstructed based upon the evidence of surviving photographs and other historic examples. Alternatively, a contemporary reinterpretation could be created using samples reflecting current scientific understanding. This might involve local schools in a live project. The ancillary rooms need not be restored or accessible to the public, but could provide accommodation for staff as a presence on site to assist with security.

7.0 OPTION C:

A new building behind the existing façade (see Drawing no.497B/ D03)
This option proposes a contemporary structure within the footprint of the ruined Boathouse Grotto, which would provide accommodation for a new function. It is hoped that bringing activity on to the site will improve security. A variety of functions have been suggested including sculpture gallery, wildlife exhibition space and observation platform, education room, meeting room or water sports clubhouse. The drawing shows an upper room for such a function, above the boathouse, which would be refurbished as a home for a maintenance boat or a pleasure boat for summer use. The proposed building uses an economic form of construction with a steel frame and timber cladding above the reconstructed brick walls of the ground floor. The entrance would be through the original doorway and corridor, with a new timber clad porch within it. The interiors could be a basic unheated envelope or could be upgraded to an insulated and heated interior, depending on budget and usage.

8.0 DEVELOPMENT STRATEGY

The following is an outline of the next steps to develop the feasibility study ideas into a real project and to implement them within the next five years, thus securing the future of the Boathouse Grotto.

Medium term action – options appraisal
Develop the ideas in this study to the stage whereby a decision can be made on the preferred option, approvals obtained and funding put in place.

- Develop 3 options to RIBA Stage C, including outline structural design and budget;
- Consultations with stakeholders and statutory authorities;
- Ecological impact study;
- Archaeological impact assessment;
- Sustainability assessment;
- Security assessment;
- Health and Safety assessment;
- Fund raising approaches;
- Initial business planning.

Design and approval

- Develop preferred option to RIBA Stage D detailed design;
- Submit for Listed Building Consent;
- Submit for Building Control approval if required
- Detailed cost estimate.

Project planning and development

- Funding agreements;
- Finalised business plan;
- Procurement plan;
- Project programme;
- Maintenance plan and budget.

Long term action – Implementation of Development (within 5 years)
Implement preferred option and provide for future maintenance;

- Develop designs to tender stage information;
- Seek tenders for new construction and landscaping as single or separate packages;
- Health and Safety plan;
- Implement in single contract or phases to suit budget and project programme;
- Archaeological observation and record of works;
- Establish management and maintenance regimes for the site.

Structural Engineering
The appendices include a report and sketch drawings by the structural engineer for each of the three proposals.

Cost
The appendices include a report form the quantity surveyors on the cost of each option. At this early stage in the design process assumptions have been made, particularly on the extent of fitting out and reconstruction of the interiors. These costs can be refined at later stages in the design process.

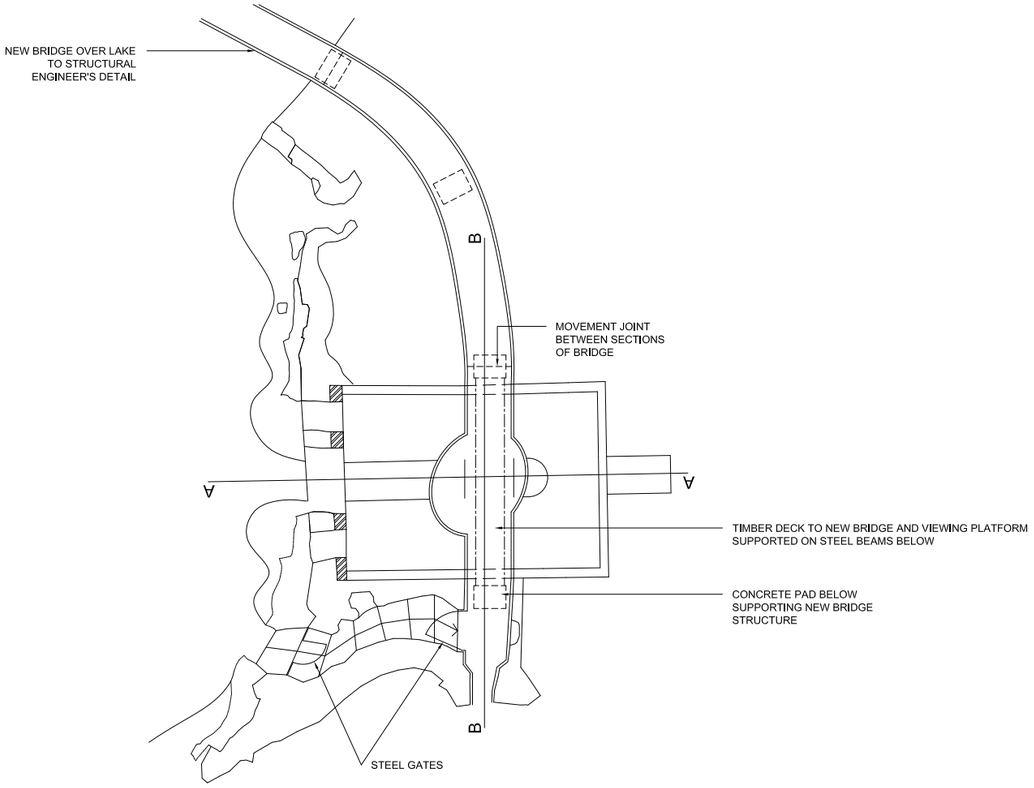
Programme
An Outline Project Programme is included in the appendices, assuming an early start is made to define a favoured option and finance the development. This is spread over a four year period, but it is possible that it could be achieved more quickly. It is unlikely that completing the options appraisal and project planning process will take less than six months, in parallel to the archaeological site investigation and measured survey recommended in the condition survey report. The design development and approvals stages are likely to take up to 12 months. Clearly the length of time needed for consultation and decision making will affect the programme.

This means that tenders would be sought at the earliest in 2013, in preparation for a start of construction on site in summer 2013. The construction period is likely to be 9-12 months depending upon which option is pursued. The repairs to the existing structure need to be carried out during the 'lime season' between end of March and end of September; they may be split into two stages, firstly dealing with major structural works in preparation for the new construction work, with a second phase in the following season. Archaeological analysis of the existing fabric and recording of the work will be an important component in the project and will need to be factored into the programme.

APPENDICES

1. Site plan (English Heritage Listing)
2. Text of Listing (London Borough of Redbridge)
3. Survey Drawings (1997)
4. Drawings showing reconstruction (MoLAS, 1998)
5. RGA Drawings of Options A, B & C
6. Structural Engineer's Report
7. Structural Engineer's Drawings
8. Geostructural Solutions
9. Budget Estimate
10. Outline Project Programme

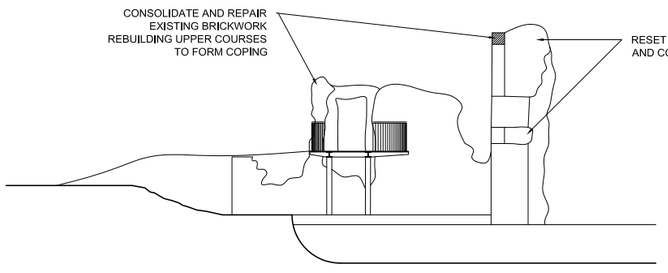
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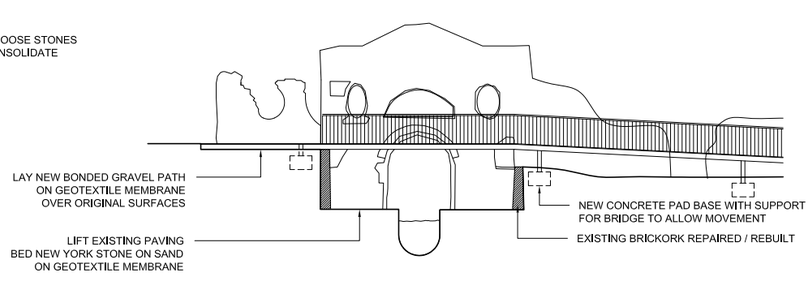
01 D.01 GROUND FLOOR PLAN
SCALE 1:200



04 D.01 EXAMPLE OF STEEL BRIDGE STRUCTURE



02 D.01 SECTION A - A
SCALE 1:200



03 D.01 SECTION B - B
SCALE 1:200

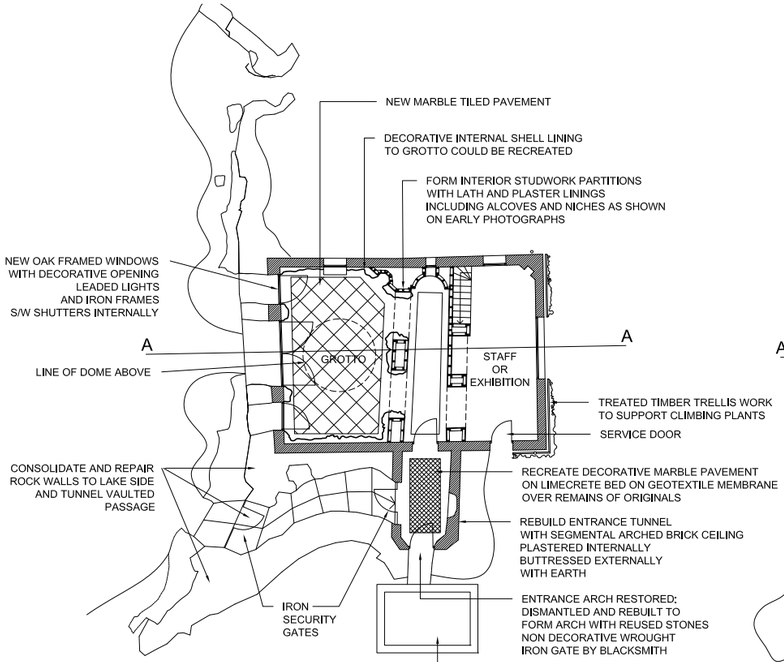
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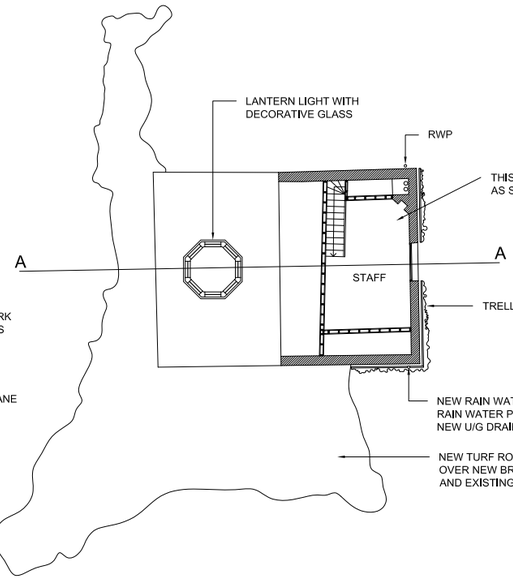
JOB TITLE
Wanstead Park
The Boathouse Grotto
DRAWING TITLE
Option A - An accessible ruin
Plans & Section

JOB No	DWG No	REV
497 B	D.01	
DRAWN BY	SCALE (AT A3)	DATE
PR	1:200	Feb 2011

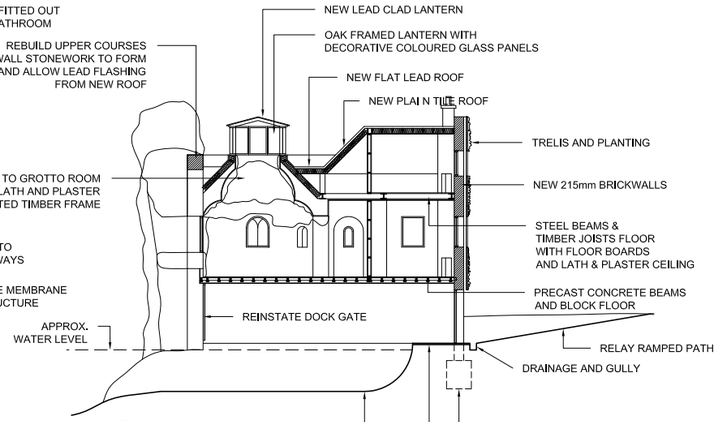
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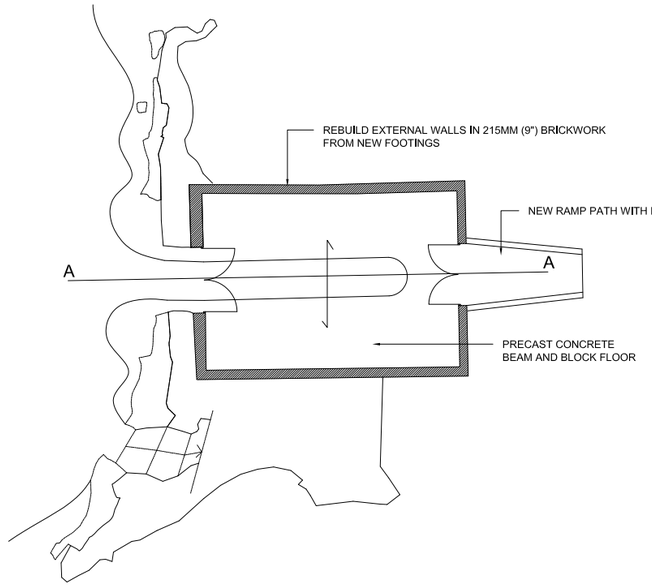
02 D.02 FIRST FLOOR PLAN
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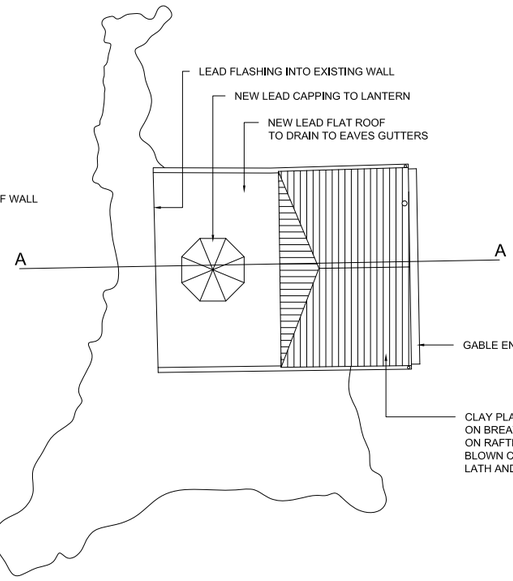
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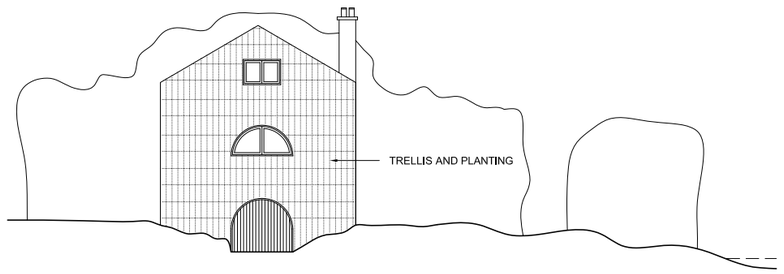
05 D.02 SECTION A - A
SCALE 1:200



01 D.02 GROUND FLOOR PLAN
SCALE 1:200



04 D.02 ROOF PLAN
SCALE 1:200



06 D.02 REAR ELEVATION
SCALE 1:200

0 5m

ALTERNATIVES:

- BASIC REBUILD AS NON RESIDENTIAL WITH OR WITHOUT RECREATED INTERIOR
- UPGRADED VERSION TO BE FITTED OUT AS RESIDENTIAL UNIT. FULLY INSULATEDSTRUCTURE HEATING, KITCHEN AND BATHROOM (NOT SHOWN)

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Wanstead Park
The Boathouse Grotto
DRAWING TITLE
Option B - Restored Building
Plans & Section

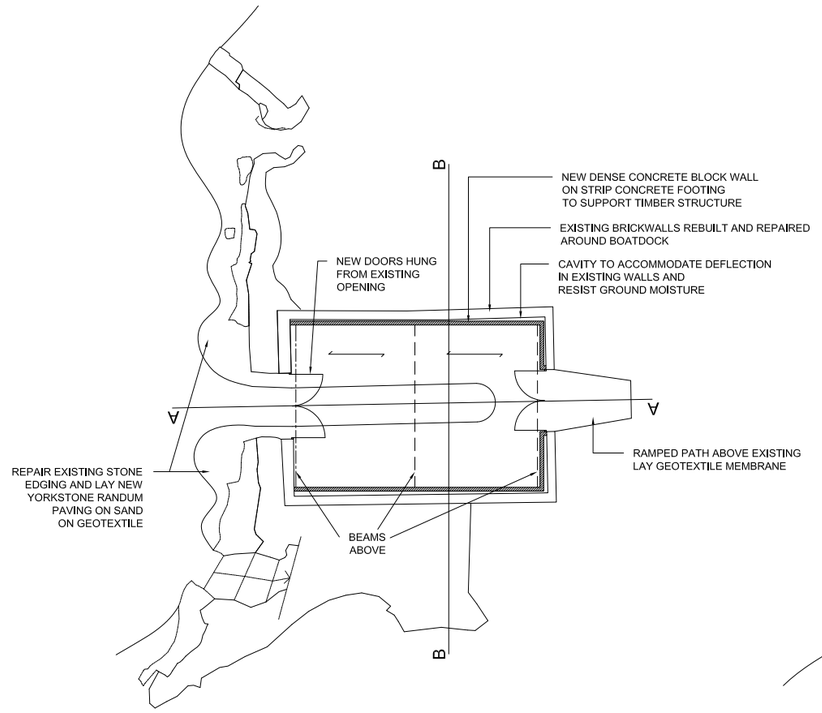
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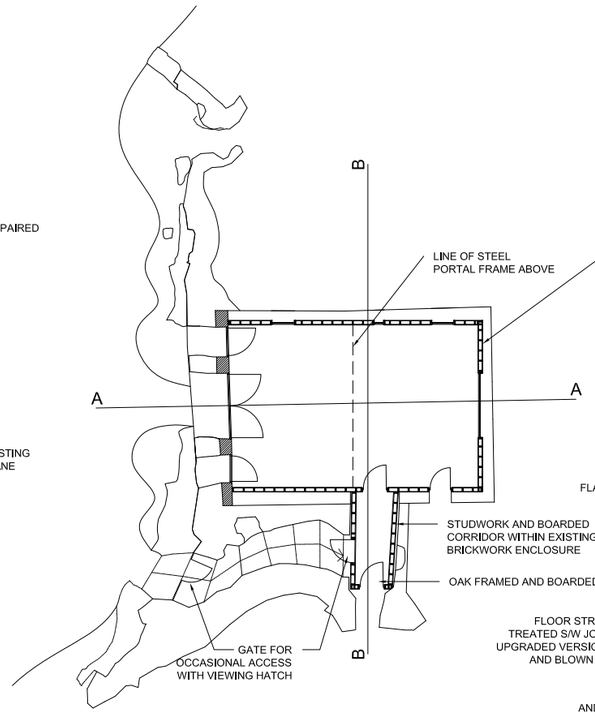
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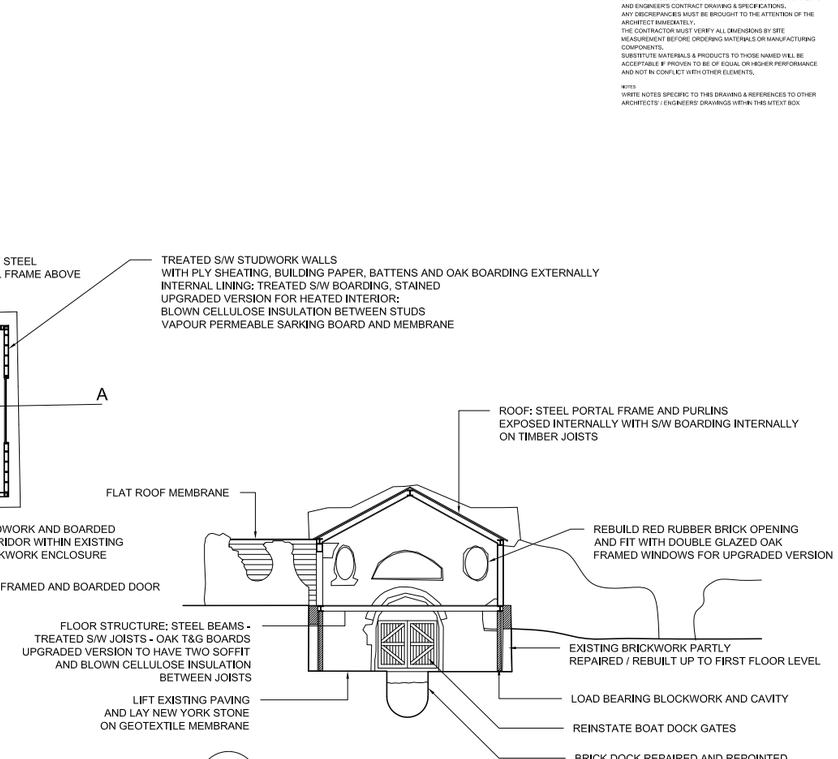
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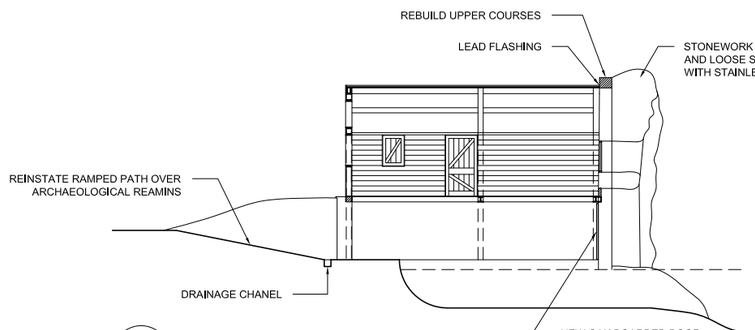
01 D.03 GROUND FLOOR PLAN
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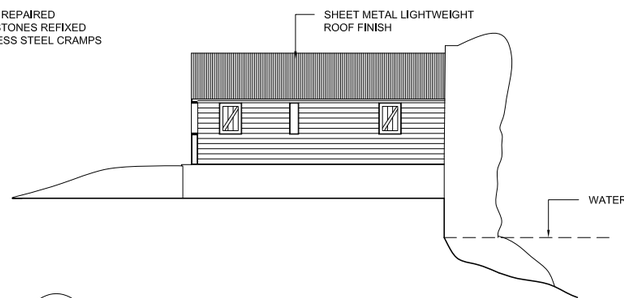
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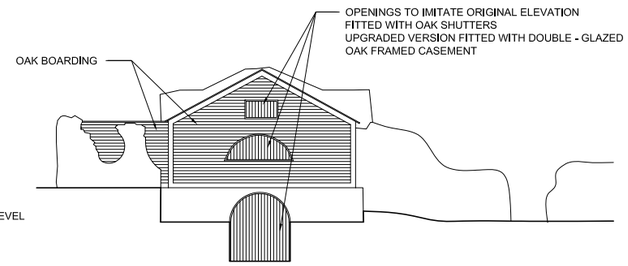
03 D.03 SECTION B - B
SCALE 1:200



04 D.03 SECTION A - A
SCALE 1:200



05 D.03 SIDE ELEVATION
SCALE 1:200



06 D.03 REAR ELEVATION
SCALE 1:200

0 5m

NOTE:

BASIC VERSION: unheated enclosure with shutters and without insulation
UPGRADED VERSION: fully insulated with glazed windows and heating

FOR INFORMATION

JOB TITLE
Wanstead Park
The Boathouse Grotto
DRAWING TITLE
Option C - New Building behing existing facade
Plans & Section

JOB No	DRG No	REV
497 B	D.03	
DRAWN BY	SCALE (AT A3)	DATE
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Wanstead Park
Boathouse Grotto

Indicative Feasibility Study Estimate of Budget Costs

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Sawyer & Fisher
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138 Miles Road
Epsom Surrey
KT19 9AB

Stand Consulting Engineers
133 Foundling Court
London
WC1N 1QF

		Cost
Immediate stabilisation to grotto and survey works to remaining structures (see attached)		£52,500
Option 'A'	Maintain the Boathouse Grotto as an accessible ruin. This would involve a new elevated walkway (which will be reversible) and viewing platform, connecting to a reconstructed bridge over the Ornamental Waters.	£500,000-650,000
Option 'B'	Restoring the Boathouse Grotto to its original form. This would be in preparation for a new use (such as a museum, education centre, gallery space, holiday accommodation), potentially with a reconstructed boat house beneath.	£1.00-1.50million
Option 'C'	Creating a new building behind the existing façade of the Boathouse Grotto. This would be a modern timber structure attached to the existing facade, and could be used as a bird observation point, meeting room, education centre or gallery/exhibition space (including potentially for sculpture and community arts).	£0.50-0.75million
Café	New café with lakeside seating near to the Boathouse Grotto	£400,00-500,000

Notes:

(1) Excludes:

(i) VAT
(ii) Professional Fees
(iii) Local Authority Fees
(iv) Either project or overall Client contingency
(v) Client project direct cost

(2) These costs are preliminary budget estimates at RIBA 'Stage B' – i.e before outline designs have been developed or a measured survey available. They are intended for general guidance not for budgeting or grant applications. Therefore obviously these figures are only a rough indication of costs and must be treated with serious caution because they have been provided without the benefit of any scaled drawings, brief and specification, and without the benefit of reviewing the repairs to listed walls/structures on site. Each option needs to be developed to RIBA 'Stage C' before realistic estimates can be prepared based upon a set of measured scaled drawings, plans and sections of proposed repairs and new structures.

(3) The project budgets include allowances for landscaping and archaeological recording

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WANSTEAD PARK
GROTTO
INDICATIVE BUDGET FOR SHORT TERM EMERGENCY TEMPORARY REPAIRS, STABILISATIONS AND INVESTIGATION

			£
A	Site clearance including provision for storage and containers		16800
B	Archaeological clearance		8000
C	Stability, propping overhang		1000
D	Further investigation, trail holes		1000
E	Protection, protect top of grotto wall		
	Scaffold access (both sides) (as per Chelsea Scaffolding Access Ltd's quote) assume 8 week hire period	7300	
	Remove ivy, protect with soft capping and temporary propping and niches on water front elevation and emergency repairs	5000	
		12300	12300
F	Measured survey		7500
		£	46600
	Contingency Sum	10%	4660
		£	51260
		say £	52500

Notes
1 Excludes VAT/professional fees
2 Assume any excavated material deposited within park
3 As per Richard Griffiths Architects' Report

1593.03.00.001/works 1 14/02/2011

Appendix E:
Plant survey of the Grotto (Ecoconsult, November 2018)

An extended phase 1 habitat survey was carried out of land within the fenced area around the Grotto on 22 November 2018.

The site was divided into the following areas:

1. The Grotto structure
2. The disturbed ground south of the Grotto
3. The grassland on the lakeside of the Grotto
4. Marshy grassland near the lakeside
5. Emergent vegetation in the lake in front of the Grotto
6. The two mature yew trees
7. The group of trees to the northwest of the Grotto.

1. The Grotto structure
The Grotto supports stone and brick masonry which has recently been cleared of woody vegetation. There is at present little non-woody vegetation on the masonry with limited amounts of crustose lichens but now more of the structure is exposed to the light, more plants will start to colonise.

The structure supports several crevices and cavities which could potentially support bat species. If present, bats would be of high ecological significance in the Grotto. Bats and their roosts are legally protected under UK and European legislation. No evidence of bats was located on the survey but bats are difficult to find and their droppings can soon disappear. Presence or absence can be assessed through summer dusk emergence or dawn re-entry surveys. If works are proposed which could affect bats, e.g. repairs, bat survey must first to carried out, appropriate mitigation designed and a Natural England mitigation licence obtained prior to the start of works.

2. The disturbed ground south of the Grotto
Woody vegetation (trees and shrubs) have been removed which has left disturbed bare ground which has been colonised by ruderal species. This will remain as tall ruderal habitat if it is not managed.

3. The grassland on the lakeside of the Grotto
There is a narrow strip of species-poor grassland which grades into marshy grassland towards the lake margin. Species recorded are listed below.

Scientific name	Common name	Abundance*
Anisantha sterilis	Barren brome	F
Brachypodium sylvaticum	Wood false-brome	F
Picris echioides	Bristly ox-tongue	F
Holcus lanatus	Yorkshire fog	LA
Geranium robertianum	Herb Robert	LF
Epilobium parviflorum	Hoary willowherb	O
Galium aparine	Cleavers	O
Geum urbanum	Wood avens	O
Hedera helix	Common ivy	O
Lolium perenne	Perennial rye-grass	O
Ranunculus repens	Creeping buttercup	O
Urtica dioica	Common nettle	O
Rubus fruticosus agg.	Bramble agg.	R

*D=Dominant; A=Abundant; F=Frequent; O=Occasional; R=Rare; L=Locally

4. Tall herb near the lakeside
The wetter ground towards the lake supports a tall herb community with more wetland species such as pendulous sedge *Carex pendula*, purple loosestrife *Lythrum salicaria*, gipsywort *Lycopus europaeus*, reed canary-grass *Phalaris arundinacea* and bittersweet *Solanum dulcamara*. Wetland vegetation is ecologically more important than the species-poor grassland and ruderal habitat in the rest of the site. Species recorded are listed below.

Scientific name	Common name	Abundance*
Carex pendula	Pendulous sedge	F
Lythrum salicaria	Purple loosestrife	F
Agrostis stolonifera	Creeping bent	LA
Juncus effusus	Soft rush	LA
Tussilago farfara	Coltsfoot	LA
Urtica dioica	Common nettle	LA
Cirsium arvense	Creeping thistle	O
Ranunculus repens	Creeping buttercup	O
Alliaria petiolata	Garlic mustard	R
Lycopus europaeus	Gipsywort	R
Phalaris arundinacea	Reed canary-grass	R
Rumex conglomeratus	Clustered dock	R
Rumex obtusifolius	Broad-leaved dock	R
Solanum dulcamara	Bittersweet	R

*D=Dominant; A=Abundant; F=Frequent; O=Occasional; R=Rare; L=Locally

5. Emergent vegetation in the lake in front of the Grotto

There is now a large shallow area of the lake in front of the Grotto supporting emergent vegetation. This is dominated by Purple loosestrife *Lythrum salicaria*. Wetland vegetation is ecologically important. Species recorded are listed below. All tree species listed below are saplings.

Scientific name	Common name	Abundance*
Lythrum salicaria	Purple loosestrife	D
Lemna minor	Common duckweed	LA
Juncus effusus	Soft rush	O
Salix caprea	Goat willow	O
Salix cinerea	Grey willow	O
Sparganium erectum	Bur-reed	O
Carex pendula	Pendulous sedge	R
Epilobium hirsutum	Great willowherb	R
Iris pseudacorus	Yellow flag	R
Lycopus europaeus	Gipsywort	R
Mentha aquatica	Water mint	R
Phalaris arundinacea	Reed canary-grass	R
Populus sp.	A Poplar species	R
Ranunculus sceleratus	Celery-leaved buttercup	R
Typha latifolia	Common reedmace	R
Picris echioides	Bristly ox-tongue	R
Carex remota	Remote sedge	R-LF

*D=Dominant; A=Abundant; F=Frequent; O=Occasional; R=Rare; L=Locally

6. The two mature yew trees

The two mature yew *Taxus baccata* trees have diameters of 42.5cm and 59cm. They are in fair to good condition. They have low to negligible bat roosting potential. The larger of the two is leaning towards the Grotto. The ground flora below is dominated by Common ivy *Hedera helix*. Two fungi were present - Lawyer's wig *Coprinus comatus and* a parasol mushroom *Macrolepiata* sp.

7. The group of trees to the northwest of the Grotto.

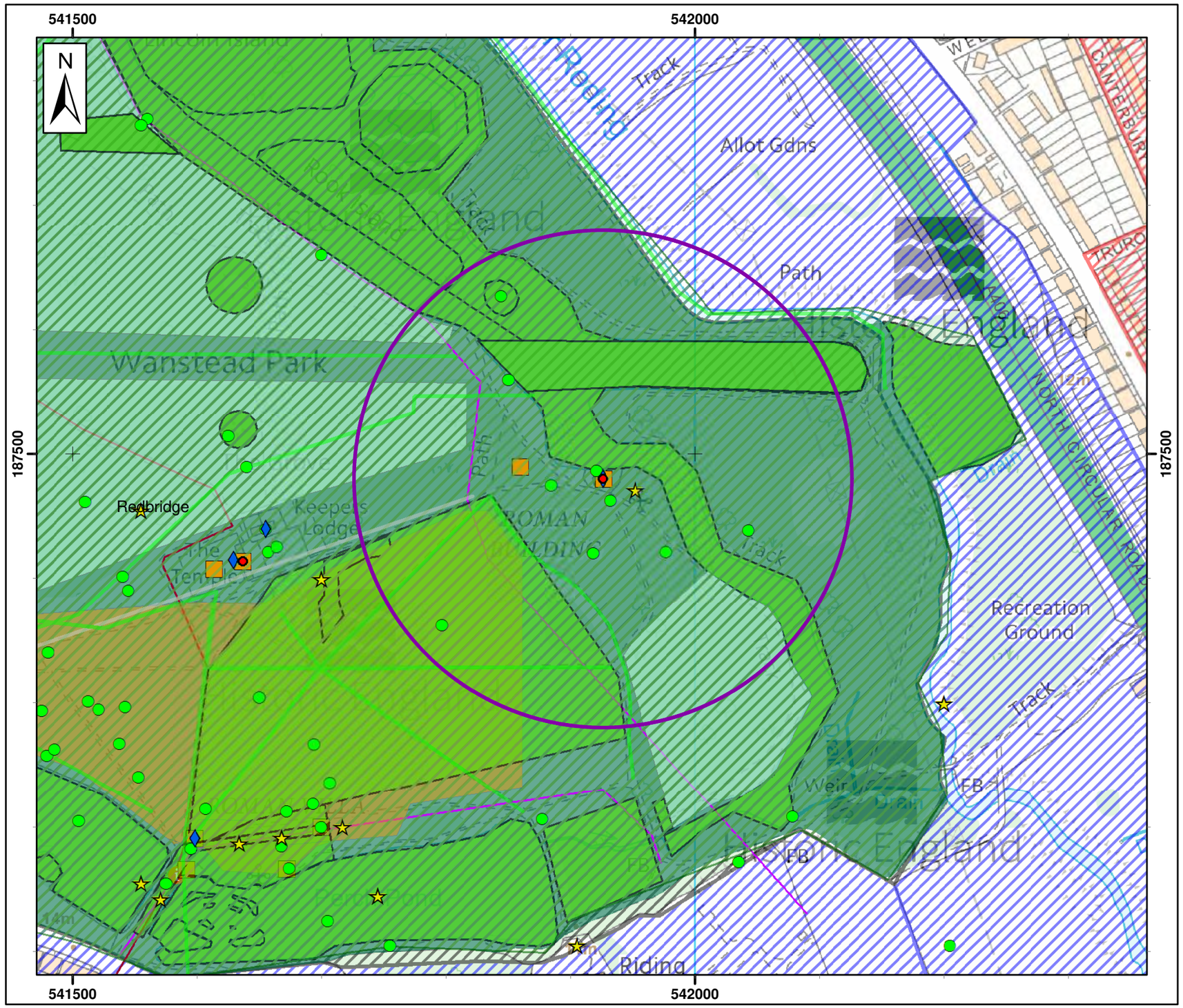
This group of young poorly formed trees include one Ash *Fraxinus excelsior*, three Sycamore *Acer pseudoplatanus*, and one Hawthorn *Crataegus monogyna*. The ash has 4 stems (23cm, 28cm, 30cm and 70cm). The thick-stemmed ivy and large cavity at the base mean that this tree has medium bat roosting potential and appropriate checks for bats needs to be made prior to any work to this tree. The other trees have diameters ranging from 11cm to 19cm and have no significant ecological or other value.



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Target notes and Grotto fence

Appendix F:
HER search results map



GLHER Report 14551
The Grotto, Wanstead Park
TQ 41926 87480
Radius 200m

5 December 2018

- Archaeology
- Archaeological Find Spot
- Building / Listed Building
- TDP & TAS
- Maritime Archaeology
- Registered Parks & Gardens
- Scheduled Ancient Monuments
- World Heritage Sites
- Archaeological Priority Area
- Event Location
- Event Location (Not fully recorded on the GLHER database)
- Requested Search Area

Scale (at A4): 1:4,000

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Notes:
Any Listed Building information shown on this map extract is provided solely to indicate the location of the listed building(s) and does not attempt to indicate the curtilage or the full extent of the listing(s). Any archaeological priority area(s) shown on this map extract are those used by the Historic England archaeological advisors and there may be minor differences when compared to the relevant borough UDP or LDF.

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Appendix G: Dr Sally Jeffrey 'The Gardens of Wanstead Park' (1999)

The Gardens of Wanstead House

Sally Jeffery

Introduction

The park and gardens of Wanstead House in Essex were among the largest and most spectacular in the country, evolving gradually from the late seventeenth century plantations of trees and fishponds, through elaborate parterres, long canals, mounts and mazes by George London in the early eighteenth century, to a vast lake system and more relaxed woodland walks with garden buildings, and finishing with improvements by Repton and Kennedy at the opening of the nineteenth century. However, they have been relatively little studied until recently[1] and still deserve to be better known. This situation stems from the fact that the very grand mansion house at the centre of the estate was sold and demolished in the second decade of the nineteenth century, the timber was felled and the garden design disappeared under scrub and undergrowth. A little like the great gardens at Canons, the Wanstead gardens declined and slept, but were not destroyed. Their framework survives in what is still an open space, and can be rediscovered by observation and research. The major part of the old pleasure gardens is in the ownership of the Corporation of London, which acquired 140 acres and opened them to the public in 1882, while the site of the house itself and its immediate surroundings and approach from the west is occupied by Wanstead Golf Club, which purchased the land in 1920. This article is an expanded version of a lecture given in September 1999 at the Temple at Wanstead Park for the London Historic Parks and Gardens Trust and it aims to put on record the research undertaken to date for the Corporation of London, while recognising that further work will undoubtedly reveal more information in the future.

Sir Josiah Child

The Wanstead estate was enclosed early in the sixteenth century when it came into royal ownership and the house then existing was large enough to function as a hunting lodge. It was reported to be 'in great ruin' in 1549 and was said to have been rebuilt or largely so by Lord Rich, Edward VI's Lord Chancellor, who occupied it at the time, and then improved by Robert Dudley, Earl of Leicester, who entertained Queen Elizabeth there in 1578. The extent of the estate fluctuated as land changed hands, but about 300 acres of land and the house were reputedly sold for £11,500 in 1673-4 to Sir Josiah Child, who had been living there since at least 1668. The appearance of the old house was recorded by Knyff and Kip just before it was

[1] The house has been more studied than the grounds, but recent literature on the park and gardens includes the account in the *Victoria County History of Essex* volume 6, 1973; Ian Dunlop and Fiske Kimball, 'The Gardens of Wanstead House, Essex, Surviving Remnants of a Famous Georgian Domain', *Country Life*, July 28, 1950, pp. 294-298; Survey for the Corporation of London by John Phibbs and the Debois Landscape Survey Group, the Royal Commission on the Historical Monuments of England and the Institute of Advanced Architectural Studies, York, 1990; John Harris, 'Wanstead's Compelling Vista', *Country Life*, August 22, 1991, pp. 60-61; and Sally Jeffery, 'Wanstead House and Gardens in the Eighteenth Century', in *The Later Eighteenth Century Great House*, proceedings of a conference at the Department for Continuing Education, University of Oxford, January 1997, of which this publication is a greatly expanded version.

demolished; it is shown as a large irregular many-gabled courtyard building which had evidently grown over the years. It was one of the largest houses in Essex with 40 hearths.[2]

Sir Josiah Child (1630-1699) was the son of a merchant, and began his career as a merchant's apprentice. His portrait (attributed to John Riley) survives in the National Portrait Gallery, London (*fig. 1*). He was established in Portsmouth by about 1655 as a victualler to the Navy, and became mayor of the city. Later he moved to London and was connected with the East India Company as a director, and later as Deputy Governor and Governor, making a legendary fortune. According to Macaulay, he had an income of £20,000 a year.[3] He was MP for Petersfield, Dartmouth and Ludlow and received a baronetcy in 1678. Although the East India Company had become known for its Whig associations, Child supported the Crown as a Tory when it was politic to do so and great political scheming took place. His writings included *A Treatise on the East India Trade* under the pseudonym 'Philopatris', 1681, and *A New Discourse on Trade*, 1693.[4] Because of its role in importing manufactured silks and dyed and printed textiles, the Company was much reviled by the weavers of Spitalfields. In March 1697, they marched on Wanstead 'and threatned Sir Josia Childs house; but the guards watching them narrowly, and the presse masters carrying several young fellows on board that were going to join them, caused them to disperse'.[5] Such threats may have caused him and his family to feel that they needed a house which afforded better protection. Sir Josiah is commemorated by a large memorial in Wanstead parish church.

He lived in the old house and made new plantations around it which were sufficiently extensive and expensive to be noteworthy. John Evelyn, writing in his diary for 16 March 1683, comments, not without malice:

> I went to see Sir Josiah Child's prodigious Cost in planting of Walnut trees, about his seate, & making fish-ponds, for many miles in Circuite, in Eping-forest, in a Cursed & barren spot; as commonly these over growne & suddenly monied men for the most part seate themselves: He from an ordinary Merchants Apprentice, & managements of the E. India Comp: Stock, being arived to an Estate of ('tis said) 200000 pounds.[6]

A more detailed account of Sir Josiah's work is given in 'A Short Account of Several Gardens near London . . . in . . . December 1691', which tells of the large plantations of walnuts and other trees which were 'much more worth seeing than his gardens, which are but indifferent'. He is reported to have had fruit trees in his enclosures, and vast numbers of elms, ashes and other trees planted in rows in Epping Forest. 'Before his outgate . . . are two large fish-ponds . . . and in the middle of each a house . . .They are said to be well stocked with fish, and so they had need to be if they cost him five thousand pounds, as it is said they did; as also that his plantations cost twice as much.'[7]

[2] *Victoria County History*, op. cit., and Geo. Tasker,'Wanstead: its Manor and Palace', *Essex Review*, volume vii, 1898, p. 220.
[3] Thomas Babington Macaulay, *The History of England from the Accession of James the Second,* edited by Sir Charles Firth, volume 5, 1914, p. 2096.
[4] The library at Wanstead included 'Child on Trade', noted in the 1822 sale catalogue of the contents of Wanstead House under 'books' as lot 551, p. 309. A number of copies of this sale catalogue are known, including one at the National Art Library, Victoria & Albert Museum, 23.J and another at Ilford Reference Library. See also Denis Keeling, *Wanstead House: The Owners and their Books*, Wanstead Historical Society, 1994.
[5] Quoted in William Foster, *The East India House*, 1924, p. 73.
[6] *The Diary of John Evelyn*, E. S. de Beer (editor), Oxford, 1955, volume 4, pp. 305-6.
[7] J. Gibson, 'A short Account of several Gardens near London, with remarks on some particulars wherein they excel, or are deficient, upon a View of them in December 1691', in *Archaeologia*, volume XII, 1796, pp. 186-7.

One further early account survives in a poem published in 1702 entitled *Leighton-Stone-Air.*[8] This refers to Wanstead as 'a pleasant Villa in the Forest near Leighton Stone made very delicious by the New Plantations Sir Josiah Child has honoured it with' and mentions 'Chestnut-Avenues' and 'vaulted Grotts', which are explained somewhat enigmatically in a footnote as 'Grotts: Chestnuts and Abel-trees [*Populus alba,* white poplar] most delightfully planted round 2 vast Fish-ponds on the Forrest, projecting their beauty in the Water'.

There is no visual record of just this early stage of the garden, but Leonard Knyff and Johannes Kip made four views, which appeared in their *Supplément du Nouveau Théâtre de la Grande Bretagne* of 1728. They must date from about 1713, just before the old house was taken down. The view to the west shows the 'enclosures' or walled garden south of the house planted with regular rows of fruit trees, the 'outgate' with gatehouse to one side, of which the gate piers survive, and the grand approach avenue running between two ornamental ponds, each with an island containing a small building and stocked with fish (*fig. 2*). Other ponds are visible in the walled garden. Most impressive are the extensive plantings of avenues of trees outside the gates of the house to the west stretching out almost as far as the eye could see. The elderly survivors from this period are sweet chestnuts on cross avenues in the Bushwood area, but different species may have been used for different avenues, including perhaps the walnuts, elms and ashes mentioned above. Avenues to the east were equally impressive (*fig. 3*). The large double avenue on the main axis also shown by Knyff and Kip was planted with an unknown but short-lived species, since it seems to have disappeared by 1725.[9] This represents Sir Josiah's work.

The Child family was extensive, but Sir Josiah was apparently not closely related to the banking Child, Sir Francis, who was Lord Mayor in 1698-9 and purchased Osterley Park in 1713,[10] nor to the John Child who was President of the East India Company's factory at Surat.[11] Sir Josiah was married three times, and had eight children, of whom six survived beyond infancy: three sons and three daughters. The daughters married well, especially Rebecca, whose husband was Marquess of Worcester and later Duke of Beaufort. When Josiah died in 1699, only two sons remained. One was Josiah, his first-born child, and the other Richard, his last-born. Josiah, the second baronet, died in 1704, but had already leased Wanstead and Stonehall for 90 years from 1699 to his half-brother.[12] Thus Sir Richard Child, third baronet, created Viscount Castlemain in 1718 and Earl Tylney in 1732, was seated at Wanstead for fifty years, until his death in 1750, and to him are due the major developments of both house and gardens.

[8] British Library 11626.h.13(6). This is signed 'JHMA'.
[9] Plan by James Cradock dated 1725, Essex Records Office, D/DCw P7. In the later painting attributed to Charles Catton the Elder: Wanstead House from the Orange Tree Garden, of which the location is unknown, young trees planted behind clipped hedges are shown in this location.
[10] Francis Child of Osterley was the son of Robert of Headington, Wiltshire. F.G. Hilton Price, *A Handbook of London Bankers*, Leadenhall Press, 1890-1, pp. 30-37. However, Sir Richard Child, Sir Josiah's son, did keep an account at Child's Bank. See the section on the bowling green below.
[11] See Robert Williams, 'Vanbrugh's India and his Mausolea for England', in Christopher Ridgway and Robert Williams (editors), *Sir John Vanbrugh and Landscape Architecture in Baroque England 1690-1730*, Sutton, 2000, p. 116.
[12] *Victoria County History*, op. cit., quoting a document in the Essex Records Office, D/DCw T3C/128.

The Work of George London for Sir Richard Child

Daniel Defoe[13] tells us how 'Sir Josiah Child, as it were prepar'd [Wanstead] in his Life for the Design of his Son . . . by adding to the Advantage of its Situation innumberable rows of Trees, planted in curious Order for Avenues and Visto's, to the House, all leading up to the Place where the old House stood, as to a Center.' He continues: 'In the Place adjoining, his Lordship, while he was yet Sir Richard Child only, and some Years before he began the Foundation of his New House, laid out the most delicious as well as the most spacious pieces of Ground for Gardens that is to be seen in this part of England.'

Sir Richard Child could have begun adding to his father's design from 1699, and probably did begin planning it, but there is no mention of any change before 1702, and the major works seem to have been carried out after that date. This fits well with Defoe's account of the garden being made before 1718 when Child was created Viscount Castlemain and before his new house was begun in about 1715. According to Stephen Switzer, writing in 1718,[14] the work was begun in 1706 and was carried out by George London as one of his 'last undertakings'. Switzer compared the work favourably to that at Blenheim and stated that it was a 'Design worthy of an English Baronet and equal to the greatest French Peer'. An anonymous poem about Wanstead gardens, entitled *Flora Triumphans*, dated 1712/13, refers to the canal, the plantations, the flower and fruit gardens, the two mounts and the 'venerable pile' of the old house. This must therefore mark the date when the enrichment of the garden was nearing completion and Sir Richard was about to turn his attention to a new house.[15]

The gardens close to the house were essentially formal and regular in style with a long central axis. The view to the west, which illustrates Sir Josiah's plantations, also tells us about the impressive undertakings of his son. Apart from the avenues and twin ponds already referred to, the engraving shows the gates and gate-piers (which survive), with the monogram of Sir Richard, marking the main approach avenue to the house, and large statues on plinths at the rond-points where the avenues crossed. John Macky published a description in 1722[16] which included this account:

> You come up to this Palace from the Village of Wanstead by an Avenue of above half a Mile long, from which run nine other smaller Avenues into the Forest, with each a Statue on a Pedestal as big as the Life. I must allow, that in Holland, Statues at the end of an Avenue, where the Country is entirely flat, fix the View. But here, where you have always a rising Ground, or a Village at some great distance to finish your View in, I think the Statues confine and obstruct it.

The statues do not appear on later plans, and must have been removed quite rapidly.

The views to both east and west show the old house and its outbuildings and the parish church further north, and the gardens stretching away to the east. These seem to have remained more or less as seen by Knyff until about 1730, since in addition to Macky and Defoe, there is a detailed account by a visiting Frenchman, Pierre Jacques Fougeroux, apparently written in 1728.[17]

[13] Daniel Defoe, *Tour thro' the Whole Island of Great Britain*, volume 1, London 1724, pp. 137-8.
[14] *Ichnographia Rustica,* 1718, volume 1, p. 84.
[15] *Flora Triumphans: Wanstead Garden. An Heroick Poem most Humbly Address't To the Honourable Sir Richard Child, Bar.* Anon. 1712/13. The date of 21 January is written in manuscript beside the year. Simon Wartnaby first drew my attention to this poem.
[16] John Macky, *A Journey through England in Familiar Letters*, second edition, London, 1922, pp. 19-24.
[17] He visited in 1728, and described his impressions in a series of letters. Two almost identical manuscripts

From these sources we can form a picture of the central smooth canal with an octagonal end and high jet of water and the oval bowling green behind. Water was an important and fashionable element of these gardens, with the long canals on the central axis leading to comparisons with Versailles, but flowers, shrubs and topiary were also important. On either side of the canal were parterres of grass cutwork (the 'parterre decoupez' described by the visiting Frenchman in 1728),[18] with elaborate scrolled designs containing gilded lead urns, plants in pots (possibly citrus trees), and yews clipped into cones and spheres, or mushroom shapes, according to the Frenchman. Yews are the only clipped trees he identified, but it would have been usual to include both yews and hollies in such a location. The walks around the house and in the parterres were constructed of small pebbles and gravel (perhaps a kind of binding gravel), which was rolled to give a hard dry surface for walking. Flowers are only visible in borders around this parterre.

To the east and flanking the bowling green were further parterres where the divisions were geometric and edged with low hedges, with pools and statues at their centres. These divisions evidently contained flowering plants, but it is impossible to determine from the engravings what they may have been. Beyond were large wildernesses planted with trees and shrubs on either side of a grassed avenue bordered with triple rows of trees and flanked with a pair of mazes and a pair of mounts with spiralling paths leading to small buildings. Apart from straight avenues traversing the wildernesses diagonally, there were smaller curving, slightly meandering walks which led to clearings or cabinets. These wildernesses were closer to the newly fashionable 'forest gardens' than to the traditional form of wilderness and extended not only to the east but to the north as well. The grassed eastern avenue led to another long canal. To the south were the orchards, kitchen gardens and fishponds.

The two views to the north in fact form one continuous panorama and are more detailed (*fig. 4*). They show the raised grass terrace walk overlooking the parterres and canal with a greenhouse set beside it and terminated by a banqueting house. Large wildernesses to the north had openings of various shapes, including circles, squares and ovals, with pools, statues and mazes. According to the Frenchman, the divisions were bounded by 'green walls' or clipped hedges (not as beautiful nor as thick as the tall clipped hedges or 'charmilles' to be seen in France) of variegated Phillyrea[19] and bay or laurel, with flowering shrubs within, and the walks were grassed. Macky calls the terrace a 'fine green Walk which ends in a Banqueting-house: From whence you have four fine Views . . .' He further describes the 'Variety of high-edged Walks, affording delicious Visto's' behind the green house, in one of which 'there is a Vase erected in a Circle'.

survive, one in the National Art Library, Victoria & Albert Museum, MS 86 NN 2, and the other (which gives the Frenchman's name), in a private collection. I am very grateful to David Coke for information on this matter. It has been suggested that Fougeroux visited earlier than 1728 (perhaps c.1725), and that the manuscript was copied later. (John Harris, *The Palladian Revival: Lord Burlington, His Villa and Garden at Chiswick*, Yale University Press/ Royal Academy 1994, p. 80, and conversation with John Harris, August 2000.)

[18] A 'parterre after ye English Manner', according to John James's 1712 translation into English of Dezallier d'Argenville's *La Théorie et Pratique du Jardinage* (published in France in 1709).

[19] The Frenchman calls this 'filaria'. *Phillyrea latifolia L.* was used at Hampton Court, and 'Phillyrays' were recorded at Blenheim. See Jan Woudstra, 'The Planting of the Privy Garden' in Simon Thurley (editor), 'The King's Privy Garden at Hampton Court Palace 1689-1995', *Apollo*, 1995.

The Greenhouse

Both the pavilion and the greenhouse have been convincingly attributed by John Harris to William Talman.[20] Colen Campbell, who published a plate of the greenhouse in the first volume of *Vitruvius Britannicus* of 1715, says simply that it was designed not by himself, but 'by another Hand'. Talman and London worked together elsewhere, and it is very likely that Richard Child's ambitious schemes for Wanstead included Talman's participation in the garden buildings. Defoe says that 'The Green-House is an excellent Building fit to entertain a Prince; 'tis furnish'd with Stoves and artificial Places for Heat from an Apartment in which is a Bagnio, and other Conveniences, which render it both useful and pleasant.' Campbell's plan shows this apartment, at the west end of the building, with steps leading into two baths (perhaps one cold and one hot), with niches above and between them, probably tiled (*fig. 5*). He also indicates the position of a bed in the adjoining room, which has a fireplace, as does the small apartment at the other end. One of these may have been the panelled apartment described by the Frenchman, decorated with prints. As built, these lower wings of the greenhouse were given elaborate gables, according to the views by Kip and Knyff and Rocque's view of 1735, and the Frenchman tells us that the building was of brick (*fig. 6*). In the poem *Flora Triumphans*, the anonymous writer speaks of 'A Golden Range of flaming Phenix Nests' cresting the roof.[21] Since there are no other visible chimneystacks, it is tempting to think that they served this purpose and could be seen in cold weather with smoke rising from their beds of ashes. Macky mentions that this building was 'finely adorn'd with Statues'. The Frenchman comments that the orangery had a pretty façade in brick, and inside the central room was intended to contain exotic plants which might need protection from the elements. It had a panelled interior with staging for shrubs and plants such as palms and aloes, although he says the oranges were mediocre. That Child used the greenhouse for exotics is confirmed in the poem by references to Flora preparing 'A safe Protection for her nearest Care, Her foreign Favourites (no British Race) . . . Orig'nals from a warmer Southern Smile/ Too hardly naturaliz'd to our bleak Soyl . . . Hither the kind retiring Flora calls/ Her verdant Nurs'ry to their Fortress Walls.'

The Bowling Green

The oval bowling green at the end of the first canal is clearly shown by Knyff and Kip, with a narrow band of planting round the edge with small pyramids and spheres in topiary and a broad walk bordered by low enclosing clipped hedges and wrought-iron railings towards the grass avenue beyond (*fig. 7*). There were four pavilions or arbours made of trellis or ironwork, with seats for spectators. Statues were set in semicircles of clipped hedges between the pavilions. Macky refers to 'Grotto's and Seats, with antique Statues between each Seat' and an iron 'Ballustrade' which separated the bowling green from the long walk, while the Frenchman referred to large iron 'grilles'. These were certainly magnificent, and may have been supplied by Jean Tijou, the French metalworker who worked at Hampton Court and elsewhere. There are payments to Tijou recorded in Richard Child's bank account in 1703, which total £180. Such an amount is very small compared to the sums which would have been charged for such large panels of ironwork,[22] and indeed could refer to something else, but they do confirm that Tijou was involved at Wanstead in one way or another.[23] In view of Richard Child's ambitious schemes for Wanstead, it seems

[20] John Harris, *William Talman Maverick Architect*, George Allen and Unwin, 1982, p. 45.

[21] *Flora Triumphans*, op. cit. p. 12.

[22] Tijou charged £2,160. 2s. 0d. for the 12 panels in the Fountain Garden at Hampton Court.

[23] The payments are from an account which was held at Child's Bank in the name of Sir Richard Child:

unlikely that he would have accepted second best for anything, and it should therefore be no surprise to find Tijou's name mentioned, especially in conjunction with London and Talman.

The bowling green with its ironwork was dismantled between 1728 when the Frenchman saw it and 1735 when Rocque made his plan of the gardens. The ironwork panels, whether by Tijou or not, could hardly have been thrown away. Were they used elsewhere on the estate? The present entrance to Wanstead Golf Club, which occupies the old service buildings of Wanstead House, has some handsome ironwork at its gates which might possibly be related (*fig. 8*).

The Statues

There were large numbers of statues on the buildings, as well as many statues and other garden ornaments in the formal gardens, around the bowling green and in approach avenues, as can be seen in the engravings of Kip and as mentioned by visitors such as Macky. When the gardens were dismantled, they too may have been placed elsewhere in the grounds; some of them survived until the sale of 1822, when they were dispersed.

The most easily identifiable sculpture is at the head of the canal just below the terrace along the house. This appears to be a blackamoor figure, perhaps holding a sundial (*fig. 9*). A similar looking figure still survives at Melbourne Hall, Derbyshire, where it is one of a pair in lead consisting of an 'Indian Slave' and a 'Black Moor', both holding urns, for which John Nost was paid thirty pounds in November 1705.[24] The Wanstead figure may well have been carved in stone since no expense appears to have been spared.[25]

One of the chief sources of inspiration for the sculpture must have been the gardens of Versailles, which contained so many statues and fountains based on classical themes and stories like Aesop's fables. One example is the figure of a monkey mounted on a goat, which appears beside the bowling green at Wanstead (*fig. 10*). A similar group was present in the Labyrinth at Versailles. The statuary is discussed further in the section on sculpture at the Grotto.

Hercules and Omphale

Two over-life-size statues which can be identified were the Hercules and Omphale on either side of the entrance to the front courtyard of Wanstead House. The earliest references to them are from 1722, when the house was nearing completion. George Vertue, in his notebooks, recorded a marble statue of Hercules six foot high finely done in marble for 'Lord Castleman' by 'Delvo' and a statue of Omphale by 'Schemakers' made at the same time.[26] These were two pieces in white marble, one by Laurent Delvaux and the other by Peter Scheemakers, for which Pierre Denis Plumier had made sketches before he died.[27] Presumably they were always intended to flank the

February 15, 1702/3, payment of £30 to 'Ino Tisjou'; July 20, 1703, payment of £150 to 'Ino Tijou'. These ledgers are now in the archives of the Royal Bank of Scotland, to whom I am grateful for access.

[24] A receipt dated 16 November 1705 is at the house.

[25] Similar figures in both lead and stone survive elsewhere, dating from the 1730s and 1740s. See John Davis, *Antique Garden Ornament*, Antique Collectors' Club, 1991, p. 49.

[26] Vertue Notebooks, *Walpole Society*, volume 18, 1930, p. 101.

[27] Victoria & Albert Museum, D 1062-1887. I am indebted to Dr Ingrid Roscoe for information from her thesis. See her article 'Peter Scheemakers', in *Walpole Society*, volume 66, 1999, pp. 282-3.

entrance, but there is no view of them until the engraving of Wanstead prepared for Morant's *History of Essex* of 1768 (*fig. 11*). Here, and in later views,[28] they are shown on stone plinths terminating the two short, low lengths of what was apparently decorative ironwork enclosing the west end of the forecourt (*fig. 12*). They continued to stand there throughout the eighteenth century, and were described in *The Ambulator* of 1774 thus: 'On each side as you approach the house, are two marble statues of Hercules and Venus, with obelisks and vases alternately placed . . .' William Angus, in *Seats of the Nobility and Gentry in Great Britain and Wales*, of 1787, corrects this identification by stating: 'In the Avenue leading from the grand Front of the House to Leytonstone is a circular Piece of Water, which seems equal to the length of the House. On each side, as we approach the House, is a marble Statue; that on the left Hercules, the other Omphale.'

Hercules figures frequently in sculptural programmes, representing great virtue and strength. However, if shown with a distaff, as here, he appears as one of a pair with Omphale, Queen of Lidia, who enslaved him and for whom he laboured at spinning and other household chores.[29] Presumably he also played the tambourine he holds here. The companion piece would have shown Omphale holding Hercules' club and dressed in his lion's skin. This was a somewhat curious choice, but may have been inspired by the example of Versailles, where there was a pair of terms with these subjects in the Parterre des Fleurs.

These two statues remained at Wanstead until the sale of 1822, when they were both attributed to Delvaux in the sale catalogue (page 118, lots 267 and 268), and sold for £21 10s. 6d. and £17 6s. 6d. respectively. The Hercules is now in the gardens of Waddesdon Manor (*fig. 13*).[30] The post-sale history of the Omphale is unknown.

Urns and Vases

A number of impressive urns and vases which ornamented the formal gardens and the house at Wanstead survived at least until 1822 and were sold. 'A pair of handsome lead Vases, with eagle ornaments on the tops, on stone pedestals' were noted as in the American Garden, and a total of eight stone and three lead vases were listed.[31] It is tempting to try to match some of these to the vases shown in the Knyff and Kip engravings on the parterres and in the clearings of the wildernesses.

At the time of the sale in 1822 there were four spectacular marble urns in the Great Hall of Wanstead House at the centre of the entrance front. The sale catalogue correctly gives them as two by Scheemakers and two by Delvaux, describing one as a 'VERY SPLENDID MEDICIAN SHAPED VASE, 4 FEET 6 INCHES HIGH, OF STATUARY MARBLE, FINELY SCULPTURED IN HIGH RELIEF', and giving an approximate subject for each.[32] They were based on similar vases in the Parterre de Latona at Versailles, which were in turn based on the antique Medici and Borghese vases.[33] The four were sold for eighty-four pounds

[28] Walter Harrison, *A New and Universal History, Description and Survey of the Cities of London and Westminster*, 1775, opposite p. 577.

[29] For a contemporary account, see Joseph Spence, *Polymetis*, 1747.

[30] Terence Hodgkinson, *The James A. de Rothschild Collection at Waddesdon Manor: Sculpture*, National Trust/ Office du Livre, 1970, pp. 208-9.

[31] Sale catalogue, 1822, lots 270-273 and 274-276, p. 118.

[32] Sale catalogue, 1822, lots 369-372, pp. 124-5.

[33] Ingrid Roscoe, *op. cit.*

at the sale, and were later acquired for Anglesey Abbey, where they are placed out of doors. It is not known whether they were originally placed outside in the gardens at Wanstead, for they were not recorded in the hall until about 1800.[34]

The Mounts

The poem of 1713[35] specifically refers in a footnote to the two mounts 'now raising' with an 'artful spiral Circle round'. Since the mounts were towards the outer limits of the garden at that time, they were among the later features to be constructed. They appear on Knyff and Kip's views with spiral paths and small buildings on top, on either side of the main grassy avenue. The small temples which crowned them are shown in greater detail by Rocque on his plan of 1735, presumably unchanged (*fig. 14*). These two mounts are among the features which survive today in a rather eroded condition and covered with a growth of trees and scrub.

Visitors to the Garden

Pierre Jacques Fougeroux and his companions went out to Wanstead from London, leaving by Aldgate and taking the Whitechapel road, passing Bow village and turning off there from the main road.[36] They evidently had no difficulty in gaining admittance to the grounds, like many other tourists, and in fact they visited a number of houses and gardens during the Frenchman's stay. He was in the habit of making very crude plans of the places he saw, and made one for Wanstead, but they may have been done from memory, and their inaccuracies render them very misleading. For Wanstead, the views of Knyff and Kip are much more reliable. What is more instructive, apart from the detailed description, is the interest Fougeroux took in the way the gardens were kept and particularly the maintenance of the lawns. These were rolled regularly by horse-drawn stone rollers and were kept fresh by the temperate climate. Much as he admired the lawns, however, he thought that there was too much grass and that the gardens would benefit from more variety.[37] The range of visitors was great, from those invited by Child to those who came simply to see the sights. The author of *Flora Triumphans* describes (no doubt with a certain amount of poetic exaggeration) how Wanstead attracted crowds arriving daily from London. 'Nay from the Pallace to the Cott, whole Trains/ Down from Proud Quality, to humble Swains/ Like all equal Homagers resort.' Defoe also commented that the gardens were 'so much the Admiration of the Public, that it has been the general Diversion of the Citizens to go out to see them, till the Crouds grew so great that his Lordship was obliged to restrain the shewing them to particular and stated Times.'[38] When the Reverend Shaw visited in 1788, his party was admitted to the gardens and the interior of the house, which was only shown on a Saturday;[39] and Mrs Caroline Lybbe Powys, visiting in 1781, was taken to see Wanstead House ('reckon'd one of the finest houses in the kingdom') by her cousin, who lived at Leytonstone, apparently with as much ease as we might go country-house visiting today.[40]

[34] *The Ambulator*, ninth edition, 1800, p. 228.
[35] *Flora Triumphans*, op. cit.
[36] See p. 5, note 17.
[37] Description derived from the author's translation of the French.
[38] Defoe, *op. cit.*
[39] John Pinkerton, *A General Collection of the Best and Most Interesting Voyages and Travels in all Parts of the World*, volume 2, 1808, p. 179.
[40] *Passages from the Diaries of Mrs Philip Lybbe Powys of Hardwick House, Oxon., A.D. 1756 to 1808*, Emily J. Climenson (editor), 1899, pp. 205-6.

There were special tickets for the visitors. (The sale catalogue of 1822 listed copper plates with engraved borders for printing tickets.)[41]

Sir Richard Child's New House

Child's new house was commissioned from Colen Campbell, who used it as an opportunity to burnish his reputation and to explore the idea of using the antique form of the temple in domestic architecture. At Wanstead he incorporated the temple form as the central part of a palatial house.

His designs for Wanstead House were prominently displayed in *Vitruvius Britannicus*, and there is a drawing, signed by Campbell and dated 1713, which shows the plan of the main floor and the west elevation of the first design.[42] Contacts between Sir Richard and Campbell must have begun before the publication of the first volume in 1715, and it would be interesting to know more of the relationship between client and architect. The first design, published in plan and elevation, was not executed, and was less innovative than that carried out. Campbell says of it: 'This was intended for Wanstead . . . A most charming situation, where are the Noblest Gardens now in the Kingdom.'

He illustrates his second design, which is close to that executed, in three drawings: elevation, section, and plan. Campbell here made his famous claim about Wanstead: 'the front, adorned with a just Hexastyle' was 'the first yet practised in this manner in the Kingdom'. It had a giant Corinthian order, three feet in diameter, a pediment busy with sculpture, figures on the parapet and a prominent cupola. The rustic ground floor was designed fifteen foot high to give the state rooms on the first floor 'a Prospect to these excellent Gardens'. The approach was from the entrance court up stairs each side to the portico.

The cupola was omitted in execution, and the pediments on both sides were ornamented by the arms of the newly ennobled Child. He was created Baron of Newtown, County Donegal, and Viscount Castlemain, County Kerry on 24 April 1718. The crest was an eagle with wings expanded and with a snake entwined around its neck, and the supporters were similarly eagles with snakes. The third design, published by Campbell in volume three of 1725, shows the final form of the house, but with only a simple cartouche and ribbons in the pediment, and with the addition of new corner towers, designed, he says on the plate, in 1721 (*fig. 15*). In the text they are dated 1720. This final embellishment was never constructed, but the dates give an indication that the work was then nearing completion. A good view of the entrance front of the house in 1781 is given by George Robertson and James Fittler (*fig. 16*).

Campbell does not illustrate the garden front of the house, which is consequently much less well known. The temple front there was pilastered, and the windows of the first floor had rusticated surrounds, as at Houghton, more suitable to the country-facing façade of the building, as seen in the view of 1781 by George Robertson and William Lowry (*fig. 17*). The curving steps shown on Campbell's plan were apparently changed in execution to resemble those at the front, but by the

[41] Page 35, lot 31.
[42] The designs were published as follows: volume 1, 1715, plates 21, 22, first design, plan and west front; volume 1, 1715, plates 23, 24-5, 26, 27, second design, plan, west front, section, plan and elevation of the greenhouse 'design'd by another hand'; volume 3, 1725, plates 39-40, west front of second design with new towers, dated 1721 on the plate and 1720 in the notes. The Campbell drawing is in the RIBA Drawings Collection. See John Harris, *Catalogue of the Drawings Collection of the Royal Institute of British Architects*, 1973, p. 16 (under Colen Campbell).

time the house was demolished in 1823-5 these had been removed and replaced by a small terrace above three small ground floor areas.

The Interior of the House

A description of the interior of the house and its contents can be compiled from a number of sources, which reveal both the arrangement of the apartments and the high fashion and richness of the furnishings and fittings. The authors used here are Colen Campbell himself, in *Vitruvius Britannicus*, volumes one and two; John Macky;[43] Arthur Young,[44] who paid a visit and corresponded with Earl Tylney; John Pinkerton, recording a visit by the Reverend Shaw;[45] *The Ambulator;*[46] and William Gilpin (*fig. 18*).[47] Plans made by John Buckler in 1823[48] show the arrangement of the ground and first floor rooms at the time of the sale, and can be compared to Campbell's plan of 1725.

Macky described it in 1723 as a long body of a house measuring 260 feet, consisting of two storeys, the ground for the family and the upper storey for the rooms of state. The ground floor was entered by a gate under the staircase, and had at its centre a stone lobby supported by fourteen columns, with four apartments of five rooms each. Lord Castlemain's apartment to the right of the door consisted of a parlour with French prints, marble tables and a marble chimney piece, an antechamber with gold and blue brocade, velvet brocaded chairs, marble tables and chimneypiece, a bedchamber and dressing room of crimson damask, and a large closet. The apartment on the right fronting the garden was Lady Castlemain's, and the corresponding apartment to the left was for the entertainment of their friends.

Young, writing in 1772, described the noble arcade under the hall, from which led a common dining parlour, and a breakfast room in the manner of a print room, with prints pasted on a pale yellow coloured paper, with engraved borders, and 'all dispos'd in a manner which displays great taste'. The prints were 'of the very best masters, and the ornaments elegant'.

The plan drawn by Buckler in 1823 just before the house was demolished shows two apartments on the south side, and the north side devoted to rooms for the house steward, the butler, the housekeeper and the 'upper part of the kitchen', which was vaulted and must have occupied space in the cellar also.

Macky did not describe the state storey because it was not complete when he visited, but he noted that the hall and salon were to be finely painted. Pehr Kalm visited in 1748, and described the interiors in a general way as very magnificent, with tapestries, paintings, costly tables, crystal lustres, gilded furniture, statues, 'and what varieties the East and West Indies can supply'. Pinkerton, who published the visit of the Reverend S. Shaw of Queen's College, Cambridge in

[43] *Op. cit.*
[44] Arthur Young, *A Six Weeks Tour, through the Southern Counties of England & Wales*, third edition, 1772, pp. 229-233.
[45] *Op. cit.*
[46] *Op. cit.*
[47] William Gilpin, *Observations on several parts of the counties of Cambridge, Norfolk, Suffolk, and Essex, also on several parts of North Wales; relative chiefly to Picturesque Beauty*, 1809. The tour, which included Essex, was made in 1769.
[48] John Buckler, British Library, Add MS 36362, ff.115 and 116.

1788, also emphasised the elegance and splendour of the interiors, the paintings and the tapestries. Other descriptions of the first floor commence with the hall. The doorcases were 'plain, but little carved, though in a good stile' and the chimneypiece was 'heavy'.[49] The ceiling was painted by Kent with Morning, Noon, Evening, and Night. A medallion over the entrance door held a portrait of Colen Campbell, and Kent's portrait hung within. On the walls were Roman histories by Cassali: Coriolanus, Porsenna, and Pompey taking leave of his family; two Antique Statues and four vases stood in the room.[50] A chandelier 'surmounted by a magnificent Spread Eagle destroying a snake on a rock' made reference to the family arms.[51]

There were four state bedchambers with four sets of rooms leading to them and at the north end 'a decent Chappel', according to Campbell, about which no more is heard. These apartments could be used in different ways according to the entertainment, and various routes around the first floor were possible for visitors and guests. William Gilpin was particularly struck by the convenience of the arrangement whereby the apartments communicated in one grand enfilade, 'but yet each, by the addition of a back stair, becomes a separate apartment'.[52] At the south end Lord Castlemain intended 'a handsome Library', but it was built as a long gallery or ballroom running the whole depth of the house on the south side, which was shown in Hogarth's 'Assembly at Wanstead', 1729-31.[53]

The assembly room was described in 1800 as not a 'flimsy parade of modern folly', but with furniture 'elegantly embossed' and gilded, and gilded ornaments of all kinds 'in the taste of that period'.[54] However, Young in 1772 said, 'I should remark that the gilding being all on brown is by no means set off with such lustre as if on lighter colours.' This was the room remarked upon particularly by the Reverend Shaw. 'The gallery or ball-room, which occupies one end of the house, is superlatively magnificent, its dimensions are 75 by 27, and proportionably high. The furniture, &c. is richly gilt and embossed; the tapestry, story of Telemachus, inimitable'.[55] Everyone remarked on the extensive gilding and the tapestries with the story of Telemachus and Calypso and the battles of Alexander. Over the chimneypiece was a painting of Portia, wife of Brutus, by Schalken.[56]

Young says that 'Wanstead, upon the whole, is one of the noblest houses in England. The magnificence of having four state bed-chambers, with complete apartments to them; and the ball-room are superior to any thing of the kind in Houghton, Holkam, Blenheim, or Wilton: But each of those houses are superior to this in other particulars: and to form a complete palace, something must be taken from all. In respect of elegance, Wanstead is second to Holkam.'

A painting by Nollekens dated 1740 of a family in an interior[57] is traditionally said to show a Wanstead interior, but cannot do so accurately since there were apparently no Venetian windows in

[49] Young.
[50] *Ambulator*.
[51] Tasker, 1898, volume VII, p. 219, from Pinkerton, 1808, *op. cit.*, p.179.
[52] Gilpin, *op. cit.*, p. 3.
[53] In the collection of the Philadelphia Museum of Art. It was noted in the sale catalogue of 1822 as item 171, p. 111, 'A View of the Interior of the Ballroom of Wanstead House with a numerous assemblage of ladies and gentlemen'.
[54] George Cooke, *Topographical and Statistical Description of the County of Essex*, c. 1800, p. 127.
[55] Pinkerton, p. 178.
[56] Young.
[57] In a private collection. Illustrated in colour in *Rococo. Art and Design in Hogarth's England*, Trefoil Books/ V & A, 1984, plate XVII and catalogue entry B3.

the house as built. There exist, however, three paintings (discussed later) of the house and grounds which show non-existent wings with such windows, so it is possible that this was painted in the same manner to show a proposed interior.

Walpole wrote to Richard Bentley on 17 July 1755 that he had dined at Wanstead:

> Many years have passed since I saw it. The disposition of the house and the prospect are better than I expected, and very fine: the garden, which they tell you cost as much as the house, that is £100,000 ... is wretched; the furniture fine, but totally without taste: such continencies and incontinencies of Scipio and Alexander, by I don't know whom! such flame-coloured gods and goddesses by Kent! such family-pieces, by - I believe the late Earl himself, for they are as ugly as the children that he really begot! The whole great apartment is of oak, finely carved, unpainted, and has a charming effect. The present Earl is the most generous creature in the world; in the first chamber I entered he offered me four marble tables that lay in cases about the room.[58]

This criticism of the family taste was echoed by Gilpin,[59] who disliked the paintings and commented waspishly that 'paltry copies from great masters take from the dignity of a noble mansion. If the ancestry of such a house had been many years in the possession of it, it may be supposed that they might have collected a few original pictures. If nothing of that kind is found in it, the possessors of the house may be supposed to be an upstart race.'

Much work was done on the interior in the early nineteenth century, when the house was being prepared for the coming of age of Miss Long, the young heiress who was to inherit it, and after her marriage in 1812 complete redecoration was undertaken. 'Mr Wellesley Long Pole, they say, is fitting up Wanstead House in a style of magnificence exceeding even Carlton House. The whole of the interior will present one uniform blaze of burnished gold.'[60] This was to celebrate the baptism of his small son and in preparation for a grand fête for the Duke of Wellington.

Wanstead as built was Campbell's first important work and was to be recognised as a great house throughout its existence. Defoe, like other visitors, thought that the house eclipsed all others in the vicinity. Citizens of London had built a number of fine seats round about, 'but the Lustre seems to be entirely swallow'd up in the magnificent Palace of the Lord Castlemain . . . The Building is all of Portland Stone in the Front, which makes it look extremely Glorious and Magnificent at a distance; it being the particular property of that Stone . . . to grow Whiter and Whiter the longer it stands in the open Air.'[61]

A coach house and stable courtyard were constructed to the north of the house, and survive in part with modifications as the premises of the Wanstead Golf Club, with low pantiled ranges and wrought-iron gate piers.

It was apparently intended to build offices each side of the house, linked by quadrant walls. These are seen in two or three views dated up to about 1740,[62] and Macky, in 1723, wrote that between

[58] *The Yale Edition of Horace Walpole's Correspondence*, W.S. Lewis (editor), volume 35, 1973, p. 238.
[59] *Op. cit.*, p. 5.
[60] Hiram Stead, *Materials for the History of Wanstead House 1650-1900* [title page: *Some Account of Wanstead House in Essex collected between 1897 & 1907 by Hiram Stead (late of Forest Gate) Comprising the earliest printed descriptions, views, notices &c; its Occupants; and its fortunes, and the Village of Wanstead*], Stratford Local Studies Library, E/WAN/728.83; c.1912, Local History Library, Stratford, p. 71, unattributed cutting dated 1814.
[61] Defoe, *op. cit.*
[62] In particular, the view of house and wings on Rocque's plan of 1735.

the 'Bason and the Palace is a spacious Area, on each side of which the Offices are to be built; but the Foundations of them are not yet laid'. Morant, who published his history of the county in 1768, wrote that the house 'was intended to be made still more magnificent, by Wings, raised with colonades answering to the grandeur of the front',[63] but they were apparently never built, and Arthur Young lamented their lack in 1772: 'What a building would it be, were the wings added according to the first design.'[64]

Pehr Kalm, writing in 1748, stated that 'My Lord Tilney had laid out so much on all this [his house and gardens] that he has barely as much left that he can in some sort support his state, or maintain . . . what he has here erected. This was evident both with the house and garden, which had not been fully completed, because the owner's resources did not allow him to incur further expense.'[65] In 1823, the house was stated to have cost more than £360,000,[66] and Walpole in 1755 had said that the garden had cost £100,000.[67]

The Forecourt

Although the wings were not constructed, the courtyard must have been pretty spectacular and apparently unlike others. The old house as shown by Knyff and Kip had railings separating the courtyard from the approach avenue, with an oval piece of turf before the house and a carriage sweep round it. This was replaced by a deep rectangle of grass surrounded by low walls, probably of stone, with alternate obelisks topped by lamps and urns. At the west end, away from the house, was a ha-ha occupying most of the width of the forecourt, and on either side of this elaborate ironwork railings of the same height as the side walls, with pairs of gates. These gave entry to two broad drives which ran across the grass down each side of the forecourt and turned to run along the entrance front of the house. The level of the central area between the drives was slightly lowered to create a sunk lawn. Visitors could thus have driven or ridden up to the steps and entered either the rustic storey or the *piano nobile*. It is unclear exactly how or when this evolved. The statues of Hercules and Omphale were made in the 1720s and we would expect the walls and obelisks to have been erected at the same time, but in fact there are no early views, and a different plan to accommodate the wings is shown by Rocque and in a painting attributed to Catton (*fig. 19*).[68] The final arrangement can be seen particularly well in an undated plan with an Italian scale, published in Morant's *History and Antiquities of the County of Essex*, 1768, volume one. This engraving exists as a separate and earlier print (bound into a copy of *Vitruvius Britannicus* in the Royal Academy collection), which is identical except that the statues are not shown. No other view shows the ha-ha, but the carpet of grass, the drives and the obelisks and urns can be seen in later engravings, and the walls, ironwork and sunk lawn were painted by Repton in 1816.[69]

[63] Philip Morant, *The History and Antiquities of the County of Essex*, volume 1, p. 30.
[64] Arthur Young, *op. cit.*
[65] Peter Kalm, *Kalm's Account of his Visit to England on his Way to America in 1748*, translated by Joseph Lucas, 1892.
[66] *Annual Register*, 1823, p. 65.
[67] Walpole, *op. cit.*
[68] The painting is of the Great Octagon Basin and is in a private collection.
[69] Humphry Repton, *Fragments on the Theory and Practice of Landscape Gardening*, Fragment 26, illustration with flap down.

Astronomical Observations at Wanstead

The parish church of St Mary was situated very close to the house, and the Child family used it and were commemorated there when they died. A particularly magnificent monument was erected to Sir Josiah. The rector from 1707 was James Pound, a former chaplain to the East India Company, who was certainly known to the Childs from his service at Fort St. George. His interests were directed to astronomy, and he made a number of noteworthy observations of eclipses from Wanstead through his fifteen-foot telescope. Furthermore, with the support of Sir Isaac Newton he borrowed Huygens's famous 123-foot glass from the Royal Society, mounted it on a column known as the maypole removed from outside St Mary-le-Strand in London, and proceeded to more interesting observations, particularly of Saturn and Jupiter. His work was continued by his nephew, James Bradley, who also lived at Wanstead.[70]

The church Pound knew was the one visible on the Knyff and Kip views, but with the appointment of Dr Samuel Glasse as rector of Wanstead in 1786, plans were made for rebuilding, and this was carried out to the designs of Thomas Hardwick in 1787-90.

Changes to the Gardens circa 1725 and the New Watercourses

The setting for the new house continued to undergo change during the remainder of the eighteenth century and the beginning of the nineteenth. The gardens created by George London and shown by Kip and Knyff were virtually unchanged when Macky visited before 1722, but alterations were already afoot in 1725. As we might expect, the changes planned soon after the completion of the new house tended towards a softening of the formal grounds surrounding it, while still including very elaborate man-made features such as amphitheatres and mock-fortifications.

Of prime importance were the new pieces of water, which were eventually to stretch in a string along the southern and eastern edges of the gardens from the basin in the west to the canal and the diverted River Roding in the east. The exact dates when all the waterways were created are not recorded, and the work must have taken many years and thousands of man-hours of work between about 1725 and 1745.

The only noteworthy change carried out by 1722 and reported by Macky was the creation of a single octagonal basin by joining the two ponds beside the western approach. This, says Macky, was 'a Bason of Water of near half a Mile in Circumference, on which my Lord keeps a Gondola for his Pleasure'. This basin survives on the land owned by Wanstead Golf Club and local people have stated that there is still a causeway across it about five feet below the surface.[71]

The basin is clearly shown in the painting attributed to Charles Catton the Elder (c.1728-1798),[72] which records the road bordered by trees around it, and the well-ordered young plantations in quincunx groves on either side of the approach (*fig.19*). These works were carried out and may be

[70] See entry in *The Dictionary of National Biography*; Henry King, *The History of the Telescope*, pp. 63-4; Graham Dixton and Patricia Wilkinson, *The Parish of Wanstead*, 1990.
[71] James Berry and Alan Cornish, *The Lake System of Wanstead Park & the Mystery of the Heronry Pond*, March 1978, typescript report, p. 11.
[72] John Harris, *The Artist and the Country House from the Fifteenth Century to the Present Day*, Sotheby's, 1995, p. 91.



20. James Craddock: Plan of Wanstead Park. Essex Record Office D/DCW P7.

seen on later plans, but the wings, as noted above, were not. Repton later commented on the plantations which had grown up to block the view. 'This wood was originally intended to have been kept low, but it has now outgrown its intention.'[73] Octagonal basins were in fashion following the creation of the gardens at Versailles, and Wanstead's elongated example at the front of the house echoed the earlier one at the back, attached to the long canal.

Leading up to the most distant canal was a long channel of water to the east of the wilderness garden, which probably ended with the mill ('moulin') or engine referred to by the visiting Frenchman in 1728. This was probably water-powered and seems to have served to pump water up to the house. It perhaps fell into disuse when the system of watercourses became more complex, as this spot was later labelled by Rocque 'The Old Engine House' on his 1745 map. The River Roding fed the canals and can be seen flowing further to the east and round the top of the straight canal.

A plan by James Cradock in Essex Record Office[74] shows some of the changes towards more informal pieces of water, which were apparently in hand by 1725 or were about to be made (*fig. 20*). They consisted of channels and islands to the north and south of the eastern straight canal at the bottom of the slope, made by extending and serpentining the watercourses already in existence. Changes were also made around the canal itself. It was originally a long rectangular shape flanked by twin rows of trees. Cradock shows water surrounding this on three sides so that it appears as a canal standing within a larger canal with a shaped end. He marks in red a series of unnamed buildings: one later referred to as the 'Gardener's House' or 'Old Engine House', near the canal,[75] another on a bastioned island to the north, which became known as 'the fortifications', and a third connected with an extensive bastioned earthwork, in an area with vineyards, orchards and groves and labelled as 'Theatres', to its south. Nearly all of these features were shown on later maps more or less in the form indicated by Cradock, which confirms that they were indeed carried out. The only exception is the grassed theatre or earthwork. Its existence is suggested by surviving ridges visible on the archaeological survey, but if it was constructed it cannot have been there for long, for it was unrecorded later.

Another painting attributed to Charles Catton and now owned by Newham Museum Services, which was apparently at Wanstead until the 1822 sale, takes a bird's eye view from the east, and shows the ring of water running round the grounds (*fig. 21*). In the foreground is the straight canal with its two lines of trees on raised banks and water flowing around it, and the grassy avenue rising towards the distant house, which appears a brilliant white in the sunlight, as Defoe said it did. Here can also be seen the buildings marked by Cradock: the fortification, the gardener's house and the grassed theatre beside the water, which, if and when it existed, must have made a convenient landing place for boats. It is interesting to note in this connection that a somewhat similar stepped grass theatre terminated the river at Chiswick House prior to the construction of Kent's cascade.[76]

The series of lakes to the south of the estate appear to have been formed by damming a stream which ran west-east into the River Roding.[77] They were named (from west to east) 'The Great Lake', 'The Reservoir', 'The Horse Field Pond' and 'The Serpentine Ponds' by Rocque

[73] Humphry Repton, *Fragments on the Theory and Practice of Landscape Gardening*, 1816, p. 136.
[74] James Cradock. Plan of Wanstead Park, 1725. Essex Record Office, D/DCW P7.
[75] Marked on Rocque's plan of 1735 and map of 1744-6 respectively with these names.
[76] Shown on Rocque's plan of Chiswick of 1736. I am grateful to Brian Dix for discussions on this subject.
[77] See Berry and Cornish, *op. cit.*

in 1744-6. Cradock's plan does not cover the whole area of the grounds to the south and west, nor the house itself, so it is unclear from this whether these lakes to the south were in existence in 1725. They are first shown on Rocque's plan of 1735, perhaps in the form in which they were then planned, and subsequently on his map of 1744-6 in what became their final shapes (*figs 22, 23*). Apart from minor alterations, they remained thus until Repton made changes in about 1816. The outer line of waterways around the eastern canal seems to have undergone some erosion a little earlier. By 1779[78] the outer line of water only existed in part to the north and east of the canal, and the twin lines of trees were no longer complete by about 1815.[79]

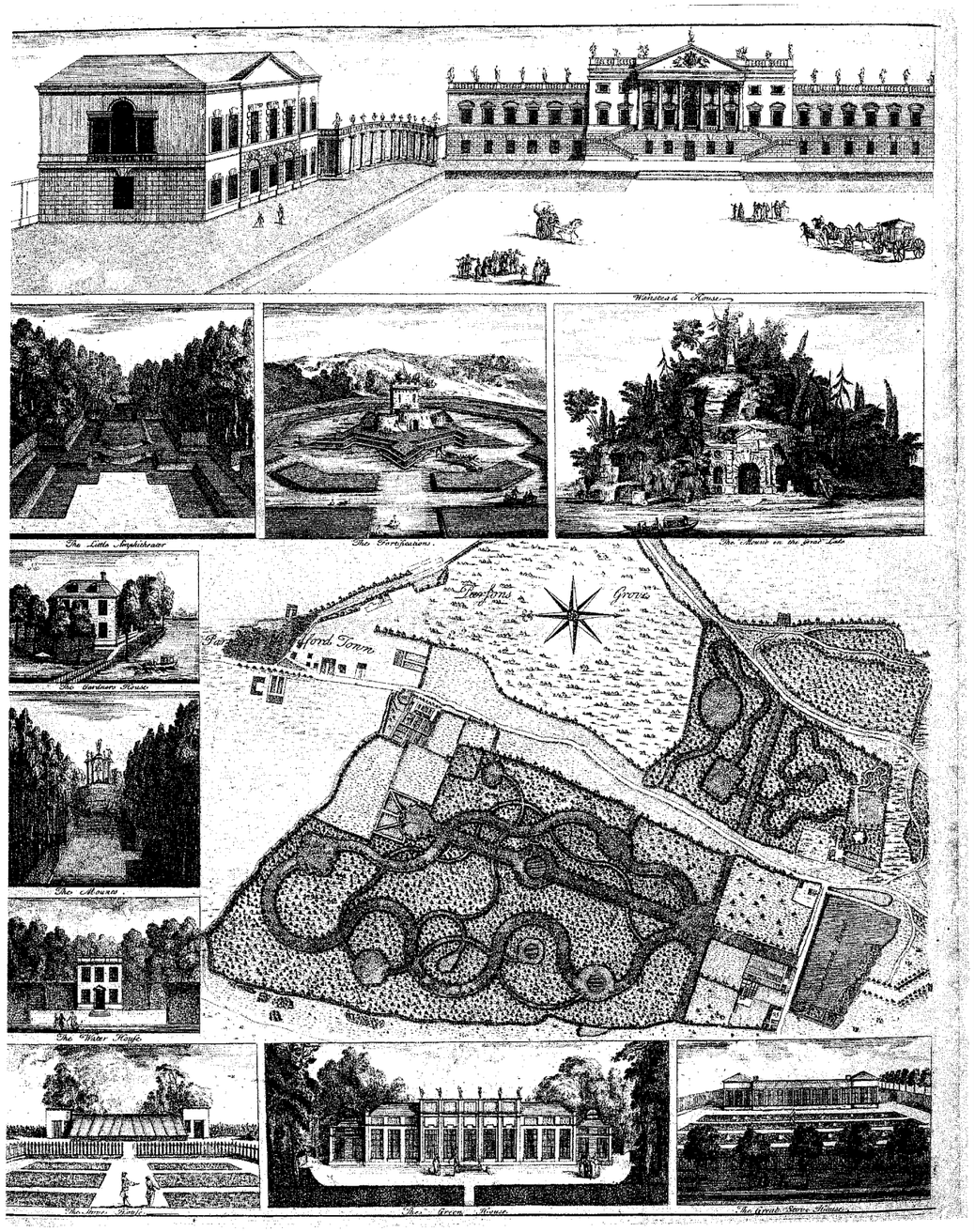
The creation of the lakes was a major undertaking, but a particularly fashionable feature in the transformation of the gardens. Pehr Kalm's account includes the comment that Lord Tylney's difficulty was

> that there was no water; but money could cure all such things. Where, previous to that time there was scarcely anything but a ditch with a little water in it, we now saw a large flowing river, all made with art and human labour. He had had dug about the whole place many ponds, *dammar*, of which one and another resembled a little lake, so that the one which lies in front of the windows of the mansion, and is all artificially made, is so large that they can sail to and fro on it with large boats. [80]

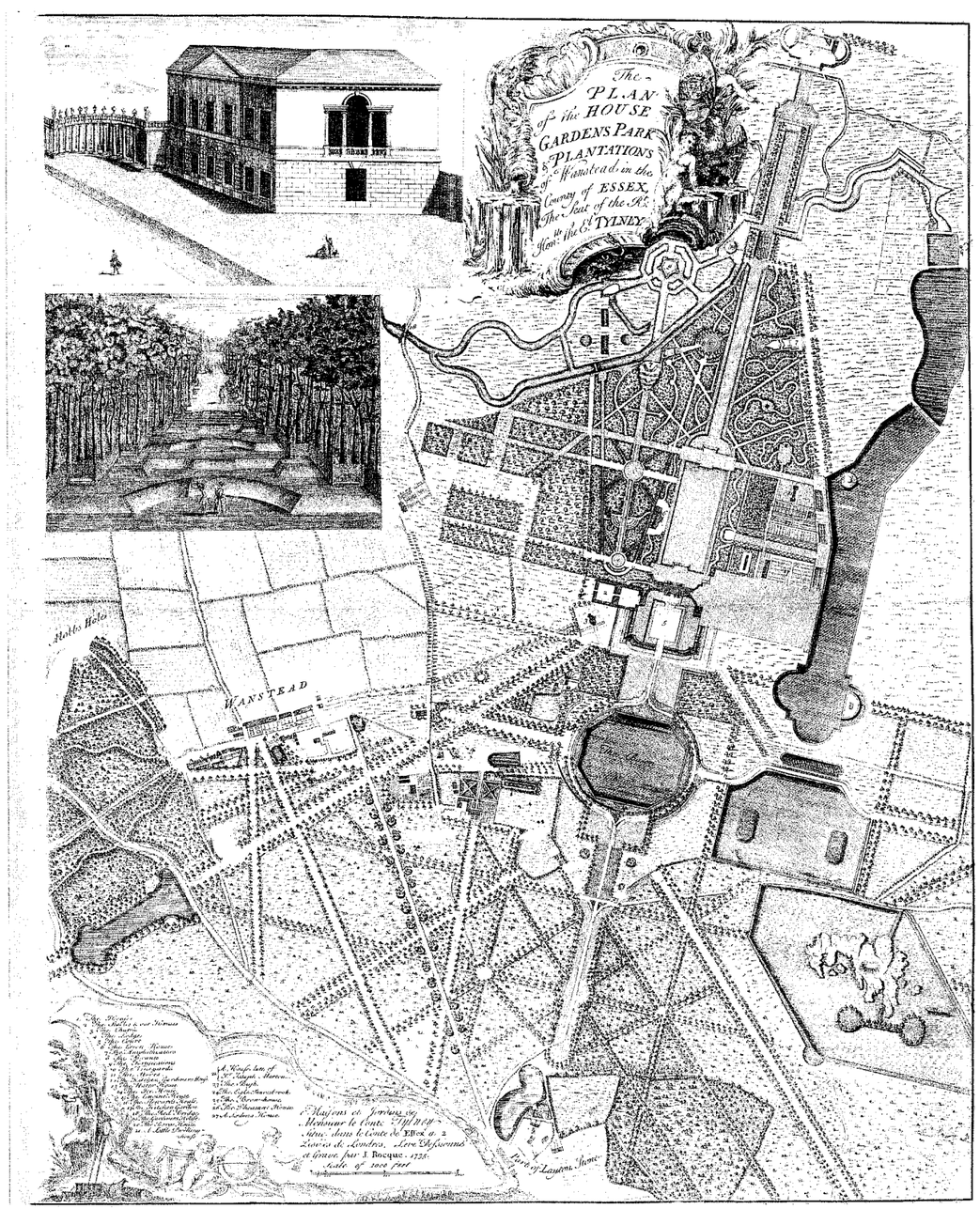
Adam Holt

The man in charge of the early hydraulic engineering schemes may have been Adam Holt (d.1750),[81] referred to in 1715 as the 'surveyor of the works' responsible for the destruction of a Roman pavement discovered at Wanstead Park by 'digging holes through it, for planting an avenue of Trees'.[82] He is a shadowy figure, about whose work at Wanstead little is known except that he was recorded as 'Sir Richard Child's Gardiner' at Wanstead in 1713, when he had labourers in the field of an unidentified Quaker to make a canal and a kitchen garden,[83] and that he probably had a nursery in the area, first at Leytonstone and later at Wanstead .[84] He certainly made a survey of John Letheiullier's estate at Aldersbrook in 1723,[85] so seems to have had contacts in the neighbourhood. His may have been a local family who were involved in the estate at Wanstead, since there are frequent references to a Thomas Holt in the bank account of Sir Richard Child from 1702-7.[86] These are extremely difficult to interpret, as only names are given, but large sums of money were involved, and it could be that Thomas Holt was acting as some kind of agent for Child during the making of the gardens. Thomas or Adam Holt may have ingeniously managed to bring water to Wanstead to feed the Basin and eventually the other lakes by channelling it from the

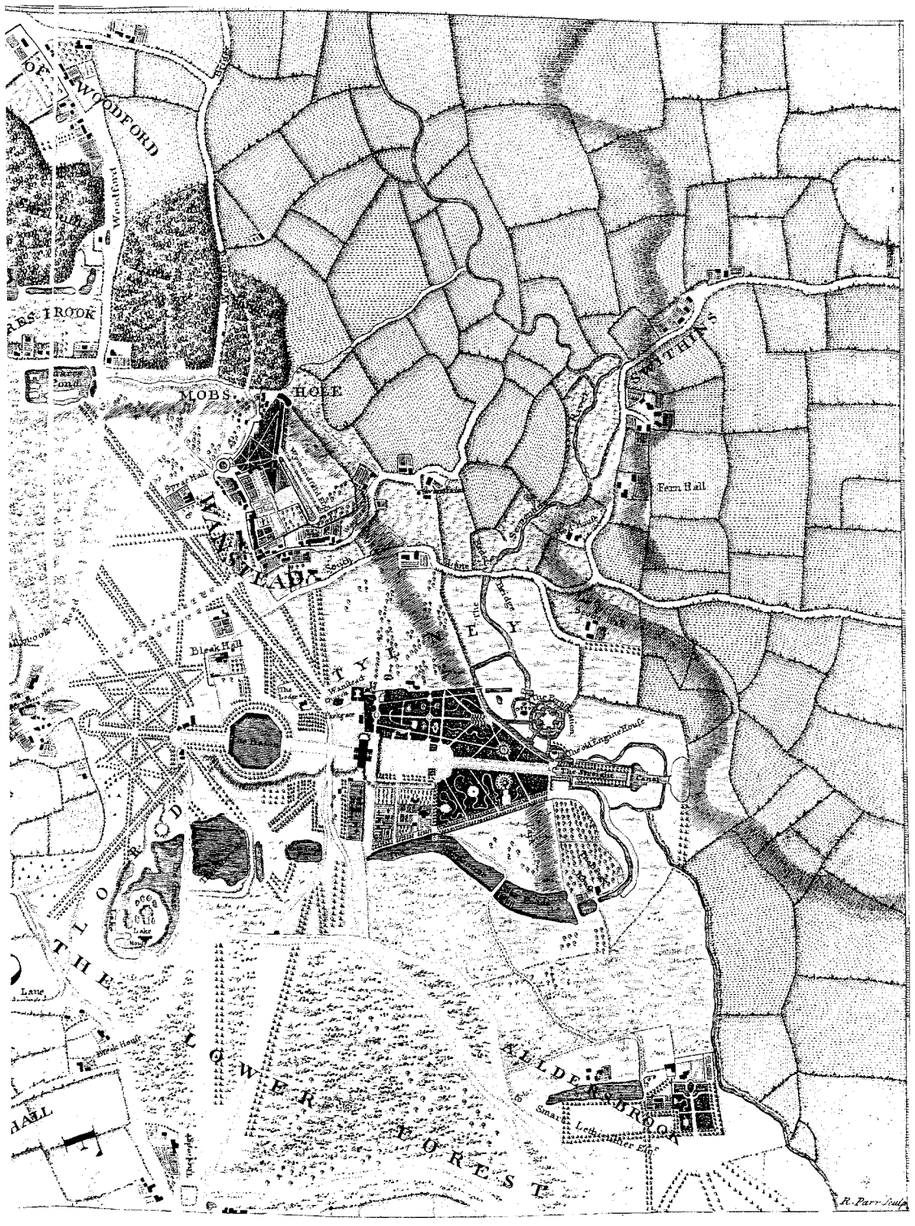
[78] L. Searles, *A Survey of Wanstead Park in Essex the Seat of the Rt Honble Earl Tilney*, ERO D/DCw P59.
[79] Plan of Wanstead Park, ERO D/DCw P61.
[80] *Op. cit.*, p. 175.
[81] Fiona Cowell, 'Adam Holt (1691?-1750), Gardener: His Work at Coopersale House, Essex', *Garden History*, volume 26, no.2, pp. 214-217; John Harvey, *Early Nurserymen*, Phillimore, 1974, p. 81.
[82] Letter from Smart Lethieullier to Dr Charles Lyttelton, British Library Add MS 6183, f.80, read to the Society of Antiquaries November 27 1746, and published in *Archaeologia*, volume 1, p. 73.
[83] W.R. Powell (editor), *Victoria County History of Essex*, volume 6, 1973, p. 325, and Fiona Cowell, *op. cit.*
[84] Cowell, *op. cit.* and Harvey, *op. cit.*, p. 87.
[85] Essex Record Office, D/DSA 150.
[86] Held at Child's Bank in the name of Sir Richard Child. The ledgers are now in the archives of the Royal Bank of Scotland.



22. John Rocque: Plan of the House, Gardens, Park and Plantations of Wanstead in the County of Essex, 1735. (In two sections.) Part one.



22. John Rocque: Plan of the House, Garden, Park and Plantations of Wanstead in the County of Essex, 1735. (In two sections.) Part two.



23. John Rocque: Detail of Wanstead from *An Exact Survey of the City's of London, Westminster Ye Borough of Southwark and the Country near ten miles round,* 1744-6.

Snaresbrook area into an artificial ditch known as the 'River Holt', which followed the contours of the land.[87]

The avenue reported to have been planted under Holt in 1715 can probably be identified with the long double avenue of sweet chestnuts running from the end of the straight canal to the new Serpentine Pond, and clearly shown both by Rocque in 1735 and in the painting of Wanstead from the east discussed above. It provided a link and a vista from one waterway to another, and also framed the view of London on the horizon.

John Rocque's Plan of 1735 and after

When John Rocque made his 'Plan of the House Gardens Park & Plantations of Wanstead in the County of Essex, The Seat of the Rt. Honble. the El. Tylney' in 1735 he showed the full extent of a series of grandiose proposals, some of which were executed and some not. Fortunately, Rocque also included Wanstead on his 1744-6 map of London and its Environs (*fig. 23*).[88] While the 1735 plan shows many projects, Rocque's 1744-6 map records what had actually happened up to that date. This plan of London, which conveniently just squeezes Wanstead into the north-east corner sheet, shows the water features as constructed, with the names used at the time.

Richard Child had taken the surname Tylney when his wife inherited the estates of her maternal grandfather, Francis Tylney of Rotherwick, near Basingstoke. He had subsequently been elevated to an earldom in January 1732 and had then taken the title of Earl Tylney in the Irish peerage. By an Act of Parliament of 1734, his eldest son and his heirs were permitted to bear the name of Tylney. He was evidently ambitious, and there were very ambitious plans afoot for both house and gardens, some of them extremely expensive and never to be realised, such as the wings proposed to surround the sunk forecourt. The major proposals for change began, as noted above, in about 1725, when Cradock made his plan. The latest description yet found of the formal garden close to the house with its canal, parterres, and bowling green and its statues, urns and wrought-iron railings, was the Frenchman's written in 1728. This formal garden had probably been taken away by, or soon after, 1735 and replaced with a great sunk lawn as shown by Rocque.

The new lawn is shown even better in another painting of Wanstead House from the Orange Tree Garden attributed to Catton the Elder, which must date from about 1740 (*fig. 24*). It was sold in the Spencer-Churchill sale of 1965 and its present whereabouts are unknown.[89] This view was taken from the woodland garden on the east, looking across the orange tree garden, which would have been just behind the green-house, or orangery. The painter illustrates the lawn in use as a huge bowling green dominated by the old orangery still in its raised position on the northern side, in front of which an orange-tree 'theatre' was formed by the trees placed out in their tubs.

Rocque also indicates the arrival of meandering walks in the woodland gardens running down beside the grass avenue to the straight canal and the waterways around it, and the construction of two amphitheatres, one overlooking a vista towards the fortification and one leading to the

[87] James Berry and Alan Cornish, *op. cit.*, p. 12.
[88] *An Exact Survey of the City's of London, Westminster ye Borough of Southwark and the Country near ten miles round begun in 1741 & ended in 1745 by John Rocque Land Surveyor & Engrav'd by Richard Parr,* in 16 sheets.
[89] Any information on its present location would be welcomed by the author.

southern mount. The amphitheatres were built, the mounts were retained, and much of this layout was executed.

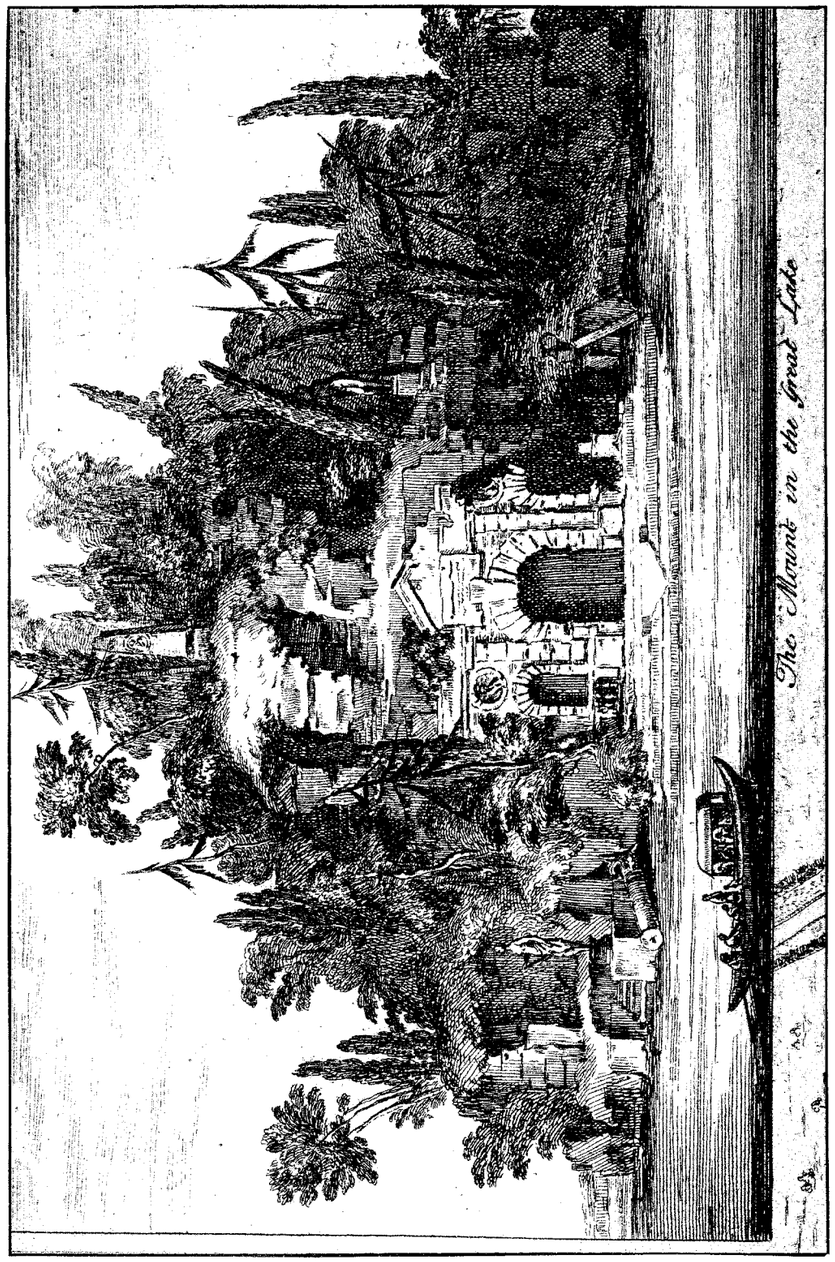
However, the famous island in the shape of the British Isles is not shown on any subsequent plan, and the extensive waterways to the south of the house were much less formal in execution. The island-grotto on the mount in the Great Lake is also something of a puzzle. It is clearly shown on the 1735 plan and it is included on Rocque's later plan of the 1740s (*fig. 25*). However, no description of it has been discovered and there is no subsequent evidence of it, although the island continues to be shown on plans. More of this later.

Work went on over a long period of time, and continued after Rocque had made his plan. Smart Letheuillier, Tylney's neighbour to the south, was a great observer of what went on. In a letter of 27 September 1746 he wrote that 'Ld: Tylney having this Summer made Considerable Alteration in his Park' had disturbed the spot where the Roman pavement had previously been discovered, which was now 'totally changed'.[90]

William Kent at Wanstead

Several commentators mention the presence of Kent at Wanstead to paint the ceilings. The hall was decorated with the Times of Day, and was richly gilded, and 'the pencil of Kent has also adorned several of these ceilings',[91] among them the Saloon.[92] Lord Castlemain also commissioned a full-length portrait of Kent by William Aikman for the hall,[93] which appeared in the sale catalogue (page 124, lot 365) as 'A Portrait of Kent the Artist, who painted many of the ceilings, and gave designs for the interior decorations of Wanstead House'. The dates of 1722, when the Hercules and Omphale were made, and 1723, when Macky reported that the upper storey was to be finely painted, are an indication of the time when Kent might have been present at Wanstead. He was of course to become a very talented garden designer, and this was the moment when he had renewed his acquaintance with Lord Burlington and was working for him at Burlington House. Work at Chiswick soon followed. It is tempting to suggest that he took an interest in the magnificent plans for the Wanstead gardens. Unfortunately, no word of documentation has been found to attach his name firmly to any part of the garden design. However, some of the features shown on Rocque's 1735 plan, particularly the view of the house and wings, the grotto island and others illustrated in the margins, have a flavour of his work, as John Harris has remarked, and Kent should be noted as the possible author of them.[94]

[90] Letter to Dr. Charles Lyttelton in British Library, MS Stowe 752, f.13v. It was published in *Archaeologia*, volume 1, pp. 73-4.
[91] Pinkerton, p. 178.
[92] 'The Saloon is a fine room well finished in stucco, the roof painted by Kent (a very indifferent piece of work) and the ornaments above gilded.' Comment by Sir John Clerk of Penicuick, who visited in 1727, quoted in J. Fleming, *Robert Adam and his Circle*, 1978, p. 24.
[93] Noted by Vertue, *Walpole Society*, volume XXII, p. 24 as 'Mr. Kent his picture at length done by Mr Eckman & plac'd up in the hall of my Lord Castlemaines in Essex where he has painted much for his Lordship.'
[94] John Harris, 'The Artinatural Style', in *The Rococo in England*, Georgian Group Symposium Proceedings, edited by Charles Hind, V & A 1986, pp. 18-19.



25. 'The Mount in the Great Lake' or the Island Grotto, as shown by Rocque, 1735.

The Fortification and the Pleasure Boats

The Fortification was illustrated by Rocque on his 1735 plan as one of the marginal views (*fig. 26*). It had angled bastions with three steps up to the platform, which appears to be grassed. The fort itself was perhaps a not very substantial construction, belying its appearance. It was certainly never intended to defend against anything other than mock attacks. The superstructure has disappeared, but its island site remains with the distinctively-shaped bastions. The battlemented tower might have been modelled on the romantic pile of Vanbrugh Castle, Greenwich, designed by Vanbrugh for himself as a castle in miniature and built from 1718, or the mock fortification walls at Castle Howard, also by Vanbrugh, under construction from 1719 to 1725; while the bastions are similar in shape to those used at Tilbury Fort, Essex, built between 1670 and 1683, whose form was adopted for the bastions of the garden at Grimsthorpe by Stephen Switzer. If we accept that the Cradock plan shows what was being constructed in 1725, then this makes the fortification at Wanstead one of the earliest mock forts of this period, and at the forefront of this fashion for fortified elements in gardens.[95]

Such a feature was recorded at West Wycombe Park in 1754, together with various vessels kept on the lake there. The Dashwoods of West Wycombe were, like the Childs, a family of East India and Turkey merchants. They had owned property in Wanstead, and it is interesting that a copy of Rocque's survey plan of Wanstead with the fortification was in the Dashwood collection. A drawing of a fort, attributed by Anne Purchas to Jolivet,[96] is also in the collection. Mock battles could be dangerously realistic. The captain of the snow,[97] the largest ship in the West Wycombe fleet, was reported on one occasion to have 'received damage from the wadding of a gun which occasion'd him to spit blood and so put an end to the battle.' An engraving by William Woollett after William Hannan of 1757 conjures up the pastoral atmosphere of the lake scenery when battles were not in progress, with a sailing ship anchored peacefully and a gondola party landing on the island. At Newstead Abbey there were also mock naval battles on the lake, and Walpole in 1760 reported on 'two silly forts' built there in 1749 by the fifth Lord Byron, followed by a castle facade for the kennel and stable building beside the lake. The battery at Newstead survives but Folly Castle, built in 1749 on the island, has now gone. The fort at Wanstead must have been used in this way.[98]

Entertainments of this kind had been known in Roman times as *naumachia*, and were revived in the Renaissance, when numerous water festivities were held. For example, at the Palazzo Pitti in Florence the courtyard behind the palace was specially flooded to celebrate the marriage of Ferdinando I and Christine of Lorraine in 1589. Eighteen Christian galleons were seen to besiege a Turkish castle on that occasion. In England, such water entertainments became popular in the Tudor period. The famous waterworks at Elvetham, created for the entertainment given by Lord Hertford for Queen Elizabeth I in 1591, involved a specially-dug lake in the shape of a crescent moon. The entertainment was highly emblematic, with the lake representing the Queen as Cynthia the moon goddess, Neptune's Fort on one island the forces of England, and a snail mount on

[95] See Robert Williams, 'Fortified Gardens', in Christopher Ridgway and Robert Williams (editors), *Sir John Vanbrugh and Landscape Architecture in Baroque England 1690-1730*, Sutton, 2000.
[96] Anne Purchas, 'Maurice-Louis Jolivet's drawings at West Wycombe Park', *Architectural History*, volume 37, 1994, catalogue 3.
[97] A snow is a small sailing vessel.
[98] Gervase Jackson-Stops, 'The West Wycombe Landscape I', *Country Life*, June 20 1974, p. 1619; Rosalys Coope, 'Newstead Abbey in the Eighteenth Century', *Transactions of the Thoroton Society of Nottinghamshire*, 1979, p. 57. I am grateful to Rosalys Coope and Anne Purchas for discussions on Newstead Abbey and West Wycombe Park.

another the evil forces of Spain. Cannon and numerous vessels driven by both oar and sail took part in the mock battle with its victorious outcome for Neptune's Fort and the Queen.[99]

There are no known written descriptions of the fort at Wanstead, nor of its use, but Rocque clearly illustrates a rowing boat with a canopy at one end moving away from the fortification island, which surely played its part in the summertime entertainments of both the first and second Earls Tylney (*fig. 27*). Since the Child family had such close involvement with the East India Company, perhaps they re-enacted sea battles between their ships and pirate vessels wishing to acquire their valuable cargoes. There are a number of references to pleasure boats. Macky said that Lord Castlemain kept a Gondola on the basin for his pleasure,[100] and Kalm was presumably referring to the basin when he described the lake in front of the house where they sailed 'to and fro … with large boats' in 1748.[101] The second earl acquired a new boat in 1760 and could not wait to try it out. He wrote to his brother that he was 'very impatient to see a new vessell that is just come to Wanstead, and really the prettiest that ever was built. We purpose to try it this afternoon.'[102] Whether this was destined for the basin or one of the other lakes is not known. In the 1822 Sale Catalogue, under the heading 'Arch and Lakes', six vessels were listed:

70 AN EXCELLENT WELL BUILT FOUR-OARED PLEASURE BOAT with sails, oars, boat-hook, &c.
71 A capital two-oared Ditto, oars, &c.
72 A Ditto
73 A large Fishing Punt
74 Two India Canoes

There were also, interestingly:

75 *A handsome round Fishing House,* with thatched roof, and seats inside
76 Three rustic Elbow Seats
77 Two fine Swans
78 Three Ditto

All of these grotto items were marked as sold back to Wellesley at the sale.[103]

The Second Earl Tylney

John, second Earl Tylney, succeeded to his father's estates in 1750. He was the younger son, his elder brother having died of smallpox. He never married, and increasingly spent his time away from Wanstead, travelling extensively and collecting art treasures. Robert Harvey described him as an 'unhappy man who could not resist the temptations & instigations of a passion, contrary to reason, & at which nature shudders', and a willing exile from his country. He lived almost permanently abroad from the early 1770s, based at his house near the Carmine in Florence, which was considered fine and boasted a print room with yellow paper. He usually wintered in Naples, where

[99] See Jean O'Neill, 'Diversions on the Water', *Country Life,* August 1, 1985, pp. 332-334, and Roy Strong, *The Renaissance Garden in England*, Thames & Hudson, 1979, pp. 125-6.
[100] Macky, 1723, *op. cit.*
[101] Kalm, 1748, *op. cit.*, p. 175.
[102] Letter from Lord Tylney to his brother Sir Robert Long at Draycot, 28 July 1760. Redbridge Central Library, archives.
[103] In the copy of the catalogue at Ilford Library.

he died in 1784.[104] However, in the earlier years of his ownership of Wanstead he was sometimes present and was busy entertaining and beautifying the grounds. Horace Walpole visited and dined in 1755, the Duke of York was given supper and a ball at Wanstead in 1760,[105] and in 1764 'their Majesties in a post-chariot, escorted by a small party . . . went to the seat of Earl Tilney on Epping-forest, and after staying there near two hours, took an airing about the forest . . .'[106] Smart Letheiullier, the observant neighbour at Aldersbrook, nevertheless reported sadly in the summer of 1751 that 'The social amuzements of this Neighbourhood are much Chang'd, for instead of being the Gayest & most Cheerfull spot perhaps to be found in any Country, we are become as retired as if we were in Yorkshire. Tylney you know is gon abroad . . .'[107] He was only 'a little at Wanstead' in the summer of 1756, before going to Bath and then London.[108] In 1759 he was carrying out work on the great basin in front of the house, and had been making considerable improvements. Letheiullier reported again: 'After a six weeks run at Tunbridge which he preferred to Home my good Neighbour is return'd to Wanstead, there are still considerable improvements made since I saw you there last Christmas & I hope that innocent pleasure will steal still more & more upon him. He has executed the Grand Project of emptying the Great Bason before the house, it was judiciously executed by the help of a Syphon – without cutting the Bank, or doing any other damage. There was a vast resort of Company and the Day was very joyous but the disappointmt. with regard to the Fish was very great, there being not more than 100 Brace of Carp taken out & those lank & thin . . .'[109] However, by 1775 Walter Harrison was writing 'The present lord has resided many years in Italy, nor is there any prospect of his returning to England . . .'[110]

The changes which he brought about in the gardens must therefore be dated in the 1750s and 60s, when he was quite often at Wanstead and entertaining illustrious visitors. Two garden buildings in particular are associated with the second Earl, and both apparently date from the 1760s or thereabouts. These are the Temple and the Boathouse-Grotto.

The Temple

Earl Tylney was in Florence in 1753, when the young architect William Chambers was also there.[111] While in Florence, Chambers designed a small garden temple in the Doric order, which he subsequently dedicated to the Earl in his Treatise, with the note in the text that it was 'proposed to be executed in his Lordship's gardens at Wanstead' (*fig. 28*).[112] This suggests that the Earl was at

[104] See John Ingamells, *A Dictionary of British and Irish Travellers in Italy 1701-1800*, Yale UP, 1997, pp. 959-960. Tylney, however, continued to maintain a presence at Wanstead for longer than this reference implies.
[105] Letter from Lord Tylney to his brother, Sir Robert Long, of 11 June 1760. Redbridge Central Library archives.
[106] Hiram Stead, *op. cit.*, cutting from unidentified source, dated 1764.
[107] Smart Letheiullier to Dr Charles Lyttelton, 20 August 1751. British Library, Stowe MS 752, f.54v.
[108] Smart Letheiullier to Dr Charles Lyttelton, 19 October 1756, British Library, Stowe MS 752, f.90r.
[109] Smart Letheiullier to Dr Charles Lyttelton, 25 September 1759, British Library, Stowe MS 752, f.102v.
[110] Walter Harrison, *A New and Universal History, Description and Survey of the Cities of London and Westminster*, 1775, p. 577.
[111] Andrew Wilton & Ilaria Bignamini (editors), *The Grand Tour: The Lure of Italy in the Eighteenth Century*, Tate Gallery exhibition catalogue, 1996, p. 234; John Harris & Michael Snodin (editors), *Sir William Chambers*, Courtauld Institute Gallery exhibition catalogue, 1996, pp. 2, 199. Frank Salmon, 'British Architects and the Florentine Academy, 1753-1794', *Mitteilungen des Kunsthistorischen Institutes in Florenz*, volume 34, 1990, part 1/2, pp. 201-202, sets out the sources for the dating of Chambers' stay in Florence.
[112] William Chambers, *A Treatise on the Decorative Part of Civil Architecture*. The plate first appeared in the first

that time considering such an addition to his gardens, and although this design was not, as far as we know, carried out, a garden temple was constructed as the focus of the avenue which ran from the Serpentine Ponds to the Straight Canal. The architect of the Temple is at present unknown.[113]

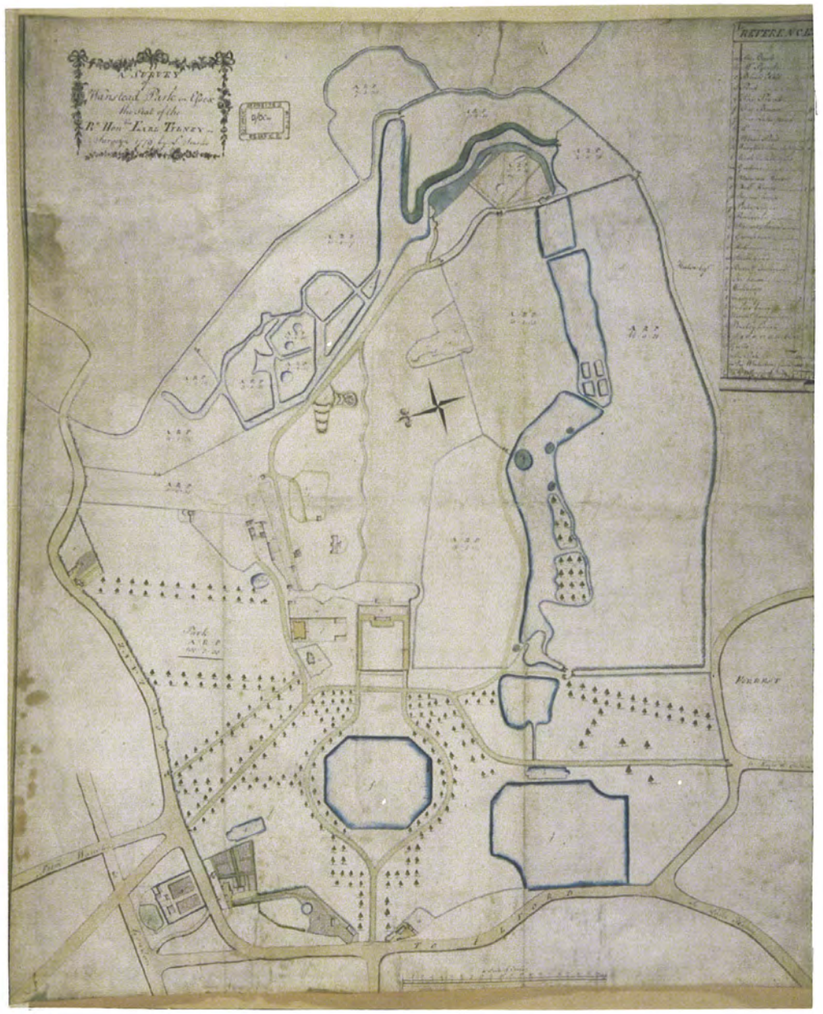
Very little is known for certain of the early history of the Temple - a name which has only been recorded since the late nineteenth century. It did not exist in 1744 when Rocque surveyed the area, but it does appear on a map of 1779 (*fig. 29*).[114] The building appears on the 1779 plan, where it is called a 'Poultry House', with a pond behind it and what could be sheds or outhouses behind that. By 1815 it was in use as a 'Keeper's Lodge, Pheasantry etc.'. These are modest-sounding names for such a place, but there are examples to be found elsewhere of buildings of classical form used for similar purposes. At Lord Burlington's Chiswick Villa, for example, a small plain building ornamented with a pair of classical niches was used as a Deer House, but also served to furnish the landscape elegantly. Robert Adam made a design for a classical pheasant house for Kedleston in 1759. The Temple at Wanstead is built on artificially raised ground so that the centre of the lower storey is invisible from the front, and the ground floor areas are approached from the back (*fig. 30*). The wings are not contemporary and must have been added soon after.[115] The porticoed central section was clearly intended as a feature of the landscape at the end of an avenue of trees and could have been used during garden entertainments, while the discreetly hidden lower storey was used by keepers and the outbuildings for poultry or pheasants. The Temple was built across the existing avenue of trees, to which it provided a visual stop, and it was linked to the other new structure, the boathouse-grotto, by an informal path.

The Boathouse Grotto

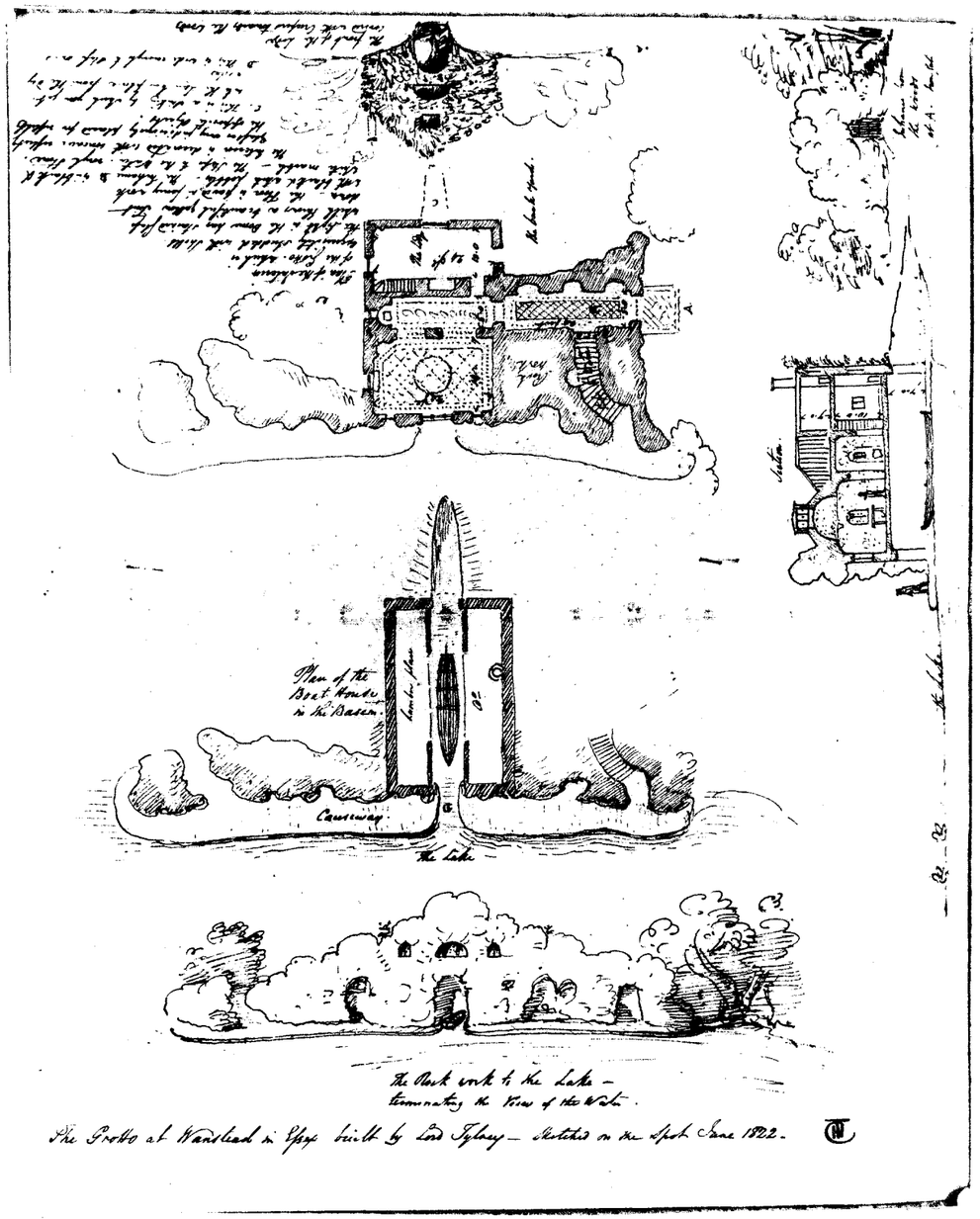
Although, as noted above, there is no surviving description of the island grotto illustrated by Rocque, there are a number of reports dating from the early 1760s of another grotto at Wanstead - the boathouse grotto. An 'Inscription for the Grotto in Earl Tilney's Garden at Wanstead' was written in 1764, and in another report of the same year it is stated that '. . . the Earl of Halifax, together with the French Embassador, and twelve or fourteen other Noblemen of distinction, went to view the seat of the Right Hon. Earl Tilney, and the gardens, with the curious grotto at the bottom of them.'[116]

The form of this building echoed to some extent that of the island grotto, and it is possible that the first was taken down to supply material for the second. This survived relatively intact until a fire of 1884, after which it continued to be used as a boathouse. Only the ruined shell now remains, but a sketch by Charles Heathcote Tatham as well as descriptions and early photographs partly record its

edition of 1759, but the text reference as quoted here is from the third edition of 1791, p. 136.
[113] The only possible, and rather insubstantial, clue is a payment of £25 in March 1762 to a 'Mr. Vardy' on 11 March 1761 from Earl Tylney's bank account at Hoare's Bank, Ledger 58/440, which may refer to the architect John Vardy. He was a close colleague of William Kent, who worked for the first Earl Tylney. Vardy is not a very common name, but without even a first name, this is an extremely tenuous attribution.
[114] L. Searles, *A Survey of Wanstead Park in Essex the Seat of the Rt Honble Earl Tilney*, ERO D/DCw P59.
[115] During work to the Temple in 1997, exterior penny-struck pointing was found inside the roof space on what must have been an outside wall at one time. The wings at that level must therefore have been built after the main building. This may mean that only the lower storey of the wings was contemporary with the original building and a second storey was added later, or that the Temple was built without wings.
[116] Hiram Stead, *op. cit.*



29. L. Searles: A Survey of Wanstead Park, 1779. Essex Record Office, D/DCw P59.



31. Charles Heathcote Tatham: A sketch of the grotto at Wanstead, 1822. Private collection.

appearance inside and out (*fig. 31*).[117] Before its construction, the River Roding must have been canalised, so that the lake was no longer part of it and its level could be controlled. This is shown on Searles' plan of 1779, which also shows that the shape of the water here had been modified and made more natural to complement the grotto.

The boathouse-grotto was under construction in the early 1760s. There is a record of 'sending rocks for the grotto' to Earl Tylney, and 'Gift of a pillar out of the Hall at Woolston to Earl Tylney' in a set of accounts of 1760-2,[118] and the building appears on the plan of 1779. The structure was later reported to have cost two thousand pounds, with much more spent on the decoration.[119] It was mentioned in a letter of 1764, which implied that it was complete and that extensive plantations were being made at Wanstead.

I find they are going on with the plantations, the Gardiner told me they had drawn above a thousand plants of shrubbs and of yr own plantations, but there were 2000 more had been bought. I went to the Grotto & it was very neat about it. Tom had hired a man just before to dig it up and clean it.[120]

Facing north on the serpentining course of the River Roding and acting as a focal point in it was a rough façade suggesting a mysterious and ancient rocky dwelling. The ground floor had an open central arch flanked by a niche and an arch each side, and above were windows with a hint of the Gothic style. Below this along the lakeside ran a short causeway paved with pebbles and stones (*fig. 32*). The facade was decorated with various fragments of carved stone and other artefacts. Stone 'Full of Holes like Honeycombs' was used at Pope's Grotto, and was found at Wanstead, as well as other varieties. The eagle of the family coat of arms surmounted the whole. An undated cutting referring to the grotto states that 'upon the apex of its arch there is still the Eagle and the Snake'.[121]

The building consisted of a boathouse below, with access from the lake and a space for storage and for the repair and tarring of boats, and a domed top-lit chamber above, entered by a passage from the side, or from steps by the lakeside. Behind this was a lodge for a keeper facing towards the woods and covered with creeping plants. Archaeological reports have suggested that the single-storey boathouse was built first, followed by the upper storey containing the grotto chamber and lodge. The boathouse was also accessible from the rear side by an arch through which the lake could be glimpsed.

Entrance to the grotto could be gained up a flight of rough stone steps from the lake shore or through an iron gate at the side leading to a passage clad in rockwork and paved with black and white marble, with what appeared to be an altar or sarcophagus at its far end.

[117] Sketch by Charles Heathcote Tatham, 1822, in a private collection. See John Harris, 'Wanstead's Compelling Vista', *Country Life*, August 22, 1991, pp. 60-61.
[118] Essex Record Office, D/DU 546/2. An antiquary's notebook kept by Alfred Savill of Chigwell Hall.
[119] Robert Havell, *A Series of Picturesque Views of Noblemen's and Gentlemen's Seats with Historical and Descriptive Accounts of each Subject*, 1823. By 1882, Edward Walford in *Greater London: A Narrative of its History, its People and its Places*, volume 1, p. 479, was quoting the sum of £40,000 as having been paid for the grotto, but he added that 'it is to be hoped that this is an exaggeration'.
[120] Letter to Earl Tylney dated 25 February 1764 from Draycot. Redbridge Central Library, Ilford, archives. The plantations could have been anywhere, but planting did take place as a backdrop to the Temple at about this time.
[121] Stead, *op. cit.* Fragments of this bird were found at the Grotto.

The main room was crowned by an octagonal lantern with eight squares of stained glass of a 'beautiful yellow tint' and was provided with two convex mirrors and two plates of mirror glass 'very judiciously placed for reflecting the opposite objects'.[122] These included curiosities such as ostrich eggs, 'petrified stones', and terracotta and wax figures.[123] Furniture listed in the 1822 sale catalogue was appropriately rustic, and included two Chinese bamboo chairs.[124] A rustic table is seen below the window in a photograph of the interior before the 1884 fire (*fig. 33*).

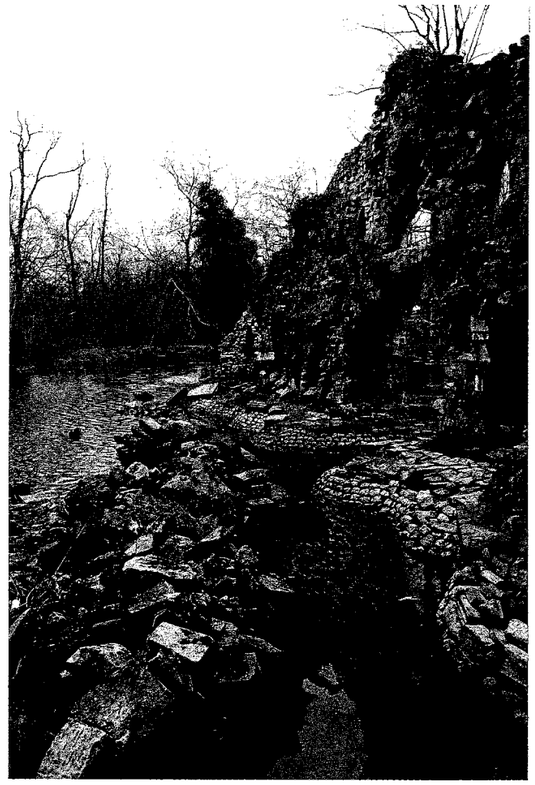
Alexander Pope, in creating his famous grotto at Twickenham, and embellishing it after 1740, had introduced natural curiosities such as minerals, shells, fossils and even real stalactites, which set the fashion for such things. Real stalactites were difficult to acquire, but white satiny spar in long narrow flakes was a favourite material for covering the walls and roofs of eighteenth century grottoes in imitation of the stalactite effect. It caught the light and glittered, and the linear formation of the flakes lent itself to the creation of stalactitic forms.

The roof and walls of the main chamber at Wanstead were decorated not only with spar, but with a variety of large oyster, barnacle and *Haliotos* shells, worked flints, misshapen glazed ceramic pieces, brightly-coloured waste glass, coral fragments, minerals to reflect the light and other curiosities such as carved stones and antiquities. The floor of the main chamber was paved with black and white pebbles set in patterns of squares and circles. The story that the knuckle bones of deer were used as paving inside or outside seems to be apocryphal.[125]

An early description was written in April 1776 by Samuel Curwen, the American loyalist,[126] who noticed the 'very odd and uncommon' gate 'made of a scythe, hedge shears, dung forks, reap hooks, &c'. He then described the 'grotto': 'formed of earth, stone stumps &c excavated . . . into a room about 15 feet in diameter', with a concave roof and 'balcony of glass windows forming a skylight', the roof and walls covered with 'Shells, stones petrifyed substances', the flooring of 'small pebbles not bigger than the top of one's thumb of a variety of colours and figures'; and commented upon the keeper's apartment, 'a beautiful little room or rooms', one 'lined with irregularly laid stones as if dug out of a mine'.

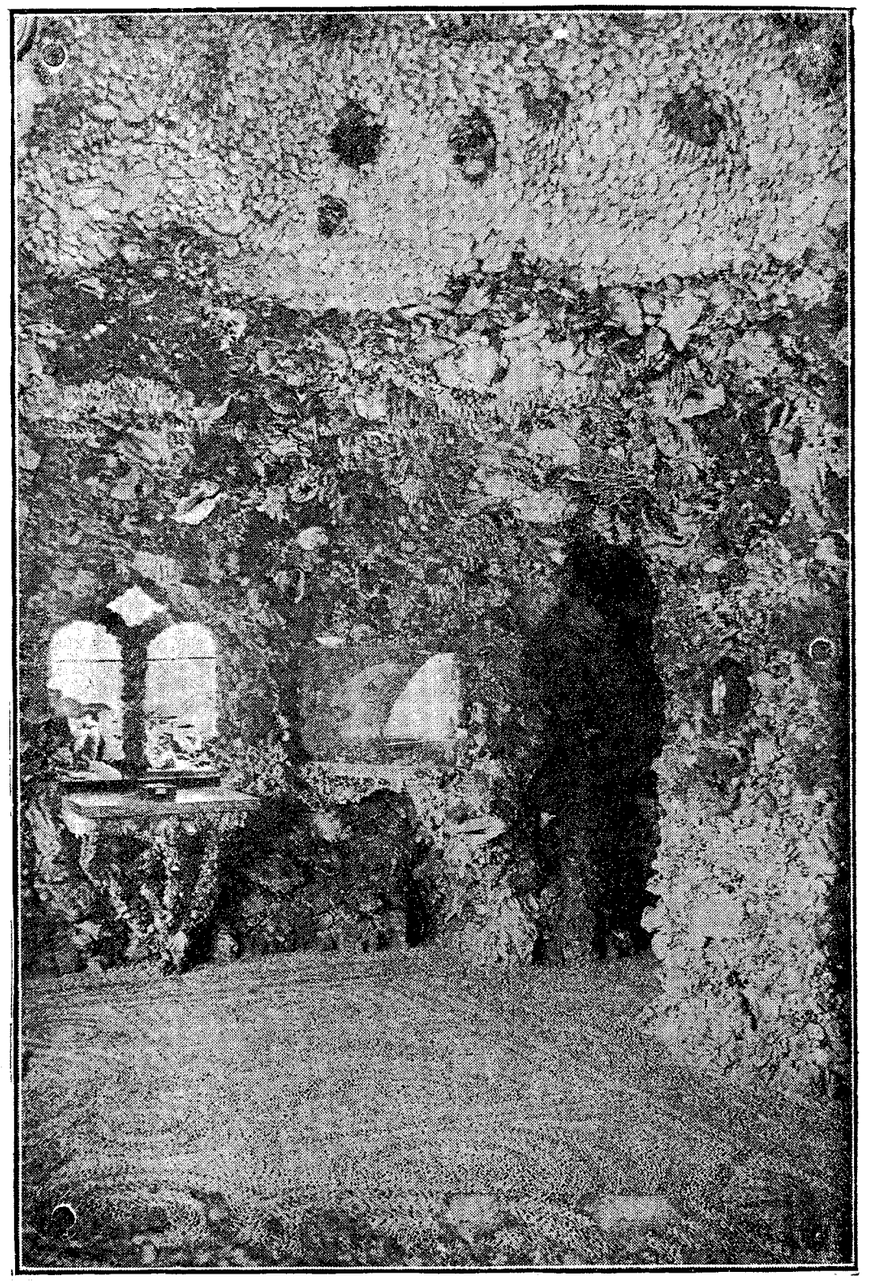
Even before the fire, the grotto was partially denuded of its ornament. During the sale, in 1822, it had to be closed because souvenir-hunters 'conveyed away fragments'.[127] This process went on over the years, but was accelerated after the fire of 1884, which reduced the grotto to a shell and caused the collapse of the main chamber into the boat dock below. However, before that, the Corporation of London opened the Grotto to visitors, and a keeper looked after it.
architectural bits and pieces. Pieces of carved capital, acanthus leaf, and terracotta and stone urns have come to light, which must have become detached and fallen into the water over a number of years. There were also two pieces of the Bathstone eagle which had ornamented the top of the façade, and is just discernible in an old photograph.

[122] From the notes on a sketch of the grotto by Charles Heathcote Tatham, dated June 1822. Private collection.
[123] Items 62, 63, 55 and 56, page 387 of the 1822 Sale Catalogue.
[124] Items 47, 49, 50 and 51, page 386.
[125] J. Elsden Tuffs in 'The Grotto, Wanstead Park', an occasional paper, no.4 1970, of the Wanstead Local History Society, states that he found the knuckle bones of deer in front of the entrance, but although sections of pebble paving have been found recently during archaeological work, no trace of bones has reappeared.
[126] John Harris in 'Wanstead's Compelling Vista', *Country Life*, August 22, 1991, p. 62.
[127] Stead, *op. cit.*





32. (a) The causeway by the lake at the Boathouse-Grotto in 1998.
(b) The boat dock at the grotto, as revealed and consolidated in 1998.



33. A photograph of the grotto chamber before the fire of 1884 by G.W. Dunn of Woodford. From Oliver Dawson, *The Story of Wanstead Park*, 1894.

Sculpture at the Grotto

During work on the grotto in the winter of 1998, while the level of water in the lake was lowered, fragments of stone were visible in the water. These were removed to the bank and a number of sculptures were revealed. Many of the smaller pieces of moulded and carved stone and terracotta came from the façade of the grotto, which was decorated with a variety of rocks, minerals and Large fragments of carved stone figures probably came from the formal garden, although it is difficult to relate them to anything shown in the engravings or items in the sale catalogue. All were badly damaged and difficult to identify but appear to be parts of massive over-life-size figures. They are of Portland stone, and show high quality carving detail. One seems to be part of a crouching figure with head turned back and is possibly a slave or captive figure, or part of a group of wrestlers. The very active and contorted pose is reminiscent of Claude David's 'Prometheus' or 'Vulcan',[128] although the scale is very much larger. Another is clearly the torso of a figure of Andromeda, with chain and padlock visible.

There is no record that they were ever displayed at the grotto, although they may have been shown like fragments of antique statues. One possible explanation for their presence near the grotto might be that they were removed from the great canal garden when it was obliterated from the landscape and were in too damaged a state to be placed elsewhere or sold, and so were thrown into the lake. There are, of course, many other possible scenarios. I hope that further information will come to light.

There is a further twist to the story of statues at the Grotto. Early photographs from around the turn of the nineteenth century show that there were two figures on the façade. These are identifiable as Andromeda and an Allegory of Winter.[129] This Andromeda, however, is not the stone figure recovered from the lake. She is smaller, and the photograph shows that she has a hollow right arm suggesting that she was made of lead. This has recently been confirmed by the discovery of the statue in a private collection. It is similar in pose to the lead Andromeda by John Van Nost the Elder made for the garden at Melbourne Hall, Derbyshire, where she was complemented by Perseus on the other side of the main axis.[130] Both of these subjects were popular in the eighteenth century and both probably derived ultimately from statues at Versailles. A large Perseus and Andromeda group was made for the gardens to the designs of Pierre Puget in 1684.[131] An Allegory of Winter by François Girardon was executed in 1675-86. Was there originally a Perseus to rescue the Andromeda? Were the Wanstead figures purchased originally for the formal gardens,[132] or acquired for the grotto in the 1760s, or added later? [133]

Entertainments on the Water

The grotto was just one part of the elaborate permanent scenery at Wanstead against which entertainments were presented. There are very few direct references, but the following description is so exciting that it almost compensates for the lack of others.

[128] From Narford Hall, Norfolk, now at the V & A.
[129] It is similar in pose to the stone statue in the garden at Saumarez Manor, Guernsey.
[130] John Nost charged £45 for the pair on 16 November 1705. Documents at Melbourne Hall.
[131] Now in the Louvre.
[132] John Van Nost the Elder, or his shop, could have supplied the figure at that time. See Sheila O'Connell, 'The Nosts: a revision of the family history', *Burlington Magazine*, volume 129, December 1987, pp. 802-6.
[133] I am grateful to Malcolm Baker for discussing the sculpture with me.

Many lights appear in the trees and on the water. We are off and have great excitement fishing up treasure (fake) tied to bladders. His Lordship is hailed from the shore by a knight, who we are told is King Arthur, have you the sacrifice my Lord, who answers no, then take my sword and smite the water in front of the grot and see what my wizard has done, take also this dove and when asked, give it to the keeper. Off again to some distance from the grotto, the lights are small and water still, the giant eagle appears and asks, have you the sacrifice, no my Lord answers, so be it and disappears in steam. His Lordship smites the water with King Arthur's sword, all the company are still, a rumble sucking noise comes in front of the opening of the grotto the water as if boiling and to the horror of all the company both on the water and on the shore scream with fright, appearing as though from the depth of hell arose a ghastly coffin covered with slime and other things. Silence as though relief, when suddenly with a creaking and ghostly groaning the lid slid as if off and up sat a terrible apparition with outstretched hand screeching in a hollow voice, give me my gift with such violence, that some of the company fell into the water and had to be saved, and those on the shore scrambled in allways confusion was everywhere. We allmost fainted with fright and was only stayed from the same fate by the hand of his Lordship, who handed the keeper the dove (fake) the keeper shut its hand and with a gurgling noise vanished with a clang of its lid, and all went pitch. Then the roof of the grotto glowed two times lighting the water and the company a little, nothing was to be seen of the keeper or his coffin, as though it did not happen.

This extraordinary entertainment reputedly took place in 1768 and was witnessed by an Italian noblewoman staying at Wanstead House at the time, who is said to have recorded it in her journals.[134]

After the building of the Temple and the boathouse-grotto in the 1760s, Earl Tylney was not much at Wanstead. On his death unmarried in 1784, his fortune and estate, including Wanstead, passed to his sister's son, Sir James Long of Draycot, Wiltshire, who died ten years later. Wanstead then passed to Sir James Long's young son, and on his death in 1805, to his daughter, Catherine Tylney Long, then a minor. Wanstead was meanwhile let to the Prince of Condé, in exile from France.

Catherine Long and William Wellesley Pole

Catherine Long was destined to be one of the wealthiest women in the kingdom on reaching her majority, and had numerous suitors, including, it was rumoured, the Duke of Clarence, who was turned down. Amid great festivities she came of age in 1808, and Wanstead was prepared to receive her. In 1812, she married William Wellesley Pole, nephew of Sir Arthur Wellesley (who later became the Duke of Wellington). William took the name of Pole Tylney Long Wellesley, and Catherine became Catherine Tylney Long Wellesley.

The house was extravagantly redecorated for festivities on the birth of their son and for a fête to welcome the Duke of Wellington in 1814, and it may well have been prior to this occasion that they began to consider changes to the grounds. They consulted both Humphry Repton and Lewis Kennedy in the period 1813-1818, which resulted in large plantations of trees, the draining of the Reservoir, and the formation of an American Garden.

[134] See Julian Litten, *The English Way of Death, The Common Funeral Since 1450*, Robert Hale, 1991, pp. 104-105. The description has not been checked, since I have so far failed to locate Stuart Campbell-Adams, who provided the information to Julian Litten. Any information on this source would be gratefully received.

Repton at Wanstead

Wanstead is not mentioned by name, but in his *Fragments on the Theory and Practice of Landscape Gardening*[135] Repton refers to 'a place near the capital', and provides an illustration with a flap from which Wanstead may be identified (*figs 34, 35*). Confirmation is provided by Robert Havell, writing in 1823, who reported that the area near the house had been 'lately laid out and adorned as a rich parterre, or flower garden; and as it has been executed to the designs of Mr. Repton, we have every reason to anticipate a tasteful and beautiful result . . .'[136] Repton refers to having been recently consulted, and there is evidence that his association began about three years earlier, in 1813. His first visit was made in April 1813, followed by his report in September of that year.[137] To his chagrin, this remained unbound,[138] although he had hoped that it would have been shown off to influential members of the Wellesley family, and was included in the 1822 sale catalogue[139] as a portfolio of 'Repton's Drawings of Plans for Improving the Grounds at Wanstead House, (15)'. A copy of Repton's *Observations on the Theory and Practice of Landscape Gardening* of 1803 was also in the library at Wanstead.[140]

His report is carefully worded. It represents a statement of views which he knew might not be particularly welcome and it is interesting because it is a mirror of the admiration with which the grand layout of Wanstead, although considered old-fashioned, was still regarded. Because the original layout was etched so strongly on the landscape, he had to consider how, if at all, to accommodate any modernisation, and how to blend the old and the new - a problem no less difficult in considering present-day conservation of the garden at Wanstead:

> the original plan of this Place must ever (be) strongly traced in many parts . . . and it is impossible to be quite obliterated in conformity with modern styles. It is therefore an object worthy of consideration, whether the original, or a more recent style, be advisable; and how far both may be admitted, without the incongruous mixture of two things so opposite, that they cannot be blended in one rational plan.

He did not recommend sweeping changes. He said: 'It would be absurd in this place to conform to the modern style, of placing the house in the centre of its domain, from which every thing is banished, but the beasts of the forest.' Instead, he suggested that it should be treated according to its character of a 'splendid Palace' in the vicinity of the metropolis, like Versailles, Potsdam or Kensington. He considered the gate opening directly into the forecourt as the 'dressed limit' of such palaces, and he proposed for this area at Wanstead 'the richness of a symmetrical parterre', which would be 'more consonant than a square area of lawn, too small to be fed by flocks and herds, and too large to be considered a bowling-green'. This would be visible from the main first-floor rooms like a 'rich carpet spread under the eye in perfect harmony with the vases and obelisks'. He also suggested a 'clipped fence' to retain privacy. Buckler's view of the house taken

[135] Published in 1816, Fragment XXVI, pp. 129-36.
[136] Robert Havell, *A Series of Picturesque Views of Noblemen's and Gentlemen's Seats with Historical and Descriptive Accounts of each Subject*, 1823.
[137] See Stephen Daniels, *Humphry Repton: Landscape Gardening and the Geography of Georgian England*, Yale UP 1999, p. 251, quoting a letter of Humphry Repton to William Repton of 24 April 1813, Huntington Library, San Marino, California, HM40892.
[138] Letter from Humphry Repton to William Tylney Long Pole Wellesley of 22 September 1813, Beinecke Library, Yale University.
[139] Under Books, lot 447, p. 298.
[140] Under Books, lot 371, p. 292.

in 1823[141] only suggests this feature, but it was executed and the main lines of the parterre are still visible as ridges on the ground (*fig. 36*).

Repton then turned his attention to the wider landscape, including the distant views of London and the dome of St Paul's. These had been visible when the gardens were first planted, but had become obscured by the growth of the trees which he proposed to cut down in order to reveal the lakes and the longer view.

He commented that because the surroundings were relatively flat, the area depended on 'the wood and the water' for its effect, but there was little except formal regularly-spaced woodland in the park and the pieces of water were exposed and looked unnatural, with naked banks. This could be improved by clothing them 'very amply'. The survey of 1990[142] revealed that a great deal of planting was done at this time around the lakes, which made for a more private landscape and increasingly 'furnished' views from the house as the trees grew.

Repton's method for furnishing pleasing clumps of trees and improving views incorporating woodland was shown in two sketches by him[143] and can be very well illustrated in practice at Wanstead. He maintained that the beauty of groups of trees depended on their being planted two or three close together so that their trunks would lean outwards and their branches intermingle. This could be achieved by two or more being planted in the same hole, after having their roots cut to enable them to be brought nearer together. In addition, he often employed lower bushes to give a more furnished appearance, and if these were thorns, as they often were, they would serve as 'nurses' in protecting young trees from animals. Beeches planted in this way survive at Wanstead in areas close to the lakes as Repton recommended. There are also similar plantings of oaks, one of which has a girth of 406 centimetres (about thirteen feet four inches), with about ten trees in the hole.

John Doyley's plan of Wanstead of 1815-16[144] shows the Repton parterre clearly, as well as the lake, the grotto island and the other large island on the south-west of the lake, together with new plantings near the water (*fig. 37*). The Reservoir was filled in, probably on his advice, since it is here shown as a field.

Lewis Kennedy

The final episode in the story of the changes to the gardens by the descendents of Josiah Child came in 1818. John Claudius Loudon in his *Encyclopaedia of Gardening* of 1822 noted that the then owner of Wanstead had 'made great improvements; erected extensive hot-houses in the kitchen-garden, and formed one of the largest American gardens in the kingdom, from designs by Lewis Kennedy, Esq.'. It is not quite clear whether all these improvements are attributable to Kennedy, nor exactly where they were. However, it is clear that Kennedy was responsible for the design of the American Gardens, and his *Notitiae*[145] give the date of 1818 for this.

[141] British Library, Add MS 36362, ff.114-118.
[142] Survey for the Corporation of London by Debois Landscape Survey Group, the Royal Commission on the Historical Monuments of England and the Institute of Advanced Architectural Studies, York, 1990.
[143] Humphry Repton, *Observations on the Theory and Practice of Landscape Gardening*, 1803, pp. 47-48.
[144] ERO D/Dcy P2A.
[145] Private collection.



37. John Doyley: Plan of Wanstead, c.1815-16. Essex Record Office D/Dcy P2A. This shows the Repton parterre in front of the house and the roughly oval American garden slightly to the north-east.

THE GARDENS OF WANSTEAD

Lewis Kennedy[146] developed a flourishing career as a landscape gardener in the early nineteenth century, submitting his proposals to his clients in the form of green morocco-bound volumes containing a descriptive hand-written text, a few monochrome sketches and larger watercolours illustrating his ideas. He generally suggested a wide variety of effects and came to specialise in flower gardens. His 'green book' for Wanstead was in the 1822 sale catalogue as lot 407 on page 295, under the title *Notitiae, with illustrative Sketches for American Garden at Wanstead, by Kennedy, original Drawings, &c. most sumptuously bound in green morocco*.
The *Notitiae* introduce Kennedy's ideas very circumspectly. He clearly feels that Wanstead is old-fashioned, but he praises the 'abilities of some of our first masters for Gardening and Architecture' who helped to form the landscape and comments that the 'original style' of the gardens has been preserved. He finds this to be in the 'regular and symmetrical fashion', and proposes something more related to 'nature's free growths'.

He reported that the trees and shrubs in the existing American garden were flourishing, which indicated that the ground was not 'improper'. American gardens required acid soil to accommodate the specimen trees and shrubs from the American continent. Kennedy's plan indicates his ideas for the new area, which would provide a long arbour walk, winding paths, alcoves and seats, a covered walk and a semicircular Italian Garden bordered by a trellised seat and a rock garden.

This principal feature, which he calls, on his watercolour sketch, the 'Rock Italian Garden', would be semicircular in shape, bordered by rockwork and with flower beds in the centre. He had designed something similar for the garden at Chiswick Villa in 1814. The flower beds would be planted with a succession of hardy flowers of low growth, such as pinks, stocks, lilies, iris, and so on, with some small shrubs like daphnes and ericas. The crevices between the rocks were to be filled with plants, such as sedums, wallflowers and plants that grow in rocky situations. Kennedy says that it would be more appropriate to have streamlets of water flowing from vases on the rocks, but concludes that 'in our frozen regions' this would not be practical. He recommends a rustic alcove for the Rock Garden, which would be covered with climbing plants to hang in festoons.

One of the other main features was to be the 'Sinarium' and pheasantries. The Sinarium was for plants requiring heat in winter, which was believed to be the case with camellias, tree peonies, magnolias, nandina and China roses. This would have a pheasantry at each end. The building could be totally removed in summer, leaving the plants in the ground.

John Doyley's plan of 1815-16, already referred to, clearly shows where this American Garden was situated (*fig. 37*). It appears as an island of more intense cultivation to the north of the grassed walk behind the house, circled and crossed by paths. At the time of the sale in 1822, it contained a pair of lead vases with eagle ornaments and a pair of stone pedestals with sculptured tablets. There was also a stone pedestal with a 'curious antique Egyptian stone ornament on the top, sculptured in hieroglyphics'.[147] This was apparently a pyramidion[148] from the tomb of Princess Tia, one of the sisters of Ramesses II. It had been in the collection of Smart Letheiullier, who had bequeathed it to the British Museum, but it did not arrive there and was reported to be in the garden of Sir James

[146] Jan Woudstra, 'Lewis Kennedy, landscape gardener, and his work at Buckhurst Park', *Apollo*, 1992, pp. 215-221.
[147] Sale catalogue, page 118, lot 279, which was not sold.
[148] Pyramidal portion forming the apex of an obelisk.

Tylney Long where it was seen by the Danish scholar, Georg Zoega. Smart Lethieullier may have given the pyramidion to Earl Tylney, who shared his interest in collecting.[149]

The Sale and Demolition of Wanstead House

Catherine and William did not enjoy Wanstead for long, for their financial situation quickly deteriorated until it was out of control. Amid allegations of unbridled extravagance and scandal, the contents of the house were put up for auction in 1822 to satisfy Wellesley's creditors. The sale attracted great crowds and was like a fair, with entry by catalogue, which gave free access to every part of the house. 'Every description of vehicle has been put in requisition, and immense crowds of elegantly dressed females have daily visited the house and grounds', read a newspaper report.[150]

The house itself was sold in 1823, again at auction, for £10,000, the purchaser being bound to clear everything away down to the foundations by Lady Day 1825. The purchasers were Messrs Stannard and Athow of Norwich, with de Carle, Wright and Coleman, also of Norwich. It was announced that they intended to sell everything by lots, and they were reported to have sold a pair of marble chimneypieces for 300 guineas before they left the saleroom.[151]

When the demolition of the house was in progress and later 'a good many memorials came into the possession of residents in the villas of the neighbourhood', as one report puts it.[152] A number of items went to Wanstead House, Cambridge, including a handsome doorcase, a white marble chimneypiece, a wrought-iron stair balustrade, and items of panelling. The rooms from which they came have not yet been identified. The following have been identified as originating or possibly originating in Wanstead House and gardens: a library table in the manner of Kent, now at Chatsworth (lot 26 in the sale catalogue); a giltwood and gesso suite of furniture attributed to James Moore, known as the Wanstead Suite, c.1720;[153] two chimneypieces in the great hall at Chillingham Castle, Northumberland, which were brought in by Sir Jeffrey Wyatville in 1828;[154] four Corinthian capitals and entablature of the portico at Hendon Hall, Hendon, which was described in Keane's *Beauties of Middlesex*, 1850, as having a carriage front 'adorned with pillars and enriched capitals, brought from Wanstead House' (possibly bought by Samuel Ware, an architect, who owned the Hall by 1828, and may have acquired other artefacts from Wanstead such as balustrading, urns and obelisks);[155] ebony chairs said to have gone to Lord Macdonald of the Isles, according to Hiram Stead;[156] an obelisk at The Warren, Loughton, which may have come from the forecourt; two very large stone capitals and two ball finials, as well as some other stone fragments, at Snaresbrook House, Woodford Road, Snaresbrook (which may or may not have some connection with Wanstead House itself, or the Green House, which was in fact taken down in 1799); and a large ball finial at The Temple,

[149] Information received from Julian Litten and Professor Geoffrey Martin, quoting Zoega, *De origine et usu obeliscorum*, Rome 1797.
[150] Stead, *op. cit.*
[151] Stead, *op. cit.*; RCHME *City of Cambridge*, 1959, part 2, pp. 371-2.
[152] Stead, *op. cit.*
[153] An armchair was shown at *In the Public Eye*, an exhibition at the Fitzwilliam Museum, Cambridge, 1999, item 50. The location of the suite is unknown.
[154] See Pevsner, Grundy, McCombie, Ryder, Welfare, *The Buildings of Northumberland*, 1992, p. 229.
[155] See Bridget Cherry and Nikolaus Pevsner, *The Buildings of England: London 4: North*, Penguin, 1998, pp. 164-5; information from Georgina Green.
[156] *Op. cit.*

Wanstead Park. Fragments of carved stone were reported in the neighbourhood early this century, and some relics in the park itself, used as stepping-stones across the stream connecting the lakes. It remains to be seen what these clues will reveal.[157]

After the demolition of the house, the grounds entered a period of neglect. Some of the timber was felled and sold and the land was used for grazing. Wanstead Park remained in the ownership of the Wellesley family. The acquisition of part of it in 1882 by the Corporation of London as the Conservators of Epping Forest both protected it as an open space and inaugurated a new era for it as a public park. Part was retained by Earl Cowley and then after consideration for speculative housing was sold in 1920 for a golf course.

Conservation at Wanstead Park

Although the features of the historic landscape are not far to seek (they are well preserved as earthworks, with the remnants of old plantings), Wanstead Park has now acquired a particular character of its own, which is very different from even its early nineteenth century form. It is much appreciated as a nature reserve, and the woods and lakes have a wildness which has encroached on the landscape of the past. Dutch Elm Disease and old age have destroyed many trees, as have severe storms.

The Corporation of London commissioned an extensive survey of the park in 1990 from Debois Landscape Survey (*fig. 38*).[158] A phased Management Plan of conservation and improvement has now been commenced. It is not intended to change the present character of the area, but to conserve and enhance those features of the historic landscape which survive and restore others, and to safeguard and extend the ecological richness of the park, with the aim of increasing the public's enjoyment. For example, the mounts and amphitheatres are being cleared of scrub and invasive roots and their yew hedges replanted, overgrown paths and vistas are being cleared and re-cut, a partly-surviving avenue of lime trees in the outpark and other remnants of avenues are being repaired, and the double avenue of sweet chestnuts leading from the Temple to the Heronry Pond (the present name for the westernmost of Rocque's Serpentine Lakes) has been replanted. The second stage of repair and refurbishment of the Temple was completed early in 1997, and the boathouse-grotto is being maintained as a ruin by regular consolidation.

The deterioration of the Heronry Pond has long been a matter of concern to local residents and the Corporation. It is hoped to overcome the problem of severe leaking by installing a water pumping system, which will replenish the Heronry Pond and benefit the other lakes as well. Repair work there is envisaged in the future, to restore the water and the islands. Perhaps the island-grotto there will one day give up its mystery.

This publication is presented as research in progress, and concentrates on the eighteenth century history of the estate. The material on the demise of Wanstead is quite extensive, and I have not yet

[157] Baggs, 'The After-Life of Wanstead', *Georgian Group Journal*, volume VI, 1996, pp. 131-133. Hiram Stead includes an unattributed clipping with the comment: 'It is evident, too, that when the demolition of the Great House was in process, or in the period of subsequent neglect and decay, a good many memorials came into the possession of the residents in the villas of the neighbourhood . . .'
[158] See above, note 1.

had an opportunity to examine all the documents relating to it. There remain numerous questions, particularly about the authorship of the garden designs in the era of the first and second Earls Tylney. I should welcome any further information on all aspects of the history of Wanstead House and gardens.

Finally, I should like to acknowledge with thanks the work of previous scholars, and two in particular who have made considerable contributions to the Wanstead story: John Harris, who has written several times about both house and garden and has been generous in sharing information, and John Phibbs, whose report to the Corporation of London provided the basis for my own research. My thanks also go to colleagues at the Corporation of London, who have encouraged this work and shared information with me, especially Bill Row, James Clare, Julian Kverndal and Tricia Moxey.

Alan Baxter

Prepared by Victoria Bellamy
Reviewed by Vicky Simon
Issued 13 September 2019

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Committee(s)	Dated:
Epping Forest Consultative – For consultation Epping Forest and Commons – For decision	21102020 16112020
Subject: Path Management: Policy Development Note SEF 23/20b	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	**12.**
Does this proposal require extra revenue and/or capital spending?	**N/A**
Report of: Colin Buttery, Director of Open Spaces	**For Decision**
Report author: Geoff Sinclair, Head of Operations, Epping Forest	

Summary

The Epping Forest Management Strategy 2020-30 approved by your Committee in November 2019 proposed Policy development around the management of the Epping Forest public rights of way and formal and informal paths networks. Initial appraisal work has found 41km of public rights of way; 81km of managed routes and a further 76km where the City of London Corporation has a management responsibility.

This report outlines the Policy Development note (PDN) that has been prepared on Path Management. The property and significant management considerations described in the PDN have been outlined along with the management strategy. A revised path management process is proposed and will require ten years to transition from the current reactive to a planned management process. By adopting a phased approach that focusses on the higher public access areas first it is planned that the initial costs will be kept within current local risk budget. Wider adoption of the approach is likely to require additional resources and will be subject to a review and report to your committee before progressing.

Recommendation(s)

Members are asked to:

i. Adopt Option1 where it is proposed that path management transitions over a ten-year period from a largely reactive process to a planned management process.

Main Report

Background

1. On the 18 November 2019, your Committee approved the Epping Forest Management Strategy for the period of 2020-29. As part of the strategy existing operational activity in main geographical locations and for key activities is being reviewed.

2. The review process comprises a reappraisal of the City Corporation's (CoL) property management issues alongside other significant management considerations, to provide an overview of current practice and an outline of longer-term aspirations.

3. This report outlines the Path Management Policy Development Note (PDN) that has been prepared as part of the review.

Current Position

4. Epping Forest and the Buffer Lands stretch for over 19km (12 miles) from East London into south-west Essex. Visitors are encouraged to access the Forest and Buffer lands on foot, cycle or horseback only, with the following conditions applying:

    a. Pedestrians: Visitors on foot have the right to access all areas of Epping Forest at any time of the day. Buffer Land access is permitted along Public Rights of Way (PRoW) and on Permissive Open Access sites and permissive routes.

    b. Cycling: Cycling is permitted throughout the Forest except for the Scheduled Ancient Monuments (SAM) of Loughton Camp, Ambresbury Banks, Pole Hill, along Loughton Brook Regionally Important Geological Site (RIGS), around Connaught Water and on the Easy Access trails. Wanstead Park has a defined cycle route with no cycling permitted elsewhere in the park and cycling is only allowed on the Buffer Lands along Public and permissive bridleways.

    c. Horse riding: Horse riding is permitted throughout the Forest, except for out-of-bounds areas marked on the horse-riding booklet/guide on payment of an annual licence. In the winter months access is limited to the surfaced ride network only. On the Buffer Land riding is on designated public and permissive bridleways only.

5. The current managed path network has developed over time, with individual routes arising from a range of initial objectives, such as improving the connectivity of the PRoW on the Buffer Lands or providing all weather routes in the Forest. Management of the different path types has, in practice, over the years been combined under the following principles:

    a. Natural paths: Paths with minimal intervention to maintain their accessibility. In most cases, this path type best meets biodiversity and heritage obligations;

b. All-weather routes: Surfaced paths responding to difficult ground conditions are appropriate on routes across the Forest and Buffer Lands where there is an approved strategic management or public access need. The maintenance obligations associated with the all-weather route network influences the Charitable trust's ability to develop further all-weather provision;

c. 'All-ability' paths: Installed at locations where there is a significant need for higher accessibility standard paths. The creation and maintenance costs of these significantly restricts the provision of these highly accessible all-weather routes.

6. There are 41 km of public rights of way (PRoW) in Epping Forest and the Buffer Lands. In addition, there are around 81 km of paths designated by the CoL as managed routes suitable for horse riding, cycling and walking, with some routes seasonally unavailable for riding and cycling. Across the Forest there is an unquantified network of unofficial paths. A review of the path network in 2019 identified 198 km of paths where the CoL could be considered to have a management responsibility.

   A notable outcome of the 2019 path audit is that the managed path network is significantly greater than previously considered and that its condition is showing the effect of under maintenance. This has highlighted a need to reassess the largely reactive approach to path maintenance currently adopted.

Proposals

Overview of the CMP

7. The Path Management PDN outlines the Property Management context and significant Management Considerations impacting on the management of the path network before presenting a management strategy and outline management program.

Management Strategy

8. The overall objectives for the path management program at Epping Forest are:
   a. To have an annual management programme that ensures we meet the City of London Corporation's (COL) requirements under the Highways Act (1980) and Epping Forest path management standard specifications;
   b. To ensure the path network accessibility is appropriate for a semi-wildland to wildland environment and Special Area for Conservation;
   c. To integrate path management into wider operational habitat and landscape management; and,
   d. To provide a path network in a safe condition and fit for the type of traffic which is ordinarily expected to use it.

Management Considerations

9. There are a wide range of management considerations given in the report and these have been summarised below:
   a. Ecological: Paths and their verges can facilitate the movement of species across the Forest and historically they were a refuge for heathland and

open ground species. The large extent of the path network is an opportunity to promote wildlife conservation benefits.

b. Heritage: The Forest's path network is set within a historic landscape long inhabited with man-made structures dated to around 500BC. A number of paths form part of what once were a network of long used routes such as drove roads. A separate Policy Development Note will be prepared concerning the management of these historic routes in 2021/22.
c. Access: The predominant clay soils in the Forest mean that during the 5-6 months in the winter important routes are very poor to impassable. Seasonal inaccessibility is a concern in central and southern areas where the Forest can represent the only nearby open space for many people. The forthcoming Sustainable Visitor Strategy will provide an assessment on the future shape of the access needs in the Forest.
d. Property: Third party agencies under specific agreements have upgraded paths across the Forest. Maintenance of these paths by the third party has however been mixed over the years. The CoL's obligation under the Occupiers Liability Act 1957 indicates that management of these routes needs more active engagement with the third parties concerned to ensure that these paths are appropriately maintained.
e. Community: The 12-mile elongated and largely linear nature of the Forest means that it passes through many communities and in many instances, it is the main public open space for the communities concerned. Access development to the Forest from these local communities has been largely organic and unplanned. It is proposed that a new Local Forest Access Point be trialled with the aim of making it more welcoming to local residents approaching on foot and the outcome assessed in terms of its impact on reducing car-based visitors.
f. Finance: A legacy of the former reactive process is that additional works will be required to ensure paths meet the relevant specification. It can also be anticipated that additional ongoing maintenance will be required to continue to ensure paths meet the design specification. It is proposed that initially planned path management is concentrated on the higher access areas to develop a better understanding of the financial impact of the changes. Following a review and report to your committee the management process would be extended to the less busy paths. Condition monitoring would however be applied to all paths.

Property Management Context

10. The main property management issues impacting upon path management are:
    a. Tree Safety: All Official paths, natural or all-weather, and waymarked trails are managed under the Tree Safety Policy. It is proposed in the PDN that all Public Rights of Way across the Forest and Buffer Lands and Informal Paths in Wanstead Park are also included as paths managed under the Tree Safety Policy. It is proposed that for Informal Paths (excluding Wanstead Park), the tree safety response would be that a site visit will be undertaken in response to any reported problems by users to assess the situation;
    b. Statutory Designations: Many paths are within the Site of Special Scientific Interest (SSSI) and/or Special Area of Conservation (SAC) and can impact on the Registered Park and Gardens (RPG) and SAMs within the Forest

and Buffer lands. Consents from the responsible authorities will be required for some activities;

c. Access infrastructure: Policy and practice concerning individual access infrastructure types, eg bridges, boardwalks and culverts, is covered under the Forest Furniture Policy Development Note, which will be completed in 2021. With predominantly clay soils, the presence of drainage and the condition of the drains are a defining criterion for the condition of path surfaces. Drainage concerns have been identified in the 2019 audit for 25.5km of the official path network and it is proposed that the path drainage network be mapped and recorded, including its condition, in the next phase of the audit process;
d. Public liability: The relative responsibilities regarding public liability for public rights of way, formal and informal paths needs to be more clearly articulated in the future Paths Management Strategy.

Outline Management Program

11. The PDN presents an outline management program for taking forward the revised path management process. Key activities to be delivered as part of the outline management program are:
    a. Risk Monitoring: It is proposed that we considerably increase the routine monitoring of the path network and its condition. This involves two aspects of monitoring, tree safety and path condition. It is proposed that we undertake much of this with appropriately trained Volunteers.
    b. Review: As part of the ongoing development of the revised path management process several policy and procedural reviews are proposed. A key policy review will be the appropriateness of designating all or part of the Forest and Buffer lands as Open Access Land under the CROW Act.
    c. Improvement programme: Over the next ten years it is envisaged that there will be two possible path improvement projects. The Sustainable Visitor Strategy may identify potential changes to the path network and the encouragement of modal shift by promoting walks from public transport linked Local Forest access Points.
    d. Finance: It is recognised that there will be some additional costs arising from the need to ensure paths meet agreed standards. This is difficult to quantify at present. It is proposed that in the first instance, and within existing resource levels, planned maintenance work focuses on the higher public access areas and this be reviewed the finding presented to your committee before possible wider adoption across the Forest. Path condition monitoring will be undertaken for all routes and safety problems responded to as required.

Options

12. Your Committee are asked to consider three options:

13. **Option 1**: It is proposed that path management transitions over a ten-year period from a largely reactive process to a planned management process. By adopting a phased approach that focusses on the higher public access areas first, it is planned that the initial costs will be kept within current local

risk budget at the same time as prioritising management risks in the more significant areas. **This option is recommended.**

14. **Option 2**: Do not approve the Path Management PDN. This would result in the continuation of the reactive management process which has been shown to have resulted in concerns over under management in vegetation and drainage as well as poorly meeting current public liability management standards. **This option is not recommended.**

    Option 3: The full implemnetation of the planned management process across the whole path network. This would lead to a wider improvement in the accessibility of the path network however it would also be a signiifcant and currently unquantifiable increase in revenue and capital expenditure. **This option is not recommended.**

Corporate & Strategic Implications

Strategic implications

15. City of London Corporate Plan 2018 - 2023: the restoration and maintenance of the internationally and nationally important habitats of Epping Forest directly underscore the *third pillar* of the Corporate Plan, which is to "*shape outstanding environments*". The development of ISP's and PDN form part of the operational planning to achieve this aim of the Corporate Plan.

16. Open Spaces Department Business Plan 2020-21: The proposals in the PDN contribute towards meeting the following outcomes of the plan: 1,3,4,5,7,8,9 and 11.

Financial implications

17. The first phase of the outline management program has been framed to fit within existing levels of local risk spend. The wider application of the revised path management program across the Forest and Buffer lands will require additional resources. The first phase development process will be to quantify the longer-term resource needs and identify how they can be met. These details would be brought to your Committee for further approval.

18. Good practice in path management should reduce our financial liability arising from personal injury claims against the CoL.

19. Being registered as Open Space under the CRoW act 2000 has the potential to reduce our financial liability for personal injury claims.

Legal implications

20. Subject to the provisions of the Epping Forest Acts 1878 & 1880 the Conservators are under a duty at all times to keep Epping Forest uninclosed and unbuilt on as an open space for the recreation and enjoyment of the public. They are also under a duty at all times as far as possible to preserve the natural aspect of the Forest.

21. The proposal to review landowner duty of care responsibilities will require legal consideration and this review would be developed in association with the CoL's legal team.

Charity Implications

22. Epping Forest is a registered charity (number 232990). Charity Law obliges Members to ensure that the decisions they take in relation to the Charity must be taken in the best interests of the Charity.

Equalities implications

23. No negative equality impacts were identified for this proposal.

Climate implications

24. None.

Security implications

25. None.

Epping Forest Consultative Committee

26. Members of the Epping Forest Consultative raise the following issues:

- The impact of 'Desire Lines' and what is being done about them, including one created by cyclists:
- Concern expressed that the Forest is park and we should be cautious on this.

27. It was reported that as a designated Public Open Space people have the right to walk anywhere which makes it difficult to intervene to prevent use. The PDN does outline a process for where a path adversely impacts the site in some way and this will allow assessment of specific substantive concerns. Also the PDN proposes making well used Desire paths 'Informal Path' which have a slightly higher management intervention. An important aspect of the PDN was to establish that the Forest is a 'Semi wild land' area and not a park our country park and the path management proposals seek to align with this definition.

Conclusion

28. A PDN has been prepared on path management. This identifies the property management context and other significant management considerations that should be considered.

29. A management strategy is presented along with an outline management programme which recognises that the next ten years will be a development period where we transition towards a planned management regime.

30. The first phase proposals would be achieved through existing Local Risk resources and are likely to reduce the CoL's long-term financial liabilities arising from public liability claims.

31. Longer-term it is anticipated additional resources would be required and quantifying this need will be part of the first phase of works with a review and report to your committee scheduled for 2025.

Appendices

- Appendix 1 – Path Management: Policy Development note (2019)

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Path Management

Planning and Development Note

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Path Management

PLANNING AND DEVELOPMENT NOTE

INTRODUCTION

Forest Operations Planning and Development Notes (PDN) aim to audit and collate the City of London (CoL)'s organisational and health and safety risk management issues for key activities, alongside other management considerations, to give an overview of current practice and outline longer term plans. The information gathered in each report will be used by CoL to prioritise work and spending, in order to ensure firstly that the CoL's legal obligations are met, and secondly that remaining resources are used in an efficient manner.

Each PDN will aim to follow the same structure, outlined below:

- Background – a brief description of the activity being covered;
- Existing Management Program – A summary of the nature and scale of the activity covered;
- Risk Management Issues – a list of identified operational and health and safety risk management issues for the site;
- Management Considerations – a list of identified management considerations for the activity;
- Management Strategy – a summary of the key operational objectives for the activity;
- Outline Management Program – a summary of the key management actions identified with anticipated timelines for completion;
- External Operational Stakeholders – a list of external stakeholders who have an operational input to and who have been consulted as part of the compilation of the PDN;
- Appendices.

BACKGROUND

Epping Forest and the Buffer Lands stretch for over 19km (12 miles) from East London into south-west Essex. Much of the Epping Forest area (2,469 ha) is a mixture of ancient woodland, heaths, bogs, ponds and grassy plain, while the Buffer Lands is mainly agricultural grassland. Overall, the land is informal and predominantly semi-natural countryside with around a third designated as a Site of Special Scientific (SSSI) and/or Special Area of Conservation (SAC).

The 1878 Epping Forest Act charges the Conservators of Epping Forest with the responsibility of preserving Epping Forest as an open space for the recreation and enjoyment of the public forever[1]. As lifestyles have changed over the decades so has the nature of the public's recreational choices. For many years the Forest was the favourite day out destination for people from the east end of London. Charabancs and coaches would bring thousands to visit the 'retreats' and various entertainments held in the Forest. Today, many people value the Forest more as a place to enjoy a semi-wilderness through walking, running, cycling and horse-riding.

People are permitted to access the Forest and Buffer lands on foot, cycle or horseback only, with the following conditions applying:

Pedestrians: Visitors on foot have the right to access all areas of Epping Forest at any time of the day. Buffer Land access is permitted along Public Rights of Way (PRoW) and on Permissive Open Access sites (Table 1) and permissive routes.

Cycling: Cycling is permitted throughout the Forest with the exception of the Scheduled Ancient Monuments of Loughton Camp, Ambresbury Banks, Pole Hill, along Loughton Brook RIGS site, around Connaught Water and on the Easy Access trails. Wanstead Park has a defined cycle route with no cycling permitted elsewhere in the park and cycling is only allowed on the Buffer Lands along Public and permissive bridleways.

Horse riding: Horse riding is permitted throughout the Forest, with the exception of out-of-bounds areas marked on the horse-riding booklet/guide (including the SAC heathlands) on payment of an annual licence. In the winter months access is limited to the surfaced ride network only. On the Buffer Land riding is on designated public and permissive bridleways only.

Table 1: Permissive Open Access sites, Epping Forest Buffer Lands

SITE NAME	LOCATION	AREA (ha)
Warlies Park	Upshire	116
Copped Hall Park and Raveners	Upshire	97.1
Swaines Green	Epping	5.4
Coopersale	Epping	13.5
Birch Hall Fields	Theydon Bois	6.1
North Farm	Loughton	23.1
Woodredon Estate	Upshire	30.6
Monkhams	Aimes Green	16.9

[1] Queen Victoria dedicated Epping Forest in 1878

The Conservators' access policy is currently to encourage and facilitate the use of the Forest and Buffer Lands in such ways that do not cause damage, compromise the natural aspect, harm wildlife or interfere with other users[2].

Section 7(3.) of the Epping Forest Act 1878 places a statutory duty on the City of London Corporation, acting as the Conservators of Epping Forest, to '*at all times as far as possible preserve the natural aspect of the Forest…*'. The 'natural aspect' is not defined within the Epping Forest Act, however, in the context of Epping Forest, Thomson (2017)[3] concludes the natural aspect represents a particular appreciation of the wildness of nature, while at the same time embracing the rural traditional landscape management through 'peasant' pursuits such as grazing, pollarding, which in turn is framed by sparse rural features such as earthworks, ruins, bridges and mills.

The current path network has developed over time, with individual routes arising from a range of initial objectives, such as improving the connectivity of the PRoW on the Buffer Lands or providing all weather routes in the Forest. Management of the different path types has in practice over the years been combined under the following principles:

- *Natural paths*: Paths with minimal intervention to maintain their accessibility. In most cases, this path type best meets biodiversity and heritage obligations;
- *All-weather routes*: Surfaced paths responding to difficult ground conditions are appropriate on routes across the Forest and Buffer Lands where there is an approved strategic management or public access need. The maintenance obligations associated with the all-weather route network influences the Charitable trust's ability to develop further all-weather provision;
- *'All-ability' paths*: Installed at locations where there is a significant need for higher accessibility standard paths. The creation and maintenance costs of these significantly restricts the provision of these highly accessible all-weather routes;

The Access Policy for Epping Forest is being revised and due for completion in 2020/21. This Path Management PDN anticipates the Sustainable Visitor Strategy and sets out to first describe the nature and extent of the path network across Epping Forest and the Buffer Lands and second, identify management standards and impacting considerations for the different paths types. Finally a management strategy to ensure stated standards will be met is outlined.

[2] Epping Forest 2010: The Management Plan for Epping Forest 2004 to 2010. (Page 77)
[3] Paul Thomson (2017) Unpublished note on 'Defining the 'Natural Aspect''

EXISTING MANAGEMENT CONTEXT

Path Network

There are 41 km of public rights of way (PRoW) in Epping Forest and the Buffer Lands. In addition, there are around 81 km of paths designated by the City of London as managed routes suitable for horse riding, cycling and walking, with some routes seasonally unavailable for riding and cycling. Across the Forest there is an unquantified network of unofficial paths. A review of the path network in 2019 (Table 2) identified 198 km of paths where the City of London has a management responsibility.

Table 2: Forest and Buffer Land path types and managed length

Path Type	Description	Managed Length (km)
Official All-weather	Paths identified on the Official Epping Forest map as all-weather paths for use by horse riders, cyclists and pedestrians.	36
Official Natural	Paths identified on the Official Epping Forest map as natural paths for use by horse riders, cyclists and pedestrians, usually seasonally closed to horse riders and cyclists.	45
Public Right of Way (PRoW)	Paths identified on the definitive map that the public have a legally protected right to pass and re-pass. Depending on the specific path's status people will be able to access on foot, cycle or horseback.	41
Easy Access Trail	Four trails promoted as 'Easy Access' with a level, firm, non-slip surface and regular benches and passing places for wheelchairs. Located High Beach, Connaught Water, Knighton Wood and Jubilee Pond. Cycling and horse riding are not allowed.	3.1
Informal Path	These paths have been identified using the Strava App which collects geolocational data from users who are often cyclists and runners. This shows where recreation is occuring. Further routes may be added to the Informal Path network if local information warrants the path's inclusion.	38
Waymarked Trail	Nine waymarked circular paths established across Epping Forest and the Buffer Lands. Each trail follows official, informal and desire paths as well as Public Rights of Way (PRoW) with some on PRoW on land not managed by the City of London.	38.5
Buffer Land Permissive bridlepath	Permissive bridlepaths agreed by the Conservators to complement and extend access across the Buffer Lands.	5.6
Buffer Land Permissive path	Permissive footpaths agreed by the Conservators to complement and extend footpath access across the Buffer Lands.	2
Third Party paths	Paths on COL owned land but where the management responsibility is with a third party through a management agreement or License.	TBC
Desire Path	Visitor defined routes where the use as indicated on the user defined Strava App indicates a lower level of use. No active management.	0

A comprehensive review of the path network in 2019 expanded the remit of previous path surveys to include the Public Rights of Way paths, Waymarked and Easy Access trails, as well as capturing some other *defacto* official natural and all-weather paths. Sketch maps of the path network by compartment are available separately to this report with an example given in Appendix One.

PATH MANAGEMENT PROGRAMME

Existing management programme

The annual management of the paths costs *circa*. £105,000 with staff costs representing 88% of this amount. Management is currently based around reactive maintenance, responding to encroaching vegetation and path surface and drainage concerns. Annually the local riding forum feeds in access issues and these, along with staff identified tasks, form the basis of the current annual path works program.

Planned cutting of path verges is undertaken each year with the work fitted in around other tasks and the extent completed varying with the time available. The 2019 audit of the Official path network identified 61.3km of paths where the edge vegetation was restricting permissible access upon the path either by constricting the path width or the accessible height of the path (just over 30% of the 198km of paths in Epping Forest). In addition 25.5 km of rides were identified that had drainage or path surfacing problems. It is evident that the current maintenance regime is not identifying activity needs before problems arise and the accessibility of some paths is declining.

Implications of the 2019 path audit

Notable outcomes of the 2019 path audit are that the maintainable path network is significantly greater than previously considered and that its condition is showing the effect of under maintenance. This highlights a need to reassess the largely reactive approach to path maintenance currently adopted. In addition to any aspirational objectives to be identified in the Access Policy, a path management programme at Epping Forest requires the following four objectives to be achieved as a minimum:

- Safe: The path network is maintained in a fit condition appropriate for the type of use it will get;
- Accessible: It is accessible for users and adopts the principle of Least Restrictive Access;
- Appropriate: It pays close regard to the importance of maintaining the 'Natural Aspect' of the Forest, including features of biodiversity, historic, traditional or archaeological interest; and,
- Recorded: Management and monitoring work is recorded in an accessible format for future reference.

A Safe Path Network

The legal obligations for managing visitor safety are clear with regards to users of the Public Right of Way network. The Local Authority is usually responsible for ensuring the path surface, including any bridges, is in a safe condition and fit for the type of traffic which is ordinarily expected to use it. Any stile, gate or other similar structure across a footpath belongs to the landowner and must be maintained by the landowner in a safe condition, and to the standard of repair required to prevent unreasonable interference with the rights of persons using the path.

Most routes in the Forest (and some on the Buffer Lands) are not Public Rights of Way. As a Public Open Space under the Open Spaces Act 1906, the City of London is tasked to 'maintain (Epping Forest) and keep the open space ….. in a good and decent state,[4] '.

As a guide to what "*a good and decent state*" means the Countryside and Rights of Way Act 2000 (CRoW Act 2000) gives an indication of potentially relevant considerations when managing Epping Forest's permissive access land and paths. Based on the CRoW Act 2000, two guiding principles for managing public safety on the path network can be confirmed:

- Access infrastructures need to be installed and maintained in a fit condition appropriate for the type of use it will get, however;
- People accessing the Forest ought not to place an undue burden (whether financial or otherwise) on the COL.

Note: These principles provide a baseline from which to judge potential path management responsibilities; however, there may be a need for enhanced care with some paths, which individual path management plans should identify.

An Accessible Path Network

Overall, Epping Forest is a semi-wildland to wildland environment as outlined in the BT Countryside for All standard (Appendix Two and see 'An Appropriate Path Network' below). In approaching the accessibility of Epping Forest, the principle of the 'Least Restrictive Access (LRA)' will be adopted to undertake the accessibility review[5]. The LRA process is helpful where standards of path provision need to vary for a range of reasons and provides a basis for ensuring that individual path standards are as good as they can be for as wide a range of people as possible and catering for as great a range of different disability types as feasible.

Clay soils prone to waterlogging and poaching cover a large extent of the Forest, with some main access routes seasonally difficult or impossible to access by most users, including those on foot. A network of all-weather paths is maintained to facilitate year-round foot, cycle and horseback access to the Forest. There are also several promoted routes in the Forest designed to encourage and widen public access. These routes are intended to be managed to a higher accessibility standard than the LRA and all-weather paths options.

There are important gaps in the all-weather path network with, for example, key attractions such as The View Visitor Centre having no all-weather path access, leading to poor accessibility in the winter months for all users travelling across Forest land and poor access for some disabled users year round. The southern half of the Forest typically makes up the largest proportion of the public open space available to residents in these areas. Poor year-round Forest accessibility in some of these areas has the potential to adversely impact a large number of users with few alternative green space options.

[4] Open Spaces Act 1906 (Para 10.b)

[5] Fieldfare Trust (Undated) *Least Restrictive Access Guidelines* (http://www.eau.ee/~bell/Recreation_course%202008-9/Countryside%20for%20All/Least%20Restrictive%20Access%20Guidelines.pdf) – Fieldfare Trust defunct as of 2018 and these guidelines now taken up by Pathsforall.org.uk

An Appropriate Path Network

The Conservators' duty to maintain the 'natural aspect' (and the other parts of Section 7(3) which include the unconditional protection of the turf and herbage) and the designation of a large part of the Forest as a SSSI/SAC or Scheduled Ancient Monument (SAM) introduces several design tests for any constructed path. By its nature, constructing a new path introduces a non-natural feature and the process of construction and the materials used will lead to environmental changes. These changes can be beneficial where, for example, historically people have created a wide and badly poached area across muddy clay soils, and the construction of an all-weather surface channels visitors onto a narrowly defined path, allowing the ground either side of the path to regenerate undisturbed. Negative impacts may be outweighed by wider benefits achieved such as improved access to areas of public interest or improved accessibility for disabled users. In planning the construction of new or the physical upgrading of existing paths, a simple environmental appraisal (Appendix Three) of the proposal will be prepared, appropriate for the scale of the project and used to aid decision making.

The unplanned development of some informal paths can also have a harmful impact, requiring a management response, especially in areas with a statutory designation such as a SAC/SSSI/SAM. The SAC Site Improvement Plan (SIP v1.1 2016, Natural England) formalises a management response framework and this current Planning & Development Note (PDN) will form an important contribution to Action 3 of the SIP (2016) which states: "identify key areas that are subject to recreational impacts". Where such potential concerns are identified, the simple environmental appraisal process outlined in Appendix Three will be followed in assessing the informal path and identifying management needs and any environmental constraints.

Recording Management and Monitoring Actions

Path condition monitoring has been a reactive process based on the feedback from Keeper staff regularly accessing the Forest and reporting problems as they are observed. Such a reactive process tends to identify problems at a late stage when resolving them can be more costly and the impact on visitors can be more prolonged. To address these concerns and to meet the need to respond to an increasingly challenging public liability claims environment from users, there is a need for a formal planned monitoring regime. An important benefit of such a process will be improved management information on the scope, scale and cost of ongoing maintenance programmes. Records from this system will need to be maintained and easily accessible to COL Management for at least ten years.

Revised Management Process

Reactive management processes are appropriate for *adhoc* small scale maintenance operations; however, to achieve the above four objectives on a path network with a much-increased length of maintainable paths requires a planned management process. It is proposed through this PDN that a revised planned path management process be adopted at Epping Forest. The process would comprise the following elements:

- Path condition monitoring: The condition of paths will be subject to periodic monitoring. The frequency of monitoring will vary with the path type and reflect the level of path use (Table 3), with the features recorded as part of the survey given in Appendix Four. Safety and drainage works required will be identified through this process;
- Vegetation management: The management of the adjacent vegetation will be undertaken as part of an annual planned maintenance programme. In the first instance this will be based on the 2019 Path Audit, however, it will require a further period of development to better

align the maintenance works to the speed of vegetation regrowth and the need for 'tidiness', based on path usage. Reference will also need to be made of any environmental constraints and reference sources such as the Forest's Scarce Species Register.

- Capital works programme: An annual work programme based on the outcome of the path condition monitoring. Works will principally be drainage and safety related works.

Standard specifications in Appendix Five give the design standard for the main path types and the maintenance work normally required to achieve these standards. With the shift from reactive to planned management processes, not all paths can be assumed to meet the standard specification and the proposed management programme over a ten year period should be seen as a transition process, with a greater need for capital works in the first 10 years to bring paths up to the required standards. At the end of this 10 year process the path network should be fully audited in the expectation that it will be broadly compliant; it should be possible at that point to quantify the annual ongoing maintenance programme for normal 'wear and tear' works.

Table 3: Proposed path condition monitoring frequencies

Path Type	**Managed Length (km)**	**Monitoring Frequency (years)**	**Approximate annual survey (km)**
Official All-weather	36	*5*	*7.2*
Official Natural	*45*	10	*4.5*
Public Right of Way (PRoW)	*41*	10	*4.1*
Easy Access Trail	3.1	1	3.1
Informal Path	38	Reactive management only	
Waymarked Trail	38.5	10	3.9
Buffer Land Permissive path	*7.6*	10	*0.76*
Third Party paths	TBC	10	???
Desire Path	0	No management	

PROPERTY MANAGEMENT CONTEXT

Tree Safety

- All Official paths, unsurfaced or surfaced, and waymarked trails have been categorised at least as Green Zones under the Tree Safety Policy. Green zones have a five-yearly tree safety assessment undertaken by trained Keeper staff. This is a separate survey to the path condition monitoring surveys outlined in Table 2 above.
    - *It is proposed that all Public Rights of Way across the Forest and Buffer Lands and Informal Paths in Wanstead Park are managed as Green zones. This will add 48.2 km to the total survey programme*.
- Easy Access paths are categorised as Red zones under the Tree Safety policy and independent arborists survey these for tree safety issues every year.

- Informal and Desire paths are currently not assessed for tree safety and under the current policy, tree safety issues raised would tend not to be responded to and the trees allowed to grow and develop naturally.
    - *It is proposed that for Informal Paths (excluding Wanstead Park), the tree safety response would be that a site visit will be undertaken in response to any reported problems by users to assess the situation.'*

Statutory Designations

A number of statutory designations apply to parts of Epping Forest and the Buffer Lands that also impact on the nature of the path provision in the Forest:

- Site of Special Scientific Interest (SSSI) and/or Special Area of Conservation (SAC). Under the legislation and regulations for these designations, and their associated assessment and consent procedures, the City of London (as competent authority and land manager) and Natural England (as statutory adviser and consenting body) need to assess the appropriateness (see above on *Appropriate Path Network*) of any path creation and management practice in relation to the conservation objectives and protected features for the sites
- Registered Parks and Garden (RPG)/ Scheduled Ancient Monuments (SAM): Wanstead Park and Copped Hall are Grade II* RPGs and Ambresbury Bank and Loughton Camp are SAMs. In both cases, Historic England and the Local Planning Authorities may need to authorize any path management proposals.

Infrastructure

- Access infrastructure: Policy and practice concerning individual access infrastructure types, eg bridges, boardwalks and culverts, is covered under the Forest Furniture Policy Development Note, which will be completed in 2021.
- Path surfacing: The type of path surfacing currently used is outlined in the Standard Specifications (Appendix 5). In summary, all-weather paths are based on using a MOT Type 1/Coxwell Self binding gravel base, or similar, with no wearing course. A wearing course of 5mm to dust granite (or similar) will be used on paths requiring a higher accessibility standard and smoother finish, eg Easy Access trails. On occasions, and by exception, where a coarse sub-base comes to the surface, all weather paths may have a wearing course added in selected locations.
    - *It is proposed that the path surface of each path section be defined as part of the next phase of the audit process.*
- Drainage: With predominantly clay soils, the presence of drainage and the condition of the drains are defining criteria for the condition of path surfaces. Drainage concerns have been identified in the 2019 audit for 25.5km of the official path network. The location of drains and associated infrastructure is only known at an indicative level, with an absence of any detailed engineering maps and descriptions, most of these having been installed many years ago.
    - *It is proposed that the path drainage network be mapped and recorded, including its condition, in the next phase of the audit process*. *The drainage maps will also give attention to the requirements of the water levels/soil moisture of adjacent habitats and the need to protect habitats from any contaminants flowing off the path surface as well as explore opportunities to divert water on to habitats that would benefit from rewetting.*
- Public liability: The relative responsibilities regarding public liability for public rights of way, formal and informal paths needs to be more clearly articulated in the future Paths Management Strategy

- *It is proposed that a review of the landowner duty of care responsibilities be undertaken.*

Signage

- Epping Forest waymarking: The COL has installed nine waymarked trails, which have been marked using a square sawn timber bollard[6] with a route directional arrow. The bollards cost around £75 each for materials and installation, limiting the number that can be installed for cost reasons. Where routes overlap, two posts are required.
    - *It is proposed that we transition away from the use of individual timber bollards towards waymarker discs. This will allow for more frequent waymarking, improving the clarity of routes and will also allow much cheaper replacement.*
- Third party waymarking: Across the Forest there are a wide number of waymarked routes installed by third parties. These include:
    - Regional waymarked trails such as the London Loop;
    - Local waymarked trails installed by communities and local authorities and,
    - Public Rights of Way network waymarkers installed by the local authority.
- Finger post signage: In 2017 as part of helping visitors orientate themselves and navigate the Forest, a programme of finger post installation was initiated.
    - Funded under the Branching out Project in 2017 signs were installed in and around the visitor access hubs in the Forest at Chingford, High Beach and Wanstead Flats;
    - Funded through a City Bridge Trust (CBT) grant, the Highams Park Snedders (a local community group) installed 13 signs in and around the Highams Park area in 2019.
    - It is proposed that a phased programme of finger post sign installation be continued, based on developing local funding mechanisms such as the project by the Highams Park Snedders.

Sightlines

- Forest paths and car parks: Sight lines on main Forest paths (typically the Official all-weather and natural paths) and car parks that exit onto the public highway are maintained by the COL. 75 'areas' of the Forest with multiple sightlines are cut once a year in June/July with repeat cuts undertaken on a reactive basis.

Livestock

- From May to November, cattle are grazed on the Forest and Buffer Lands and may often be found on or alongside paths. Working practices concerning cattle and public access are in accordance with guidance set out in the Health Safety Executive's Agriculture Information Sheet No 17EW(rev1), with additional measures that take account of the Forest as an open space.

[6] Waymarker type J2: *Square Sawn posts as described in the Forest Furniture PDN*

MANAGEMENT CONSIDERATIONS

Access

- The predominant clay soils across the Forest and Buffer lands are reflected in the condition of the official unsurfaced paths in many locations. During the 5-6 months in the winter important routes are very poor to impassable for most users and there are expanding zones of damaged ground as users seek to avoid wet areas through creating new routes. Seasonal inaccessibility is a particular concern in central and southern areas where the Forest can represent the only nearby open space for many people.
- The all-weather path network has developed in a piecemeal way with a large early emphasis on the provision of routes for horseriders and less recognition of the needs of other users.
- The forthcoming Sustainable Visitor Strategy will provide an assessment on the future shape of the access needs in the Forest reflecting the needs of users and the environmental constraints to be considered.

Property

- Third party routes: Third party agencies under specific agreements have upgraded paths across the Forest. Maintenance of these paths by the third party has however been mixed over the years, with complaints on their condition regularly directed to the City of London. Officers of the responsible organisations are frequently unaware of their liabilities when approached. The City of London's obligation under the Occupiers Liability Act 1957 indicates that management of these routes needs more active engagement with the third parties concerned, to ensure that these paths are appropriately maintained.
    - *It is proposed that a review of third-party routes is undertaken and working arrangements reconfirmed with the responsible organisations*

Ecological

- Paths and their verges can serve as wildlife corridors, facilitating the movement of species. Historically, they were a refuge for heathland and open ground species such as heather, cow-wheat and members of the Hawkweed (*Hieracium*) family and also woodland edge flora like violets and wood sorrel, which suffered from woodland encroachment following the decline of grazing. In developing path management plans, the opportunities to promote wildlife conservation benefits will be identified and developed.
- Constructed paths are an artificial intervention with both the act of construction and the materials used changing the local conditions. Equally, well used informal paths can bring about considerable negative impacts on a local scale, with the path 'spreading' in wet conditions as people look to avoid deep mud. Changes to natural drainage and soil pH are two of the more subtle but longer lasting impacts. The large extent of the path network is such that an understanding of the ecological impacts of the path system is presently largely anecdotal.
    - *To better plan the path development process in the longer term, an important need is to undertake an assessment of the ecological pressures to be faced with changing visitor needs and ecological opportunities that may arise*.

Landscape

- Green lanes/heritage routes: The Forest's path network is set within a historic landscape long inhabited, with man-made structures such as the Hillfort, Ambresbury Banks, dated to around 500BC. A number of paths, eg Organ and Mays Lanes, form part of what once were a network of long used routes such as drove roads.
    - *A separate Policy Development Note will be prepared concerning the management of these historic routes in 2021/22.*

Community

- The 12-mile elongated and largely linear nature of the Forest means that it passes through many communities; in many instances, it is the main public open space for the communities concerned. Access development to the Forest from these local communities has been largely organic and unplanned. Climate Change concerns and encouraging people to use their car less are raising the profile of the need to consider enhanced local access provision, to provide attractive access points for communities, closer to where they live and without the need to drive. This may also help to reduce pressure on increasingly busy car parks within the Forest.
    - *It is proposed that a new Local Forest Access Point be defined by way of a trial of concept and the outcome on car-based access assessed. This may include installation of small-scale Forest furniture (finger posts and location maps) and path management, with the aim of making these local access points more welcoming to local residents approaching on foot.*

Financial cost

- The revised management process represents a change in how path management activity is delivered at Epping Forest. A legacy of the former reactive process is that additional works will be required to ensure paths meet the relevant specification. It can also be anticipated that additional ongoing maintenance will be required to continue to ensure paths meet the design specification. An increasingly difficult financial environment will pose a constraining influence on achieving these changes.
- To identify where resources are best allocated in the first instance an access setting assessment was undertaken for each Forest compartment based on the BT Countryside for All standard (Appendix Two). Using the standard each Forest compartment was given one of four access categories: Red+, Red, Amber and Green where Red+ is a high access area and Green is a low access area remote from visitor facilities and less accessible for visitors. Table 4 identifies the core activities in these access zones
    - *It is proposed that initially path management is concentrated on the high access categories of Red+ and Red to develop a better understanding of the full impact of the changes in a phased way while ensuring the high-risk access areas are managed.*
    - *A review of the access zones should be undertaken for the end of the ten-year period eg it may be more appropriate to have a breakdown at sub-compartment level.*

Table 4: Path management activity in each access zone (km/yr)

Path Management Activity	Access Zone (km/year)			
	Red+	Red	Amber	Green
Path Management: Cut a 1.5m wide verge both sides of the path along mapped routes.	36	35	12	10
Path Management: Cut a 3m wide path along mapped routes.	22	15	6	10
Woody Vegetation Management: Woody vegetation and bramble cut to ensure the path meets the Forest standard	12	12	6	4

MANAGEMENT STRATEGY

Overall objectives for managing paths in Epping Forest:

1. To have an annual management programme that ensures we meet COL's requirements under the Highways Act (1980) and Epping Forest path management standard specifications.
2. To ensure the path network accessibility is appropriate for a semi-wildland to wildland environment and Special Area for Conservation
3. To integrate path management into wider operational habitat and landscape management; and,
4. To provide a path network in a safe condition and fit for the type of traffic which is ordinarily expected to use it.

OUTLINE MANAGEMENT PROGRAMME

Objective	Action	Timing (Years)
1/4	*Risk Monitoring:* Continue ongoing regular monitoring of tree safety along the path network as per Tree Safety Policy.	Ongoing
1/4	Risk Monitoring: Devise a risk monitoring system for path condition and undertake regular condition monitoring of the path network.	Ongoing
1	*Review: Undertake a review a review of the landowner duty of care responsibilities*	2026
2/3	*Review:* Undertake an ecological assessment of the path network and the opportunities and constraints they present. Integrate with Site Improvement Plan actions	2025
1/2/4	*Review:* Undertake a review of the path management responsibilities of third parties and their effectiveness, to confirm management responsibilities going forward.	2022
1/2/3/4	*Review:* Green Lanes Policy Development Note prepared.	2021
1/4	Review: Undertake a review of the access zones to assess their effectiveness and opportunities for refinement eg to sub-compartment level	2030
2/4	*Improvement Programme:* Prepare detailed project plans arising from the Sustainable Visitor Strategy for improvement projects to seek funding and Statutory permissions.	2022
2/3	*Improvement Programme:* Identify and establish a pilot modal shift Local Forest Access Project and monitor the impact on	2022

	users and habitats. Proposed initial location is Goldings Hill. The benefits of widening this approach will be considered in the Sustainable Visitor Strategy	
1/2/3/4	*Planning:* Individual path management plans prepared for all monitored paths, including vegetation maintenance regime, path surface type, drainage details and habitat management opportunities.	2022
1/3/4	*Path Maintenance:* Arising from path condition monitoring (see above), undertake annual path maintenance works to ensure the condition of the path network meets the access standard for each path category.	Ongoing
1/3/4	*Path Maintenance:* Manage path vegetation according to Individual Path Management Plans, to ensure vegetation meets the access standard for the path type.	Ongoing
2/4	*Path Maintenance:* Initial drainage works improvement program prepared based on the 2019 Audit and work program undertaken.	2021
2/4	*Signage:* Phased replacement of the waymarker bollards with discs.	Ongoing
2/4	*Signage:* Cut back annually all ground and arboreal vegetation that would impede orientation signs. Potential volunteer task.	Ongoing
1/4	Finance: Focus path management on the high access category compartments of Red+ and Red to develop a better understanding of the full impact of changed costs. Review after five years	Ongoing/Review 2025

APPENDICES

Appendix One: Example of a compartment sketch map of paths

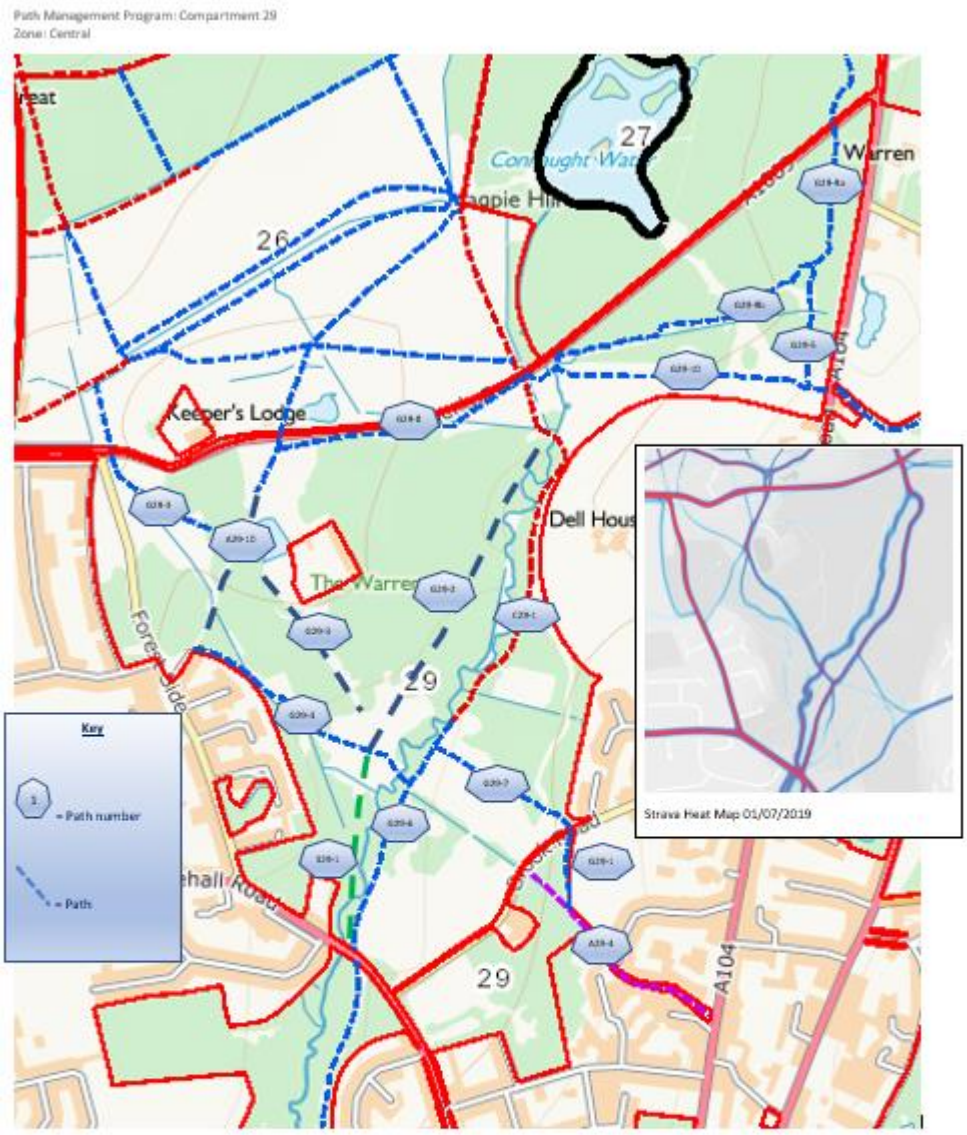
Appendix Two: BT Countryside for All Accessibility Standards

Appendix Three: Environmental Checklist

Appendix Four: Path Audit Form

Appendix Five: Standard Specifications for Path Management

Appendix One: Example of a compartment sketch map of paths



Appendix Two: BT Countryside for All Accessibility Standards

	Path Surfaces (see note 1)	Path Widths (see note 2)	Width restrictions (see note 3)	Barriers (see note 4)	Maximum distances between passing places (see note 5)	Maximum distances between rest areas (see note 6)	Maximum steepness of ramps (see note 7)	Maximum height rise between landings on ramps steeper than 1:20 (see note 8)	Maximum slope across a path (see note 9)	Maximum step levels (see note 10)	Surface breaks (grills, board-walks) (see note 11)	Clear walking tunnels (see note 12)
Urban and formal Landscapes For example countryside areas with a lot of man-made features	Hard, firm and smooth surface with very few loose stones and none bigger than 5mm	1200 millimetres (millennium Miles)	At least 815mm for no more than 300mm along the path 1,000mm for no more than 1,600mm along the path	There should be no steps, stiles, and no fences, hedges or walls to restrict access	50 metres (m)	100m	1 in 12 (for example for every 12 metres you travel you can rise one metre)	750mm (for example landings should be every 9m along ramps of 1 in 12)	1 in 50	5mm	The largest break in the surface of the path should be no more than 12mm measured along the line of the path	1,200mm wide x 2,100mm high
Urban fringe and managed landscapes For example, countryside areas near towns or managed recreation sites	Hard and firm surface with very few loose stones and none bigger than 10mm	1,200mm	At least 815mm for no more than 300mm along the path 1,000mm for no more than 1600mm along the path		100m	200m	1 in 12	830mm	1 in 45	10mm		1,200mm wide x 2,100mm high
Rural and working landscapes For example, farmland and woodland with public rights of way	Hard and firm with some loose stones and chippings not covering the whole surface. The stones should be no bigger than 10mm	1,000mm	At least 815mm for no more than 300mm along the path 1,000mm for no more than 1,600mm along the path		150m	300m	1 in 10	950mm	1 in 35	15mm		1,000mm wide x 2,100mm high
Open Country, semi-wild and wild For example, mountains, moorlands and remote countryside	People expect to make their own way, not to have this environment changed to provide access. If paths and trails are provided in this setting, they should meet the standard for the rural and working landscapes setting (as shown in the row above).											

Appendix Three: Environmental Checklist

ENVIRONMENTAL CHECKLIST

Compartment No		**Site Name**	
Date		**Contact**	

Description of the operation

CHECKLIST

	Y/N
Does the COL own the land concerned? • *If no or unsure check with land Agent*	
Is the COL responsible for undertaking the work? • *Operational agreements cover some parts of the Forest where works are the responsibility of others.* • *Check with land agent if in any doubt,*	
Is the operation on Buffer Land? • *Any tree felling may need a Felling Licence from the Forestry Commission.*	
Is the operation on Forest Land? • *Operations not covered by the Management Plan and/or approved annual works programme may need consent from Natural England*	
Do any statutory designations apply to the area of the operation? • *TPO: no tree with a TPO should be worked without consent for the Local Authority* • *Conservation area: No tree should be worked without consent for the Local Authority* • *SSSI/SAC: Consent may be required from Natural England or a Habitat Regulations Assessment may be required dependent on scale of any proposal* • *SAM/RPG: Consent may be required from Historic England and/or Local Authority.*	
Does the operation involve ditches, watercourses or ponds? • Land Drainage consent may be required for some work, eg EFDC have separate bylaw re drainage • EA consent may be required for work on watercourses	
Does the operation involve work on a dam? • Liaise with the Department of Built Environment regarding work on dams.	
Do the operations impact directly on protected species eg Bats, nesting birds and Great Crested Newts or veteran trees? • *Liaise with the Conservation Team over the proposals*	

Does the operation require planning permission?

- *Creating new entrances, upgrading paths and installing signage may require planning permission*

Have the heritage and scarce species maps been checked for sensitive features

- *Liaise with the Conservation Team over the proposals if any records*

Is the work in an area covered by grant funding or other external obligations?

- *Liaise with other Epping Forest Officers on external obligations*

ISSUES IDENTIFIED

MITIGATION MEASURES

Appendix Four: Path Audit Form

General Details

Location			**Date**	
Path No			**Surveyor**	
Path Name			**Length (m)**	

Path Type (Can tick more than one)

PRoW: Footpath			Unsurfaced shared use path	
PRoW: Byway			Easy access trail	
PRoW: Bridleway			Promoted route	
Cycle path			Informal path	
Surfaced shared use path				

Drainage Condition (All paths)

Facing edge	North	South	East	West
Ditch Location				
Ditch Condition				
Running freely				
Restricted flow but running within ditch				
Restricted flow with overflowing onto path				
Not functioning, blocked.				

Surfaced Path Condition (Can tick more than one)

(Relatively) Even surface			Sub-base exposed: Occasional	
Rill/gulley erosion			Sub-base exposed: Frequent	
Frequent potholes < 40mm deep			Restricted verge drainage	
Frequent potholes >40mm deep				

Edge Vegetation (check Scarce Species Register on *CityMaps*)

Zone	**Grass/ Bramble**	**Scrub**	**Woodland**	**Encroaching**	
				Aerial veg	**Ground veg**
One					
Two					
Three					

Structures

Structure	No	Condition	
Culvert		Running freely	
		Restricted flow: running	
		Not functioning: collapsed	
		Not functioning: blocked	
Vehicle Bridge		Functioning: No work	
		Functioning: minor non-structural repairs	
		Functioning: Significant, including structural repairs	
		Not functioning	
		Immediate closure	
Pedestrian Bridge		Functioning: No work	
		Functioning: minor non-structural repairs	
		Functioning: Significant, including structural repairs	
		Not functioning	
		Immediate closure	
Seat/Bench		Functioning: No work	
		Functioning: minor non-structural repairs	
		Functioning: Significant, including structural repairs	
		Not functioning	

Comments

Map Key

Ditch (Blocked)	- - - - - - + + + + +		**Culvert (Blocked)**	**O**
Vehicle Bridge			**Pedestrian Bridge**	
Seat	**S**		**Encroaching Vegetation**	

Appendix Five: Standard Specifications for Path Management

- **Easy Access Trail**
- **Waymarked Trail**
- **Official Natural Surface Paths**
- **Official All-weather surface paths**

Forest Standard: Easy Access Trails

Background

Four paths totaling 2.9 km are promoted as 'Easy Access trails'. Each trail has a level, firm, non-slip surface with benches and passing places for wheelchairs at regular intervals. Interpretation is available at the beginning of the trail and is large print and accessible and readable from a seated position.

The trail locations and lengths are as follows:

- High Beach (0.8km)
- Connaught Water and the Red Path (1km)
- Knighton wood (0.65km)
- Jubilee Pond (0.5km)

Cycling and horse-riding are not permitted on easy access trails with information signage erected at key points to advise on this.

Path surfacing has historically been undertaken using a range of surface material however repairs and any new surfacing is being undertaken using Coxwell Self binding gravel and 5mm path dressing. Timber edging has been used on some paths and will no longer be used due to it becoming an increasing trip hazard.

There may be some overlap of the Official surfaced paths with Waymarked trails.

Access standard

Path surface: Minimum surfaced path width 1.2m. Variable construction historically with repairs and new surfaced paths to be installed as follows:

Base layer: Coxwell Self binding gravel

Wearing coarse: Coxwell 5mm path dressing

Drainage: Ditching essential on slopes and on wet sections and as required elsewhere

Bridges/Culverts: Bridges and culverts are regularly used on these routes to manage water movement.

Access Box: Minimum 3m wide by 3m high.

Waymarking: Routes are not waymarked

Standards of Maintenance

Verge management:

- 1m verge cut twice a year or to ensure grass and herbaceous growth is a maximum of 22.5cm in height
- Woody edge vegetation cut every three years or to ensure a minimum of a 3 x 3m access box
- Where cut material is to be chipped the chips are to be dispersed on the forest floor ensuring the following practice is adhered to:
  - **Do not** spray chip over moss/lichen mats, deadwood piles or logs, rides or ride sides or to the bases of semi-mature and mature trees. Avoid grassy areas and areas with flowers.
  -

- **Do not** create large woodchip piles but focus on a shallow even spread of chips.
- **Do** focus on bramble and bracken areas for woodchip receptor sites.

- No timber or cordwood to be left where it could be hit by machinery undertaking routine maintenance of the bridleway.

Ditches: Existing ditches kept clear of vegetation and debris.

Path surface: The wearing coarse of paths to be maintained in a smooth compact condition with rare sections of exposed sub-base which are repaired within one month following identification.

Edging boards: Timber edging boards have been used at the High Beach and Knighton Wood's paths. These will be phased out as they come up for replacement.

Condition Monitoring

- All routes inspected once a year;
- Hazard inspection undertaken for imminent threat issues including trees and unauthorised structures;
- Vegetation encroachment assessed to ensure height and width requirements are met;
- Ditch condition: Identify and report on works to remedy any blockages or interruptions to the water flow;
- Path surface: Report problems including, exposed sub-base, loose material.
- Signage: Presence and condition of signage
- Edge boards: Condition
- Structures, including gates, culverts and bollards, inspection undertaken as required under their respective Forest Standards.

Recording

Path Condition and Maintenance reports to be completed for each maintenance and inspection visit and passed to the Head of Operations who will update the path management database.

Further Guidance

Path closure: Only light tasks or quick moving tasks should be undertaken, eg pole sawing overhanging vegetation or small-scale scrub cutting without closing the path. Where more substantial tasks are identified so that a path closure may be likely then provide a description of the work and its location to the Head of Operations.

Banksman: In all cases consider the desirability of having a banksman or someone on less intense work and who can keep an eye out for riders.

Bird nesting: During the nesting season do not work thick scrub areas and instead mark these on the map for work outside of the bird breeding season.

Uncommon species – flora and fauna: The following species should not be cut: Crab Apple, Wild Service, Butchers Broom Spindle, Buckthorn. Willow will need to be cut on a long-cycle coppice/pollarding rotation to ensure protection of egg-laying trees for Purple Emperor. Avoid cutting or adopt tree surgery rather than felling approaches with mature willows.

Large decaying wood timbers should be left intact on ride edges and carefully re-located (with approval) causing obstruction/hazard to users or maintenance

Forest Standard: Waymarked Trails

Background

Nine waymarked circular paths totaling 38.5km have been established across Epping Forest and the Buffer Lands. Each trail follows official and informal paths in Epping Forest as well as Public rights of way (PRoW). Some PRoW are on land not managed by the City of London.

Interpretation is available at the beginning of the trail and maps can be downloaded from the internet or obtained from EF visitor centres. Timber waymarker posts with arrows are located at regular intervals and main junctions along each path.

Path surfacing varies from surfaced to natural Forest soils with varied and occasionally steep topography.

The trail locations and lengths are as follows:

- The Chestnut Trail, Wanstead Park (5.2km))
- The Holly Trail, Chingford Plain (4km)
- The Willow Trail, Connaught Water (4km)
- The Hornbeam Trail, Leyton Flats (5.75km)
- The Lime Trail, Bush Wood (2.5km)
- The Beech Trail, High Beach (4km)
- The Rowan Trail, Knighton wood (2.5km)
- The Gifford Trail, Upshire, (2km)
- The Oak Trail, Theydon Bois (10.5km)

Access standard

Path surface: Variable depending on associated path type

Drainage: Variable depending on associated path type

Bridges/Culverts: Bridges and culverts are regularly used on these routes to manage water movement.

Access Box: Minimum 3m wide by 3m high.

Waymarking: Timber post with coloured arrow at major junctions and at regular interval in longer straight sections. (Possible transition to waymarker discs in future)

Standards of Maintenance

Waymarked trails follow a range of path types and the nature of these define the management status of the path section concerned. In addition to these maintenance standards:

Waymarkers: Annual maintenance of waymarkers to ensure they are clearly visible to users of the route. Repainting of arrows as required following inspection visits.

Condition Monitoring

Emphasis is on health and safety inspections and ensuring directional information is visible. Path condition assessment will be undertaken as required for each path type.

Frequency: All routes inspected once a year. This may be in addition to or at the same time as any associated path inspection;

- Hazard inspection undertaken for imminent threat issues including trees and unauthorised structures;
- Vegetation encroachment assessed to ensure height and width requirements are met;
- Signage: Presence and condition of waymarking signage and directional markers
-
- Structures, including gates, culverts and bollards, inspection undertaken as required under their respective Forest Standards.

Recording

Path Condition and Maintenance reports to be completed for each maintenance and inspection visit and passed to the Head of Operations who will update the path management database.

Further Guidance

TBC

Forest Standard: Official Natural Paths

Background

44km of routes are identified on the Official Epping Forest map as unsurfaced paths promoted for use by horse riders, cyclists and pedestrians. Routes are present across all Access Zones

Routes are identified on the ground by regularly located posts with a painted white top. There may be some overlap of these paths with Waymarked trails.

The underlying wet clay ground conditions mean that many of these routes are closed to horse riders and cyclists in the winter months to prevent damage to the paths. Some routes will have localised wet sections that on average years dry out in the summer months only.

Initial vegetation management is required on many of these paths which are frequently encroached upon to get to the access standard.

Access standard (All Access Zones)

Path surface: Unimproved natural path surface. Excessive path damage and poaching repaired or path diverted

Drainage: Localised drainage to reduce or remove summer wet sections of path

Bridges/Culverts: Presumption is that bridges and culverts are not used on these routes unless they provide a significant improvement to the access route, such as the removal of a year-round wet section.

Access Box: 4m wide by 4 m high with occasional pinch points where the path can narrow down to 2m in width but with the vertical clearance remaining at 4m for sections no more than 20m

Waymarking: Treated round softwood bollard with white painted top to Forest Standard J2/J6 Waymarkers.

Standards of Maintenance

- Frequency, five yearly or as required depending on local conditions and stated on the path maintenance program.
- The track to be kept free of encroaching vegetation and overhanging branches in line with the access box requirements
- Where cut material is to be chipped the chips are to be dispersed on the forest floor ensuring the following practice is adhered to:
    - **Do not** spray chip over moss/lichen mats, deadwood piles or logs, rides or ride sides or to the bases of semi-mature and mature trees. Avoid grassy areas and areas with flowers.
    - **Do not** create large woodchip piles but focus on a shallow even spread of chips.
    - **Do** focus on bramble and bracken areas for woodchip receptor sites.

- No timber or cordwood to be left where it could be hit by machinery undertaking routine maintenance of the bridleway.

- Existing ditches to be maintained by keeping them clear of vegetation and debris. Minor clearing of silt to be undertaken with spades. More substantial silt clearance to be reported to the Head of Operations with a description of the work required and its location
- Path Condition and Maintenance report completed for each maintenance visit

Recording
Completed Path Condition and Maintenance reports to be passed to the Head of Operations or their nominated person who will update the path management database.

Condition Monitoring

- Frequency:

    - All routes inspected every ten years;
    - Hazard inspection undertaken for imminent threat issues including trees and unauthorised structures;
    - Vegetation encroachment assessed to ensure weight and width requirements are met;
    - Ditch condition: Identify and report on works to remedy any blockages or interruptions to the water flow;
    - Path surface: Report problems with drainage that leads to persistent erosion or wet areas;
    - Path Condition and Maintenance report completed for each inspection visit.

    .

- Structures, including culverts and bollards, inspection undertaken as required under their respective Forest Standards

Further Guidance

Closed paths: While there should be no riders/cyclists on paths closed, signs should be erected at the entrances to the path. Consider also using tiger tape to reinforce the closure, especially where more substantial works are required.

Open paths: Where riders/cyclists are permitted to ride and work is proposed then tree cutting operation signs should be erected at the entrance to paths. Only light tasks or quick moving tasks should be undertaken, eg pole sawing overhanging vegetation or small-scale scrub cutting. Where more substantial tasks are identified so that a path closure may be likely then provide a description of the work and its location to the Head of Operations.

Banksman: In all cases consider the desirability of having a banksman or someone on less intense work and who can keep an eye out for riders.

Bird nesting: During the nesting season do not work thick scrub areas and instead mark these on the map for work outside of the bird breeding season.

Uncommon species – flora and fauna: The following species should not be cut: Crab Apple, Wild Service, Butchers Broom Spindle, Buckthorn. Willow will need to be cut on a long-cycle coppice/pollarding rotation to ensure protection of egg-laying trees for Purple Emperor. Avoid cutting or adopt tree surgery rather than felling approaches with mature willows

Forest Standard: All-weather Paths

Background

28.3km of routes are identified on the Official Epping Forest map as surfaced paths promoted for use by horse riders, cyclists and pedestrians. Routes are present across all Access Zones.

The following paths while not identified as 'Official' paths on the Official map are also included in this specification:

- The Red Path
- Bush Wood Avenue

Surfaced official paths are required to facilitate a range of operational vehicles, including tractors and standard 2-wheel drive road cars.

Path surfacing has historically been undertaken using a range of surface material from rubble from WWII bomb sites, residues from steel working to quarried materials such as MOT Type 1 Granite and hogging.

There are several surfaced paths within the Forest that are the responsibility of third parties and are not maintained by the City of London

There may be some overlap of the Official surfaced paths with Waymarked trails.

Access standard (All Access Zones)

Path surface: Minimum width 3m including cut verges. Variable construction historically with repairs and new surfaced paths to be installed as follows:

Base layer: MOT Type 1 Granite

Wearing coarse: 5mm to dust granite

Drainage: Ditching essential on slopes and on wet sections and as required elsewhere

Bridges/Culverts: Bridges and culverts are regularly used on these routes to manage water movement.

Access Box: Minimum 4m wide by 4m high.

Waymarking: As required but not standard as with the unsurfaced official paths

Standards of Maintenance

Verge management, Frequency as cited in Table 1

Table 1: Frequency of edge vegetation management cycle by Access zone

ACTION	**ACCESS ZONE (Years)***			
	A	**B**	**C**	**D**
1m verge cut	1	X	X	X
3m verge cut	3	3	5	5
Woody edge vegetation cut	5	7	10	10
Ditch vegetation management	3	3	5	5

Note: X- Not normally undertaken *May vary with local conditions

- The path to be kept free of encroaching vegetation and overhanging branches in line with the access box requirements
- Where cut material is to be chipped the chips are to be dispersed on the forest floor ensuring the following practice is adhered to:
    - **Do not** spray chip over moss/lichen mats, deadwood piles or logs, rides or ride sides or to the bases of semi-mature and mature trees. Avoid grassy areas and areas with flowers.
    - **Do not** create large woodchip piles but focus on a shallow even spread of chips.
    - **Do** focus on bramble and bracken areas for woodchip receptor sites.
- No timber or cordwood to be left where it could be hit by machinery undertaking routine maintenance of the bridleway.

Ditches: Existing ditches kept clear of vegetation and debris.

Path surface: The wearing coarse of paths will not normally be replaced following initial construction on these general use paths due to the long mileage and costs involved. Exceptions to this will follow a specific review of the location concerned by Forest operations and Keeper staff. Eg extensive exposure of war time rubble constructed path sub-base may need a replacement wearing course.

Condition Monitoring

- Frequency:
    - All routes inspected every five years;
    - Hazard inspection undertaken for imminent threat issues including trees and unauthorised structures;
    - Vegetation encroachment assessed to ensure height and width requirements are met;
    - Ditch condition: Identify and report on works to remedy any blockages or interruptions to the water flow;
    - Path surface: Report problems with drainage that leads to persistent erosion or wet areas;
    .
- Structures, including gates, culverts and bollards, inspection undertaken as required under their respective Forest Standards.

Recording

Path Condition and Maintenance reports to be completed for each maintenance and inspection visit and passed to the Head of Operations who will update the path management database.

Further Guidance

Path closure: Where riders/cyclists are permitted to ride and work is proposed then tree cutting operation signs should be erected at the entrance to paths. Only light tasks or quick moving tasks should be undertaken, eg pole sawing overhanging vegetation or small-scale scrub cutting. Where more substantial tasks are identified so that a path closure may be likely then provide a description of the work and its location to the Head of Operations.

Banksman: In all cases consider the desirability of having a banksman or someone on less intense work and who can keep an eye out for riders.

Bird nesting: During the nesting season do not work thick scrub areas and instead mark these on the map for work outside of the bird breeding season.

Uncommon species – flora and fauna: The following species should not be cut: Crab Apple, Wild Service, Butchers Broom Spindle, Buckthorn. Willow will need to be cut on a long-cycle coppice/pollarding rotation to ensure protection of egg-laying trees for Purple Emperor. Avoid cutting or adopt tree surgery rather than felling approaches with mature willows

Committee(s): Epping Forest Consultative – For Consultation Epping Forest and Commons – For Decision	**Date(s):** 21 10 20 16 11 20
Subject: Night-time Gating proposals for Manor Road, High Beach for amenity purposes SEF 26/20b	**Public**
Does this proposal require extra revenue and/or capital spending?	**Y –Capital Spending**
If so, how much?	**£ 12,700**
What is the source of Funding?	**Police & Crime Commissioner**
Has this Funding Source been agreed with the Chamberlain's Department?	**N**
Report of: Director of Open Spaces	**For Decision**
Report author: Martin Newnham, Head Forest Keeper	

Summary

This report is necessary to address the continuing Anti-Social Behaviour (ASB) at the Queens Green/Pillow Mound car parks either side of Manor Road, High Beach. The easing of the COVID-19 'lockdown' guidance has seen an increase of ASB particularly focused on the High Beach car parks with Spontaneous Social Gatherings continuing into the night and well into the early morning. The SSGs are associated with the broadcast of loud music from vehicles, the lighting of barrage fireworks, large scale littering, drug taking and the consumption of legal highs. In addition to a change.org petition with 7,150 signatures (28.09.20) seeking combined action to reduce ASB, some local residents at High Beach and at Wellington Hill have complained about the continuing ASB and have formed a campaign group entitled 'Make High Beach Safe'.

Overtime working by Forest Keepers and Enforcement Officers has supported the enforcement of the night-time parking byelaw at High Beach which has reduced, but not eliminated, the problem and requires a continued and unsustainable long-term staffing presence, backed by Police support at High Beach, which represents just 3 of Epping Forest's 55 car parks. Working with Essex Police, District and County Councils options to redesign and gate the car parks, increase ANPR video surveillance of the area or enforce a night-time closure of Manor Road have been considered. The night-time closure of Manor Road is considered to be the most effective solution to controlling ASB at the site and is recommended to your Committee as a proposal for public consultation by the traffic authority. The District Council and the Police and Crime Commissioner have agreed to fund the £12,700 infrastructure needed to deliver a Traffic Regulation Order at the site in return for the City Corporation's operation of the daily opening and closure of the gates.

Recommendation(s)

Members are asked to:

- Support the commencement of public consultation by the traffic authority prior to any works on options for addressing the Anti-Social Behaviour issues at Queens Green and Pillow Mounds car parks described in the report, including the night-time closure of Manor Road, between the junctions with Wellington Hill and Paul's Nursery Road, to reduce levels of Anti-Social Behaviour.
- Should public consultation support the scheme delegate authority to the Town Clerk, Chairman and Deputy Chairman to implement the scheme and enter into a formal agreement with Essex County Council as the traffic authority for the daily opening and closing of the road control gating.

Main Report

Background

1. High Beach has a long-standing reputation as a popular Forest destination for Londoners. Both the Queens Green and Pillow Mounds open space provide a natural open break to near continuous woodland cover across much of the north of the Forest. In addition, the pubs at Kings Oak Hotel at the top of High Beach and the Duke of Wellington (now closed) at the bottom of Wellington Hill have traditionally provided 'bookends' to an attractive short walk. In effect, High Beach has all the key attributes of a popular visit namely with local walks, pubs, tea huts, ice cream van, visitor centre, public toilets and an expansive view towards Galley Hill and the Lee Valley.

2. Latterly, the rebranding of the Kings Oak Hotel as part of 'The Only Way Is Essex' or TOWIE-related scene has added an additional cachet to any visit, particularly for millennials. High Beach is also widely recognised as a meeting place that services a Public Sex Environment (PSE) advertised on the Internet at nearby Fairmead Road which is being addressed separately through an Experimental Traffic Regulation Order (ETRO).

3. As a component of the High Beach's general popularity, ASB issues have been a long running issue. The City Corporation worked previously with EFDC, as the then Highway Authority, to close Queens Grove - the road running between Pauls Nursery and Manor Roads - to deter circling parades by motor cyclists. Since 2005, the City Corporation and Essex County Council have worked to manage problems with excessive traffic speed and parade-related traffic offences on Manor Road.

4. In 2012, with funding from the City Corporation, Heritage Lottery Fund and Essex County Council, helped realise some High Beach Master Plan objectives agreed with the local community. Manor Road was 'cranked' and provided with speed tables through a land exchange between the Highway and Forest to reduce traffic speed, with the large gravel car park hard standing, - the centre of deceleration

spinning by vehicles (known as dough-nutting), - modified to provide 90 degree parking bays.

5. The remodelled road layout and parking scheme has proved popular with day visitors and has had an overall positive impact on daytime traffic speeds, with the bollards, road 'cranking', chicane and speed tables requiring many vehicles to slow down to safely navigate the route. However, improvement has seen the site continue to grow in popularity for night-time and early morning visitors. The site is associated with broadcast music from car sounds systems; the parading of sports vehicles with upgraded engines and nitrous oxide systems, the heavy consumption of alcohol, nitrous oxide and 'skunk' marijuana and the obstruction of local traffic by pedestrian congregations on the Highway. Local reports of concern from the local community have increased from 2016 onwards and in 2017, litter picking support for the site was increased to address daily accumulation of litter on site, especially broken glass and nitrous oxide canisters.

6. Many night-time and early morning users are attracted to the site as a destination that contrasts strongly with urban London. Anecdotal discussions suggest that in addition to the attraction of the Forest, many users experience feelings of safety at High Beach allowing them to escape what they consider to be disapproval from older members of their community and enforcement services, however, many are unaware of their impacts around noise and littering on the local community.

7. Between November 2017 to February 2020, Epping Forest Keepers worked jointly with the Essex Police Community policing team carrying out joint patrols. These were carried out across the north of the Forest at least one weekend per month and during the week dependant on police resources to address ASB and crime at night within the Forest. In addition Multi agency (which included Police LA officers EA, VOSA and HMRC) joint operations took place every two months focusing on environmental crime, fly tipping ASB, excise matters and road safety. Both operations were designed to detect, disrupt and deter inappropriate behaviour and crime within the Forest. While the joint patrols were extremely valuable to addressing individual crimes and provided a wider deterrent effect, they did not impact on overall levels of poor behaviour at High Beach.

8. During the national COVID-19 'lockdown', Essex County Council closed its Country Parks, the National Trust closed Hatfield Forest and some Boroughs closed London parks. Epping Forest as London's largest unenclosed open space remained open throughout ' lockdown' to provide much needed recreation facilities. Visitors travelling by car increased to such an extent that car parks were full by 10am and surrounding roads became heavily congested. By Easter weekend car parks were reluctantly and temporarily closed for 6 weeks to deter those travelling to the Forest by car.

9. As the weather grew warmer and lockdown measures relaxed, Forest 'honeypot' sites experienced huge crowds gathering to picnic with several instances of drunken and anti-social behaviour. In addition a number of illegal raves have taken place. All this has combined to create unprecedented amounts of litter with as many staff as possible redeployed to litter pick alongside many local volunteers.

10. The night-time use of High Beach car parks is contrary to section 3(11)(c) of the Epping Forest Byelaws (1980) which prohibits overnight parking between one hour after sunset and one hour before sunrise.

Current Position

11. On average visitor numbers to Epping Forest since lockdown have increased by 350% with some individual sites like High Beach experiencing an additional 525% increase in visitors. The activities at the site have resulted in a 7,150 (28.09.20) strong change.org petition demanding more coordinated action is done to manage ASB in the village. Some members of the local community also launched a 'Make High Beach Safe' campaign in June 2020 to press for a reduction in noise, traffic offences and intimidating behaviour.

12. Since July Forest Keepers and Enforcement Officers have undertaken overtime late shifts alongside Head Forest Keeper, Callout Duty Managers and the Superintendent, with the full support of Essex Police, to enforce night-time byelaw parking bans. These activities require an onsite presence 1 hour before sunset through to midnight to enforce closure and are not sustainable in the long-term.

Options

13. Your Committee has four Options to address the impact of increasing Anti-Social behaviour on the management of the site: on disturbance to residents and City of London staff and Essex Police time:

    i. The extension of power and telecommunications infrastructure to the Manor Road area and the installation of pole-mounted Automatic number Plate Recognition (ANPR) cameras to facilitate enforcement by the City Corporation of Fixed Penalty Notice (FPN) to owners of vehicles breaking night-time byelaws and action by Essex Police to target drivers committing Road Traffic Offences. This approach would ensure the least modification to the existing landscape and would not require Forest Keepers to formally approach users to close the site. The scheme would require a substantial investment of £94,600 to enable the scheme and may not directly stop the incidents occurring. A Data Protection Impact Assessment would be needed to be carried out and considered before installation of surveillance equipment. **This option is not recommended.**

    ii. The deepening and remodelling of the 90-degree roadside bay parking bays to enable the installation of gates to facilitate the closure of car parks to close at night. This approach would require the extension of car parking into the Site of Special Scientific Interest and Special Area of Conservation. Natural England would be unlikely to provide consent for these works without the provision of substantial and expensive mitigation activity. If consent was possible, the cost of deepening and gating the car parks is estimated to cost

£360,000. Such a proposal would require capital funding which does not currently meet City Corporation capital funding criteria. **This option is not recommended.**

iii. Using a Traffic Regulation Order (TRO) to gate and close a 200-metre section of Manor Road coinciding with 96 car parking bays at night. Night-time site closure could be achieved by installing through a TRO highway compliant gates and signs at the:

- SW approach to Queens Green opposite the TRO-regulated Queens Grove and Wellington Hill allowing vehicles to bypass the closed section via Wellington Hill and Pynest Green Lane
- NE approach to Queens Green opposite Paul's Nursery Road junction Additional road signing may be required to warn of the revised road structure/night-time closure. The £12,700 scheme would be implemented and funded by ECC and EFDC with City Corporation providing long-term assistance with the responsibility for gate opening and closing. A direct benefit is seen as the release of Essex Police and Forest Keeper time in 'policing' this location. **This option is recommended.**

iv. Leave the current car park scheme in place reducing night-time enforcement activity to periodic joint operations as Police resources allow. **This option is not recommended.**

Proposals

14. While this is formally a Highways Scheme which only the traffic authority (not the Conservators) have power to promote, it is being implemented for amenity purposes, including partly to manage Forest facilities. The traffic authority will therefore resolve to pursue the proposal, and public and other stakeholder consultation will be required as part of the formal TRO process.

15. To prevent the displacement of offending vehicles to other immediate parts of the High Beach area, additional works to secure car parking north of the Manor Road/Paul's Nursery Road junction and at Rushey Plain turnaround car park were also identified. These planned works will be brought forward to support he scheme and will be met by Epping Forest local risk budgets. The Pillow Mounds and Queen's Green car parks offer wide ranging views, convenient and commodious destination parking, the risks of displacing this activity to elsewhere in the Forest is not considered a major risk.

Corporate & Strategic Implications

16. The recommendations of this report support the Corporate Plan with particular reference to the following aims:
    a. Contribute to a flourishing society
    i. People enjoy good health and wellbeing
    b. Shape Outstanding Environments
    iii. Our spaces are secure, resilient and well maintained, where we

a. Maintain our buildings, streets and public spaces to high standards.
b. Build resilience to natural and man-made threats by strengthening, protecting and adapting our infrastructure, directly and by influencing others.

17. The report supports the Open Spaces Business Plan as follows:
    a. Open Spaces and historic sites are thriving and accessible.
    i. Our open spaces, heritage and cultural assets are protected, conserved and enhanced
    ii. London has clean air and mitigates flood risk and climate change

Implications

18. **Financial**: The District Council and the Police and Crime Commissioner have agreed to fund both the TRO costs and the £12,700 (which includes the TRO costs) infrastructure needed to deliver the TRO scheme at the site in return for the City Corporation's operation of the daily opening and closure of the gates. City Corporation staff already open and close car parks gates across the Forest and these two additional gates could be added to existing Forest Keeper duties. Such an arrangement would need to be a formal agreement with the traffic authority.

19. **Legal:** Under the Epping Forest Byelaws section 3 (11) it is an offence to park in a vehicle park between one hour before sunrise and one hour after sunset for picnic or other pleasure purposes

20. **Equality:** The area subject to proposed gating controls has 4 disabled parking bays. As all the parking on site is being subjected to controls only when parking would be illegal a review of the scheme does not indicate that any protected characteristics would be unfairly restricted.

21. **Charity:** Epping Forest is a registered charity (number 232990). Charity Law obliges Members to ensure that the decisions they take in relation to the Charity must be taken in the best interests of the Charity.

Epping Forest Consultative Committee

22. The Consultative Committee raised concerns regarding the risk of displacing the Anti-Social Behaviour elsewhere in High Beach, possibly towards the frontage of the Kings Oak Hotel. While some Members welcomed the scheme, others were perturbed by the potential impact on the emergency services and air quality outcomes associated with the increase in vehicle journey length created by the night-time diversions.

Conclusion

23. The gating of a public highway to control ASB is a significant step and will undoubtedly add to the journey length for road users travelling during closure hours who will be obliged to detour around local roads. Essex Police, together with the District and County Councils, support this approach in principle, in order

to effectively manage ASB that has created difficulties at High Beach for some years, but has been magnified during the COVID-19 public health emergency. However, any final decision will be subject to consultation responses which must be considered, and the outcome of the consultation cannot be prejudged.

Appendices

- Appendix 1 – MAP

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CITY OF LONDON

ETRO gate location Manor Road High Beech

Created By:
M D Newnham Head Keeper

Date Created
8 Oct 2020

0 25 50 99
Metres

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Committee(s)	**Dated**
Epping Forest Consultative – For consideration	21 10 2020
Epping Forest and Commons – For decision	16 11 2020
Subject: Epping Forest Car Parking – Introduction of Parking Charges (28/20b)	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	**4,11,12**
Does this proposal require extra revenue and/or capital spending?	**Y**
If so, how much?	**£170,000**
What is the source of Funding?	**Local Risk**
Has this Funding Source been agreed with the Chamberlain's Department?	**Y**
Report of: Director of Open Spaces	**For Decision**
Report author: Martin Newnham	

Summary

The majority of Epping Forest's 4.2 million annual visits arrive by car. The Forest provides 55 car parks offering in the region of 950 spaces free of charge to the public.

Whilst car ownership has grown by 100% over the past 50 years, car parking provision in Epping Forest has purposely not matched this growth to ensure the continued statutory protection of the Special Area of Conservation and Site of Special Scientific Interest designations. In addition to growing demand from Forest visitors, car parks are also experiencing significant pressure from commuter parking; vehicles displaced by the expansion of residents parking zone restrictions (largely created to deal with commuter parking) and motorists seeking to avoid local on-street and off-road car park charging schemes.

This report recommends the introduction of a car park charging scheme in order to maintain access to car parking for genuine Forest use, to manage competing demands on the space and to generate sufficient income to offset the significant cost of continued car park provision. Charging would also address wider strategic aspirations in Local Plans to foster modal shift, while incentivising visits to free Suitable Alternative Natural Greenspaces, known as SANGS, created close to the Forest and funded by new residential developments.

The report proposes the use of available powers to manage parking through phased introduction of charges starting with an initial 14 car parks that currently experience the most parking issues. This will mirror the practice of sister City of London Corporation Open Spaces sites and competing open space attractions.

Using cashless collection technology through card or mobile phone payment, charges are estimated to generate an annual surplus for reinvestment into car parks and the wider Forest.

Recommendation(s)

Members are asked to:

- Note comments made by the Consultative Committee on the proposed scheme of charges.
- Approve the proposal to implement a car park charging scheme in Epping Forest.

Main Report

Background

1. There are 55 car parks located across Epping Forest ranging in size from 3 to 200 cars, providing a total parking capacity for 946 vehicles. The current provision of car parking facilities has evolved in a 'piecemeal' fashion, largely formalising areas where vehicle parking has traditionally sought access to the Forest over the past 50 years.

2. The car 'parc' (the total number of licenced and SORN – *Statutory Off-Road Notification* - vehicles in the UK) totalled 19 Million in 1971, rising to 38.2 Million by 2018, a rise of 101% across the last 47 years. Necessarily constrained by the need to protect Epping Forest Land and its special character, especially with regard to the Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) designations, car parking capacity within the Forest has remained largely unchanged in the face of this dramatic growth in car ownership.

3. The Epping Forest Acts 1878 & 1880 pre-date the subsequent invention of the motor car in 1886. Recognising the need to manage the growth of car ownership and car parking pressure at Epping Forest the City of London (Various Powers) Act 1977 granted additional powers to provide car parks and charge for car parking.

4. A report to the Epping Forest and Commons committee of 10 February 2003 (SEF15/03) sought to rationalise car parking provision across the Forest, gradually moving main car parks to the edge of the Forest while selecting small and problematic car parks for closure. While the closures in the report were not implemented, key strategic car parks identified in the report were upgraded as 'visitor hubs' in the 2009-14 Heritage Lottery Fund *Branching Out* Project.

Current Position

5. The maintenance and operation of the car parks in Epping Forest is a substantial cost for the Charitable Trust's revenue budget. These costs include grounds maintenance; cyclical maintenance of surfacing; opening and closing gates, together with the provision and cleansing of infrastructure such as signs, bins and vehicle controls.

6. A report commissioned from URS consultants in 2014 identified the significant impact of cars and car parks on both visitor enjoyment and the Forest environment including from noise and air pollution, fly tipping, littering and the loss of habitat. Moreover, the Epping Forest Visitor Survey (2009-14) and further surveys in 2017 and 2019 reveal that around two thirds of visitors travel to the Forest by car.

7. Since the 10 February 2003 report to your Committee and the changes to parking provision made by the *Branching Out* Project, in addition to growing demand for car parking space from Forest visitors, car parks are also experiencing significant pressure from non-Forest users including:
    a. **London commuters** who are seeking to park their vehicles close to Transport for London Central Line stations at Epping; Theydon Bois; Loughton; Woodford; Snaresbrook and Wanstead together with Chingford; Manor Park and Wanstead Park Overground stations;
    b. **Residents and visitors displaced by parking restrictions** through Urban Clearway and No parking or Waiting yellow line restrictions introduced to manage traffic flows, and public safety schemes which reduce the amount of road frontage available for vehicle parking during peak hours;
    c. **Local residents displaced by the expansion of Residents Parking Zone (RPZ) restrictions**. RPZs have largely been created to deal with pressures from commuter parking. The resulting pressures on the reduced range of car parking opportunities and punitive charges for second and third vehicles associated with individual properties is encouraging 'refuge' parking by residents;
    d. **Motorists seeking to avoid local on-street and car park charging schemes.** The introduction of hospital visitor parking charges in 2000, and major price increases in 2010 have displaced considerable parking onto Forest land. Similar charges for most local authority car parks have also encouraged shoppers to park in Forest car parks;
    e. **Quietway and Mini-Holland cycling schemes.** While cycleways are providing valuable modal shift improvements the 'land take' has also reduced on-street parking capacity.

8. Given the clear pressure on limited car parking capacity, together with the significant cost of provision, a mechanism is required, to maintain access to car parking for genuine Forest uses, while discouraging parking for other

purposes. Income generation will help to offset the estimated cost of continued car park provision.

Proposals

9. The report proposes that a rolling programme of car parking charges be implemented in the majority of car parks across Epping Forest. This is necessary to prevent the long-term displacement of parking if only some car parks implement charging. However, due to the cost of installation and monitoring, the introduction of charging will need to be incremental. It is proposed that the following car parks will have charging introduced in this first phase as a priority:

   Wanstead Flats:
   - Centre Road
   - Alexandra Lake
   - Jubilee Pond

   This will tackle vehicle displacement from resident parking zones and commuter use.

   Leyton Flats:
   - Hollow Ponds
   - Boathouse
   - Eagle Pond

   This will tackle commuter use and the displacement from hospital car parks by hospital visitors and NHS staff and contractors (where charges apply).

   Chingford Hub:
   - Bury Road,
   - The Caddie House, Chingford Golf Course
   - Connaught Water
   - Barn Hoppitt (and seasonal overflow)
   - Connaught Tennis Club

   This will tackle commuter use at Bury Road and Golf Course and prevent consequent displacement to Barn Hoppitt, Tennis Club and Connaught Water.

   High Beach:
   - Pillow Mounds
   - Generals Ride
   - High Beach Visitor Centre

   This will tackle the intensity of use in this area and anti-social behaviour. Wellington Hill and Claypit Hill may be included when re-opened.

10. Displacement generated from charging in this area may create a need for charging at Hill Wood in the future, but as this is most extensively used by motorcyclists it is not considered a priority in this first phase.

11. The introduction of car parking charges should wherever possible be integrated into wider schemes encouraging modal shift – the delivery of policy objectives through a move away from particular transport types - *away from motor vehicle use to other forms of more sustainable transportation including pedestrian access, cycling and public transport*. Over time income from charges could be used to encourage this change through the creation of local access points around the edge of the Forest near to housing, bus stops and rail stations to provide a more attractive welcome for visitors.

12. One of the wider schemes into which charging needs to fit is the provision of a network of Suitable Alternative Natural Greenspaces (SANGS) and the necessity to prevent adverse impacts on Epping Forest SAC. Epping Forest District Council (EFDC), in its consultation draft Green & Blue Infrastructure Strategy (Section 1, paragraph 1.26), made it clear that it wished to "*work with the Conservators of Epping Forest to explore the potential for introducing car parking charges"* so as to help reduce the pressure of visits to the Forest and make alternative sites or SANGS attractive propositions for activities, like daily dog-walking.

13. Car parking charging can also assist in communicating the message that Epping Forest is special and needs looking after and such charging is one way in which visitors can contribute to its continued protection and improvements in visitor access.

14. In addition to the Forest's visitor surveys the introduction of car parking charges will, over time, provide more detailed and valuable information on the number of visitors and duration of stay for each car park location, which can be used to inform operational changes.

Range of Charges

15. PMS Consultants commissioned by the City Corporation analysed parking charges in operation in areas surrounding Epping Forest car parks. It is proposed to adapt charging according to local benchmarks with incremental charging depending on length of stay.

16. The charges will reflect the most common length of time visitors spend in the Forest at one to two hours. The revenue raised at these amounts are projected to be sufficient to cover the cost of operating charging in car parks and produce a surplus for reinvestment in the management of car parks.

17. The option of a free period of parking will not be progressed due to the increased complexity of monitoring and additional administration costs. The experience of similar provisions in other areas has shown that free periods

were open to high levels of abuse leading to complaints and appeals where enforcement notices have been issued.

18. Two types of payment options will be provided to include: -
    - Pay & Display Machine – Card payment only
    - Pay by Phone – Telephone call or via the service providers web application. Testing by PMS Consultants suggest that there are viable phone signals for most of the proposed phase 1 sites

19. Due to the isolated location and nature of the car parks, payment by cash is not recommended as conventional machines will be highly susceptible to theft. The exclusively cashless payment approach is now being adopted by many local authorities and car park operators across the UK and reduces the costs associated with cash collection and maintenance of ticket machines.

20. **Concessions** - It is recommended that parking should remain free for Blue Badge concessions and Motorcyclists.

21. **Emissions-based charging** - With the introduction of Ultra Low Emission Zones (ULEZ's) in the southern parts of the Forest in October 2021 and Clean Air Zones (CAZ's) in many towns and cities, it is recommended to consider moving to emissions-based charging at a later stage. This will require Automatic Number Plate Recognition (ANPR), which will have a higher cost than the initial scheme and so is proposed to be reviewed as a potential option after the second year of operating charges.

22. **Season Tickets** – A significant numbers of visitors make multiple daily visits to Forest car parks. It is proposed to provide a season ticket to recognise regular visiting. The season ticket will have a 'cap' on the length of stay to prevent it becoming a cheap option for commuters.

23. **Tenants/ Facility Use** - Specific arrangements will be made to allow facility users time limited free parking. For example, players at Chingford Golf Course will be able to park for the duration of their round.

Service Delivery

24. A number of service delivery options are being considered including:
    A. Complete external service provision
    B. Complete internal service provision
    C. Internal service/enforcement provision with external contractor processing appeals, DVLA and debt management

25. These are being assessed against the criteria of
    - Optimised level of income generation
    - Shortest implementation route
    - Optimum service delivery and level of management control

- Public perception and support

Timeframe

26. A further report will be presented to the Epping Forest and Commons Committee at their meeting of January 2021 to present options for the charging tariff for agreement.

27. Following this, a public consultation exercise will take place for 6 weeks. Detailed comments from key stakeholders and partners such as tenants, neighbouring local authorities and parks, will be proactively sought.

Options

28. Two options are presented for your Committee's consideration:

    28.1 Option1 - Agree to the proposal that charging is introduced in an initial 14 car parks. Officers will finalise the detail of the process and your Committee will be asked to approve the tariff at the Epping Forest and Commons Committee in January 2021. This will generate substantial income to be reinvested into car park improvements and Forest management. Overuse by residents and commuters will be alleviated reserving car parks for Forest users. Better visitor information will be generated that will help with sustainable visitor management in the longer term. **This option is recommended.**

    28.2 Option 2 - Do not agree to introduce parking charges in Epping Forest. This will continue to leave Epping Forest as an anomaly offering free parking next to residential parking zones, underground and train stations and other parks and venues where charging applies. Overuse by non-Forest users will continue to increase repair and maintenance costs to the charity. **This option is not recommended.**

Strategic Implications

29. Car park charging supports the Open Spaces Departmental Business Plan objective to provide safe, secure and accessible Open Spaces and services for the benefit of London. Improving car park facilities and accessibility promotes opportunities to value and enjoy the outdoors for recreation, learning and healthy living; and developing a long-term management strategy will help protect the integrity of the environment.

Financial Implications

30. Financial details will be presented to the Epping Forest and Commons Committee in a later report, but initial consultants estimates indicated that an in year pay back for the initial outlay is possible.

31. **Resource**: The estimated forecast budget for the scheme indicates that an in year pay back for the initial outlay is possible, depending on how the initial investment is managed. A benchmarked car parking tariff will be presented to the Epping Forest and Commons Committee at their meeting in January 2021, with options for approval.

32. **Legal:** Section 8(2) of the City of London (Various Powers) Act 1977 gives the Conservators the power to provide parking spaces on Forest Land in order to improve opportunities for the enjoyment of the Forest by the public. There is also a power to make reasonable charges for the use of parking spaces under section 8(4) of the 1977 Act.

33. **Equalities:** Blue badge users will receive free parking for a capped number of hours. Epping Forest is well served by public transport and is accessible by foot from many urban centres, charging is not therefore considered as unduly detrimental to those on lower income. An initial screening exercise of the equality impact of this decision has been undertaken by the City Corporation. At this stage, it is considered that there are no negative impacts on the protected equality groups.

34. **Charity**: Epping Forest is a registered charity (number 232990). Charity Law obliges Members to ensure that the decisions they take in relation to the Charity must be taken in the best interests of the Charity.

35. **Climate**: The implementation of car park charging can play a role in promoting modal shift to other forms of transport reducing reliance on cars to access the Forest, which in turn should have a positive impact on carbon emissions and air quality.

Epping Forest Consultative Committee

36. The Consultative Committee considered this report at their meeting of 21 October 2020 and the following was noted: (responses included here for clarification)

- Concern that the introduction is contrary to undertakings given in the narrative to the Epping Forest Act 1878 that the City of London Corporation would meet the costs of managing Epping Forest

  The Act predates the introduction of the motor car, along with many other legislative and population changes that have significantly changed the context in which the Forest first operated 142 years ago.

- Concern for the impact on low income families

  Charging will be incremental. More work will be undertaken to promote active travel options regarding accessing the Forest locally without using a car.

- Concern that people are wary of using public transport as an alternative to cars during the pandemic / public transport provision is not adequate

  This may not still be the case by the time the scheme is implemented. There is access by public transport to lots of the Forest. This is promoted in a range of walks designed to lead to and from public transport hubs. Signposting schemes are also in development along with local signage to increase awareness of local access points to the Forest.

- Importance of synchronising with resident parking schemes – which often allow free parking at weekends – Forest users will use residential areas as an alternative

  This has been considered and will influence local charges.

- Could a voluntary charge be levied instead?

  This was the system for many years at our sister site Burnham Beeches, however donations were low, and a formal charging system has now been installed.

- Concern that some older people do not use smartphones and will only be able to pay cash

  In 2019, at least one adult in 79% of UK households owned or leased a smartphone, with 72% using a 4G connection. The option of a season ticket may be suitable for those individuals wishing to pay by phone.

  The isolated nature of many car parks and the cost and risk of collecting cash makes the scheme prohibitive.

- Will cars be towed?

  There is currently no intention to tow vehicles as a parking enforcement measure. Parking penalties will be managed through penalty charges.

- Some Members saw the scheme as simply a method to raise revenue and requested more honesty on this approach. There was also a concern that if Epping Forest were to raise income in this matter the City Corporation's contribution may diminish further.

  The scheme has multiple aspirations as identified in the report. The pressures of austerity have already seen efficiency savings in relation to the City Corporation's deficit funding and these are likely to continue irrespective of the Forest's income generating activity.

- Need to invest in cycle parking at car parks to show cycling as a viable alternative transport method

  Noted. All new/refurbished car parks now include these as standard.

- Will people be willing to pay if the surface is poor – need to tarmac?

  Experience elsewhere shows that people will pay – for example Hatfield Forest, however it will be our intention to resurface and make improvements if sufficient income is generated.

- Ensure sufficient disabled spaces are available.

  This has been audited and is sufficient on peak days at present but additional bays can be created if needed.

Conclusion

37. Decisive action is needed to ensure Epping Forest's full car parking capacity is available to Forest visitors, rather than third party use displaced by road restrictions and charging regimes. Charging will help to resolve these issues and will provide an income stream to more effectively manage the cost of providing car park facilities. Charging will also reflect wider Local Plan objectives by helping to establish SANGS . A cost-based scheme will also provide improved data on visitor usage and help to deliver more sustainable ways of visiting the Forest.

Background Papers

- Epping Forest and Commons Committee report 7 July 2014

Report author

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Committee(s)	**Dated:**
Epping Forest Consultative – *for information* **Epping Forest and Commons – *for decision***	21.10.2020 **16.11.2020**
Subject: EF SAC Mitigation for Local Plans: on-site SAMM proposals (SEF 27/20)	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	**2, 4, 10, 11 & 12**
Does this proposal require extra revenue and/or capital spending?	**No**
If so, how much?	**£N/A**
What is the source of Funding?	**External: local authorities**
Has this Funding Source been agreed with the Chamberlain's Department?	**Yes**
Report of: Director of Open Spaces	**For Decision**
Report author: Jeremy Dagley, Head of Conservation	

Summary

This report presents the proposals, with cost estimates, of the City of London Corporation in its capacity as The Conservators of Epping Forest (CoLC) for within-site Strategic Access Management & Monitoring (SAMM) mitigation measures for the Epping Forest Special Area of Conservation (EFSAC). Such measures are required to prevent harm and maintain the integrity of the EFSAC in line with its Site Conservation Objectives and to ensure no adverse impacts of planned development. If approved, the proposals will be presented to the local authorities, within the agreed recreational Zone of Influence around EFSAC, so as to inform their Local Plans and related documents, including a full SAC Mitigation Strategy. Such a Strategy would set out the arrangements to secure developer contributions for funding for these and other proposed mitigation measures.

With a proposed increase of up to 39% in the residential population within the EFSAC's recreational Zone of Influence (ZOI), as a result of local plans of just three of the ten neighbouring planning authorities covered by the ZOI, there is a requirement for a proportionate, comprehensive and robust EFSAC Mitigation Strategy. Off-site mitigation in the form of Suitable Alternative Natural Greenspaces (SANGS) and a development exclusion zone remain to be formulated by the competent authorities. This report presents detailed analysis and costings commissioned from Land Use Consultants (LUC) for on-site mitigation around three EFSAC visitor hubs and additional Forest-wide SAMM measures. The total costs for this on-site SAMM mitigation would range from **£17,121,594** covering a 25-year period to **£63M** to ensure protection across a 125-year 'in perpetuity' period.

Recommendation(s)

- **Recommendation 1:** Members are asked to approve the costed proposals in Appendix 1, Table 3 and Appendix 2 to be presented to all competent

authorities as a basis for SAMM funding in their respective Local Plans through an updated, full EFSAC Mitigation Strategy

- **Recommendation 2:** officers to report back on any proposed modifications to the proposals requested by the competent authorities (including 'in perpetuity' calculations) for consideration and approval.

Main Report

Background

1. A large proportion of Epping Forest (2450ha) is under statutory protection for its features of international importance for nature conservation, as a Special Area of Conservation (SAC) (1605ha), and features of national importance, as a Site of Special Scientific Interest (SSSI) (1728ha).

2. In formulating their Local Plans, the local authorities ("competent authorities") around and within which the Epping Forest Special Area of Conservation (EFSAC) is located are required to determine if the local plan (both individually and cumulatively with other plans) may affect the protected features of a European site before deciding whether to undertake, permit or authorise the plan. They achieve this through a Habitats Regulations Assessment (HRA), the sequential stages of which are governed by the Habitats Regulations 2017 (as amended) (the Habitats Regulations) and, in particular, regulations 63 and 105.

3. All plans and projects (including planning applications) which are not directly connected with, or necessary for, the conservation management of a habitat site, require consideration of whether the plan or project is likely to have significant effects on that site. This consideration – typically referred to as the 'Habitats Regulations Assessment screening' – should take into account the potential effects both of the plan/project itself and in combination with other plans or projects. Where the potential for likely significant effects cannot be excluded, a competent authority must make an appropriate assessment of the implications of the plan or project for that site, in view the site's conservation objectives. The competent authority may agree to the plan or project only after having ruled out adverse effects on the integrity of the habitats site. Where an adverse effect on the site's integrity cannot be ruled out, and where there are no alternative solutions, the plan or project can only proceed if there are imperative reasons of over-riding public interest and if the necessary compensatory measures can be secured.

4. In the case of local plans around the Forest, likely significant effects on EFSAC have been clearly identified by the HRA process and derive from increases in the local population from additional dwellings. New development can potentially trigger likely significant effects on EFSAC through:

    - air pollution (mostly from road traffic),
    - increased recreational visits
      and
    - additional urbanisation impacts.

5. In order to rule out any adverse effects on site integrity there are a number of approaches that the local authorities could take. These could include reassessing housing development locations and roads infrastructure. CoLC has pressed local authorities to do just this through detailed comments on local plans, including wide-ranging representations at the Epping Forest District Council's (EFDC) Local Plan Submission Version (LPSV) examination-in-public in 2019.

6. In addition, the local plans can integrate detailed mitigation measures into their proposals, supported by clear policies, to ensure measures are in place to resolve adverse effects. To do this it is best if the various competent authorities work together at a strategic level. For this level of coordination an **SAC Mitigation Strategy** is required and, in the case of the EFSAC, needs to address, comprehensively, the three routes of adverse effects listed above in paragraph 4.

7. To address these likely significant effects on the EFSAC a number of measures are required as a minimum, and these include:
    - On-site (within the EFSAC) recreation mitigation measures or a Strategic Access Management & Monitoring (SAMM) Strategy;
    - Air pollution mitigation strategy (both on and off-site measures);
    - Exclusion zone to limit urbanisation impacts (off-site measure);
    - Suitable Alternative Natural Greenspaces (SANGs) to deflect additional recreational pressure away from the Forest (off-site measure).

8. In July 2018, an "oversight" group of local authorities and other competent authorities, including CoLC, met to discuss mitigation. EFDC, as the authority encompassing the majority of the EFSAC area, and with a local plan closest to submission, sought agreement with the other local authorities on outline costs and proposals for certain mitigation measures that might address increased recreational pressures on the Forest. Based on the Visitor Survey 2017 results, a Zone of Influence (ZOI) for recreational visits of 6.2km was used, within which 75% of visits to the EFSAC arise.

9. Outline proposals and preliminary costings for SAMM were submitted by CoLC officers at EFDC's request. These were used as a basis for discussion and were subsequently incorporated into an ***interim*** EFSAC Mitigation Strategy drafted by EFDC and circulated to other authorities. The costings provided were preliminary ones, aimed at basic Forest-wide requirements and the visitor hub at High Beach within the EFDC Local Plan area. They did not examine other visitor hub requirements (see paragraph 10 below). The *interim* EFSAC Mitigation Strategy was included as an accompanying document to the EFDC Local Plan, ahead of its 2019 examination-in-public.

10. Interim tariffs were calculated to be charged against individual housing units, within the ZOI, to pay for these preliminary SAMM proposals using the outline costings. Some of the other local authorities also began to levy tariffs using these costings. However, this *interim* SAC Mitigation Strategy only included a nominal costing for the Leyton Flats visitor hub without any assessment of its

requirements and did not include SAMM costings for other specific sites within the London area of the EFSAC, including the Chingford hub.

11. Furthermore, the *interim* EFSAC Mitigation Strategy does not address air pollution, urbanisation or provision of other spaces for people to use for recreation (Suitable Alternative Natural Greenspace – 'SANGs'). This was recognised at the examination-in-public of the EFDC Local Plan after which the Inspector concluded that she could not rule out adverse effects on the integrity of the EFSAC from the Local Plan.

12. Therefore, the Inspector required the EFDC Local Plan HRA to be reviewed and updated to take account of her findings (August 2019). As part of this, and in addition to further detailed assessments of air pollution impacts along Epping Forest District roads, the Inspector required a SANGs Strategy to be developed by EFDC and for the SAMM provision to be kept under review. The SAMM provision in relation to other Local Plans (e.g. LBWF) has not yet been assessed by their HRA processes. Furthermore, there are currently no adopted SANGs strategies in any of the local authority areas within the EFSAC Zone of Influence.

13. The Committee considered the issues related to SANGs at its July 2020 meeting when EFDC's proposed Green Infrastructure Strategy was discussed in some detail. Following Committee approval, a letter was subsequently sent to EFDC addressing this issue in detail.

Current Position

14. Since then an updated EFDC Local Plan Habitats Regulations Assessment (HRA) has been produced with an accompanying new air pollution mitigation strategy. The HRA also proposed a 400m exclusion zone to mitigate for urbanisation effects. Although some housing site allocations have been withdrawn following the Inspector's advice, the target of 11,400 new homes in the District by 2033 remains, with 6,622 of these still planned to be within the 6.2km ZOI (2,105 within 3km) around the EFSAC boundary. The HRA concluded that with all these newly proposed mitigation measures in place, alongside the SAMM of the *interim* Mitigation Strategy, that there would be no significant adverse effects on the EFSAC.

15. These documents were examined, under tight time constraints, in September by both Natural England and CoLC officers and detailed comments have been fed back to EFDC. In relation to the HRA, concern was expressed by both NE and CoLC about the lack of governance to ensure coordination amongst local authorities. Most importantly, they also highlighted the continuing lack of recreational mitigation measures, especially SANGs. **CoLC and NE officers were agreed that the EFDC Local Plan HRA (August 2020) was not at a stage to be able to rule out adverse effects on the integrity of EFSAC**.

16. The London Borough of Waltham Forest (LBWF) published the first stage of its consultation on its Local Plan Submission Version (LPSV) with a housing site allocations report on 23rd September. The LBWF LPSV policies are due

to follow this month (October) and both parts of the consultation run until 14th December. In addition, LBWF is due to publish its strategic HRA and a Green Infrastructure and SANGs Strategy.

17. However, it is already clear that there is very limited room for SANGs within the Borough. While this situation and solutions to it still await review in the LBWF Local Plan and HRA, on the face of it the lack of alternative greenspace will put greater emphasis on SAMM in relation to recreation. Around 27,000 houses are proposed at the current time in the LBWF Local Plan – all within 3.5km of the EFSAC.

18. To assess the recreational impact of all possible Local Plan developments, the proposed additional housing needs to be considered **'in combination'**. Based on the results of the Epping Forest Visitor Survey 2019 (*Footprint Ecology*), 78% of visitors to the Forest came from the three nearest local authority areas, EFDC (31%) LBWF (35%), London Borough of Redbridge (LBR) (12%). The other 20% of visits emanate largely from the other seven local authorities covered by the ZOI. It should be noted, therefore, that considering only the housing increases from these three closest authorities (LBWF, LBR and EFDC) provides a conservative estimate of the likely 'in combination' recreational pressure.

19. The LBWF figure of 27,000 homes, taken together with EFDC housing (6,622) and the current London Borough of Redbridge total (>2,000) would amount to at least **35,600 new homes within 6.2 km of the EFSAC** boundaries by 2035.

20. On the basis of the average home occupancy (Office of National Statistics – 2011 Census) in these three local authorities**,** this would result in an increase in the population within the EFSAC ZOI of over 92,500 people. The current population of these three authorities within 6km of the EFSAC is estimated at just under 237,000 (data supplied by *Footprint Ecology*). **Therefore, the proposed Local Plan housing, in these three authority areas alone, would result in a 39% increase in population levels within the EFSAC ZOI in the next 15 years, and a concomitant rise in visits.**

21. Furthermore, the majority of the proposed 39,600 new homes, 29,755 of them, would be located within 3km of the EFSAC, no more than a 36-minute average-paced (5km/h) walk away. This would be likely to significantly increase the number of daily or even twice-daily visits to the Forest. On the gravel and clay soils of the Forest a rise in such frequent visits, especially during autumn and winter in wetter conditions, would be likely to lead to significant and additional widening of paths, ground vegetation loss and soil compaction and erosion.

22. At Hatfield Forest SSSI and National Nature Reserve in Essex just such an increase in visits, since 2011, from new local housing within 2km of the site led to significant damage and an assessment of Hatfield Forest SSSI as in 'unfavourable recovering' condition. A mitigation strategy there is being sought to prevent the damage leading to further loss of biodiversity and the

SSSI condition worsening to ‘unfavourable’. The National Trust, which manages Hatfield Forest, has refrained from promoting the site, has limited parking, ceased holding events and closed off paths during the autumn and winter and early spring.

23. At Epping Forest the potential pressure on the EFSAC and the SSSI areas is even greater as the histograms (*Footprint Ecology*) in Figures 2a and 2b of **Appendix 1** illustrate. The density of residential dwellings with 5km of the EFSAC is significantly greater than any comparable internationally-protected site in southern England, such as the Thames Basin Heaths. These are now protected with a comprehensive mitigation strategy which includes a network of SANGS as well as on-site SAMM.

24. The pressure on Epping Forest is also exceptional in another way because unlike the Thames Basin Heaths and other international sites in England the EFSAC is surrounded by local authorities in London where there are limited opportunities to locate alternative greenspace. A SANGS network is critical to the future protection of the Forest (see also paragraphs 7, 12 & 13 above) but the limited alternatives escalate the pressure and the reliance upon the provision of on-site SAMM.

25. The recent period of lockdown during the COVID-19 pandemic also illustrated the EFSAC’s vulnerability to increased recreational pressure or changes in the character of visits from the existing residential population. A Visitor Survey this summer revealed a greater than 250% increase in visits, with some key visitor hubs receiving seven times the usual number of visits. At Connaught Water, the busiest site in the EFSAC, there was an average of 240 visits per hour. Wildfires occurred across the Forest and the EFSAC as shown by Figure 3 in **Appendix 1.**

26. With these pressures in mind and with the need to both review and amplify the robustness of the proposals and costings in the existing *interim* SAC Mitigation Strategy, Land Use Consultants (LUC) were commissioned by Epping Forest officers in 2019 to develop comprehensive SAMM proposals for the three main EFSAC visitor hubs at High Beach, Chingford and Leyton Flats. The latter two sites were particularly important as they had not been covered in the interim SAC Mitigation Strategy. The recent pressures on High Beach have also demonstrated the need for a more detailed examination of options.

27. The LUC report is attached at **Appendix 2.** Highlights from the LUC report’s proposals are set out in the *Proposals* section below. A combined SAC Mitigation Framework of proposals and costs, taking account of the LUC work and the proposals in the *Interim* SAC Mitigation Strategy, is provided in Table 3 of **Appendix 1**.

Proposals

28. The **LUC report** (**Appendix 2**) contains detailed proposals for on-site SAMM for each of the three visitor hubs of High Beach, Chingford and Leyton

Flats/Hollow Ponds. As the report summarises in its *Implementation* section (paragraph 4.83 onwards, page 72) although the proposals have been subject to considerable consultation and analyses of costs, they remain conceptual and exact design details remain to be agreed.

29. In addition, some of the SAMM proposals (e.g. infrastructure) would need to be assessed for likely significant effects under a Habitats Regulations Assessment. The costs of such assessment and liaison with Natural England, therefore, are incorporated into the design costs (paragraphs 4.84 & 4.86 and Table 4.7 of the report).

30. In the LUC Report (Appendix 2), the measures proposed, that the three hubs have in common, include the provision of a ranger service, or *EFSAC Ambassadors.* Such a service will be essential for monitoring the SAC, vital for managing the uplift in visitor numbers, assisting with site orientation and engaging with visitors on the proposed management changes. Each hub includes costs for one officer, which would provide for a team of three EFSAC Ambassadors. This would allow for shift patterns, team work on projects and managing other sites away from the main hubs, including possible alternative non-SAC destinations within the Forest itself. This service was something highlighted in the *interim* SAC Mitigation Strategy.

31. For **High Beach** the LUC report (Table 4.1, page 35 onwards) proposes the better protection of soils, fencing of some ancient trees to reduce root compaction, better orientation and pedestrian access to facilities and the creation of four circular unsurfaced, waymarked walking routes to relieve pressure on the current “desire” lines.

32. For **Chingford hub** (LUC report Table 4.3, page 47 onwards) the emphasis is on shifting the “centre of gravity” of access and activities away from the SAC areas, making Bury Road car park the centre point for access and encouraging routes westwards to Pole Hill. In this re-orientation surfaced paths are proposed leading to the Butler’s Retreat and Visitor Centre hub and better orientation and waymarking all round.

33. For **Leyton Flats/Hollow Ponds** (LUC Report Table 4.5, page 65 onwards) there would be better orientation at the existing multiple entry points, the use of non-SAC land to relieve pressure on the SAC, protection and extension of the acid grassland and dry heath area.

34. In **Appendix 1,** wider-Forest SAMM measures from the original 2018 *interim* Mitigation Strategy (see paragraph 9 above) are updated and included in **Table 3** together with the LUC Report costs for the three hubs. This provides an overall work and on-site mitigation package with essential monitoring and review stages.

35. It is the responsibility of the local authorities, as competent authorities, to decide how to calculate the tariffs or other funding mechanisms. This includes the issue of ‘in perpetuity’ funding for these measures which the competent authorities would need to assess to ensure that potential adverse impacts on

the EFSAC can be mitigated permanently. The local authorities need to be certain, beyond reasonable scientific doubt, that the measures taken will ensure no significant adverse effects. Some authorities, therefore, interpret 'in perpetuity' costs to be many decades and up to 125 years to cover for this.

Options

36. **Option 1**: to approve the proposals and costings in the LUC report and **Table 3 of Appendix 1** for presenting to the competent authorities as a basis for further negotiation on a full SAC Mitigation Strategy (being discussed with the local authorities in the EFSAC Oversight Group.) This would also inform developer contributions to be sought through the competent authorities' planning policies and determination processes to secure the mitigation **This option is recommended.**

37. **Option 2**: To require changes to the new proposals in Appendix 2 before submitting to the SAC Oversight Group and to develop additional proposals to those included in **Appendix 1** (**Table 3**). **This option is not recommended**.

38. **Option 3:** to withhold these more detailed proposals until such time as the local authorities, as SAC competent authorities, review and further develop their own SAMM and SANG proposals as part of their ongoing local plan preparation or revisions. **This option is not recommended.**

Key Data

39. The proposals in Appendices 1 and 2 cover the whole EFSAC with mitigation projects to be started within the next **15 years** in response to a potential **39%** increase in visits to the Forest across this time. Many projects are required then to be in place **'in perpetuity'** (up to 125 years), provided they remain effective in preventing adverse impacts.

40. Detailed costings are provided in Appendix 2 for projects at the **three** key visitor "hotspots" or hubs. During the COVID-19 lockdown period these hubs saw an average increase of at least 250% in visits, illustrating the existing vulnerability of the Forest to recreational pressures. The total project **implementation** costs for these hubs would be **£4,635,835.10.** The **annual maintenance** costs would be **£380,221.70.** The 'in perpetuity' calculations for these maintenance costs are shown in the *Financial implications* section below.

41. **Monitoring** and evaluation across at least 25 years is essential to ensure the effectiveness of the measures in preventing adverse impacts. The costs of such monitoring amounts to at least **£300,000,** around 1.5% of the total funding required.

Corporate & Strategic Implications

Strategic implications

42. The recommendations of this report support the **Corporate Plan** with particular reference to the following aims:

a. Contribute to a flourishing society

2. People enjoy good health and wellbeing
4. Communities are cohesive and have the facilities they need.

b. Shape Outstanding Environments

10. We inspire enterprise, excellence, creativity and collaboration
11. We have clean air, land and water and a thriving and sustainable natural environment
12. Our spaces are secure, resilient and well maintained.

43. The report supports the **Open Spaces Business Plan** as follows:

a. Open Spaces and historic sites are thriving and accessible.

i. Our open spaces, heritage and cultural assets are protected, conserved and enhanced
ii. London has clean air and mitigates flood risk and climate change

Financial Implications

44. In addition to considerable officer time required to respond to the Local Plans since 2017, the costs of legal representations and specialist consultancy advice with regard to the Local Plans thus far amount to approximately £65,000, in addition to officer time. The cost of representations should be seen in the context of the Local Plans' durations and the scale of proposed development (**see paragraph 20 above**).

45. The cost of the proposed LUC recommendations for project implementation at the three EFSAC hubs would be £4,635,835.10 (LUC Report Table 4.7, page 73 – see Appendix 2). The total cost over 25 years is summed in Table 3 of Appendix 1 for Forest-wide EFSAC mitigation, including annual maintenance and revenue costs (e.g. for staff posts), contingency, design and HRA costs. The sum total for SAMM mitigation, therefore, would be in the range between **£17,121,594** covering 25 years and up **£63M** for an 'in perpetuity' period of 125 years.

46. All these mitigation costs would need to be funded through developer contributions or other funding mechanisms chosen and approved by the participating local authorities with 'in perpetuity' funding required to cover a period to be set by those competent authorities with advice from Natural England (**see also paragraph 35 above**).

Resources implications

47. The Local Plans of the surrounding authorities set out how and where land and property will be used into the 2030s. It is important to the City Corporation's stewardship of the Forest to protect the Forest from any likely

adverse impacts of development while having regard to opportunities for the best use of property and land for operational purposes.

Legal Implications

48. These are contained in the body of the report.

Charity implications

49. Epping Forest is a registered charity (number 232990). Charity Law obliges Members to ensure that the decisions they take in relation to the Charity must be taken in the best interests of the Charity.

Risk implications

50. The recommended SAMM proposals need to be agreed with the competent planning authorities and Natural England. The associated costs then need to be approved by the EFSAC Oversight Group to ensure funding is secured through planning tariffs or other mechanisms.

51. Local Plans of the competent authorities still need to incorporate appropriate polices with trigger clauses to prevent development taking place should monitoring show that the proposed mitigation is not preventing adverse impacts on the EFSAC.

52. Some of the SAMM measures may require Habitats Regulations Assessment screening to ensure that there are no likely significant effects on the qualifying features of the EFSAC. In addition

Equalities implications

53. Equality impact assessments of Local Plans and associated or incorporated documentation (e.g. SAC Mitigation Strategy) would be undertaken by the local authorities as the plan-making bodies.

Climate implications

54. Protection of the SAC habitats, including ancient trees and heathlands, along with the prevention of the erosion of its soils would assist with the protection of the Forest's important carbon stores.

Security implications

55. There are no security implications.

Epping Forest Consultative Committee

56. No specific comments were made on the first draft of this report, or the costed SAMMs proposals contained its two appendices, presented to the Consultative Committee members in October. However, support for the SAMMs measures in the form of letters to the local authorities was offered by

both London Wildlife Trust and The Friends of Epping Forest. These offers of support will be discussed with these two organisations should the recommendations be approved by your Committee.

Conclusion

57. The local planning authorities, as competent authorities under the Habitats Regulations 2017 (as amended), must provide an EFSAC Mitigation Strategy that is sufficiently comprehensive and robust so as to ensure no adverse effects on the SAC's qualifying features or surrounding SSSI habitat on which the SAC features depend for their resilience. Such a strategy must include a range of measures both off-site and within the EFSAC itself.

58. It is clear given the likely very significant increase in local residential populations (at least 39% within the EFSAC Zone of Influence) proposed by the 'in combination' effects of local plan development that on-site measures are essential. The on-site (SAMM) measures set out above and in the two appendices to this report provide a robust basis for costing and planning operations, staffing, infrastructure and monitoring into the long-term.

Appendices

- Appendix 1 – Mitigation Framework & Whole Forest Costs for Mitigation in Epping Forest SAC.
- Appendix 2 **–** Land Use Consultants: Epping Forest SAC Mitigation Report (concerning on-site Strategic Access Management & Monitoring (SAMM) proposals)

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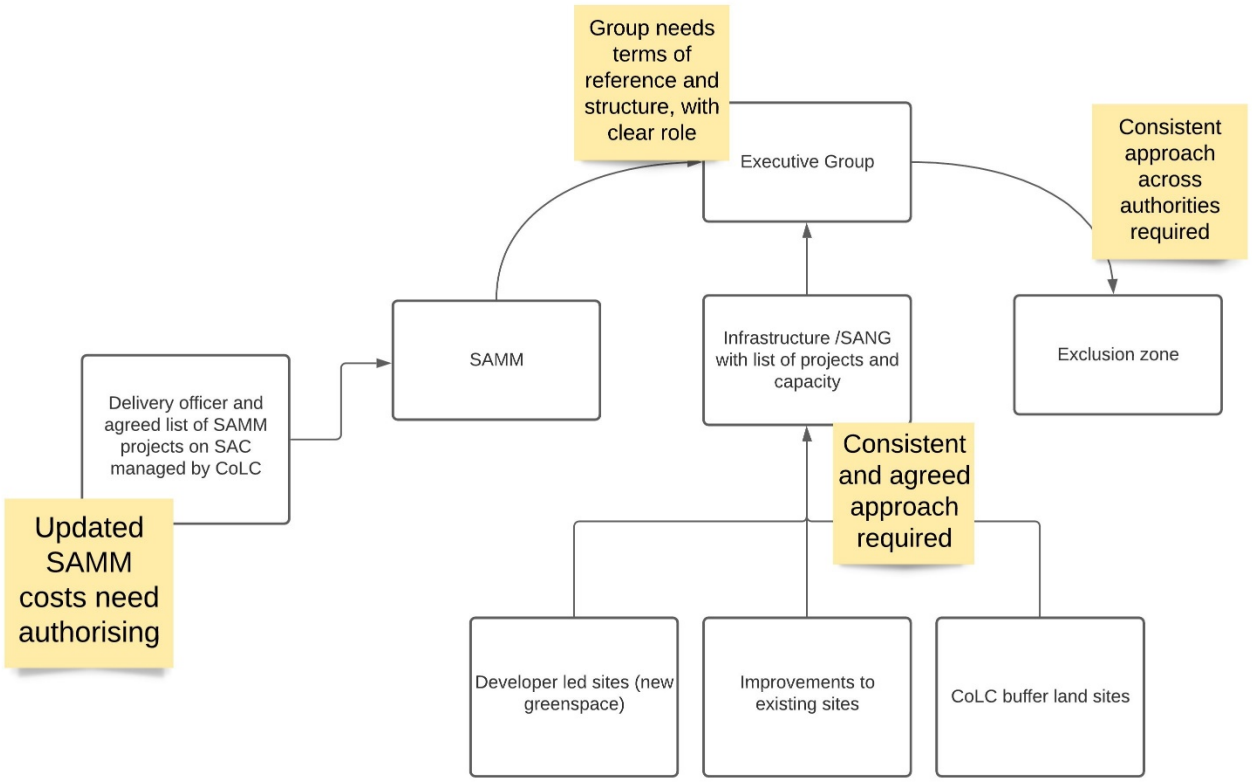
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APPENDIX 1: A FRAMEWORK for EPPING FOREST SAC MITIGATION

ISSUES TO BE ADDRESSED & WHOLE FOREST ON-SITE SAMM MITIGATION COSTS

1 .INTRODUCTION

This appended document offers a basic explanation of the Habitats Regulation Assessment (HRA) procedures, and a brief glossary of terms, as background for the main Committee Report (attached). It provides the context for the range of different mitigation measures that are considered essential to the protection of Epping Forest. It also flags up the key issues which remain as hurdles in the achievement of a comprehensive SAC Mitigation Strategy to be agreed with the competent authorities and Natural England. These are highlighted in the diagram below. **Finally**, it **sets out the costs for on-site SAMM mitigation (Table 3 below) for which the main report seeks approval.**



2. EXPLANATION of PROCEDURES used in HABITATS REGULATIONS ASSESSMENTS (HRA)

Habitats Regulations Assessments

The designation, protection and restoration of European wildlife sites, like **Epping Forest Special Area of Conservation (EFSAC)**, is embedded in the Conservation of Habitats and Species Regulations 2017 (as amended) which are commonly referred to as the 'Habitats Regulations'. The 2017 Habitat Regulations remain in force without any of the amendments relating to Brexit made by The Conservation of Habitats and Species (Amendment) (EU exit) Regulations 2019. These Brexit-related changes are suspended until Implementation Period Completion day and confirm that these provisions will be retained, in the short term at least.

The Habitats Regulations are in place to transpose European legislation set out within the Habitats Directive (Council Directive 92/43/EEC), which affords protection to plants, animals and habitats that are rare or vulnerable in a European context, and the Birds Directive (Council Directive 2009/147/EC), which originally came into force in 1979, and which protects rare and vulnerable birds and their habitats. These key pieces of European legislation seek to protect, conserve and restore habitats and species that are of utmost conservation importance and concern across Europe.

This protection is the way in which the EU and the UK meet their obligations under the Convention on the Conservation of European Wildlife and Natural Habitats (1979) or **Bern Convention**, a binding international legal instrument to which both the EU and UK are independent signatories.

The Habitat Regulations impose specific duties in terms of avoiding deterioration of habitats and species for which sites are designated or classified. Stringent tests have to be met before plans and projects can be permitted, with **the precautionary approach** embedded in the legislation, i.e. it is necessary to demonstrate that impacts will not occur, rather than they will. The overarching objective is to maintain sites and their interest features in an ecologically robust and viable state, able to sustain and thrive into the long term, with adequate resilience against natural influences. Where sites are not achieving their potential, the focus should be on restoration.

The HRA process

The step by step process of HRA is summarised in **Figure 1**.

Within the Habitats Regulations, local planning authorities, as public bodies, are given specific duties as '**competent authorities**' with regard to the protection of sites designated or classified for their species and habitats of European importance.

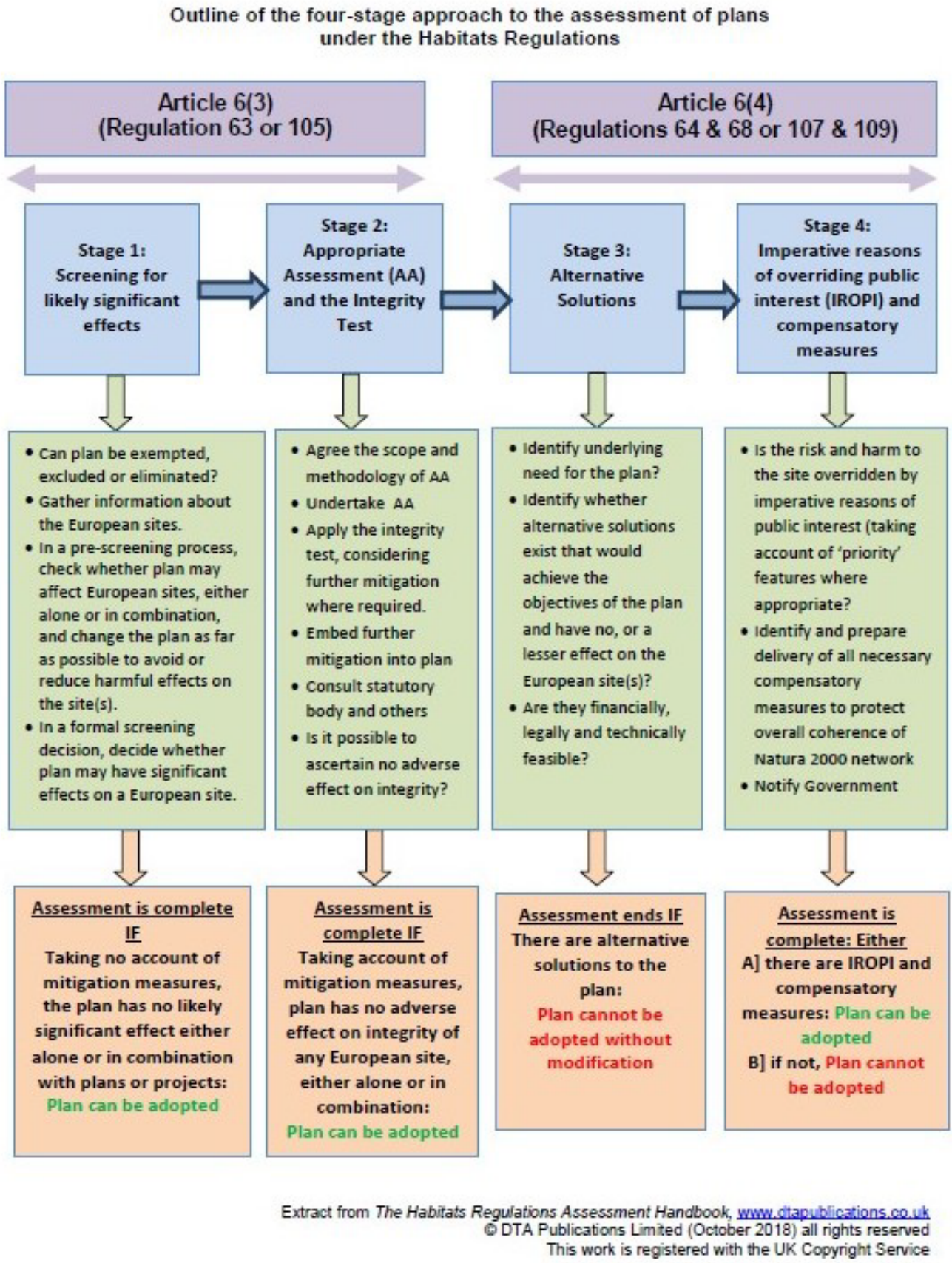


Figure 1: Outline of the assessment of plans under the Habitat Regulations – taken from Tyldesley, D., and Chapman. C., (2013) *The Habitats Regulations Assessment Handbook* (July) (2020) edition UK: DTA Publications Limited

Throughout all stages, there is a continual consideration of the options available to avoid and mitigate any identified potential impacts. A competent authority may consider that there is a need to undertake further levels of evidence gathering and assessment in order to have certainty, and this is the **Appropriate Assessment stage**. At this point the competent authority may identify the need to add to or modify the project, or local plan, in order to adequately protect the European site, and these mitigation measures may be added through the imposition of particular restrictions and conditions.

After completing an assessment, a competent authority should only approve a project or give effect to a local plan where it can be ascertained that there will not be an adverse effect on the integrity of the European site(s) in question. In order to reach this conclusion, the competent authority may have made changes to the plan in light of their Appropriate Assessment findings.

3.GLOSSARY OF TERMS/DEFINITIONS

The principles of case-law, government policy and best practice in HRAs are set out in the HRA Handbook (Tyldesley, Chapman, & Machin, 2020), to which the City of London Corporation (CoLC) subscribes. There is also UK government guidance available.

3.a. Flow Chart (Figure 1 above) terms

Drawing on the Handbook, other relevant guidance and case law:

A '**likely significant effect'** (Stage 1) is a '*possible significant effect; one whose occurrence cannot be excluded on the basis of objective information*'. It is a low threshold and simply means that there is a risk or doubt regarding such an effect. The screening stage is a preliminary examination, sometimes described as a coarse filter, or '*a trigger in order to determine whether an appropriate assessment must be undertaken'*.

When making **screening decisions**, for the purposes of deciding whether an appropriate assessment is required, competent authorities cannot take into account any mitigation measures.

Stage 2 involves the **appropriate assessment and integrity test**. Here a plan can only be adopted if the competent authority can demonstrate that it will not adversely affect the integrity of the European site. This is precautionary approach and means it is necessary to show the absence of harm.

It should be noted that case law has established that '**appropriate'** is not a technical term but simply indicates that the assessment needs to be appropriate to the task in hand.

The **integrity** of a European site has been described as '*coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified*'. An alternative definition is '*the lasting preservation of the constitutive characteristics of the site*'. Each European site has a set of **Conservation Objectives** by which this integrity is assessed. Natural England has published the detailed Conservation Objectives for Epping Forest SAC which can be found here and here.

In combination: the need to consider possible in-combination effects arises at stage 1 – the screening stage - and also at stage 2 – the appropriate assessment and integrity test stage. The effects of a local plan in-combination with other plans or projects are the cumulative effects which will or might arise from the addition of the effects of other relevant plans or projects alongside the plan under consideration. If during the stage 1 screening it is found the subject plan would have no likely effect alone but might have such an effect in-combination, then the appropriate assessment at stage 2 will proceed to consider

cumulative effects. Where a plan is screened as having a likely significant effect alone, the appropriate assessment should initially concentrate on its effects alone.

3.b. A glossary of other terms

Competent Authority: Competent authorities are any public body individual holding public office with a statutory remit and function, and the requirements of the legislation apply where the competent authority is undertaking or implementing a plan or project, or authorising others to do so. Regulation 63 of the Habitats Regulations sets out the HRA process for plans and projects, which includes development proposals for which planning permission is sought. Additionally, Regulation 105 specifically sets out the process for assessing emerging land use plans, including local plans.

Mitigation: mitigation measures are those measures brought to bear to avoid, cancel or reduce the effects of a plan or project (e.g. a local plan) on an internationally-important site, like EFSAC, and to ensure its integrity is not adversely affected or compromised.

SANGS: this acronym stands for 'Suitable Alternative (or Accessible) Natural Green Space' and is the name given to land of a quality and type suitable to be used in mitigation to protect an SAC from harm by recreational pressure by being made accessible to and attracting a sufficient number of visitors (and visits) away from the SAC

SAMM: this acronym stands for 'Strategic Access Management and Monitoring' measures that are put in place within an SAC, like Epping Forest, to mitigate for on-site recreational pressure. Monitoring is an essential part of such measures to ensure that they are working as expected and that the integrity of the site (see above) is not being compromised.

4.SUMMARY of IMPACTS COMPARED to other INTERNATIONALLY-IMPORTANT SITES

Impacts of recreation at Epping Forest SAC

A summary of potential impacts is provided in **Table 1 below** and also see **Appendix 2 LUC report** for details of impacts at the three hub sites examined for that SAMM assessment.

A detailed review of impacts is beyond the scope of this appendix. However, there are many reviews of recreation and urban impacts to ancient woodland and heathland and also studies from other sites which provide much useful background (Anderson & Radford, 1992; Corney et al., 2008; Lake, Liley, & Saunders, 2020; Liley, Read, & Barnard, 2016; Marzano & Dandy, 2012; Ryan, 2012; Saunders, Liley, Panter, & Weitowitz, 2019; Underhill-Day, 2005).

Table 1: Summary of potential nature conservation impacts (to the SAC interest) from recreation and urban effects linked to increased levels of surrounding development at Epping Forest.

Type of impact	Examples
Contamination	Dog fouling (nutrient enrichment from faeces and urine)
	Litter
	Fly-tipping
	Spread of disease (e.g. plant pathogens)
	Spread of non-native species (can be both unintentional and deliberate)
	Pollution from run-off (surrounding roads and hard surfaces/parking areas)
Disturbance	Risks to Stag Beetle from removal/moving of deadwood
Fire	Increased fire incidence linked to increased recreation use (BBQs, camp fires etc.)
Trampling/wear	Soil compaction and damage from high levels of footfall
	Loss of vegetation cover
	Erosion
	Direct damage to veteran trees from climbing/vandalism etc.
Harvesting	Collection of wood
	Collection of fungi
Difficulties in management	Challenges in maintaining grazing regime with high levels of access and dogs
	Public pressure for more facilities, path surfacing, cafes, events, different management etc.
	Management of veteran trees potentially made more challenging due to need for more regular checks and need to ensure public safety
Fragmentation	Loss of supporting habitats
	Isolation (lack of connectivity with other woodland or semi-natural habitat)

It is important to note that the above impacts can potentially interact and together may amplify the overall impact beyond the sum of the individual effects. While individually some of the impacts may potentially be minor, or relatively uncommon (e.g. damage from wildfires), taken together the impacts are substantial and a wide range of studies clearly show that the conservation importance of woodlands and heathlands in urban compared to more rural settings is compromised (Fornal-Pieniak, Ollik, & Schwerk, 2019; Lintott et al., 2014; Rayner et al., 2015; e.g. Sadler, Small, Fiszpan, Telfer, & Niemelae, 2006; Sanz & Caula, 2015; Underhill-Day, 2005; Vergnes, Pellissier, Lemperiere, Rollard, & Clergeau, 2014).

For Epping Forest specifically, the SAC Site Improvement Plan produced by Natural England for the SAC lists under-grazing, public access/disturbance, changes in species distributions and invasive species within the prioritised list of issues and all are factors potentially linked to the impacts of the surrounding urban growth. The plan, under public access/disturbance, states: "*Epping Forest is subject to high recreational pressure. There is a high general level of footfall in Epping Forest throughout the year, including periods of significant use, and resulting in a diverse range of impacts which include mountain biking and unmanaged fires. Population and visitor numbers are likely to continue to increase*."

These various impacts are more complex when considered in the wider context of the issues facing Epping Forest. For example, climate change will result in more stormy weather, increased risk of droughts and greater risk/incidence of wildfires (**see Figure 3 below**). These will all add to the issues facing the trees and heathlands, increasing stress and potentially interacting with recreation and urban pressure to exacerbate the problems.

Furthermore, Epping Forest has a significantly higher residential, urban population within its Zone of Influence when compared to any other similar internationally-protected site in the UK (**see Figures 2a and 2b below**).

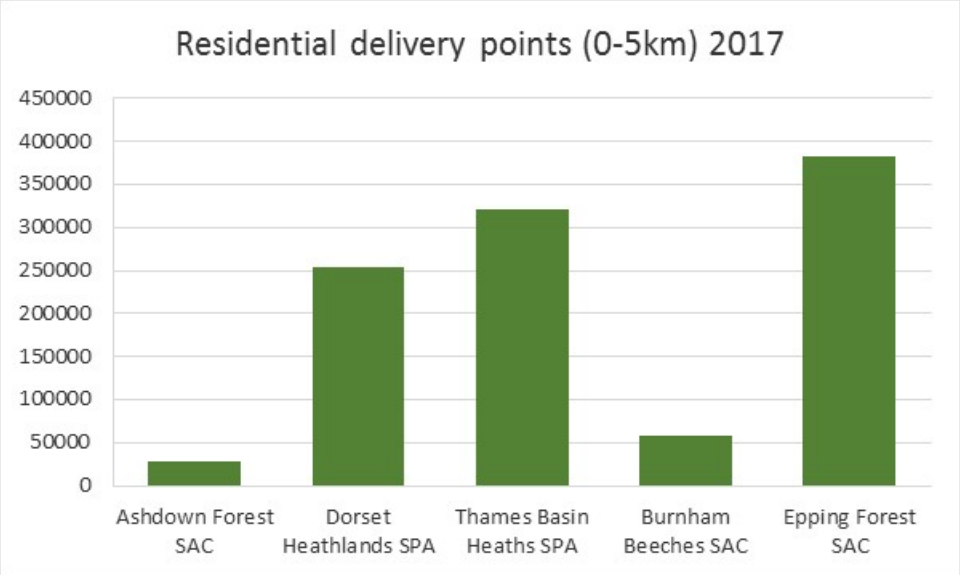


Figure 2a

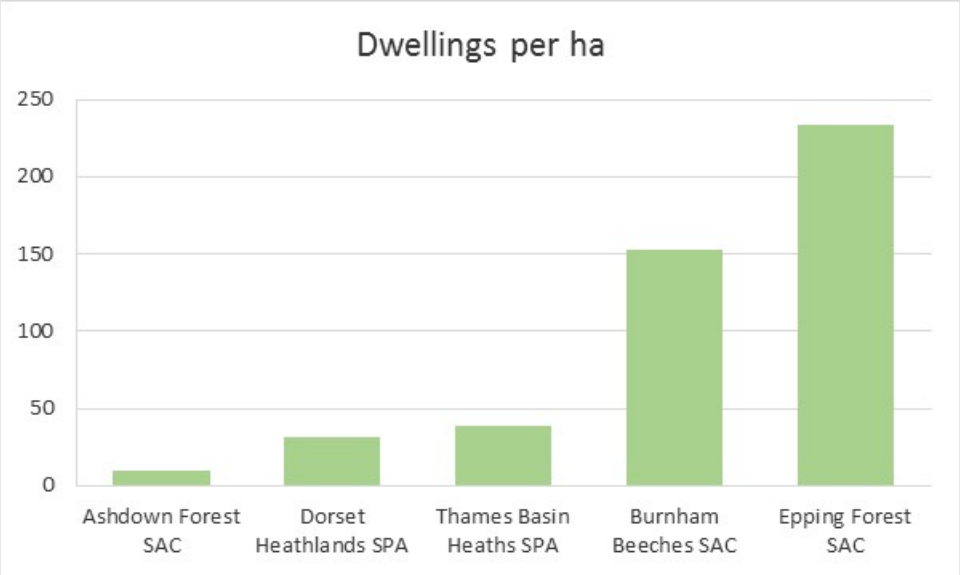


Figure 2b

Figures above show comparison between Epping Forest and selected other European sites showing number of dwellings (in 2017) within 5km radius per ha of European site (Figure 1b) and the number of residential delivery points (in 2017) within 5km (Figure 1a). (These figures are taken from an unpublished Footprint Ecology report (2017) to the Conservators of Epping Forest).

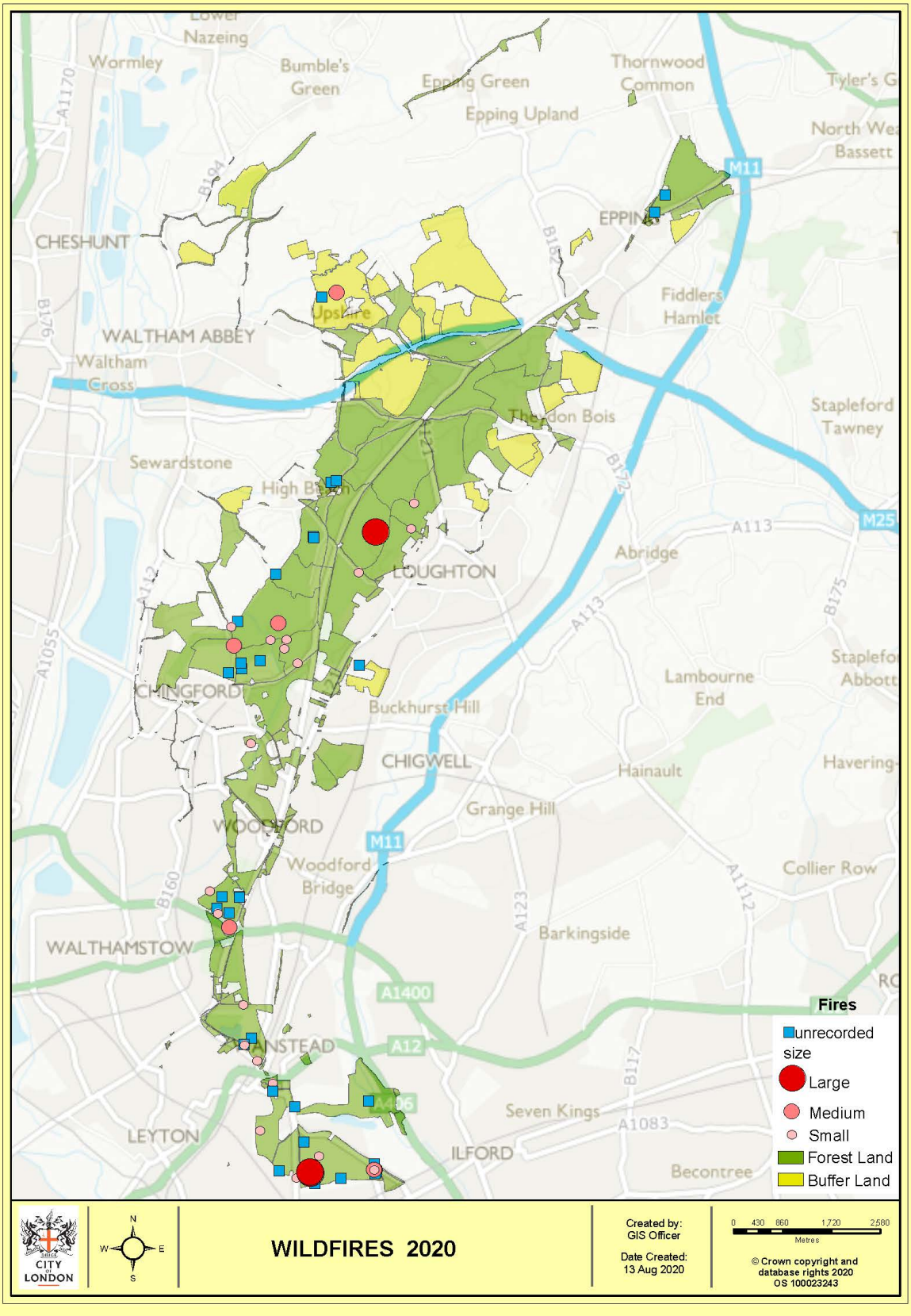


Figure 3: Wildfires recorded in Epping Forest in 2020 and attended by Forest Keepers and/or the Fire & Rescue Services for London or Essex.



Vegetation loss and poaching along a pathway



Ground compaction, soil and vegetation loss at Connaught Water



Mountain bike ramps and erosion

5.PROTECTION MEASURES & MITIGATION APPROACHES in other parts of the UK

In other parts of the UK, strategic approaches to mitigation have been established where multiple local authorities have worked together to establish a series of avoidance and mitigation measures carefully designed to resolve the in-combination impacts associated with local development. These strategies enable development but, crucially, also ensure that adequate mitigation is secured and carefully planned.

By securing the mitigation up front the local authorities, as competent authorities, can be confident that adverse effects on integrity on an internationally-protected site can be ruled out at local plan-level. Furthermore, mitigation measures might be easier to secure and work best if established strategically, in this way, rather than piecemeal with each development application.

The need for an integrated framework of measures

A suite of mitigation measures should function together, as a framework for management action, to have confidence that adverse effects arising from recreation have been prevented. **In most instances when developing a strategy for development, each measure taken alone is unlikely to give that certainty**. A combination of measures, developed and targeted after analysis of available information, gives greater certainty. This is because the combination of measures working together reduces risk and builds in contingency for amending the strategy if some measures do not perform as well once implemented. Other measures can still be functioning in the short term whilst some are revised. An integrated suite of measures delivered together also improves efficiency, which in turn adds to effectiveness with improved value for money.

Rangers and infrastructure projects (including SANGs) are common themes in strategic mitigation for European sites, and all schemes also include monitoring to target and hone interventions. Other measures within these schemes have included dog projects, interpretation, changes to infrastructure, codes of conduct and various engagement approaches. Many of these interventions are widespread and commonly used and there are a range of studies that support their effectiveness (e.g. Allinson, 2018; Burger & Leonard, 2000; Medeiros et al., 2007; Williams et al., 2017). Many of the measures bring wider benefits besides simply providing mitigation.

An overview of a range of different mitigation schemes is provided in **Table 2** below. The table only gives examples of schemes relating to recreation and urban effects. The table only includes schemes that are established. It should also be noted that there are also a number of schemes in development.

Key points to draw from Table 2 below include:

- Many schemes are long running (e.g. Dorset and Thames Basin Heaths are both approaching 15 years), highlighting that the approach can work well and in these examples the mitigation schemes have developed and grown over time;
- Schemes are in place across the country that relate to a range of SAC/SPA sites and different issues;
- Mitigation approaches vary, with a package of measures tailored to each individual site – there is no set package or standard approach;

In some cases the scheme is set out in a joint Supplementary Planning Document (SPD) that covers multiple local planning authorities; there are also examples where authorities have an agreed overarching strategy (but no SPD). **The City Corporation as the Conservators of Epping Forest (CoLC), has over the last three years in responding to local plans, consistently called for the Epping Forest mitigation scheme to be set out in SPDs and to ensure some kind of coherent framework given the inherent complications and administrative differences across the London-Essex boundary.**

Table 2: Summary of other European site mitigation schemes and broad approaches for mitigation in-place. ZOI refers to zone of influence (e.g. for collection of developer contributions). Hyperlinks relate to project specific websites or relevant local authority pages with further information and details.

Area	Issues & sites addressed by mitigation strategy	'Exclusion zone'	ZoI	SANGs/GI	Wardening	Other mitigation measures	Monitoring measures	Further details and notes
Dorset Heaths	Recreation and urbanisation; 2 heathland SACs and 1 SPA/Ramsar	400m	5km	Instead of SANGs, broader approach involving 'heathland infrastructure' which include SANG but also other measures e.g. BMX park, fire hydrants on heaths.	Urban heaths partnership undertakes wardening across different sites	Dog Project (Dorset Dogs), wider engagement, education work (including fire focus)	Automated counters, vehicle counts, interviews, fire records, bird monitoring.	Long running scheme with various changes in emphasis since started in 2007. Mitigation is set out in a joint SPD.
Thames Basin Heaths	Recreation and urbanisation; heathland SPA	400m	5km	Minimum of 8ha of SANGs per 1000 residents	Thames Basin Heaths Partnership, currently c. 9 full time equivalents	Dog Project, education work and dedicated education officer.	Automated counters, vehicle counts, interviews, fire records, bird monitoring.	Long-running scheme. Each local authority has produced their own SPD/mitigation in line with agreed strategic approach.
South-east Devon	Recreation and urbanisation; sand dune SAC, heathland SPA/SAC and estuary SPA/Ramsar.	400m around heathland only	10km	Some SANG at strategic locations identified in strategy	2 Full-time equivalents.	Dog Project, bird refuges on estuary, patrol boat on estuary, codes of conduct.	Targeted work on effectiveness of refuges; some visitor survey work	3 local authorities, and various zones reflecting the relevant European sites.
Solent	Recreation impacts for 3 coastal SPA/Ramsar sites	No	5.6km	Some SANGs plus other infrastructure set out in mini 'Access	Team of rangers	Awareness raising and wider promotion.	Automated counters, vehicle counts, interviews, targeted work	Bird Aware Project established with strong branding. More site-specific

Area	Issues & sites addressed by mitigation strategy	'Exclusion zone'	ZoI	SANGs/GI	Wardening	Other mitigation measures	Monitoring measures	Further details and notes
				Management Assessments' each focussed on different sections of coast.			testing effectiveness of ranger presence.	projects and awareness raising work still being developed.
Cannock Chase	Recreation impacts to heathland SAC	400m	15km	No	Delivery Officer and Engagement Officer only so far	Parking strategy and access management strategy for the SAC with series of interventions and targeted measures.	Vehicle counts, interviews.	6 local authorities have signed a joint memorandum of understanding which ensures joint approach
North Kent	Recreation impacts for 3 coastal SPA/Ramsar sites	No	6km	No	3 rangers	Dog Project, Codes of Conduct, Signage and Interpretation and Site Specific Enhancements	Liley & Underhill-Day (2013)	4 local authorities, each with slightly different approaches to developer contributions.
Essex Coast	Recreation impacts for 9 coastal SPA/Ramsar sites and 1 SAC	No	4.5-20.8km	No	Ranger team being built up over time, will include water-based ranger.	Education and communication, codes of conduct, habitat-based measures.	Visitor surveys, bird monitoring and vegetation monitoring	11 local planning authorities, joint SPD in preparation.
Burnham Beeches	Recreation and urbanisation impacts for a woodland SAC	500m	5.6km	No	1 Engagement Ranger/SAC Ambassador	Electronic interpretation, events and promotion, access plan/carrying capacity study	Visitor surveys, soil and ecological impacts	Each local authority will develop their own mitigation approach. Chilterns and South Bucks described.

Area	Issues & sites addressed by mitigation strategy	'Exclusion zone'	ZoI	SANGs/GI	Wardening	Other mitigation measures	Monitoring measures	Further details and notes
Suffolk Coast	Recreation impacts for 8 coastal/estuary sites including mix of SAC, SPA and Ramsar	No	13km	Large sites only.	Delivery officer and team of rangers	Dog Project, codes of conduct, signage and interpretation, awareness raising, range of site specific projects	Visitor surveys (counts and interviews), bird monitoring,	4 local authorities and joint strategy covering numerous sites along large stretch of coast
South Tyneside	Recreation impacts for coastal SAC and a coastal SPA	No	6km	No	Delivery office and 0.5 full time equivalent ranger post	Dog Project, review of parking.	Automated counters and bird surveys	Interim strategy established.
Poole Harbour	Recreation impacts for coastal SPA and Ramsar	No	Variable, not based on specific distance	Rolling 5 year programme of Infrastructure Projects	Project coordinator and a warden	Leaflets, litter clearance and engagement	Visitor and bird surveys	2 local authorities with a joint SPD
New Forest	Recreation impacts for SAC/SPA/Ramsar	No	District wide (note Test Valley currently apply a 13.6km zone)	8ha per 1000 residents for sites over 50 dwellings	Funding for additional National Park ranger time	Programme of enhancement of footpaths/rights of way and existing open spaces.	Site condition, visitor patterns.	Link and details given relate to New Forest District. Each authority currently following own approach with longer term aim for a more joined-up approach

6.KEY ISSUES and COSTS for EPPING FOREST SAC MITIGATION

In many cases these schemes (in Table 2 above) have been difficult to set up and some are complex, involving multiple European sites and a range of local authorities. They provide useful context and background and highlight key issues that are relevant to Epping Forest.

6.a. Governance

As Table 2 examples show, where there are multiple local authorities involved in a scheme there is a clear governance structure with a body responsible for key decisions relating to funding and resources. For example, in the Thames Basin Heaths there is the Joint Strategic Partnership (JSP). There is a board that comprises one elected member from each local authority and the board is advised by a range of bodies that include Natural England and major landowners. The role of the board is to act as a vehicle to ensure joint working and collaboration and to retain an overview of the mitigation measures implemented (including the coordination of SANG and SAMM). The board make key decisions on the award of funding to delivery bodies and the amount of money directed towards SAMM. The Board meets twice a year (as a minimum) and receives reports and updates, including from the SAMM project coordinator.

Such a governance structure allows mitigation to be tailored to particular circumstances and the budget adjusted as necessary to apportion what reserves are set aside (for in-perpetuity funding) and approve budget for SAMM. Having such a body ensures that there is fairness and a consistency of approach, with clear terms of reference and a reporting structure.

CoLC has repeatedly called for a robust governance structure to be set up and has raised concerns about the lack of such governance for the EFSAC Mitigation Strategy. This is now an urgent priority.

6.b. SAMM versus SANGS/Infrastructure projects

Most schemes have a clear split between SANGS and SAMM with both integral to the mitigation package.

SAMM: SAMM payments are used to fund wardening, on-site access management, education/awareness raising and monitoring. Where there are multiple landowners and organisations then a separate body is established to deliver the mitigation, for example Bird Aware Solent, the Thames Basin Heaths Partnership or the Urban Heaths Partnership (in Dorset). Where there is a single or main landowner, then it makes sense for them to deliver the mitigation, as is the case at Burnham Beeches SAC (Table 2) and, of course, Epping Forest. **The SAMM proposals set out in Table 3 below (**and in detail for three key visitor hubs in the **LUC Report in Appendix 2) would be delivered by CoLC funded through the mechanisms set up by the competent authorities under their respective local plans.**

SANGS: Off-site infrastructure (SANGS) can be delivered in a range of ways. For large developments, the developer can provide greenspace, potentially directly linked to the development site. In some cases, local authorities will create and manage SANGS, drawing on funds from multiple developments. These are often referred to as 'strategic SANGS'. A good example is the Dawlish Countryside Park in Teignbridge. This is a SANG for the Exe Estuary SPA and Dawlish Warren SAC and is a large, well promoted site ideally situated to draw access away from the European sites.

CoLC considers strategic SANGS to be essential for the protection of Epping Forest given the very high density of urban residential dwellings in the EFSAC Zone of Influence and the proposed increases in population in each authority area.

There are also examples where existing spaces have been improved – for example Shepherd's Meadow in Bracknell or Upton Country Park in Dorset. CoLC has considered strategic SANGS as essential to the protection of the EFSAC given the higher density of dwellings. Existing spaces can be improved through new car parking, better access, promotion, vegetation management, paths and other facilities. In some cases, the approaches are quite novel, for example a BMX track/jumps in Dorset. These infrastructure projects can be varied but must draw visitors away from the relevant European site.

An Epping Forest framework or "toolkit" of options: there need to be clear guidelines for SANGS/infrastructure projects as to what will work at Epping Forest, with criteria for the design, types of infrastructure, size etc, as is the case in Dorset and the Thames Basin Heaths. There needs to be agreement across local authorities and with Natural England on the kind of projects that will work and their mitigation capacity. This needs to be tailored to fit the particular and unique challenges around Epping Forest. The CoLC has a number of potential sites and possible projects that could be included in such a list.

6.c. Exclusion Zone

For many of the examples of mitigation schemes, a development exclusion zone is fundamental to ensuring the mitigation package is effective. European sites, where there are exclusion zones, include heathland and woodland SAC sites, for example the Thames Basin Heaths (400m), the Dorset Heaths (400m), Cannock Chase (400m), Burnham Beeches (500m). Within the zone there is a presumption against development, i.e. ensuring no increase in the number of dwellings. The reason for a 400m exclusion zone is that there are particular risks associated with development in such close proximity and furthermore mitigation options are not as effective.

The case of Hatfield Forest NNR, although not an internationally-protected site, is instructive for Epping Forest as it lies on similar soils with ancient pollarded trees and grasslands. This site is highlighted in the main Committee report at paragraph 22.

Recreation use is much higher from homes directly adjacent to the European site and it is typically considered very difficult to deflect such access with alternative greenspace, as there is little scope to intercept visitors or provide significant alternatives. Fire risk, fly-tipping and other urban effects are also more acute where development is in close proximity to the boundary.

SAMM Mitigation approaches such as access management and wardening are likely to be less effective in mitigating pressures from dwellings in close proximity to European sites as it is harder to intercept visitors who enter from multiple informal access points (e.g. back gardens and cut-throughs) and people are likely to use the sites at a wide range of times of day (and even during the night). With increased risk and limited effectiveness for mitigation, adverse effects on integrity cannot be ruled out.

A review of the exclusion zone approach in Purbeck by *Aecom* (Riley, Down, Hoffman Heap, Jackson, & Honey, 2016) to consider whether there was any scope to refine the exclusion zone approach concluded that there was "*no evidential basis on which to move away from a 400m 'no net new residences' zone, given the high level of existing housing within very close proximity (400m) to the*

European sites and the likelihood that a similarly high level of net new housing would come forward without strategic controls."

Around Epping Forest SAC, in the view of CoLC, such an exclusion zone should also be fundamental to mitigation and a consistent policy approach is needed across all local authorities. At the EFDC Local Plan Examination-in-Public, using the Council's data on how residents access the Forest, CoLC put forward a proposed 800m residential exclusion zone for new development. CoLC recognises that the London situation may need to be considered as different and will request that Natural England provides a view. However, CoLC considers that there should be a minimum exclusion zone which would be consistent across all local authorities.

6.d. Comprehensive 'in perpetuity' funding for SAMM proposals

The **Table 3** below sets out the full range of SAMM mitigation measures for which approval is sought from the Epping Forest & Commons Committee as set out in the recommendations and summary of the main Committee Report (attached).

TABLE 3 - EPPING FOREST SAC: PROPOSED *WHOLE-FOREST* SAMM MITIGATION MEASURES and 25-year COSTS

(including LUC report (Sept 2020) costs from Table 4.7, **Appendix 2** for the three hubs at High Beach, Chingford and Leyton Flats)

Strand 1a – Mitigating Recreational Impacts							
Descriptor	***Capital Initiation Costs***	***Capital Funding Duration***	***Annual Costs or other***	***Funding Duration (Years)***	***Total Cost***	***Cost Calculation Notes***	***Rationale and justification***
Traffic control and car impact reduction measures and monitoring, as part of Integrated Forest Transport Strategy (including physical management of car parks)	n/a	n/a	tbc	**Capital Years 2-10**	**£350,000**	➢ Road closure/Traffic Regulation Orders (e.g. Fairmead Road) (£35,000 in total by Year 5); ➢ Car Park controls (gates, CCTV) (£18,000 per car park – 5 car parks – one per year Years 2-6) for seasonal restrictions and night-time control of access; ➢ Re-locating car park capacity and resurfacing/surfacing ➢ Improved access for non-car use – incl. new, safer crossing points over main roads (A104, A121) to provide links along Forest visitor trails and circuits from peripheral Forest entrance areas (e.g. Honey Lane, Chingford-The View 'hub')	➢ Re-direct/exclude cars from more sensitive sites & during sensitive periods of the year, (e.g. heathlands in SAC and relocate capacity to deal with increased visitor pressure). ➢ Re-locating car park capacity – closures and expansions with additional surfacing improved surfacing possible (e.g. increasing car park capacity away from High Beach; costs not including Chingford or Leyton hubs either – see LUC Report (Sept 2020 – in Appendix 2)) ➢ seasonal car park closures and seasonal capacity shifts;

High Beach and Honey Lane Quarters 'hub' Improving resilience: increasing visitor capacity while reducing damage	See LUC report	See LUC report	See LUC report	**25 years minimum** See LUC report	**£2,551,065.50**	**See LUC report: Epping Forest SAC Mitigation Strategy (September 2020) in Appendix 2**	**See LUC report: Epping Forest SAC Mitigation Strategy (September 2020) in Appendix 2**
Chingford hub	See LUC report	See LUC report	See LUC report	**25 years minimum** See LUC report	**£6,556,804.60**	**See LUC report: Epping Forest SAC Mitigation Strategy (September 2020) in Appendix 2**	**See LUC report: Epping Forest SAC Mitigation Strategy (September 2020) in Appendix 2**
Leyton Flats/Hollow Ponds	See LUC report	See LUC report	See LUC report	**25 years minimum** See LUC report	**£5,033,507.50**	**See LUC report: Epping Forest SAC Mitigation Strategy (September 2020) in Appendix 2**	**See LUC report: Epping Forest SAC Mitigation Strategy (September 2020) in Appendix 2**
Physical management of paths and tracks across other SAC areas *Dealing with increasing wear-and-tear.*	n/a	1 year (easy access path)	£15,000 (easy access path)	**24 years for annual work** plus £15,000 for easy access path repair/upgrade in SAC (excluding	**£375,000**	➢ Upgrade easy access path– @ £15/m - Lords Bushes/ Knighton (Year 3) (£15,000) ➢ Annual repair and upgrade to SAC ride/path/Multi-user trail (MUT*) network to cope with increased annual use @ £30/m – 0.5km per year each year (£15K)	➢ Upgrade easy access path/ "visitor offer" to take greater visitor pressure away from central area and towards urban edge of Forest nearer London transport ➢ Maintenance of access infrastructure (especially *MUTs) to accommodate increase use and protect vulnerable beech forest and

				High Beach Masterplan)			heathland vegetation (**excludes** areas within High Beach Chingford or Leyton Flats **(see above and LUC Report (Sept 2020)**).
Signage at transport nodes- Map and Interpretation including installation			£2500	**4 years – one per year**	**£10,000**	➢ Map and Interpretation board signposting sustainable routes to Forest at main train stations: Chingford, Loughton, Theydon Bois, Epping	➢ Increase use of public transport access to Forest and reduce car impact

Interpretation roll out Forest-wide			£2000	**10 years**	**£20,000**	➢ Installation of interpretation boards across Forest SAC areas encouraging visitors to stay local	➢ Access information – panels and waymarking/SAC-specific habitat information interpretation
Visitor engagement campaigns			£2000	10 years	**£20,000**	➢ Production of promotional material; banners, leaflets, pop-up stalls to assist volunteer Forest Ambassadors (see below)	➢ Community out-reach work (also see above work for Mitigation Officer tasks)
Bicycle hire scheme			£6000	Year 3	**£6,000**	➢ Installation of cycle parking drop off points working in partnership with cycle hire business in Forest and surrounding open spaces e.g. Lee Valley	➢ Encourage sustainable travel and sustainable links to other open spaces to spread visitor pressure
Cycle Map			£2000	Year 3	**£2,000**	➢ Production of cycle map to encourage visits by cycle / cycle hire instead of car	➢ Reduce car travel within SAC road network

SAC Ambassadors	See LUC report	See LUC report	See LUC report	**25 years minimum** See LUC report	**Included in High Beach/ Chingford and Leyton hub costs above**	**See LUC report: Epping Forest SAC Mitigation Strategy (September 2020) in Appendix 2**	**See LUC report: Epping Forest SAC Mitigation Strategy (September 2020) in Appendix 2**

Mitigation Strategy Development & Visitor Masterplan Consultancy advice	n/a	n/a	90 days at £500 per day average	Year 1 & Years 8. 15, 22 (for review) ESTIMATED NO. DAYS – 90 days	**Up to £45,000**	➢ up to 60 days' consultancy in Year 1; ➢ 10 days' consultancy for review and report and independent oversight of Strategy in Year 8 ➢ Further reviews at Years 15 and 22 (20 days)	➢ Masterplan: engage consultant to produce spatial strategy for visitors; ➢ Project plan and refine costs for proposed SAMMs (below) and advise on relative contribution of SANGs ➢ Ensure Habs Regs Assessments of SAMM Projects in SAC if required by NE ➢ Liaison with NE, MoU LPAs and CoL officers to pull together and report on detailed mitigation options and requirements ➢ Involved with recruitment of the delivery officer post (see below)

Mitigation Strategy Delivery Officer (Project Management and field monitoring experience)	£10,200	1 Year	£50,477	**Years 2-25 24 Years**	**£1,221,648**	➢ Scale D SCP 1035 £32,000 + Outer London Weighting £3,350 = £35,350 + 31.8% On Costs £11,245 (overheads, workstation training) + ULEZ compliant electric lease £6,289	➢ Key liaison person for project consents from Natural England and any detailed assessment work required by NE ➢ Contribute to new Forest Transport Strategy and liaise with highways authorities ➢ Procurement, implementation and supervision of contractors ➢ Management of SAC Ambassadors and volunteers ➢ SAC part of Sustainable Visitor Strategy implementation - coordinating with Visitor Services Team ➢ Advice on SANGs development possibly including CoL 'buffer lands' ➢ SAC Impacts Monitoring Strategy ➢ Community out-reach ➢ Annual report to all Mitigation Strategy/MoU partner organisations and contributing developers
Apprentice	£10,200	7 years	£25,807	**Years 2-25 24 years**	**£629,568**	➢ Level 3 London Living Wage £18,990 + 31.8% on-costs £6,040 (overheads, workstation, training,) + College Sponsorship £2,070 – 2 years = £25,807	➢ Lowest cost option to ensure assistance for Mitigation Delivery Officer, particularly in monitoring projects and gathering evidence on biodiversity impacts. ➢ assist with community out-reach and volunteers supervision.

Strand 2 – Monitoring and Evaluating Mitigation Impacts							
Visitor Surveys (incl for relevant SANGS and buffer lands)		5 years' costs	n/a	**Years 4, 9, 14, 19, & 24**	**£125,000**	➢ Delivery by external consultants	➢ Visitor survey to include survey across two periods in any one calendar year– including summer months (Jun -Aug incl) ➢ The Year 1 survey to cover the Jun-Aug period only – to be used to build on the outputs from the Autumn 2017 survey. ➢ Expanded to include SANGs sites where applicable to look at interactions ➢ To assess relative contributions of local authority areas and changing distributions of visitors and changing visitor demands
Monitoring visitor impacts on soils and ecology of SAC				**Baseline (by Year 2, then Years 4, 8, 12, 16, 20, 24) – 7 occasions x £15,000** **plus bi-annual FPPs (£2,000 each year repeated every 2 years) – 13 occasions**	**£131,000**	➢ Delivery by External consultants and possibly FPPs with volunteer assistance	➢ Baseline and 'controls' set-up plots on heathlands and at visitor pressure areas by Year 2 ➢ Repeat monitoring of vegetation plots Years 4, 8, 12, 16, 20, 24 and selected beech tree health ➢ Bi-annual Fixed-Point Photograph (FPPs) monitoring of main erosion areas ➢ Soil compaction/penetrometer testing – repeat ➢ plots
Rolling External Project Evaluation	n/a	n/a	£5,000	**Every two years – excluding Years 1, 8 ,15 and 22** **9 years in total**	**£45,000**	➢ Delivery by External consultants (excluding Years 1, 8, 15 and 22 covered by Mitigation Development consultants)	➢ External consultancy to evaluate projects annually and provide briefing reports to Mitigation Strategy Delivery Officer and Oversight Group
Strand 1 Sub-Total					£16,820,594		
Strand 2 Sub-Total					£ 301,000		
Total for 25 YEARS					**£17,121,594**		
Total for 125 YEARS					**£62,626,158**		

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Epping Forest SAC Mitigation

Report

Amended Second Draft Final Report
Prepared by LUC in association with Andrew McCloy and Huntley Cartwright
September 2020



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1 Introduction

Background

1.1 Epping Forest lies to the east and north-east of London, just inside the M25, see **Figure 1.1**. It has great significance for its:

- **heritage**, it is a former Royal Forest
- **recreation,** it is one of the largest open space around London, providing significant open space opportunities for residents from within several London Boroughs, Epping Forest District and attracting visitors from beyond these areas
- **wildlife**. Two thirds (1728ha) of the Forest's 2400 hectares is designated as a Site of Special Scientific Interest (SSSI) with 1,605ha of that area also designated as a Special Area of Conservation (SAC). It is one of the largest remaining wood-pastures in the UK, a habitat of 'principal importance' (Section 41 of the Natural Environment and Rural Communities Act 2006) and, as recorded in the SSSI citation, and is the only protected site to support all three types of lowland wood-pasture. Furthermore, the Forest's wood-pasture contains the largest population of ancient pollarded trees in the country.

1.2 The City of London Corporation (City Corporation) was instrumental in saving the Forest from loss due to enclosure and development by an expanding metropolis in the 1860s. In addition to winning the legal battle to save the Forest, the City Corporation then purchased the land to ensure its further physical protection. Today it is held in trust and managed by the City Corporation following the passing of an act, The Epping Forest Act, in 1878 to help to protect the rights of the public to use open spaces and for the areas to be conserved for their specific environmental features. The Act places responsibility on the City Corporation to manage the Forest as an open space for public "recreation and enjoyment" while also protecting its environmental qualities.

1.3 The nature conservation importance of the Forest was further recognized during the 20th Century. The protection of its wildlife was significantly strengthened and specified in more detail through later designations for large areas of the Forest as a Site of Special Scientific Interest (SSSI) and a Special Area of Conservation (SAC). The latter designation makes the City Corporation, as landowner, the competent authority for the management of the SAC features.

1.4 As a major visitor attraction there are continuing pressures on the Forest soils and wildlife, including its ancient tree population, and continuing increases in visits pose a significant challenge to sustaining its special character, ecological condition and the diversity of species it supports.

1.5 The brief for this project is to examine three of the busiest areas in the Forest, High Beach in the north west, Chingford Plain towards the south and Leyton Flats at the southern tip of the Forest (Figure 1.1), looking at the impact of visitors on the sites and to provide costed proposals for conserving and enhancing those ecological assets which give rise to its SSSI, and in particular, its SAC designations. At the same time the proposals also need to provide suitable facilities for the public to enjoy and gain benefit from visiting the open space.

Forest-wide Strategies: – Mitigating the impacts of increasing numbers of recreational visits

1.6 This will provide important information in seeking contributions as part of the Strategic Access Management and Monitoring Plan (SAMM) to mitigate the potential in-combination impacts of new housing development in the vicinity from those local authorities which lie in the Zone of Influence of the Forest as indicated by the visitor surveys (see paragraph 2.10).

1.7 While we are only considering three sites in the Forest it is important to emphasise that this is only part of the picture and there are additional costs to be considered by the competent

authorities seeking to protect and enhance the Forest. There is a need to consider the wider Forest context and how different locations within the Forest may affect the wider environment around the Forest and other green spaces. A broader strategy is required to manage the use of the Forest in a way that protects sensitive areas and highlights other areas which are more capable of sustaining heavier visitor pressure.

1.8 Hence Phase 2 of the project is to provide a brief for a tender to provide an overall Forest access management strategy (including non SSSI and SAC areas and Buffer Lands) to seek to balance conservation and access requirements under the new pressures that will develop as new housing is built as a result of the spatial strategies of the surrounding Local Plans. The Sustainable Visitor Access Strategy would be linked to other strategies for managing traffic and parking within and around the Forest but would also consider where visitors are travelling from to reach the Forest.

This report

1.9 This report summarises the research, consultation and site surveys that were carried out to inform the proposals and then describes the proposals for mitigating damage to the SAC.

1.10 Information was gathered from:

- Existing documents and reports
- Consultation and interviews with key staff at the Corporation of London and with Natural England
- Site surveys by our ecologists and access specialists.

1.11 Based on the findings from the data gathering and site surveys, proposals are put forward for protecting and potentially enhancing the environmental assets of each site, in particular those aspects that give rise to its designation as SAC and SSSI. However in doing so the proposals also recognise the value of the sites as accessible open space and are designed to provide suitable access and facilities, which have as low an impact on the SAC as possible and retain as much as possible the informal and natural aspect of the Forest and avoid a proliferation of structures and development in the SAC.

1.12 While some proposals are site specific and can be described in some detail, the location and provision of paths for example, others such as the location and provision of car parking and traffic control measures, need to be considered as part of the wider Forest wide access and traffic strategy and are more conceptual until an overall strategy has been provided.

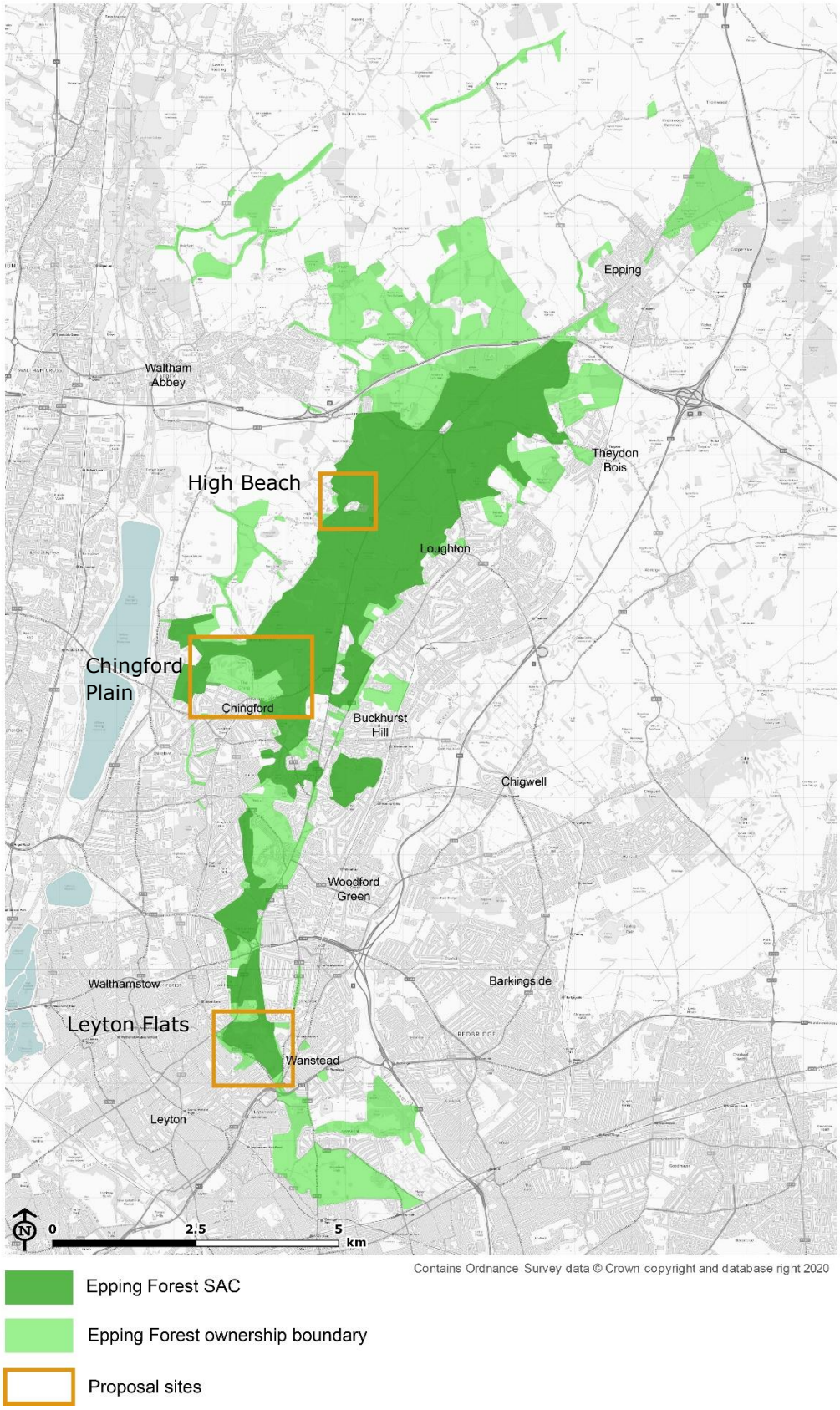


Figure 1.1. Location plan

2 Research and Consultation

2.1 The purpose of the research, consultation and site visits is to assess:

- the current and future visitor pressure on the sites in terms of numbers and types of activity undertaken
- the ecology of each site and its significance, particularly relative to the SAC designation
- the impact of visitors on each of the sites and the nature of the facilities available to them
- management of the sites.

Documentary Research

Sources

2.2 We have assessed a number of documents which provide information applicable to the Forest as a whole and on particular sites. The following two documents have been useful in providing information on the pressures on Epping Forest as a whole, on the responsibilities that the City Corporation has in providing for public recreation and on the impact of the visitors on the Forest as a whole and on the three sites of interest:

- Epping Forest Visitor Survey 2017, produced by Footprint Ecology, updated in 2019 but the report not yet published but data from it provided by the City Corporation for this report
- Epping Forest District Council (EFDC) Interim Mitigation Strategy for Epping Forest Special Area of Conservation, 2018

2.3 We have also received detailed information on the ecology of the three hotspots.

Summary of documentary research

Visitor numbers

2.4 The 2018 Interim Strategy reports that a 2014 survey for the Management Plan indicated that there were 4.2 million visits per year to the Forest.

2.5 There is potential for these numbers to increase very significantly, both from a general increase in population and from planned development in the surrounding local area. Several of the Mayor of London's 30 Housing Zones are located in Waltham Forest and Redbridge, which have been established in order to bring accelerated housing development in areas with high potential for growth. Several areas of growth in the surrounding Local Authorities are within a reasonable walking, cycling or driving distance of the study areas. Most are focused around existing public transport hubs, providing easy access to areas of Epping Forest.

2.6 A draft new London Plan was published for consultation during 2017 and the plan is currently being considered by a formal Examination in Public. The existing 2016 plan is still the adopted plan; however the draft plan is a material consideration in planning decisions. The draft plan sets out targets for housing completions for each borough. Those of most relevance to the area surrounding Epping Forest are set out in the table out below.

Table 2.1 Draft New London Plan ten-year targets for net housing completions (2019/20-2028/29) in surrounding London Boroughs

Borough	Ten-year housing target	Annualised average
Waltham Forest	17,940	1,794
Redbridge	19,790	1,979
Newham	38,500	3,850
Hackney	13,300	1,330
Haringey	19,580	1,958
Enfield	18,760	1,876

Epping Forest District

2.7 Epping Forest District Draft Local Plan indicates that 11,400 new homes are to be delivered across the district within the period 2011-2033. Key considerations are outlined below:

- A large percentage of development, around 3,900 homes, will be located around Harlow near the northern boundary of the district
- 1,640 homes are proposed for Epping
- 1, 190 homes are proposed around Loughton
- 1, 580 homes are proposed around North Weald Bassett.

2.8 Hence the impact on the Forest and the three hotspots is liable to increase as a result of the increase on housing provision increasing the need to find suitable ways for providing a resource for recreation while still protecting and enhancing the SAC.

Visitor survey

2.9 A visitor survey was undertaken during 2017[1] and updated in 2019, which comprised both visitor tallies at several fixed survey points and face to face interviews with visitors. The surveys were undertaken with the aim of:

- identifying where visitors originate from in order to understand where new development may result in an increase in use of the SAC
- understanding the activities taking place across the Forest; and
- informing mitigation measures.

2.10 A key purpose of the visitor survey was to identify the 'Zone of Influence' (ZOI), which is based on the collection of postcode data and where the 75th percentile of visitors comes from. The ZOI is used to inform Local Plan policy development related to the determination of planning applications and the provision of Suitable Alternative Natural Green Space (SANGS).

2.11 The ZOI for Epping Forest extends to 6.2km (6.36km in 2019), covering 13 local authority administrative areas. However, 50% of all visitors who were questioned as part of the 2019 survey lived within 2.6km of the location in the Forest where they were interviewed.

Visitor impact

2.12 Both the 2017 and 2019 visitor surveys identified several potential impacts, both direct and indirect to the protected nature conservation interest of the Forest which can arise from high visitor and increasing numbers and that must be addressed in developing mitigation proposals.

[1]Epping Forest Visitor Survey 2017, Footprint Ecology

2.13 These are summarised below and described in more detail in the paragraphs following the table.

Table 2.2 Potential impacts of visitor pressure

Nature of Impact	Cause
Physical Damage	
Habitat loss	Soil erosion, vandalism including increased wildfire incidents
Species loss and species changes	Soil enrichment from dog fouling Harvesting, for example fungi and deadwood
Soil structure damage	Compaction and erosion and loss of microbial activity
Changes to the aesthetic appearance of the Forest landscape	Creation of desire lines Provision of visitor facilities
Wildlife disturbance	
Reducing rare species productivity and wildlife abundance	Disturbance to ground or low-nesting birds Harvesting impacts and other taking of plants, flowers, fungi Increased light pollution – e.g. affecting insect behaviour, reducing abundance
Hazard introduction	
Increased safety costs	Restricting positive management due to managing risks and consequences of anti-social behaviour, fire and vandalism, requirements for more tree safety works
Increased and accelerated introductions of novel and/or pathogenic organisms	Such as tree diseases like *Ramorum* from contaminated soil on visitors and their dogs
Increased and accelerated introductions and spread of introduced, alien plants and animals	From garden waste and deliberate dumping of other material
Conflicts with sustainable management	
Pressures on essential management regimes	e.g. difficulty in sustaining or re-establishing traditional grazing due to interactions with people, dogs, vehicles and roads

2.14 Trampling, compaction and wear have been identified as a major issue across large areas of the site and particularly prevalent at the hot spot sites which are included within the study. This compaction results in a direct loss of vegetation, impacts on the beneficial function of mycorrhizal and other fungal communities, direct damage of tree roots and reduction in the permeability of the soil to rainfall. A key impact on the nature conservation interest of the Forest is the damage that this causes to the roots of ancient trees, a vital component of the SAC and the subsequent loss of vigour and even death of the tree. It is useful to understand how visitors are using the site to assist in developing the most appropriate and effective design and management interventions.

2.15 The survey found that more than three-quarters of interviewees travelled to the site by car, highlighting the importance of the sites' 52 car parks as hubs of activity, with high potential for compaction and erosion in the immediate surrounding areas as visitors set out into the site. In the 2017 survey the Connaught Water Car Park on the Chingford site showed the highest percentage of visitors arriving by car, followed by the Pillow Mounds Car Park at High Beach.

2.16 The surveys found that dog walking was the most common activity undertaken at the site (49% of interviewees in the 2017 survey carried out in late Oct/Nov, dropping to 39% in the 2019 survey carried out in September). High numbers of visitors using the site for dog walking has the potential to impact the site in several ways. Dog fouling increases soil fertility and causes nutrient enrichment, with a subsequent adverse impacts on wildflowers through the loss of species and replacement with rank vegetation. Where dogs are not adequately controlled there is also high potential for disturbance to wildlife, for instance ground and low nesting birds. Dogs have an impact on ponds and waterbodies, causing erosion of banks, loss of marginal vegetation and turbidity in the water which can lead to loss water plants, such as the suspected loss of water violet from two of the Forest's ponds. Dogs can also disturb nesting water birds such as grebes, coots, moorhens and duck. There is also potential for conflict between dogs and livestock, which can limit the options available to manage the site through the traditional and essential grazing regimes.

2.17 Dog walking is generally undertaken year-round, with the vast majority of dog walkers (93%) visiting equally all year and not visiting at a particular time of year. Dog walkers were found to make the highest proportion of daily visits when compared to other recreational activities. The results also suggest that on average dog walkers travel the shortest distance from home to reach the site when compared to other users. On average the length of their walk was 2.2km which is close to the national average established by visitor surveys of 2.5km.

2.18 Walking is the second most common reason to visit the site (22% (2017) and 30% (2019) of interviewees), after dog walking. The surveys found that 8% of interviewees were visiting the site to cycle or use mountain bikes. Cyclists were particularly notable at Pillow Mounds, accounting for 36% of those interviewed. Jogging/running was found to account for only 5% of visitors, however this group tend to visit quite frequently when compared to those undertaking other activities, with 71% of joggers/runners visiting one to three times a week.

2.19 The survey found that interviewee's choice of route through the site was largely determined by previous knowledge of the area and the type of activity being undertaken. Few interviewees indicated that they based their routes on marked trails, interpretation or leaflets.

2.20 The survey indicates there is significant variation in the length of journey within and through the site between the various activities undertaken. Cyclists were found to take the longest routes through the site. Dog walkers were found to take the shortest routes within the site when compared to other users such as joggers or walkers, indicating the potential to develop 'sacrifice' areas or dedicated dog walking sites at key locations.

2.21 Groups of visitors riding horses made up a small proportion of the total number of groups recorded during the 2017 survey, however, such activity still has the potential to cause negative impact through trampling and erosion. Of the 1065 groups of people entering or leaving the site, seven were on horseback. Of the 743 groups of people recorded passing by the survey locations but not entering or leaving the site, 24 were on horseback (it would be reasonable to assume most of these had entered and left the site at other locations). The majority of visitors on horseback that were interviewed tended to visit for more than two hours, 50% visit most days and 50% visit one to three times per week. All indicated they visit year-round.

Other visitor surveys

2.22 As part of the Heritage Lottery Fund-supported Branching Out Project, a 5-year visitor survey was carried out across many Forest compartments and allowed heat maps of visitor numbers and densities to be created for each area. It also provided the estimation of the annual visits which in 2014 was estimated at 4.2M (see above also).

2.23 Although these surveys were not examined for the compiling of this report, the choice of the three "hubs", which are the focus of this study, is as a result of the findings of the extensive Branching Out visitor survey work.

Impacts of Covid-19

2.24 Although the effects of Covid-19 pandemic, and the various stages of lockdown that followed, took place at the conclusion of work for this report, it is clear that the impacts have involved the "fast forwarding" of increased visitor pressure on the Forest. Many of the damaging impacts cited

in paragraph 2.12 above have become more apparent and the diversion of resources towards increased littering and vandalism was highlighted. The inability of current resourcing (see also paras 2.27 and 2.28 below) and facilities to manage this increase in numbers, and also the changing demands of visitors (e.g. significant increase in cycling, including mountain biking), has been clear.

Internal client interviews

2.25 In addition to the documentary research described above, interviews were conducted with internal staff members from the City of London Corporation in order to gather information on their understanding of the key issues that require addressing as part of the project and any mitigation opportunities that have already been identified. Interviewees were selected to ensure that a cross section of interests within the management team is represented and taken into consideration while developing proposals.

2.26 The staff members listed below attended interviews during March 2019:

- Jaqueline Eggleston, Head of Visitor Services
- Geoff Sinclair, Head of Operations; & Fiona Martin, Management Planning Assistant
- Jo Hurst, Business Manager
- Martin Newnham, Head Forest Keeper

2.27 The interviews were structured by employing three key themes and areas for discussion:

- Impact
- Resources,
- Other information & considerations.

2.28 While the interviews were undertaken individually, the findings are summarised as key emerging themes from the whole interview process

2.29 In addition, the following provided information throughout the project:

- Paul Thomson, Superintendent of Epping Forest
- Jeremy Dagley, Head of Conservation in the Open Spaces Department - Epping Forest, particularly on the importance of the SAC features and attributes
- Neil Fuller, Natural England.

Impact from recreation

2.30 There was a strong awareness of the need to accommodate public recreation and enjoyment of the Forest, through obligations set out in the Epping Forest Act, while needing to mitigate the impact of those visitors on the SAC. However, in addition to the key list of issues and impacts identified in the visitor survey, interviewees provided more detail regarding impacts at several specific areas on site:

- There is a proliferation of informal paths and trampling at Chingford Plain.
- In more accessible 'urban' areas, there are is a cultural issue with some visitor's attitude towards fires, barbeques, litter and picking wild produce.
- There are issues at Chingford Plain with illegal raves and traveller occupation and there may be a need to reconfigure some car parks with bunds, ditches and posts.
- Issues at Leyton Flats included the poor condition of two of the car parks along Whipps Cross Road, lack of visitor facilities, compaction and erosion of the edge of Hollow Lake, a number of desire lines causing loss of habitat on the open acid grassland and reports of range of anti-social behaviour issues in the more wooded portions of the site.

2.31 Several issues and opportunities relating to visitor facilities were identified:

- At popular locations, such as Chingford Plain, there is excessive trampling and the spreading out of compacted areas of soils over both grassy areas and under ancient trees, which is likely to get worse with increased visitor pressure. Suggested solutions were for better direction of visitors through clearer signposting and more clearly defined paths.
- There is a lack of toilets and catering facilities across the Forest.
- There needs to be a strategic assessment of car parks and their capacity and locations. Several car parks need to be better signposted and promoted, with better connectivity to existing facilities. (for example, Honey Lane to High Beach, Bury Road to The View at Chingford Plain),
- There needs to be a strategic assessment of the location of visitor centres.

Resources

2.32 Each participant was asked their views on current resources available across the Forest and what additional resources may be required to manage increasing pressure from visitor numbers in the future. The discussions identified a need to develop additional income from visitors while also taking action to limit ecological impact. The major themes that emerged are outlined below:

- Due to a decline in City Corporation funding and pressure on budgets throughout the organisation there is a need to look at additional income streams from visitors.
- Potential new funding initiatives identified by interviewees include large scale events and car parking charges, with the intention that the revenue would help to fund conservation work and visitor management.
- It was suggested that the proposals contained in EFDC Interim Mitigation Strategy will need to be reassessed to confirm that they provide sufficient funds to mitigate the impacts on the SAC in the light of an expected increase in visitor numbers in the future.

Other information and considerations

2.33 Additional points that were put forward for consideration included:

- An overall Management Plan was approved by the Trustees in November 2019 and this contains strategic objectives for the Forest and will apply from 2020. It was noted that the gathering of new evidence and background information is required.
- However, it was highlighted that many specific policies and strategies for the management of the Forest are not yet written or finalised, for instance in relation to dog walking, cycling, visitor facilities, paths and benches.
- There was a desire amongst several interviewees to make more and better use of the buffer land to the north, (for instance Warlies Park) to be used for recreation and large events to take pressure off existing hot spots and absorb new visits. However, it should be noted that any such plans would need to be carefully planned to assess the likely impact on these sites, including but not limited to their ecological value.
- It was suggested that more strategic thought should go into how the Forest fits into the wider Green Infrastructure network (such as Lea Valley, Walthamstow Wetlands & Hainault Forest).
- Interviewees took the opportunity to reiterate that dogs are a key issue, especially in sensitive but popular locations like Connaught Water (dogs in water, conflict with wildlife/children/other dogs, etc) and urban areas to south. A clear need was expressed to adopt new approaches to cater for dog owners bur also to protect the SAC.
- Although there are issues with mountain bikers (speed, riding off paths) there also could be opportunities to promote sustainable modes of travel to visit the Forest from north to south, and for cycling within the Forest, but any such cycling strategy, possibly part of a Forest Transport Strategy, would need to be assessed in the light of potential impacts on the SAC.

2.34 In conclusion it appears that an overarching strategic approach to the management of the Forest is needed to balance recreation and visitor management with protection of the SAC, and including topics such as zoning of activities, dog control, car parks, paths and benches as well as environmental considerations.

Site assessment

2.35 Site surveys were undertaken at the three sites (High Beach, Chingford Plain and Leyton Flats) during March 2019. An access and recreation assessment was undertaken by an access specialist and a field assessment was also undertaken by an LUC ecologist. The following section summarises key findings from each survey. Full survey notes and annotated maps from the access and recreation assessment are included in **Appendix 1**. Maps and target notes from the ecology survey are included in **Appendix 2**.

2.36 The focus of the study is on the quality and condition of the qualifying features of the SAC, and the impact of visitor use of the area on those. However, consideration has also be given to the value of the mosaic of habitats that are found across the three sites, whether within or adjacent to the SAC boundary.

2.37 The approach for the ecological walkover survey was to undertake a summary assessment of the condition of the features that are of particular importance to Epping Forest around the three hotspot sites included in the study. Areas that appear to experience the most notable impact on habitat quality from visitor pressure and current management approach have also been highlighted and several opportunities for improvements identified. This information has been used to provide areas of focus for design and management proposals, which may comprise directing visitor movement away from particularly sensitive areas or 'formalising' access within areas of interest to improve access while limiting potential harm.

2.38 The Forest as a whole comprises a range of habitats including high forest, scrub, areas of bog and more open areas with semi-neutral and acid grassland. The Forest's ancient trees have been of particular consideration in developing mitigation proposals. Ancient trees can provide important habitat for a range of species. They often host significant amounts of dead and moribund wood and provide important habitat for stag beetles and other saproxylic species. Ancient trees can be particularly vulnerable to soil compaction and reducing this will be essential to maintaining the health and vigour of important ancient trees nearby areas with heavy recreation use.

2.39 For the purposes of the survey, the areas immediately surrounding the three sites were divided into parcels with different characteristics/habitats. These are indicated in the site notes and maps included within **Appendix 2**.

Summary findings

High Beach

2.40 High Beach is an attractive and popular destination, with an area of grass covered pillow mounds on a ridge providing spectacular views to the west and surrounded by woodland containing many of the ancient trees that are a key component of the SAC designation. Adding to the attraction for many is the Kings Head public house at the heart of the site, the Epping Forest visitor centre and Field Studies Centre. Other visitor facilities include a toilet block and a mobile catering outlet on the northern tip of the car park.

2.41 The site assessment identified the following key issues and constraints at High Beach.

Table 2.3 Access and ecology issues at High Beach

Issue	Impact on ecology and the SAC
Visitor activity is concentrated in a relatively small area on the pillow mounds and on the slopes running down westwards from the ridge. This has resulted in high levels of erosion and degradation of acid grassland at Pillow Mounds and on the slopes below them. While this has created valuable habitat in its own right for several invertebrates, such as solitary bees, this needs to be controlled particularly where in close proximity to ancient trees.	Loss of acid grassland and potential loss or degradation of ancient trees on the edge of the grassland
The Car park is at full capacity at peak times and parking overflows onto the adjoining roads.	Potential damage to tree roots and hence tree health alongside the road.

Issue	Impact on ecology and the SAC
The visitor centre is 'tucked away' with no obvious access from the car park, with little opportunity for messages regarding conservation and responsible use of the site to be conveyed.	Lack of visitor awareness of the sensitivity of the site and how they can minimise harm to the ecology.
The 'easy access' gravel surfaced footpath through woods at High Beach is inadequately signposted and as a result is under-used. In addition, the path passes close to and even under the spread of a number of ancient trees, potentially creating a hazardous situation and requiring more surgery to retain public safety than is good for the wellbeing of the trees.	Greater awareness of the path could take pressure away from unprotected areas. Proximity to ancient trees could lead to excessive tree management to reduce risk to users.
There are several blocks of woodland containing many ancient trees that are in close proximity to areas with high recreational use. This includes a large area of woodland between Claypit Hill and Pillow Mounds; and woodland south of High Beech Loughton (Road).	Erosion of soil in root area exposes roots, damaging them and reducing their efficiency. Compaction can also arise as a result of repeated foot fall and impacts on the beneficial function of mycorrhizal and other fungal communities, direct damage of tree roots and reduction in the permeability of the spoil to rainfall
There are steep fragile slopes below Pillow Mounds which are subject to disturbance and erosion, in particular from mountain biking and horse riding.	As above, loss of some grassland habitat, although some bare ground is a valuable habitat for some invertebrates.
Speakmans Pond has issues with New Zealand pygmy weed *Crassula helmsii.* an invasive species.	Potentials degradation of opportunities for native species.
There is an area of bog located to the south west of the car park and north of Wellington Hill that appears to have reduced in extent due to limited management. This bog has been an important site for sphagnum mosses and other plants of heath and mire habitats that are important components of the wet heath SAC protected habitat. There is potential for this area to be improved and made into an area of interest for viewing	Currently lack of species variety. Restoration could bring back plants and heath and mire habitats that are important components of the wet heath protected environment. With careful access control, could potentially help to draw visitors away from more fragile parts of the site and hence help preserve those areas.
The site is used for off-road cycling	Can create erosion and compactions which potentially damages ancient trees.

2.42 There are several areas of lower quality woodland and areas, with fewer ancient trees, that could be enhanced to direct footfall away from more sensitive areas. This includes the accessible footpath to the north of the visitor centre; and woodland to the south of the visitor centre between High Beech (road) and Epping New Road (A104).

2.43 Illustrations of access and ecology issues at High Beach are shown in **Figure 2.1.**

Figure 2.1. Illustrations of access and ecology issues at High Beach

	
Eroded slope below pillow mounds, subject to heavy footfall.	Horse riding within areas of woodland.
	
Car park and pub at the edge of pillow mounds, with desire lines leading off into the site.	Riding motorised bikes at Pillow Mounds.
	
Heavily worn grassland.	Ancient trees nearby areas with erosion from heavy recreational use.

	
Boggy area with pioneer trees in the background.	Ancient trees and existing surfaced pathway.

Chingford Plain Hub

2.44 The Chingford Plain as the name signifies is largely a flat plain but rising to the south towards a busy road (Rangers Road, the A1069) and the Visitor Centre, the historic Queen Elizabeth's Hunting Lodge, Butlers Retreat café and a Brewers Fayre public house and hotel (the Royal Forest Pub). South of Rangers road is the Barn Hoppitt car park, part tarred and part extended over grass in summer, with a private club, the Connaught Club to the south of that. To the west the plain is bounded by the Bury Road with a public golf course to the west of that. The golf club house and car park and a larger car park for the public open space are on the east side of Bury Road. Another car park lies at the eastern end of the plain, off Rangers Road and serving a lake, Connaught Water, which is a popular attraction.

2.45 The landscape is varied with open grassland, (some species rich acid grassland), scrub areas, woodland containing a number of ancient trees, a stream, Lake (Connaught Water) and some smaller ponds. The eastern area of the site and the area to the north and north east, including the woodlands, Connaught Water and acid grassland are covered by the SAC designation.

2.46 The site is heavily used not only by individual users, but also for events generally located in the flat grassland next to the Bury Road car park and outside the SAC. The visitor centre is relatively recent; the Hunting Lodge is used for small events and the Butlers Retreat is a café, all under the control of the City Corporation. The Royal Forest Pub is privately owned.

2.47 The site assessment identified the following key issues and constraints at Chingford Plain:

Table 2.4 Access and ecology issues at Chingford Plain

Issue	Impact on ecology and the SAC
There is limited parking opposite the visitor centre (Barn Hoppitt), leading to informal roadside and verge parking, but also likely under-use of the visitor centre itself.	Potential compaction of root zones and damage to roadside trees in the SAC.
There is also limited parking at Connaught Water, resulting in parking along the verge of Rangers Road at busy periods.	Potential compaction of root zones and damage to roadside trees in the SAC.
Connaught Water is a popular destination and a path has been worn down from the visitor centre to the lake, which is muddy in wet conditions and results in a wide area of destroyed grass as visitors deviate to avoid wet areas.	Destruction of acid grassland in and out of the SAC.
Bury Lane car park is poorly configured, untidy and unwelcoming. It appears under-promoted and therefore under-used, despite having significant capacity that could accommodate large numbers of visitors. There are no toilets attached to the public car park.	If the Bury Road car park is not seen as a suitable parking area for the site, there will be increased pressure on the Barn Hoppitt and Connaught Water car parks

Issue	Impact on ecology and the SAC
	and the adjoining roads, all within the SAC.
There is no easy, attractive or obvious walking route between Bury Lane car park and the visitor centre/The View. The current route is grassy and muddy in places and because it is not defined it has resulted in the creation of numerous and unsightly desire lines. In addition, the visitor centre and associated facilities are not visible from the car park.	The desire lines destroy the grass along the route and pass close to some large trees, potentially causing damage to the tree roots and hence affecting the health of the roots. While the route is not in the SAC, making this area more attractive may result in less pressure on the areas within the SAC.
The area is popular with dog walkers leading to the potentials for eutrophication, particularly around the car parks, if dog waste is not picked up and properly disposed of.	Environmental impacts include eutrophication of water courses, damage to riverbanks and nitrification of vegetation as well as potentially passing on disease to humans.
There is no coordination of seating areas around the Butlers Retreat, access to the Visitor Centre and to Queen Elizabeth's Hunting Lodge.	Areas of worn grass and eroded ground
The golf course is open and accessible. It appears to be used a lot for non-golfing recreation (dog walking, picnics, walking), with evident conflict and inherent dangers.	While the route is not in the SAC, making this area more attractive may result in less pressure on the areas within the SAC.
There are several examples of unsurfaced paths that run through areas of ancient trees. This includes an area to the east of the golf course adjacent to Bury Road.	Not in the SAC, but any ancient trees warrant protection.
There are several good examples of pollarded ancient trees, including oak and hornbeam, that are located to the west of the golf course.	
The parcel of woodland to the north east of the golf course supports good examples of qualifying features of the SAC.	
There is evidence of erosion around the edges of Connaught Lake, although the path and lake platforms appear to be functioning well and providing good access.	Potential loss of biodiversity.
There are areas of tussock grassland and scrub at Chingford Plain (within the SAC) that provide a useful 'buffer' between qualifying features of the SAC and areas subject to high levels of recreation.	While not necessarily representative of the qualifying features of the SAC, the area still provides a varied habitat for wildlife and interest for visitors.
There are several areas of open space that are outside the SAC boundary that may potentially provide good opportunities to direct recreational use away from more sensitive areas within the SAC. This includes areas around the golf course, and parcels of nutrient enriched grassland around the visitor centre.	Potentially divert pressure away from the SAC

2.48 Illustrations of access and ecology issues considerations at Chingford Hub are shown in **Figure 2.2.**

Figure 2.2. Illustrations of access and ecology issues at Chingford Plain



High potential for improvements at the Bury Lane car park.



No obvious route towards the visitor centre from the Bury Lane car park.



Start of path from Bury Road to the visitor centre.



Worn desire line between the visitor centre and Bury Lane car park.



Barn Hoppitt car park is heavily used and the overflow impinges on acid grassland.



Eroded acid grassland land on the extension to the Barn Hoppitt car park.

	
Crossing to visitor centre from Barn Hoppitt car park.	Eroded seating area outside Butlers Retreat.
	
Path from Butlers Retreat towards Connaught Water.	Path from Connaught Water up hill to the visitor centre.
	
Stream flooding over key access paths from the north of the Forest.	Crossing point on path between Bury Road car park and Connaught Water.

	
Recently surfaced path heading west from Connaught Water to the visitor centre and other access routes.	Board walk as part of improved access and bank protection around Connaught Water.

Leyton Flats

2.49 Leyton Flats is an open area of flat ground in the southern reaches of Epping Forest, close to, and almost surrounded by, heavily populated residential areas with most of the Flats within the London Borough of Waltham Forest but managed by the City Corporation as part of Epping Forest. The borders of the Flats themselves are Whipps Cross Road to the south-west, Lea Bridge Road in the west, Snaresbrook Road in the north and the Central Line railway cutting and Hollybush Hill (road) to the south and the east. The private grounds of Snaresbrook Crown Court are in the north-east corner as is the Eagle Pond, which is part of Epping Forest. The site also includes two wooded areas south of Whipps Cross Road either side of Whipps Cross Hospital.

2.50 Leyton Flats proper comprises about 75 hectares of land, of which 38 hectares is flat open grassland including some valuable acid grassland, 20 hectares woodland, largely oak and containing a number of ancient trees and the rest mainly ponds or wet areas. Hollow Pond is the largest pond and is a popular attraction. The whole lies on the Boyn Hill Terrace of pebble gravel and alluvium, for which past workings have produced the pits and spoil heaps to be found in parts of the area. The majority of the Flats north of Whipps Cross Road are part of the SAC. The area to the south of Whipps Cross Road and a small strip between Hollow Pond and the road are not.

2.51 Visitor facilities are sparse, but there are two car parks, one to the north and an informal one off Whipps Cross Road to the south. This contains a small food outlet. There is also a separate small car park further to the east next to a facility from which boats can be hired. A new transport hub, the Mini Holland development, has recently (2019) opened at the southwest corner of the Flats at the junction of Whipps Cross Road and Lea Bridge Road. Despite the lack of facilities, the Flats are heavily used by visitors, and with potential for additional users coming from proposed development of residential accommodation on part of the hospital site.

2.52 The site assessment identified the following key issues and constraints at Leyton Flats:

Table 2.5 Access and ecology issues at Leyton Flats

Issue	Impact on ecology and the SAC
Visitor infrastructure is generally poor, including very limited parking, only basic refreshments and no toilets.	Improved infrastructure should include improved interpretation to influence visitor behaviour to respect the valuable ecological areas.
There are large numbers of local users accessing the SAC from all directions on foot, rather than solely from a small number of key car parks (as is more the case at High Beach and Chingford Plain).	Makes it difficult to manage access to avoid sensitive ecological areas such as the acid grassland.
There are significant areas of erosion adjacent to Hollow Pond, some of which is wooded. It would be beneficial to	Loss of marginal and ground vegetation and hence reduction of biodiversity.

Issue	Impact on ecology and the SAC
provide more defined pathways and designated viewpoints over the lake.	Compaction over and direct damage trees roots leading to degradation of tree and health and potential loss.
There is significant footfall resulting in lots of informal paths across the open areas at Leyton Flats, with evidence of the grassland being very worn in places. These open areas comprise acid grassland and heathland, with several areas of semi-neutral grassland to the south of the site adjacent to Whipps Cross Road. There is evidence of gorse and scrub clearance in places.	Loss of valuable acid grassland and heath.
Unmanaged undergrowth and scrubby vegetation in the northern part of the area allows opportunities for anti-social behaviour. However, the area also contains ancient oak trees that are of key importance to stag beetle.	Opportunity to reduce scrub levels and increase biodiversity through the variation in habitats.
There is no direct or inviting walking route between the hospital and Leyton Flats/the SAC.	Opportunity to increase access to the environment for health and education
The only promoted route at present is the Hornbeam Trail which is inconsistently waymarked and extends northwards away from Leyton Flats.	Directing access to areas that can withstand the pressure would benefit more sensitive areas.
There is opportunity to manage scrub in the area outside the SAC between Whipps Cross Road and the hospital to create open glades and paths to direct users away from more sensitive areas.	May reduce pressure on the SAC and increase biodiversity in the area by providing a greater variety of habitats.
The car park to the south east of Hollow Pond lies partially within the SAC and may benefit from re-configuring.	From an ecological perspective it would be beneficial for the mature oaks to be retained.

2.53 An illustration of access and ecology issues at Leyton Flats is shown in **Figure 2.3.**

Figure 2.3. Illustrations of access and ecology issues at Leyton Flats



Good potential for improvements at the car park.



Worn desire lines leading to vegetation loss

	
Shrubby growth next to paths reducing visibility.	Boat house and falling water levels. Compaction around tree roots.
	
Bank erosion exposing tree roots and preventing growth of marginal vegetation.	Facilities for disposing of bagged dog waste.
	
Erosion and lack of marginal vegetation along the edge of Hollow Pond.	High levels of erosion on and widening of paths near Hollow Pond.

	
Gorse and acid grassland in open areas at Leyton Flats.	Areas of worn grassland in open areas at Leyton Flats.

3 Overall Proposals

Introduction

3.1 The preliminary stage of the project has provided the opportunity to develop a thorough understanding of the key issues and opportunities at each site. While each site presents its own specific challenges, the recurring themes that need to be addressed by the proposals are:

- Visitors do have an impact on the SAC in a number of different ways depending on their activities. According to the visitor surveys carried out in 2017 and 2019 the key activities are:
  - Dog walking
  - Walking
  - Cycling/mountain biking (particularly at High Beach)
  - Running
  - Family outing
- The number of visitors is likely to increase in the near future through population growth and as a result of a number of housing projects in neighbouring areas.
- There is a need to try and manage the movement of visitors to direct movement away from ecologically sensitive areas and ancient trees within the Forest as a whole and also locally within each site.
- Visitor facilities at each site require some considerations (either location or function), but what is provided also needs to be considered as part of a coordinated Forest wide, or even regional, strategy.
- While the emphasis of the proposals provided in this report are focussed on the protection of the SAC, solutions will be required that meet ecological aims and recreational needs in order to be sustainable.

Overall principles

Strategy

3.2 The proposals put forward for each site are based on the following principles:

- Understanding the nature of the Forest, or specific site, and its environmental significance and the visitor impact on that
- Where possible moving visitor activities from sensitive areas, or protecting those areas
- Repairing existing damage and seeking opportunities for environmental enhancement
- Looking for opportunities to improve visitors' experience without attracting more than the site can cope with.

3.3 While the brief for this report is to look at the three sites, the same principles can be applied to the Forest as a whole, or even looking at the Forest as a component of the surrounding region. This is particularly important when looking at the source of potential visitors, both now and after future phases of housing development and where those visitors can be best accommodated in the Forest or whether there are more suitable areas outside the Forest which would either provide additional capacity or be alternative destinations to reduce the pressure on more fragile sites, such as High Beach. The proposals for housing development are likely to not only give rise to an

increased number of visitors but also ones who are not familiar with the Forest and its sensitivities.

3.4 While it may be relatively straightforward analytical exercise to work out where visitors should go to provide them with an experience that is attractive and meets their expectations but which does not jeopardise the ecology of the Forest, making sure that they choose to go there is less straightforward. However, the following are considerations:

- Understanding the requirements of different types of users, eg easy access for users of wheelchairs and buggies, uneven topography for mountain bikers, suitable areas for walking dogs, and providing those facilities where appropriate
- Providing a suitable infrastructure, car parks, toilets, catering at a level appropriate for the capacity of the site
- Making sure that visitors are aware of the existence and nature of the site
- Providing suitable controls, eg traffic controls, limiting car park sizes, to protect sensitive areas as well as visitor safety.
- Making sure that sustainability, global ecology and climate change are a key component in the analysis and decision-making process.

3.5 For this project this strategic approach follows the site specific work and will form part of a future Sustainable Visitor Access Strategy which in conjunction with a Forest Transport Strategy can be used to provide a coordinated approach to providing and managing access to the Forest while still protecting the valuable ecology of the area.

3.6 Without the overall Sustainable Visitor Access Strategy, there are some elements of the site-specific proposals that cannot be detailed at this stage, particularly the size and location of car parks. These items have been indicated in the following paragraphs and tables. Others however respond to situations specific to the site and hence can be described in some detail.

Specific measures

3.7 For each site there are common elements:

- SAC considerations.
- Why visitors visit the site and what they do there.
- Car parks
- Visitor facilities including centres for information, ranger service, toilets
- Catering
- Paths and access provision, including board walks and bridges if needed
- Signage and waymarking

SAC considerations

3.8 Portions of all of the three sites are contained within the SAC and/or designated as an SSSI and hence management of those sites and any proposals need to be implemented with an awareness of the implications on the SAC and on the need to protect and enhance the SAC as a whole and the particular assets that give rise to the designation. In particular these include ancient trees and acid grassland.

3.9 A Special Area of Conservation (SAC) is defined in the European Union's Habitats Directive (92/43/EEC), also known as the Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora and hence is protected through a number of regulations as described in Appendix 3.

3.10 The key consideration for this study is whether the proposals will result in harm upon the SAC which would be considered a Likely Significant Effect. In such an instance, an Appropriate Assessment would need to determine whether, in light of avoidance and mitigation measures the proposals would result in adverse effects on the integrity of the Epping Forest SAC. Crucially, the distinction will need to be made between those measures considered to be avoidance or

mitigation, and those considered to represent compensation. It is generally accepted that the physical loss of part a European site (for example through car park expansion) which supports the qualifying features or has the potential to do so in the future, would require compensation, i.e. the provision of a greater area of comparable habitat elsewhere. **Compensation cannot be relied upon at the Appropriate Assessment stage under the Regulation**s. Indeed, if compensation is required to offset an impact on Epping Forest SAC, it would automatically fail the test of integrity. Compensation can therefore only be relied upon as part of the Derogation tests detailed above. It will therefore be critical to understand to what extent the measures proposed represent avoidance/mitigation or compensation. It is recommended that this is agreed with Natural England through the project consultation process.

3.11 The proposals to date have been discussed with Natural England, particularly where recommendations have been made to provide surfaced paths within the SAC, effectively removing an area of habitat equal to the surface area of the path from the habitat through which the path passes from the SAC. However further assessment and negotiations will also need to be carried out at the stage where the proposals are drawn up in more detail.

3.12 As well as protecting the designated SAC area, the environment of the Forest also needs to be protected as a requirement within the 1887 Epping Forest Act.

Reason for visiting the site

3.13 Visitors will visit a particular site for a number of reasons:

- Specific attraction/s
- Easy access to the site, location
- Good accessibility within the site
- Suitable for the visitor's planned activity
- Good facilities
- Specific events

3.14 For the Forest the overall attraction is of a natural environment with a variety of habitats ranging from woodlands filled with majestic ancient trees, open grassy plains and fields, and expansive views. There are also specific attractions like Connaught Water or aspects of the Forest that attract a particular type of users, eg the varied topography at High Beach and off-road cyclists.

3.15 It is important to managing the site and visitors use of the site if these factors and their interrelationship are understood and these issues will be covered below as they apply to each of the three sites. However, they also need to be considered in the Sustainable Visitor Access Strategy to provide a coordinated plan for the Forest as a whole.

Car parks

3.16 The 2017 and 2019 visitor surveys indicated that over three quarters of visitors to the Forest travelled by car and hence make use of car parks, or overflow onto roadsides when the car parks are full.

3.17 Points to note about car parks are covered in the following paragraphs.

3.18 **Sustainability**: In this day and age with the need to reduce energy use and the burning of fossil fuels in particular the use of cars to travel to recreation sites should be discouraged, and hence the parking capacity reduced. However, until public transport networks have the capacity and coverage to provide an alternative means of travel which is perceived as being as convenient to users (eg in Central London), cars will remain the transport of choice, some say necessity, for many. Measures to take to encourage sustainable travel to the Forest could include liaison with public transport providers to improve services to the Forest and to the key features, publicity for those services, the provision of cycle facilities at entrance points and charging points for electric cars in the car parks.

3.19 **Location:** From a user's viewpoint, car parks need to be as close to the attraction as possible, and with easy access to the point of their visit, either from preference or necessity for those with limited mobility. Other factors which need to be considered include traffic consideration, impact

of the car park on its surroundings, both as a visual intrusion and for the traffic around it and other constraints, both natural and legislative (eg the SAC). For a car park serving multiple attractions at different points on the site, such as the Bury road car park on Chingford Plain, the optimum location will have to be a balance of various factors.

3.20 While the car parks for the three sites that form the subject of this report are all in place, their locations within the sites and relative to features on those sites, and the impact that has on access and visitor movement within those sites are considered in the proposals for each site.

3.21 The location of car parks within the Forest and the relationship between that and the distribution of visitor activity will form part of the Sustainable Visitor Access Strategy. That may also have some impact on car parks on the three sites and hence some of the proposals for those car parks are conceptual at this stage with further clarification being possible once the Strategy has been produced.

3.22 **Capacity:** For major attractions such as Connaught Water, there will always be pressure on the available spaces and hence overparking on verges etc outside the car park at peak times. Increasing the car park capacity can reduce pressure, but if the draw of the attraction is high, the increased capacity will probably be taken up until so many people visit the site that it reaches saturation point and starts to lose its attraction. If car parking space is constrained to below the saturation point, either as a deliberate measure to limit visitor numbers, or as a result of other factors limiting the dimensions of the car park, measures will need to be taken to control overparking on surrounding verges and other open space accessible to cars. Such measures can include wooden 'Dragons' teeth' installed on the edge of roads as in Richmond Park or traffic regulations, whichever is appropriate and would be effective for each situation.

3.23 Capacity could potentially be a factor in directing visitors to particular sites, in that if there are two sites that are otherwise equally attractive, then that with the greater car parking capacity and facilities would probably attract greater numbers. Again, this is a factor which will be explored in greater depth in the Sustainable Visitor Access Strategy.

Figure 3.1. Dragon's Teeth controlling verge side parking in Richmond Park



3.24 **Facilities**: This is a varied topic ranging from the design of the car park to the provision of electric charging points, depending on the location and function of the car park. Within the Forest the car parks vary from small informal car parks with natural gravel surfaces, as at Leyton Flats off the Whipps Cross Road to larger, tarred car parks as at High Beach and Chingford Plain. The informal car parks can be unobtrusive but if heavily used can suffer from potholing and require frequent maintenance. The formal car parks with a sealed surface are less sympathetic to the informal nature of the Forest, but are more accessible for those with hindered mobility, can allow greater organisation of parking and hence can be more efficient in their use of the space and are more resilient.

3.25 Key facilities either in the car park or in other facilities close by are **toilets**, particularly for this that have travelled far to the site, intend to spend some time there or have frequent need for the facilities, families with young children or those at the other end of the age scale. There may be less of a need for toilets in car parks suited to short visits, but even there they could serve walkers and other users of the Forest passing through the car parks as well as the drivers parking there.

3.26 Some form of **refreshment** provision, whether a small kiosk or a lager café is always popular in or near car parks but their provision needs to be carefully planned to avoid overcrowding, and to cater for the need for services such as power and water, and toilets. All three sites have some form of catering outlet, small cabins in the car parks at High Beach and Leyton Flats and a café close to the Barn Hoppitt car park at Chingford Plain.

3.27 Regardless of the size or location of the car park, **signage** is important to allow visitors to locate themselves and their destinations, to provide guidance on their surroundings, points of interest and the sensitivity of the area and how it should be treated.

3.28 **Bins** are useful particularly around refreshment facilities and also as encouragement to dog users to clean up after their animals and bin the waste in an appropriate bin rather than in plastic bags left in the open or not picked up at all.

3.29 **Cycling** is a popular activity and to be encouraged and hence provision of cycle racks is needed close to any feature that acts as a destination for cyclists. Where car parks are close to such features, the racks can be positioned in the car parks.

3.30 In an area where **electric cars** are increasingly used there is greater requirement for charging points to encourage their use. While the distances travelled by most users of the Forest are not large enough to drain a fully charged car, they can be useful in the more popular car parks.

Facilities and Ranger service

3.31 These include facilities such as toilets, bins, signs etc, which have been discussed above in connection with car parks and will be discussed in the proposals for the three sites, but also more substantial features such as visitor centres.

3.32 In principle the latter can range from small units providing relevant information on specific sites to larger units serving the Forest as a whole and providing a range of informational and educational services. Both High Beach and Chingford Plain have a visitor centre, the former advertised and signposted on surrounding roads as the Epping Forest Visitor and the latter appearing on a web search as the Epping Forest Visitor Centre. The Sustainable Visitor Access Strategy will need to assess the overall role of visitor centres and information points in the Forest as a whole and their role in influencing, if any, where visitors go in the Forest and on influencing the way they treat the environment of the Forest.

3.33 Although not necessarily linked to visitor centres, the strategy will also need to look at the potential role of a permanent or roving Ranger service. Their main roles would be liaison with visitors, acting as an "SAC ambassador", and helping to advise visitors on how they can still use the sites but in a way which minimises or prevents harm to the valuable assets of the areas they are visiting. In addition, the rangers could also be involved in the practical operations needed to maintain and enhance the environmental value of the Forest as a whole and in the individual sites.

3.34 This service could use visitor centre as a base, or alternatively facilities provided to enable their work could also provide some aspects of a visitor centre

3.35 For each of the sites the individual proposals cover the role of existing Visitor Centres on that site or in the case of Leyton Flat whether such facilities are needed. In addition, they consider the potential advantage of using an on-site or roving ranger service.

Catering

3.36 For many any outing is embellished if it is accompanied by some form of refreshment, whether a snack and a hot drink from a kiosk or a full restaurant meal, and in some cases is the most important part of the visit with the surroundings merely a backdrop to the meal and the social interactions around that.

3.37 Hence sites with catering are liable to be more popular than those without and will be an important component in a strategy to influence where visitors do go within the Forest. In principle catering in sensitive areas would be avoided, while it could be used to attract visitors to sites with greater ability to withstand visitor pressure.

3.38 Catering facilities themselves will have an influence on their surroundings, not only in the space and services they require for the outlet to function but also in residual impact such as seating areas, additional litter bins, larger car parks to cater for additional visitors and for servicing the outlet.

3.39 Thus, the topic needs to be assessed at a strategic level and managed for the three sites as described in the site proposals.

Figure 3.2. The impact of a small catering kiosk



Paths and access provision

3.40 Paths are a key factor in trying to manage the routes visitors take to avoid damage to sensitive habitats and environments, and to providing them with access to the Forest as a whole and to features on sites. Hence there are two issues to be addressed:

- Providing access to make those features which can withstand visitor pressure, or to features where visitors are wanted, eg to a visor centre or catering outlet
- Providing preferred routes that minimise harm to sensitive environments.

3.41 A common issue on the three sites is that many of the routes visitors take are self-defined desire lines which in cases pass to close to ancient trees, potentially harming the trees, or spread out across valuable acid grass land causing wear and loss of the habitat. Additional damage is caused if these paths pass through damp areas, become muddy and are widened as users pass around the puddles.

3.42 Hence a theme of the proposals for each site is to provide paths, suitably sign posted and waymarked, to guide access along a defined route and in doing so reduce wear on surrounding areas. These routes would also include bridges and board walks etc to ensure good access without additional damage in damp areas.

3.43 In doing so there are three points to consider:

- Whether a path is needed
- If so, what route should be taken?
- What is an appropriate construction and surface material?

3.44 For each of the three sites the principle behind deciding whether a path is need is based on site evidence, how much damage is caused to the site and particularly to features within the SAC designation and whether that route is liable to continue to be used. An additional factor is whether a path is needed to promote a link between features on a site, a car park to a feature of interest for example, which would help divert visitors from more sensitive areas of the site.

3.45 Routes on each site need to consider the sensitivity of the environment of the site, but also be aware of a tendency for visitors to create the straightest and most obvious route to their destination, hence desire lines. If paths are not created on the obvious route, measures need to be taken to 'mask' the obvious route through the placing of obstacles or obscuring the view between the source of the path and its intended destination.

3.46 The nature of the path, the level of construction and surface material depend on:

- Level of use and current damage
- Location within the site relative to environmentally sensitive areas and the SAC boundary, and visitor attractions
- Nature of the route, whether flat or steep, dry or damp.

3.47 Where the level of damage is slight on an existing route, grass that has been flattened but not eroded for example, then a formal path may not be required unless there is a need to divert use away from the existing route. In these cases, the path can consist of a signed and a strip mown in the grass or a path in woodland indicated by wood chippings. There will be a greater need for a more substantial path in a situation where through the level of use and the nature of the ground, the existing route causes substantial erosion to the ground it is passing through. This not only cases damage to the ground and habitat, but also reduces the quality of experience for the visitors, particularly those who have reduced mobility.

3.48 The location of any proposed path and its construction needs to take into account both the location and nature of any feature of value, whether ecological or cultural and whether it would be within the boundary of the SAC. If so, a major consideration to balance against other factors is that constructing a surfaced path in the SAC is effectively taking habitat from that SAC and needs to be balanced or more so with suitable habitat being brought back into the SAC. This factor is discussed in more details below

3.49 Outside the SAC, the reduction of habitat is less of an issue, but still needs to be considered when deciding upon a path structure and surface. Factors such as the desire to make access easy between destinations might take greater priority, particularly if part of a strategy to concentrate visitor pressures in areas that can withstand that pressure.

3.50 Path structures are also affected by the nature of the ground they are passing through, with flat, dry and open areas requiring less structure than damp, constricted or steep areas.

3.51 In our proposals for each site there are essentially three types of path proposed depending on the factors outlined above:

- Informal paths, either mown grass strips in grass areas where some indication of preferred route is required to guide visitors or woodland paths outlined with branches and/or bark chippings, but where the level of use is low.
- Paths surfaces with a natural self-binding gravel, such as Coxwell gravel. More information can be found on such natural materials in a report entitled *Hampstead Heath Pathways Review, Shared Use Pathway Improvements*, prepared by LUC on behalf of The City of London in June 2018. These surfaces are suitable for flatter areas, and in this situation can withstand heavy pressure, as in the Tamsin Trail in Richmond Park, an 11km path constructed in 1994/95 to provide an all-weather shared use path around the edge of Richmond Park, to which around 5million visits are made per year. This particular track crosses a number of streams and damps areas which are bridged with a simple wooden bridge as shown in **Figure 3.4.**

Figure 3.3. The Tamsin Trail in Richmond Park, Coxwell gravel laid on a flint base



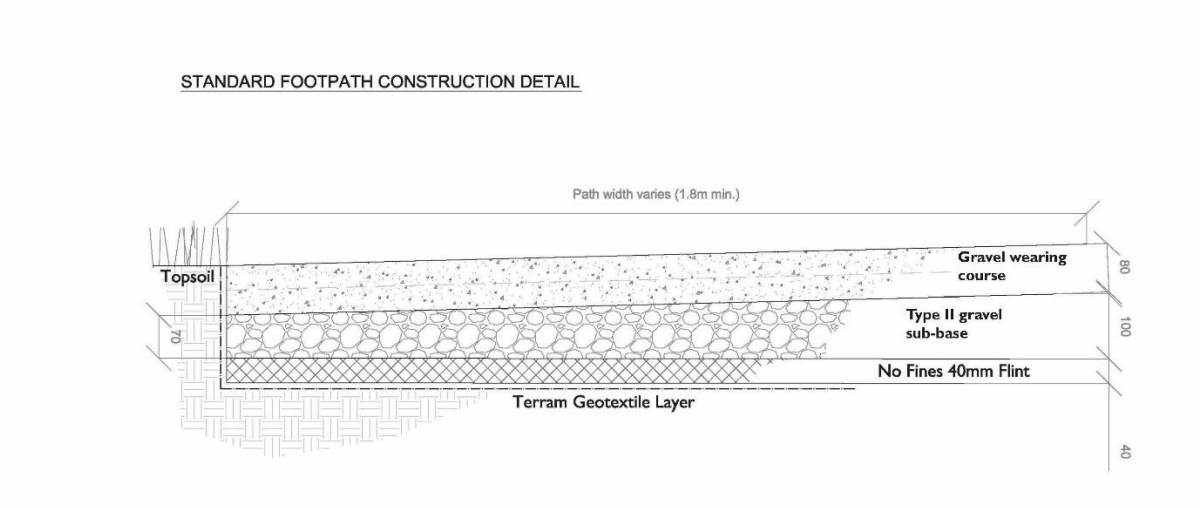
Figure 3.4. Wooden bridge crossing stream on the Tamsin Trail

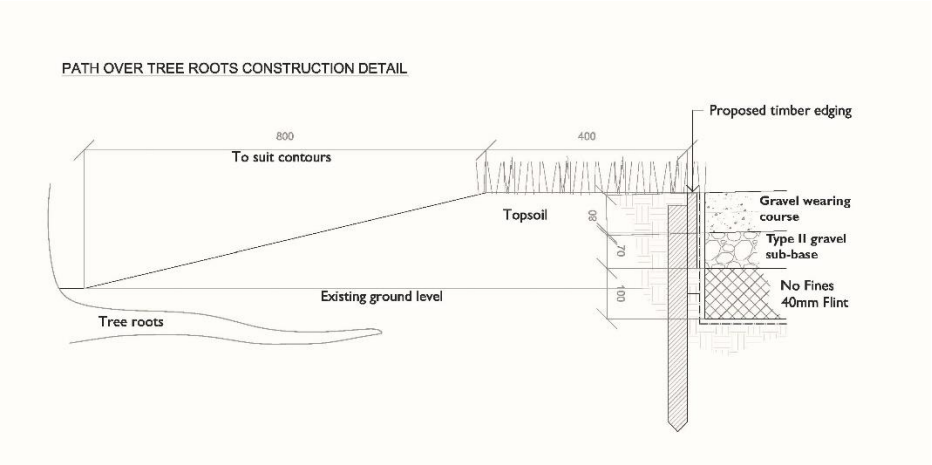


- However, the natural self-binding surfaces do not work well on slopes as they are will wash away if water runs down them. While some measures can be taken during the design of the paths to drain any water falling onto the surface as quickly as possible using cambers and side slopes, in any situation where there is heavy wear and a slope, the surface will need to be a sealed surface such as a resin bonded gravel.

3.52 Apart from the surface the other construction details will be similar for the sealed and self-binding paths, with a granular base layer overlying a geotextile membrane and with the binding surface laid on top. In areas of tree roots and to raise the path over damp areas the path can be lain on top of the or even raised above the existing surface for a 'no dig' construction and contained with wooden edging boards, as shown in **Figure 3.5**.

Figure 3.5. Examples of path construction details





3.53 Bridges in similar rural areas as the Forest tend to be simple wooden sleeper bridges such as thot shown in **Figure 3.4** but may need to be more 'engineered' if needing to be a wider span to cross stream or boggy areas.

3.54 While all these factors will be considered as they apply to each of the three sites, they will need to be considered in even more detail as part of a detailed design when or if the proposals are implemented.

Signage and waymarking

3.55 Signage and way marking are crucially important in:

- Providing an identity for the site itself and for its relationship with the Forest
- Providing information which is important to advise visitors of the nature and sensitivity of the site and Forest, but also points of interest
- To guide visitors through the Forest and to the points of interest, proving information on the nature and length of routes.

3.56 The Forest does have a variety of physical signs, and information is distributed through a variety of outlets, visitor centres, web pages and leaflets for example. The overall provision of information, the appearance, content and distribution need to form part of a Forest wide strategy, but with site specific provision for the different sites and points of access such as car parks.

3.57 The main component of this project is to protect the SAC and a key approach to achieving that is to guide visitor access along selected paths, away from ancient trees for example and to suggest acceptable ways of accessing and enjoying the Forest while still protecting its ecological value. Both signage and way marking are keys tools in this process to explain and to direct.

3.58 Hence the information and signs need to publicise the value of the SAC, where it is and why it needs to be protected and what are the special features which require the greatest protection, eg ancient trees. While the current site signs do indicate the location of the SAC and SSSI, it would be useful to include on all signs for sites in the SAC, what that means in practice, information on the features that need protecting, and how eg protective fences around ancient trees, temporary fencing on recovering areas of sensitive habitats such as acid grassland.

3.59 In addition, it would be useful to sign areas indicating when visitors are entering or in the SAC, particularly on sites such as Chingford where some areas are in and some out. This could be achieved by having a small sign on paths that enter the SAC and by having a unique SAC brand on any directional signs and way markers within the SAC.

3.60 The proposals for each site will incorporate these general principles but apply them as appropriate to the nature and conditions of those sites.

4 Site specific Proposals

4.1 For each of the separate sites, a general introduction and key objectives for the site are provided. Individual proposals are then discussed following the common elements outlined in the Overall Proposals, namely:

- SAC considerations.
- Why visitors visit the site and what they do there.
- Car parks
- Visitor facilities including centres for information, ranger service, toilets
- Catering
- Paths and access provision, including board walks and bridges if needed
- Signage and waymarking

4.2 These are then followed by a plan providing the location and description of individual projects, which are numbered, the number referred to when discussing an individual project within the context of a common element.

Summary of costs

4.3 Following the plan of the proposed project for each site are two tables. The initial Table provides a summary of the indicative costs for both capital works and any resultant maintenance work, dividing the projects into High, Medium and Low priority. In addition the table also includes the overall costs of both capital and maintenance costs over the expected life of the Local Plan, assumed to be 25 years. Spreadsheets providing more construction details and budget costs follow the summary table. The costs are based on standard rates current in Q3 of 2020 and will need to be adjusted for inflation between now and whenever the projects are carried out.

4.4 In addition it is usual to add on a factor for contingencies, which can vary according to the complexity of the project and uncertainty of the work required but a factor of 15% is deemed to be reasonable.

4.5 All projects are conceptual and will require detailed design and assessment of the impact on the Forest, and may be subject to a Habitats Risk Assessment to assess for likely significant effects on the SAC. This will add the additional costs of the designers and consultants needed to carry out whatever design work and impact assessment that is required to ensure that the project is well designed and is appropriate for its location within the Forest and SAC.

Proposals for High Beach

4.6 As discussed in **Chapter 2**, the key issues with High Beach are that it is a major attraction but has a sensitive environment, including an area of grass on top of pillow mounds, the slopes westwards from there and a large number of ancient trees on thin sandy/gravelly soils, and the impact of those visitors is high. Hence the proposals aim to:

- Look at ways of reducing the number of visitors
- Repairing current damage to the environment and protecting the most sensitive features, particularly ancient trees
- Encourage visitors to use the areas and facilities to the east of the road instead of the areas of grass on the Pillow Mounds and down the slopes from them

- Improving and making better use of the features and facilities that are there.

Signage and waymarking

4.7 Signage and information is key to directing and informing users, positioned at access points, both in the car park and at the start of and at changes in direction on preferred routes.

SAC considerations.

4.8 Most of the site is included within the SAC with a key feature being the number of ancient trees in the woodlands.

4.9 The proposals aim to guide users around these trees at a distance which provides them with protection from the potential of falling branches and protects the trees from root damage through compaction resulting from traffic (people, horses, off road bikes for example) over the roots (2,3). In addition, trees close to paths will be protected by low level fences (around 0.5m) outlining the safe distance from those trees (3) and any compaction from existing use relieved (12).

4.10 Additional measures to improve the biodiversity of the site are to restore the Wellington Hill Long Bog (13) and to gradually clear saplings and self-generated trees in the woodland to encourage woodland pasture with ancient trees surrounded by open grassy areas (14). This would not only improve biodiversity but provide additional interest for visitors to attract them away from the heavily eroded grass and slope areas.

Why visitors visit the site and what they do there.

4.11 High Beach has fantastic views to the west of the Forest, open areas of grassland around the car park, extensive areas of woodland, a public house on the site and previously another one within easy access, has the Epping Forest Visitor Centre run by the Epping Forest Heritage Trust (EFHT) and Field Studies Council Centres Epping Forest Field Centre. The varied topography also attracts off road cycling and horse riding in addition to pedestrians enjoying the open grassland and walking around the area.

4.12 It has a long history as a visitor attraction because of the views and old trees and this goes back over 150 years so it is a challenge to change some of the use of the site but with increasing numbers of visits and soil erosion in the SAC this is an important challenge to meet. Managing visitor numbers around the Forest needs to form a part of the forthcoming Sustainable Visitor Access Strategy. However, one possible suggestion for reducing the number of people visiting High Beach is to remove road signs in the area that advertise the site and in particular those signs indicating that the Visitor Centre at High Beach is 'The Epping Forest Visitor Centre'. While it exists and serves a useful function guiding and educating local visitors, more could probably be made of its existence for visitors to the site once they arrive there as discussed below in the section on Visitor Facilities.

4.13 Off road cyclists are attracted to the varied topography of the site, potentially raising issues with the roots of ancient trees and other sensitive environments. As informal users, it is difficult to manage where they go, and this is a topic to be addressed in the Sustainable Visitor Access Strategy. However, at High Beach the proposal is that signage is used to try an persuade them not to use those areas of woodland with a large number of ancient trees, but instead use a less sensitive area to the west of the site (5). In addition a more regular ranger/keeper presence on site as an "SAC ambassador", see paragraph 4.19 below, will be particularly important and beginning to develop a relationship with regulars here will be important in guiding users to more appropriate locations on the site.

4.14 Proposals for pedestrians and horse riders are discussed under Paths etc.

Car parks

4.15 There is a single public car park on site, with others associated with the Visitor Centre, the public house and the Field Studies Centre. This car park is heavily used and spills over onto the approach road at busy periods.

4.16 In concept one way of reducing pressure on the site would be to reduce the car park and strictly enforce controls against roadside parking. However, the size of the car park needs to be considered as part of the wider Forest Sustainable Visitor Access Strategy enforcement under and a Forest Traffic Management Strategy.

4.17 Specific site proposals include improving access from the car park to the toilets, particularly for disabled users (1), to the Visitor Centre (7) and surfaced path (6) through the woodland.

Visitor facilities including centres for information, ranger service, toilets

4.18 While there is a signed road to the visitor centre, the proposals are for improved signage and pedestrian access from the car park to initially the toilet block (1) and thence to the visitor centre (6), both to make more use of these existing facilities but also to help spread visitors around the site.

4.19 As on all the sites, the success of the proposals relies on people following suggestions and taking notice of information supplied on signs, leaflets etc. This process can be greatly helped through an onsite presence to note when threats do occur, in giving out information and helping to steer visitors, when needed, away from vulnerable areas to those that are more resilient. We have assumed that this site would only require a part time (50%) ranger as its extent is relatively limited.

4.20 The service could form part of, or be accommodated within, the Visitor Centre.

Catering

4.21 There is a small kiosk at the entrance to the car park supplying hot drinks and snacks. The proposals suggest that this outlet be moved from its current location, where it potentially attracts people to park outside the car park, encourages compaction under the trees in the area, to an alternative location to the east of the road and in an area outside the SAC (8).

Paths and access provision, including board walks and bridges if needed

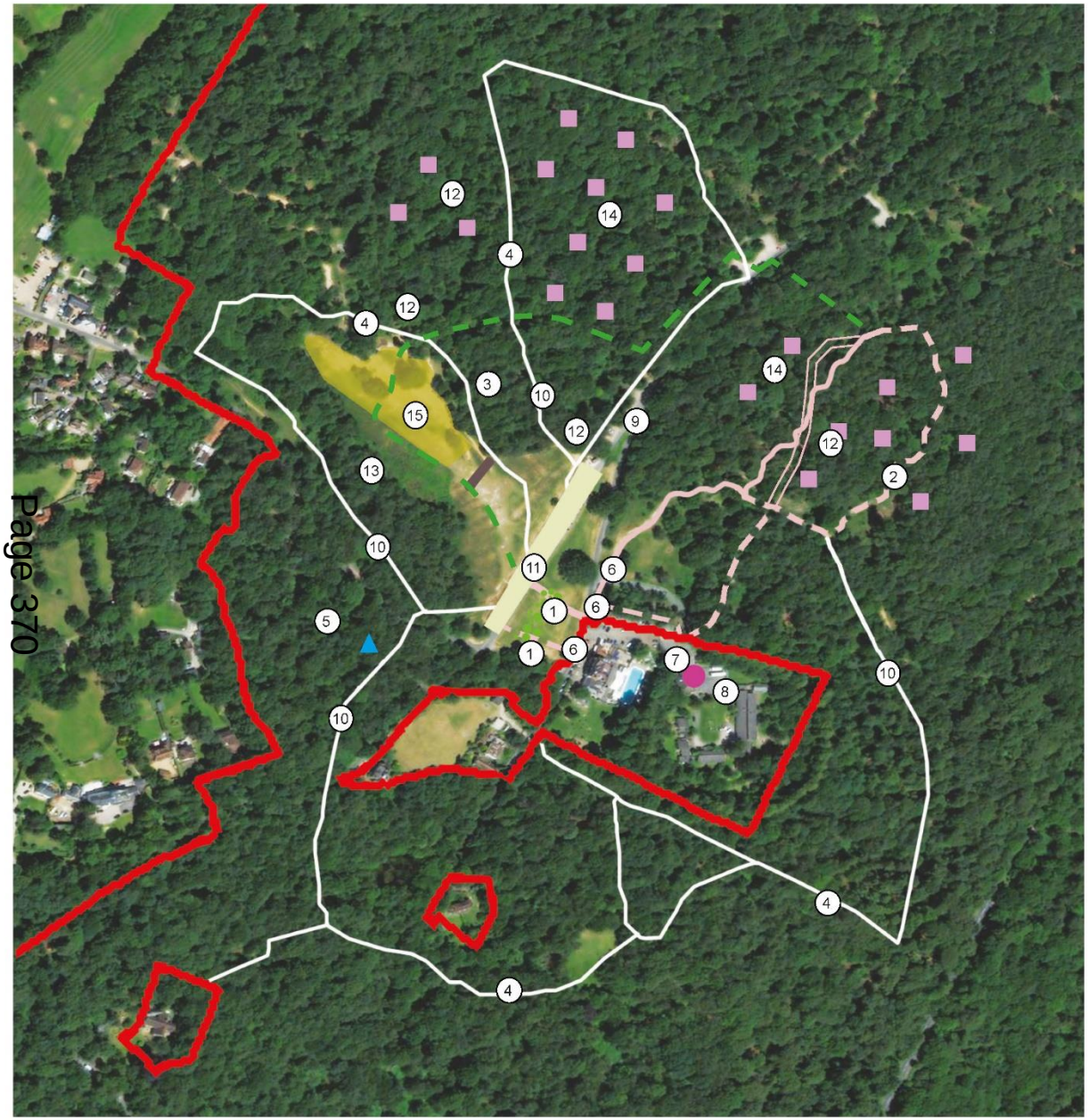
4.22 The proposals suggest three different types of work on paths:

- Surfaced (self-binding gravel) paths constructed to provide improved access between the car park and the facilities to the east of the car park, and to link in with the existing surfaced path (1 and 6)
- Rerouting part of the existing surfaced path, which is positioned too close to some ancient trees, carefully removing those sections of the path which pass too close to the ancient trees (2) if that can be done safely without harming tree roots. If not consider carefully decompacting those sections.
- Creating new sign posted routes through the woodland, either marking their way by edging with branches or surfacing with wood chip, but with routes that avoid ancient trees (4) and other vulnerable areas.

Signage and waymarking

4.23 Signage and information are key to directing and informing users, positioned at access points, both in the car park and at the start of and at changes in direction on preferred routes.

Fig 4.1 HIGH BEACH : SAC Mitigation Concept Proposals



ID No	Proposal	Access (A) or Habitat (H)	Priority (H, M, L)
1.	Surfaced footpaths connecting Wellington Hill linear car park to the existing visitor centre.	A	M
2.	Surface and edging improvements to the signposted accessible footpath loop and re-alignment to avoid safety hazards posed by ancient trees.	H/A	H
3.	Redirect footfall and install fences encircling vulnerable ancient trees to reduce soil erosion and compaction.	H	H
4.	Signposted, unsurfaced 5km loop from Wellington Hill Car Park created with signage to avoid ancient trees. Wood pasture restoration to be focussed around new routes.	A	H
5.	Take measures to deter mountain bike use. Aerate soil beneath trees to improve compacted ground and rooting environment.	H	H
6.	Pedestrian crossing points (e.g. raised platforms) and one-way system along Manor Road.	A	M
7.	Improve the setting of the visitor centre with better pedestrian access, planting and signage to promote the area (outside SAC) as a visitor attraction.	A	M
8.	Relocate the refreshment kiosk from the end of Wellington Hill Car Park to land outside of the SAC.	A/H	H
9.	Introduce traffic incursion measures along Manor Road to prevent car parking within the RPAs of ancient trees.	H	H
10.	Detailed interpretation signage and wayfinding on local footpaths to explain the value of the SAC.	H	M
11.	Landscape improvements around the car park.	A	L
12.	Soil amelioration and aeration to improve the rooting zone of ancient trees.	H	H
13.	Restoration of Wellington Hill Long Bog.	H	M
14.	Wood-pasture restoration.	H	H
15.	Repair erosion damage.	H	H

KEY

- Signposted, unsurfaced routes
- Existing surfaced routes
- Proposed surfaced routes
- Existing surfaced path to be removed
- Veteran tree trail
- SAC boundary
- Parking
- Visitor facility / Intepretation
- Wayfinding and entrance improvements
- Wood pasture restoration / glade clearance
- Tree / shrub / scrub planting
- Repair erosion

Table 4.1 High Beach SAC Mitigation Concept Proposals – Summary of approximate costs

ID No	Proposal	Access (A) or Habitat (H)	Priority (H, M, L)	Capital Cost	Annual Maintenance Cost	Total cost for duration of Local Plan (assumed to be 25 years)
2	Surface and edging improvements to the signposted accessible footpath loop and re-alignment to avoid safety hazards posed by ancient trees.	H/A	H	£59,355	£2,874	£131,205
3	Redirect footfall and install fences encircling vulnerable ancient trees to reduce soil erosion and compaction.	H	H	£14,375	£2,500	£76,875
4	Signposted, unsurfaced 5km loop from Wellington Hill Car Park created with signage to avoid ancient trees. Wood pasture restoration to be focussed around new routes.	A	H	£99,600	£5,970	£248,850
5	Take measures to deter mountain bike use. Aerate soil beneath trees to improve compacted ground and rooting environment.	H	H	£2,500	£100	£5,000
8	Relocate the refreshment kiosk from the end of Wellington Hill Car Park to land outside of the SAC.	A/H	H	£92,750	£2,783	£162,313
9	Introduce traffic incursion measures along Manor Road to prevent car parking within the RPAs of ancient trees.	H	H	£8,500	£425	£19,125
12	Soil amelioration and aeration to improve the rooting zone of ancient trees.	H	H	£18,750	£3,750	£112,500
15	Repair erosion damage.	H	H	£19,200	£800	£39,200
16	Provision of a Ranger service.	A/H	H	£0	£50,000	£1,250,000
1	Surfaced footpaths connecting Wellington Hill linear car park to the existing visitor centre.	A	M	£10,080	£504	£22,680

ID No	Proposal	Access (A) or Habitat (H)	Priority (H, M, L)	Capital Cost	Annual Maintenance Cost	Total cost for duration of Local Plan (assumed to be 25 years)
6	Pedestrian crossing points (e.g. raised platforms) and one-way system along Manor Road.	A	M	£20,000	£1,000	£45,000
7	Improve the setting of the visitor centre with better pedestrian access, planting and signage to promote the area (outside SAC) as a visitor attraction.	A	M	£2,500	£500	£15,000
10	Detailed interpretation signage and wayfinding on local footpaths to explain the value of the SAC.	H	M	£5,400	£1,080	£32,400
13	Restoration of Wellington Hill Long Bog.	H	M	£29,050	£4,380	£138,550
14	Wood-pasture restoration.	A	M	£5,000	£250	£11,250
11	Landscape improvements around the car park.	A	L	£0	£5,000	£125,000
	Total			**£387,060**	**£81,916**	**£2,434,948**
	Total High Priority			£315,030	£69,202	£2,045,068
	Total Medium Priority			£72,030	£7,714	£264,880
	Total Low Priority			£0	£5,000	£125,000

Table 4.2 High Beach SAC Mitigation Concept Proposals – Details and approximate costs

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Cost	Capital Cost	Annual Maintenance Cost
1	Paths	Surfaced footpaths installed to connect Wellington Hill linear car park across Manor Road to the existing visitor centre. Paths crossing Queen's Green to be sensitive to the aesthetic of the grass area.	Paths on improved grassland to encourage access away from sensitive areas	M		Granular base, wooden edging, self-binding gravel surface, eg Coxwell	120m x 2m	240	m2	£30	£7,200.00	£10,080.00	£504.00
						Edging		240	m	£12	£2,880.00		
2	Paths	Surface and edging improvements to the signposted accessible footpath loop to reduce impact on ancient and veteran trees, i.e. diversion of the route in certain locations from within RPAs. Necessary works include the realignment of the western section of the path to avoid ancient trees that may pose a future safety hazard. Root radar will be used to carry out surveys of RPAs around existing path and new route to ensure optimum re-routing.	Help protect key SAC features.	H	SS	New path, granular base, wooden edging, self-binding gravel surface, eg Coxwell	500m x 2m	1,000	m2	£30	£30,000.00	£59,355.00	£2,874.00
						Edging		1,000	m	£12	£12,000.00		
						Removal of section of existing surfaced path	180m x 2m	360	m	£15	£5,400.00		
						Repair of existing path	630m x 2m	1,260	m2	£8	£10,080.00		
						Root Radar Survey & report		3	Day	£625	£1,875.00		
3	Habitat	Measures taken to protect from further soil erosion and compaction around tree roots at Pillow Mounds. The area forms part of the 'Epping Forest Veteran Tree Trail' promoted by the Ancient Tree Forum. Provide encircling fences to exclude access around key ancient trees and low fences to indicate protection areas for other trees. Root radar will be used to carry out surveys of RPAs around existing path and new route to ensure optimum re-routing	Help protect key SAC features.	H	SS	Cleft chestnut fencing around several trees on slopes and near Wheelchair Path - low height encircling fencing to reduce not prevent access	400mm high, 40m diameter. Rate only. See root radar report costs above to include this work.	5	nr	£2,500	£12,500.00	£14,375.00	£2,500.00
						Root Radar Survey & report		3	Day	£625	£1,875.00		

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Cost	Capital Cost	Annual Maintenance Cost
4	Paths	Signposted, unsurfaced loop walks from Wellington Hill Car Park created to offer alternative routes instead of the direct route down Wellington Route. 5km loop walk created with signage to avoid ancient trees delineated with log edging and signage to encourage visitors to stay on the footpaths. Surfacing to be provided where necessary to protect tree root zones and encourage footfall away from more ecologically sensitive areas. Wood pasture restoration to be focused around new routes where possible, improving habitat quality and opening up views to enhance the sense of safety and security.	Help protect key SAC features. See also Wellington Hill bog - which needs to be added to this loop network and therefore is High Priority	H	SS	Wooden waymarking signs, some surfaced lengthsSay 20nr (approx.)	Rate only	20	nr	£180	£3,600.00	£99,600.00	£720.00
						Surfaced path, granular surface, wooden edging. Assume 500m	500m x 2m	1,000	m2	£30	£30,000.00		£1,500.00
						Edging		1,000	m	£12	£12,000.00		£600.00
						Loose surface path, eg wood chip from woodland maintenance operations. Assume 4.5km	4,500m x 2m	9,000	m2	£5	£45,000.00		£2,250.00
						Natural branch edging for loose surface path. Branches from woodland management tasks		4,500	m	£2	£9,000.00		£900.00
5	Habitat	Scarify/aerate ground and remove informal mountain bike trails around the roots of ancient trees to restore habitat. Provide interpretation to explain rationale for the removal of the desire lines. Monitor effectiveness of measures and consider other actions if necessary. Proposals will need to be considered alongside a strategic review of mountain bike usage across the forest to ensure there is no dispersal into other sensitive areas.	Help protect key SAC features.	M	SS	Scarify £2000 and interpretation £500		1	item	£2,500	£2,500.00	£2,500.00	£100.00

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Cost	Capital Cost	Annual Maintenance Cost
6	Access	Road and crossing improvements to be considered as part of the Forest Transport Strategy. Pedestrian crossing points (e.g. raised platforms) created along Manor Road alongside Wellington Hill Car Park to reduce vehicle speeds and improve severance of the car park from the visitor centre and facilities. One-way system and revision of parking provision to be considered in combination with reducing car parks to the north of the site that negatively impact upon the SAC.		M	SS/WS	Raised traffic mound across tarred road - and associated warning signs / markings	1 no	1	nr	£20,000	£20,000.00	£20,000.00	£1,000.00
7	Access	Improve the setting of the visitor centre with better pedestrian access, planting and signage to promote the area (outside SAC) as a visitor attraction	Help protect key SAC features by encouraging visitors to more robust areas.	M	SS	Paths covered above. Appropriate wooden signs to match existing Epping Forest style	10	10	nr	£250	£2,500.00	£2,500.00	£500.00
8	Access	Relocate the refreshment kiosk from the end of Wellington Hill Car Park to the visitor centre to divert the 'honeypot' to land outside of the SAC and create a hub of activity around the visitor centre	Help protect key SAC features.	H	SS			35	m2	£2,650	£92,750.00	£92,750.00	£2,782.50
9	Access	Introduce traffic incursion measures along Manor Road to prevent car parking within the RPAs of ancient trees	Help protect key SAC features.	H	SS/WS	Signs and wooden dragons teeth	10no signs	10	nr	£250	£2,500.00	£8,500.00	£125.00
						Dragons teeth - short timber stakes at 1.5m centres	600	600	m	£10	£6,000.00		£300.00
10	Signage	Detailed interpretation signage and wayfinding on the local footpaths to encourage visitors to keep to the footpaths and explain the value of the SAC	Help protect key SAC features by encouraging visitors to more robust areas.	H	SS/WS	Wooden waymarking posts, signs to match existing Epping Forest style	30 no of each	30	nr	£180	£5,400.00	£5,400.00	£1,080.00
11	Habitat improvement	Landscape improvements around the car park (trees, planting, maintenance of swales, maintenance of footpaths and access points) to improve visual amenity and promote easier access to and from the car park.		L	SS	In maintenance contract - Approx. costs needed, see also transport start comments		1	item	£5,000	£5,000.00		£5,000.00

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Cost	Capital Cost	Annual Maintenance Cost
12	Habitat improvement	Reducing and mitigating against physical pressure on the root zone of ancient trees and improving management utilising the City Corporation 'keystone tree' data to prioritise work. Measures to include a range of interventions as deemed necessary per tree including aeration, mulching, signage, interpretation and fencing. Innovative techniques such as foliar sprays and mineral soil ameliorants may be trialled on less important trees in the first instance.	Help protect key SAC features.	H	SS	Signage and protective fences	50 wooden interpretation signs,	50	nr	£250	£12,500.00	£18,750.00	£3,750.00
						Aeration, mulching, foliar feed	In maint contract						
							Protective fences as 3 above, 400mm high, 40m diameter. Rate only	5	nr	£1,250	£6,250.00		
13	Habitat improvement	Restoration of Wellington Hill Long Bog through re-grading, slowing water flow and tree felling (subject to further scoping and feasibility). Access and interpretation should be provided in the area, with board walks used as required to provide access across steep, challenging topography. If restored, the area would provide a good example of the range of habitats found at the forest and a point of interest and education. Also include protection with fencing of accessible ancient trees.	Improving biodiversity, protecting ground from trampling compaction and encouraging use of more robust areas away from ancient trees/fragile soils	H	SS	Timber Boardwalk - say 20m (tbc)	20m x 1.3 - 1.8m wide	20	m	£915	£18,300.00	£29,050.00	£2,905.00
						Sluice / Dam		3	nr	£1,500	£4,500.00		£225.00
						Cleft chestnut fencing around several trees on slopes and near Wheelchair Path - low height encircling fencing to reduce not prevent access	400mm high, 40m diameter. Rate only	5	nr	£1,250	£6,250.00		£1,250.00
14	Habitat improvement	Wood-pasture restoration.	Improving biodiversity and encouraging use of more robust areas.	M	SS			1	item	£5,000	£5,000.00	£5,000.00	£250.00
15	Habitat improvement	Repair of eroded areas	Helping repair and protect key SAC features.	H	SS	Protective chestnut cleft fencing - low height	1m x 400m	400	m	£10	£4,000.00	£19,200.00	£800.00
						Decompaction	0.76ha	7,600	m2	£2	£15,200.00		

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Cost	Capital Cost	Annual Maintenance Cost
16		Provision of a Ranger service/SAC Ambassador service for liaison with visitors, to run the dog liaison and cyclist liaison groups and oversee specialist habitat maintenance and restoration. The costs shown are for one person at Grade C with overheads (NI etc) and estimated share of equipment - IT, vehicle etc.	Help protect key SAC features	L	SS/WS	In maintenance contract		1	Person/year	£50,000	£50,000.00		£50,000.00
		Sub-total										£387,060.00	£81,915.50
		A Summary of Total Approx. Costs for High Beach										**£468,975.50**	

Proposals for Chingford Plain

4.24 As discussed in **Chapter 2**, Chingford Plain is a major attraction where part of the site is outside the SAC, the main car park is to the west of the site, the Visitor Centre is in the middle and to the south and one of the major visitor attractions, a lake known as Connaught Water is on the eastern edge. This means that paths between Connaught Water and the Visitor Centre complex are created across the SAC, damaging the protected habitat they pass across. In addition, the closest car park to the Visitor Centre, Butlers Retreat Café and public house, is small car park, Barn Hoppitt, that in summer extends onto and degrades valuable grass land in the SAC.

4.25 The Plain is also close to Chingford station and has good potential for visitors using public transport to visit the Forest, and there is a golf course to the west which even when used as a golf course, provides good potential for walkers and dog walkers to exercise in areas outside the SAC.

4.26 The proposals aim to:

- Protect the environment and habitats within the SAC
- Look at ways of making the most of the areas and facilities outside the SAC and hence protecting the SAC
- Making the Bury Road car, outside the SAC on the west side of the Plain, more efficient and attractive to visitors, so reducing the pressure on the other two car parks on the site, Barn Hoppitt and Connaught Water, both within the SAC.

SAC considerations.

4.27 The eastern and southern sections of the Plan are within the SAC with a variety of habitats including acid grassland on the slopes that separate Connaught Water from the Visitor centre and other facilities in the complex. Desire lines leading up the slope, particularly at the start of the route, at pinch points and in damp areas wear away the grass, cause compaction as well as providing hindered access for those that are less mobile. The proposals are to provide a surfaced path to guide users along a more restricted path through the grassland and reduce the area of grassland destroyed by the passage of people.

4.28 However this would involve taking an amount of habitat equal to the area of surfaced path out of the SAC, and as explained in Para 3.10 above:

'It is generally accepted that the physical loss of part a European site (for example through car park expansion) which supports the qualifying features, or has the potential to do so in the future, would require compensation, i.e. the provision of a greater area of comparable habitat elsewhere.'

4.29 The proposals suggest the construction of two paths, one sealed path from Connaught Water up the grass slope to the Visitor Centre (6) and the other a path surfaced with a natural self-binding gravel providing easy access from the Bury Road ca park to Connaught Water (5). The areas of the two paths within the SAC are:

- Self-binding gravel surface, 380m at 2m wide 760m2
- Sealed surface path, 150m in the SAC at 2.5m wide 300m2

Hence the total amount of SAC lost to surfacing is: 1,060m2

4.30 However, the proposals also include the closing of the temporary summer extension of the Barn Hoppitt car park onto an area of acid grassland in the SAC, an area of 0.65ha or 6,500m2. Hence there is a net gain into the SAC of 5,440m2.

4.31 Although this area of the car park is not surfaced it is suffering soil erosion across 10 - 20% of its area and compaction elsewhere. It does support some acid grassland flora including sand spurrey and this could be expanded and integrated with the management of the surrounding wood-pasture, including by grazing in the future. Some raised areas of bare areas could be retained to attract solitary bees - to increase SAC populations of these insects which have small colonies by Warren Pond.

4.32 In addition, providing clear and accessible paths within the SAC should mean that foot traffic will be confined to a smaller area and hence a smaller portion of the SAC will be damaged by visitor pressure.

4.33 Works have been proposed to the stream (3) running from close to Bury Road car park towards Connaught Water to open areas up and vary the bank side, to provide a more varied habitat and Biodiversity net gain through increasing the area of damp grassland and willow scrub habitat to the benefit of wildlife including the declining willow warbler, but also to provide more interest for visitors.

4.34 Suggestions have also been put forward (14) to improve the environment on the banks and edges of Connaught Water to reduce compaction from earlier access prior to the path being constructed, and to encourage and plant additional marginal and natural wood land edge vegetation. Again these measures both enhance biodiversity in the SAC and provide added interest for visitors.

4.35 The overall ecological quality of the Plain is high, both in and outside the SAC with a variety of habitats and it is important that this is monitored and managed on a regular basis to maintain this quality, both through the management of use, ensuring for example that events are of a size or nature that do not damage their sites, and dealing with more natural issues such as the occurrence of *Crassula* in Butlers Pond close to the Butlers Retreat Café.

Why visitors visit the site and what they do there.

4.36 Chingford Plain has a range of different attractions for a range of users. For many, Connaught Water is the attraction with newly formed accessible path and boardwalks around the lake, for others the facilities at the Visitor Centre complex, the areas of open grass for walking, with or without dogs, and holding events and for others, potentially the gateway to the Forest to the north.

4.37 The proposals main aim is to recognise the requirements of the range of different users, recognise the potential impact they have on the site in general and on the SAC in particular and try to mitigate that impact as described in the following paragraphs and **Table 4.2**.

4.38 As has already been noted elsewhere in this report, the issues need to be assessed as part of an overall strategy for managing access over the Forest as a whole. At this stage many of the proposals described below look at measures which can address an immediate issue, reducing the impact from walkers in sensitive grass areas for example, but questions on the overall capacity of Chingford Plains and whether that needs to be expanded to relieve pressure on other areas of the Forest need to be assessed as part of an overall Sustainable Visitor Access Strategy.

Car parks

4.39 There are three public car parks in the plain, one to the east serving Connaught Water, one opposite the Visitor Centre (Barn Hoppitt) and the largest off Bury Road to the west. Both the Connaught Water and Barn Hoppitt car parks are heavily used and cars overflow on to the nearby roads at peak time. Hence our proposal is to improve the Bury Road car park (1) and also improve links between it and the Visitor Centre complex as well as with Connaught Water.

4.40 In its location outside the SAC, and close to Chingford station, this car park has the potential to be a gateway to the Forest, and depending on the plans for the golf club could be form a hub for visitors with information (9), catering, toilets, facilities for cycling and an increased capacity. At this stage and before the Sustainable Visitor Access Strategy has been produced, the improvements proposed are relatively low key, improving access to the Visitor Centre and to Connaught Water and adding toilet facilities, to provide for the immediate needs. The access improvements include more pronounced signage at the exit from the car park towards the Visitor Centre and trimming vegetation in the copse to the east of the car park so that the Visitor Centre can be seen from the car and the start of the path to the Centre.

4.41 The car park at Connaught Water is tarred and well defined, is within the SAC so there are no suggestions to increase its capacity. However clear signs are needed in the car park to advertise the presence and location of the Bury Road car park. In addition, parking on Rangers Road close to the car park needs to be controlled as part of a Forest Traffic Management Strategy.

4.42 The Barn Hoppitt car park has a small section which is tarred and marked, but extends in the summer over an adjoining area of valuable acid grassland. The proposals (12) are to close the summer extension to allow the grassland to recover once more contribute to the SAC. However it is recognised that the location of the car park close to the Visitor Centre complex is attractive for some but essential for those with limited mobility. Hence the proposals are to increase the proportion of blue badge places in the car park, advertise the presence of the Bury Road car park, potentially provide a few additional marked bays on the adjoining road to the Connaught Club. Measures would need to be taken to discourage parking outside the car park, again as part of the Forest Traffic Management Strategy.

4.43 In addition, access across Rangers Road to the Visitor Centre complex would be improved, particularly for disabled users, through the provision of a speed control table across the road.

Visitor facilities including centres for information, ranger service, toilets

4.44 Chingford Plain has a comprehensive range of visitor facilities centred around the Epping Forest Visitor Centre, as described in Chapter 2.

4.45 A future Sustainable Visitor Access Strategy needs to assess whether an additional set is required in the Bury Road car park to serve visitors using the west side of the Plains, and accessing the Forest from Chingford. However, to support the desire for more people to use this area of the Plain and reduce pressure on the SAC in the east, it is recommended that toilet facilities be provide in the Bury Road car park. In addition, the proposals described below aim to improve access to and information on the existing facilities.

4.46 Suggestions have been made to make the Visitor Centre and surrounding areas outside the SAC more attractive, and hence reduce pressure on the SAC. One suggestion is to use the area of grassland outside the Centre as an informal play area (7) for children. In addition it is suggested that the landscape around both the Visitor Centre and the Butlers Retreat café is improved (16) to provide a coherent, clearly signposted meeting point for the access paths to Bury car park and Connaught Water and avoiding the current areas of bare earth, muddy in wet conditions. The improvements would also to provide a seating area for the cafe where the tables are not based on bare earth, again muddy in wet conditions.

4.47 As on all the sites, the success of the proposals relies on people following suggestions and taking notice of information supplied on signs, leaflets etc. This process can be greatly helped through an onsite presence to note when threats do occur, in giving out information and helping to steer visitors, when needed, away from vulnerable areas to those that are more resilient. We have assumed that this site requires at least a full-time ranger due to its size, level of use and complexity.

4.48 The service could form part of, or be accommodated within, the Visitor Centre.

Catering

4.49 With the café in Butlers Retreat and the public house there is a good range of catering facilities around the Visitor Centre. There is also a small café attached to the golf club close to the Bury Road car park. As part of the move to try and persuade visitors to use the western area of the Plain, the Sustainable Visitor Access Strategy needs to consider the potential for increasing and improving this facility (9), not to compete with the main Visitor Centre but to cater for those walking dogs or themselves in the area of the Bury Road car park, or around the current golf club to the west of the car park and for visitors arriving from Chingford station.

4.50 To avoid additional pressure on the Connaught Water car park, it is suggested that catering not be provided there.

Paths and access provision, including board walks and bridges if needed

4.51 The proposals suggest three different types of work on paths:

- Surfaced (self-binding gravel) path (5) constructed to provide level all weather access between Bury Road car park and Connaught Water. The path would follow existing desire lines, initially to the north of the stream, crossing this at the point of an existing bridge to the south of the stream and then curving further south to meet at a junction with a major path

form the north of the Forest, an access path back up to the Visitor Centre and an existing surfaced path from Connaught Water. The path passes through an interesting variety of regimes, including grassland, scrub, and a water feature. In addition, it provides an easy link between the Bury Road car park and one of the key attractions on the site, Connaught Water, as well as providing a component in a circular walk from the car park to the Visitor Centre.

- Three sealed gravel paths to cater for heavy wear and steep slopes on popular routes.
  - One is between Bury Road car park to the Visitor Centre(2) and is proposed not only to cater for existing use and the resultant damage but also to encourage people visiting the Centre to use Bury Road car park by improving the access between it and the Visitor Centre.
  - Another path links the end of an existing surfaced path from Connaught Water up the slope to the Visitor Centre (5).

    Both would require bridges to cross drains and damp areas and are proposed as the current desire lines are difficult to access in wet condition and result in wide areas of worn earth. The more defined paths will limit access across the grass to a level which not result in worn areas and loss of habitat. For both the construction work would also include measures to recover damaged areas outside the path line.
  - The third areas of sealed path extend an existing sealed path around the perimeter of the golf course (15) to provide easier access from Bury Road car park and to encourage walkers to use the area as a circular route and to provide easier access to the well-known viewpoint, Pole Hill, to the southwest of the golf course.
- There are existing informal routes which require monitoring to ensure that damage does not occur on a regular basis causing lasting damage to the environment they pass through. In addition, informal paths through grassland can be mown (4) to create additional circular routes in the areas outside the SAC.

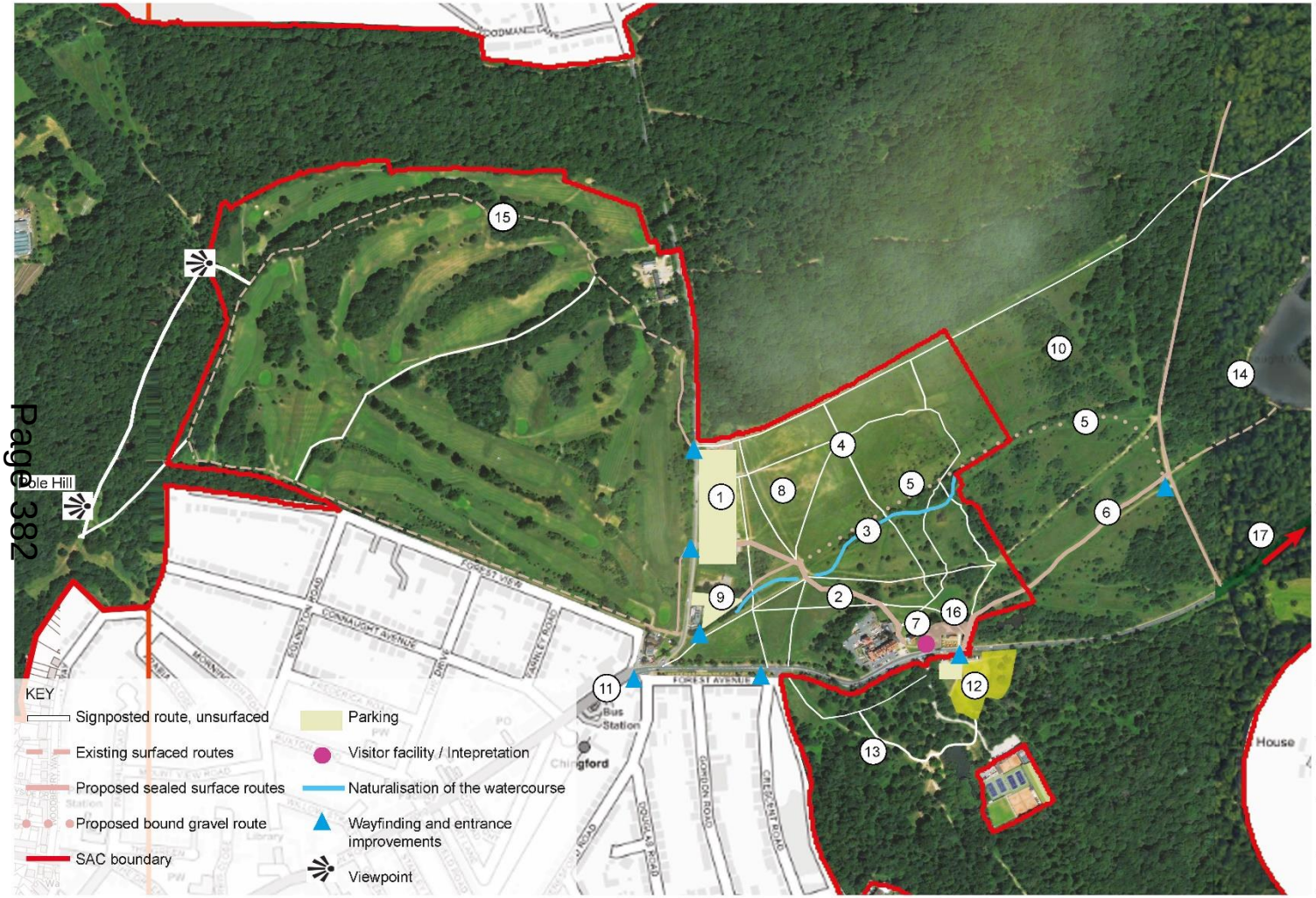
Signage and waymarking

4.52 Signage and waymarking is key to directing and informing users, positioned at access points, at changes in direction on preferred routes and at points on long paths to confirm that the users is still on the right path as discussed in **Chapter 3** on **Overall Proposals**.

4.53 This is particularly important on a complex site like Chingford Plain where destinations cannot always be seen. A particular example of where good signage is important is at the exit from Bury Road car park, which needs not only to welcome visitors to Epping Forest, emphasising the ecological value of the site as well as its attractions but also give clear directions to the Visitor Centre and Connaught Water. Another will be the junction between the existing surfaced path from Connaught Water, the path from the north of the Forest, the new surfaced path to the Visitor Centre and the streamside path back to Bury Road car park.

4.54 In the Overall Proposals it has been suggested that the signs and waymarking posts indicate the boundaries of the SAC and this would be particularly appropriate on Chingford Plain where part of the area is outside the SAC.

Figure 4.2 CHINGFORD PLAIN: SAC Mitigation Concept Proposals



Source: Esri, DigitalGlobe, GeoEye, Earthstar, Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

ID No	Proposal	Access (A) or Habitat (H)	Priority
1.	Establish Bury Lane car park as the primary car park for Chingford Hub through expansion and improvement.	A	H
2.	Surfaced route from Bury Lane car park to QE Hunting Lodge to act as the primary route bringing visitors from the parking area to the Visitor Centre and related facilities.	A	H
3.	Naturalisation of the ditch from Connaught Water, subject to hydrological surveys.	H	M
4.	Wayfinding, signage and mown grass paths provided to encourage circular routes around Chingford Plain but outside the SAC.	A	M
5.	Clearer waymarking and surfaced (self-binding gravel) route connecting the Bury Road car park with Connaught Water.	A/H	H
6	Construction of a sealed surface path forming a route from Connaught Water to the Visitor Centre. Restoration of damaged areas alongside the path.	A/H	H
7.	Informal recreation area promoted behind QE lodge and Butler's Retreat for kite flying, dog walking and woodland play.	A	L
8.	Events restricted to areas adjacent to the car park and outside of SAC.	A/H	L
9.	Improved 'gateway' entrance providing access from Chingford transport hubs at Bury Road/Rangers Road junction including cycle hire and café hub.	A	M
10.	Grazing regime to continue, promoting and enhancing the scrub - grassland mosaic.	H	H
11.	Improved signage to and from Chingford Town Centre to promote sustainable travel to the site.	A	M
12.	Restrict parking to the sealed surface of Barn Hoppitt car park and restore the summer extension to acid grassland.	H/A	M
13.	Circular route signposted to Warren Pond.	A	M
14.	Habitat improvement around parts of the lakeside of Connaught Water.	A	M
15.	Improve opportunities for recreational walking around golf course and improve links to Pole Hill view point.	A	H
16.	Landscape improvements, including hard surfacing and termination of paths.	A	M
17.	Control of parking outside the car park at Connaught Water.	H/A	M

Table 4.3 Chingford Plain SAC Mitigation Concept Proposals – Summary of approximate costs

ID No	Proposal	Access (A) or Habitat (H)	Priority (H, M, L)	Capital Cost	Annual Maintenance Cost	Total cost for duration of Local Plan (assumed to be 25 years)
1	Establish Bury Lane car park as the primary car park for Chingford Hub through expansion and improvement.	A	H	£828,950	£41,645	£1,870,075
2	Surfaced route from Bury Lane car park to QE Hunting Lodge to act as the primary route bringing visitors from the parking area to the Visitor Centre and related facilities.	A	H	£84,582	£4,229	£190,310
5	Clearer waymarking and surfaced (self-binding gravel) route connecting the Bury Road car park with Connaught Water.	A/H	H	£81,720	£4,086	£183,870
6	Construction of a sealed surface path forming a route from Connaught Water to the Visitor Centre. Restoration of damaged areas alongside the path.	A	H	£75,170	£3,209	£155,383
15	Improve opportunities for recreational walking around golf course and improve links to Pole Hill view point.	A	H	£54,700	£3,235	£135,575
18	Provision of a Ranger service.	A/H	H	£0	£50,000	£1,250,000
3	Naturalisation of the ditch from Connaught Water, subject to hydrological surveys.	H	M	£15,000	£750	£33,750
4	Wayfinding, signage and mown grass paths provided to encourage circular routes around Chingford Plain but outside the SAC.	A	M	£7,200	£1,440	£43,200
9	Improved 'gateway' entrance providing access from Chingford transport hubs at Bury Road/Rangers Road junction including cycle hire and café hub.	A	M	£597,500	£30,250	£1,353,750

ID No	Proposal	Access (A) or Habitat (H)	Priority (H, M, L)	Capital Cost	Annual Maintenance Cost	Total cost for duration of Local Plan (assumed to be 25 years)
10	Grazing regime to continue, promoting and enhancing the scrub - grassland mosaic.	H	M	£17,670	£1,447	£53,845
11	Improved signage to and from Chingford Town Centre to promote sustainable travel to the site	A	M	£2,500	£500	£15,000
12	Restrict parking to the sealed surface of Barn Hoppitt car park and restore the summer extension to acid grassland.	H/A	M	£14,000	£163	£18,063
13	Circular route signposted to Warren Pond.	A	M	£6,875	£250	£13,125
14	Habitat improvement around parts of the lakeside of Connaught Water.	A	M	£24,500	£750	£43,250
16	Landscape improvements, including hard surfacing and termination of paths.	A	M	£360,000	£7,200	£540,000
17	Control of parking outside the car park at Connaught Water.	H/A	M	£5,000	£0	£5,000
7	Informal recreation area promoted behind QE lodge and Butler's Retreat for kite flying, dog walking and woodland play.	A	L	£0	£0	£0
8	Events restricted to areas adjacent to the car park and outside of SAC.	A/H	L	£0	£0	£0
	Total			**£2,175,367**	**£149,153**	**£5,904,195**
	Total High Priority			£1,125,122	£106,404	£3,785,212
	Total Medium Priority			£1,050,245	£42,750	£2,118,983
	Total Low Priority			£0	£0	£0

Table 4.4 Chingford Plain SAC Mitigation Concept Proposals - Details and approximate costs

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
1	Parking	Establish Bury Lane car park as a primary car park for the site as it is outside of the SAC, it has considerable capacity and is currently under-used.	Encouraging use of areas outside the SAC for amenity use and hence reducing the impact on the SAC	H	SS and WS							£828,950	
		Ensure it is appealing to visitors as the primary car park through rationalisation of the layout of the car park, improved sightlines to the Visitor Centre and obvious access paths, improved planting and clear signage to other areas of interest in the area.			Review of car parking throughout the Forest should be considered as part of the Forest Transport Strategy and sustainable visitor strategy to protect the more sensitive areas and guiding visitors to sites which have greater capacity and are less environmentally sensitive.	Hot rolled asphalt, 'countryside kerb edges, entrance and exit signs, 10% disabled signs	1.10ha	11000	m2	£75	£825,000		£41,250
		Provide bins suitable for the disposal of dog waste.				Standard litter bins	5	5	nr	£400	£2,000		£200

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
		Look at measures to avoid commuters using the car park for day long parking. Improved signage from Rangers Road attractions to Bury Lane Car Park to ensure visitors can find the car park.				Epping Forest Signs	3	3	sets	£650	£1,950		£195
2	Paths	Sealed gravel surfacing, 2.5m wide, to the route from Bury Lane car park to QE Hunting Lodge to act as the primary route bringing visitors from the parking area to the visitor attractions. Include bridges to cross over damp areas of watercourses. This route lies entirely outside the SAC but needs to be sensitive to the historic landscape around the protected QEHL building	Encouraging use of the areas outside of the SAC by providing improved access facilities. Directing use to specific, less sensitive areas.	H	SS	Sealed gravel, (assume resin bound) granular base course timber edging, 1 x timber bridge with span of 10m	343m x 2.5m	858	m2	£75	£64,350	£84,582	£4,229
						Edgings - timber	686	686	m	£12	£8,232		
						Bridge	10m	1	nr	£12,000	£12,000		

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
3	Habitat	Naturalisation of the ditch from Connaught Water, with appropriate hydrological survey as might be required. This will provide ecological enhancements to habitat outside of the SAC. Increase wetland habitats and willow carr for birds and insects Includes improvement of drainage to reduce flooding where path crosses main path from north of Epping Forest. Extent of the latter needs additional survey before costing.	Improve biodiversity	M	SS	Selective felling of riverside shrubs and digging out of some areas, coppicing and layering of willow, creation of shallow muddy scrapes along a more sinuous stream line.	100m trees, 100 m reworking bank profile	100	m	£50	£5,000	£15,000	£750
						Insertion of sluice boards and flow inhibitors at key points		20	nr	£500	£10,000		
4	Signage	Wayfinding and signage provided to encourage circular routes around Chingford Plain but outside the SAC, with routes demarcated by unsurfaced mown paths only.		M	SS	Timber post signs and finger posts	20 plus 10	30	nr	£200	£6,000	£7,200	£1,440
		Supply with bins suitable for dog waste at points close to the car park and further afield to encourage responsible behaviour from dog owners. (See also ranger service/SAC Ambassadors below)				Standard waste bins	3	3	nr	£400	£1,200		
5	Paths	Provide a sealed natural gravel 2m wide path from the Bury Road to Connaught Water, to provide a clear link suitable for buggies and less mobile users and hence provide a suitable alternative to using the smaller and limited capacity car park at Connaught Water. Review exact route and review requirement for the length of surface required as this passes over important dry grassland habitat.	Encouraging the use of facilities outside the SAC, while recognising the attraction of Connaught Water and hence provide a path that minimises the need for dispersed desire lines in the SAC.	H	SS	Granular base, timber edging for 5% of length, sealed with self-binding gravel, eg Coxwell. 2 x 5m span timber bridges	830m x 2m	1660	m2	£30	£49,800	£81,720	£4,086

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
						Edgings - timber	686	1660	m	£12	£19,920		
						Bridge	5m	2	nr	£6,000	£12,000		
6	Habitat	Repair of damage from desire lines along current desire line. Measures to include decompaction of existing path and encouragement of the growth of longer acid grass. Suggested that in April / May selected areas be enclosed with temporary chespale (or netting) fencing, to allow the grass to grow. Areas chosen initially chosen to block existing desire lines, but positions changed annually to extend areas of recovered grassland. De-compaction of the established desire lines during this 'recovery period' will also deter primary pedestrian traffic across the area by making access less attractive and in turn reducing erosion and compaction.		H	SS	Chespale temp fencing	100 m chespale	100	m	£10	£1,000	£11,000	
						Decompaction	0.5ha	5000	m2	£2	£10,000		
6	Paths	Sealed surface path, 2.5m wide, joining Connaught Water to the visitor centre and QE Hunting Lodge to replace the wide and muddy desire line. Clearly marked at either end and at junctions with other paths.	Ensuring that there is a clear and visible connection between the visitor centre and the highly popular Connaught Water to encourage users away from the grass areas and hence	H	SS	Sealed gravel, granular base course timber edging, 2 x timber bridge with span of 5m	430m x 2.5m	1075	m2	£30	£32,250	£64,170	£3,209

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
			minimise damage to the SAC.			Edgings - timber	686	1660	m	£12	£19,920		
		Construction methods for path should adequately deal with drainage issues by raising path level or through the use of board walks/wooden bridges.				Bridge	5m	2	nr	£6,000	£12,000		
		Review exact route and review requirement for the length needing to be surfaced											
7	Access	Informal recreation area promoted behind QE lodge and Butler's Retreat for kite flying, dog walking, as well as woodland play area to ensure Butlers Lodge and QE Hunting Lodge continue to act as a primary hub for visitors to Epping Forest.	Reduce impact on SAC by providing desirable recreation attractions outside the SAC.	H	SS	No Capital Works Proposed						£0	
8	Access	Events promoted in the areas of Chingford Plain adjacent to Bury Lane Car Park, and only in areas outside of the SAC land	Reduce impact on SAC by providing desirable recreation attractions outside the SAC.	H	SS	No Capital Works Proposed						£0	

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
9	Parking	Improved entrance, cycle hire and café hub at Bury Road/Rangers Road junction. These should include toilet facilities to allow visitors to use the car park as a base for exploring the area to the west, including paths around the golf courses and to the Pole Hill viewpoint, and away from the main visitor facilities on Rangers Road.	Encouraging use of areas outside the SAC for amenity use and hence reducing the impact on the SAC.		WS	Café (100m2), cycle hire and Toilet (70m2) = 170m2 @ £3500/m2	1	1	nr	£595,000.00	£595,000	£597,500	£29,750
		The area should act as a gateway to the forest from Chingford transport hubs and to promote sustainable and healthy modes of transport for visitors to Epping Forest Improvements to include interpretation to communicate the importance of the forest as a place for wildlife and exploration.	Encouraging sustainable modes of transport.										
		Encourage the use of sustainable methods of transport to the area by publicising the nearby Chingford Station, installing cycle racks and electric charging points for electric cars.				Signage	10	10	nr	£250	£2,500		£500

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
		Improvements will need to be considered alongside Forest Transport Strategy. Improve links to Bury Lane car park.											
10	Habitat	Grazing regime to continue, promoting and enhancing the scrub - grassland mosaic. Replacement/removal of 10-yr old Invisible Fence cable with GPS IF system is the eventual aim within the next 5 years. The GPS system would allow greater flexibility in holding cattle within different areas to adjust to events and changing visitor pressures at different times of the year	Improving biodiversity	M	SS	Remove existing cable providing invisible fence	2.2km	2200	m	£6	£13,200	£17,670	
						Software maintenance costs for 15 years at £1,000 per year							£1,000
						Provide GPS collar for each grazing animal, replace after 10 years	nr	15	nr	£298	£4,470		£447
11	Signage	Improved signage to and from Chingford Town Centre for pedestrian and public transport connections, especially to the rail station, in order to promote sustainable transport to the site.	Wider environmental benefits from use of sustainable transport	H	SS	Signage	10	10	nr	£250	£2,500	£2,500	£500
12	Parking	Modify provision of car parking at and around Barn Hoppitt car park.	Restoration of species rich acid grassland in SAC and additional bare earth habitats to increase biodiversity	H	SS and WS.							£14,000	

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
					Review of car parking throughout the Forest should be considered as part of the Forest Transport Strategy and sustainable visitor strategy. Traffic calming measures should be considered along Ranger's Road, such as implementing a speed restriction zone and provision of platforms linking the car park with Queen Elizabeth's Hunting Lodge and Butler's Retreat.								
		Use only the paved area, marking half the spaces for blue badge holders and with signs to alternative parking at Bury Road.											
		Prevent the use of SAC area as an overflow car park											

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
		Carry out de-compaction and works to promote regrowth of acid grassland in this area. Create some areas of raised bare ground to attract solitary bees - to increase SAC populations of these insects which have small colonies by Warren Pond				Decompaction and natural regeneration. Assume low maintenance, eg cut every two years and remove arisings.	0.65ha	6500	m2	£2	£13,000		£163
						Create some areas of raised bare ground to attract solitary bees		100	m2	£10	£1,000		
13	Signage	13. Circular route signposted to Warren Pond.	Providing a variety of interests close to the visitor centre.	M	SS	Signage	5	5	nr	£1,000	£5,000	£6,875	£250
						Root radar survey to be carried out around ancient trees, existing pathways and desire lines with a view to displacing routes away from RPAs		3	days	£625	£1,875		
14	Habitat	Discouraging access to the lake edge in some parts through the use of reed planting in the water and additional marginal and then meadow/scrub (where there is space) planting on the strip of ground between the lake edge and the path, after decompaction.	Improving biodiversity	M	SS	Temp chespale fencing, 1m high to protect from geese,	200m chespale	200	m	£10	£2,000	£24,500	£400
						Planting shrubs and marginal species	600m2 planting	600	m2	£35	£21,000		£200

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
		Some areas would still be left open to provide access to the open water, and views across the water, particularly where the path is already close to the water or board walks have already been constructed.											
						Additional smaller gauge fencing strong enough to protect new planting from Canada geese and coots, 1m high	100m	100	m	£15	£1,500		£150
		Selected areas of worn and eroded ground on the opposite side of the path to the lake could also be decompacted and either protected while the existing vegetation grows, or additional meadow species/ shrubs planted where there is space to boost the vegetation cover. Note that such planting would be planned to leave plenty of space around the path. Species would be carefully chosen to match the natural vegetation already growing in this part of the SAC.											
15	Paths	Provide a circular route around Chingford Golf Course signposted from Bury Lane car park to relieve recreational pressure from the eastern section of Chingford Plain. The majority of the route is already surfaced, with surfacing required along the eastern sections.	Proving alternative attractions outside the SAC.	H	22	Sealed gravel, (assume resin bound) granular base course timber edging	300m x 2m	600	m2	£75	£45,000	£54,700	£2,735
						Edgings - timber	600	600	m	£12	£7,200		
		Improve links to the viewing point at Pole Hill to the west and provide seating via an additional viewing point on the edge of the SAC.											

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
		Provide a shorter informal circular route across the golf course, ensuring the alignment takes into account user safety and avoids potential conflict with golfers. Consider carefully positioning a path through the centre of the golf course, but avoiding greens and fairways, to provide a shorter circular walk. Ensure that paths are well signed with information to help avoid conflicts between walkers and golfers.				Signage	10	10	nr	£250	£2,500		£500

No.	Type	Proposal	Mitigation impact	Priority	Site specific (SS) or part of wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance Cost
16	Access/paths	Landscape improvements, Lay hard surface outside the Butler's Retreat and Visitor Centre to improve the seating area and provide a coordinated access point to Connaught Water and to the Bury Road car park.				Sealed surface to match existing. Assume Yorkstone paving	0.2ha	2000	m2	£180	£360,000	£360,000	£7,200
17		Retain Connaught Water car park as it but manage parking outside the car park.	Reduce impact on roadside habitats and vegetation	L	WS, Forest Traffic Management Strategy SS			1	item	£ 5,000.00	£5,000	£5,000	
18		Provision of a Ranger service liaison with visitors, to run the dog liaison, golf course and cyclist liaison groups and oversee specialist habitat maintenance and restoration. The costs shown are for one person at Grade C with overheads (NI etc) and estimated share of equipment - IT, vehicle etc.	Help protect key SAC features	L	SS/WS	In maintenance contract		1	Person/year	£50,000	£50,000		£50,000
		Sub-total										£2,175,367	£149,153
		A Summary of Total Approx. Costs for Chingford										**£2,324,520**	

Proposals for Leyton Flats

4.55 Leyton Flats, at the southern end of the Forest and surrounded by residential development is a heavily used area of grassland, woodland and with a popular waterbody, Hollow Pond, adding to its appeal. The majority of the main body of the site to the north of Whipps Cross Road is within the SAC and the acid grassland being both a key component in the SAC and under threat from a variety of informal paths worn through it. The woodland areas are dense in parts, contain ancient trees and are the scene of antisocial activities.

4.56 South of the Flats is Whipps Cross Hospital, site of additional residential development potential, and two areas of open space outside the SAC. A key transport hub, the mini Holland site has recently been developed at the south west corner of the Flats.

4.57 The proposals aim to:

- Protect the environment and habitats within the SAC particularly the acid grassland
- Coordinate access across the site and to the rest of the Forest
- Coordinate the services and parking on its edges
- Improve the variety of habitats with the woodland areas while still protecting the ancient trees
- Make the areas of open space to the south of Whipps Cross Road more accessible and an alternative recreation facility for those living this side of the road, and as a resource for the hospital to offer as a facility for improving the wellbeing of their patients and for those working in and visiting the hospital.

4.58 As for the other two sites, the management of Leyton Flats can be viewed at two levels, what can be done in the short term, and what a longer term more strategic view of both the Flats and the Forest as a whole might suggest. One aspect of the latter is assess the possibility of moving the concentration of activities in the flat, currently based around a car park and Hollow Pond to the south of the site, and impacting on the acid grassland, towards the north and west of the site, away from the acid grassland.

4.59 However, while bearing that in mind the scope of this study has been to concentrate on measures that protect the SAC and improve access in the short term.

SAC considerations.

4.60 Apart from a narrow uneven strip along Whipps Cross Road, the main body of Leyton Flats is in the SAC, with the eastern end of the site particularly valuable for its acid grassland and small areas of heathland vegetation. The woodland also contains a number of ancient trees, a key feature of the SAC designation with associated species such as stag beetles.

4.61 A feature of the site is that the boundary is relatively open with few defined entrances and the acid grassland is seen as an area of free access, hence the numerous worn paths over it. In addition, the largest and busiest car park abuts the grassland again encouraging use of it as a recreation ground, with its associated wear.

4.62 The direct proposals for mitigating this situation are based around providing alternative paths (1) around the edges of the grassland, signed and with an explanation of the need to follow them, and recovering the worn grass (2). It is proposed that the alternative paths follow the routes of two access routes around the grassland required by the Fire Service to allow access for their tenders should fires break out on the grassland and threaten the surrounding development. While it is understood that these measures will not be followed by all users, it is expected that most will, hence reducing the wear to a sustainable level.

4.63 The more indirect measures are to reduce the number of people visiting the Flats themselves by providing attractive alternative sites for their use outside the SAC to the south of Whipps Cross Road (12 and 15), and/or ultimately moving the car park and facilities away from the grassland.

4.64 The proposals include measures to improve the habitat in the woodland, an area of oak pollards and wood-pasture habitat that needs opening up by creating linked glades (11), improving the growing conditions for ancient trees and potentially bringing back acid grassland as part of a wood pasture, improving biodiversity, providing open habitat for Stag Beetles for example but improving visibility along paths and improving the accessibility for visitors throughout the site.

4.65 Additional improvements to the environment include the construction of a surfaced path, with occasional boardwalks, around Hollow Pond, and reliving the compaction that has resulted around trees on the banks from free access to the pond.

4.66 The Flats have a number of ponds beside Hollow Pond, as well as being noted as having poor drainage resulting in damp areas, which it is proposed to manage to accentuate the dampness and provide additional habitat variation (10).

4.67 The proposals suggest that the current activities along the south side of the Flats, a boating activity and small informal car park to the west and a car park and catering kiosk further east, be amalgamated into a single coordinated site (7) where the catering kiosk is currently located, and improve the car park. To provide sufficient room for the proposals, the car park would protrude into the SAC by approximately 0.09ha. However, if the Boating facility and its associated car park were to be moved, approximately 0.55ha could be recovered and brought into the SAC.

Why visitors visit the site and what they do there.

4.68 Leyton Flats provides an interesting variety of habitats for walkers, including dog walkers, large areas of open grass for informal recreation, and a popular lake for walking around, boating on and angling. The small refreshment kiosk is also a well-used facility.

Car parks

4.69 There is one tarred public car park to the north of the Flats, a small informal and unsurfaced car park serving the boating concession and anglers and larger unsurfaced car park at the south-eastern corner of Hollow Pond.

4.70 While the 2019 visitor survey indicate that a lower percentage of visitors arrive at the site by car than for other sites in the Forest, there is a current demand, and some parking facility is needed to service the catering kiosks, so it is proposed that the informal car park is redesigned to improve its efficiency and surfaced as part of a coordination of the boating concession and catering service (7).

4.71 With the removal of the boating facility to this location, the informal car park that serves it currently can be restored, including decompaction, particularly around the roots of trees.

4.72 There are no current proposals for the northern car park.

Visitor facilities including centres for information, ranger service, toilets

4.73 There are few facilities for visitors on Leyton Flats, apart from the boating concession and the catering kiosk. In particular there are no toilets.

4.74 As mentioned above it is suggested that the existing facilities be reorganised and relocated to concentrate such activities in one spot and allow the rest of the site to retain its natural character.

4.75 In the reorganisation it is suggested that the scope of the facilities be expanded to provide toilet facilities and some form of information outlet to provide information on the SAC, the habitats within it and how visitors can help protect it by keeping to designated paths,

4.76 As on all the sites, the success of the proposals relies on people following suggestions and taking notice of information supplied on signs, leaflets etc. This process can be greatly helped through an onsite presence to note when threats do occur, in giving out information and helping to steer visitors, when needed, away from vulnerable areas to those that are more resilient. We have assumed that this site requires a part time ranger due to its limited size, level of use and complexity.

4.77 The ranger could use the catering and toilet facilities and operate the information services as well as walking the site and being involved in habitat restoration and management work.

Catering

4.78 It is felt that the current level of catering provided through the kiosk as suitable for the site, but as discussed above should be incorporated into a more coherent visitor facility.

Paths and access provision, including board walks and bridges if needed

4.79 The proposals suggest two different types of work on paths:

- Surfaced (self-binding gravel) path (6) constructed to provide level all weather access between the entrance from the new Mini Holland transport hub towards Hollow Pond and a circular path around Hollow Pond (8) built to prevent further compaction of the banks and surrounds of the pond. The latter would also include a number of boardwalks to bridge some drains and inlets as well as providing additional interest for visitors. The path from the Mini Holland hub is intended to attract visitors into the less used areas of the Flats to increase public presence and discourage antisocial use, and through the other paths on site to provide access to the surrounding areas.
- There are existing informal routes which require monitoring to ensure that damage does not occur on a regular basis causing lasting damage to the environment they pass through. The new Fire Defence Lines (1) will not be surfaced but will need to be monitored to ensure that excessive wear does not take place, degrading the level of access and potentially pushing people to use the open grassland instead thereby potentially threatening the SAC.

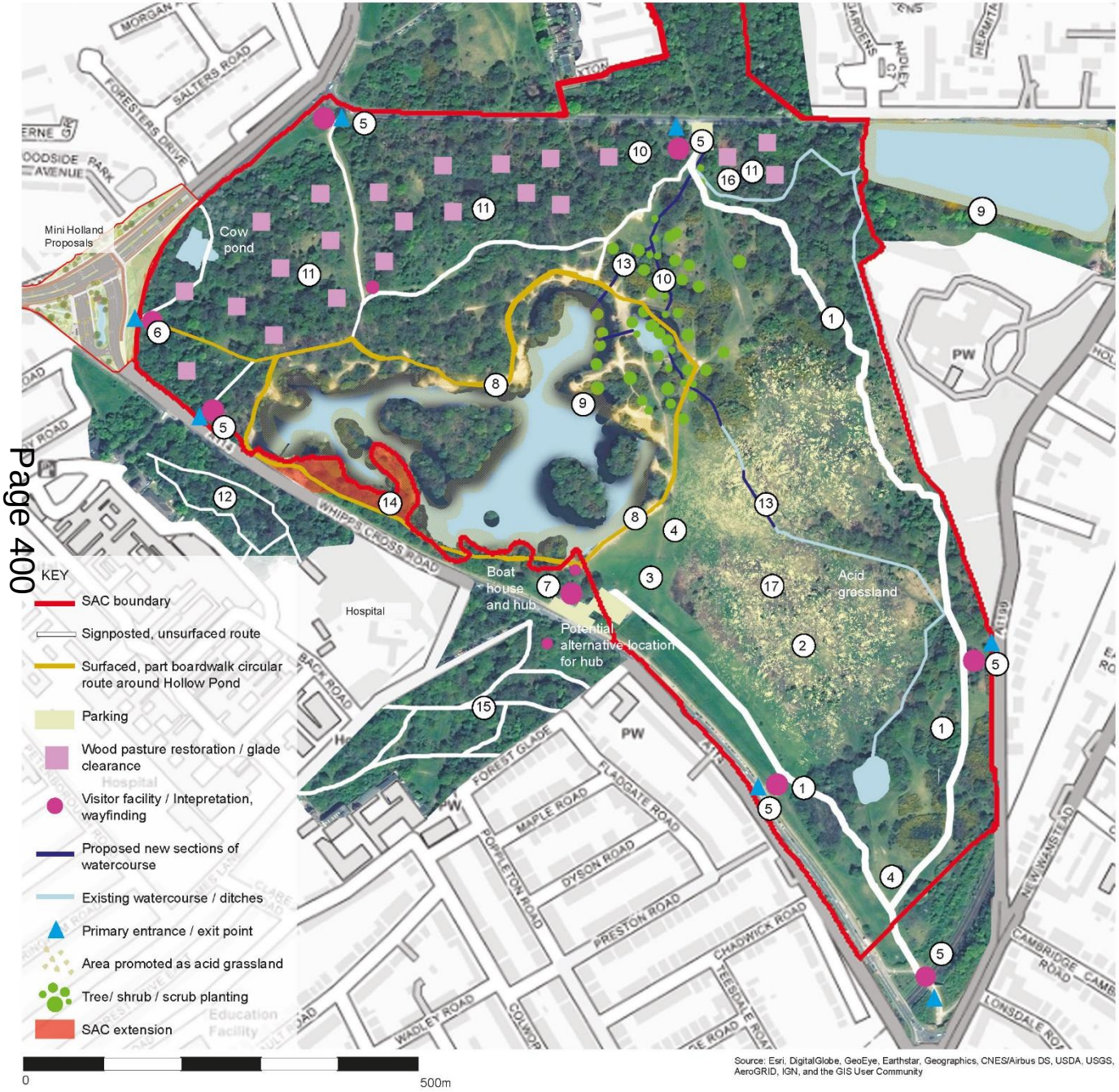
Signage and waymarking

4.80 Signage and waymarking is key to directing and informing users, positioned at access points, at changes in direction on preferred routes and at points on long paths to confirm that the users is still on the right path as discussed in **Chapter 3** on **Overall Proposals**.

4.81 At Leyton Flats there is still need for directional signage but there is also need for clear information and signage to direct users onto the paths away from the acid grass land areas, particularly on the edge of the car park where it butts up against the grassland and at the point after the entrance across the railway line at the south east corner of the site and where the two Fire Defence Lines part (4) .

4.82 In the Overall Proposals it has been suggested that the signs and waymarking posts indicate the boundaries of the SAC and this would be appropriate on Leyton Flats where part of the area is outside the SAC and would serve to emphasise the importance of the SAC.

Figure 4.3 LEYTON FLATS : SAC Mitigation Concept Proposals



ID No	Proposal	Access (A) or Habitat (H)	Priority (H, M, L)
1.	Fire defence lines, preferred pedestrian route.	A	H
2.	Measures to reduce erosion of acid grassland.	H	H
3.	Provision of amenity grassland area to deter access onto acid grassland.	A/ H	M
4.	Signage installed to educate visitors about protection of acid grassland.	H	M
5.	Improvements to established entry and exit points to Leyton Flats (Blue triangle). Development of a furniture strategy to rationalise furniture provision across the site.	A	M
6.	Significant entrance improvements associated with the Whipps Cross 'Mini-Holland' scheme and access to Cow Pond.	A	M
7.	Review location and type of visitor facilities.	A/H	H
8.	Circular, surfaced trail, with boardwalks where necessary around Hollow Ponds.	A	M
9.	Edges of the existing Hollow Pond and Eagle Pond naturalised and re-graded where possible to improve wetland habitats.	H	M
10.	Development of existing wet woodland habitat.	H	M
11.	Glade creation, clearance and wood-pasture restoration to improve growing conditions for ancient trees, focussed around improved access routes.	H/A	H
12.	Access enhanced and promoted to non-SAC land to the south of Leyton Flats adjacent to the hospital.	H/A	M
13.	Improve flow and function of water courses/ drains, subject to hydrological survey.	A/H	M
14.	Restore habitat and include as part of SAC	A/H	M
15	Access enhanced and promoted to non-SAC land to to the south of Whipps Cross Road, particularly for dog walkers and as a facility for the adjacent school.	A/H	M

Table 4.5 Leyton Flats SAC Mitigation Concept Proposals – Summary of approximate costs

ID No	Proposal	Access (A) or Habitat (H)	Priority (H, M, L)	Capital Cost	Annual Maintenance Cost	Total cost for duration of Local Plan (assumed to be 25 years)
1	Fire defence lines, preferred pedestrian route	A	H	£33,350	£1,751	£77,125
2	Measures to reduce erosion of acid grassland	H	H	£17,650	£650	£33,900
7	Review location and type of visitor facilities.	A/H	H	£317,500	£25,775	£961,875
11	Glade creation, clearance and wood-pasture restoration to improve growing conditions for ancient trees, focussed around improved access routes.	H/A	H	£1,500	£500	£14,000
18	Provision of a Ranger service	A/H	H	£0	£50,000	£1,250,000
3	Provision of amenity grassland area to deter access onto acid grassland.	A/ H	M		£0	£0
4	Signage installed to educate visitors about protection of acid grassland.	H	M	£1,250	£250	£7,500
5	Improvements to established entry and exit points to Leyton Flats (Blue triangle). Development of a furniture strategy to rationalise furniture provision across the site.	A	M	£150,000	£7,500	£337,500
6	Significant entrance improvements associated with the Whipps Cross 'Mini-Holland' scheme and access to Cow Pond.	A	M	£23,300	£2,330	£81,550
8	Circular, surfaced trail, with boardwalks where necessary around Hollow Ponds.	A	M	£285,840	£14,292	£643,140
9	Edges of the existing Hollow Pond and Eagle Pond naturalised and re-graded where possible to improve wetland habitats.	H	M	£43,000	£2,450	£104,250
10	Development of existing wet woodland habitat.	H	M	£6,000	£500	£18,500

ID No	Proposal	Access (A) or Habitat (H)	Priority (H, M, L)	Capital Cost	Annual Maintenance Cost	Total cost for duration of Local Plan (assumed to be 25 years)
12	Access enhanced and promoted to non-SAC land to the south of Leyton Flats adjacent to the hospital.	H/A	M	£41,602	£7,810	£236,852
13	Improve flow and function of water courses/ drains, subject to hydrological survey.	A/H	M	£1,350	£0	£1,350
14	Restore habitat and include as part of SAC	A/H	M	£37,500	£1,500	£75,000
15	Access enhanced and promoted to non-SAC land to the south of Whipps Cross Road, particularly for dog walkers and as a facility for the adjacent school.	A/H	M	£39,178	£4,434	£150,026
16	Clearance of the old Lido site to open up the habitat and create greater capacity for visitors to the north side of the pond. This work would be in addition to works outlined in Item 11 above.	A/H	M	£1,600	£48	£2,800
17	Restoration of grazing to manage the health and grassland in face of increasing fire risk and visitor pressure, in conjunction with 2 above.	H	M	£2,980	£1,298	£35,430
	Total			**£1,003,600**	**£121,088**	**£4,030,798**
	Total High Priority			£370,000	£78,676	£2,336,900
	Total Medium Priority			£633,600	£42,412	£1,693,898
	Total Low Priority			£0	£0	£0

Table 4.6 Leyton Flats SAC Mitigation Concept Proposals - details and approximate costs

No.	Type	Proposal	Mitigation impact	Priority/	Site specific (SS) or wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance cost
1	Paths	Fire defence lines (routes clear of woody vegetation) to provide access for fire trucks and to provide a defendable area to help prevent a spread of fire from Leyton Flats to adjacent housing. These lines also provide a preferred pedestrian route around the SAC acid grassland and will be waymarked accordingly. The southern path will need a concrete culvert to cross a ditch.	Reduce number of desire lines on acid grassland.	H	SS	Clearance of shrubs to provide line. Use existing bridges to cross streams	1,140m x 5m (north) 530m x 5m (south)	8350	m2	£1.00	£8,350	£33,350	£501
						Concrete culvert suitable to take the weight of a 40-tonne fire tender	10m span, 4m width - allow for 3nr 1050 dia concrete pipes with concrete slab over. Grilles to upstream pipes	1	nr		£25,000		£1,250
2	Habitat	Measures to reduce erosion of acid grassland, a key feature of the SSSI and habitat which is characteristic of Leyton Flats. The area is also included as part of the dry heath areas of Epping Forest; a qualifying habitat of the SAC. This area is to be protected from further damage and erosion and measures taken to repair damage from compaction and to encourage the growth of acid grassland. Suggested that in April / May selected areas be enclosed with temporary chespale fencing, to allow the grass to grow. Areas chosen initially chosen to block existing desire lines, but positions changed annually to extend areas of recovered grassland. De-compaction of the established desire lines during this 'recovery period' will also deter primary pedestrian traffic across the area by making access less attractive and in turn reducing erosion and compaction.	Protection and enhancement of acid grassland	H	SS	Temporary chespale or netting with wooden posts fencing	200m	200	m2	£10.00	£2,000	£17,650	£400
						Decompaction	7200	7200	m2	£2.00	£14,400		

No.	Type	Proposal	Mitigation impact	Priority/	Site specific (SS) or wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance cost
		Users will be steered around the edge of the grassland on to the fire defence lines routes with notices explaining the reason for temporary closure (see 4). Ongoing monitoring will assess the effectiveness of this approach and whether further action is needed to re-shape patterns of use and eliminate informal paths and desire lines. Some bare patches left to provide different habitats.				Signage to match Epping Forest style	5	5	nr	£250.00	£1,250		£250
3	Access	Amenity grassland area maintained close to the car park and Hollow Pond only. Low key barriers such as logs or temporary fencing may be necessary in the short term to confine recreational use (especially the exercising of dogs) to this area. Provision of bins for disposal of dog waste.	Protection of sensitive acid grassland habitat	H	SS	No additional work							
4	Signage	Signage installed to educate visitors about why the acid grassland needs to be protected to attempt to deter visitors from crossing the sensitive area.	Protection of sensitive acid grassland habitat	H	SS, but tied into a Forest wide strategy for interpretation and signage for a coordinated approach to design styles.	Signage to match Epping Forest style	5	5	nr	£250.00	£1,250	£1,250	£250
5	Access	Improvements to already established entry and exit points to Leyton Flats (Blue triangle) This should include improved litter / dog waste disposal, parking and vehicle management, consistent interpretation, wayfinding and signage, consideration of sightlines. A furniture strategy for the site should be produced to rationalise furniture provision across the site.	Mainly improvement to access but suitable interpretation could help educate visitors to the need to respect the ecology of the Flats and way finding could direct visitors away from ecologically sensitive areas.	H	SS, but tied into a Forest wide strategy for interpretation and signage for a coordinated approach to design styles.	Hot rolled asphalt car park, countryside kerb edgings.	0.2ha	2000	m2	£75.00	£150,000	£150,000	£7,500
6	Access	Significant entrance improvements associated with the Whipps Cross 'Mini-Holland' scheme. Provision of a connecting path towards the area of Cow Pond but away from the edge of the pond to allow for the development of habitats. Additional signage and interpretation provided.	Some increase in biodiversity.	H	SS/WS tied into a Forest wide strategy for interpretation and signage for a coordinated approach to design styles	Gates and signs	1	1	set	£5,000.00	£5,000	£23,300	£2,330
						Timber Boardwalk - Provisional length 20m (tbc)	20m x 1.3-1.8m wide	20	m	£915.00	£18,300		

No.	Type	Proposal	Mitigation impact	Priority/	Site specific (SS) or wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance cost
7	Access	Review location of visitor facilities. Determining the location of any new visitor facilities must be carefully considered, with public transport arrivals considered a priority. Consideration may also need to be given to moving car parking capacity north of Hollow Ponds to ensure long-term protection of acid grassland from dogs, dog faeces and erosion. Subject to further scoping and impact assessment, there may be an option to provide a new interpretation facility, boat hire facility, refreshments (e.g pop-up cafe at the Lido site once cleared - as shown on the map above) and toilets close to the main car park (outside SAC). Remove small car parks adjacent to boat house and relocate the boathouse adjacent to the new visitor facilities. Demolish existing brick 'diner' adjacent to the car park.	Overall protection of ecology of Flats. Possible improvement of some areas of habitat.		WS, All works should be considered alongside the Forest Transport Strategy and impending sustainable visitor strategy and taking into account the likely future growth and development in the surrounding area, such as the proposed re-development of Whipps Cross Hospital.		Assume new visitor centre is to be same size as existing					£317,500	£9,525
						Café (50m2) and Toilet (40m2) = 90m2 @ £3500/m2	1	1	nr	£315,000.00	£315,000		£15,750
						Signage	10	10	nr	£250.00	£2,500		£500
8	Path	Circular, surfaced trail, with boardwalks where necessary (with appropriate measures to protect ancient trees) promoted around Hollow Lake to provide attractive and highly accessible pedestrian route for visitors and deter activity from more sensitive areas such as the acid grassland habitat.	Protection of habitat through more controlled visitor access.	H	SS	Granular base, wooden edging, self-binding gravel surface, eg Coxwell. Bridges and areas of board walk	1660m x 2.5	4150	m2	£30.00	£124,500	£285,840	£14,292
							Edging	3320	m2	£12.00	£39,840		
							5m bridge	5	nr	£6,000.00	£30,000		
							Boardwalk - 2m wide?	100	m	£915.00	£91,500		
9	Habitat	Edges of the existing Hollow Pond and Eagle Pond naturalised and re-graded where possible to improve wetland habitats.	Increased biodiversity	M	SS	Regrading some areas (approx. 10% of perimeter), additional marginal planting	200m	200	m	£40.00	£8,000	£43,000	£2,150
						Marginal Planting	1000m2	1000	m2	£35.00	£35,000		£300
10	Habitat	Existing wet woodland habitat managed to diversify woodland types and improve habitats for wildlife associated with standing water (subject to hydrological investigation to assess viability)	Increased biodiversity	M	SS	Clearance of scrub to open area to light.	0.2ha	2000	m2	£0.50	£1,000	£6,000	£500
						Scraping other areas to provide deeper wet areas.	0.1 Ha	1000	m2	£5.00	£5,000		

No.	Type	Proposal	Mitigation impact	Priority/	Site specific (SS) or wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance cost
11	Habitat	Glade creation, clearance and wood-pasture restoration to improve growing conditions for ancient trees. Glades created alongside footpaths for improved edge habitat and to make the path feel safer and to deter antisocial activity. Retain older trees for their landscape and ecological value.	Increased biodiversity	H	SS	Clearance of scrub under major trees (20% of area)	2ha	2000	m2	£0.75	£1,500	£1,500	£500
12	Access/paths	Access enhanced and promoted to non-SAC land to the south of Leyton Flats adjacent to the hospital, in order to decrease visitor pressure on the SAC. Enhancements could include creating more open areas, benches, dog bins, but retaining large and old trees for their landscape and ecological value, including retaining and maximising habitat features for stag beetles. Footpaths un-surfaced, but indicated with clear wayfinding and signage from key access points.	SAC protection through reduction of visitor pressure on Flats.	H	SS	Mown paths	510m x 2m	1020	m2	£0.10	£102	£41,602	£510
						Clearance of scrub	1ha	10000	m2	£0.50	£5,000		
						Litter bins	10	10	nr	£400.00	£4,000		£800
						Benches	20	20	nr	£1,500.00	£30,000		£6,000
						Signage	10	10	nr	£250.00	£2,500		£500
13	Habitat	Improve flow and function of water courses/ drains via Hydrological Survey, particular to encourage flow to Hollow Pond. Better connectivity of ditches and standing water bodies will provide valuable habitat as well as limit access across the acid grassland.	Improve biodiversity	M	SS	Survey Dredging Bank shaping	2 days	2	days	£675.00	£1,350	£1,350	
14	Habitat	Removal of built elements and improvement of growing conditions for trees and marginal planting	Improve biodiversity, particularly for ancient trees	M	SS	Demolition of existing boat shed. Recovery of existing informal car park	Overall area 0.6ha	1	item	£7,500.00	£7,500	£37,500	£1,500
						Recovery of existing car park - return to natural ground	6000	6000	m2	£5.00	£30,000		

No.	Type	Proposal	Mitigation impact	Priority/	Site specific (SS) or wider strategy (WS)	Construction	Dimensions	Quantity	Unit	Rate	Total	Capital Cost	Annual Maintenance cost
15	Access/paths	Access enhanced and promoted to non-SAC land to the south of Leyton Flats adjacent to the hospital, in order to decrease visitor pressure on the SAC. Enhancements could include creating more open areas, benches, dog bins, but retaining large and old trees for their landscape and ecological value, including retaining and maximising habitat features for stag beetles. Footpaths un-surfaced, but indicated with clear wayfinding and signage from key access points. Emphasise features likely to attract dogwalkers away from the main Leyton Flats	SAC protection through reduction of visitor pressure on Flats.	H	SS	Mown paths	890m x 2m	1780	m2	£0.10	£178	£39,178	£134
						Clearance of scrub	0.5ha	5000	m2	£0.50	£2,500		
						Litter bins		10	nr	£400.00	£4,000		£800
						Benches	20	20	nr	£1,500	£30,000		£3,000
						Signage	10	10	nr	£250	£2,500		£500
16	Habitat and access	Clearance of the old Lido site to open up the habitat and create greater capacity for visitors to the north side of the pond. This work would be in addition to the wood pasture restoration works outlined in Item 11 above.		M			Assumed area of old Lido Site - area to be confirmed	200	m2	£8.0	£1,600	£1,600	£48
17	Habitat	Restoration of grazing to manage the health and grassland in face of increasing fire risk and visitor pressure, in conjunction with 2 above.	Help protect and enhance SAC features and provide a (Description needs finishing at end)	M		Software maintenance costs for 10 years (at £1,000 a year)						£2,980	£1,000
						Provide GPS collar for each grazing animal	nr	10	nr	£298	£2,980		£298
18	Access	Provision of a Ranger service for liaison with visitors, to help run the dog liaison and Whipps Cross hospital site liaison groups and oversee specialist habitat and restoration. The costs shown are for one person at Grade C with overheads (NI etc) and estimated share of equipment - IT, vehicle etc	Help protect key SAC features	H	SS/WS	In maintenance contract		1	Person/year	£50,000	£50,000		£50,000
		Sub-total										£1,003,600.00	£121,087.90
		A Summary of Total Approx. Costs for Leyton Flats										**£1,124,687.90**	

Implementation

4.83 The proposals put forward in the report are the result of a process of analysis and discussion but at this stage are still conceptual.

4.84 To implement any will require:

- Detailed analysis of the site of each of the proposals including a base line survey of key indicators of the conditions of the site,
- Detailed design and costing
- Consultation with key organisations including Natural England to assess the likely impact of those proposals on the detailed properties of that site, including its ecology. This may include an independent HRA with stage 1 assessment of LSEs of the scheme(s) and ensuring that all works are required for the better management of the SAC (see Appendix 3)
- Final design taking account of the consultation and impact assessment
- Construction.

4.85 The costs of the HRA for the works are likely to be around £5,000 for an HRA – with about 7 -8 days (£675 - £700 per day for consultant) to screen all the documents and the proposals for LSEs, liaise with NE and then prepare a full HRA with a possible Appropriate Assessment (AA) to determine whether there will be long-term adverse impacts on the integrity of the site for any proposal that reaches this trigger.

4.86 Each of the proposals that are not directly connected with the nature conservation management of the Epping Forest SAC features, or which may be potentially damaging to the Site of Special Scientific Interest, would need to be part of an HRA of the SAMMS proposals.

4.87 Design and consultation costs will vary according to the complexity of the project and the different specialisations that will be needed to fully design, assess and deliver each project. Costs could vary from around 5% for simple projects to 15% for more complex ones.

4.88 With the above in mind Table 4.7 summarises the potential project implementation and maintenance costs for all three sites.

Table 4.7 SAC Mitigation Concept Proposals – Summary of approximate costs

Area	Approximate Total Capital Cost	Contingency allowance (15%)	Design/consultancy fees (15%)	Total project implementation cost	Approximate Total, annual Maint cost	Approximate Total Cost for Life of Local Plan (assumed to be 25 years)
Total High Priority	£315,030.00	£47,254.50	£47,254.50	£409,539.00	£69,201.50	£2,139,576.50
Total Medium Priority	£72,030.00	£10,804.50	£10,804.50	£93,639.00	£7,714.00	£286,489.00
Total Low Priority	£0.00	£0.00	£0.00	£0.00	£5,000.00	£125,000.00
High Beach Total	**£387,060.00**	**£58,059.00**	**£58,059.00**	**£503,178.00**	**£81,915.50**	**£2,551,065.50**
Total High Priority	£1,125,122.00	£168,768.30	£168,768.30	£1,462,658.60	£106,403.60	£4,122,748.60
Total Medium Priority	£1,050,245.00	£157,536.75	£157,536.75	£1,365,318.50	£42,749.50	£2,434,056.00
Total Low Priority	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Chingford Total	**£2,175,367.00**	**£326,305.05**	**£326,305.05**	**£2,827,977.10**	**£149,153.10**	**£6,556,804.60**
Total High Priority	£370,000.00	£55,500.00	£55,500.00	£481,000.00	£106,403.60	£3,141,090.00
Total Medium Priority	£633,600.00	£95,040.00	£95,040.00	£823,680.00	£42,749.50	£1,892,417.50
Total Low Priority	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Leyton Flats Total	**£1,003,600.00**	**£150,540.00**	**£150,540.00**	**£1,304,680.00**	**£149,153.10**	**£5,033,507.50**
Total	**£3,566,027.00**	**£534,904.05**	**£534,904.05**	**£4,635,835.10**	**£380,221.70**	**£14,141,377.60**

5 Monitoring and Review

5.1 This report is based on the situation current in Q3 of 2020, but only touching the impact of changes in circumstances that have resulted from the Covid-19 virus. It and the proposals contained within it need to undergo a process of monitoring and review.

Monitoring

5.2 Monitoring is a process of assessing the performance of the report by:

- Monitoring the implementation of the proposals, how many are implemented for example
- How successful are the projects in achieving their objectives, for example increasing biodiversity and protecting the SAC through ecological monitoring for example, or by accommodating increasing visitor numbers while still protecting the SAC and Forest.

5.3 The review should be carried out on an annual basis internally and with the involvement of key stakeholders with the results assessed and used to inform the ongoing implementation of the proposals.

5.4 In terms of some of the issues raised in this report and for the three sites that are singled out in this report, some measures of the success of the proposals could include but not be limited to:

- Reduction in the number of informal desire lines across sensitive habitats, acid grassland, and in the root zones of ancient trees for example
- Successful introduction of marginal vegetation on lake edges, Hollow Pond and Connaught Water for example.
- Increased awareness in visitors of the sensitivity and value of the Forest and the SAC, and hence a corresponding increase in the respect in which they treat it.

Review

5.5 The purpose of the review is to assess the report and proposals to see if they are still valid at the time of the review, perhaps reflecting changes in policy, changes in requirement, changes in the way that the site is used. It is suggested that reviews are carried out at five-year intervals.

5.6 They should be informed by regular visitor surveys and assessments of impacts on the ecology and fabric of the Forest and SAC in particular.

5.7 The first review should also reflect recommendations and policies arising out of the upcoming Sustainable Visitor Access Strategy.

5.8 Reviews should include input from those involved in the management of the Forest as well as key stakeholders such as Natural England, representatives of interest groups as well as local areas and authorities affected by or benefiting from the Forest.

Appendix 1
Access survey site notes

Epping Forest SAC Mitigation Strategy –
site notes on recreational constraints & opportunities (Andrew McCloy)

1. HIGH BEACH

Constraints

- Visitors concentrated in small area
- Car parks at capacity at peak times
- Veteran trees very close by
- Steep fragile slopes below Pillow Mounds
- Visitor centre too tucked away and opportunity for messages re conservation and responsible visiting being lost

Opportunities

- Contain casual visitors in open grassy space in front of car park (Pillow Mounds), eg by creating viewpoint/topograph, or defining edge of open grassy space by low post and rail fencing
- Realign main path down eroded open hillside west of Pillow Mounds to keep users on single route and deter them from spreading out across eroded slope, into bog, etc; or consider creating more sustainable route entirely down to Wellington Hill from Pillow Mounds
- Clear signs/waymarked routes(s) for horse riders and mountain bikers
- Deflect visitors who want to explore woodland below Pillow Mounds to less sensitive woodland on southern edge (less veteran trees here)
- Use peripheral car parks as 'jumping off' points for visitors to High Beach, eg Honey Lane/A121, via better signage and promotion
- Create short circular waymarked walks away from most sensitive sites, eg open slopes, and promote accordingly
- Relocate snack bar from front car park/woodland edge to a more central location by toilets and visitor centre, away from SAC and start of eroded downhill path
- Long term: promotion of off-site alternative forest venues (buffer land) for recreation - especially large participation events, eg Warlies Park

2. CHINGFORD HUB

Constraints

- Limited parking adjacent to visitor centre (Barn Hoppitt) and at Connaught Water
- Bury Lane car park poorly configured, untidy and unwelcoming, under-promoted and hence under-used
- No easy, attractive or even obvious walking route between Bury Lane car park and visitor centre/The View - grassy, often muddy route at present
- Golf course open and accessible, used for non-golfing recreation (dog walking, picnics, walking) with evident conflict and inherent dangers

Opportunities

- Improve car parking offer at Bury Lane to make it a key starting point for visitors - consolidate 2-3 separate car parks into 1-2, better surfacing and possibly minor landscaping, improved local signage, better interpretation, dog waste bins, etc
- Make strip adjacent to Bury Lane car park (outside SAC) more inviting, obvious and welcoming for general users (eg clearly signposted, shorter grass, unobtrusive fencing?) in order to cater for off-lead dogs, ball games, picnics, informal events, etc - in other words, a sacrifice strip to keep general users away from SAC
- Create a clear and sustainable all-weather pathway along the sight line between Bury Lane car park, visitor centre/The View and Connaught Water to encourage direct flow of visitors - thus increase in footfall at visitor centre and discourage spreading out on to SAC, leading to proliferation of paths, etc
- Provide cycle parking at Bury Lane car park
- Increase capacity of Barn Hoppitt car park opposite visitor centre
- Improve path signage on and around golf course, plus better marked-out paths, to discourage non-golfers from straying on to fairways but steer them around edge of SAC
- Long term: could golf course be slightly reduced in size so that a strip opposite Bury Road car park (away from SAC) could be specifically used for off lead dog exercise, or ball games, picnics, etc

3. LEYTON FLATS

Constraints

- Poor all-round visitor infrastructure, including very limited car parking, only basic refreshments and no toilets
- Large numbers of local users accessing SAC from all directions, lots of informal paths
- Well developed undergrowth in northern part of SAC allowing opportunities for anti social behaviour
- No direct or inviting walking route between the hospital and Leyton Flats/the SAC

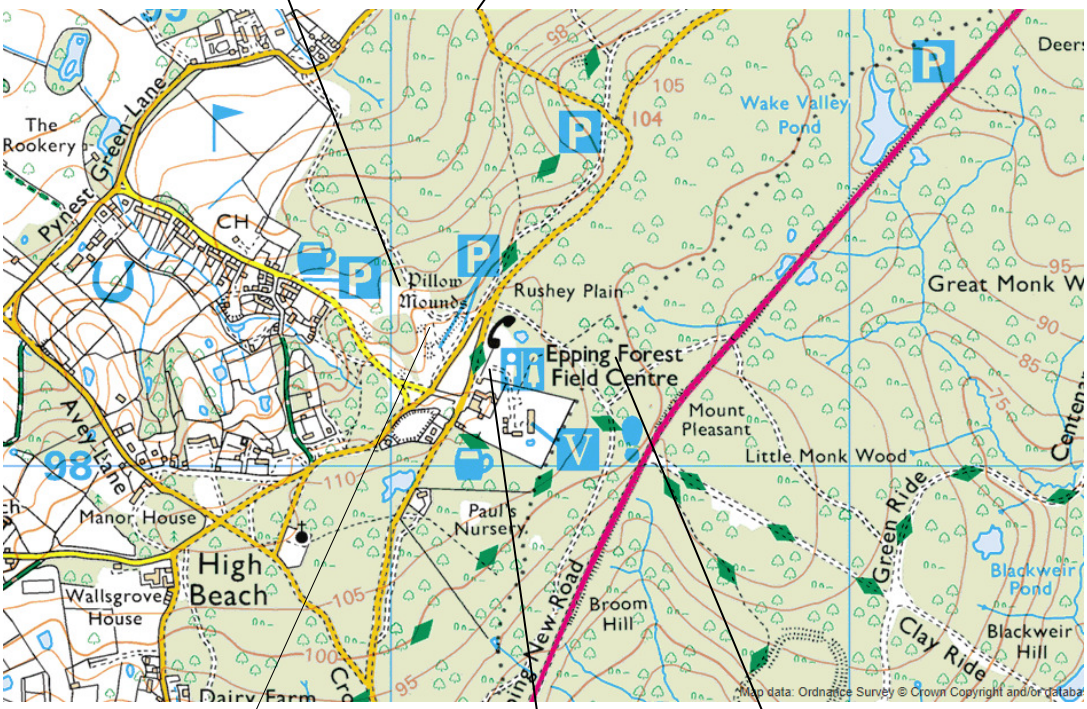
Opportunities

- Need more positive messaging and strategy re responsible dog walking and behaviour, including more dog waste bins, eg at Snaresbrook car park
- Improve main car park on south side by consolidating two small untidy car parks (laterally along grassy roadside strip - outside SAC), rationalising signage and interpretation
- New combined refreshment/toilet block could include interpretation and user information
- Creation of nature trail/sensory trail around Hollow Pond, to tie in with hospital/health and wellbeing angle (and possible new sources of funding?)
- Clear scrub to create new pathways through woodland to south of Whipps Cross Road/A14 to better connect Leyton Flats with hospital.
- Create waymarked trails across Leyton Flats to steer users on set routes and away from sensitive areas (the only promoted route at present is the Hornbeam Trail which is inconsistently waymarked and extends northwards away from Leyton Flats)
- Clear undergrowth to create open glades, deterring anti social behaviour (more visibility) and boosting biodiversity

HIGH BEACH – recreational development opportunities

Create/realign single, durable path down eroded open slope to discourage users from wider access; or create entirely new sustainable route away from sensitive open slope and veteran trees

Identify peripheral car parks like that at Honey Lane/A121 junction as base for visits to the area, through better all-round promotion and signage of routes from car parks



Keep casual visitors on open grass slope (Pillow Mounds), or deflect them towards less vulnerable woodland to immediate south

Relocate snack bar to more central location near toilets and visitor centre and away from edge of SAC/ eroded downhill path

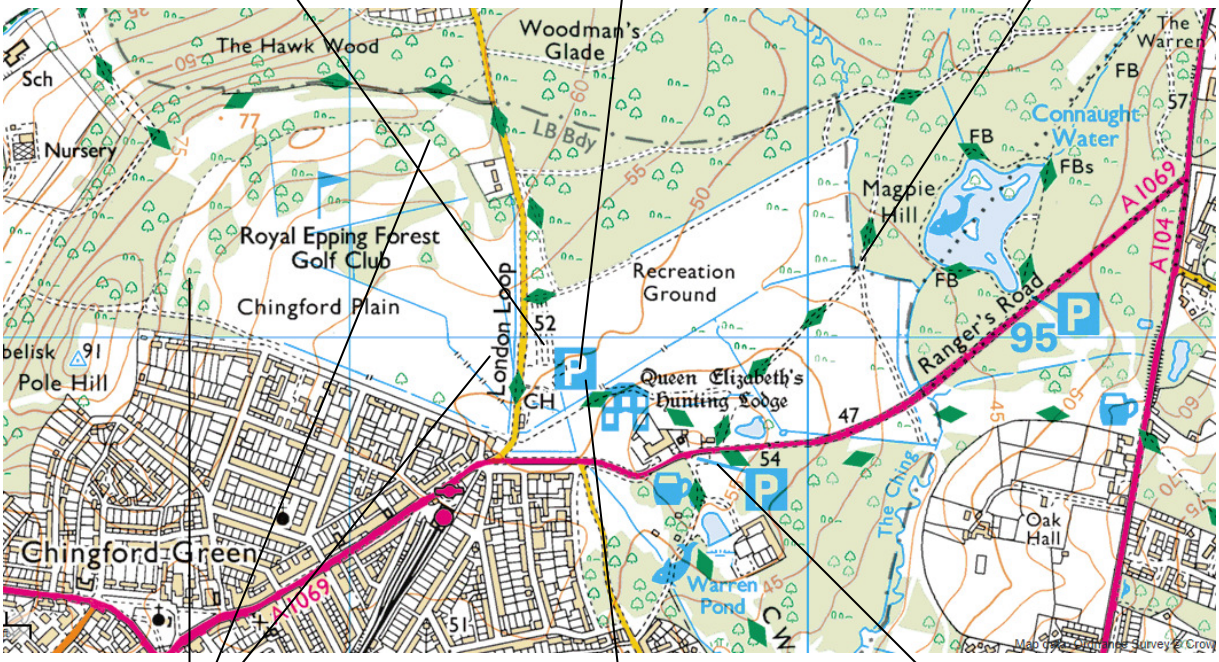
Better promote short waymarked trails through woodland away from eroded slopes west of car park

CHINGFORD HUB – recreational development opportunities

Consolidate the existing Bury Lane car parks into a tidier, durable, more inviting and practical base for visitors

Define a strip immediately adjacent to the car park, outside the SAC, for general recreational use (eg dog exercise, kite flying, ball games, etc)

Create a single, defined and hard-wearing route between Connaught Water and visitor centre to encourage 2-way flow of people



Better marked-out paths and improved path signage on and around golf course

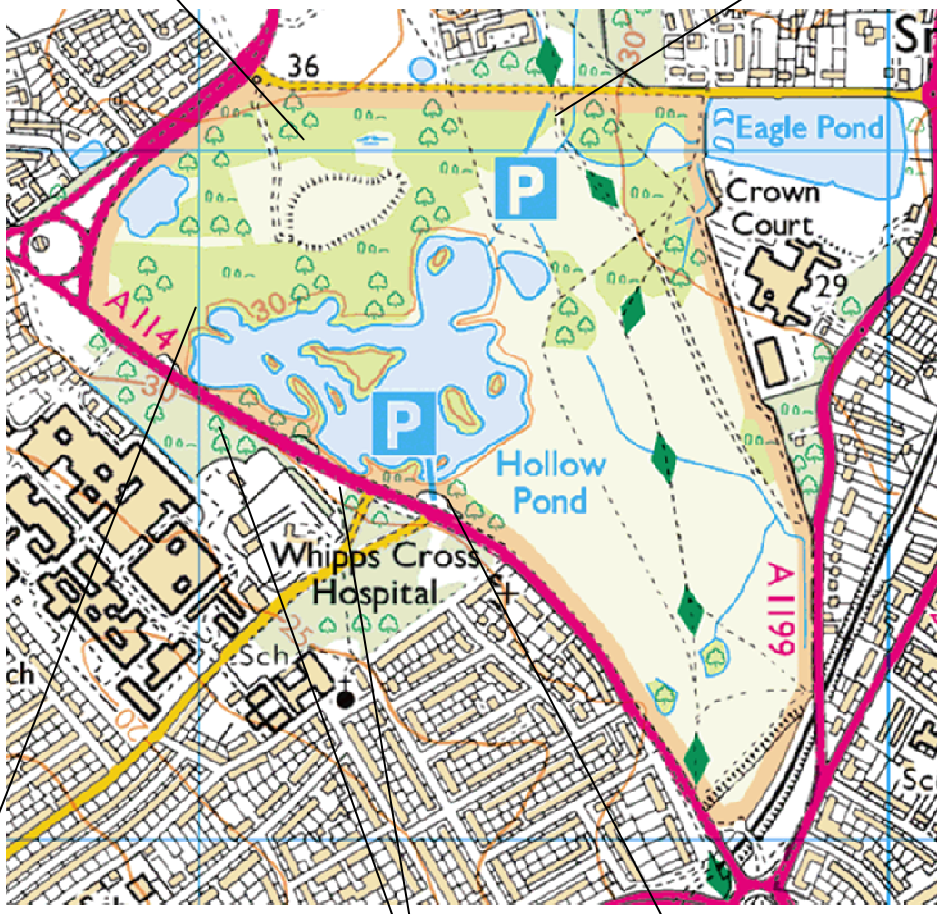
Create a permanent, sustainable walking route between Bury Lane car park and The View visitor centre that is obvious, inviting and easy to use

Car park for The View visitor centre (Barn Hoppitt) could be extended into existing overspill green field

LEYTON FLATS – recreational development opportunities

Clear undergrowth to create open glades and better visibility, deterring anti-social behaviour

Create short waymarked trails from car parks (could be theme-based or fitness angle) around Leyton Flats to encourage habitual visitors to use set routes and keep away from sensitive areas



Create nature trail / sensory trail around Hollow Pond, to tie in with hospital / health and wellbeing angle, but also to steer visitors on set route

Scrub clearance and new paths to better connect hospital with Leyton Flats

Consolidate 2 car parks into one, reconfigure and possibly landscape along existing roadside strip, ideally new refreshment/toilet/visitor facility, steer visitors (especially dog walkers) on to open grassy area adjacent to car park

Appendix 2
Ecological survey site notes

Ecology site notes. Please refer to site plans for target note locations and areas at each site.

High Beech and Honey Lane Visitor Hotspot

Area F: Woodland

- This area of the woodland supports lower quality woodland and a bog that has dramatically reduced in extent. Opportunity to encourage visitors to walk through this area of the woodland and to re-instate the bog by clearing trees in close proximity and making it a feature for visitors to look at. **(TN5)**

Area G: Woodland

- The accessible walk is well designed and feel that is it important to retain this so that visitors can experience these features. Due to the low numbers of veteran trees it is suggested that the path is retained/altered slightly so that they do not directly overhang the path. There also need to consider levels of compaction by keeping visitors to the path. In addition to this there is opportunity to connect this path better to the car park, provide signage and interpretation boards. **(TN3)**
- This area of the woodland supports a large number of veteran trees and support features that are integral to the SAC. Important to minimise damage to veteran trees from compaction and erosion created by heavy footfall and mountain biking, as well as other activities such as fires , horse riding and informal play, such as ropes swinging from veteran trees. **(TN6)**

Area H: Pillow Mounds

- A well designed car park. Opportunity to improve the direction of visitors around the site and to the circular walk, visitor centre etc. which are not obvious. It should be noted that degraded acid grassland was recorded in this area adjacent to the car park. (**TN2)**
- There is extremely high levels of erosion at the Pillow Mounds and down into the woodland. This level of erosion is important for invertebrate populations, such as digger bees, however this needs to be managed is areas which lie immediately adjacent to veteran trees in this area. Due to the location of the car parks/facilities it is potentially going to be difficult to reduce the level of visitors travelling up and down the slope. **(TN4)**

Area I: Woodland

- Speakmans pond is located here and is known to have issues with *Crassula*. **(TN1)**
- An area of woodland with fewer veteran tree recorded. **(TN7)**

Area J: Woodland

- This area of the woodland supports a number of veteran trees. **(TN8)**

Chingford Visitor Centre Hub

Area A: Chingford Golf course

- A golf course with historic value in the area. There are high levels of conflict between golfers and members of the public. Potential to improve the trail that runs along the outside of the golf course and along the edge of the woodland belt in the north and east by providing better signage for the circular walk and potential to access the Lee Valley. **(TN11)**

Area B: Woodland

- Woodland play area. **(TN10)**
- A good example of an unsurfaced path that runs through an area of veteran trees. **(TN6)**
- A number of pollarded veteran trees including oaks, which stag beetle rely on and hornbeam. These are important features of Epping Forest. **(TN12)**
- An area of woodland that supports qualifying features of the SAC. A large number of veteran trees were particularly recorded in the northern area of the parcel and adjacent to the golf course. **(TN13)**
- There is a very small car park at this location. At the time of survey a number of cars were recorded along the access track adjacent and there were signs of wear of the grassland suggesting that this area is sometimes used as informal over-spill parking. Potential to expand car park and formalise it in this area to allow more visitors to use this location. **(TN14)**

Area C: Connaught Lake

- This area comprises of Connaught Lake and associated car park. This area is well managed with defined paths, viewing platforms, good signage/interpretation and woodland play in the north-east. There is evidence of erosion adjacent to the lake which is unlikely to be avoided and signs of cars parking on the busy road next to the car park. (**TN7)**

Area D: Chingford Plain (within SAC)

- An area of tussocky grassland with scrub that lies within the SAC. This is a nice buffer between the qualifying features of the SAC and areas with that are subject to high levels of recreation. The paths have open rides, which visitors tend to follow and as a result reducing levels of erosion to the majority of the grassland. There are signs that is extending into the area outside of the SAC. **(TN8)**

Area E: Chingford Plain (outside the SAC)

- There is a visitor centre and cafe at this location. At the moment there is a lack of signage and direction, resulting in low visitor numbers to the visitor centre. There is also lots of erosion around the picnic area and a number of desire lines due to a lack of clear paths. **(TN1)**
- Potential to create vistas/ use the area to focus recreation. **(TN2)**
- The car park is poorly laid out and it disconnected from the visitor centre and cafe at the top of the hill. There is the opportunity to reconfigure this car park so that is better utilised and more welcoming, provide better signage/direction and to improve the connectivity to facilities. **(TN3)**

- Nutrient enriched grassland. Used for events, dog walking and kite flying etc. As this area lies outside of the SAC, there is the opportunity to use this area as SANGs. **(TN4)**
- Cafe for the public. Unclear due to golf course signage. **(TN5)**
- A number of anthills in this area, which suggest that the grassland is relatively old. **(TN9)**

Leyton Flats Visitor Hotspot

Area K: Woodland Glades

- Woodland glades with areas of dense scrub and veteran oak trees that are of key importance to stag beetle. Opportunities to open up the woodland by removing scrub and creating open glades that can be improved to support edge habitats and acid grassland/heathland. **(TN1)**
- Snaresbrook car park: a small, well designed car park. Good signage and clear direction of travel for visitors. Given the number of dog walkers it is recommended that dog bins are provided. **(TN7)**
- Potential to improve entrance to the Leyton Flats and better direction/links to the Hornbeam trail. **(TN10)**

Area L: Woodland

- Area of woodland that is disconnected from the main area of Leyton Flats. Largely covered by woodland with high levels of scrub. Opportunity to clear the scrub and create paths/glades that visitors from the local area and hospital can use to access Leyton Flats. **(TN4)**

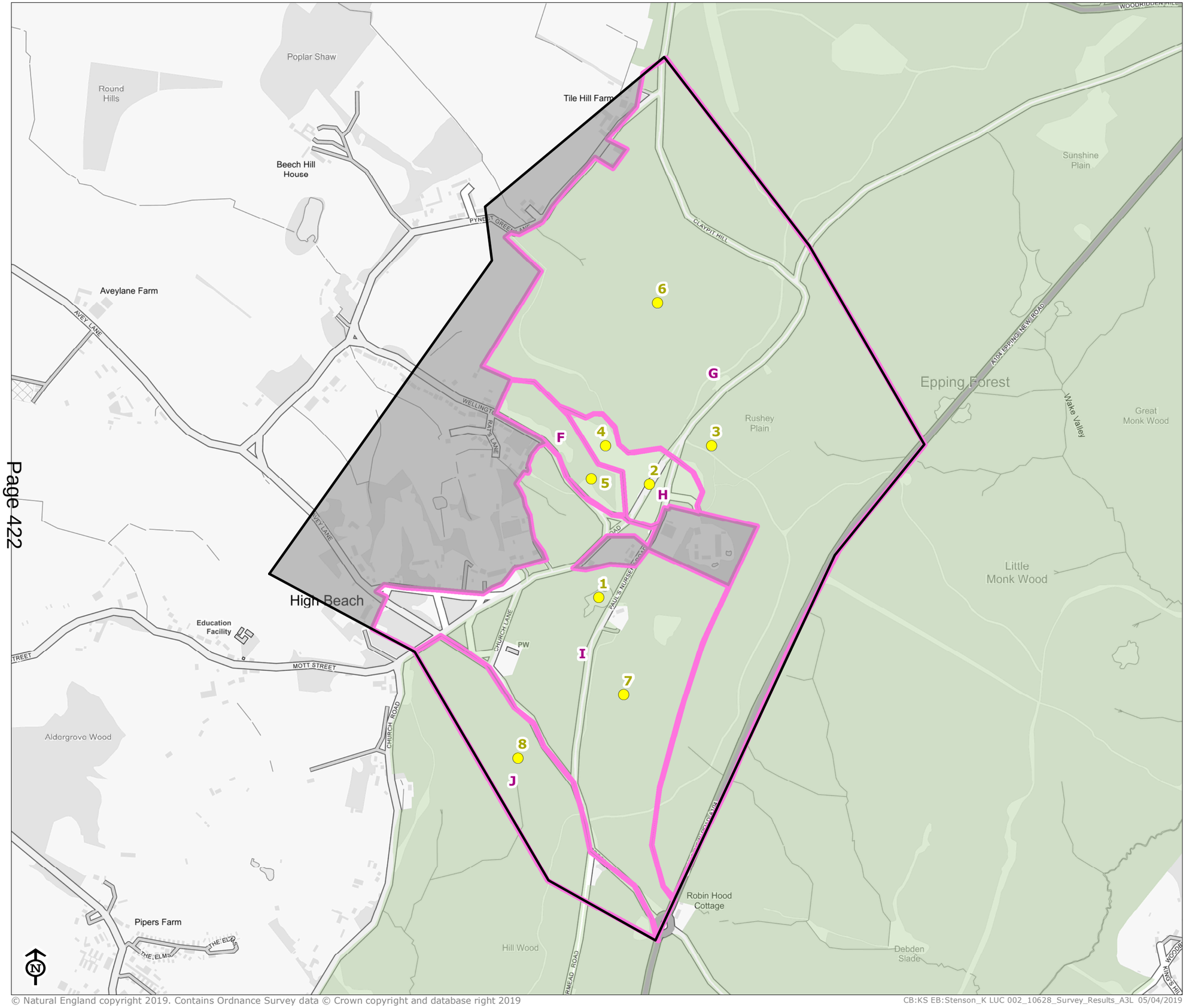
Area M: Hollow Pond

- This area primarily comprises of Hollow Pond with areas of woodland along the edges. These areas show high levels of erosion from heavy footfall throughout the year. There is opportunity to improve this by providing a more defined accessible footpath/sensory trail around the perimeter with access to designated viewpoints over the lake. **(TN2)**
- A very small car park that is not being used to the best of its potential. This car park lies outside of the SAC. **(TN5)**
- The car park partially lies within the SAC. Recommend that the car park is re-configured and potentially extended. There is also the opportunity to improve signage and provide better facilities for visitors. From an ecological perspective it would be recommended that the mature oaks in this area are retained. **(TN6)**

Area N: Acid Grassland

- An area of acid grassland/heathland with a belt of woodland in the east, a strip of neutral grassland in the south and encroaching scrub. Recommend more clear signage of trails through the site to reduce level of of footfall across the grassland, encourage visitors to remove waste, including dog poo and to manage the levels of scrub. **(TN3)**
- Different mix of more semi-neutral grassland species near to the car park and immediately adjacent to Whipps Cross Road. **(TN8)**
- Evidence of gorse clearance **(TN9)**

- Evidence of disturbance from clearance of scrub, including gorse. **(TN11)**
- Evidence of grassland being very worn in places. **(TN12)**



Epping Forest SAC

High Beach

- Site boundary
- Target note
- Area
- Epping Forest SAC

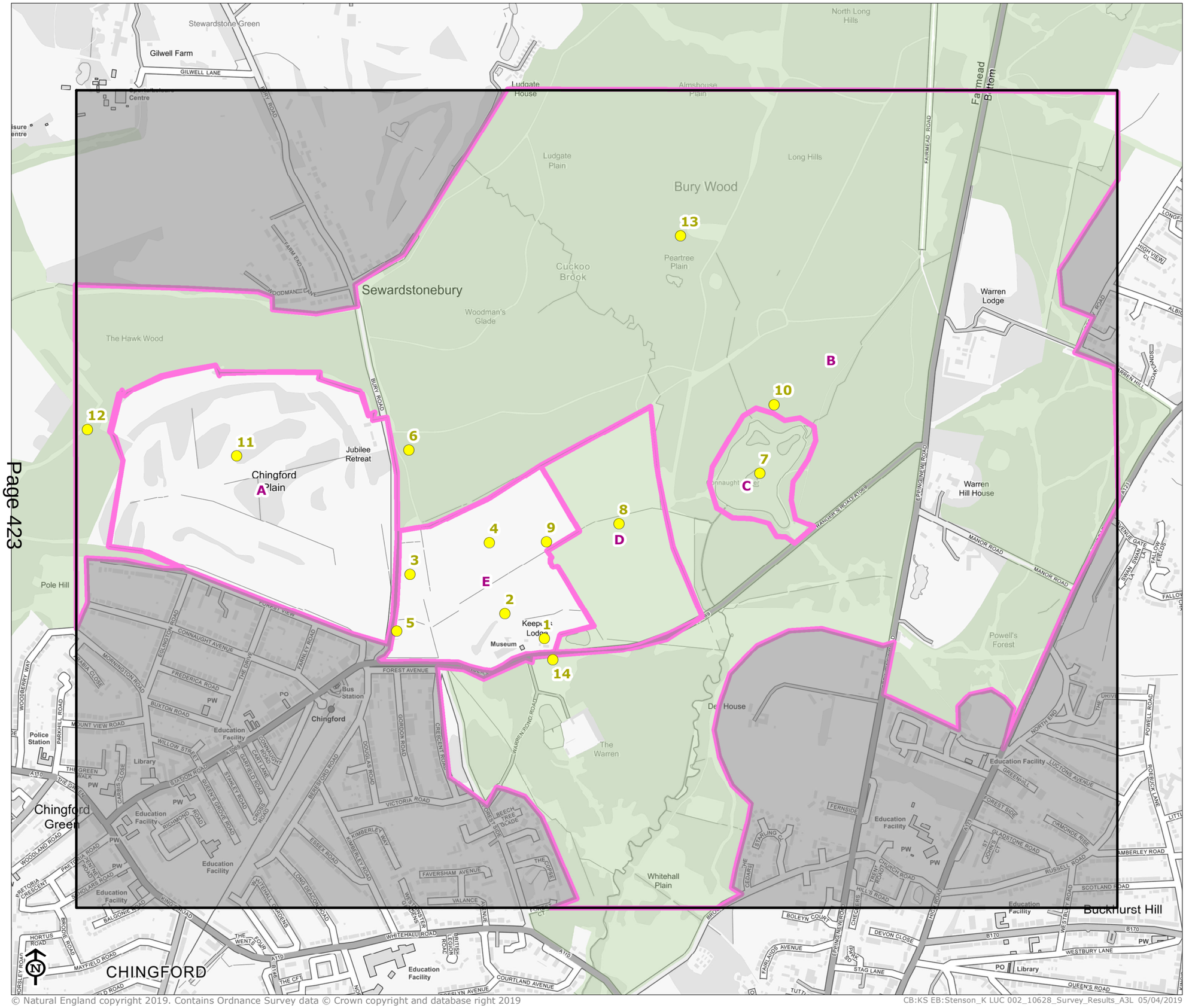
Map Scale @A3: 1:9,000

LUC

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CB:KS EB:Stenson_K LUC 002_10628_Survey_Results_A3L 05/04/2019

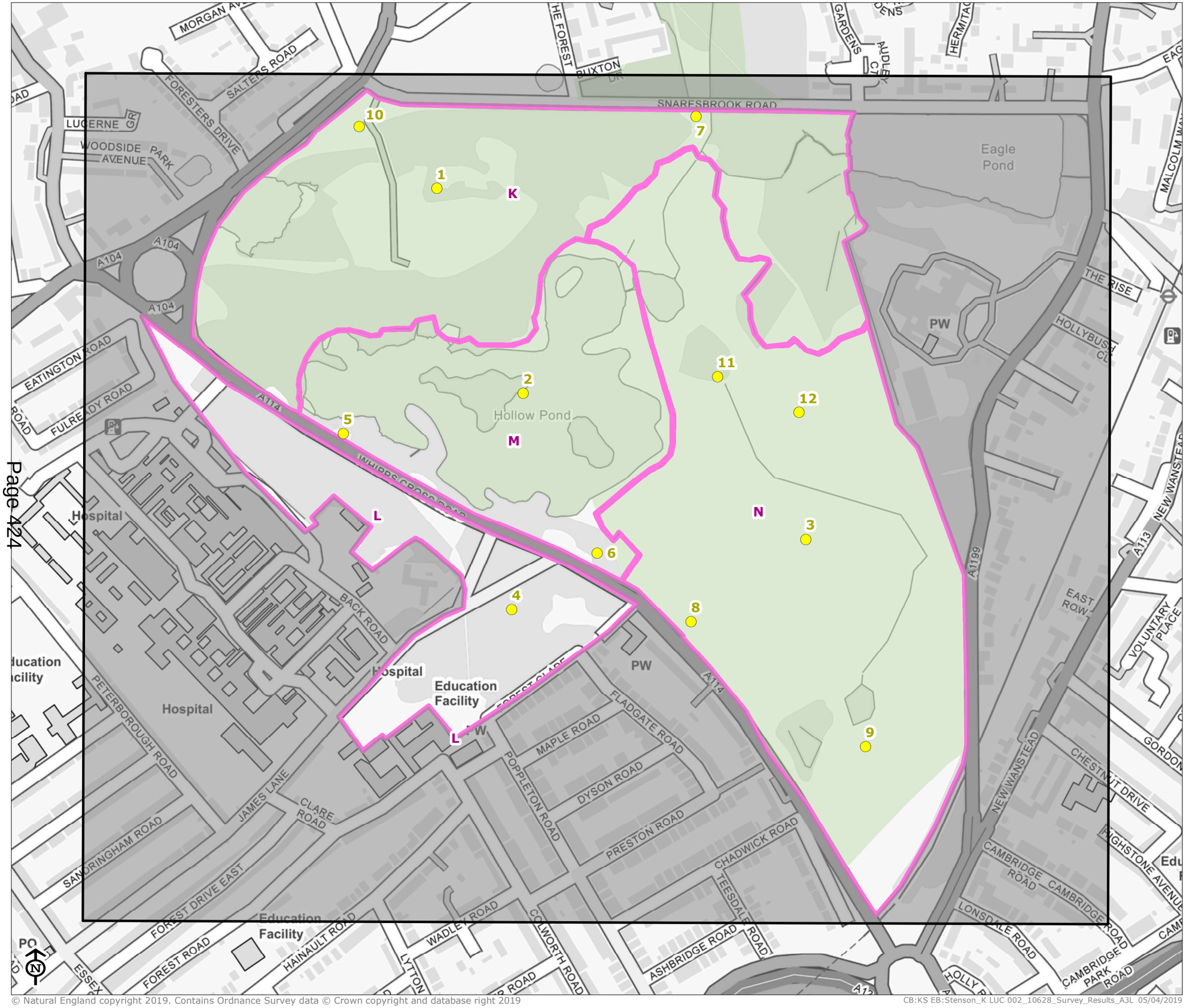
Source: City of London, Natural England



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CB:KS EB:Stenson_K LUC 002_10628_Survey_Results_A3L 05/04/2019

Source: City of London, Natural England



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CB:KS EB:Stenson_K LUC 002_10628_Survey_Results_A3L 05/04/2019

Source: City of London, Natural England

Appendix 3
Legislation governing the protection of the SAC

1.1 A Special Area of Conservation (SAC) is defined in the European Union's Habitats Directive (92/43/EEC), also known as the Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora. They are to protect the 220 habitats and approximately 1000 species listed in annex I and II of the directive which are considered to be of European interest following criteria given in the directive.

Requirements of the Habitat Regulations Assessment

1.2 In assessing the effects of a Project or Plan in accordance with Regulation 105 of the Conservation of Habitats and Species Regulations 2017, there are potentially two tests to be applied by the competent authority: a 'Significance Test', followed if necessary by an Appropriate Assessment which would inform the 'Integrity Test'. The relevant sequence of questions is as follows:

- Step 1: Under Reg. 105(1)(b), consider whether the plan is directly connected with or necessary to the management of the sites. If not, as is the case for the Greater Cambridge, proceed to Step 2.
- Step 2: Under Reg. 105(1)(a) consider whether the plan is likely to have a significant effect on a European site, either alone or in combination with other plans or projects (the 'Significance Test'). If yes, proceed to Step 3.
- Step 3: Under Reg. 105(1), make an Appropriate Assessment of the implications for the European site in view of its current conservation objectives (the 'Integrity Test'). In so doing, it is mandatory under Reg. 105(2) to consult Natural England, and optional under Reg. 105(3) to take the opinion of the general public.
- Step 4: In accordance with Reg. 105(4), but subject to Reg. 107, give effect to the land use plan only after having ascertained that the plan would not adversely affect the integrity of a European site.
- Step 5: Under Reg. 107, if Step 4 is unable to rule out adverse effects on the integrity of a European site and no alternative solutions exist then the competent authority may nevertheless agree to the plan or project if it must be carried out for 'imperative reasons of overriding public interest' (IROPI).

Stages of HRA

1.3 **Table 1.1** summarises the stages and associated tasks and outcomes typically involved in carrying out a full HRA, based on various guidance documents [1], [2],[3].

Table 1.1 Stages of HRA

Stage	Task	Outcome
Stage 1: HRA Screening	Description of the development plan. Identification of potentially affected European sites and factors contributing to their integrity. Review of other plans and projects. Assessment of likely significant effects of the development plan alone or in combination with other plans and projects.	Where effects are unlikely, prepare a 'finding of no significant effect report'. Where effects judged likely, or lack of information to prove otherwise, proceed to Stage 2.
Stage 2: Appropriate Assessment (where Stage 1 does not rule out likely significant effects)	Information gathering (development plan and European Sites). Impact prediction. Evaluation of development plan impacts in view of conservation objectives. Where impacts are considered to affect qualifying features, identify how these effects will be avoided or reduced.	Appropriate Assessment describing the plan, European site baseline conditions, the adverse effects of the plan on the European site, how these effects will be avoided or reduced, including the mechanisms and timescale for these mitigation measures. If effects remain after all alternatives and mitigation measures have been considered proceed to Stage 3.

[2] DCLG (2006) Planning for the Protection of European Sites: Appropriate Assessment
[3] RSPB (2007) The Appropriate Assessment of Spatial Plans in England. A guide to why, when and how to do it.

Stage	Task	Outcome
Stage 3: Assessment where no alternatives exist, and adverse impacts remain taking into account mitigation	Identify 'imperative reasons of overriding public interest' (IROPI). Demonstrate no alternatives exist. Identify potential compensatory measures.	This stage should be avoided if at all possible. The test of IROPI and the requirements for compensation are extremely onerous.

1.4 It is normally anticipated that an emphasis on Stages 1 and 2 of this process will, through a series of iterations, help ensure that potential adverse effects are identified and eliminated through the inclusion of mitigation measures designed to avoid, reduce or abate effects. The need to consider alternatives could imply more onerous changes to a plan document. It is generally understood that so called 'imperative reasons of overriding public interest' (IROPI) are likely to be justified only very occasionally and would involve engagement with both the Government and European Commission.

Recent case law changes

1.5 T*he People over Wind, Peter Sweetman v Coillte Teoranta* (April 2018) judgment ruled that Article 6(3) of the Habitats Directive should be interpreted as meaning that mitigation measures should be assessed as part of an Appropriate Assessment and should not be taken into account at the screening stage. The precise wording of the ruling is as follows:

"Article 6(3) ……must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of measures intended to avoid or reduce the harmful effects of the plan or project on that site."

1.6 In light of the above, HRA screening stage should not rely upon avoidance or mitigation measures to draw conclusions as to whether the Strategic Plan could result in likely significant effects on European sites, with any such measures being considered at the Appropriate Assessment stage as relevant.

1.7 HRA should also fully consider the recent *Holohan v An Bord Pleanala* (November 2018) judgement which stated that:

"Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that an 'appropriate assessment' must, on the one hand, catalogue the entirety of habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has not been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the conservation objectives of the site.

Article 6(3) of Directive 92/43 must be interpreted as meaning that the competent authority is permitted to grant to a plan or project consent which leaves the developer free to determine subsequently certain parameters relating to the construction phase, such as the location of the construction compound and haul routes, only if that authority is certain that the development consent granted establishes conditions that are strict enough to guarantee that those parameters will not adversely affect the integrity of the site.

Article 6(3) of Directive 92/43 must be interpreted as meaning that, where the competent authority rejects the findings in a scientific expert opinion recommending that additional information be obtained, the 'appropriate assessment' must include an explicit and detailed statement of reasons capable of dispelling all reasonable scientific doubt concerning the effects of the work envisaged on the site concerned."

1.8 This requires consideration of the potential for effects on species and habitats, including those not listed as qualifying features, to result in secondary effects upon the qualifying features of European sites, including the potential for complex interactions and dependencies. In addition, the potential for offsite impacts, such as through impacts to functionally linked land, and or species and habitats located beyond the boundaries of European site, but which may be important in supporting the ecological processes of the qualifying features, has also been fully considered in this HRA.

Key Considerations for Epping Forest Visitor Hubs

1.9 The Appropriate Assessment stage seeks to determine whether implementation of a plan or project, where Likely Significant Effects are predicted, will result in an adverse effect on the integrity of the whole European site in question. It also considers the potential for in-combination effects from development proposed in neighbouring authorities' Local Plans.

1.10 A European site's integrity depends on it being able to sustain its 'qualifying features' (i.e. those Annex 1 habitats, Annex II species, and/or Annex 1 bird populations for which it has been designated) and to ensure their continued viability. A high degree of integrity is considered to exist where the potential to meet a European site's conservation objectives is realised and where the European site is capable of self-repair and renewal with a minimum of external

management support. Appropriate Assessment therefore needs to focus on those impacts judged likely to have an effect on the qualifying features of European sites, or where insufficient certainty regarding this remained at the screening stage.

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Committee(s)	**Dated:**
Epping Forest and Commons	16112020
Subject: Land Exchange in relation to closure of part of Highway at Bell Common, Epping by Essex Highways (SEF 30/20)	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	**12.**
Does this proposal require extra revenue and/or capital spending?	**No**
If so, how much?	**N/A**
What is the source of Funding?	**N/A**
Has this Funding Source been agreed with the Chamberlain's Department?	**N**
Report of: Colin Buttery, Director of Open Spaces	**For Decision**
Report author: Tristan Vetta – Land Agent and Planning Officer – Epping Forest	

Summary

This report is necessary to consider an approach by Essex Highways, as the responsible authority for highways within the County of Essex, to assess whether the City of London Corporation would be willing to enter into a Section 72 agreement of the Highways Act 1980 to dedicate 14m² of Forest land for highway purposes, in exchange for an adjacent 197m² of land currently utilised for highway and not registered as part of the Forest.

Essex Highways is seeking the additional highway dedication to provide a 'turning circle' for refuse trucks and wishes to return land to stop an anti-social 'rat-run' on a very small road, as motorists attempt to avoid queues and the traffic lights at the Bell Common junction of High Road (B1393) and Theydon Road. As accepted in the May 2019 report to your Committee on the Honey Lane crossing any future transactions with the County Council should be subject to completion of the Manor Road, High Beach land exchange before further projects are considered.

Recommendation(s)

Members are asked to:

i. Accept the return and restoration of 197m² of highway land at Bell Common, effectively re-uniting two parcels of Forest Land.
ii. Approve the dedication of the returned Land as Epping Forest Land.
iii. Approve the entry into a Section 72 agreement with Essex Highways for the use of 14m² of Forest land, for the purpose of allowing the

manoeuvring of refuse vehicles subject to the return of 197m² highway land.

iv. Use the 'surplus' to the exchange of 183m² as the basis to reopen negotiations with the Highway Authority to enable the closure of the Lindsey Street annexe at Epping (North) Green.

v. Remind Essex County Council that these transactions are consequent upon the completion of the previously agreed land exchange, outstanding since September 2011, for the traffic safety scheme at Manor Road, High Beach.

vi. Instruct the Comptroller & City Solicitor to undertake such documentation as necessary.

Main Report

Background

1. The subject of this report is the section of highway that links from the High Road (B1393) and the road known as Bell Common. The 'Bell Common Annex' section of highway intended for return has been *in situ* from at least 1880 and prior to the construction of the housing in the late 19th / early 20th century. This link is being used by motorists to avoid the traffic lights at the junction of the High Road and Theydon Road. Essex Highways have described the use of the 'rat-run' as anti-social. The road known as Bell Common is not capable of supporting two-way traffic due to the narrow width of the highway accompanied by kerbside parking by residents.

2. Your Committee of the 20 November 2017 decided within the Epping Forest Land Retention Policy that any exchange of Forest land should be undertaken on a 10:1 ratio basis in favour of Forest Land. This was approach subsequently, amended by your Committee of the 14 January 2019 that due to wider strategic value of the schemes and the consequent risk of compulsory purchase that they should be assessed on a case-by-case basis. If the returned land was wholly dedicated to this scheme the exchange ratio would be in excess of 14(highway):1(Forest).

Current Position

3. Essex Highways have already been informed that the City Corporation could only consider an exchange if the 197m² of highway if the entirety of the tarmac surface is removed and reinstated as 'natural ground'. Essex Highways have confirmed that they will organise the stopping up order and extinguishing of highway rights upon the current highway prior to its transfer by freehold interest or by common law vesting to the City of London. Essex Highways will need to confirm this as part of the S.72 Agreement prior to any dedication of Forest Land.

4. Committee members has previously expressed a desire that future dedication schemes should form part of a wider strategic Highways programme for

Epping Town. This proposed exchange does not form part of any wider highway plans by Essex Highways, and is based on a recommendation by the local Epping Forest Highways Panel.

5. Previous proposals to consolidate Epping Forest land at Epping, particularly the Lindsey Street Annex at Epping (North) Green, have been frustrated by the lack of Highway Authority land available for exchange under the requirements of the land Retention Policy. The surplus land released by the Bell Common scheme could be exchanged for the land required for pedestrian public safety requirements.

Proposals

6. For 14m² of Forest Land to be dedicated to highway in exchange of 197m² of adjacent highway to be returned to Forest. This will probably require the removal of some small oak and birch trees and will also probably require the stopping up of the highway to be returned and its freehold transfer to the City.

Options

7. **Option 1:** Enter into a Section 72 agreement for the use of 14m² of Forest land in exchange for 197m² of highway to be returned to Forest land, within the immediate vicinity. This should be subject to an agreement that prior to the dedication of the Forest Land the 197m2 of highway must cease to be highway (by means of a stopping up order being obtained), the highway surface of the 197m² is removed and reinstatement to a specified standard, and the 197m2 is vested in the City as conservators of Epping Forest. **This option is recommended.**

8. **Option 2:** Enter into a Section 72 agreement for the use of 14m² of Forest land in exchange for 197m² of highway to be returned to Forest land, within the immediate vicinity. Do not insist on the stopping up or removal of the highway surface. The land would remain subject to all existing access rights and retain its highway status. **This option is not recommended.**

9. **Option 3:** Do not enter into an agreement with Essex Highways for the dedication of 14m² and do not accept the 197m² of existing highway in exchange. **This option is not recommended.**

Key Data

10. Exchange of 14m² of Forest Land for 197 m² of highway land. The surplus 183m² could be utilised to reopen negotiations with the Highway Authority to release a long-standing Committee and Town Council ambition to close the Lindsey Street Annex fronting the war memorial on Epping (North) Green.

Corporate & Strategic Implications

Strategic implications

11. The proposed action supports the Open Spaces Department's Vision by preserving and protecting our world class green spaces for the benefit of our local communities and future generations and improving our use of resources through increase income generation.

City of London Corporate Plan 2018-2023

12. 12(b): Our spaces are secure, resilient and well-maintained (Build resilience to natural and man-made threats by strengthening, protecting and adapting our infrastructure, directly and by influencing others.

Open Spaces Department Business Plan 2020-21

13. Part C. Business practices are responsible and sustainable: j) Maximise the value and opportunities of our built and natural assets, k) Deliver opportunities arising from improved management capability from the City of London Corporation (Open Spaces) Act 2018.

14. The scheme at Bell Common meets the ambition and requirements of the Epping Forest Transport Strategy and the Epping Forest Land Retention Policy.

Financial implications

15. Negotiations would look to place all costs with the requesting authority.

Resource implications

16. Local officer time will be required to negotiate terms.

17. City of London legal team will have to draw up agreement.

Legal implications

18. Section 33(1.)(iv.) of the Epping Forest Act 1878 provides the Conservators with the necessary powers '*to maintain and make roads, footpaths, and ways, and to dedicate roads to the public…'*. All other implications are contained in the report.

19. Section 33(xxvi) of the Epping Forest Act 1878 provides powers *'To acquire by voluntary grant or by agreement any land adjoining the Forest, or reputed to have been formerly part of the waste lands thereof, and the minerals thereunder, and the timber thereon, or any or either of the same lands, minerals, and timber separately'*. Section 10(1) of the City of London (Various Powers) Act 1956 further confirms that land acquired under Section 33(xxvi) '*shall be deemed to be and always to have been as from the date of acquisition or appropriation part of the open waste*

lands of Epping Forest and subject accordingly to the regulation and management of the conservators'.

20. Under section 72 (Widening Highway) of the Highways Act 1980 part 1: *A highway authority may widen any highway for which they are the highway authority and may for that purpose agree with a person having power in that behalf for the dedication of adjoining land as part of a highway.*

Risk implications

21. The increase in Forest Land and stopping of the 'rat-run' should be a positive approach to enhance Forest user access and enjoyment. However, the action will inevitably not be favourable to some members of the public. The stopping up process will involve public notice and opportunity for objection, and the evaluation of all relevant considerations will need to be carried out prior to any stopping up order being made.

Equalities implications

22. N/A

Climate implications

23. The action will lead to more queuing at the Bell Common/Theydon Road junction, which will result in more idling traffic in the District's only Air Quality Management Area (AQMA).

Security implications

24. Reduction in highway verge of Forest, which is most susceptible to fly-tipping.

Charity implications

25. Epping Forest is a registered charity (number 232990). Charity Law obliges Members to ensure that the decisions they take in relation to the Charity must be taken in the best interests of the Charity.

Conclusion

26. Essex Highway do not have an excess of available land to exchange for any highway dedications requested to the City of London, this scenario allows for the removal of a 'rat run', improved accessibility to Forest users and at net gain of 183m² of land to the Forest, that will not require additional funding.

Appendices

Appendix 1: Maps of Bell Common, provided by Essex Highways
Appendix 2: Pictures of location.

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Land Agent and Planning Officer
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CITY OF LONDON

Appendix: 1
Location map of Bell Common

Created By:
T. Vetta
Land Agent

Date Created
8 Oct 2020

0 12 25 50
Metres

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30
Bell Comm

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Committee(s)	**Dated: 16 November 2020**
Committee name – Epping Forest & Commons Committee	
Subject: This report provides a general update on issues across the nine sites within 'The Commons' division that may be of interest to members and is supplementary to the monthly email updates.	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly? **Contribute to a flourishing society** **Shape outstanding environments**	**1,2,3,4** **10,11,12**
Does this proposal require extra revenue and/or capital spending?	**N**
If so, how much?	**NA**
What is the source of Funding?	
Has this Funding Source been agreed with the Chamberlain's Department?	**NA**
Report of Colin Buttery, Director of Open Spaces Department	**For Information**
Report author: Andy Barnard, Superintendent of The Commons	

Summary

This report provides a general update on issues across the nine sites within 'The Commons' division that may be of interest to members and is supplementary to the monthly email updates.

Recommendations

Members are asked to note the contents of this report.

Main Report

Burnham Beeches and Stoke Common

1. Volunteer Group activity at Burnham Beeches and Stoke Common recommenced on Thursday 8 October for the weekly practical group and Tuesday 20 October for the Eco-volunteers. One weekend task has also been held. COVID precautions are in place and risk assessments carried out. Volunteers must book on to tasks in advance and are working in groups of no more than six (including a member of

staff). Tasks have had to be modified to enable social distancing and minimum contact between volunteers who must bring all their refreshments with them. PPE and essential equipment (such as clipboards for the Eco-volunteers) have been given out so that each volunteer has their own for use. A few individual volunteers have continued undertaking specific tasks such as livestock lookers, talking to members of the public about the livestock and carrying out ecological/hydrological survey work. Several volunteer litter pickers are also active to help staff with the huge extra amounts still being left.

2. Practical group tasks have focussed on clearing scrub on both Stoke Common and Burnham Beeches. The Eco-volunteers have been plotting the distribution of wood ant nests.

3. Visitor numbers have remained high despite the schools returning. The autumn colours are usually the peak season for visitor numbers and this year is proving to be no exception with car parks filling quickly at weekends and numbers higher than previous years.

4. The cafe at Burnham Beeches has remained as a 'takeaway kiosk service' since reopening on the 3 June although there are a few tables and chairs. It remains popular.

5. The six-week public consultation regarding the Public Spaces Protection Orders (PSPO) was completed with relatively few comments and supportive of extending the existing orders for a further three years. Work has been carried out to extend them.

6. The draft South Bucks District Council local plan has been withdrawn as a result of changes due to the county becoming unitary in May 2020. Despite this, the Burnham Beeches mitigation strategy Supplementary Planning Document continues to make progress and it has been accepted that this is required despite local plan being withdrawn. Public consultation on the mitigation strategy by Buckinghamshire Council (BC) has concluded. There were a large number of comments, some very lengthy. A report has been drawn up by officers proposing minimal changes to the document. Most of the comments related to issues that had already been resolved through the lengthy process of producing the strategy and associated documents. Once approved by BC members there will be a three-month period before adoption when it could be called in for judicial review.

7. Much of the infrastructure is now in place to enable car parking to be checked using automatic number plate recognition although this system is not live yet. Work is being done on new signage because of the changes. Negotiations are continuing with the local Highways Authority to put in place parking restrictions on

surrounding roads, something that is likely to become an increasing problem as visitor numbers increase over the autumn.

8. The Ranger team has still been working to a slightly modified pattern with staggered rotas but is closer to normal working now. Other staff continue to mix working from home with working in the office to ensure maximum efficiency while reducing risk. The office has become increasingly busy so ensuring support staff are in each day has now become essential. Social distancing measures and procedures for deliveries and contractors are becoming a normal method of working as the numbers continue to build.

9. The temporary Assistant Ranger has been able to input over 7,000 biological records onto the database over the two months spent helping the Conservation Officer, a great help in trying to get through the 10-year backlog of data.

10. The grazier's cattle are now off Stoke Common for the winter, but the ponies have grazed the North Common before coming back to Burnham Beeches after regular foot trimming. Half of the cows remained within the main grazing area at Burnham Beeches until the middle of October while the other cattle grazed a range of local community area and nature reserves. TB testing of the cattle has been carried out.

11. Habitat management included scrub control with a 'cut and collect' on heathland areas on Stoke Common with the cuttings removed to help reduce nutrient levels. In Burnham Beeches, the annual cut has been carried out on a variety of small grass and scrub areas. Roadside scrub has also been cut on both sites and an area alongside some houses on Stoke Common, which has been welcomed by the residents.

12. Preparations have started for the winter old pollard work. Clearance around the trees has started and arrangements made for the hire of equipment to carry out the winter work.

13. Contractors were used to clear trees and scrub from the final area on Stoke Common funded by the Countryside Stewardship grant. This was centred on a small quarry area and the clearance has helped to improve the conservation of this as well as improving the biodiversity.

14. The Rangers refurbished the cattle corral area at Stoke Common, which had been vandalised.

15. Although no Ranger led events have been held, planning is underway for a reduced and simplified events programme for next year.

16. Visitor ‘welcome’ signage is in the process of being reviewed and upgraded. These are the signs in the car parks that present general information essential for visitors.

17. A further tree has been found with the rare oak polypore fungus on it, in the same area as previous finds in Burnham Beeches. Butterfly transects have been carried out on both sites throughout the season by a local volunteer.

The Commons Car park infrastructure project

18. The infrastructure needed for the ANPR and payment machines has been completed at Riddlesdown and Farthing Downs. The physical machines and cameras have not been installed yet.

19. Charge tariff options for all locations have been consulted on through local consultation groups in August and September and brought to the November 2020 meeting of this Committee.

20. FAQs have been produced and distributed within the Coulsdon Commons team.

PARTNERSHIPS
Kenley Revival update

21. Hard surface pads have been installed around the 23 new interpretative signs. The signage supplier has agreed to attend site to deal with some minor defects.

22. Efforts to resolve the defects affecting the conservation work continue. The City’s legal advisors, Beale & Co, recently reported on the position regarding the legal route to establish liability. The Conservation Contractor, PAYE, has visited site to advice on a technical resolution to the thaumasite issue. Their report is expected during the week beginning November 9.

The West Wickham and Coulsdon Commons

23. Volunteer activities on the West Wickham and Coulsdon Commons recommenced under new guidelines. Volunteers must book on to tasks in advance and are working in groups of no more than six (including a member of staff). Tasks are staggered across each month with one task per month for each site. Tasks have had to be modified to enable social distancing and minimum contact between volunteers who must bring all their refreshments with them. PPE and essential equipment have been given out so that each volunteer has their own for use. Individual volunteers have been checking livestock throughout the week alone, which has helped support, the duties of the Ranger team. Volunteer tasks have so far been on Riddlesdown and West Wickham Common.

24. Contractors have started to replace the fence line along the A22/Godstone Road boundary of Famet, Riddlesdown. The new roadside fence will be slightly taller and studier to continue to hold cattle.

25. The Lord Mayor visited Kenley Common on the 21 September 2020 and toured the airfield, led by the Kenley Revival Project.

26. The earth banks at the Riddlesdown car park have been planted with plug plants and chalk grassland seed provided by Butterfly Conservation and London Wildlife Trust as part of the local Brilliant Butterflies project funded by HLF. The mix of 11 different species were carefully selected to support invertebrates.

27. As part of the same initiative, the meadow at Spring Park was sown with a local wildflower mix to increase the diversity of wildflowers.

28. The Rangers have started tasks on the winter work programme. These have largely included scrub clearance, tree safety and woodland thinning work.

29. A section of roadside scrub on Coulsdon Common has been cleared by contractors to increase visibility on a blind bend on Stites Hill Road.

30. Visual tree hazard surveys have been carried out on medium and high-risk routes across all sites. Several ash trees afflicted by ash dieback have been flagged up as hazardous and to be felled.

31. Contractors have finished clearing trees affected by ash dieback on New Hill. Extensive blocks of affected ash were proactively removed as part of a plan to curb tree failures in areas adjacent to houses on our urban boundary and near high-use footpaths.

32. Volunteers from the Downlands Partnership cleared an area of scrub in woodland on Coulsdon Common and removed hawthorn saplings on Hilltop at Kenley Common. All this management work was done through a grant awarded to the group.

33. The South London Downs NNR partners met on Riddlesdown to film a short video as part of a national launch for Natural England’s Nature Recovery Network featuring the NNR as one of their case sites.

34. Rangers and a volunteer mycologist on West Wickham Common, Kenley Common and Coulsdon Common have carried out fungi surveys. An additional survey has been planned on Farthing Downs for mid-November.

35. A dead peregrine falcon was found on Farthing Downs with no visible injuries. The bird has been sent to the Predatory Bird Monitoring Scheme for further analysis.

36. The calves on Farthing Downs have been weaned from the cows and moved to Kenley Common. Livestock have been treated, wormed and given new reflective leg bands so drivers can see the animals on the road at night. The barn at Merlewood is being prepared for receiving livestock from December.

37. A research project being led by a student from Hadlow College, is examining grazing patterns of cattle using GPS collar technology supplied through a student research grant. A small herd of the Sussex cattle are trialling this on Riddlesdown.

38. The consultation for the combined Spring Park and West Wickham Common 2021-2031 management plan is being conducted using an online Survey Monkey questionnaire. Initial responses to the questions about the proposed plan have been positive.

39. The updated Farthing Downs and Happy Valley Nature Trail is now live featuring audio narrated by well-known personalities including Joanna Lumley, Tony Robinson and Noddy Holder. The Friends of Farthing Downs secured some funding from the City of London Corporation central grants programme. The grant also covered the replacement of the wooden trail markers across the downs and on Happy Valley.

Ashtead Common

40. Public consultation on the 2021-2031 Management Plan was conducted using a Survey Monkey questionnaire during August and September. The Ashtead Common Consultative Group considered the 446 responses received when they met on October 15. Feedback was positive, with between 75% to over 90% of respondents agreeing with the new plan's proposals depending on the topic.

41. Volunteers returned on Thursday, 22 October under modified arrangements due to Covid-19. Once a week, two groups of five volunteers work separately (but in the same general vicinity) with a member of staff overseeing both assisted by a volunteer leader. In this way, each of the 40 volunteers can be offered the opportunity to participate once a month. Volunteers now bring their own refreshments a go directly to the worksite, where a socially distanced project has been set up with individual (sanitised) tools.

42. All staff are now generally working from the office unless engaged in tasks suitable for home working.

43. Contract work to manage trees and scrub is progressing as normal.

Support Services Team (SST)

44. The SST continue to work a combined rota in the office and at home to maximise social distancing and minimise general Covid-19 related risks.

45. All team members are progressing with the winter works programme, assisting contractors catch up with the lag from the previous lockdown and planning for the New Year.

46. the Administrative Officer for Merlewood and Ashtead Estate Offices will be leaving US the end of this month but wish them well in their new position.

Incidents

Burnham Beeches & Stoke Common

47. There were eight incidents in the period 8 September to 20 October. Most were small-scale vandalism and fly tipping events, but several were for fungi picking on both nature reserves, which is particularly wide spread this year. There were also two dog attacks on other dogs and a car break in.

48. One incident has been reported to RIDDOR i.e. an adult and child knocked/kicked over by one of the cows. Although several people were in the area the incident happened in a patch of scrub, so no one had a clear view. It seems that the adult was trying to get very close to the cows in order to take a picture of the child. Both were taken to hospital and discharged later the same day.

Ashtead Common

49. A minor sewerage leak occurred on October 11 affecting footpath 28. The leak was stopped on the day and rectified by 13 October.

50. A group of campers were moved on with no issues on 18 October.

51. A Ranger responded to a report of quad bikes on the common on 25 October.

The West Wickham and Coulsdon Commons

52. There were 12 incidents covering the period of 19 August to 3 November. Four were related to livestock including dogs chasing cattle and members of the public reporting a suspected aborted calf and a cow that had to be put down due to a broken leg.

53. Two groups of people launching fireworks from the cattle grids on Farthing Downs were moved on.

54. A car crashed into the boundary fence of Kenley Common from Hayes Lane causing damage to the concrete posts. A new post has been added to secure the fence.

55. A tree fell from Kenley Common onto a residential garden fence. After Rangers cleared it, the homeowner was put in contact with the City's insurer.

56. Other incidents included Rangers assisting paramedics to allow access to an injured person near to the Fox public house on Coulsdon Common, an injury to the member of the public after tripping on an anthill, one incident of fly tipping and the repeated theft of the time boards from the Farthing Downs car park.

Filming, major events and other activities

Burnham Beeches

57. A small number of licences have been issued for small-scale COVID safe activities including a Nordic walking and school groups.

58. Filming has included several days for a new ITV drama (Angela Black) and one for the National Film and Television School. The RSPB have filmed some general autumn shots for their stock library.

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Committee(s)	**Dated: 16/11/2020**
Committee name Epping Forest and Commons Committee	
Subject: Approval to authorise external agents to support enforcement of Public Spaces Protection Orders at Burnham Beeches	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	**11**
Does this proposal require extra revenue and/or capital spending?	**No**
If so, how much?	**N/A**
What is the source of Funding?	
Has this Funding Source been agreed with the Chamberlain's Department?	**Y**
Report of: Director of Open Spaces	**For Decision**
Report author: Superintendent of The Commons	

Summary

1. In July 2020, your Committee approved the extension of Public Spaces Protection Orders (PSPOs) at Burnham Beeches for a further three year commencing December 1st 2020.

2. In that report members delegated authority to the Director of Open Spaces so that he may authorise officers at Burnham Beeches to issue Fixed Penalty Notices (FPN's) to enforce the PSPOs.

3. Given the increased number of visitors to Burnham Beeches and uncertainty of staff levels during the current Covid–19 pandemic, the Superintendent has identified the need to provide additional support to the Rangers' team to maintain the fair and consistent enforcement of PSPOs and issuing of FPN's, during the Covid-19 pandemic.

4. This report seeks your Committees' approval to delegate authority to the Director of Open Spaces so that he may authorise additional and external support to issue FPN's on behalf of the City of London according to the Enforcement Protocol (EP) and Dog Management Strategy (DMS) operating at Burnham Beeches.

5. The City Solicitor indicates in paragraph 19 that employees of an external agency may issue FPNs at Burnham Beeches for Order 1, 2, 4 and s. However, Order 3 'Dogs on lead by Direction', specifically defines 'an authorised officer of the Authority' as being and employee of the Authority. The other Orders do not contain that specific limitation. Therefore, Order 3 is excluded from this report's recommendation.

Recommendation(s)

Members are asked to:

6. Delegate authority to the Director of Open Spaces so that he may enter into contractual arrangements with an external agency and authorise (named) employees of that agency to work in partnership with the Burnham Beeches Team to issue FPNs for orders 1, 2, 4 and 5 on behalf of the City of London Corporation, according to the site based EP and DMS.

Main Report

Background

7. Under section 67 of the Anti-social Behaviour, Crime and Policing Act 2014 it is an offence for a person without reasonable excuse to do anything that they are prohibited from doing by a PSPO, or to fail to comply with a requirement to which they are subject under a PSPO. A person guilty of an offence is liable on summary conviction to a fine not exceeding level three on the standard scale (£1,000). Under section 68, a constable or authorised person may issue a fixed penalty notice to anyone that they have reason to believe has committed an offence, offering that person the opportunity to discharge any liability to conviction by payment of a fixed penalty.

8. In July 2020, your Committee approved the extension of the PSPOs at Burnham Beeches for a further three years commencing December 1st 2020. The Director of Open Spaces was also granted delegated authority to appoint Officers at Burnham Beeches so that they may issue FPN's in relation to PSPOs.

Current Position

9. Subsequent to the July 2020 approval, it has become apparent that the greatly increased number of people visiting Burnham Beeches since the onset of the Covid - 19 pandemic, is likely to continue for the foreseeable future. Further, many of these visitors are unfamiliar with the site and its PSPOs so the 'education and enforcement' role of the rangers will be of paramount importance.

10. The continuing pandemic carries with it the possibility that the number of Rangers available to patrol the site and enforce PSPOs will fluctuate due to the need to self-isolate or possible illness. Subsequently the management of PSPOs would become less effective and dog related anti-social behaviour may increase.

11. The City of London Corporation is currently using an external agent to administer Parking Charge Notices (PCNs) at Burnham Beeches. During the Covid – 19 pandemic, the contractor has recently provided additional 'on site' support to the Rangers' team by patrolling the car parks and issuing PCNs. The external service provided over that period has been guided by the local Parking Enforcement Protocol and has provided a reliable service and good value for money. Members should note that unlike FPNs, Officers are not required to be formally authorised to issue PCNs.

12. Based on this recent experience your Superintendent is satisfied that an external agency can also provide suitably trained staff to deliver an integrated and reliable service for the daily the management of dog related anti-social behaviour including the issuing of FPNs. The DMS and EP would ensure that

the ‘educate, warn, and only issue an FPN as a last resort’ will be followed by the external agency. Agency staff will not be incentivised in any manner to issue FPN’s.

Proposals

13. This report seeks your Committees’ approval to delegate authority to the Director of Open Spaces to appoint an external agency so that they may issue Fixed Penalty Notices for PSPOs 1, 2, 4 and 5 according to the Enforcement Protocol and DMS operating at Burnham Beeches.

14. Although the C-19 pandemic introduces some uncertainty as to the amount of activity required of the external agent it is intended that the additional service be highly flexible and focussed on periods when number of local Officers is unavoidably at a minimum. This approach will also minimise the associated costs.

Options

Option 1. Approve delegated authority to the Director of Open Spaces to appoint an external agency to support the work of the local Rangers in the enforcement of PSPOs and issuing of FPNs. This will ensure adequate enforcement at all times during a period of exceptionally high visitor numbers and unavoidable uncertainty over staff availability. **This is the recommended option** although Members should note the City Solicitor’s comments in paragraph nineteen that sets limitations to this recommendation.

Or

Option 2. Do nothing. This option carries a risk that too few Rangers are available to monitor and manage antisocial dog behaviour. Management of dog-related antisocial behaviour would become less effective/consistent over an extended period resulting in the re-establishment of unacceptable behaviours.

Corporate & Strategic Implications

15. **Strategic implications.** This proposal supports the City’s aim to *Shape outstanding environments* and helps to deliver Outcome 12 i.e. *Our spaces are secure, resilient and well maintained.*

16. **Financial implications.** The external agent will only be required to operate on the site during periods of reduced Ranger availability to minimise the impact on Local Risk budgets. It is anticipated that Option 1 will cost approximately £4,000 per annum, potentially less, with all costs being met from Local Risk budgets

17. **Resource implications.** The proposal will support existing staff resources until there is greater certainty as to their long-term availability to enforce PSPOs.

18. **Legal implications.** Section 68 of the Antisocial Behaviour, Crime and Policing Act 2014, enables the City Corporation to authorise external agents to issue FPNs on its behalf. An ‘Authorised person’ means a person authorised for the purposes of that section by the local authority (or other designated body) that made the Order.

19. Members should note that whilst appropriately authorised employees of an external agency may issue FPNs on behalf of the City Corporation for Orders 1,2,4 and 5 at Burnham Beeches this is not the case for Order 3 'Dogs on lead by Direction' as that Order specifically defines 'an authorised officer of the authority' as being and employee of the Authority. The remaining Orders do not have this restriction therefore Order 3 is excluded from this report's recommendation.

20. **Risk implications.** See Option 2 above. Visitors will be informed that an external agency is occasionally assisting the Rangers via social media, site signage, web site and newsletter.

21. **Equalities implications.** A test of relevance has been carried out – **Appendix 1.**

22. **Climate change implications.** N/A

23. **Security implications.** Visitors will continue to benefit from reduced levels of anti-social behaviour established by the introduction of PSPOs (previously Dog Control Orders) in 2014.

Conclusion.

24. Approval of the recommendation in this report would be of great benefit to staff and visitors at Burnham Beeches, helping to maintain the current good level of dog behaviour on the site.

25. The financial implications are thought to be necessary, affordable and time limited.

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Appendices.

Appendix 1. Test of relevance

Background Reports - Extension of existing PSPOs at Burnham Beeches. Epping Forest and Commons Committee – 6th July 2020.

TEST OF RELEVANCE: EQUALITY ANALYSIS (EA)

The screening process of using the Test of Relevance template aims to assist in determining whether a full Equality Analysis (EA) is required. The EA template and guidance plus information on the Equality Act and the Public Sector Equality Duty (PSED) can be found on Colnet at: http://colnet/Departments/Pages/News/Equality-and-Diversity.aspx

Introduction

The Public Sector Equality Duty (PSED) is set out in the Equality Act 2010 (s.149). This requires public authorities, in the exercise of their functions, to have 'due regard' to the need to:

- Eliminate discrimination, harassment and victimisation
- Advance equality of opportunity between people who share a protected characteristic and those who do not, and
- Foster good relations between people who share a protected characteristic and those who do not

The characteristics protected by the Equality Act 2010 are:

- Age
- Disability
- Gender reassignment
- Marriage and civil partnership.
- Pregnancy and maternity
- Race
- Religion or belief
- Sex (gender)
- Sexual orientation

What is due regard?	How to demonstrate compliance
• It involves considering the aims of the duty in a way that is proportionate to the issue at hand • Ensuring that real consideration is given to the aims and the impact of policies with rigour and with an open mind in such a way that it influences the final decision • Due regard should be given before and during policy formation and when a decision is taken including cross cutting ones as the impact can be cumulative. The general equality duty does not specify how public authorities should analyse the effect of their business activities on different groups of people. However, case law has established that equality analysis is an important way public authorities can demonstrate that they are meeting the requirements. Even in cases where it is considered that there are no implications of proposed policy and decision making on the PSED it is good practice to record the reasons why and to include these in reports to committees where decisions are being taken. It is also good practice to consider the duty in relation to current policies, services and procedures, even if there is no plan to change them.	Case law has established the following principles apply to the PSED: • **Knowledge** – the need to be aware of the requirements of the Equality Duty with a conscious approach and state of mind. • **Sufficient Information** – must be made available to the decision maker • **Timeliness** – the Duty must be complied with before and at the time that a particular policy is under consideration or decision is taken not after it has been taken. • **Real consideration** – consideration must form an integral part of the decision-making process. It is not a matter of box-ticking; it must be exercised in substance, with rigour and with an open mind in such a way that it influences the final decision. • **Sufficient information** – the decision maker must consider what information he or she has and what further information may be needed in order to give proper consideration to the Equality Duty • **No delegation** - public bodies are responsible for ensuring that any third parties which exercise functions on their behalf are capable of complying with the Equality Duty, are required to comply with it, and that they do so in practice. It is a duty that cannot be delegated. • **Review** – the duty is continuing applying when a policy is developed and decided upon, but also when it is implemented and reviewed.

However there is no requirement to:

- Produce equality analysis or an equality impact assessment
- Indiscriminately collect diversity date where equalities issues are not significant
- Publish lengthy documents to show compliance
- Treat everyone the same. Rather, it requires public bodies to think about people's different needs and how these can be met
- Make services homogeneous or to try to remove or ignore differences between people.

The key points about demonstrating compliance with the duty are to:

- Collate sufficient evidence to determine whether changes being considered will have a potential impact on different groups
- Ensure decision makers are aware of the analysis that has been undertaken and what conclusions have been reached on the possible implications
- Keep adequate records of the full decision making process

Test of Relevance screening

The Test of Relevance screening is a short exercise that involves looking at the overall proposal and deciding if it is relevant to the PSED.

Note: If the proposal is of a significant nature and it is apparent from the outset that a full equality analysis will be required, then it is not necessary to complete the Test of Relevance screening template and the full equality analysis and be completed.

The questions in the Test of Relevance Screening Template to help decide if the proposal is equality relevant and whether a detailed equality analysis is required. The key question is whether the proposal is likely to be relevant to any of the protected characteristics.

Quite often, the answer may not be so obvious and service-user or provider information will need to be considered to make a preliminary judgment. For example, in considering licensing arrangements, the location of the premises in question and the demographics of the area could affect whether section 149 considerations come into play.

There is no one size fits all approach but the screening process is designed to help fully consider the circumstances.

What to do

In general, the following questions all feed into whether an equality analysis is required:

- How many people is the proposal likely to affect?
- How significant is its impact?
- Does it relate to an area where there are known inequalities?

At this initial screening stage, the point is to try to assess obvious negative or positive impact.

If a negative/adverse impact has been identified (actual or potential) during completion of the screening tool, a full equality analysis must be undertaken.

If no negative / adverse impacts arising from the proposal it is not necessary to undertake a full equality analysis.

On completion of the Test of Relevance screening, officers should:

- Ensure they have fully completed and the Director has signed off the Test of Relevance Screening Template.
- Store the screening template safely so that it can be retrieved if for example, Members request to see it, or there is a freedom of information request or there is a legal challenge.
- If the outcome of the Test of Relevance Screening identifies no or minimal impact refer to it in the Implications section of the report and include reference to it in Background Papers when reporting to Committee or other decision making process.

1.	**Proposal / Project Title: Use of external contractor to enforce PSPOS/issue Fixed Penalty Notices at Burnham Beeches**				
2.	**Brief summary (include main aims, proposed outcomes, recommendations / decisions sought): To support the Burnham Beeches Rangers during the pandemic period to monitr and enforce PSPOs at Burnham beeches to maintain reductions in dog related anti-social behaviour**				
3.	**Considering the equality aims (eliminate unlawful discrimination; advance equality of opportunity; foster good relations), indicate for each protected group whether there may be a positive impact, negative (adverse) impact or no impact arising from the proposal:**				
	Protected Characteristic (Equality Group) ☒	**Positive Impact**	**Negative Impact**	**No Impact**	**Briefly explain your answer. Consider evidence, data and any consultation.**
	Age	☐	☐	☒	All age groups impacted equally.
	Disability	☐	☐	☒	Dog Management Strategy allows exemptions for assistance dogs
	Gender Reassignment	☐	☐	☒	N/A
	Marriage and Civil Partnership	☐	☐	☒	N/A
	Pregnancy and Maternity	☐	☐	☒	N/A
	Race	☐	☐	☒	N/A
	Religion or Belief	☐	☐	☒	N/A
	Sex (i.e gender)	☐	☐	☒	N/A
	Sexual Orientation	☐	☐	☒	N/A
4.	**There are no negative/adverse impact(s)** Please briefly explain and provide evidence to support this decision:	PSPOs have been in operation at Burnham Beeches for approximately 7 years. There is an approved enforcement protocol in operation.			
5.	**Are there positive impacts of the proposal on any equality groups?** Please briefly explain how these are in line with the equality aims:	Visitors to the site will continue to benefit from reduced levels of dog-related anti-social behaviour established since the introduction PSPOs.			
6.	**As a result of this screening, is a full EA necessary? (Please check appropriate box using ☐)**	**Yes**	**No**	**Briefly explain your answer:**	
		☐	☒		

7. Name of Lead Officer:	**Job title: Andy Barnard**	**Date of completion:** 08 October 2020

Signed off by Department Director :		**Name:**		**Date:**	

Committee(s)	**Dated: 16/11/2020**
Committee name **Committee name**	**Epping Forest and Commons Committee**
Subject: Proposed car park tariffs –Burnham Beeches, Riddlesdown and Farthing Downs	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	**9, 11,12**
Does this proposal require extra revenue and/or capital spending?	**No**
If so, how much?	**£0**
What is the source of Funding?	**N/A**
Has this Funding Source been agreed with the Chamberlain's Department?	**N/A**
Report of: Director of Open Spaces	**For Decision**
Report author: Superintendent of The Commons	

Summary

Members were updated of progress concerning the introduction of new car park payment infrastructure at Burnham Beeches, Farthing Downs and Riddlesdown in a report to this committee of January 2020. The installation of new infrastructure is nearing completion and the parking tariffs for users of these car parks now need to be approved.

Recommendation(s)

Members are asked to:

1. Agree Option 1 for each car park as set out in paragraph 8 of this report.

Main Report

Background

2. The January 2020 report to this committee outlined the project to install new car park payment infrastructure in the existing car parks at Burnham Beeches, Riddlesdown and Farthing Downs. In that report, I estimated that the project would be complete and activated in September 2020.

Current Position

3. The Covid-19 Pandemic has delayed the original timetable by approximately 3 months. It is now anticipated that the installation of infrastructure i.e. Automatic Number Plate Recognition cameras (ANPR), cashless pay stations, signage etc., will be completed by mid-November 2020 with an activation date ranging between that date and 1st January 2021 dependant on final testing of the new hardware and payment software at each location. Attention can now turn to the tariff charged to users of these car parks.

4. Officers have assessed the detailed traffic flow data at these car parks and carried out benchmarking against car park tariffs at other local open spaces.

Proposals

5. The three tariff options shown in paragraph 8 have been presented to the Burnham Beeches and Stoke Common, and West Wickham Commons and Spring Park Consultative Groups.

6. It is proposed that the same tariff is applied across the Division to ensure consistency.

7. The options cover a range of 'reasonable charges' set against local benchmarks (Appendix 1), for the use of each site's car park. Each car park will be a vital source of income to Local Risk budgets and help support the environmental and recreational services at a time of increasing financial pressure and uncertainty.

Options

8. Of the options shown in both tables below **Option 1** is the recommended tariff for all sites.

Riddlesdown and Farthing Downs

FD/RD Option 1		Charge	Vehicles/annum	Income net VAT	Transaction costs
Weekends and B/H	All day charge	£3.00	18,236	£45,590	
	<2 hrs 2/3	£1.50	18,237	£22,796	
Weekday	Over 2 hrs 1/3	£3.00	9,118	£22,795	
			sub total	£91,181	-£6,474
			Total net income	**£84,707**	

FD/RD Option 2		Charge	Vehicles/annum	Income net VAT	Transaction costs
Weekends and B/H	All daycharge	£3.00	18,236	£45,590	
	<2 hrs 2/3	£1.25	18,237	£18,997	
Weekday	Over 2 hrs 1/3	£3.00	9,118	£22,795	
			sub total	£87,382	-£6,474
			Total net income	**£80,908**	

FD/RD Option 3		Charge	Vehicles/annum	Income net VAT	Transaction costs
Weekends and B/H	All day	£3.00	18,236	£45,590	
	<2 hrs 2/3	£1.00	18,237	£15,197	
Weekday	Over 2 hrs 1/3	£3.00	9,118	£22,795	
			sub total	£83,582	-£6,474
			Total net income	**£77,108**	

Burnham Beeches

BB Option 1		Charge	Vehicles/annum	Income net VAT	Transaction costs
Weekends and B/H	Day charge	**£3.00**	23,000	£57,500	
	Up to 2 hrs (2/3)	**£1.50**	33,333	£41,666	
Weekday	Over 2 hrs (1/3)	**£3.00**	16,667	£41,668	
			Sub total	£140,834	-£10,366
			Total net income	**£130,468**	

BB Option 2		Charge	Vehicles/annum	Income net VAT	Transaction costs
Weekends and B/H	Day charge	**£3.00**	23,000	£57,500	
	Up to 2 hrs (2/3)	**£1.25**	33,333	£34,722	
Weekday	Over 2 hrs (1/3)	**£3.00**	16,667	£41,668	
			Sub total	£133,890	-£10,366
			Total net income	**£123,524**	

BB Option 3		Charge	Vehicles/annum	Income net VAT	Transaction costs
Weekends and B/H	Day charge	**£3.00**	23,000	£57,500	
	Up to 2 hrs (2/3)	**£1.00**	33,333	£27,778	
Weekday	Over 2 hrs (1/3)	**£3.00**	16,667	£41,668	
			sub total	£126,946	-£10,366
			Total net income	**£116,580**	

9. A reduction in car park usage of 10% has been factored into the above figures to accommodate potential changes following the introduction of tariffs.

10. Blue badge holders will not be required to pay the car park tariff when their badge is properly displayed.

11. White lists will be created to exempt certain vehicles from the tariffs. For example included on the white list would be vehicles belonging to:
    a. City of London
    b. Volunteers
    c. Contractors
    d. Café staff

12. A late payment window is also being considered for any visitors to pay their tariff shortly after their visit.

13. A season ticket will be available at a cost of £180/annum or period thereof.

14. **Strategic implications**. This recommendation aligns with and supports the delivery of the City's Corporate plan under the following aim and associated outcomes:
    a. Shape Outstanding Environments
        9. *We are digitally and physically well connected and responsive* – the hardware and software provides internal and external improvements to existing systems.

11. *We have clean air, water and land and a thriving natural environment* – the income generated will support projects designed specifically to enhance the local and wider environment.
12. *Our spaces are secure, resilient and well maintained* – the use of ANPR will help to reduce crime and unwanted incursion to the open spaces.

15. **Financial implications.** It is estimated that the recommended option will provide approximately £215,000 to the local risk budgets. Members should note that Burnham Beeches already raises around £85,000 from car park charges so in reality Option 1 will raise an estimated £130k of additional income for local risk budgets. Any additional income will help to offset the 12% budget cut forecast for 2021/22 that is currently estimated at £235,000.

16. **Resource implications.** Ranger teams will enforce car park tariffs across The Commons with support from external agencies as required and currently operated at Burnham Beeches. Income will be used to maintain services across the Division.

17. **Legal implications.** Section 9 of the City of London (Various Powers) Act 1977 allows the City Corporation to provide parking places at Burnham Beeches and the Coulsdon Commons in order to improve opportunities for the enjoyment of the open space by the public. The City Corporation is also empowered to make reasonable charges for the use of those parking places.

18. **Risk implications.** The introduction of car park charges at Farthing Downs and Riddlesdown is a new initiative and there may be reputational risk associated with negative public feedback. The expansion of car park charges to cover the Monday – Friday period at Burnham Beeches may result in similar feedback. Each site is producing a FAQ sheet for visitors, site signage informing of the pending introduction of charges and a media statement in partnership with the Corporate media team. The relevant Consultative Groups have also commented on the proposals.

19. Parking on the local highways to avoid the tariff may become an issue. At Burnham Beeches roadside parking occurred during the height of the summer season as the site coped with a 400% increase in visitors. Here the Superintendent is working closely with Buckinghamshire Council and others to explore options to introduce parking restrictions on those highways. A similar issue could occur at Farthing Downs however, the London Borough of Croydon has recently agreed to introduce parking restrictions along the length of Ditches lane that bisects that site. Riddlesdown, given the nature of vehicular access and highways to that site, is less likely to suffer from this problem but will be closely monitored.

20. The Parking Enforcement Protocol used successfully at Burnham Beeches will be mirrored at Riddlesdown and Farthing Downs to ensure a fair and consistent approach to car park charge enforcement across the Division. Staff will be appropriately trained.

21. **Equalities implications** – See Appendix 2.

22. **Climate implications.** ANPR will facilitate the future introduction of charges that favour the use of less polluting vehicles when visiting the open spaces

23. **Security implications.** The use of ANPR should help to further reduce instances of car related crime and unwanted intrusion to the Open Spaces concerned.

Conclusion

24. The installation of car park payment infrastructure at three sites across the Commons is nearing completion with an 'activation' date of mid - November 2020 - January 1st 2021 dependent on location, software and hardware tests.

25. Three tariff options have been benchmarked locally.

26. Feedback from the Burnham Beeches Consultative Group supported the introduction of Option 1 at that site. Opinion was split equally between Options 1 and 3 at the West Wickham Commons Consultative Group.

Appendices
Appendix 1. Tarff benchmarking data
Appendix 2. Equalities Impact Assessment

Background reports.
Infrastructure – car park charges at Farthing Downs, Riddlesdown and Burnham Beeches. EFCC and Digital Sub. January 2020

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Appendix 1

Benchmarking against other local Open Space parking tariffs.

Buckinghamshire Council		
	Up to 2 hours	£3.70 (£.2.70 0ff peak)
	Up to 4 hours	£4.50 (£3.30 off peak)
	Over 4 hours	£5.50 (£4.50 off peak)

National Trust		
Polesdon Lacey (Surrey)	Up to 2 hours	£2.00
	All day	£5.00
Cliveden (Bucks)	Adult	£10.00
Includes access to Woodland and Garden walks only.	Child	£5.00
	Family	£25.00

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TEST OF RELEVANCE: EQUALITY ANALYSIS (EA)

The screening process of using the Test of Relevance template aims to assist in determining whether a full Equality Analysis (EA) is required. The EA template and guidance plus information on the Equality Act and the Public Sector Equality Duty (PSED) can be found on Colnet at: http://colnet/Departments/Pages/News/Equality-and-Diversity.aspx

Introduction

The Public Sector Equality Duty (PSED) is set out in the Equality Act 2010 (s.149). This requires public authorities, in the exercise of their functions, to have 'due regard' to the need to:

- Eliminate discrimination, harassment and victimisation
- Advance equality of opportunity between people who share a protected characteristic and those who do not, and
- Foster good relations between people who share a protected characteristic and those who do not

The characteristics protected by the Equality Act 2010 are:

- Age
- Disability
- Gender reassignment
- Marriage and civil partnership.
- Pregnancy and maternity
- Race
- Religion or belief
- Sex (gender)
- Sexual orientation

What is due regard?	How to demonstrate compliance
• It involves considering the aims of the duty in a way that is proportionate to the issue at hand • Ensuring that real consideration is given to the aims and the impact of policies with rigour and with an open mind in such a way that it influences the final decision • Due regard should be given before and during policy formation and when a decision is taken including cross cutting ones as the impact can be cumulative. The general equality duty does not specify how public authorities should analyse the effect of their business activities on different groups of people. However, case law has established that equality analysis is an important way public authorities can demonstrate that they are meeting the requirements. Even in cases where it is considered that there are no implications of proposed policy and decision making on the PSED it is good practice to record the reasons why and to include these in reports to committees where decisions are being taken. It is also good practice to consider the duty in relation to current policies, services and procedures, even if there is no plan to change them.	Case law has established the following principles apply to the PSED: • **Knowledge** – the need to be aware of the requirements of the Equality Duty with a conscious approach and state of mind. • **Sufficient Information** – must be made available to the decision maker • **Timeliness** – the Duty must be complied with before and at the time that a particular policy is under consideration or decision is taken not after it has been taken. • **Real consideration** – consideration must form an integral part of the decision-making process. It is not a matter of box-ticking; it must be exercised in substance, with rigour and with an open mind in such a way that it influences the final decision. • **Sufficient information** – the decision maker must consider what information he or she has and what further information may be needed in order to give proper consideration to the Equality Duty • **No delegation** - public bodies are responsible for ensuring that any third parties which exercise functions on their behalf are capable of complying with the Equality Duty, are required to comply with it, and that they do so in practice. It is a duty that cannot be delegated. • **Review** – the duty is continuing applying when a policy is developed and decided upon, but also when it is implemented and reviewed.

However there is no requirement to:

- Produce equality analysis or an equality impact assessment
- Indiscriminately collect diversity date where equalities issues are not significant
- Publish lengthy documents to show compliance
- Treat everyone the same. Rather, it requires public bodies to think about people's different needs and how these can be met
- Make services homogeneous or to try to remove or ignore differences between people.

The key points about demonstrating compliance with the duty are to:

- Collate sufficient evidence to determine whether changes being considered will have a potential impact on different groups
- Ensure decision makers are aware of the analysis that has been undertaken and what conclusions have been reached on the possible implications
- Keep adequate records of the full decision making process

Test of Relevance screening

The Test of Relevance screening is a short exercise that involves looking at the overall proposal and deciding if it is relevant to the PSED.

Note: If the proposal is of a significant nature and it is apparent from the outset that a full equality analysis will be required, then it is not necessary to complete the Test of Relevance screening template and the full equality analysis and be completed.

The questions in the Test of Relevance Screening Template to help decide if the proposal is equality relevant and whether a detailed equality analysis is required. The key question is whether the proposal is likely to be relevant to any of the protected characteristics.

Quite often, the answer may not be so obvious and service-user or provider information will need to be considered to make a preliminary judgment. For example, in considering licensing arrangements, the location of the premises in question and the demographics of the area could affect whether section 149 considerations come into play.

There is no one size fits all approach but the screening process is designed to help fully consider the circumstances.

What to do

In general, the following questions all feed into whether an equality analysis is required:

- How many people is the proposal likely to affect?
- How significant is its impact?
- Does it relate to an area where there are known inequalities?

At this initial screening stage, the point is to try to assess obvious negative or positive impact.

If a negative/adverse impact has been identified (actual or potential) during completion of the screening tool, a full equality analysis must be undertaken.

If no negative / adverse impacts arising from the proposal it is not necessary to undertake a full equality analysis.

On completion of the Test of Relevance screening, officers should:

- Ensure they have fully completed and the Director has signed off the Test of Relevance Screening Template.
- Store the screening template safely so that it can be retrieved if for example, Members request to see it, or there is a freedom of information request or there is a legal challenge.
- If the outcome of the Test of Relevance Screening identifies no or minimal impact refer to it in the Implications section of the report and include reference to it in Background Papers when reporting to Committee or other decision making process.

1.	**Proposal / Project Title: Car park Charges at Burnham Beeches, Riddlesdown and Farthing Downs**			
2.	**Brief summary (include main aims, proposed outcomes, recommendations / decisions sought): Introduction of car park tariffs Monday to Friday at Burnham Beeches and Monday to Sunday at Farthing Downs and Riddlesdown.**			
3.	**Considering the equality aims (eliminate unlawful discrimination; advance equality of opportunity; foster good relations), indicate for each protected group whether there may be a positive impact, negative (adverse) impact or no impact arising from the proposal:**			
	Protected Characteristic (Equality Group) ☒	**Positive Impact**	**Negative Impact**	**No Impact**
	Age	☐	☐	☒
	Disability	☐	☐	☒
	Gender Reassignment	☐	☐	☒
	Marriage and Civil Partnership	☐	☐	☒
	Pregnancy and Maternity	☐	☐	☒
	Race	☐	☐	☒
	Religion or Belief	☐	☐	☒
	Sex (i.e gender)	☐	☐	☒
	Sexual Orientation	☐	☐	☒

	Briefly explain your answer. Consider evidence, data and any consultation.	
	Various payment options are to be offered to include Pay by Phone, Auto payments and 'swipe' linked credit/debit card. A post visit payment period will also be offered for those unable to pay on the day of the site visit	
	Blue badge holder will not be charged. Disabled bays are present and clearly marked	
	N/A	
	N/A	
	N/A	
	N/A	
	N/A	
	N/A	
	N/A	

4.	**There are no negative/adverse impact(s)** Please briefly explain and provide evidence to support this decision:	Car park charges have been in operation at Burnham Beeches for approximately 9 years. There is an approved enforcement protocol in operation.
5.	**Are there positive impacts of the proposal on any equality groups?** Please briefly explain how these are in line with the equality aims:	We have increased the payment options to include contactless payment and pay by phone. The post visit payment period is a new initiative to further reduce the chances of payment issues.

6.	**Yes**	**No**	**Briefly explain your answer:**

As a result of this screening, is a full EA necessary? (Please check appropriate box using ☐)	☐	☒	
7. Name of Lead Officer:	**Job title: Andy Barnard**	**Date of completion:** 08 October 2020	

Signed off by Department Director :		**Name:**		**Date:**	

Committee: Epping Forest and Commons Committee	**Date:** 16th November 2020
Subject: Report of Action Taken Between Meetings	**Public**
Report of: Town Clerk	**For Information**
Report author: Richard Holt, Town Clerk's Department	

Summary

This report advises Members of action taken by the Town Clerk since the last meeting of the Board, in consultation with the Chairman and Deputy Chairman in accordance with Standing Order Nos. 41(a).

Recommendation:

- That Members note the report.

Main Report

EPPING FOREST AND COMMONS COMMITTEE- REQUEST FOR DECISION UNDER URGENCY – STANDING ORDER 41(A)

SUBJECT: Proposed car park tariffs – Burnham Beeches

BACKGROUND: Members were updated of progress concerning the introduction of new car park payment infrastructure at Burnham Beeches, Farthing Downs and Riddlesdown in a report to the Epping Forest and Commons and Digital Sub Committees of January 2020.

The local Consultative Groups have been consulted upon the proposed tariffs and are supportive of the option set out in the main body of this report. The tariffs now await approval of the Epping Forest and Commons Committee on 16th November 2020.

However, due to a programming conflict, the new car park tariff at Burnham Beeches needs to be agreed ahead of that meeting. The associated risk of awaiting the meeting of 16th November is made complex by the recent national Covid – 19 lockdown announcement.

The decision to approve the tariffs for Riddlesdown and Farthing Downs car parks are unaffected by this programming conflict and can be decided upon by Epping Forest and Commons Committee on November 16th as originally timetabled.

RECOMMENDATION: The Town Clerk in consultation with the Chairman and Deputy Chairman were asked to approve agree **Option 1** for Burnham Beeches tariff as set out in below table:

Table 1. Burnham Beeches – estimate of full year net income.

BB Option 1		Charge	Vehicles/annum	Income net VAT	Transaction costs
Weekends and B/H	Day charge	£3.00	23,000	£57,500	
Weekday	Up to 2 hrs (2/3)	£1.50	33,333	£41,666	
	Over 2 hrs (1/3)	£3.00	16,667	£41,668	
			Sub total	£140,834	-£10,366
			Total net income	£130,468	

BB Option 2		Charge	Vehicles/annum	Income net VAT	Transaction costs
Weekends and B/H	Day charge	£3.00	23,000	£57,500	
Weekday	Up to 2 hrs (2/3)	£1.25	33,333	£34,722	
	Over 2 hrs (1/3)	£3.00	16,667	£41,668	
			Sub total	£133,890	-£10,366
			Total net income	£123,524	

BB Option 3		Charge	Vehicles/annum	Income net VAT	Transaction costs
Weekends and B/H	Day charge	£3.00	23,000	£57,500	
Weekday	Up to 2 hrs (2/3)	£1.00	33,333	£27,778	
	Over 2 hrs (1/3)	£3.00	16,667	£41,668	
			sub total	£126,946	-£10,366
			Total net income	£116,580	

REASON FOR URGENCY: Car park Tariffs at Burnham Beeches require urgent approval prior to the November 16th meeting of the Epping Forest and Commons Committee to allow time for completion of a 3 week schedule of hardware and software programming, testing and local advertising, before for the agreed 'go live' date of 30th November. The proposed tariff is supported by the Burnham Beeches and Stoke Common Consultative Group. Failure to meet this deadline could delay this income generating project until March 2021 earliest with impacts on Local Risk budgets circa £43,000 for the current financial year.

Richard Holt

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