

LONDON BOROUGH OF ENFIELD

PLANNING COMMITTEE

Date : 12 November 2012

Report of
Assistant Director, Planning &
Environmental Protection

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Ward:
Bush Hill Park
Edmonton Green
Grange
Highlands
Lower Edmonton

Application Number : P12-01082PLA

Category: Major

LOCATION: Salmons Brook, Enfield, N21, N9 and N18.

PROPOSAL: Flood alleviation works involving flood storage at Enfield Golf Course, comprising new embankment; flood defences along Salmons Walk, Lower Edmonton, comprising raised flood defences between Plevna Road and Montagu Road and new culvert under Montagu Road; flood storage at Montagu Recreation Ground, comprising new embankment; and mitigation works to Salmons Brook adjacent to Bury Lodge Park comprising river channel improvement works.

Applicant Name & Address:

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Agent Name & Address:

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RECOMMENDATION:

Having taken into account the environmental information contained in the Environmental Impact Assessment accompanying this application, that following referral to the Secretary of State and no objections being raised, and the securing of a Legal Agreement to secure the obligations as set out in Section 8 of this report, the Head of Development Management or the Planning Decisions Manager be authorised to **GRANT** planning permission subject to conditions.

1. Site and Surroundings

- 1.1 Salmons Brook river catchment runs through the entirety of the Borough of Enfield from its source at Enfield Chase, North London and discharging into Pymmes Brook, a tributary of the River Lee, on the south side of the A406 North Circular Road. The northern length of the river runs through Enfield Golf Course and Cheyne Walk Open Space which is designated Metropolitan Open Land and Site of Nature Conservation Importance (SINC). The Scheduled Ancient Monument known as 'Old Park Golf Course' is also located within the confines of Enfield Golf Club site.
- 1.2 Further downstream, Salmons Brook passes through Bury Street West which is bound by Metropolitan Open Land as well as the Montagu Cemeteries Conservation Area. Adjacent to Montagu Road and Zambezi Drive is the Montagu Recreation Ground which is designated Local Open Space and offers children's play equipment and playing pitches. A SINC also falls within part of the Salmon's Brook catchment area at Montagu Road.
- 1.3 There is a history of flooding from Salmons Brook during and after heavy storm events, in particular the severe flooding that occurred along Montagu Road in October 2000. This flood event affected 192 houses in Edmonton, as well as industrial properties and two cemeteries. This type of flooding is due in part to extensive areas of hard surface in its partly-urbanised catchment, and the relatively steep topography leading to high run-off. Large sections of the river have also been culverted, giving rise to localised flooding when culvert-capacities are exceeded or they become blocked or surcharged.
- 1.4 It is recognised that this type of flooding causes disruption and material damage to residential properties and businesses. An estimate of the damage from the October 2000 extreme flood event puts the cost at well over £2 million. The current Standard of Protection (SoP) for the area around Salmons Brook is approximately 1 in 20 years, a probability of flooding of 5% in any one year. The proposed flood alleviation scheme would provide a 1 in 75 year SoP for the area which will reduce the probability of flooding from 5% to approximately 1.33% in any one year. The proposed scheme would seek to achieve this level of flood protection by implementing physical works at three locations along the course of the Brook:
 - Enfield Golf Course, along its southern boundary with the Cheyne Walk Open Space and Allotments, and to the north-east of residential properties in Grange Park, N21
 - Montagu Road, Edmonton
 - along part of Salmons Brook Walk, between Plevna Road and Montagu Road,
 - through part of the Montagu Recreation Ground,
 - along part of Cemetery Walk, (to the south of the cemetery).
 - Bury Street West, this will involve river improvement works at Bury Lodge but this is for environmental benefit not for flood risk reduction.
- 1.5 The Environment Agency, has served notice under Article 7 of the Town & Country Planning (General Development) Order 1995 on all of the public and private owners of the land involved in the development proposals

2. Proposal

- 2.1 The proposals include a combination of flood storage, flow diversion and realignment of an existing culvert to increase and improve water-conveyance. The scheme also seeks to incorporate recreation and biodiversity enhancement along the course of Salmons Brook. The proposed development works are as follows:
- 2.2 Enfield Golf Club/ Cheyne Walk Open Space: Flood waters would be stored upstream at Enfield Golf Course through the creation of a grassed embankment across Salmons Brook to allow more flood water to be stored temporarily on the existing floodplain during flood events, reducing flows downstream. The proposed works comprise the creation of a 375m long earth embankment that would be 2.5 metres in height (at its maximum) above the existing river bank level. The embankment would be grassed and would have a section of reinforced "Grasscrete" that will form the high flow spillway. A mechanised concrete flume structure on the river channel would allow normal flows to pass through the embankment but will restrict flow in high flow conditions. The excess water would be stored upstream of the embankment on the golf course and the total volume of water storage on the site would be 134,000m³. The embankment has been designed to avoid mature trees as far as possible and would be formed so that its slopes would be gentle to blend in with the surrounding landscape.
- 2.3 Salmons Walk: Raised flood defences are proposed on both banks for 600m between Plevna Road and Montagu Road (along Tottenham Park and Federation Cemeteries). The southern bank flood defences would consist of 20mm of brick clad sheet piles, 3m high on the Brook side, 1m high on the Cemetery side, upstream of the Montagu Road garage and in front of Tottenham Park Cemetery. There would also be 350m of 1m high concrete flood wall and 70m of 0.5m high grassed and vegetated flood bank at the top of the bank in front of the Federation Cemetery boundary wall. The flood defences along the northern bank will comprise 500m of 1m high brick-faced flood wall adjacent to the existing northern boundary of Salmons Walk and 70m of low grassed flood bank. The proposal would incorporate a new shared cycle path in front of the flood wall. The north bank will also be naturalised by re-profiling 230m of bank by creating stepped earth banks (in-channel berm) and planting vegetation along a 470m stretch.
- 2.4 Montagu Recreation Ground: The proposed works in this location would comprise two elements which involve the creation of a new culverted section and open channel from Salmons Walk under Montagu Road, and a flood storage area on the recreation ground. The existing culvert flows east under Montagu Road for 15m before turning 90 degrees and flowing north for 40m before turning again 90 degrees to flow east into the open channel on Montagu recreation ground. The new section of culvert would connect the second 90 degree turn and extend into Montagu recreation ground for 50m before discharging into a new open channel that would align with the existing course of Salmons Brook. This new section of culvert would serve to straighten the river course and significantly improve capacity of the Brook in this location.
- 2.5 A new flood storage area with a maximum capacity of 40,000 m³ would be created at Montagu recreation ground. It is intended that this storage area

would mitigate against the loss of flood plain storage around Salmons Walk and seeks to ensure that flood risk downstream of the railway will not be increased by the flood alleviation scheme. A grassed embankment up to 1.8m in height would be constructed around the recreation ground and new footpaths will be formed on top of the embankment.

2.6 The proposed scheme would involve a sustained period of construction works lasting up to 12 months at the Golf Course and 18 months at locations around Salmons Walk and Montagu Recreation Ground. Haulage routes would be via local road networks and the main routes are summarised as follows:

- Enfield Golf Course: A10 Great Cambridge Road (north and southbound), turning northbound into Church Street, westbound along Ridge Avenue (A105) leading into Green Dragon Lane, Cadogan Gardens and Vera Avenue, to access the site via Uplands Way;
- Salmons Walk: North Circular Road then A1010 Fore Street turning right into Plevna Road to site;
- Montagu Recreation Ground and the eastern end of Salmons Walk: A406(T) North Circular eastbound then B137 (Montagu Road) to site.
- Bury Lodge via the adjacent A10 turning into Bury Street West then onto the site via the existing LBE Parks depot.

3. The Environmental Assessment

- 3.1 Salmons Brook travels through a large part of the Borough of Enfield and the total area of the proposed works is approximately 24.4 hectares. Taking into account the far-ranging nature of the proposals and their potential effect on the natural environment, an Environmental Impact Assessment (EIA), is required by of the Town & Country Planning Act. The Environment Agency has therefore undertaken an EIA in accordance with the Town & Country Planning (Environmental Impact Assessment) (England & Wales) Regulations 1999, and an Environmental Statement (ES) has been submitted with this application.
- 3.2 Broadly speaking, the ES describes the need for the development, sets out the proposals and the rationale for the revised scheme compared with the planning application approved in 2005. The ES sets out a baseline for the existing environmental conditions in the areas affected and then assesses the potential effects of the scheme on the environment and local communities. Finally, it recommends measures to avoid or mitigate any adverse effects as well as a small number of environmental enhancements to achieve some added value from the development.
- 3.3 The detailed assessment covers the likely significant effects on landscape; soil, geology and hydrology; noise; water; air and climate; waste; archaeology; land use and community; ecology; geomorphology and traffic. The effects have been classified as major, moderate, minor or negligible as appropriate, and measures have been identified to avoid, reduce or alleviate any adverse impacts.
- 3.4 The process has been applied to a number of options for addressing the flooding issues, and has included consultation with statutory and non-statutory bodies, as well as landowners and the local population.
- 3.5 Environmental Impacts and Proposed Mitigation Measures
- 3.5.1 Moderate to major adverse impacts have been identified in respect of the delivery of materials via HGVs along Uplands Way, Vera Avenue and Cadogan Gardens (adjacent to Enfield Golf Club) together with Plevna Road adjacent to Salmons Walk. A number of moderate to minor adverse impacts are also anticipated. No significant cumulative impacts with other development proposals have been identified. The impacts and benefits are summarised in an accompanying Non-Technical Summary.

Most of the impacts are associated with:

- The presence of a large-scale construction project in a rural and semi-urban setting, in the vicinity of a number of residential properties.
- The associated requirement to remove a number of mature and immature trees, lengths of hedgerow and riparian scrub, and grassland vegetation.
- The loss of natural river channel and associated riparian corridor, replaced with flumes and an engineered channel.

3.5.2 Due consideration of these factors and others has been taken throughout the design of the scheme, and avoidance and mitigation measures have been incorporated wherever possible. The main measures are listed in the Non-Technical Summary, together with opportunities for environmental enhancement. The Non-Technical Summary, is attached for Members' information at Appendix A.

4. Relevant Planning Decisions

- 4.1 TP/05/0250 – this application for flood alleviation works along Salmons Brook comprised the following:

Site 1: Hog Hill, Enfield, EN2 (west of Crofton Way and Valleyfields Crescent) – Formation of embankment, control flume and flood storage area, together with landscaping and construction of access from Enfield Road.

Site 2: Enfield Golf Course and Cheyne Walk Allotment, N21 (access via Barnabas Court) – Formation of embankment, control flume and flood storage area, together with landscaping and creation of wetland area.

Site 3: Montagu Road, N9 & N18 area – (A) New culvert across part of Montagu Recreation Ground, together with associated landscaping; (B) New retaining wall alongside Tottenham Park Cemetery, together with bank raising along Salmons Brook Walk (rear of Barrowfield Close), involving temporary closure of footpath; (C) New culvert and associated landscaping alongside Federation Cemetery (rear of Fraser Road and Parr Close / Grilse Close), involving temporary closure of footpath (Cemetery Walk).

Site 4: Eleys Estate, N18 – Construction of flood wall and raised flood kerbing, between Brimsdown Ditch and North Circular Road (A406).

- 4.2 The planning application was granted subject to conditions. However, the permission was not implemented and has since expired. The Environment Agency indicates that the original scheme is not now being advanced and is replaced by the current proposal.
- 4.3 The floodwater storage at Hog Hill has been removed from the current proposal as improved computer modelling showed that this would not be effective enough in reducing flooding downstream. Furthermore, the diversion channel from Salmons Brook to Pymmes Brook has been removed because a previously sealed culvert has been reinstated and provides a similar function.
- 4.4 The flood water storage area now proposed at Montagu Recreation Ground was not included in the 2005 proposals, and the flood walls and embankments along Salmons Walk will be slightly higher than previously proposed (although still no more than 1 metre high).

5. Consultations

5.1 Public

5.2 The initial public consultation conducted in May 2012 comprised consultation letters sent to 903 interested parties. In addition 43 notices were displayed at various locations around the sites on 21 May 2012 and the development was advertised in a local newspaper, the Enfield Independent on 16 May 2012. The applicant (Environment Agency) submitted revised information concerning ecology, flood risk assessment and a traffic management plan and therefore a further consultation letter was sent to 1543 interested parties on 12 October 2012 which includes an additional 172 letters which were sent to those residents living along the revised construction access route and who had not previously been consulted. A Planning Panel was held on 9th July 2012 and the minutes of this meeting are included within the Appendix. The outcome of the public consultation process is detailed below:

5.3 A petition with 205 signatures has been received in support of the proposed flood alleviation scheme on the grounds that it would help significantly in safeguarding over 800 properties and businesses along Montagu Road and other Edmonton Streets who suffered property damage in the 2000 floods.

5.4 A petition with 93 signatures from Grange Park Residents Association and Cheyne Walk Open Space Users Group was received in order to request safe access into and through the Open Space during the course of the Alleviation Scheme's construction works. There is currently no provision for such access. They are asking for a footpath and a temporary bridge access to be installed from the Cheyne Walk – Uplands entrance, through the Open Space around the Construction Area and up to the Glen. Some sections of the new Green Way, currently under construction can be used.

5.6 The public consultation has resulted in 57 residents objecting to the scheme and 1 resident in support. The letter of support reiterates the sentiment of the petition in terms of taking action towards endangered areas.

The objections raised against the scheme can be summarised as follows:

Disruption from Construction Access Route

- Noise and disruption to residents living along the construction access route as a result of the proposed number of heavy goods vehicle movements which will disturb the peaceful enjoyment of their dwellings;
- Structural damage to residential properties from the significant use of residential streets by large HGVs and other construction traffic;
- The construction routes are used by a number of parents and school children and could present a danger to pedestrians from increased traffic.
- Increased traffic and heavy goods vehicles along Bincote Road and Worlds End Lane will cause a danger to pedestrians;
- Where will the parking restrictions along the construction access route be situated, how long will they last and why are they necessary;
- Concern over who will monitor the frequency of traffic movements resulting from the construction works at Enfield Golf Club;
- The scheme will give rise to access and parking issues to residents in Grange Park from HGV movements;

- The length of the construction works will create noise and disturbance that will be detrimental to neighbouring amenity;
- Construction traffic along Cadogan Gardens, Vera Avenue and Uplands Way could exacerbate the risks of water mains bursting as well as causing congestion and damage to the residential streets.

Cost and Justification of Flood Alleviation Scheme

- The flood alleviation scheme is unnecessary and unjustified both in terms of the extent that the scheme will provide added protection from flood risk but also the cost to the public in implementing this scheme;
- Questions raised over the reasons behind the Environment Agency's delay in bringing forward the proposed development and why it has been changed. If this has been changed because the previous scheme was not considered robust enough then how do they know that the revised scheme will provide an adequate level of flood protection;
- Question the need for the scheme given that severe flooding has not occurred since 2000 even after heavy rainfall in summer of 2012;
- The cost of the implementation works as well as cost to repair damaged roads is a complete waste of public money;
- The proposed scheme is unnecessary and the financial benefits will not be realised;
- Residents can't understand why the current scheme omits the flood storage area from Hog Hill in favour of the storage at Enfield Golf Club;
- What evidence is there to suggest that the proposed scheme is viable especially as the proposal has changed since 2005, other options should be investigated before the scheme proceeds.

Landscaping

- The proposal will result in damage to trees overhanging the construction traffic route and result in the loss of significant trees at Enfield Golf Club to enable the implementation of the flood storage area;
- The removal of trees on the golf course will decrease the amenity value and in turn the property values in Uplands Way;
- The removal of trees from the golf course will make residential properties in Uplands Way more open which could cause golf balls from the course to end up in their gardens and cause danger to children playing.

Flood Risk

- Summer flooding caused residential gardens in northern Enfield to flood and therefore the decision should be deferred until flooding from heavy rainfall has been fully investigated;
- The proposal will lead to increased flooding at Enfield Golf Club and could affect the viability of the business – is this a ploy by Enfield Council to gain control over the golf club land which is in the Council's ownership;
- The proposed development will increase the risk of flooding to residential gardens along Salmons Brook, particularly Slades Rise and Links Close;
- Concerns that the proposed scheme will impact upon the drainage of residential properties in Links Side;
- Why is there not a flood alleviation scheme for properties in EN2, including Links Side;

- The proposal will cause greater risk of flooding to residential gardens which will prevent property owners from obtaining adequate insurance for their homes;
- The proposal only concerns Edmonton, not properties upstream;
- The proposed works will result in Enfield Golf Course flooding frequently or causing flooding to local properties;
- Properties along Links Side experience sewerage and surface water drains overflowing in bad weather conditions and the proposed scheme will put these properties at greater risk.

Access to Open Space

- The proposed development works will cause disruption to the allotments at Cheyne Walk and their users;
- The proposed works will cause damage to Cheyne Walk Open Space;
- The proposed works will prevent access to the Cheyne Walk Open Space by members of the public.

Planning Application Process

- Insufficient public consultation;
- The development description for the proposed scheme is ambiguous and does not fully explain the works and their significance;
- Misinformation to members of the public concerning the proposal;
- Can't access the proposed plans;
- The public consultation was ill-timed as it fell during the summer holidays when people are away and cannot respond in time;
- Not enough time to respond to the public consultation.

5.7 Statutory consultees

5.8 Biodiversity

5.8.1 Following the submission of revised ecological information, the applicant has addressed the Biodiversity Officer's initial concerns in relation to the adequacy of the ecological survey information, format of reporting etc. detailed in their comments dated the 6th June 2012. The revised surveys show that there is a population of slow worms at Cheyne Walk. The applicant has given a series of mitigation and enhancement measures for ecology on the scheme as a whole and these will need to be implemented. Conditions will need to be set to ensure that the details given in section 15.5 of Chapter 15 of the ES are implemented.

5.8.2 The applicant has addressed the issues concerning the quantity of mitigation and states that for flood management and bank stabilisation reasons it is not possible to remove the in stream weirs downstream from Bury Street.

5.8.3 The Biodiversity Officer has some concerns over the use of grasscrete on the spillway within Cheyne Walk. They have suggested that grasscrete could be buried below a thin layer of topsoil into which a meadow mix would be sown (or a similar solution). This would help to mitigate the loss of the grassland at Cheyne Walk, would have landscape and biodiversity benefits, and would not compromise the effectiveness or safety of the bund. They advise that unless

there are very good reasons then the scheme should be amended unless the applicant can demonstrate that these measures would be unfeasible.

5.8.4 It is suggested that if Cheyne Walk Open Space is to be a wildflower area, it is recommended that the long term management of the planting and meadows is secured through a planning obligation or condition.

5.8.5 In relation to the design of the Montagu Recreation Ground component of the scheme and the Salmons Walk landscaping, the proposals appear broadly acceptable but some minor amendments may be required, and as with Cheyne Walk, it may be necessary to ensure the long term management of the planting and meadows through a planning obligation or condition.

5.9 Conservation Area Group (CAG)

5.9.1 The justification for the development outweighs the damage that would be caused to the Conservation Areas. It is felt that as much mitigation work in the form of tree planting should be carried out as possible.

5.10 English Heritage

5.10.1 The application site lies close to the medieval moated site at Old Park. Archaeological work carried out in advance of the application and informing the Environmental Statement encountered evidence of Iron Age activity. It is suggested that a watching brief on development works for the scheme would be appropriate and could be secured by condition.

5.10.2 Scheduled Monument LO 68, Earthworks at Old Park: The scheduled monument of the Old Park Earthworks are central to the application area and will be impacted upon by the scheme. The Environment Agency have consulted English Heritage, and in principle EH do not object to the scheme. The earthwork is the remains of a moated site and so periodic minor flooding is unlikely to affect it adversely.

5.10.3 However, details submitted by officers of the Golf Club indicate that the scheme has changed significantly, and the golf course will be flooded significantly more than previously indicated. This has the potential to affect the scheduled monument, and of course will affect the golf course extensively, making operation extremely difficult.

5.10.4 The golf club maintain the earthwork, taking care of landscaping and managing vegetation and trees, which ensures the monument is in good order. This is done through careful partnership working with English Heritage, but clearly does not need to take priority for the golf club. Should the increased flooding of the course lead to loss of revenue, it is likely that aspects of work such as the management of the monument would be accorded lower priority which would increase the risk to the earthwork and the potential for its long-term degradation.

5.10.5 The Council should carefully consider the aspects of the application which impact negatively on the operation of the golf course and the alternatives for flood water storage and management.

5.11 Environment Agency

5.11.1 They have assessed the Flood Risk Assessment in conjunction with Technical Note, Ref WNAAAQ/90/126 Rev 3. Although the potential impact of climate change is not detailed they are satisfied that there will only be beneficial impacts from this scheme on flood risk from the Salmons Brook. The predicted increase in storm frequency and intensity in the climate change scenario will mean that the scheme will continue to protect properties from the more frequent floods expected. It is therefore requested that the following conditions are applied to the planning permission:

5.11.2 Condition 1: Within two months of the commencement of development a verification plan will be submitted to and approved, in writing, by the local planning authority. It will provide details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy, within the 2012 Ground Investigation Interpretative Report referred to in the Environmental Statement, are complete and identify any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action. The scheme shall be implemented as approved.

Reason 1

The proposed flood storage area in Montagu Road lies on an existing historic landfill and a secondary aquifer, which is likely to be in continuity with the Salmon's Brook. Site investigation work has demonstrated that there are hotspots of contamination and that remediation will be carried out. This condition is necessary to ensure that groundwater quality is protected.

5.11.3 Condition 2: If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the local planning authority) shall be carried out until the developer has submitted a remediation strategy to the local planning authority detailing how this unsuspected contamination shall be dealt with and obtained written approval from the local planning authority. The remediation strategy shall be implemented as approved.

Reason 2

To protect groundwater. Intrusive investigations will not necessarily capture all contaminants present, and any new source of contamination discovered during excavation and development must be appropriately addressed.

5.11.4 Condition 3: On completion of ground works a verification report demonstrating completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved, in writing, by the local planning authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met. It shall also include any plan (a "long-term monitoring and maintenance plan") for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action, as identified in the verification plan. The long-term monitoring and maintenance plan shall be implemented as approved.

Reason 3

To protect groundwater. This condition ensures that all contaminated material identified on site has been removed or remediated.

5.11.5 Condition 4: Prior to development a landscape management plan, including long- term design objectives, management responsibilities and maintenance

schedules for all landscaped areas, shall be submitted to and approved in writing by the local planning authority. The landscape management plan shall be carried out as approved and any subsequent variations shall be agreed in writing by the local planning authority. The scheme shall include the following elements:

detail the extent and type of new native species planting

details of gravel input to river bed

details of maintenance regimes for the life of the scheme and who will undertake these details of management responsibilities.

Reason 4

This condition is necessary to ensure the protection of wildlife and supporting habitat of the Salmons Brook and secure opportunities for the enhancement of the nature conservation value of the Salmons Brook in line with national planning policy.

- 5.11.6 Condition 5: No development in areas impacted by invasive species shall take place until a detailed method statement for removing Japanese Knotweed and Himalayan Balsam and for the control of Terrapins on the site has been submitted to and approved in writing by the local planning authority. The method statement shall include measures that will be used to prevent the spread of these species during any operations e.g. mowing, strimming or soil movement. It shall also contain measures to ensure that any soils brought to the site are free of the seeds / root / stem of any invasive plant listed under the Wildlife and Countryside Act 1981, as amended. Development shall proceed in accordance with the approved method statement.

Reason 5

This condition is necessary to prevent the spread of Japanese Knotweed, Himalayan Balsam and Terrapins which are invasive species. Without it, avoidable damage could be caused to the nature conservation value of the site contrary to national planning policy as set out in the National Planning Policy Framework paragraph 109, which requires the planning system to aim to conserve and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible.

- 5.11.7 Further advice: It is understood that some residents upstream of the scheme in Worlds End Lane would like a flood alleviation scheme that provides flood protection for their outbuildings and gardens. The EA understand this concern but unfortunately where houses are not at risk of being flooded it is not a viable use of public funds to protect such land. The proposed scheme will protect a high number of residential properties from being inundated with water up to a 1 in 75 year flood incident, so provides a significant betterment on the current situation for a large number of Enfield residents.

- 5.11.8 There have also been concerns about the temporary lorry movements. The EA have amended the proposed construction route in response to residents' concerns. The construction phase will be carried out in accordance with any conditions imposed by Enfield Council to control traffic movement.

5.12 Environmental Health

- 5.12.1 No objections to the proposal subject to conditions relating to contaminated land, noise, air quality and wheel washing as this could be a big issue with mud on the highways. The Council would need to agree the traffic routes for the lorries and any areas where lorries may need to be held, otherwise they

could cause some noise and vibration issues. A Section 61 agreement is recommended between the applicant (The Environment Agency) and the London Borough of Enfield. This agreement gives consent for a certain amount of noise to be generated during agreed hours through planned working methods.

5.13 Landscaping

5.13.1 Following assessment of the submitted information, the Council's Arboricultural Officer raises no objections in principle subject to the imposition of appropriately worded conditions:

- i) to require a new and up to date tree survey in conformity to BS:5837 2012;
- ii) to ensure the retention and protection of trees from future damage;
- iii) that the applicant notifies the Local Planning Authority of their intention to start works to trees;
- iv) to require mitigation in the form of new trees

5.13.2 Enfield Golf Course/ Cheyne Walk Open Space: The Arboricultural Officer considers that the footprint of the proposed embankment will result in the loss of a large number of trees that significantly contribute to the amenity of the area. Not only will trees be removed to construct the embankment but a number of retained trees will be affected by raised soil levels over portions of Root Protection Areas. As such, a larger number of trees will be adversely affected from the development than is currently shown but over a longer period of time as they decline in health.

5.13.3 However, if the embankment has to be constructed in this location then it appears that the footprint shown will result in the least 'direct' tree removals. As can be seen with aerial imagery, the overwhelming majority of trees and shrubs affected are relatively recent planting and regeneration which only really started growing to the extent it is in the 90's. In the 70's and 80's (especially the 70's) it can be clearly seen that this area is mostly void of trees and the only trees of amenity and significant age are found directly on the boundary of the open space and the golf course. Photographs from the 40's show that the allotments nearby extend all the way to the golf course boundary.

5.13.4 Taking into consideration that mostly only relatively young trees are affected and that only until relatively recently the area was 'tree covered' it is considered that the submitted proposal for the embankment will not have too significant impact on the amenity of the tree population in the area. Although it is expected that the retained trees are fully protected during development (especially the boundary trees including T23 oak, which are relicts of a field boundary hedgerow) and that significant landscaping including tree planting is carried out by way of mitigation.

5.13.5 Salmons Walk: The trees along the bank of the Brook in these two areas; although contributing as group features to the 'greening' of the areas, are all relatively poor quality and condition and providing a landscape plan including mitigating tree planting to replace any lost trees is actioned there could be considerable benefits by way of making these areas far more attractive and appealing than they currently are.

5.13.6 Montagu Recreation Ground: There is relatively little tree cover on this site and the area would benefit from significant landscaping works to improve its amenity and usage. Given that this area is to be used for flood water storage it is considered that landscaping would include appropriately tolerant tree species and that the soil composition will need to be ascertained and perhaps removed and replaced to ensure drainage conditions are appropriate to species planted.

5.14 Natural England

5.14.1 Natural England is a non-departmental public body. Their statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development. Natural England must be consulted by the Local Planning Authority on planning applications that may impact on nationally protected nature conservation sites, and applications that require an Environmental Impact Assessment.

5.14.2 This application is in close proximity to the Lee Valley Regional Park. However, given the nature and scale of this proposal, Natural England is satisfied that there is not likely to be an adverse effect on this site as a result of the proposal being carried out in strict accordance with the details of the application as submitted by Enfield and the Environment Agency. We therefore advise LBE that the proximity of the Lee Valley Regional Park does not represent a constraint in determining this application. Should the details of this application change, Natural England draws your attention to Section 28(l) of the *Wildlife and Countryside Act 1981* (as amended), requiring your authority to re-consult Natural England.

5.14.3 Natural England advises Enfield to consult and liaise with the Lee Valley Regional Park Authority who may make comments that will help the Local Planning Authority (LPA) to fully take account of the environmental value of this site in the decision making process.

5.15 Sport England

5.15.1 The proposed development would result in the irretrievable loss of an opportunity for participation in pitch sports, and with it the many benefits which sport brings. As such, a financial contribution cannot compensate for this loss and would not result in the re-provision of new replacement playing field and pitches elsewhere – thus the net loss in playing field land would remain. A financial contribution/compensation package is therefore not deemed acceptable by Sport England.

5.15.2 Sport England would accept the provision of new playing field land to offset the loss of playing field caused by the proposed development, as long as it was in accordance with exception policy E4 for development on playing field land:

- E4 – *“The playing field or playing fields which would be lost as a result of the proposed development would be replaced by a playing field or playing fields of an equivalent or better quality and of equivalent or greater quantity, in a suitable location and subject to equivalent or better management arrangements, prior to the commencement of the development.”*

5.15.3 However, as stated above, this would need to be secured prior to the approval of this planning application. In order for it to meet E4, the replacement land proposed cannot already be playing field land and Sport England would require comments from the Football Association to ensure it was in a suitable location so that no community clubs were displaced. It is therefore unlikely that this could be secured in time.

5.16 Structures and Water Courses Engineer

5.16.1 General Comments

- Overall the scheme is considered to deliver a significant reduction in flood risk to over a thousand properties in the highest risk areas of Enfield and is supported by Enfield's Structures and Watercourses team;
- Environmental Statement Appendix 11 Flood Risk Assessment (FRA) states that for a 1 in 75 year event, flood risk is reduced for 25 properties in Bush Hill, 93 in Edmonton Green and 723 at Montagu Road (841 in total);
- The information provided does not describe how many properties benefit for lower order flood events.

5.16.2 Flood History

- Severe flooding occurred in the Montagu Road area in October 2000 when approximately 200 properties were flooded internally;
- The return period of this event was estimated to be between 20 and 30 years, a more severe event could potentially affect close to 2,000 properties;
- Though heavy rainfall events have occurred since October 2000, Enfield has not experienced a repeat of the rainfall that caused flooding in that year;
- On 29/10/2000 52.4mm of rainfall was recorded by a rainfall gauge in Hadley Wood, since then the highest daily total recorded by the same gauge was 36.8mm on 27/05/2007;
- The highest rainfall recorded this year so far was 29.2mm on 11/06/2012.

5.16.3 Enfield Golf Course

- Enfield Golf Course is considered to be a suitable location for a flood storage area as it is natural floodplain and therefore already floods during extreme rainfall events, the main outcome of the scheme will be to increase the volume of water temporarily stored during such events; no properties will be affected by the increased level of flooding;
- Flooding at the golf course is known to be caused by various different mechanisms, most of which are not affected by the proposed control structure at the downstream end of the course (close to the 8th and 9th holes);
- As well as fluvial flooding at the 8th and 9th holes (which the Environment Agency recognise will be exacerbated by the scheme) flooding is also caused by fluvial flooding from Salmons Brook and Glenbrook South Drain at the upstream end of the course and by overland flows within the golf course ponding behind the raised banks;
- These other sources of flooding are not influenced by the scheme and affect a greater proportion of the golf course, see 'Table 1 Sources of Flooding at Enfield Golf Course' below:

Source of Flooding	Area affected	Influenced by Scheme
Fluvial Salmons Brook upstream end	Entire length of Salmons Brook within golf course	No
Fluvial Salmons Brook downstream end	Lower end only, mainly 8 th and 9 th holes	Yes
Fluvial Glenbrook South Drain	Entire length of Salmons Brook within golf course	No
Overland flows/surface water runoff	Entire length of Salmons Brook within golf course	No

- Flood models rely on making certain assumptions using the best available data, for this reason it is not possible to predict exactly how frequently the golf course will flood at the 8th and 9th holes as a result of the scheme – this is recognised by a report commissioned by Enfield Golf Club: ‘Independent Review of Scheme Modelling and Implications for Enfield Golf Course’ (Arup, February 2012);
- The Design and Access Statement refers to a proposed enhanced drainage system to be installed at the golf course as mitigation for the increased frequency and severity of flooding;
- An appropriately designed and implemented enhanced drainage system could result in a net improvement to the course as it would also mitigate flooding caused by the other mechanisms described above;
- The proposed passive control system is considered preferable to an alternative active system for a number of reasons, the main ones being: increased reliability, lower maintenance costs, the fact that the time lag in peak flood level between the flood storage area and the area at risk of flooding is 4 hours means that the control would have to be activated anytime there was even a small risk of flooding downstream and the fact that the flume width is believed likely to cause out of bank flooding before the flood level reaches the soffit of the adjustable plate or baffle.

5.16.4 Enfield Golf Course (upstream properties)

- It is considered that properties upstream of the golf course are not at increased risk of flooding because of the scheme (based on Environment Agency modelling and reviews carried out by Arup and HR Wallingford), the model concludes that river levels upstream of the golf course will not be increased – hence, properties in Slades Rise, Links Side and other streets adjacent to this stretch of Salmons Brook will not be adversely affected;
- It should be noted that though the gardens of many of these properties are within the floodplain, and therefore exposed to a high degree of flood risk, the buildings themselves are generally on higher ground and are considered to be outside the 100 year floodplain;
- It is possible that providing additional upstream storage could reduce flooding to Enfield Golf Course and to the gardens of upstream properties (at Hog Hill for example, if it were designed specifically with this aim in mind), however the low level of risk of property flooding means that enhanced flood protection cannot be provided under the Defra funding mechanism.

5.16.5 Bury Lodge Park

- These works provide a small amount of in-channel flood storage, the main purpose is to compensate for the loss of riverine habitat in the Salmons Walk area .

5.16.6 Montagu Road/Salmons Walk

- It is not possible to eliminate flood risk altogether, even with the scheme in place some residual risk will remain, a number of properties in the Montagu Road area would still be at risk during a 1 in 75 year event and possibly lower return periods;
- The Design and Access Statement (DAS) states that the scheme provides a 1 in 75 year Standard of Protection to the area around Salmons Brook while the FRA identifies that 170 properties in the Montagu Road area remain at risk of flooding from Saddlers Mill Stream surcharging for this return period;
- It is noted that additional works, that do not form part of this planning application, were carried out earlier this year on Saddlers Mill Stream to divert more flow along Boundary Ditch and thereby reduce the risk of flooding in the Montagu Road area further still;
- Consequently, it is considered that the scheme significantly reduces the level of flood risk whilst not eliminating it completely;
- It is suggested that the Environment Agency consider the feasibility of individual property protection measures for properties with significant residual flood risk.

5.16.7 Eley Estate

- The FRA recognises that the scheme will increase flood levels downstream of the railway by up to 40mm but states that this will not affect any additional properties;
- The Technical Note on Downstream Flood Risk also notes that for sub-35 year return periods flood depths will be lower in some places as a result of the scheme;
- Overall the scheme is considered to have a marginal impact on Eley Estate and other areas downstream.

5.16.8 Surface Water Flooding/Residual Flood Risk (Montagu Road)

- Surface water flooding relates to rainfall runoff that ponds or flows above the ground because it cannot enter the drainage system;
- In order to assess the impact of the scheme on surface water flooding and also obtain an improved understanding of the residual flood risk in the Montagu Road area described above, Enfield Council commissioned Capita Symonds Limited (CSL) to carry out an additional modelling assessment. The following conclusions have been drawn from the 'Montagu Road Surface Water Catchment Drainage Study, Interim Report November 2012':
 - For extreme events with return periods of 35 years or greater, flood water is predicted to surcharge from the Saddlers Mill Stream culvert that runs along Bounces Road and Montagu Road;
 - The CSL model used 2D flood mapping techniques to assess the extent, depth and velocity of this water and in particular looked at the interaction between the below ground drainage system and above ground flooding and flow routes;

- For flood events with return periods of 35 years or less the scheme reduces river levels at this location and ensures that the risk of surface water flooding or surcharging of Saddlers Mill Stream is reduced;
- For events with return periods greater than 35 years the storage of fluvial flood water above the natural ground level within the Montagu Recreation Ground could have an adverse impact on the discharge capacity of the surface water drainage system, however for such events any adverse impacts are considered to be outweighed by the reduction in fluvial flood risk;
- It is also possible that for a short, intense storm, of duration less than 3 hours say, the scheme could lead to small areas of surface water ponding (behind raised flood defences for example);
- Overall however, the beneficial impact of the scheme in reducing fluvial flood risk is considered to significantly outweigh any lesser impacts on surface water flooding.

5.16.9 Groundwater Flood Risk

- Groundwater flood risk in Enfield is very low relative to other forms of flooding, such as fluvial and surface water, in terms of frequency and severity;
- The scheme is not considered to have a measurable impact on groundwater flood risk.

5.17 Thames Water

5.17.1 The Deephams Sewage Treatment Works (STW) is located close to the proposed flood alleviation scheme. The Flood Risk Assessment (FRA) details how impacts of the scheme have been minimised through optimisation using a hydraulic model. It is a requirement of planning policy that no increase in flood risk is experienced by third-party sites as a result of works requiring planning permission. Nevertheless, the FRA does illustrate that flood levels are impacted along the Boundary Ditch, Enfield Ditch and Brimsdown Ditch. It is stated however that “no additional properties are affected”. Figures in the FRA demonstrate that there will be increased depths of flooding within these three ditches that surround the Deephams STW site for 1 in 20, 1 in 50, 1 in 75 and 1 in 100 flood events. No further information is provided as to the impact this will have on any out-of-bank-flooding. We therefore request that additional information is provided to confirm, quantitatively, how much of an impact, the scheme as a whole has on predicted flood levels within the vicinity of Deephams STW.

5.18 Transport for London

5.18.1 TfL is concerned with any development that could affect highway performance and safety on the Transport for London Road Network (TLRN) as well as impact on the passenger transport networks.

5.18.2 TfL have no problems in principle with this development. The ES recognises that a Traffic Management Plan will be submitted to the Borough for approval. This is welcomed. However, this should be a Construction Logistics Plan (CLP) to comply with the London Plan. This document will need to show how construction traffic and the effects of this traffic will be mitigated, including routing of traffic. This document would need to be submitted to the Borough for approval in consultation with TfL.

5.18.3 TfL has no objections to this application and is content for CLP to be conditioned if the Borough deems to approve this application.

5.19 UK Power Networks

5.19.1 There is a high voltage underground cable along the route of the proposed bund which also crosses Salmon Brook in a steel pipe.

5.19.2 Prior to the commencement of works accurate records should be obtained from their Plan Provision Department at UK Power Networks.

5.19.3 It is likely that this cable will require diversion as a result of the building works. Enquiries should be made to UK Power Networks Customer Connections department.

5.19.4 UK Power Networks require 24 hour vehicular access to their substations. Consideration for this should be taken during the design stage of development.

5.19.5 The development may have a detrimental impact on our rights of access to and from the substation.

5.19.6 No building materials should be left in a position where they might compromise the security of the substation or could be used as climbing aids to get over the substation surround.

5.19.7 All works should be undertaken with due regard to Health & Safety Guidance notes HS(G)47 Avoiding Danger from Underground services.

5.20 London Borough of Enfield Property Services

5.20.1 Welcome the overall infrastructure investment to reduce flood risk to property in the Borough and support the scheme's early implementation;

5.20.2 Echo the concerns about careful management of construction traffic flows and the need for clear and thorough liaison with leaseholders of Council property about traffic management and timescales;

5.20.3 Support the environmental replacement works on the south bank of the stream at Bury Lodge Depot, and proposed tree planting along the bank;

5.20.4 Support the removal of the redundant pedestrian footbridge over the stream, which, together with other measures to the banks of the Brook, will help to secure the free flow of water and achieve other environmental benefits.

5.21 Non-statutory consultees and interested parties

5.22 Cllr Andrew Stafford (Edmonton Green Ward Councillor and Cabinet Member for Finance and Property)

5.22.1 Cllr Stafford registered his support of the planning application. He comments that in 2000 a flood at Edmonton from the Salmons Brook affected 192 properties in mostly Edmonton and there is a need to offer some protection to these properties from flooding in the future. The proposed scheme would

benefit over 800 properties the vast majority of them along Montagu Road in Edmonton and upstream of Edmonton Green along with numerous local businesses. Very few local Edmonton residents are aware of the proposal and I note that the Planning Panel held on 9th July was held at Highlands School which is in Grange Ward. Many Edmonton residents are reliant on public transport and felt unable to attend the Planning Panel. Therefore it is considered reasonable to expect that the Planning Committee Meeting should therefore be held at Edmonton as these residents have been denied an opportunity to consult on the scheme to date.

5.23 Headteacher of Edmonton County School

5.23.1 There are concerns about the traffic along the A10 Cambridge terrace, along Bury Street West. This is a major thoroughfare for staff travelling between the two campuses and also, at the A10 terrace shops tends to be where children meet at the end of the day. It is also a very busy area for passing trade who stop to purchase food and other items. There are also concerns about the traffic along Church Street towards Green Lanes from the A10. This means that construction traffic will travel past Edmonton County School. Looking at construction timetable this is partly during the summer examinations period and the noise will disturb candidates.

5.24 Enfield Golf Club

5.24.1 Objects to the grant of permission unless changes are made that will protect EGC's vital interests. The changes requested (which are the subject of on-going discussions with the EA) are, most importantly, the provision of additional storage for flood water upstream of the proposed Bund, the possible use of new storage areas within the course, coupled with raising some of the banks of Salmons Brook, and changes to the proposed flume. Also, detailed information regarding the volume of water that will be deposited on the course after the works have been completed was requested several months ago, but has not been supplied.

5.25 Friends of Bury Lodge Park

5.25.1 Object to the mitigation works to Salmons Brook adjacent to Bury Lodge Park comprising river channel works for the following reasons.

5.25.2 The proposed mitigation plans for the stretch of waterway adjacent to Bury Lodge Park and Council Yard at Bury Street are out dated due to the Council Yard being sold for development with a large amount of land on either side of the brook being proposed for enlargement of the park. The plans are to incorporate a water meadow to encourage the already thriving wildlife in that area. This includes water voles, kingfishers which are regularly seen in that area. This stretch of the brook which runs through the park is a natural feature and is a visual attraction for users of the park and is a wildlife/green corridor.

5.25.3 Reading the environmental/wildlife survey 2004-8 it suggests there is no wildlife in this area to be concerned about. This is strongly disputed. For the past 3 years to their knowledge there have been water voles using the brook and coming into the park which certainly suggests there is a small colony. They have been seen by users of the park and park staff. This is a protected species under The Wildlife & Countryside Act 1981 Variation of Schedule 5.

Order 2008 adds 4 new species to Schedule 5 and extends the current protection afforded to the water vole. There are also kingfishers which fly along the brook which are protected under The Countryside & Wildlife Act 1981 Section 1. There are also bats present in the trees adjacent to the brook. There are numerous birds which nest in this area. Bury Lodge Park's pond contains newts (Crested newts are thought to be present after a survey carried out by Froglife and Friends of Bury Lodge Park) and newts have been seen along the edges of the brook. We therefore question the reliability of this survey which is clearly several years out of date. The proposed works to this stretch of waterway will be very detrimental to the wildlife and habitats.

- 5.25.4 Where will access be available for the machinery and lorries to gain access to the brook? The proposed area for the mitigation works on the land (opposite the council yard over the brook) is land proposed to become part of the park and is due to be used as a walk/cycle way and nature reserve because of the variety of wildlife and habitat already present on site.
- 5.25.5 The mitigation works on the brook show 2 areas by the banks to be cut away to a width of 6mtrs (widening the brook) and gravel placed into the brook to act as shelf. This is going to be highly dangerous for children who will be encouraged to go down into the brook which when the brook is fast flowing a child could get swept away. Salmons Brook is fenced off in the park to prevent any access by children, adults or dogs for this very reason.
- 5.25.6 The removal of the bridge is not acceptable as it will be required for access to the new additional parkland and is incorporated into the new proposed plans. It is strongly recommend that the Environment Agency and Thames Water liaise with Enfield Council over the changes proposed to the Bury Street Council Yard.

5.26 Grange Park Residents Association

- 5.26.1 There are concerns locally over the necessity of the scheme, it is noted that it is being proposed by a "Statutory Undertaker" and that the rationale for the scheme is clearly explained in the documents supporting the application.
- 5.26.2 Pre-supposing that this proposal is an essential civil engineering infrastructure project for the wider benefit of the residents of Enfield, it would be unreasonable to object per se. However, there will be a considerable impact on the local neighbourhood during the construction of this project, and the Residents Association will expect the Council to exercise all of its powers to mitigate the negative impact that the construction of this project will have on local residents. The principal areas of concern are:
- Construction site noise;
 - Dust and other emissions nuisance from construction activity;
 - Heavy vehicle movements;
 - Residents access to the Cheyne Walk Open Space.
- 5.26.3 Noise; there must be complete regard for the requirements of BS 5228:2009 part 1. All noise generating equipment must be well maintained and operated only when required. The type of equipment used on site must meet "best practicable means" requirements. Methods of working such as piling should

be designed to minimise noise. The Council must consider its options under the Control of Pollution Act 1974 sections 60 and 61 as appropriate.

5.26.4 With respect to dust and other emissions there must be regard to and adherence to the requirements of the joint London Councils and Mayor of London's best practice guide; The Control of Dust Emissions from Construction and Demolition.

5.26.5 There must be a full traffic management plan, with set enforceable and enforced speed limits. There shall be no stacking of vehicles awaiting entry into the site in the side or access roads to or near the site.

5.26.6 Pedestrian access must be maintained to the Open Space via Cheyne Walk entrance at all times through the construction of this scheme. That promise was made by the Environment Agency at the local public consultation meetings, and further committed to in an update leaflet circulated by them to residents just prior to the submission of this planning application. This commitment is contradicted on page 148 of the Environmental Statement submitted as part of this application.

5.26.7 "LUM 1 – The closure of Cheyne Walk Open Space will be communicated to the public through consultation and signage around the site. The area will be fully reinstated after the work is completed, with localised improvements made to the access paths. The construction phase will be kept to the minimum time necessary to limit the duration of the effect". It must be noted that the construction phase of this project is 49 weeks (EA Environmental Statement p 192)

5.26.8 This deviation from promises made is wholly unacceptable and it is therefore necessary for the Residents Association to object to this application on the grounds of pointless loss of amenity for the duration of the construction phase of this project. To renege on promises made on this matter at the earliest opportunity by the Environment Agency does question the validity of the Environment Agency and their commitment to it in its entirety.

5.26.9 The Residents Association expect the Council to require the Environment Agency to ensure public access via the Cheyne Walk entrance to the Open Space is uninterrupted throughout this project. If the Council is minded to approve this application we would expect there to be clear and enforceable conditions and agreements in place to, as far as is reasonably practicable, mitigate the impact of the construction of this project and to enforce those conditions both proactively and when called upon to do so by the local residents.

5.27 Joint response from Highlands School, Grange Park School, Merryhills School and Eversley School

5.27.1 Details of the scheme as set out in the planning application are almost impossible to understand in the format presented. In order for the schools to meaningfully respond they request a simple summary in non-technical language with clear maps that explain exactly what is being proposed.

5.27.2 In addition, as the consequences of this scheme may be far reaching in terms of the local environment including local roads for a long period of time, it is

requested that an open meeting be held for all interested parties to attend, in order that all the issues can be fully understood and discussed.

5.27.3 As the schools are able to understand, the proposals may result in a significant volume of heavy site traffic along Bincote Road, Worlds End Lane and Green Dragon Lane, as well as other side roads locally. It is believed this may present a significant Health and Safety Risk to the local school population and the parents and carers.

5.28 McMullen & Sons Ltd

5.28.1 As an Owner/Occupier that directly adjoins Salmons Brook McMullens are not only very concerned about the proposals but also equally concerned that they have received no prior notification of the application

5.28.2 Only by a chance discussion with a neighbour have we found out about the flood alleviation works.

5.28.3 The land owned by the Company is shown edged in red on the attached OS plan and has been trading as the Jolly Farmers Public House for more than 100 years. This is a large public house and one of the Company's core trading assets. On that same plan you can clearly see Salmons Brook and the dotted line shows the course of the brook in 2001 when considerable damage was caused to the river wall and a number of other properties in Links Side.

5.28.4 At that time Enfield Council refused to take any action and maintained that it was McMullen's responsibility to repair the bank. The adjoining neighbour Mrs B. Boon contacted her local MP Stephen Twigg who successfully persuaded the Leader of the Council, Doug Taylor, to find sufficient funds in the Capital Programme to carry out essential repairs.

5.28.5 In recent months the level of Salmons Brook has been very high again in this location and if the flood alleviation scheme goes ahead then this has the potential to cause further damage to our river wall which may lead to flooding.

5.28.6 Clearly to embark on an expensive and extensive programme such as this to prevent flooding in Edmonton at the risk of further flooding upstream in Enfield does seem to be without foundation.

5.28.7 Amongst all the documents deposited with the planning application McMullens have not seen anything covering this part of the Borough and the effects of the scheme.

5.28.8 McMullens are currently investing over £600,000 in a major refurbishment of the Jolly Farmers and contribute over £50,000 by way of National Non Domestic Rates and Council Tax to the London Borough of Enfield every year.

5.28.9 Bearing in mind what happened 10 years ago and the repairs that were carried out to the river bank walls McMullens trust the Council will accept responsibility for further damage particularly as a result of any flood alleviation scheme which could well be the catalyst.

5.29 Western Enfield Residents Association

- 5.29.1 Object to the proposal. Whilst WERA fully take on board the proposal to alleviate flooding to the Montagu Road area as was experienced in October 2000, should this proposal be given permission to proceed, the plan to involve flood storage at Enfield Golf Course by building a new embankment, will mean possible flooding to local homes in their area.
- 5.29.2 During the recent heavy rain, homes in Links Side experienced flooding in their gardens. Should the proposed embankment actually be built on the golf course more homes will be affected and there is the possibility of homes in Slades Rise, Slades Close, Taunton Drive and Windmill Gardens as well as Links Side all running the risk of possible flooding as the gardens in these roads back onto Salmons Brook.

6. Relevant Policy

6.1 Local Development Framework

SO2: Environmental sustainability
SO9: Natural environment
CP21: Delivering sustainable water supply, drainage and sewerage infrastructure
CP28: Managing flood risk through development
CP29: Flood management infrastructure
CP30: Maintaining and improving the quality of the built and open environment
CP31: Built and landscape heritage
CP32: Pollution
CP34: Parks, playing fields and other open spaces
CP35: Lee Valley regional park and waterways
CP36: Biodiversity
CP46: Infrastructure contributions

6.2 Saved UDP Policies

(II)G7 Woodland features
(II)G9 Maintenance of woodland features
(II)O7 Development of green chains
(II)O8 Safeguarding green chains
(II)O9 Improvement of green chains
(II)C19 Historic landscapes
(II)C26 Demolition in conservation areas
(II)C30 Development in conservation areas
(II)C36 Replacement trees in the public realm
(II)C37 Works to protected trees
(II)C39 Replacement of trees
(II)GD3 Aesthetics and functional design
(II)GD6 Traffic Generation
(II)GD8 Site Access and Servicing

6.3 The London Plan

Policy 2.18 Green infrastructure: the network of open and green spaces
Policy 3.19 Sports facilities
Policy 5.3 Sustainable design and construction
Policy 5.12 Flood risk management
Policy 5.13 Sustainable drainage
Policy 6.11 Smoothing traffic flow and tackling congestion
Policy 6.12 Road network capacity
Policy 6.13 Parking
Policy 7.4 Local character
Policy 7.8 Heritage assets and archaeology
Policy 7.14 Improving air quality
Policy 7.17 Metropolitan open land
Policy 7.18 Protecting local open space and addressing local deficiency
Policy 7.19 Biodiversity and access to nature
Policy 7.21 Trees and woodlands
Policy 8.2 Planning obligations

6.4 Other Relevant Policy

National Planning Policy Framework (2012)
Montagu Road Conservation Area Character Appraisal

7. National Statutory Framework

7.1 Relevant Sections from Planning Legislation

Section 211 of the Town and Country Planning Act 1990 provides trees in a conservation area with the same protection as if they were protected by a preservation order unless consent is otherwise given for the work

Section 16 of the T&CP (Listed Building and Conservation Areas) Act 1990 requires local planning authorities when considering whether to grant listed building consent for any development, to have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses

Section 72 of the T&CP (Listed Building and Conservation Areas) Act 1990 places a general duty on local planning authorities in the exercising their planning functions, with respect to any buildings or other land in a conservation area, in that special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area

7.2 National Planning Policy Framework (2012)

Para 14

Presumption in favour of sustainable development

Para 19.

The Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth. Planning should operate to encourage and not act as an impediment to sustainable growth. Therefore significant weight should be placed on the need to support economic growth through the planning system

Para 56.

The Government attaches great importance to the design of the built environment. Good design is a key aspect of sustainable development, is indivisible from good planning, and should contribute positively to making places better for people

Para 109

The planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, geological conservation interests and soils;
- recognising the wider benefits of ecosystem services;
- minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by

unacceptable levels of soil, air, water or noise pollution or land instability;

- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Para 118

When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;
- development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;
- opportunities to incorporate biodiversity in and around developments should be encouraged;
- planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and
- the following wildlife sites should be given the same protection as European sites:
 - potential Special Protection Areas and possible Special Areas of Conservation;
 - listed or proposed Ramsar sites; and
 - sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites

Para 128

local planning authorities should recognise that heritage assets are an irreplaceable resource and conserve them in a manner appropriate to their significance. In developing this strategy, local planning authorities should take into account:

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;

- the desirability of new development making a positive contribution to local character and distinctiveness; and opportunities to draw on the contribution made by the historic environment to the character of a place.

Para 129.

Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

Para 131.

In determining planning applications, local planning authorities should take account of:

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and
- the desirability of new development making a positive contribution to local character and distinctiveness.

Para 132.

When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.

Para 133

Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

- the nature of the heritage asset prevents all reasonable uses of the site; and

- no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
- conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and
- the harm or loss is outweighed by the benefit of bringing the site back into use.

Para 134.

Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.

8. Analysis

8.1 Principle of Development

8.1.1 CP29 of the Core Strategy seeks to maintain and enhance the Borough's existing flood defence infrastructure in the medium to long term, including the Salmon's Brook Flood Alleviation Scheme. When considering such proposals, the Council will seek to ensure that opportunities for multiple benefits are maximised (such as increased biodiversity, access to waterways and recreation). The submitted Design and Access Statement indicates that historically Salmons Brook has been susceptible to flooding during and after heavy storm events because of the extensive areas of hard surfacing in this predominately urbanised area and the relatively steep topography, leading the high run-off across the catchment.

8.1.2 The Environment Agency have identified that the area around Salmons Brook is at risk from flooding and the flood defence Standard of Protection (SoP) along approximately 14 km of Salmons Brook needs to be improved. It is noted that a previous planning application for flood alleviation works to Hog Hill, Enfield Golf Club and Montagu Road was granted by the Local Planning Authority in 2005. The Environment Agency have since made changes to the design and scope of the works as detailed in the Design and Access Statement in response to enhanced computer modelling of flood risk in the Salmons Walk area.

8.1.3 Taking into consideration the planning history of the Salmons Brook Flood Alleviation Scheme and the substantial flood risk improvement that would be afforded to a number of households as a result of the proposal, officers consider that the proposed development would be acceptable in principle subject to the detailed assessment of its impact on the environment, and the associated mitigation measures or enhancements of the scheme, based upon the findings of the Environmental Assessment and further refined through local consultation and appraisal.

8.2 Access/ Traffic Generation

8.2.1 The proposed development will not in itself have any traffic of transportation impacts upon completion as it will not generate any traffic apart from maintenance traffic which will be relatively infrequent. However, the proposed implementation works at Enfield Golf Club and Salmons Walk would result in significant levels of HGV traffic generation as outlined in the table below:

Site (& Works Duration, weeks)	Activity (& Duration, Weeks)	Lorry Trips per day	Car/ van Trips per Day	Total Lorry Trips	Total Car/van Trips
Enfield Golf Course (53w)	Site clearance / commissioning (3w)	2	30	1,816	7,950
	Construction (49w)	7.25	30		
	Site de-commission (1w)	2	30		
Salmons Walk & Montagu	Site clearance / commissioning (6w)	2	12	2,438	25,080
	Construction (82w)	5.75	60		

Recreation Ground (90w)	Site de-commission (2w)	2	12		
Assumptions: <ul style="list-style-type: none"> • Soil 8m³ load per delivery (3660 trips); Concrete 6m³ per delivery (36 trips); Piling 20t per delivery (2 trips); Brickwork/surfacing etc. 100 trips • 1.8x bulking factor for removed materials • All staff travel separately in private car/van (worst case scenario) • Montagu Recreation Ground and Salmons Walk share site compound facilities. • Working week = 5 days. 					

8.2.2 The construction of the embankment at Enfield Golf Club would necessitate the importation of materials and result in intensive HGV movements through local residential streets along Green Dragon Lane, Cadogan Gardens, Vera Avenue and Uplands Way where the site entrance is situated. Likewise the transportation of materials to Salmons Walk during the construction phase would give rise to daily HGV and other vehicle movements along Plevna Road and Town Road, both of which are residential streets.

8.2.3 It is acknowledged that a significant number of residents living close to Enfield Golf Club raised objections to the original construction access route on the grounds of noise and disruptions from HGV vehicle movements along residential streets, implications for pedestrian safety and traffic congestion, particularly along Bincote Road and Worlds End Lane where 3 schools (Merryhills, Grange Park and Highlands) are situated as well as issues concerning structural damage to residential properties caused by vibrations from a large number of HGV movements.

8.2.4 In response to the level of objections and in consultation with Traffic and Transportation, the Environment Agency revised the route to exclude Worlds End and Bincote Road in favour of vehicular access from the A10 Great Cambridge Road onto Church Street, Ridge Avenue, Green Dragon Lane leading to Cadogan Gardens etc. Traffic and Transportation acknowledge that the construction work involved with the scheme will result in a significant level of HGV traffic generation therefore a site visit was conducted on 12 July 2012 to explore the possible routes into the construction site at Enfield Golf Club. Traffic and Transportation indicate that the revised route along Green Dragon Lane would ensure that HGVs remain on the A10 for as long as possible, avoiding Enfield Town centre and the schools situated on Worlds End Lane, thus minimising the potential highway safety concerns related to the number of trips generated during construction.

8.2.5 It noted that vehicles will have to use local residential roads when approaching the site entrances at Uplands Way and Plevna Road, however, this is unavoidable given the nature of the proposal and regard should be had for the significant environmental and social benefits of the scheme, namely the increased level of flood protection to a large number of residential properties and biodiversity enhancement at Montagu Recreation Ground and Bury Lodge. To manage the impact of the construction phase, the Environment Agency suggests a suite of mitigation measures as outlined in Section 17.4 of the Environmental Statement. The key component is a Traffic Management Plan, to include mitigation measures aimed at reducing noise and disruption as follows:

- **Site Access** - The layout on site should be included to show how many cars (staff) can park, where the largest HGVs would park up and turn to avoid needing to reverse out if possible, and where wheel washing would take place (including swept paths). Detail on signage advising drivers of the correct route also needs to be provided.
- **Road Routes & Junctions** - List of the key junctions and layouts from the route outlined in the draft should be included in the CMP and CVMM. Swept paths would also be useful for the largest vehicles at the local roads, and could help justify choice of the access route.
- **Road Closures and Traffic Regulation Orders** - Details of the temporary waiting restrictions are shown, however LBE will need to process the Orders. This will involve a cost to the applicant.
- **Construction Phasing** - More detail is required on the phasing than is included in the Environmental Statement e.g. what each phase involves. Phasing on a smaller scale as well such as the turnaround for delivery vehicles on a daily basis needs to be explained, and what this involves (timescales etc.), how long vehicles will be on site, number that could be accommodated on site, time between deliveries and potential for vehicles to not actually spend the 'average' time on site, and the impacts of the potential arrival of multiple vehicles.
- **Construction Traffic Volumes** - The CMP should contain a contingency plan to ensure there is management in place to control e.g. impact of more vehicles than expected arriving. Waiting bays on Green Dragon Lane / A10 need to be described in more detail e.g. number of vehicles that can be held, likelihood of it happening and knock on effect / recovery time needed should it need to be used - and how the potential different contracts with suppliers will be managed e.g. different contractors involved. The potential for different contractors to arrive at the same time should also be assessed, although this is likely to be a minor issue as the bulk of the deliveries will be the clay.
- **Health and Safety considerations** - The developer review the details of the safety measure improvements advised by TfL, and the S106 should include the requirement for the delivery vehicles to incorporate some or all of the measures as deemed necessary.

8.2.6 Many residents would be exposed to above-average levels of noise and disturbance for a short period of time. There is concern amongst residents that HGV traffic could not only result in unreasonable noise, but also cause physical damage to properties through vibration, and this has led to queries regarding possible compensation. Vehicular access to the site through local roads would constitute a legitimate use of the public highway, and there would normally be no right to compensation. However, the Environment Agency has undertaken to consider compensation for any residents who can establish that their property has been damaged by the construction activities on the site, or associated traffic movements.

8.2.7 Turning to the proposed Traffic Management Plan, although a S106 could contain a requirement to use the delivery route agreed, it is difficult to enforce it in practice due to the roads involved being public highway and therefore the

delivery drivers can legally take any route, provided that no HGV restricting traffic orders are in place (none are planned on the proposed traffic route). In order to overcome this concern the CMP will need to contain details on how the route will be communicated to the contractors and the sub-contractors. This should be done through a Control of Vehicle Movements Manual (CVMM) setting out the opening times, approved routes and the limits on the number of movements per day for each contract.

8.2.8 Whilst it is acknowledged that the proposed construction works would give rise to noise and disruption over the construction phase of development, it is considered that this would be for a temporary period of time and would result in significant wider benefits resulting in increased flood protection and biodiversity enhancement along the course of Salmons Brook. It is recommended therefore that subject to the applicant (the Environment Agency) entering into a S106 agreement to secure the thorough management of the construction phases as outlined above, in the interest of safety and amenity, then the proposal would be acceptable in the wider context of the proposed scheme.

8.2.9 The existing footpath and cycle tracks along Cemetery Walk and Salmons Brook Walk would need to be temporarily closed to enable works to the river bank and flood defences. Alternative arrangements would need to be made for pedestrians and cyclists during the construction period, and these should also be agreed through a planning condition.

8.3 Effect on Landscaping

8.3.1 The proposed creation of the embankment at Enfield Golf Club would require the removal of a number of trees to create the proposed flood storage area. The Council's Arboricultural Officer acknowledges the extent of the proposed works, however, has no objection in principle subject to conditions as follows:

- i) to require a new and up to date tree survey in conformity to BS:5837 2012;
- ii) to ensure the retention and protection of trees from future damage;
- iii) that the applicant notifies the Local Planning Authority of their intention to start works to trees;
- iv) to require mitigation in the form of new trees

8.3.2 Whilst the footprint of the proposed embankment will result in the loss of a large number of trees within the vicinity of Enfield Gold Club and Cheyne Walk Open Space which significantly contribute to the amenity value of the area, the Environmental Statement outlines the rationale for choosing this particular location as it would result in the removal of younger less mature trees from the site. The Arboricultural Officer indicates that the footprint shown will result in the least 'direct' tree removals and the overwhelming majority of trees and shrubs affected are relatively recent planting. Taking into consideration the felling of mostly young trees and the relatively recent establishment of tree cover in this area, it is considered that the submitted proposals for the embankment will not have a long-term detrimental impact on the amenity of the tree population in the area subject to mitigation measures secured through condition to ensure trees are replaced.

8.3.3 It is noted that residents have raised concerns regarding the removal of trees to enable the implementation of the flood storage area at Enfield Golf Club. It

is considered that the indicative landscape plan (WN-AAAQ-1840) shows the footprint of the embankment which is designed to avoid existing tree planting as far as possible. While the tree-loss is unfortunate, it is an unavoidable consequence of the scheme and replacement planting is proposed in mitigation. There appears to be scope for further tree planting in some areas, particularly between the allotment fence and the edge of the embankment. This could help to ameliorate the visual impact of the embankment. A revised planting scheme should therefore be made the subject of a planning condition.

8.3.4 There are also concerns that the proposed construction traffic could cause damage to trees along Cadogan Gardens, Vera Avenue and Uplands Way. It was observed on site that the properties along these residential streets benefit from front gardens which are verdant and landscaped, however, these are set back from the road and the trees and vegetation in these gardens are not in close proximity to the highway. Turning to the pavement planting, it is acknowledged that there are some trees lining the route to the proposed construction site. Whilst it is acknowledged that the level of traffic would increase along these residential routes, it is considered that the proposed waiting restrictions along the route would ensure that HGVs would have a clear access into the site and would not therefore necessitate large vehicles passing close to, or mounting the kerb where street trees are situated. As such, the likelihood of damage to the trees which line the construction traffic route is low.

8.3.5 Turning to Salmons Walk, the construction of the piles and flood wall along Salmons Walk would require the removal of some of the trees on the south bank of the river. It has been indicated that the opportunity for replacement tree planting within the cemetery is limited because of the presence of graves. However, the scheme seeks to replace any felled trees by replanting elsewhere and overall provide a net gain in excess of 150 trees with planting at other locations as outlined in Table 15.7 of the submitted Environmental Statement. This table indicates that over 200 new native trees would be planted and there is a net beneficial habitat/biodiversity gain overall. The Arboricultural Officer comments that trees along the bank of the Brook in these two areas; although contributing as group features to the 'greening' of the areas, are all relatively poor quality and condition and providing a landscape plan (including mitigating tree planting to replace any lost trees) is actioned there could be considerable benefits by way of making these areas far more attractive and visually attractive.

8.3.6 In respect of Montagu Recreation Ground, this is a relatively open area with relatively sparse tree cover. The proposals to create a flood storage area in this location involve the biodiversity and landscape enhancement of the site. It is noted by the Arboricultural Officer that there is relatively little tree cover on this site and the area would benefit from significant landscaping works to improve its amenity and usage. It is therefore recommended that landscaping should include appropriately tolerant tree species and that the soil composition will need to be ascertained and perhaps removed and replaced to ensure drainage conditions are appropriate to species planted.

8.4 Ecology

8.4.1 The Biodiversity Officer in his comments dated 6 June 2012 raised concerns regarding the information provided as many of the surveys had not been

updated since 2008. The applicant conducted additional survey work and following the submission of the revised ecological information, the Biodiversity Officer was satisfied that the initial concerns in relation to the adequacy of the ecological survey information had been satisfied. The revised surveys show that there is a population of slow worms at Cheyne Walk and the applicant has given a series of mitigation and enhancement measures for ecology on the scheme as a whole which will need to be implemented through a relevant planning condition to enable the biodiversity enhancement of the scheme to be realised and managed into the future.

- 8.4.2 The Biodiversity Officer maintains his concerns over the use of grasscrete on the spillway within Cheyne Walk and has suggested that the proposed grasscrete should be buried below a thin layer of topsoil into which a meadow mix would be sown (or a similar solution). However, the applicant has indicated that the nature of the embankment as a spillway and flood storage area for a large body of water is regulated under the Reservoirs Act 1975. As such, the embankment and spillway will be subject to regular inspection and must be designed to protect from scour and take the force of the water stored as well as to ensure that any overflow can flow in a controlled way to prevent risk of injury and danger to the public. The use of grasscrete therefore prevents erosion and scour of the bank whereas the use of landscaping on the embankment itself could result in destabilisation of the clay core from tree roots or general erosion. The planting of trees or other vegetation on the embankment could therefore destabilise its effectiveness and impact upon its ability to safely store water during flood events.
- 8.4.3 The Structures and Watercourses Team indicate that the use of grasscrete is considered to be a more robust option than a geotextile material with a layer of topsoil and although it is the opinion of the Biodiversity Officer that there are better alternatives to grasscrete, taking into account the necessity to protect and maintain the integrity of the structure, it is considered that the applicant has justified the reasons behind their choice of materials. Moreover, the proposal does bring forward significant biodiversity enhancement along the course of Salmons Brook which will contribute to the ecological value of the brook as a whole.
- 8.4.4 The applicant has also addressed the Biodiversity Officer's concerns regarding the quantity of mitigation and it is accepted that for flood management and bank stabilisation reasons it is not possible to remove the in-stream weirs downstream from Bury Street. As part of the biodiversity enhancement of the Salmons Brook as a whole, it is acknowledged that Cheyne Walk Open Space is to be a wildflower area, however, the Biodiversity Officer considers that a long term management plan is essential for the establishment of a wildflower area and it is recommended that this could be secured through a planning condition (as described in the landscape section of this report).
- 8.4.5 The comments from Friends of Bury Lodge have been noted. Since the submission of these comments additional ecological survey works have been conducted and submitted as part of the planning application. The ecological survey concerning the Bury Lodge site was conducted in 2011 to inform potential improvements to the river channel in this location. Section 4.5.2, Appendix 9 of the Environmental Statement states that trees along the river corridor offer nesting potential for birds as do the adjacent areas of scrub and grassland. Most of the trees along the river are not mature, and have no

features likely to support bat roosts, with the exception being some crack willows on the northern bank. The survey did not identify potentially suitable habitat for water vole. Whilst the wider scrubby area could offer terrestrial habitat for otters, the river channel here is not attractive for both of these species. Appendix 9, section 4.5.4 of the revised Environmental Statement (September 2012) clarifies the situation:

*“The 2012 survey noted areas of riverbank that are thickly vegetated and unshaded, and could potentially provide suitable habitat for water vole. A few holes were spotted within the riverbank throughout, and footprints were seen in the mud below the culvert on the western side of the Recreation Ground. However, both the holes and the tracks were identified as brown rat *Rattus norvegicus*. No signs of water vole habitation (i.e. feeding stations, latrines, lawns or footprints) were found.”* (p 20)

8.4.6 Officers consider that robust and up to date ecological surveys have been conducted in respect of the proposed scheme and the potential impacts upon wildlife have been fully assessed in Chapter 15 of the revised Environmental Statement. The survey results presented in Appendix 9 conclude that the proposed scheme could be implemented without significant adverse ecological impacts and the Council’s Biodiversity Officer supports the wider biodiversity benefits arising from the development.

8.4.7 Finally, in relation to the design of the Montagu Recreation Ground and Salmons Walk component of the scheme, the proposals are acceptable and provide beneficial biodiversity enhancement. The Biodiversity Officer advises that as with Cheyne Walk, it would be necessary to ensure the long term management of the planting and meadows through a planning condition.

8.5 Noise and General Disturbance

8.5.1 Chapter 9 of the Environmental Statement provides a detailed assessment of baseline noise around the proposed development sites and evaluates the predicted future noise levels at closest residential properties as shown in Table 9.5 of the ES. The results of this assessment indicate that in the worst case scenarios construction noise is likely to give rise to severe yet intermittent impact at those residential properties nearest to the works at Salmons Walk for up to 84 weeks and at Montagu Road for 50 weeks. However, the ES has identified that the proposed construction works at Enfield Golf Club in the worst cases would be likely to give rise to intermittent substantial impact for those nearest to the works for up to 50 weeks. Given the temporary nature of the proposed construction works which mean the disturbance will be limited to the construction phase of development only and taking into consideration the overriding environmental and social benefits of the scheme, officers consider that the proposal should be looked upon favourably. However, it is acknowledged that the construction phase of development will have significant implications for nearby residential occupiers in terms of noise which will need to be managed.

8.5.2 Environmental Health have recommended conditions relating to contaminated land, air quality and noise together with a Section 106 agreement to provide funds to cover the costs to the Council of proactive monitoring by staff, which will be needed to ensure that there is no unacceptable level of disturbance from the three development areas. Environmental Health also suggest a Section 61 agreement between the London Borough of Enfield and the

applicant (the Environment Agency) which is an agreement for intermittent noise to be made within certain agreed parameters during the construction phase of development. This will enable the Council to take action should noise in excess of these agreed limits is made or the agreement is breached. It is also considered that residents should have the opportunity to feedback any concerns on a regular basis through a residents group to enable a clear link between the contractor, officers of the Council and residents. This will ensure that any issues can be resolved quickly and the periods of intermittent yet substantial noise can be monitored and managed with involvement from the local communities affected.

- 8.5.3 The works to Bury Lodge are small scale and would include the re-grading of a section of river bank which would not require heavy machinery and therefore would not generate any significant (i.e. high level or extended duration) noise. The Environmental Statement also outlines that the site is within a disused Council Site (known as Bury Lodge) and therefore has no adjacent residential or other properties. As such, the proposals would not give rise to detrimental noise to nearby residential or commercial occupiers.
- 8.5.4 Environmental Health have suggested the inclusion of a condition concerning wheel washing for construction traffic to prevent the transference of mud on the public highway as well as agreeing the traffic route for HGVs and any areas where they will be parked otherwise it could cause noise and vibration issues. It is considered that this issue can be dealt with through a condition relating to wheel washing and through the requirement for a traffic management plan to be agreed with the Council.

8.6 Flood Risk Assessment

- 8.6.1 The Environment Agency is the applicant for the proposed flood alleviation scheme as well as a statutory consultee. In their capacity as a statutory consultee the Environment Agency raised no objections to the proposal and comment that although the potential impact of climate change is not detailed they are satisfied that there will be beneficial impacts from the scheme on flood risk from the Salmons Brook. The predicted increase in storm frequency and intensity in the climate change scenario will mean that the scheme will continue to protect properties from the more frequent floods expected. The Environment Agency has suggested technical conditions relating to the management of the proposed flood storage areas which are recommended in this instance.
- 8.6.2 The Environment Agency further comment that some residents upstream of the scheme in Worlds End Lane would like a flood alleviation scheme to provide flood protection for their outbuildings and gardens. Whilst these concerns are understood, where houses are not at risk of being flooded (including gardens and areas of open space) it is not considered a viable use of public funds to protect such land. The proposed scheme will protect a high number of residential properties from being inundated with water up to a 1 in 75 year flood incident, so provides a significant benefit on the current situation for a large number of Enfield residents.
- 8.6.3 The Council's Structures and Watercourses team support the overall scheme which will deliver a significant reduction in flood risk to over a thousand properties in the highest risk areas in Enfield. Appendix 11 of the Environmental Statement outlines that for a 1 in 75 year event, flood risk is

reduced for 25 properties in Bush Hill, 93 in Edmonton Green and 723 at Montagu Road (841 in total). Taking into consideration the increased flood protection that would result from the proposed development works, the scheme would accord with the objectives of Policy CP29 of the Council's Core Strategy. The development which includes substantial tree planting and the creation of a wildlife corridor along Salmons Walk and at Montagu Recreation Ground would also provide a number of significant wider benefits, having regard to Policy CP36 of the Core Strategy.

- 8.6.4 The Structures and Watercourse Team acknowledge that severe flooding occurred in the Montagu Road area in October 2000 when approximately 200 properties were flooded internally. A number of residents have commented that severe flooding has not taken place since the October 2000 flooding and therefore question the justification for the proposed scheme. Officers acknowledge these concerns, however, the return period for the October 2000 event was estimated to be between every 20 and 30 years whereas a more severe event (with an approximate frequency of every 75 years) could potentially affect close to 2000 properties. Although heavy rainfall events have occurred since October 2000, Enfield has not experienced a repeat of the intense rainfall that caused flooding in that year. The Structures and Watercourses team have analysed daily rainfall records in Enfield from 1989 to 2012 and can confirm that the rainfall records on 29/10/2000 (52.4mm) was the highest on record during this period. Since 2000, the highest daily total recorded in the Borough was 36.8mm on 27/05/2007. The flooding that occurred at Enfield Golf Course and in the gardens of properties that have been noted by residents further upstream on 11/06/2012 was caused by rainfall of 29.2mm. Whilst heavy rainfall during the summer of 2012 was observed by residents, it was not enough to cause widespread flooding of properties in the Salmons Brook catchment.
- 8.6.5 The objections from residents in Grange Ward and Enfield Golf Club itself concerning the frequency of flooding at the golf course and the justification for the scheme have been noted. The Flooding and Watercourses Team comment that Enfield Golf Course is considered to be a suitable location for a flood storage area as it is a natural floodplain and therefore already floods during extreme rainfall events. The main outcome of the scheme is to increase the volume of water temporarily stored during such events, however, no properties will be affected by the increased level of flooding. Whilst flooding at the golf course is known to be caused by various different mechanisms (as shown in Table 1, Section 5.16.3 of this report), the proposed embankment structure (close to the 8th and 9th holes) would not affect or influence most of these existing flooding scenarios.
- 8.6.6 Where it is acknowledged by the Environment Agency and the Council's Structures and Watercourses Team that the proposed embankment would exacerbate fluvial flooding at the downstream end of Salmons Brook (close to the 8th and 9th holes) it is not possible to predict exactly how frequently the golf course will flood in this location as a result of the scheme due to the number of different mechanisms which cause flooding in this location. This is recognised by a report commissioned by Enfield Golf Club: 'Independent Review of Scheme Modelling and Implications for Enfield Golf Course' (Arup, February 2012). However, Page. 9 of the Arup report states that:

"Halcrow were unable to determine the exact local flood mechanism which caused flooding at the golf course, whether it is caused by overtopping of the

banks at lower points, backing up through the existing drainage system or a combination thereof. These mechanisms were taken into account when mapping the flood risk and, using these sources, it is indicated that there are localised points of flooding at the 1 in 2 year event

At the design case the model indicates out of bank flooding on the right bank at the 1 in 2 year event. Supplemented by ground data etc, the flood mapping indicates that flooding occurs between the 1 in 6 month and 1 in 1 year event.”

- 8.6.6 It is recognised that pre-scheme flooding already occurs at the golf course on average once every two years. The flood modelling conducted by Arup on behalf of Enfield Golf Club suggests that post-scheme flooding would be likely to occur between once every six months to once annually. The Environment Agency in their capacity as the applicant proposes an enhanced drainage system as mitigation against the increased frequency and severity of flooding. The Structures and Watercourses Team consider that an appropriately designed and implemented enhanced drainage system could result in a net improvement to the course as it would also mitigate against flooding caused by the other mechanisms described in Table 1 (Section 5.16.3 of this report). Page. 13 of the Arup report supports this position and states that:

‘The proposed surface dressing and drainage scheme is designed to reduce the amount of time the course is unplayable following a flood. This will be achieved by providing improved drainage so that, after a flood, drainage of the surface layers of the course fairways and greens occurs in a highly efficient manner. This will avoid waterlogging and ensure that play can resume after a relatively short periods of time after a flood. The impact when compared to previous actual flood events is most marked for events greater than the 1 in 10 yr (10% AEP) event.’

- 8.6.7 It is therefore considered that whilst the frequency of flooding may increase to between once or twice a year, the proposed drainage scheme to mitigate against this increased frequency would in turn increase playability on the course as flood water would drain more quickly than at present. The duration of flood water pooling on the course would therefore be a lot less than at present (reducing from a few weeks to a few days).
- 8.6.8 Turning to the Salmons Walk/ Montagu Road element of the scheme, it is recognised by the Environment Agency and the Structures and Watercourses Team that it is not possible to eliminate flood risk altogether, even with the scheme in place some residual risk of flooding will remain. The Flood Risk Assessment identifies that 170 properties in the Montagu Road area would remain at risk of flooding from Saddlers Mill Stream surcharging (backing up) for a 1 in 75 return period. It is noted that additional works, that do not form part of this planning application, were carried out earlier this year on Saddlers Mill Stream to divert more flow along Boundary Ditch and thereby reducing the risk of flooding in the Montagu Road area further still. Consequently, it is considered that the scheme significantly reduces the level of flood risk and whilst not eliminating the level of risk completely, it is considered that the benefits of the scheme are significant compared to the ‘do nothing’ scenario, namely that the proposal would provide a 1 in 75 year Standard of Protection to 841 households.

- 8.6.9 Thames Water's comments dated 17 May 2012 raise concern over the impact of the proposed scheme when concerning out-of-bank flooding around the Deephams Sewage Treatment Works. Halcrow's 'Downstream Flood Risk Technical Note' dated 5 August 2012 indicates that the FRA identifies a residual flood risk downstream of the proposed scheme, in close proximity to Deephams Sewage Treatment Works (STW). For flood events with a high probability, up to approximately 1 in 35 year event, the flood alleviation scheme yields significant benefits to these areas, with reduced extent and depth of flooding, as a result of the scheme storing flood water at Enfield Golf Course flood storage area. The technical note further describes that flooding to Deephams STW propagates from Enfield Ditch to the eastern side of the site. The extent of potential increased flood footprint is limited to an access track area at the eastern side of the Thames Water site in 1 in 75 and 1 in 100 year events. Whilst the flood extent may increase marginally on the access track area, the track itself acts as a barrier to flood water from Enfield Ditch and there is no increased impact on property and no anticipated change in potential damage resulting from the flood alleviation scheme.
- 8.6.10 Finally, in respect of surface water flooding which relates to rainfall runoff that pools or flows above ground because it cannot enter the drainage system; in order to assess the impact of the proposed scheme on surface water flooding and also obtain an improved understanding of the residual flood risk in the Montagu Road area, the London Borough of Enfield's Structures and Watercourses Team commissioned Capita Symonds Limited (CSL) to carry out an additional modelling assessment. The 'Montagu Road Surface Water Catchment Drainage Study, Interim Report November 2012' suggests that for events with return periods greater than 35 years the storage of fluvial flood water above the natural ground level within the Montagu Recreation Ground could have an adverse impact on the discharge capacity of the surface water drainage system. However, the likelihood of this type of scenario is low and overall the beneficial impact of the scheme in reducing fluvial flooding is considered to significantly outweigh any lesser impacts concerning surface water flooding.

8.7 Heritage Assets

- 8.7.1 Salmons Walk falls within the Montagu Road Cemeteries Conservation Area. The character appraisal for the area indicates that Federation Cemetery and Tottenham Park Cemetery form key areas of interest within the Conservation Area. The Tottenham Park cemeteries have high brick walls to the southwest and east which prevent any views in, or indeed any appreciation at all of what the area contains; but, in contrast, the north side is open and the grounds visible through trees and scrub from the footpath following the course of the Brook. The proposals at Salmons Walk would involve the re-profiling of a long stretch of the river bank within the Conservation Area and earthworks to create a flood wall and reinforced back area. The Conservation Advisory Group comments that the justification for the proposed works to increase the level of flood protection to a significant number of properties outweighs the damage that would be caused to the Conservation Area subject to as much mitigation as possible by way of tree planting. It is therefore considered that additional landscaping where possible can be addressed through the recommended landscape conditions.
- 8.7.2 English Heritage raised no objections to the proposal, however, they noted that the development site is situated close to a medieval moated site at Old

Park (close to Enfield Golf Club). The archaeological investigation which informs the Environmental Statement encountered evidence of iron age activity and suggested a watching brief is likely to be required, given the location of the site in an area where there are ancient remains. The archaeological issues can be safeguarded through the recommended planning condition.

- 8.7.3 With regards to the existing Ancient Monument (moated site), it is acknowledged that initial concerns were raised by English Heritage concerning the frequency of flooding at Enfield Golf Club which could have implications for the maintenance of the setting of this Scheduled Ancient Monument. However, the report produced by Arup, February 2012, outlines that whilst the frequency of flooding may increase to approximately once every six months, the duration of that flooding is assessed to be decreased significantly to only a few days as a result of the proposed drainage mitigation scheme. As such, the number of playing days at this part of the golf club would be reduced and therefore the SAM and its setting will not be physically affected by the proposals.

8.8 Impact on Character of Surrounding Area

- 8.8.1 The northern part of the Salmons Brook catchment flows through Enfield Golf Course along the bottom of a valley, with fairways and landscaped greens on either side. There are groups of trees that break up long views across the course and the boundary with Cheyne Walk Open Space/ Allotments consists of a significant belt of woodland, along which runs a ditch. The majority of the Open Space is maintained as a meadow, with long grass and wild flowers, but there are mown paths running around it as well as a mown central area for recreation. Public access is via natural tracks through the woodland on the east side, or a hard-surfaced footpath on the west side, that leads from Cheyne Walk to a ground-level bridge, crossing the brook.

- 8.8.2 The embankment would have limited visual impact on the golf course, as it would be mostly screened by the woodland belt along the perimeter. The western end would run into the course adjacent to Barnabas Court, requiring the removal of a number of trees and the exposure of the residential building to the playing area. However, this impact would be relatively small in the overall context of the course and within the Open Space, the surrounding landform is relatively flat, with the valley gently sloping to the west and rising more steeply through woodland to the east. In this context, the embankment would introduce a marked change in level contrary to the natural lie of the land, however, the embankment has been designed to slope gently and therefore present as subtle a change in levels as the structure would allow. Given its size, the structure would diminish the scale of the Open Space and the change of levels would alter its character although in the wider context of the scheme and with substantial tree planting to mitigate against the loss of trees in the area, the verdant character of the area will be maintained. In addition, the requirement for a maintenance access and footpath along the top and the frequent mowing required for safety inspection would alter the natural ambience of the surroundings

- 8.8.3 The key features of the landscape along Salmons Walk are the cemetery and existing line of trees on the right bank of the brook, the Salmons Brook Walk footpath along the left bank, and the adjacent residential flats in Barrowfield

Close, which overlook both the walkway and the cemetery. Beyond Montagu Road, there is an open area of sports pitches on the Recreation Ground, served by a pavilion adjacent to a culverted section of the brook. The proposed sheet piling along the right hand bank, together with the requirement for an access path, would result in the loss of existing trees and would thus have an adverse effect upon the landscape. The left bank raising would not have any significant effect but, as it acts as a flood defence, the opportunity for new tree planting would be restricted. The construction of the culvert along Cemetery Walk would also result in the loss of a number of large trees, as well as some smaller ones. However, the proposed development along Salmons Walk would enable the improvement of the cycle route and footpath along the river and when considered within the context of the wider scheme the proposals would enable significant tree planting and biodiversity improvement. It is therefore considered that the proposals would have little long term impact over the visual amenity and general appearance of Salmons Walk and Montagu Road.

8.9 Neighbouring Amenity

- 8.9.1 The only surrounding properties from which the view would be altered are the end properties in Barnabas Court, whose rear gardens face the Open Space, and some of the nearer properties in Uplands Way and Cheyne Walk that would have oblique views of the embankment. The nearest properties would notice a significant change in the rise of the ground, but the greening of the mound and the softening from existing and proposed trees and bushes, would ameliorate the long term impact. Accordingly, the overall effect is considered to be acceptable.
- 8.9.2 The Friends of Bury Lodge have raised concerns that the mitigation works at Bury Lodge where two areas of the bank would be widened to 6 metres will be highly dangerous for children who will be encouraged to go down into the brook and potentially be swept away when the water is fast flowing. Plan nos. WN-AAAQ-4400 and WN-AAAQ-4401 show the proposed plan and sectional views of this part of the Brook. As shown on the submitted plans, there would be a fence along the northern side of the brook at both points where widening would take place. This would ensure that access by members of the public from nearby Bury Street West would be restricted and therefore would not be likely to give rise to dangerous conditions for children using local recreational facilities. On the southern side of the brook, the naturalisation and grading back of the bank would create a much more gentle slope that would create better visual penetration from informal access routes and increase light into the channel. Furthermore, the southern side of the bank where the proposed works would take place is bound by the playing fields at Edmonton Lower School and Church Street allotments which are both enclosed from the adjoining river. The nearest neighbouring residential dwellings are therefore situated over 200 metres away in Church Street to the south. Taking into consideration the overall improvements of the river, its remote location and relative isolation from nearby recreational areas, community facilities and residential dwellings, it is considered that the risk of danger to members of the public and children is considered to be low, particularly when compared with the existing situation of the brook which has steep and open banks.
- 8.9.3 Friends of Bury Lodge have also objected to the removal of a pedestrian bridge of Salmons Brook at Bury Lodge. The pedestrian bridge is a dilapidated structure which is surrounded by debris within the river. The

removal of this bridge would enable the biodiversity improvements works along this part of Salmons Brook and therefore looking at the scheme overall it is considered that the removal of a dilapidated and under used bridge would be acceptable. Furthermore, it is considered that access to both sides of the bank at Bury Lodge would be available for use by members of the public.

8.10 Sustainable Design & Construction

8.10.1 The embankment would not have a long-term energy requirement, as the control of water levels is self-regulating through the fixed height of the flume, without the use of machinery. Apart from occasional maintenance, including the mowing of the grass surface, no activity is involved. There would be some beneficial effects in terms of habitat creation and biodiversity, arising from the use of the clay excavations for wetland areas.

8.10.2 There would be some beneficial effects in terms of habitat creation and biodiversity, arising from the proposed flood storage area at Montagu Recreation Ground. There are a number of beneficial effects from the straightening of the culvert under Montagu Road and the naturalisation of the brook through the north-west corner of the Recreation Ground. These include habitat creation, biodiversity, visual interest and potential screening from the road. However, to improve access between the playing pitches and the pavilion, the length of the covered culvert would need to be increased by a few metres to provide an extended crossing-point. This would reduce the environmental benefits but is desirable for safety reasons. The revisions to this area could be satisfactorily achieved through a planning condition.

8.10.3 There are mitigation measures within the overall proposals that include the securing of root plates from felled trees alongside the river to provide a potential nesting habitat for birds. In addition, the enhancement/restoration works at the Montagu Road Recreation Ground would provide high quality mitigation, taking full account of the potential for important species such as the Kingfisher. The details of these works including their implementation could be secured through a planning condition.

8.11 Access to the Open Space and Allotments

8.11.1 In principle, the Council would seek to safeguard its areas of open space and promote access and environmental improvements. The proposals would not significantly change the broad landscape pattern of the area, however, the size of the structure would alter the scale of the Open Space and change its character. Notwithstanding this, the public use of the Open Space would be maintained and effort has been made to integrate the embankment with its surroundings. The function of the MOL has been retained, and the partial loss of its natural character is considered to be acceptable in relation to the overall benefits of the scheme.

8.11.2 Alternative pedestrian and cycle access downstream would involve crossing Salmons Brook further downstream, with a temporary bridge and security gates etc. to safeguard the allotment property. Owing to the relatively short-term loss of access, and the availability of the Cheyne Walk route, it is not considered that such an alternative arrangement could reasonably be required.

- 8.11.3 The Salmons Brook Walk and Cemetery Walk footpaths and cycle tracks would need to be closed during the works, which will be a significant inconvenience for users, however, this measure would be temporary and therefore considered acceptable to meet the wider objectives of the proposed scheme.
- 8.11.4 It is acknowledged that Sport England object to the proposed scheme as the development works at Montagu Recreation Ground would result in the irretrievable loss of an opportunity for participation in pitch sports, and with it the many benefits which sport brings. The Council's Policy Team identifies Montagu Recreation Ground as a Local Park within Enfield's typology of open spaces. The site at one stage had two senior sized football pitches which were last let in 2006/7. The remaining pitch has now been leased to Edmonton Community centre for their informal use. It is considered that the existing sports pitch on the site would be retained, however, the proposed use of the recreation ground for flood storage would lead to the scenario whereby parts of the ground could not be used during extreme flood events (1 in 75 years). However, the pitch would remain in use outside of those times when severe flood events caused a level of saturation which prevented meaningful use of the facility.
- 8.11.5 The Council's Policy Team acknowledges that Craig Park currently has one senior sized football pitch. Pymmes Park has five senior and two, 7-a-side football pitches all within a 1200metre catchment of the Montagu Recreation Ground. The findings from the Council's recent Open Space Assessment Update (2011) show that at present there is an over-supply of full sized pitches within the Borough of some 31 match slots during Sunday morning when demand is at its greatest, which means that 27% of existing capacity remains during this part of the weekend. Demand for football on full size pitches is concentrated on Saturday afternoons and Sunday mornings, with no pitches within Council ownership currently available for hire outside these slots. In addition, to the identified pitches within the borough, there are also Artificial Turf Pitches in neighbouring Waltham Forest (Goals Chingford, Morrison Avenue) where bookings can be made throughout the week. Taking into account the local provision of sports pitches in the locality together with the substantial flood protection benefits of the scheme, it is considered that the potential limitations of the use of the sports pitch would be acceptable in this instance, subject to referral to the Secretary of State.

8.12 Public Sector Equality Duty

- 8.12.1 The public sector Equality Duty, at section 149 of the Equality Act, requires public bodies to consider all individuals when carrying out their day to day work – in shaping policy, in delivering services and in relation to their own employees. It requires public bodies to have due regard to the need to eliminate discrimination, advance equality of opportunity, and foster good relations between different people when carrying out their activities.
- 8.12.2 In considering the Council's statutory duty in the determination of the Salmons Brook Flood Alleviation proposals, it is considered that the implementation of the development could give rise to potential displacement of disabled car parking spaces as a result of the construction access route and waiting restrictions along this route. During the course of the public consultation exercise nothing emerged which suggests that this type of car

parking would be displaced and therefore officers are satisfied that sufficient regard for equality issues has been made in the determination of the planning application.

8.13 Other Matters

- 8.13.1 Throughout the course of the public consultation, local residents have raised other non-planning considerations. For ease of reference these relate to the cost of the development project which is not a material planning consideration, particularly if the need for the development can be demonstrated which the Environment Agency have addressed in the submission of the planning application. Issues concerning structural damage to properties caused by the frequency of construction traffic have also been raised. Whilst this is a civil, rather than a planning matter the Environment Agency has undertaken to consider compensation for any residents who can establish that their property has been damaged by the construction activities on the site, or associated traffic movements.

9. Conclusion

- 9.1 This application is the subject of an Environmental Impact Assessment prepared under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999.
- 9.2 The proposed development, by the Environment Agency, would address flooding issues and reduce the risk of flooding for at least 800 properties in the Borough, to a 1-in-75 year event. (The current risk for many is a 1-in-20 to 1-in-30 year event). It provides the optimum feasible economic level of flood protection, whilst also providing a sustainable solution that protects the existing environment and promotes enhancement where feasible. The scheme would be of major benefit to the Borough in terms of increased flood protection, having regard to Policies SO2, SO9 and CP39 of the Core Strategy and Policy 5.12 of the London Plan 2011.
- 9.3 The proposals are the subject of a satisfactory Environmental Assessment and would have appropriate regard to their surroundings, in accordance with Policy CP30 of the Core Strategy, as well as particular regard to nature conservation and habitats in accordance with SO2, SO9, CP28, CP29, CP32 and CP36 of the Core Strategy and Policy 2.18, 7.19 and 7.21 of the London Plan 2011.
- 9.4 The proposals could be satisfactorily accommodated within Metropolitan Open Land, without prejudice to their function and would incorporate environmental enhancements. Accordingly, they would be compatible with the requirements of CP34 of the Core Strategy and Policy 7.17 and 7.18 of the London Plan 2011.
- 9.5 The proposals would be compatible with the protection of the archaeological heritage, as required by the saved policies (II)C19 , (II)C26 and (II)C30 of the Unitary Development Plan, CP31 of the Core Strategy and Policy 7.8 of the London Plan 2011, and would incorporate the replacement of trees of public amenity value, where necessary, in accordance with Policy (II)C39 of the Unitary Development Plan.
- 9.6 The proposals would facilitate the improvement of the infrastructure in employment-generating areas, and provide an acceptable balance between accessibility and the quality of the local environment, having regard to Policies SO2 and SO9 of the Core Strategy.
- 9.7 The proposed development, subject to a Section 106 legal agreement containing details on how construction traffic will be managed in order to minimise the highway safety concerns related to the construction phases of the proposal, will not give rise to conditions prejudicial to the free flow and safety of traffic using the adjoining highway, including pedestrian traffic, having regard to Policies (II)GD6 and (II)GD8 and Policy 6.13 of The London Plan 2011

10. Recommendation

10.1 The Secretary of State and the public be informed of this decision, in accordance with Regulation 21 of the Town & Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999:

Regulation 21 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 places a duty on the local planning authority to inform the Secretary of State of their decision, inform the public, (e.g. by publishing a notice in a newspaper), and make a statement available containing

- (i) the content of the decision, and any conditions attached thereto,
- (ii) the main reasons and considerations on which the decision is based, and
- (iii) a description of the main measures to avoid, reduce and offset the major adverse effects of the development.

10.2 Having taken into account the environmental information contained in the Environmental Impact Assessment accompanying this application, that following referral to the Secretary of State and no objections being raised, and the securing of a Legal Agreement to secure the obligations as set out in Section 8 of this report, the Head of Development Management or the Planning Decisions Manager be authorised to **GRANT** planning permission subject to the following conditions:

10.3 Conditions

1. C60 Approved plans

2. C51A Time limit

3. Signage:

The development shall not commence until details of signage to the exit to the sites advising drivers of the route they should be taking, as agreed in the Construction Management Plan, are submitted and agreed with the Local Planning Authority. The signage must be displayed at all times until the scheme has been completed.

Reason: In the interests of amenity and highway safety.

4. Temporary Waiting Restrictions:

The development shall not commence until a scheme of temporary waiting restrictions on the roads surrounding the access to the Enfield Golf Course site have been agreed with the LPA and brought into effect.

Reason: In the interests of amenity and highway safety.

5. C14 Details of Access and Junction:

The development shall not commence until details of the construction of any access roads and junctions and any other highway alterations associated with the development have been submitted to and approved in writing by the Local Planning Authority. These works shall be carried out in accordance with the approved details before development is occupied or the use commences.

Reason: To ensure that the development complies with Unitary Development Plan Policies and does not prejudice conditions of safety or traffic flow on adjoining highways.

6. C13 Details of Loading/Unloading/Turning Facilities:
The development shall not commence until details showing facilities for the loading, unloading and turning of vehicles clear of the highway have been submitted to and approved in writing by the Local Planning Authority. The facilities shall be constructed in accordance with the approved details before the development is occupied and shall be maintained for this purpose.

Reason: To ensure that the development complies with Unitary Development Plan Policies and does not prejudice conditions of safety or traffic flow on adjoining highways.

7. C12 Parking and Turning facilities:
The development shall not commence until details of parking and turning facilities to be provided in accordance with the standards adopted by the Local Planning Authority have been submitted to and approved in writing by the Local Planning Authority. The facilities shall be constructed in accordance with the approved details before any flood alleviation works proper are commenced and shall be maintained for this purpose.

Reason: To ensure that the development complies with Unitary Development Plan Policies and does not prejudice conditions of safety or traffic flow on adjoining highways.

8. C6 Phasing of construction:
The development shall not commence until details of the phasing of construction works have been submitted to and approved in writing by the Local Planning Authority. The phasing of construction shall be carried out in accordance with the approved details.

Reason: In the interests of amenity and highway safety.

9. C04 Details of Development - Access
The development shall not commence until detailed drawings showing the means of access to the development including the siting, levels and construction of any access roads, junctions, parking, turning and servicing areas and street lighting have been submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved details before any flood alleviation works proper are commenced.

Reason: To ensure that the development complies with Unitary Development Plan Policies and does not prejudice conditions of safety or traffic flow on adjoining highways.

10. C22 Details of Const. Vehicle Wheel Cleaning:
The development shall not commence until details of facilities and methodology for cleaning the wheels of construction vehicles leaving the site have been submitted to and approved in writing by the Local Planning Authority. The approved facilities and methodology shall be provided prior

to the commencement of site works and shall be used and maintained during the construction period.

Reason: To prevent the transfer of site material onto the public highway in the interests of safety and amenity.

11. Construction Logistics Plan

That development shall not commence on site until a Construction Logistics Plan has been submitted to be submitted and secured through the S106 agreement.

Reason: To ensure the implementation of the development does not lead to damage to the existing roads and to minimize disruption to neighbouring properties.

12. Archaeology

No development shall take place until the applicant has secured the implementation of a programme of archaeological work, in accordance with a written scheme of investigation which has been submitted to, and approved in writing by the Local Planning Authority.

Reason: To secure the protection of and proper provision for any archaeological remains in accordance Core Policy 31 of the Core Strategy and guidance contained with the National Planning Policy Framework.

13. Contaminated Land

The development shall not commence until a remediation strategy to deal with the contamination of the soil to be used for the flood storage bunds at the Montagu Recreation Ground has been submitted to and approved in writing by the Local Planning Authority. The Strategy shall include a requirement for the appointment of a specialist in soil remediation to be approved by the Local Planning Authority and for the provision by that specialist upon completion of the works hereby permitted of a written warranty confirming that works have been carried out in accordance with the approved Strategy.

If, during development, contamination not previously identified is found to be present at Montagu Recreation Ground, Salmons Walk or Enfield Golf Course then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until the developer has submitted and obtained written approval from the Local Planning Authority for an amendment to the remediation strategy detailing how this unsuspected contamination shall be dealt with.

Reason: To protect the natural environment.

14. EA Condition 1:

Within two months of the commencement of development a verification plan will be submitted for approval to the Local Planning Authority. It will provide details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy, within the 2012 Ground Investigation Interpretative Report referred to in the Environmental Statement, are complete and identify any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for

contingency action. The scheme shall be implemented as approved in writing by the Local Planning Authority.

Reason: The proposed flood storage area in Montagu Road lies on an existing historic landfill and a secondary aquifer, which is likely to be in continuity with the Salmon's Brook. Site investigation work has demonstrated that there are hotspots of contamination and that remediation will be carried out. This condition is necessary to ensure that groundwater quality is protected.

15. EA Condition 2:

If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until the developer has submitted a remediation strategy to the Local Planning Authority detailing how this unsuspected contamination shall be dealt with and obtained written approval from the Local Planning Authority. The remediation strategy shall be implemented as approved.

Reason: To protect groundwater. In addition, intrusive investigations will not necessarily capture all contaminants present, and any new source of contamination discovered during excavation and development must be appropriately addressed.

16. EA Condition 3:

On completion of ground works a verification report demonstrating completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved, in writing, by the Local Planning Authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met. It shall also include any plan (a "long-term monitoring and maintenance plan") for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action, as identified in the verification plan. The long-term monitoring and maintenance plan shall be implemented as approved.

Reason: To protect groundwater. This condition ensures that all contaminated material identified on site has been removed or remediated.

17. EA Condition 4:

Prior to development a landscape management plan, including long-term design objectives, management responsibilities and maintenance schedules for all landscaped areas, shall be submitted to and approved in writing by the Local Planning Authority. The landscape management plan shall be carried out as approved unless otherwise agreed in writing by the Local Planning Authority

The scheme shall include the following elements:

- a. Detail the extent and type of new native species planting
- b. Details of gravel input to river bed
- c. Details of maintenance regimes for the life of the scheme and who will undertake these
- d. Details of management responsibilities.

Reason: To ensure the protection of wildlife and supporting habitat of the Salmons Brook and secure opportunities for the enhancement of the nature conservation value of the Salmons Brook in line with national planning policy.

18. EA Condition 5:

No development in areas impacted by invasive species shall take place until a detailed method statement for removing Japanese Knotweed and Himalayan Balsam and for the control of Terrapins on the site has been submitted to and approved in writing by the Local Planning Authority. The method statement shall include measures that will be used to prevent the spread of these species during any operations e.g. mowing, strimming or soil movement. It shall also contain measures to ensure that any soils brought to the site are free of the seeds / root / stem of any invasive plant listed under the Wildlife and Countryside Act 1981, as amended. Development shall proceed in accordance with the approved method statement.

Reason: To prevent the spread of Japanese Knotweed, Himalayan Balsam and Terrapins which are invasive species. Without it, avoidable damage could be caused to the nature conservation value of the site contrary to national planning policy as set out in the National Planning Policy Framework paragraph 109, which requires the planning system to aim to conserve and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible.

19. Air Quality:

No development shall take place until a Construction Management Plan, written in accordance with the 'London Best Practice Guidance: The control of dust and emissions from construction and demolition' detailing how dust and emissions will be managed during demolition and construction work shall be submitted to the Local Planning Authority for approval. Once approved the Construction Management Plan shall be fully implemented for the duration of any demolition and construction works.

All stockpiles at Montagu Recreation Ground, Salmons Walk and Enfield Golf Course shall be sheeted, enclosed or profiled and sufficiently damped down to prevent wind entrainment of dust.

Reason: In the interest of protecting residential amenity and the natural environment.

20. Hours of Delivery:

No deliveries of construction and demolition materials shall be taken at or despatched from the site outside the following times 09:00 – 17:00 Monday to Friday and at no other time except with the prior written approval of the Local Planning Authority.

Reason: In the interest of safeguarding residential amenity

21. Noise Mitigation Measures

Prior to any demolition and construction activities taking place, details of noise mitigation measures shall be submitted to the Local Planning Authority for approval

in writing and shall thereafter be implemented unless otherwise agreed in writing by the Local Planning Authority.

Reason: In the interest of protecting residential amenity.

22. Notification of Commencement of Works

At least 28 days prior to the commencement of any site works, all occupiers adjacent to the site shall be notified in writing of the nature and duration of works to be undertaken. The written notification shall include the name and contact details of a person or persons responsible for the site works, for enquiries and for complaints for the entire duration of the works. The Local Planning Authority shall be provided with written confirmation that the aforementioned notification has been carried out together with a list of addresses notified, within 5 working days of the notification to the adjacent occupiers.

Reason: In the interest of protecting residential amenity.

23. Noise Monitoring

For the duration of the works the noise generated from the site shall be monitored on a continuous basis using a type 1 or 2 sound level meter in accordance with a scheme to be submitted for approval by the Local Planning Authority prior to the commencement of the development. The results of all noise monitoring shall be forwarded to the Pollution, Licensing & Planning Enforcement Team at the end of each working week.

Reason: In the interest of protecting residential amenity.

24. Vibration Monitoring

For the duration of the works the vibration level generated from piling operations on any site shall be monitored on a continuous basis using a suitable accelerometer in accordance with a scheme approved in writing by the Local Planning Authority prior to the commencement of the development. Results of the highest daily measured peak particle velocity shall be recorded and forwarded to the Pollution, Licensing & Planning Enforcement Team at the end of each working week.

Reason: In the interest of protecting residential amenity.

25. Tree Protection

No works or development shall take place until a scheme for the protection of the retained trees (BS 5837, the Tree Protection Plan) has been agreed in writing with the Local Planning Authority.

Reason: To ensure that the retained trees, shrubs and hedgerows on the site are not adversely affected by any aspect of the development.

26. Notice of Tree Works and Major Operations

Prior to carrying out the approved tree works and any operations that present a particular risk to trees (e.g. demolition within or close to Root Protection Areas, excavations within or close to a Root Protection Areas, piling, carnage), 10 days written notice shall be given to the Local Planning Authority.

Reason: To ensure that the retained trees, shrubs and hedgerows on the site are not adversely affected by any aspect of the development.

27. Veteran Trees

If any retained tree is identified as being or having the potential to be a 'veteran tree' (as defined by the criteria within 'Veteran Trees, A Guide to good management', English Nature 2000 [ISBN 1 85716 474 1]), it shall be the subject of a specific management plan devised by an Arboriculturalist (as defined in BS 5837), as agreed in writing in advance by the Local Planning Authority. No work to the tree or within its vicinity, which might compromise the environs of the tree shall be carried out without the written approval of the Local Planning Authority.

Reason: To make special provision for any trees that may have significant biological, amenity, landscape or arboricultural values

28. Provision for tree / shrub planting

No works or development shall take place until a specification of all proposed tree and shrub planting has been approved in writing by the Local Planning Authority. This specification will include details of the quantity, size, species, position and the proposed time of planting of all trees to be planted, together with an indication of how they integrate with the proposal in the long term with regard to their mature size and anticipated routine maintenance. In addition all shrubs and hedges to be planted that are intended to achieve a significant size and presence in the landscape should be similarly specified. All tree, shrub and hedge planting included within that specification shall be carried out in accordance with that specification and in accordance with BS 3936 (parts 1 & 4); BS 4043 and BS 4428.

Should any planting die or becomes diseased within 5 years from the date of planting, it shall be replaced with a similar species and size to that originally planted and at the same location, unless otherwise approved in writing by the Local Planning Authority.

Reason: To screen, preserve and enhance the development and ensure adequate landscape treatment in the interest of amenity and to ensure successful establishment of new planting.

29. Prohibited Activities

The following activities must not be carried out under any circumstances:

1. No fires shall be lit within 10 metres of the nearest point of the canopy of any retained tree.
2. No works shall proceed until the appropriate Tree Protection Barriers are in place, with the exception of initial tree works.
3. No equipment, signage, fencing, tree protection barriers, materials, components, vehicles or structures shall be attached to or supported by a retained tree.
4. No mixing of cement or use of other materials or substances shall take place within Root Protection Areas, or close enough to a Root Protection Area that seepage or displacement of those materials or substances could cause them to enter a Root Protection Area

5. No alterations or variations to the approved works or tree protection schemes shall be carried out without the prior written approval of the Local Planning Authority.

Reason: To ensure that the retained trees, shrubs and hedgerows on the site are not adversely affected by any aspect of the development

30. Site Supervision

No works or development shall take place until a scheme of supervision for the arboricultural protection measures has been approved in writing by the Local Planning Authority. The scheme will be administered by an Arboriculturalist (as defined in BS 5837). Furthermore the scheme will be appropriate to the scale and duration of the works and include the following details:

- (a) Induction and personnel awareness of arboricultural matters.
- (b) Identification of individual responsibilities and key personnel.
- (c) Statement of delegated powers.
- (d) Timing and methods of site visiting and record keeping, including updates.
- (e) Procedures for reporting and dealing with variations and incidents.

Reason: To ensure that supervisory works are undertaken by an appropriately qualified person.

31. Ecology - Enhancements

No works or development shall take place until an ecological management plan to include full details of protection and enhancement measures including all specific measures as detailed in 15.5 of the revised Salmons Brook Flood Alleviation Scheme – Environmental Assessment and Evaluation – Ecology (October 2012) has been submitted and approved in writing by the Local Planning Authority.

Reason: To enhance the ecological value of the site, to ensure that the development provides the maximum possible provision towards the creation of habitats and valuable areas for biodiversity and to ensure that there are no long term significant adverse impacts on nationally and locally designated sites and species in accordance with adopted policy.

10.4 Directive(s)

1. A Section 106 Agreement is required to provide funds to cover the costs to the Council of proactive monitoring by staff, which will be needed to ensure that there is no undue noise and disturbance from the three development areas and to ensure that all planning conditions and Section 61 agreement conditions are being complied with.

enhancing... improving... cleaning... restoring...
changing... tackling... protecting... reducing...
create a better place... influencing... inspiring...
advising... managing... adapting...

Salmons Brook Flood Alleviation Scheme
Environmental Statement – Non-Technical Summary

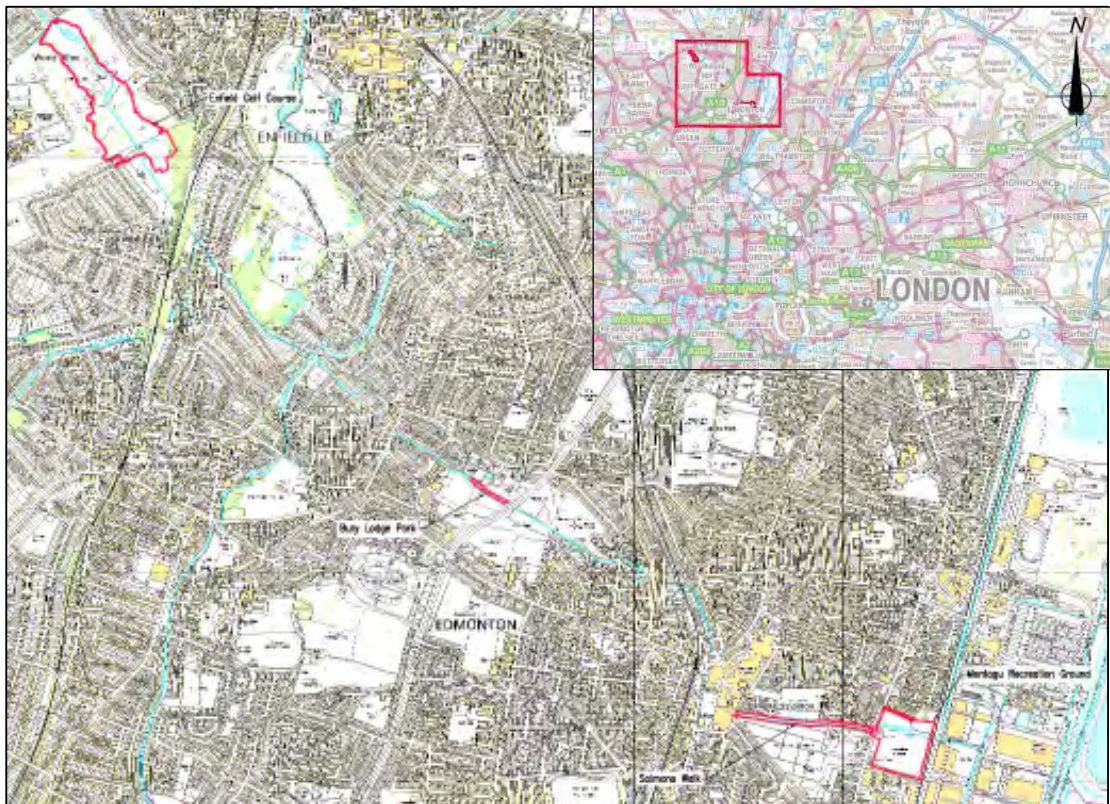
April 2012

Salmons Brook Flood Alleviation Scheme Environmental Statement - Non-Technical Summary

Introduction

The Environment Agency has applied for planning permission for a new Flood Alleviation Scheme that will improve flood protection for properties along Salmons Brook through Edmonton, Enfield. The proposed scheme includes embankments which will temporarily store more water on the existing floodplain during flood events at two locations - Enfield Golf Course and Montagu Recreation Ground. These areas are already floodplain and no additional local flood risk will be created. The scheme also includes new embankments and walls to reduce the chance of the river bursting its banks along Salmons Walk, next to the Federation and Tottenham Park cemeteries. The locations of these sites are shown below. (Also shown below is a small area of river improvement at Bury Lodge, but this is for environmental benefit not for flood risk reduction.)

As part of the planning process, an Environment Impact Assessment (EIA) has been carried out to understand the potential effects that the scheme would have on the environment and local communities. The results of the assessment are reported in the *Environmental Statement*, and are summarised in this *Non-Technical Summary*.



Locations for the proposed scheme (detailed site maps are at the end of this document)

Why the Flood Alleviation Scheme Is Needed

The proposed Flood Alleviation Scheme will provide better flood protection from Salmons Brook for an estimated 814 properties around Edmonton. At present some of these have as high as a 20% chance of flooding in any year. The scheme will reduce this risk to a 1.3% chance in any year. Properties that will benefit are found in Edmonton Green and Lower Edmonton.



Flooding of the cemeteries and road around Montagu Road in 2000

What the Flood Alleviation Scheme is Intended to Achieve

The proposed Flood Alleviation Scheme will:

- Reduce the flood risk to homes, businesses, local amenities and highways in Edmonton without increasing such risks elsewhere.
- Apply the most cost-effective solution in line with Government guidelines.
- Work with initiatives to improve river quality in London.
- Adopt best practice policy in accordance with our wider responsibilities under the *Environment Act 1995*.

Description of the Proposed Flood Alleviation Scheme

Our proposals include new flood risk management structures at three locations (National Grid Reference, NGR, in brackets):

- Enfield Golf Course Site (TQ 316 960) – A grassed embankment across Salmons Brook will join two areas of higher ground and so allow more flood water to be stored temporarily on the existing floodplain during flood events, reducing flows downstream.
- Salmons Walk Site (TQ 348 932) - Raised riverside flood defences (low walls and embankments) along Salmons Brook between Plevna Road and Montagu Road will reduce the frequency with which the brook bursts its banks here.
- Montagu Recreation Ground Site (TQ 353 931) – Improvements to the culvert under Montagu Road will reduce the risk of blockage, and much of the Recreation Ground will have a new grassed embankment around it so that it can temporarily store more water on the existing floodplain (as at the Golf Course).

The embankment and area for temporarily storing water at the Golf Course will occupy approximately 15.6 hectares (mostly on the Golf Course but partly on Cheyne Walk Open Space) and the combined area of the Salmons Walk and Montagu Recreation Ground sites is approximately 8.5 hectares).

In addition to these engineering works, some small-scale (0.3 hectares) improvements to Salmons Brook will be undertaken at a separate site (TQ 333 943) adjacent to Bury Lodge Park, between Enfield Golf Course and Salmons Walk. These works will improve the channel for wildlife but have no flood risk management function.

Further environmental improvements will be made to the brook at Salmons Walk and Montagu Recreation Ground to compensate for the new engineering elsewhere. There will also be extensive planting of trees, shrubs and wildflowers here to compensate for necessary losses of vegetation along Salmons Walk and at Enfield Gold Course. Overall, at least two new trees will be planted for every one that needs to be felled.

Differences from Previous Proposals

A scheme for Salmons Brook was originally developed in 2005 which included the following elements which are no longer proposed:

- Floodwater storage at Hog Hill – improved computer modelling showed that this would not be effective enough in reducing flooding downstream, so it is no longer proposed.
- Diversion channel from Salmons Brook to Pymmes Brook – this is no longer needed because a previously sealed culvert has been reinstated and provides a similar function.

The floodwater storage area now proposed at Montagu Recreation Ground was not included in the 2005 proposals, and the flood walls and embankments along Salmons Walk are slightly higher than previously proposed (although still no more than 1m high).



Sketch of the new open channel, embankment, landscaping and a new path at Montagu Recreation Ground

Consideration of Alternatives

As part of the scheme development and environmental assessment, a consideration of alternatives has been carried out. The types of options considered included temporary storage of flood water either above ground or in underground tanks, water transfer to reduce flood flows in particular parts of Salmons Brook, and raised flood defences. The options were examined following Government guidance which considers the benefits of reduced flooding against a scheme's cost, impacts on the environment, safety and sustainability. The options not being pursued, and the main reasons why each was discarded, are summarised below:

- Floodwater storage at Bush Hill Golf Course – major excavation would harm wildlife and severely disrupt the golf course.
- Floodwater storage at Town Park – would need a building to be moved, and would present a risk of increasing flood risk upstream.
- Floodwater storage at Jubilee Park – would require a new culvert with major disruption during construction.
- Floodwater Storage at Charlton Road Recreation Ground – minimal flood risk benefit, and risk of ecological damage resulting from poor water quality.
- Floodwater storage at Lee Valley Golf Course – would require a large excavation with major environmental impacts and very high cost.
- Underground flood storage at (a) Woodall Road Allotments, (b) Charlton Road Recreation Ground (c) Great Cambridge Road, (d) Barrowfield Close Allotments, (e)

St Edmunds Road or (f) on Houndsden Gutter – each has limitations, including relatively small volumes of water that could be stored, the need for an extensive pumping system with unacceptable environmental impact and, in one case, major excavation that would present too much risk to a railway.

- Divert some flow from Saddlers Mill Stream to Salmons Brook – although reducing flood risk along Bounces Road this would increase the risk at Montagu Road.
- Divert some flow from Brimsdown Ditch into the Lee Navigation Channel – would increase flood flows in the Lee Navigation, endangering navigation and increasing flood risk there.
- Divert some flow from Brimsdown Ditch to the Lee Valley Golf Course - risks polluting a lake and would cause major disruption to the golf course.
- Divert some flow from Deephams sewage treatment works to Enfield Ditch – not enough space at the sewage works and would risk polluting Enfield Ditch.
- Improved flood defences at Eley's Estate - would increase flood risk downstream.
- Culvert improvements at (a) Kenwood Road, (b) Bounces / Hertford Roads, (c) Bounces / Montagu Roads – although each could have had some small improvement, the risks of damaging services (such as gas and water pipes) was too high.
- Build an additional culvert under the railway and Meridian Way - major disruption and cost associated with closure of the railway and arterial road, and would increase flood risk downstream.

Approach to Assessment

The *Environmental Impact Assessment* for the proposed Salmons Brook Flood Alleviation Scheme has been carried out in line with relevant legislation, including prior agreement with Enfield Council (as the Local Planning Authority) on the required coverage of environmental topics. The scheme's design and impact assessment have followed best practice guidance, including our own guidance on public consultation.

We have consulted widely when developing the scheme, including with statutory bodies, other bodies with an interest in the area, and local communities and residents. The feedback from this consultation has been used to refine the scheme's design and to help identify ways of minimising the main adverse impacts. Public consultation has included presentations at open council meetings, public exhibitions open to all and newsletters delivered to about 2,500 households at various stages during the scheme's design, most recently in March and April 2012.

The final impact assessment has considered the existing condition of the environment, the way this may change due to the new Flood Alleviation Scheme, and how measures can be used to avoid or reduce the impact of any adverse changes.

Environmental Topics

The anticipated impacts, and the main control (mitigation) measures that will be used to avoid or minimise the consequences of adverse impacts, are summarised here for each impact category.

Landscape Changes

During construction, residents and other members of the public alongside any of the construction sites will experience a reduction in the quality of views. Although this will be reduced by fencing the sites, and maintaining them tidily, there is little else that can be done to avoid this.

At Enfield Golf Course the completed embankment will introduce an engineered element into a green suburban "oasis". Even with a design that aims to avoid impacting on mature trees, about 70 will need to be felled and only about half of these can be replaced here

due to the lack of space around the embankment. Landscape planting with hedging and wildflowers will soften the embankment, but cannot completely obscure its “unnatural” character.

At Salmons Walk (which is within the Montagu Cemeteries Conservation Area) the loss of about 40 large trees along the southern edge of the brook, adjacent to the boundaries of the cemeteries, will be significant as there is no room to replace them here (although a similar number will be planted on the north bank). Therefore the cemeteries will be opened up to view from Salmons Walk. Mitigation including tree and hedge planting on the northern bank and some vegetation planting on the southern bank will only partly offset the changes resulting from tree removal. However, the northern river bank will also be improved with new planting along the water margin. The new flood defences will use a brick type that is appropriate to the location and agreed with Enfield Council

The flood embankment around most of Montagu Recreation Ground will have a minor impact because it will isolate the park from its surroundings somewhat. However, landscape planting including about 190 trees (as mitigation for loss at the other two sites), and improvements to the river channel to increase its diversity and its marginal plants, will result in an overall improvement in the landscape quality of the site for local people.



Photomontage of the new flood storage embankment at the access to Cheyne Walk Open Space adjacent to Barnabas Court

Effects on Soil, Geology and Hydrogeology

Localised disturbance, compaction and pollution of soil during construction will be managed at each site through best practice in site management. None of the sites are located over an important groundwater source, so the consequences if there were any pollution would be very localised.

Some contamination by hydrocarbons (petrol-like compounds) has been found at Montagu Recreation Ground. This will be treated to reduce contamination, and if necessary imported topsoil will be used to cap existing contaminated areas. Combined, this will result in a reduced risk of future contamination of groundwater or the brook, and reduced exposure of park users.

Construction Noise

Even with careful site layout and selection of equipment to minimise impacts, construction noise will result in some disturbance to local residents, lasting up to about 12 months at the golf course and 18 months at any one location near Salmons Walk and Montagu Recreation Ground. Based on guidance contained in the *British Standard 5228 on Construction Noise*, the residual impacts would be considered “moderate” at the Enfield Golf Course site and “severe” at the other sites.

We will work closely with contractors and Enfield Council to agree how best to manage the risks of noise disturbance, but as a minimum: (i) work will be restricted to weekdays; (ii) the contractors will operate a *Considerate Contractors Scheme* and along with ourselves will discuss noise issues with local residents to identify how any impacts can best be managed; (iii) the noisiest activities (such as piling) will use equipment designed to minimise noise output; (iv) contractors will use mobile noise screens to reduce impacts; and (v) there will be noise monitoring agreed with Enfield Council and the contractors will modify working methods if noise exceeds levels set by the Council. At all times we will keep residents up-to-date with progress and provide them with opportunities to discuss any special needs or concerns to identify if any other measures are appropriate.

Effects on Water

There are risks to water quality associated with construction work in and alongside the brook at each site, but these will be fully managed through good site working practices and application of our *Pollution Prevention Guidelines*. The design has minimised the extent of impacts on the river channel, e.g. where a concrete structure is needed to replace natural river bank, this has been kept as small as possible. Measures to improve the remaining channel's quality at each location, coupled with channel improvements at Bury Lodge Park (between Enfield Golf Course and Salmons Walk), will result in an overall improvement in river quality. Additionally, when the scheme is operational it will reduce future water pollution that would otherwise result from the flooding of urban roads, garages, etc..

Air Quality During Construction

There will be localised effects on air quality at each site resulting from the use of construction vehicles and equipment. These effects will be managed through measures such as the use of efficient and well maintained plant, and switching vehicles off when not in use. The contractor will detail all such measures in a *Traffic Management Plan*. Additionally, a *Dust Control Method Statement* will be prepared detailing dust control measures at earthworks, on haul roads, and on public highways. Applying these measures will ensure that any air quality impacts remain very localised, as well as temporary.

Waste Generated by Construction

All construction activities generate waste, but this will be minimised by ensuring that materials are re-used as much as possible, for example reusing excavated soil in the new embankments. A *Site Waste Management Plan* will set out waste management requirements and identify waste reduction opportunities throughout construction. Applying this and our stringent waste targets should lead to only minor amounts of materials going to landfill.

Effects on Archaeology During Construction

There is the potential that previously unidentified archaeological items could be disturbed during groundworks at Enfield Golf Course and along the brook at Montagu Recreation Ground. There are no designated archaeological sites affected, however. As a precautionary measure, excavation works here will be carefully monitored by an archaeologist to ensure that anything found is appropriately identified and recorded.

At Salmons Walk previous flooding has sometimes exposed human remains that are outside of the cemetery boundaries. If we encounter such remains during construction, we will treat these with respect and meet all associated legislation for their re-burial in the appropriate cemetery.

Land Use and Community Effects

Cheyne Walk Open Space, Salmons Walk and most of Montagu Recreation Ground will need to be closed to the public during construction, with some adverse effects on communities resulting from these temporary closures. However, use of the adjacent Enfield Golf Course, the allotments at Cheyne Walk and Salmons Walk and the two cemeteries near Salmons Walk will be able to continue throughout construction.

Once the scheme is complete, the communities in the Salmons Walk and Montagu Road areas (as well as Edmonton Green further up river) will benefit from improved protection of their homes from flooding, as well as long-term beneficial effects on community health associated with an improved path and cycleway along Salmons Walk and a more diverse recreational area at Montagu Recreation Ground.

Temporary storage of floodwater at Enfield Golf Course will be on the same area that floods already, although the scheme will increase how frequently there is minor flooding on the 8th and 9th holes. With the agreement of the Golf Club we plan to install improved land drainage which will mean that, overall, fewer days play are lost to flooding compared to now.



Layout of the floodwater storage area at Montagu Recreation Ground

Effects on Ecology

The scheme directly impacts Cheyne Walk Open Space, which is part of a *Site of Borough Importance* for its nature conservation value, and also the Salmons Brook river corridor. Some grassland and scrub will be lost at both Cheyne Walk Open Space and along Salmons Walk but can largely be replaced. Only about 2% of the *Site of Borough Importance* will be affected by construction, and only about 1½ % in the long term.

As indicated previously, about 70 trees will need to be cleared at Cheyne Walk and 40 at Salmons Walk, despite the embankment at Cheyne Walk being shaped to avoid as many trees as possible. The new flood defences combined with an existing lack of space (especially at Salmons Walk) mean that only about half as many trees can be replanted at each location. Instead, additional planting as part of the landscaping works at Montagu Recreation Ground will provide a net gain of over 150 native trees. Planting at Cheyne Walk and Salmons Walk will also include over half a kilometre of native hedgerow.

The risks to bats and birds associated with the changes, largely tree loss, have been assessed. All legislation will be strictly adhered to in order to ensure no harm to these species. The final landscaping works will include the installation of both bat roost boxes and bird nesting boxes suitable for the species found here (including water-side species such as kingfisher).



Layout of the new embankment at Enfield Golf Course and Cheyne Walk Open Space

Effects on Geomorphology (i.e. the Salmons Brook Channel)

The scheme will result in some localised adverse impacts on Salmons Brook's channel. These will result from the new flood defences on the right-hand bank at Salmons Walk, and the new embankments and associated structures to help store floodwater at Enfield Golf Course and Montagu Recreation Ground. A detailed assessment of these effects has identified suitable actions to ensure that the river channel will be improved overall. Therefore the scheme includes extensive planting of marginal vegetation in the brook along Salmons Walk, and a number of locations where the channel will be re-shaped through Montagu Recreation Ground, as well as at the additional site at Bury Lodge. These new habitats will improve the channel for wildlife as well as make it appear more natural, and will provide an overall improvement in the geomorphological quality of the brook.

Construction Traffic

During construction, increased traffic on residential roads approaching Enfield Golf Course, and site access to Salmons Walk and Montagu Recreation Ground Road, will potentially lead to localised disruption and possibly congestion where there is on-street parking. Some temporary restrictions on parking on local roads are likely during delivery periods to the Enfield Golf Course site. Temporary roadworks are likely on Montagu Road, although the road will remain open. A *Traffic Management Plan* which identifies potential

problem locations and how the contractor will manage them will be agreed with Enfield Highways, in consultation with local residents.

The completed flood alleviation scheme will significantly reduce flood risk in the Montagu Road area and will thus benefit the highway network by reducing the potential for road closures during flooding.

Management of Environmental Impacts

As described in the sections above, the scheme's design has been developed such that the locations and general arrangements of the new flood risk management walls and embankments have the smallest possible effect on landscape, ecology and land use. The design already includes river improvement measures, landscaping, improved public paths and habitat creation in particular at Montagu Recreation Ground. There are unlikely to be further changes, although we will listen to any further ideas that local communities provide during consultation on the planning application, and address them if possible.

The impacts of construction activities will be managed through the development and implementation of management plans related to **noise, traffic, dust** and **waste**, as well as an overall *Environmental Management Plan* which will relate to how the construction sites are set up and operated. These will all be agreed with Enfield Council in advance of construction.

In addition, the contractors will be guided by Environment Agency and Enfield Council specialists to who will help them develop:

- Layouts to maintain **safe access** by residents and the public.
- A method statement for felling **trees and shrubs** under advice from an ecologist.
- Method statements for **water** quality protection, including protecting fish when working in the brook.
- Plans for fencing of the **river bank** and of **tree protection** zones.
- A method statement for excavating under **archaeological** supervision.

The contractor will also provide a liaison officer to keep the public informed throughout the construction period.

Please Contact:

If you require further information please contact:

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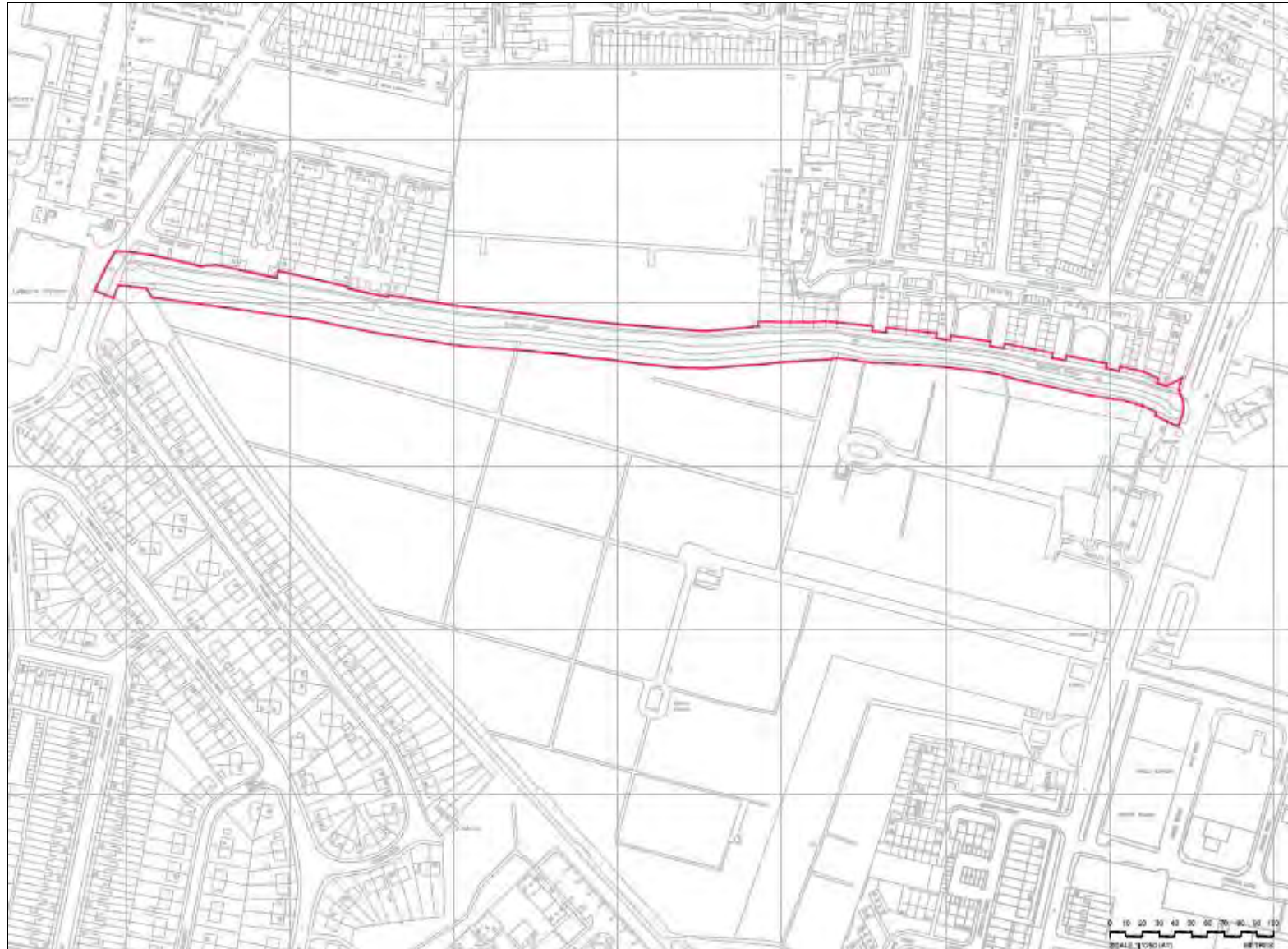
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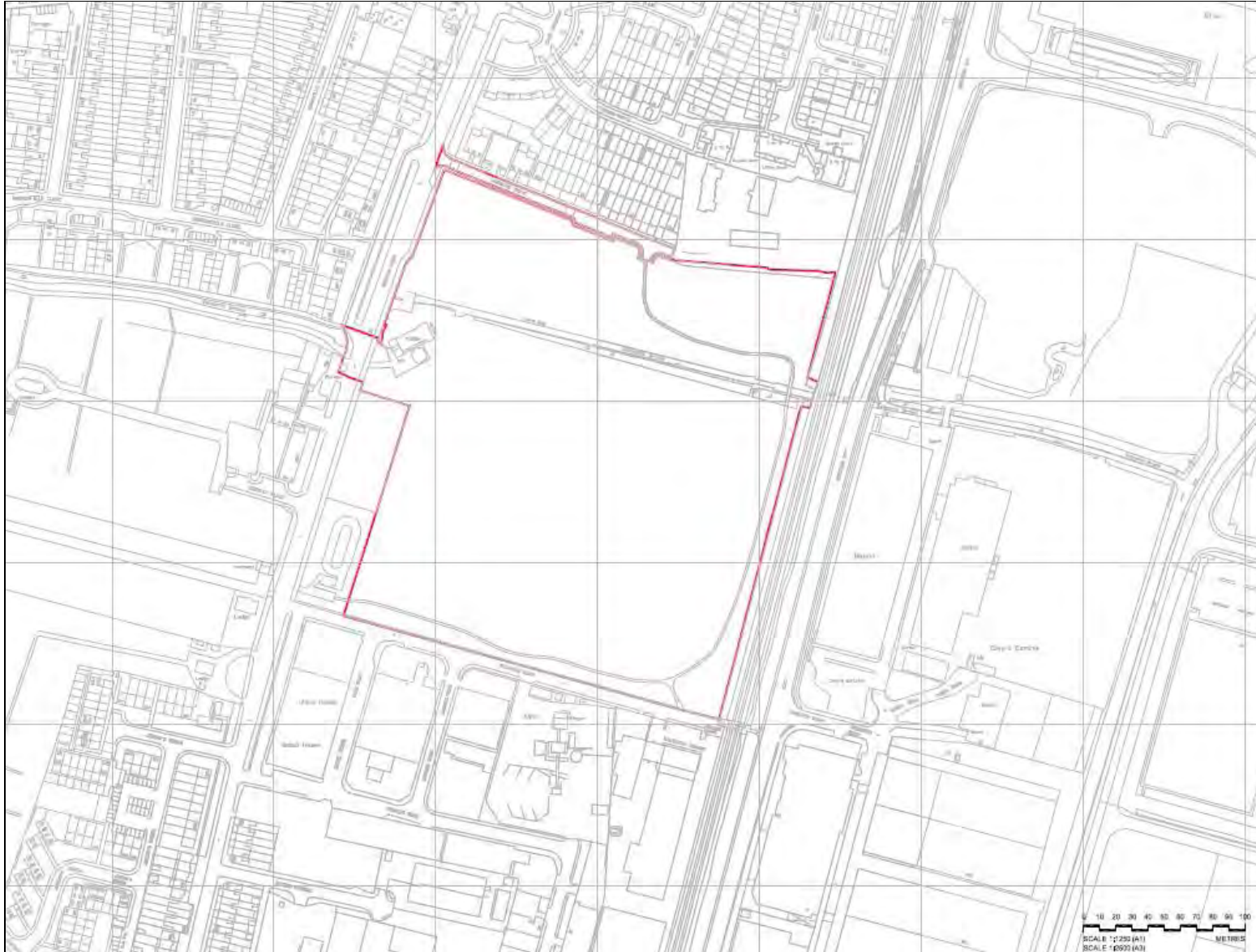
Site boundary at Enfield Golf Course / Cheyne Walk open Space



Site boundary at Bury Lodge, near Bury Lodge Park



Site boundary at Salmons Walk



Site boundary at Montagu Recreation Ground

**MINUTES OF THE MEETING OF THE PLANNING PANEL
HELD ON MONDAY, 9 JULY 2012**

COUNCILLORS

PRESENT Andreas Constantinides, Patricia Ekechi, Nneka Keazor,
Dogan Delman and Ertan Hurer

ABSENT

OFFICERS: Bob Griffiths (Assistant Director - Planning and Environmental Protection), Gary Barnes (Assistant Director Highways and Transportation), Aled Richards (Head of Development Services), Mike Hoyland (Senior Transport Planner), Lydia Dye (Planning Case Officer) and Ian Russell (Senior Engineer) Jane Creer (Secretary)

Also Attending: Applicant / Agent Representatives:
Graham Cowell (Environment Agency, NE Thames Manager)
Steve Whipp (Environment Agency, Senior User-Client)
Mike Gara (Environment Agency, Project Manager)
Roland Grzybek (Halcrow, Project Director)
Windsor Young (Volker Stevin)
Mike Ferens (MMA – land agent)
Ward Councillors:
Councillors Terence Neville and Glynis Vince (Grange Ward)
Councillor Jon Kaye (Highlands Ward)
And approximately 150 members of the public / interested parties

**1
OPENING**

NOTED

1. Councillor Delman as Chairman welcomed all attendees to the meeting and introduced the Panel Members, the applicant's representatives and Council officers.
2. The purpose of the meeting was to provide local residents and other interested parties the opportunity to ask questions about the application and for the applicants, officers and Panel Members to listen to all the comments.
3. A decision on the application would be made by the full Planning Committee at a future date.

**2
OFFICERS' SUMMARY OF THE PLANNING ISSUES**

PLANNING PANEL - 9.7.2012

NOTED

1. Aled Richards, Head of Development Management, advised that a printed summary of the proposals had been left on each chair.
2. The application had been submitted over a month ago. Over 1200 local properties had been consulted directly, mainly along the construction traffic routes and adjoining the sites. The plan provided showed the extent of the consultation letters sent. Notices had also been put up on sites. To date, 30 letters of objection had been received.
3. Comments made at this meeting would be noted, and the Environment Agency would also be working on further consultation.
4. Most of the concerns raised so far related to pedestrian access to sites, noise and disturbance, potential damage from construction vehicles and loss of use of Enfield Golf Course and Cheyne Walk Open Space.
5. Comments received from statutory consultees so far were summarised:
 - Ecology officers had raised concerns in respect of the biodiversity assessment which dated from 2008, and had requested another survey. This would have to be carried out between July and September so would affect the progress of the application which would not be able to be presented to Planning Committee until October at the earliest.
 - The Conservation Advisory Group had no objections and felt that the merits of the scheme outweighed any adverse impacts on Conservation Areas.
 - The Friends of Bury Lodge Park had raised concerns about implications for children's safety and wildlife.
 - Grange Park Residents' Association had raised concerns about site noise, emissions, HGV movements, and site access.
 - Highlands School had raised concerns about levels and routes of site traffic and the health and safety of pedestrians walking to school.
 - McMullen brewers had raised concerns around the Jolly Farmers pub site.
 - Thames Water had raised no objections, but required additional information in relation to Deephams sewage works.
 - Transport for London had no objections.
 - National Grid Electricity Network had no objections.
 - Western Enfield Residents' Association had raised concerns about flood risk to properties and damage to roads in its area.
6. The main planning implications to be considered were traffic issues, access to sites during construction, extent and duration of construction works, construction noise and disturbance to neighbouring amenity, and flood risk to properties adjoining the flood storage areas.
7. Updated plans were displayed at the rear of the hall.

PLANNING PANEL - 9.7.2012

8. The consultation period finished on 23 July, but Enfield Council took a pragmatic approach and would welcome written comments right up to the date of the Planning Committee, which was likely to be in late October.

3

PRESENTATION BY THE APPLICANT / AGENT

NOTED

1. Steve Whipp, Senior User – Client, Environment Agency, introduced the project members present and gave an illustrated presentation on the proposal, including:
 - a. In 2000 there was severe flooding in Edmonton when 192 properties were flooded internally and some people were not able to return to their homes for over a year. This was a quite rare event, but the impact was severe.
 - b. The objectives of the scheme were a significant improvement to flooding risk, improvements to the environment, and achievement of a benefit – cost ratio of over 6. Maps were available of the benefit areas.
 - c. The main elements of the scheme were described:
 - Enfield Golf Course would be used for temporary storage of flood water. For the vast majority of the time the course would be unaffected. The design was environmentally sensitive to minimise loss of trees. The structure would be safe to operate and be as simple as possible. The routes over the embankment would also tie in with the greenway path. There would be no change in flood risk upstream of the golf course.
 - The aim in the Montagu Road area was to stop water going into houses and through the cemeteries. A new culvert would smooth the flow. Water would be contained at Montagu Road Recreation Ground.
 - Artist's impressions had been produced of how sites would look after the scheme.
 - d. Proposed routes for construction access to the sites were set out. Concerns were acknowledged about the route to Enfield Golf Course and vehicles would avoid peak times and school arrival and leaving times. Salmons Walk only had entrances from Plevna Road and Montagu Road; a compound would be established on the recreation ground. At Bury Street West there would be fairly minimal works for about 3 weeks, accessed through the existing Council depot.
 - e. Access to the public had been taken into account at all sites.
 - The full 18 holes would be playable at Enfield Golf Course with a temporary tee at a slightly shortened 9th hole.
 - At Cheyne Walk there would be pedestrian access at all times to the allotments and open space with a segregated pedestrian route so people would be safe, and vehicular access at evenings and weekends and in special circumstances by arrangement.
 - At Barnabas Court there would be pedestrian and vehicular access to the sheltered housing at all times and there would be a vehicle marshall on that entrance.
 - Salmons Walk was a constrained site and to protect members of the public access could not be allowed during the works, but an alternative route would be signed, and post scheme there would be improvements.

PLANNING PANEL - 9.7.2012

- At Montagu Road, access to current play areas, community centre and sports field would be maintained during the works and the minimum space possible would be occupied on the recreation ground. Temporary traffic lights would be required while the culvert was constructed on the edge of Montagu Road.
 - The site at Bury Street West was currently closed to the public so there would be no change in access and there would be no impact on the Council depot operations. The volume of traffic would be minimal.
- f. The planned extent and duration of the works were set out with advice that the embankment construction would be the busiest time. At Enfield Golf Course and Cheyne Walk the works would last about one year. The work at Salmons Walk would be the most difficult and take longest because of the constrained access. The Montagu Road culvert would take 7 months to construct, but the limits to traffic would not be in place the whole time.
- g. Works would use construction best practice, for which they had won numerous construction awards, and operate under the Considerate Contractors Scheme.
- h. Standard construction working hours would be operated ie 8.00am to 6.00pm on weekdays, and Saturday mornings.
- i. Plant and design had been chosen to minimise disturbance as much as possible. Modern anti-noise anti-vibration construction machinery with appropriate silencing mechanisms would be used.
- j. Impact assessments would be carried out before and after the works. No structural damage to properties along the routes was expected, and evidence to illustrate was available from previous construction projects. The levels of construction traffic constituted a very low risk.
- k. This project had been worked on for a long time and there had been a great deal of consultation including exhibitions, newsletters and presentations and meetings with the public and interested groups.
- l. During construction, an approach used successfully on other projects would be followed, including a dedicated community liaison officer in place, local schools engagement, a 24 hour hot line and regular progress updates.
- m. The scheme had been included in Defra's funding announcement and was important nationally.
- n. Questions could be sent to Steve Whipp and Mike Gara via email at salmonsfas@environment-agency.gov.uk.

4

QUESTIONS BY PANEL MEMBERS

NOTED the following questions and observations from Members of the Panel:

1. Councillor Delman asked about the possibilities of diverting water from Salmons Brook to the New River or Pymmes Brook earlier to remove the need to store water; or if there must be water storage could it be held elsewhere? It was advised that potential diversion culverts had been considered, but were very expensive because of their length and not practical. Use of the New River also risked contamination of the water supply. If Pymmes Brook and Salmons Brook were running full, the New River as a man-made channel had a limited capacity to accept flood water.

PLANNING PANEL - 9.7.2012

The same applied for Sadlers Mill Stream. The main policy document for all flood alleviation schemes was called 'Making Space for Water' and the aim was for storage and attenuation on a natural flood plain.

2. Councillor Constantinides mentioned the positive suggestions made during consultation, especially by Enfield Golf Club members and asked whether any ideas had been taken up. He also asked about the overall project timing. It was confirmed that there had been previous consultation and exhibitions and it had been tried as far as practicable to incorporate previous consultations. The first part of the project to be finished would be Enfield Golf Course, then Montagu Recreation Ground and finally Salmons Walk.
3. In response to Councillor Hurer's queries, it was advised that normal working hours defined as acceptable were 8:00am to 6.00pm and that construction hours would be written into the contract and would be agreed with the Local Authority. HGV movements would be avoided at school hours. Discussions had been held with the Golf Club regarding alleviation of more frequent flooding and making the course more playable than at the moment post scheme. In an extreme event the intention was to inundate the golf course to protect other areas.
4. Councillor Ekechi asked about minimisation of disturbance and noise and the hours of construction work. It was advised that early in the morning and late in the evening, contractors would be just setting up and finishing. While work was progressing there would be liaison with local communities and collection of feedback. There were statutory limits on noise and vibration. There would also be a Section 106 Agreement with further constraints which the applicant would be bound by.
5. In response to Councillor Keazor's queries regarding the total timescale for the scheme, it was confirmed that the works at Enfield Golf Club would be likely to take just over a year, and works at Salmons Walk and Montagu Road around one and a half years. There were two sets of allotments near the scheme. A beneficial side effect would be that allotments at Cheyne Walk would flood less frequently and at Salmons Walk the allotments would receive protection from the wall along Salmons Walk.

5 QUESTIONS BY WARD COUNCILLORS

NOTED the following questions and observations from Ward Councillors:

1. Councillor Glynis Vince, Grange Ward Councillor, questioned whether any benefits would be brought to Grange and Highlands wards. On 9 and 11 June there had been flooding in parts of those wards, especially at the golf course / Cheyne Walk / Slades Rise areas, but not in Edmonton.

It was advised that the recent flooding had a chance of occurring at any time from river water escaping when the water was high, but there were no

PLANNING PANEL - 9.7.2012

homes in that flood plain. In Edmonton, flooding to people's homes could be expected in 1 in 20 years. The consequences on open spaces were a lot less: within days they could be used again and there was no permanent impact. The whole scheme would cost just over £15 million.

Councillor Vince understood there could be 40 traffic movements a day, and 54,000 tonnes of clay to be moved, and she asked whether the condition of residential properties had been surveyed.

It was advised that the busiest time during construction would be when bringing in materials for the embankment when there would be up to 40 vehicle movements a day in total in and out. Outside that busy period there would be a lot less movements. 54,000 tonnes of clay was the total for the whole project, and the golf club site would involve about half that amount. Potential for property damage was very low risk: previous experience in Uxbridge had shown that such traffic did not cause structural damage. Surveys were proposed just before the start of construction, so were not done yet.

Councillor Vince remained concerned that the roads involved in this project were narrower, and that even outside school run times, Worlds End Lane and Bincote Road had a constant flow of traffic.

2. Councillor Jon Kaye, Highlands Ward Councillor, highlighted that flooding occurred often 3 or 4 times a year in the Links Side / Slades Rise / Taunton Drive vicinity. He considered that the residents in these roads would not be helped and any flood alleviation scheme should be more comprehensive.

It was advised that there could be multiple sources of flooding, including from drains and roads, not just from the river running full. In low frequency events this scheme would alleviate flooding to these properties. This scheme was designed to mitigate against a single event such as happened in 2000. In such an event the works at the golf club would deal with the flow more quickly.

3. Councillor Neville, Grange Ward Councillor, questioned the proven need for the scheme at this time. There had been major repair costs after the event in 2000, and work done then may have contributed to flooding not recurring in the years that followed or during recent rainfall.

It was advised that in an event on the scale of that in 2000, flooding would still have occurred without a larger scheme in place. Comparison should be made with a situation similar to that in 2000 which is what this scheme was designed for. The works would alleviate such flooding. Levels at the Edmonton Green gauge showed that events this year in April and June were 1 in 6-9 month events compared to the greater than 1 in 20 year event experienced in October 2000.

PLANNING PANEL - 9.7.2012

Councillor Neville raised concerns about traffic and lorry movements and the compliance and supervision of contractors.

It was advised that vehicle movements and their monitoring had been planned. Subject to receiving planning consent, the busiest period would be from March to July 2013. There would be a vehicle marshall at the junction of Uplands Road. There would be contractual constraints and statutory constraints in respect of the number of vehicles and noise, etc. All vehicles involved with the project would have identification stickers and a contact number for a hotline for any issues to be reported. There was no commercial relationship in this case, the Environment Agency used framework contract arrangements and it was in the interests of the contractors to perform well.

Councillor Neville remained concerned about the effect of heavy lorries going in at such frequency on roads which were not built for such traffic.

Councillor Neville also highlighted concerns raised by residents regarding contact with the Environment Agency. There had been a seeming lack of openness, and a dripfeed of information and residents had lost confidence in the applicant's credibility.

The Environment Agency advised that they took consultation seriously and tried to give adequate and correct responses, though these may take time and could not be expected by return of email.

6

OPEN SESSION - QUESTIONS AND VIEWS FROM THE FLOOR

NOTED the following comments and questions were received from local residents and other interested parties:

1. The headteacher of Highlands School clarified that an objection had been raised by Highlands, Merryhills and Grange Park schools combined in respect of the volume of traffic, and about the quality of the documentation as there was no summary of the project in clear language and no easily-understandable map. He questioned why the vehicle route from the A10 had to approach Green Dragon Lane via Bincote Road and Worlds End Lane, passing three schools. Highlands School in particular had students in the sixth form who came and went throughout the day. He considered that temporary changes to traffic islands in Green Lanes would be a cost worth bearing to avoid these schools. These roads were difficult to negotiate at the quietest times and heavy lorries would cause chaos.

It was advised that the traffic routes had been carefully considered and the route chosen was the best, least-intrusive option. On busier roads, the increase in traffic would be less obvious.

PLANNING PANEL - 9.7.2012

2. Other residents also expressed their concern about the large numbers of children who used the local roads to go to and from school and the heavy lorry use of those roads.
3. In response to a resident's queries about potential alternatives including a reservoir elsewhere, it was advised that it was best to store flood water as close as possible to the area to be benefited. Between this location and Edmonton, there were very few green spaces, and they had other uses, and the best choice was this natural flood plain.
4. A resident raised particular concerns about the current condition of Cadogan Gardens roadway and likely severe damage resulting from construction vehicles, and that heavy lorries would exacerbate the frequent flooding experienced due to broken water pipes in Worlds End Lane, Green Dragon Lane and Eversley Park Road.
5. The Enfield Golf Club Chairman considered that the scheme would jeopardise the survival of the club, and had concerns about the design of the scheme. The Chairman of the Panel recommended that detailed concerns be sent to Development Control Team in writing.
6. A local resident highlighted recent flooding on 9 and 11 June when gardens were flooded, sewage came up through manhole covers and residents had been unable to use toilets for a night, and that Thames Water must also be involved in the decision.
7. A resident who had previously worked as a Flood Defence Manager offered the opinion that use of the New River could be a potential alternative. He also highlighted the importance of maintenance and proactive management of water courses and culverts and questioned what maintenance had been carried out following the flooding in 2000. In respect of the flume construction at Enfield Golf Course, earth banks in flood conditions generated large amounts of silt, and he considered there was a need for a mechanical structure there. He requested a deferral of the planning decision to give another 6 months for full discussions involving residents, schools and Enfield Golf Club.

In response, it was advised that emphasis was put on maintenance of culverts and inspection of assets, including use of CCTV. The Council also had a regime for cleaning culverts. It was confirmed that the EA had permissive powers to carry out maintenance.

8. A resident of Uplands Way expressed surprise at the lack of acknowledgement of the preliminary flood risk assessment which showed the flood zones which had a risk of dangerous fast-flowing water in Grange Park. Putting in the bund would extend those zones and put Grange Park residents at risk and this was a misconceived project.

It was advised that the preliminary flood risk assessment was undertaken to look at other sources of flooding not from rivers. The areas marked in

PLANNING PANEL - 9.7.2012

Grange Park were open space, allotments and golf course land on the natural flood plain where flood risk would be expected to be high. These areas did not have roads and were not going to be used by residents or emergency services in floods. This scheme had been carefully designed so that it would not increase the flood risk to local properties. The embankment would be lower than properties by Enfield Golf Course and water would come over the embankment before it had any influence on upstream levels.

9. A resident in Links Side echoed concerns raised by neighbours and re-iterated their experiences on 9 and 11 June when their rear gardens were flooded as water did back up. Residents wanted to know if their homes were going to be affected. They had found the documentation to be poor and uninformative, and would like to see better maps which demonstrated what areas were going to be affected.
10. A resident of Slades Rise also expressed that people with properties that backed onto the brook felt they had been ignored and that no-one had assessed their properties. There were a lot of elderly residents who did not have email and were very concerned about insurance and flooding. If the scheme did not work who would compensate these residents?

It was advised that Links Side homes, under current flood mapping, were not at high risk of flooding. Gardens and open spaces would experience flooding, but that was of a different order to flooding of houses.

11. A resident highlighted that gardens were considered part of people's homes, where they relaxed and played, and their importance should be recognised.
12. Residents re-iterated that gardens in Slades Rise and Links Side areas flooded regularly, once or twice a year, and the public footpath was put out of use because it was flooded.
13. A resident of Uplands Way considered that damage to roads would be inevitable from the proposed numbers of heavy lorries. She requested an independent survey funded by the Environment Agency be carried out on the roads before the individual condition surveys of houses.

It was advised that a visit would be made to look at the possibility of undertaking a survey prior to lorry movements. In their building surveyor's opinion the likelihood of damage was very low.

14. Residents expressed ongoing concern regarding the worth of the scheme as no flooding had been documented in Montagu Road since the 2000 flood.

It was confirmed that flood alleviation schemes nationwide were assessed using predictive flood risk mapping and government guidance, with the same process followed on all schemes on an economic basis and

PLANNING PANEL - 9.7.2012

cost/benefit assessment. The assessment criteria could be viewed on the Defra website.

15. Residents queried why other reservoirs in the Chase Side area and at Hogs Hill could not be used for flood alleviation.

It was advised that Hogs Hill reservoir had been considered in a previous scheme but did not offer a similar storage area, and that was why it had been removed from this scheme.

16. A golf club member expressed that there may be other ways of holding water within the course which were better than the current proposals, and that there had been responses from the EA in the last 48 hours which were not in the public domain at present. Discussions should continue between the club and the EA and therefore the application was not yet in a position to be determined and should not be presented to Planning Committee until all the issues had been agreed as far as they could be. Discussions should also cover the flume design. As the vast majority of works would be on Council-owned land he would also like to see terms and conditions and minutes of discussions between the Council and the EA be put in the public arena.

It was confirmed that the EA had been liaising extensively with the golf club and looking at their proposals, including on the flume design, and would continue to do so. Enfield Golf Club had been given a set of terms in July 2011. Discussions with the Council's agent had also gone on for some time. Minutes and correspondence which were not confidential or commercially sensitive could be made available.

17. An attendee highlighted effects of landscaping at the golf course and that widening the channel through the course and removing left-over earth and tree debris may help solve the problem of a head of water building up and backing up to Slades Rise / Links Side. Also, the main issue was the protection of people's homes from flooding elsewhere in the borough, and sometimes it was necessary to suffer for a few months for a bigger cause. He supported the scheme, which he felt would benefit a lot of people.
18. In response to concerns raised about current problems experienced with sewerage pipes, it was advised that the issue was recognised within the scheme and it was intended to have lock down manhole covers. The Council's Head of Development Management also confirmed that a detailed assessment of the proposals had been made by Thames Water.
19. The Enfield Golf Club Chairman considered that it would still have been preferable to include Hogs Hill reservoir in the current proposals. The golf club had concerns about the flume design and wished other designs to be considered. Greater protection for the golf club was required as it would rapidly lose members if the course may be made frequently unusable. He would like other experts to examine the proposals independently.

PLANNING PANEL - 9.7.2012

20. Other residents supported an independent assessment and consideration of other solutions, and a deferral of this application in the meantime.

It was advised that a number of independent reviews had already been done, and that the golf club had also used an independent consultant who agreed that this solution was optimum.

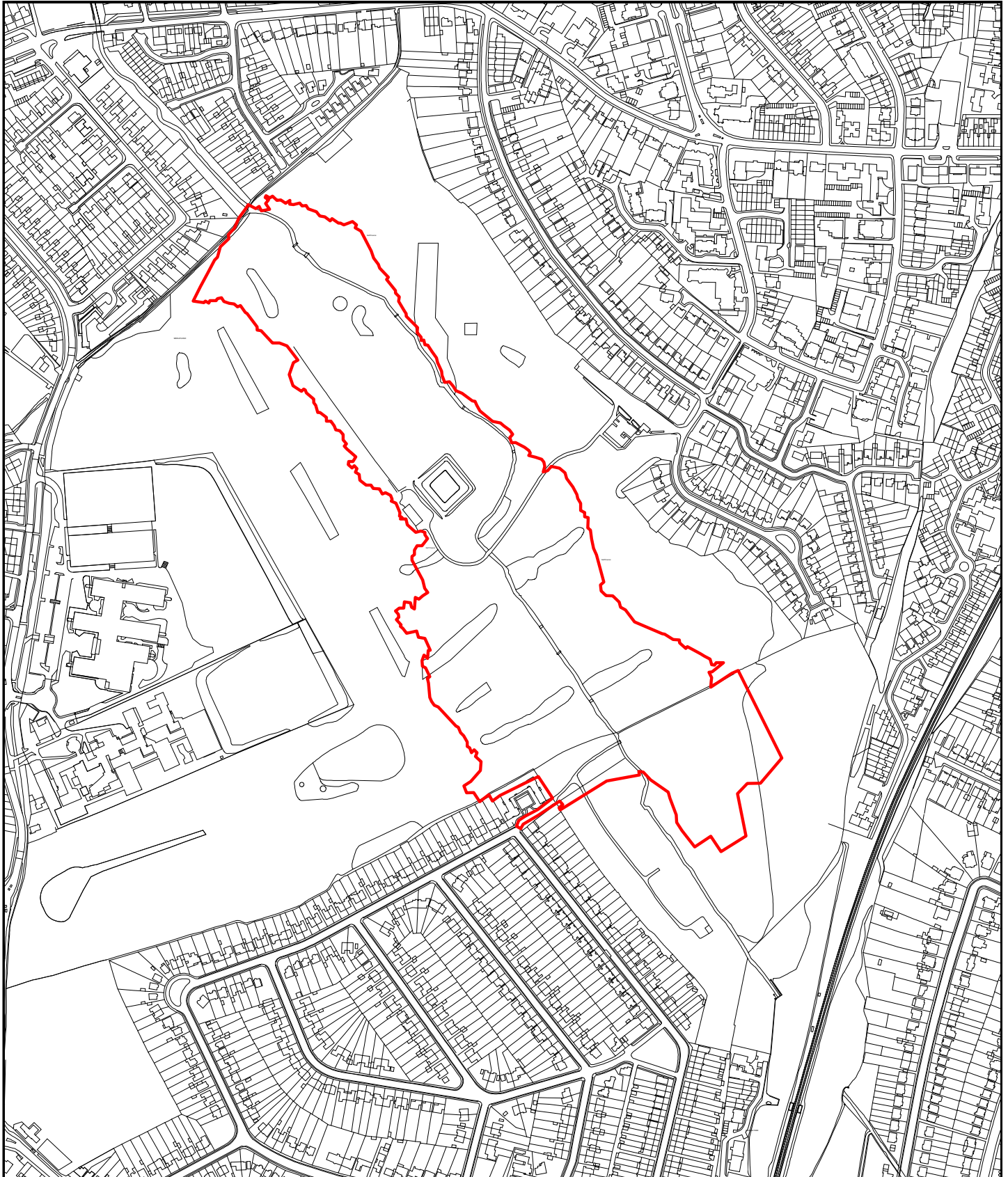
21. An attendee re-iterated that many local residents, particularly in Windmill Gardens, Links Side, Slades Rise, Slades Close and Taunton Drive all felt susceptible to flooding and should be given greater consideration. Water was coming from a number of sources upstream and use of Hogs Hill reservoir could help to deal with that.
22. In response to Councillor Neville's queries regarding ultimate accountability, it was advised that the EA had a unit which analysed all flood risk schemes and prioritised them on a cost-benefit basis. There was a Large Project Review Group made up of senior officers and decisions were ultimately agreed by the Chief Executive, Paul Leinster, whose full contact details were available on the Environment Agency's website.

7

CLOSE OF MEETING

NOTED the closing points, including:

1. The Head of Development Management advised that any further comments should be sent to the Council's Planning Department, and would be received up until the date of the Planning Committee meeting to which the application would be presented for decision.
2. It was not expected that the application would be presented to a Planning Committee meeting until October 2012 at the earliest, as an ecology assessment needed to be carried out. It was expected that a special meeting of the Planning Committee would be convened at a large venue because of the level of public interest in this application.
3. Notes taken at this meeting would be appended to the Planning Officers' report to be considered by the Planning Committee.
4. Full details of the application were available from the Council's website www.enfield.gov.uk (Application Ref P12-01082PLA).
5. The Chairman thanked everyone for attending and contributing to the Planning Panel meeting. The Chairman suggested to the Environment Agency that they should consider producing alternative schemes with costs so that the public is convinced that the proposed scheme is the only viable one.

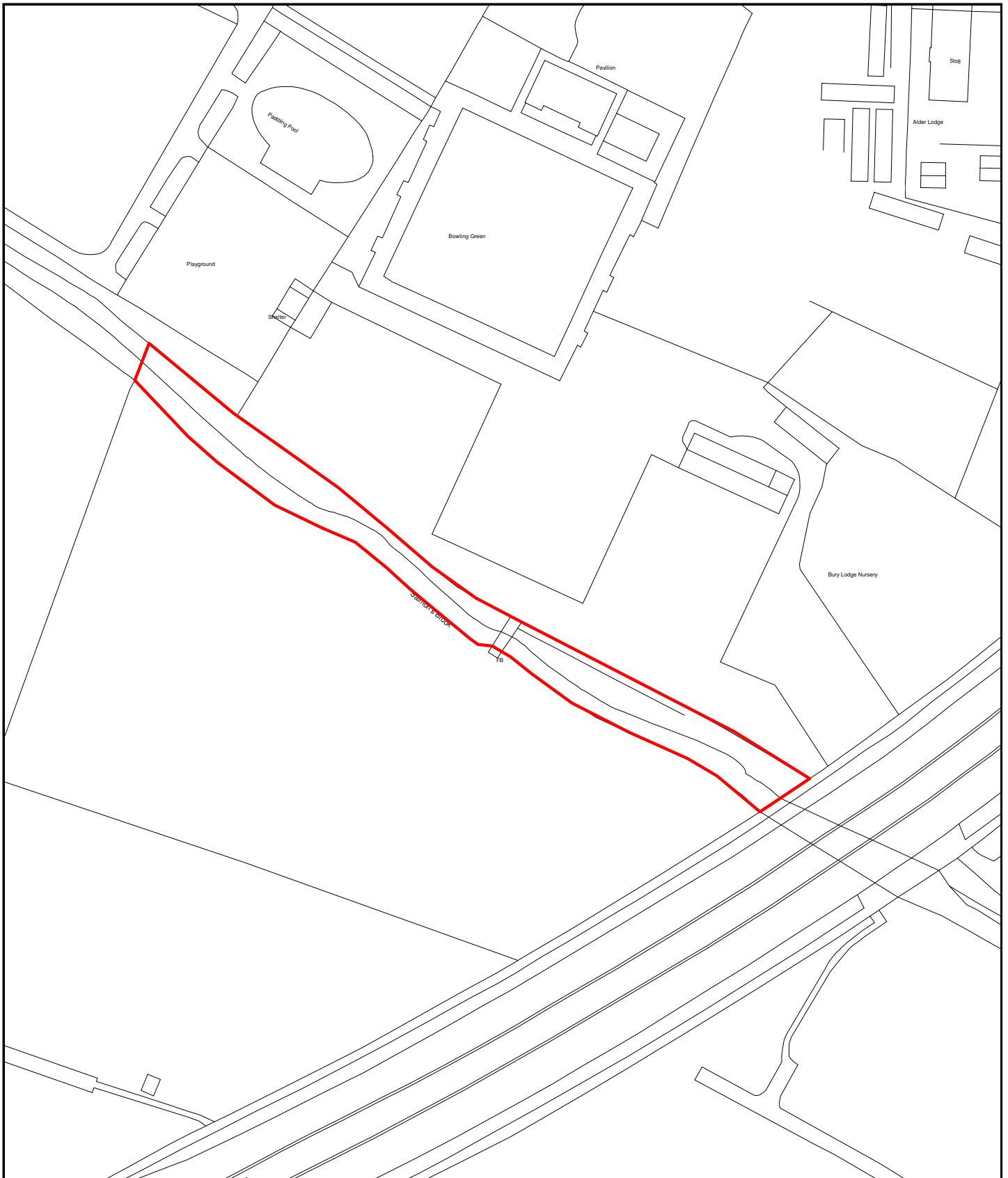


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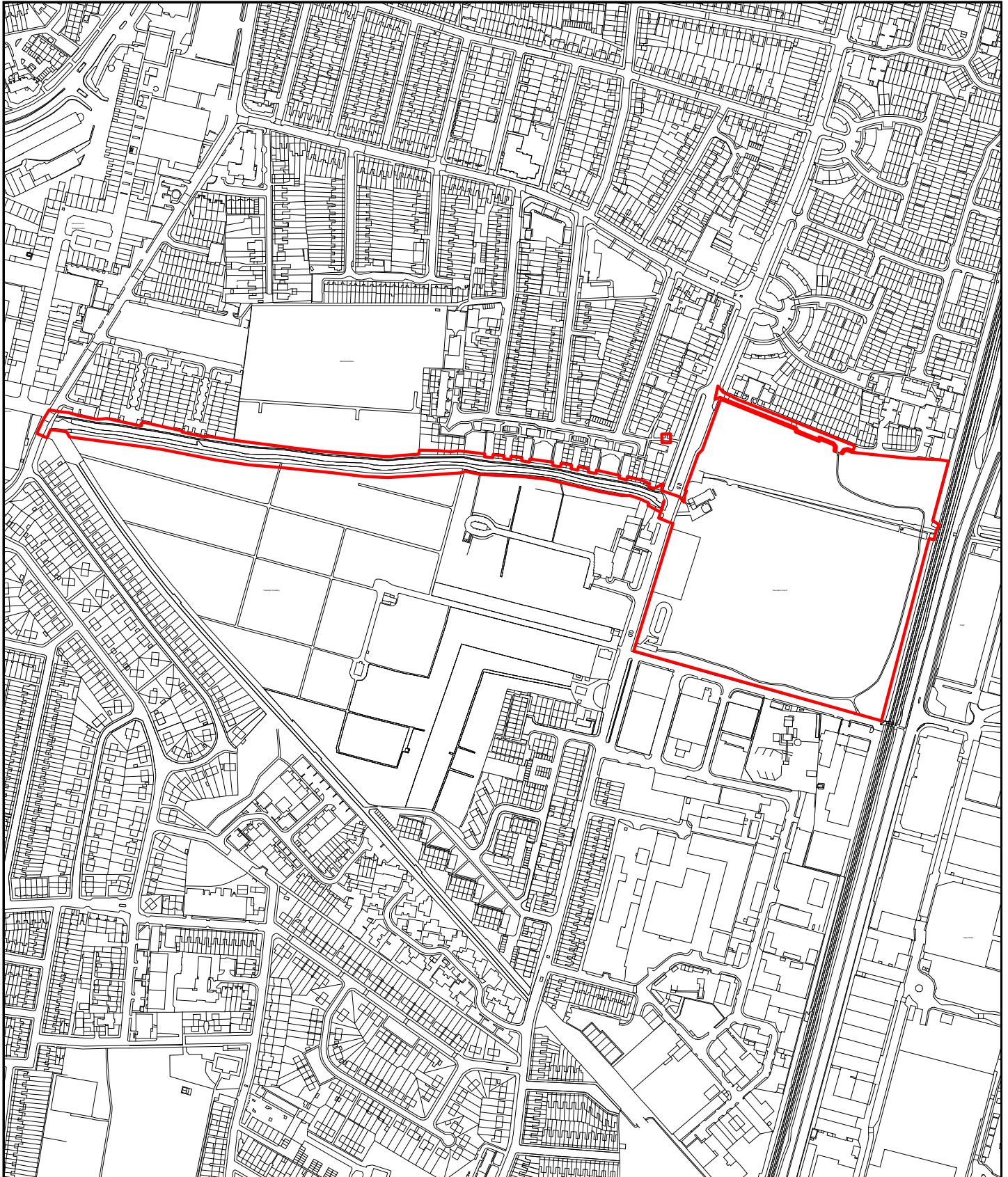
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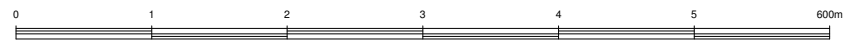
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Application No:- P12-01082PLA - Salmon's Walk/Montagu
Recreation Ground



Development Control



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Date of plot: 02/11/2012