



Environment Committee

8 March 2022

Title	Flood and Water Management
Report of	Chairman of the Environment Committee
Wards	All
Status	Public
Urgent	No
Key	No
Enclosures	<i>Appendix 1 - Barnet Highways drainage and flood asset summary</i> <i>Appendix 2 - London Borough of Barnet Flood and Drainage Strategies and Plans</i> <i>Appendix 3 - Thames Water Flooding issues status report</i>
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Summary

The London Borough of Barnet is designated as a Lead Local Flood Authority (LLFA) and as such has statutory responsibility for leading the coordination of local flood risk management within the borough. This responsibility includes ensuring that flood risks from local sources, including surface water runoff, ground water and ordinary watercourses and their interaction are identified and managed.

This report presents a summary of the current flood risk and drainage management activities being undertaken in the borough including details of supporting legislation. In addition, the report defines roles and responsibilities and the associated challenges faced by the Council in discharging its duties as a Lead Local Flood Authority (LLFA) and Risk Management Authority (RMA).

Officer's Recommendations

1. That the Committee notes the background with regard to flooding and drainage issues within the Borough and the action plan being delivered in line with the Councils Flood Risk Management Plan Measures (2021-27)

1. WHY THIS REPORT IS NEEDED

- 1.1 As a LLFA the Council has statutory responsibility for leading the coordination of local flood risk management within the borough. This responsibility includes ensuring that flood risks from local sources, including surface water runoff, ground water and ordinary watercourses and their interaction are identified and managed.
- 1.2 Barnet has a huge network of aging flooding and drainage infrastructure assets including, trash screens, gullies, gully connection pipes which are a key challenge where they are not operating as their original intended usage. A summary of Barnet's flooding and drainage infrastructure is summarised in Appendix 1.
- 1.3 Across the borough we have experienced flooding incidents, the most recent in July 2021, a surface water flooding event, predicted to be one of the worst storms experienced by the borough having a 1 in 50-year return period (2% probability in any year). The impacts of climate change were evident in this record-breaking rainfall event which impacted mainly the north-eastern part of the borough. Climate change is predicted to result in more **frequent** and **extreme** storm events and, and consequently the increased risk of flooding.
- 1.4 The expectation from the Council for delivering the **third highest national housing targets (and highest in west London Boroughs)** is putting increased pressure and is further expected to exacerbate the flood risk due to rapid urbanization, unprecedented population growth, aging infrastructure, and evident impacts of climate change. It is crucial that the Council aims to protect the undeveloped functional floodplains (Flood Zone 3b) or restore developed Flood Zone 3b where being redeveloped and practically possible, and that all new developments/redevelopments proposals include a robust surface water drainage strategy, promoting and implementing sustainable urban drainage solutions in line with the Councils emerging Sustainability Strategy.
- 1.5 Urban areas within the borough suffer from multiple risks of flooding from the river, surface water, sewer surcharges (both surface and foul) and water quality issues (for example from foul overflows, hydrocarbons from road runoff etc.). Historically, the rivers would have meandered naturally, however, due to increased urbanisation, the watercourses have been **culverted**, increased surface water outfalls in the river and **misconnections** in the surface/foul pipe network have been introduced-there is a complex picture of existing flood risk in the borough.

2. REASONS FOR RECOMMENDATIONS

2.1 LEGISLATIVE FRAMEWORK

The Council operates within a legislative framework as summarised below:

- **Flood and Water Management Act (2010)** - creates clearer responsibilities for flood risk management. It creates the role of **Lead Local Flood Authority (LLFA)** with responsibility to manage local flood risk in the borough from surface water, ordinary watercourses¹ and groundwater. This act is being enacted in stages in line with the London Borough of Barnet Local Flood Risk Management Strategy October 2017.
- **Flood Risk Regulations (2009)** - include the requirement on the Environment Agency and LLFA's to cooperate on the development of Flood Hazard and Flood Risk Maps, Preliminary Flood Risk Assessments (PFRA) and Flood Risk Management Plans (FRMPs).
- **Land Drainage Act 1991**- functions of LLFA's in relation to land drainage, in particular:
 - Section 23 - the Council is responsible for consenting works that propose any changes to the ordinary watercourse and alter or obstruct the flow in the watercourse. Enforcement action to rectify unlawful and damaging work to a watercourse can be taken by the Council.
 - Section 25 - permissive powers to ensure that appropriate maintenance is carried out by landowners on ordinary watercourses. These powers can be exercised if it is deemed that a lack of maintenance or an alteration to a watercourse pose a flood risk.

2.2 STRATEGIES

Aligned to the legislative framework the Council has in place a range of strategies as set out in Appendix 2 and summarised below:

- Barnet Preliminary Flood Risk Assessment (2016)
- Barnet Surface Water Management Plans (SWMPs) (2011)
- Barnet Local Flood Risk Management Strategy (October 2017)
- West London Strategic Flood Risk Assessment (SFRA)-Level 1
- Barnet Strategic Flood Risk Assessment (SFRA)-Level 2 (April 2021)
- Flood and Water Management proposed policies for local plan (DRAFT)
- Flood Risk Management Plan Objectives-Cycle 2 (2021-27)

2.3 RESPONSIBILITIES

¹ Watercourses/ditches/pipes/culverts that are not designated as Main River on the [Environment Agency Main River Map](#)

The Councils implementation of its Lead Local Flood Authority role includes discharging five main statutory duties as below:

- Apply and monitor a Local Flood Risk Management Strategy. LLFAs lead in managing local flood risks (i.e., risks of flooding from surface water, ground water and ordinary (smaller) watercourses). This includes ensuring co-operation between the Risk Management Authorities in their area. (Section 9-Flood and Water Management Act 2010).
- Maintain a register of local structures and features that are likely to have a significant effect on flood risk (Section 21 Flood and Water Management Act).
- In the event of a significant flood, investigate to which authorities have flood risk management functions and whether these authorities have or intend to carry out these functions Section 19 Flood and Water Management Act².
- Provide consultations for the Planning Authority on the design of surface water drainage submitted for major development sites³ (Town and Country Planning (Development Management Procedure) (England) Order 2015) -
- Determine and consent, where appropriate, the changes to the structure of ordinary watercourses, known as Ordinary Watercourse Consent (Land Drainage Act 1991).

Besides the LLFA role, there are 3 other key roles that the Council has in relation to flood risk management in the borough as listed in the table 1 below:

	Roles in relation to Flood Risk Management	Responsibilities
London Borough of Barnet	Lead Local Flood Authority	Apply and monitor a Flood Risk Management Strategy. Investigate flooding and publish Section 19 reports when triggered. Maintain and publish an asset register. Commenting on Planning Applications having surface water drainage implications. Ordinary Watercourse Consent.
	Highways Authority	Management of associated road drainage. Regular inspection and maintenance to ensure major highway drainage systems are clear of blockages were reasonably practicable.

² [Barnet's published criteria for Section 19 investigation](#)

³ Major developments, typically proposing more than 10 dwelling houses. Refer <https://www.legislation.gov.uk/uksi/2010/2184/made> for detailed definition.

	Roles in relation to Flood Risk Management	Responsibilities
	Planning Authority	Preparation of the local development plan, flood and water management policies supported by an appropriate assessment of flood risk (in accordance with NPPF ⁴) and determining planning applications. Ensure new development applications are supported by appropriate drainage proposals.
	Emergency Planning	Emergency Planning – category one responder under the civil contingencies act. The role is set out in the Multi Agency Flood Plan Develop Emergency Plans; Provide advice and assistance to businesses and voluntary organisations regarding business continuity management. Develop arrangements for Civil Preparedness information available for public use, and maintain a system for warning, informing, and advising the public in the event of an emergency. Share information and co-operate with other responders.

Table 1: Barnet-Different Roles in relation to the flood risk management

2.4 STAKEHOLDERS

As a Lead Local Flood Authority, we have a duty to work in coordination with other Risk Management Authorities. The key Risk Management Authorities (RMA's) that have flood risk management responsibilities within the borough are included in Table 2 below along with their identified roles and duties.

It is worth noting that regular maintenance of all the main rivers and ordinary watercourses is the responsibility of the landowners known as “riparian owners”⁵

Risk Management Authority	Role	Responsibility
Environment Agency	Operational responsibility for flooding from main rivers,	Responsibility for managing flooding from main rivers and regulating third party works on main rivers. Undertakes maintenance and operates some key defences Monitors river levels and issue flood warnings on Silk Stream and the Deans, Edgware, Dollis, Mutton brook. Enforcement Authority for the Reservoir Act

⁴ [National Planning Policy Framework \(NPPF\)](#)

⁵ [Duties of Riparian Owners](#)

Risk Management Authority	Role	Responsibility
	Oversight responsibilities in relation to all flood and coastal erosion risk management in England	Statutory consultee for some development proposed in Flood Zones 2 and 3, or within 20m of the top of the bank of a main river. Support LLFAs to support the implementation of flood defence schemes (via Grant in Aid/Local levy funding).
Thames Water/Affinity Water	Drainage of foul water, treatment of waste, surface water sewers and combined sewers. Provision of water	Primary responsibility for sewer flooding, burst pipes or water mains, floods caused by system failures Maintain a register of properties at risk of flooding due to a hydraulic overload in the sewerage network (DG5 register) and undertake improvements to alleviate sewer flooding problems on the DG5 register. Adoption of private sewers. Adoption of sewers offered for adoption by developer. Statutory consultee to the LLFA when the system is proposed to connect to the public sewer. Duty to cooperate with other authorities, including sharing data (where possible).
Transport for London and London Underground	Highways Authority	Responsible for ensuring that drains, including kerbs, road gullies and ditches and the pipe network which connect to the sewers, are maintained Responsible for the effectual drainage of surface water from adopted roads along red routes Responsible for the effectual drainage of surface water from TFL rail/ London underground lines and tube stations.
Highways England	Highways Authority	Responsible for the effectual drainage of surface water from the A12 Responsible for ensuring that drains on the A12 including kerbs, road gullies and ditches and the pipe network which connect to the sewers, are maintained

Table 2: Roles and responsibilities of different RMA's in relation to flood risk management in the borough

Of note is the relationship with Thames Water, the Council has been working with Thames Water on several long-standing issues, the current status of which are set out in Appendix 3 of this report.

2.5 SOURCES OF FLOODING

Flooding from Main Rivers - Main rivers are defined as watercourses having a potential to cause significant widespread flooding. The Environment Agency have duties and powers in relation to Main Rivers. The three key main rivers in Barnet are Silk Stream, Dollis brook and Pymmes Brook.

Flooding from Ordinary watercourses - Ordinary watercourses are the small ditches/watercourses/culverts not marked on the Environment Agency Main

River map. The Council as LLFA have duties and powers in relation to these Ordinary watercourses. Decoy Brook, Clitterhouse ditch, Blaketts brook in Friary Park, Shierbourne brook

Flooding from Surface water - Flooding from the rainfall runoff particularly extreme rainfall events when water ponds or overflows before it enters underground drainage network or a watercourse. The Council as LLFA is responsible to manage the flood risk from surface water. This is often referred as “flash flooding”.

Sewer flooding and flooding from Highway gullies - The Council has circa 30,000 highway gullies. Flooding can happen if gullies are blocked or where the underground Thames Water connections are surcharged, and the gullies are unable to drain into the sewers.

Foul flooding - Often during storm events the surface water is directed into foul sewers leading to foul overflows. Foul flooding can also happen because of blockages caused by non- flushable items into the sewer system. Misconnections from homes/developments can further contribute to the flooding from contaminated water. Thames Water is the responsible Risk Management Authority for foul flooding.

The key sources of flood risk and the corresponding responsible Risk Management Authority is summarised in Table 3 below:

Flood Source & Mechanism	Responsibility							
	Barnet Council as LLFA	Barnet Council as Highways Authority	Environment Agency	Thames Water	Affinity Water	TfL/Network Rail	Riparian Owners	Barnet Council - Emergency Planning
Surface Water flooding	•							
Ordinary Watercourse	•						•	
Groundwater	•							
Main Rivers (Silk Stream, Dollis brook and Pymmes Brook)			•				•	
Reservoirs			•	•	•			•
Sewer				•				
Burst pipes or water mains				•	•			
Railway Flooding						•		

Flood Source & Mechanism	Responsibility							
	Barnet Council as LLFA	Barnet Council as Highways Authority	Environment Agency	Thames Water	Affinity Water	TfL/Network Rail	Riparian Owners	Barnet Council - Emergency Planning
Roads / Highways drainage		•						
Highways Flooding (Red routes)						•		

Table 3: Different sources of flooding and the responsible RMA

2.6 SUCCESSES TO DATE

Flood & Coastal Erosion Risk Management (FCERM) Programme - managed by Environment Agency, LLFA's can seek funding to progress strategic or local flooding issues/schemes. As Barnet lies within Thames River basin District- the Council work closely with Thames Regional Flood and Coastal Committee (TRFCC).

Barnet has the following projects in the national FCERM programme:

Detailed Appraisal Stage:

- The Greenway
- Decoy Brook
- 4 CDAs-Underhill, Longmore, Childs Hill and Friern Barnet.

Business Case stage:

- Trash Screen improvements at three locations (Business Case approved-under implementation stage) Value ~£190k
- Muswell Hill Critical Drainage Area (Business Case submitted, awaiting approval). Value~£822k
- The Vale trash screen (Business case approved, awaiting funding to start construction) Value ~£40k
- Mill Hill Circus Critical Drainage Area (Business Case to be submitted in May 2022).

There is a further potential allocation of circa ~ £7m for Barnet schemes in the FCERM programme until 2027. Officers aim to work proactively to progress the schemes forward in the program, subject to the viability of the schemes and approval of the Business Cases by the Environment Agency.

2.7 PROGRESS TO DATE

Silk Stream Flood Resilience Innovation (SSFRI) Project -The Council was successful in securing £6m in 2021 for Silk Stream Flood Resilience Innovation (SSFRI) project in collaboration with Environment Agency, Defra and London

Borough of Harrow. This secured investment will deliver schemes for 6 years (2021-27) to help reduce the risks of flooding within Silk Stream catchment in the borough.

Trash Screen improvement project at three sites-Shierbourne brook (Burnside Close), Blaketts Brook (Friary Park) and Folly brook (Southover) One out of the three trash screens funded by Environment Agency (with match funding from the Council) has been implemented on the Shierbourne brook, Burnside Close site in January 2022. The second one at Friary Park is under construction. Before and after photos for the trash screen improvement at Burnside Close are set out below:



Unblocking Burnt Oak Brook-River restoration works.

In April 2021, the Council was successful in securing Rivers & Wetland Community days (RWCD) Programme funding to launch “Unblocking Burnt Oak brook” project in Waling Park, Barnet. This project is ongoing in Watling Park, Barnet as part of which community engagement events are being hosted (twice every month) by our delivery Partner Thames21. The scope of the project has been expanded by securing match fund from the Council and Environment Agency. The project aims to deliver the following:

- Remove redundant artificial bank materials to reconnect the Burnt Oak brook to the floodplain and rehabilitate marginal habitats.
- Bank top vegetation management, to increase light, aesthetics, and safety by opening public views of the brook-Community led events.

Community Engagement and Education

As part of the Burnt Oak River Restoration project and Silk Stream Flood Resilience Innovation Project-Various community engagement events were organised and delivered over the last year.

- The events were delivered to educate and increase community awareness and knowledge of ongoing good practice for river care and conservation opportunities.
- Educate and raise awareness of the Thames Water “Bin It Don’t Block It” campaign-spreading message to the local community in relation to non-flushable products
- Dedicated Flood and Water Management website page published on the Council’s website including relevant information of how to report and check flood risk for the local communities and a live page for the ongoing projects and their programme.



3. ALTERNATIVE OPTIONS CONSIDERED AND NOT RECOMMENDED

3.1 None as a direct result of this report.

4. POST DECISION IMPLEMENTATION

4.1 Officers will continue to deliver against the Councils committed Flood Risk Management Plan Measures (2021-27) as listed below:

- By 2027, London Borough of Barnet will organise one community event to improve relations with communities and active resident groups.
- By 2027, London Borough of Barnet will carry out a strategic assessment to map the strategic flood storage areas for Barnet.
- By 2027, London Borough of Barnet will undertake option appraisal studies for at least top 6 priority Critical Drainage Areas (subject to funding) to deliver detailed option appraisal.
- By 2027, London Borough of Barnet will develop business cases to deliver at least 2 Critical Drainage Area schemes on ground (subject to funding).
- By 2027, London Borough of Barnet will establish and improve relations with key stakeholders to work together to develop at least one project at one of the key infrastructure flooding hotspots (subject to funding).
- By 2027, London Borough of Barnet will aim to reduce flood risk in new developments by reviewing and improving the current local flood authority planning application review process and produce Barnet-specific Sustainable Urban Drainage Systems guidance.
- By 2027, London Borough of Barnet will review and improve the existing process of emergency preparedness, responding to flooding incidents and post-flood

recovery to develop and share a case study in the Greater London, Thames Flood Risk Area.

- By 2027, London Borough of Barnet will investigate potential locations, appraise nature-based solution options within Critical Drainage Area assessments (or explore other opportunities) to deliver at least one nature-based solution scheme.

4.2 Action Plan:

Surface water management planning

- Update Barnet's Local Flood Risk Management Strategy (last published and adopted in 2017).
- Publish Council's Sustainable urban drainage strategy for the borough - preparing a priority mapping for borough-wide SuDS.
- Natural Flood Management Strategy focusing on Barnet's watercourses.

Studies

- Progressing top ten priority CDA's in the national FECRM program towards Business Case stage.
- Reviewing the FCERM program during annual refresh cycle and adding projects in the program as necessary,

Works

- Implementing the FCERM program schemes/Pump priming CDA schemes. The Muswell Hill CDA scheme is expected to go in the implementation stage in 2022-23 followed by Mill Hill Circus and Decoy Brook.
- Upgrading assets including replacement of trash screens.
- Implementing gully sensors in the selected Vulnerable gullies.
- Maintenance and repairs of highway gullies lying within high risk of surface water flooding. (Within 1 in 30-year return period or 3.33% annual probability of predicted flood outline)

Development Planning

- Appointing a dedicated SuDS officer to comment on Planning applications.
- To be able to utilise the external consultants to manage the peak of planning application consultations.

Monitoring

- Inspection of watercourses/walkovers-setting the baseline.
- Reviewing and updating the maintenance plans.
- Enhanced Gully cleansing of the highway gullies in high surface water flood risk zone (Within 1 in 30-year return period or 3.33% annual probability of predicted flood outline).
- CCTV surveys of long culverted watercourses (P1 category-refer Table 4).

Customer

- Engagement events.
- Publishing promotion material to increase awareness and understanding of flood risk within local communities.

Emergency Planning

- Enhanced coordination with Emergency Planning teams.
- Reviewing the emergency plan and response mechanisms.

Coordination

- Improved relationships with internal Council teams and external stakeholders including Affinity Water, Thames Water and the Environment Agency.

Enforcement

- Publishing local Land Drainage Bye Laws/Policies.
- Enhanced coordination with Council's enforcement teams.

5. IMPLICATIONS OF DECISION

5.1 Corporate Priorities and Performance

5.1.1 The Council's Corporate Plan – The Barnet Plan 2021-25, states in its strategic priority "Clean, Safe and Well Run" that it will continue to invest in the Network Recovery Programme to ensure roads and pavements can be used for safe, reliable travel in the long term. The Council's response to flooding and drainage align to this approach.

5.1.2 The approach to flooding and drainage set out in this report will contribute to the Council's Health and Wellbeing Strategy by making Barnet a great place to live and enable the residents to keep well and independent.

5.1.3 The Highway network is the Council's most valuable asset and is vital to the economic, social and environmental wellbeing of the Borough as well as the general image perception. The Highways provide access for business and communities, as well as contribute to the area's local character and the resident's quality of life. Highways really do matter to people and often public opinion surveys continually highlight dissatisfaction with the condition of local roads and the way they are managed including response to flooding and drainage. Public pressure can often result in short term fixes such as potholes for example, rather than properly planned and implemented longer term solutions.

5.2 Resources (Finance & Value for Money, Procurement, Staffing, IT, Property, Sustainability)

5.2.1 There are no financial issues as a direct result of this report, the approach to flooding and drainage is funded from external grants and funding applications, the NRP and CIL programme as approved by this Committee on 13 January 2022 and approved Highways managed budgets.

5.2.2 There are no staffing ICT or property implications.

5.2.3 This report drives a sustainability approach through the application of a strategic approach aligned to the Council's statutory commitments as

outlined in this report, in particular the Councils Flood Risk Management Plan Measures (2021-27).

5.3 Legal and Constitutional References

5.3.1 The Flood and Water Management Act 2010 and the Flood Risk Regulations 2009 place duties on local authorities. This legislation designates the London Borough of Barnet as a Lead Local Flood Authority (LLFA) and as such the authority has a statutory responsibility for leading the co-ordination of local flood risk management within the borough. This includes ensuring that flood risks from local sources, including surface water runoff, groundwater and ordinary watercourses and their interactions, are identified and managed.

5.3.2 The Council's Constitution Article 7 – Committees, Forums, Working Groups and Partnerships (Responsibility for Functions, 7.5) gives the Environment Committee responsibility for all borough-wide or cross-constituency matters related to the street scene.

5.4 Insight

5.4.1 The approach advocated in this report will provide the Council with insight in relation to the condition of the flooding and drainage infrastructure and the positive impact of the action plan set out in Section 4.2 of this report.

5.5 Social Value

5.5.1 The Public Services (Social Value) Act 2012 requires people who commission public services to think about how they can also secure wider social, economic and environmental benefits. This report does not relate to procurement of services contracts.

5.6 Risk Management

5.6.1 The main risk of the approach advocated in this report is that it does not address the scale and extent of the flooding and drainage infrastructure issues present in the borough. The mitigation is through a strategic approach working with key stakeholders to identify and address the areas of greatest need as outlined in this report.

5.7 Equalities and Diversity

5.7.1 Good flooding and drainage infrastructure have benefits to all sectors of the community in removing barriers and assisting quick, efficient, and safe movement to schools, work, and leisure. The state of the roads and associated flooding and drainage infrastructure are amongst the top resident concerns and the Council is listening and responding to those concerns by the proposed planned flooding and drainage action plan.

5.7.2 The physical appearance and the condition of the roads and pavements have a significant impact on people's quality of life. A poor-quality street

environment will give a negative impression of an area, impact on people's perceptions and attitudes as well as increasing feelings of insecurity. The Council's policy is focused on improving the overall street scene across the borough to a higher level and is consistent with creating an outcome where all communities are thriving and harmonious places where people are happy to live.

5.7.3 The Equality Act 2010 outlines the provisions of the Public Sector Equalities Duty which requires Public Bodies to have due regard to the need to:

- a. Eliminate discrimination, harassment and victimisation and other contact prohibited by the Equality Act 2010.
- b. Advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it.
- c. Foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

5.7.4 The broad purpose of this duty is to integrate considerations of equality into day-to-day business and keep them under review in decision making, the design policies and the delivery of services. There is an on-going process of regularisation and de-clutter of street furniture and an updating of highway features to meet the latest statutory or technical expectations.

5.8 Corporate Parenting

5.8.1 No direct or indirect impacts on looked after children or care leavers identified beyond those applicable to the population as a whole.

5.9 Consultation and Engagement

5.9.1 None as a direct result of this report.

6. ENVIRONMENTAL IMPACT

6.1 Continuation of the action plan set out in this report will lead to a positive impact on the Council's carbon and ecology impact aligned to the council's emerging Sustainability Strategy in relation to the sustainable management of water and associated flood and drainage infrastructure.

7. BACKGROUND PAPERS

7.1 Environment Committee paper 15 November 2018 approving the Local Flood Risk Management Strategy
<https://barnet.moderngov.co.uk/documents/b31356/Local%20Flood%20Mana>

[gement%20Strategy%2028th-Nov-2018%2018.30%20Environment%20Committee.pdf?T=9](#)

- 7.2 Environment Committee paper dated 30th June 2020 approving Cycle 2 (2012-27) Flood Risk Management Plan Objectives.
<https://barnet.moderngov.co.uk/documents/s59142/Objective%20Setting-Flood%20Risk%20Management%20Plans%202021.pdf>
- 7.3 London Borough of Barnet's Local Flood Risk Management Strategy available on the Council's website <https://www.barnet.gov.uk/citizen-home/planning-conservation-and-building-control/flood-risk-strategy.html>
- 7.4 London Borough of Barnet's Surface Water Management Plan (SWMP)
<http://admin.barnet.gov.uk/planning-conservation-and-building-control-old/planning-policies/local-plan-old/ldf-evidence-and-2>
- 7.5 Environment Committee Members Item [Agenda for Environment Committee on Thursday 13th January, 2022, 7.00 pm | Barnet Council \(moderngov.co.uk\)](#)

Appendix1

Barnet Highways drainage and flood asset summary

Highways Drainage & Flood Assets Summary	Quantum	Unit	Comments
Total no of highway gullies	29,670	No.	(All Mapped) –Responsible RMA –LBB as Highways Authority
Vulnerable highway gullies	277	No.	(All Mapped)-Responsible RMA –LBB as Highways Authority. Gullies marked as vulnerable based on historical flooding.
High risk highway gullies	2,984	No.	(All Mapped)-Responsible RMA –LBB as Highways Authority. Gullies mapped within 3.33% of annual probability predicted flood outline.
Critical Drainage Areas	33	No	Mapped areas in the borough at highest risk of surface water flooding
Total length of the watercourses in Barnet	186	km	(Main Rivers+ Ordinary Watercourses)
Main Rivers	108	km	Having ~ 330 Mapped Assets in Barnet.
			Responsible RMA-Environment Agency.
Ordinary Watercourses (OW)	78	km	Responsible RMA-LBB as Lead Local Flood Authority (LLFA) 79 mapped assets. <ul style="list-style-type: none"> • P1 Ordinary watercourses (OW) lie within the top 10 priority Critical Drainage Areas • P2 Ordinary watercourses (OW) lie within remaining 23 Critical Drainage Areas. • And P3 Ordinary watercourses (OW) lie within non-Critical Drainage Areas. P1 watercourses are high priority, P2 watercourses medium priority, P3 watercourses low priority
P1 OW	32	km	
P1 OW open channel	25	km	
P1 OW culverted	7	km	
P1 OW open channel surveyed	10	km	
P1 OW CCTV-surveyed	30	m	
P2 watercourses (No survey)	10	km	
P3 watercourses (No survey)	38.2	km	

Appendix 2

London Borough of Barnet Flood and Drainage Strategies and Plans

Barnet Preliminary Flood Risk Assessment (2016)

Barnet's Preliminary Flood Risk Assessment (PFRA) was first undertaken in 2011 as part of the Drain London programme led by Greater London Authority (GLA) and then further adopted with no major changes in 2016. This PFRA identifies key flood risk areas and published historical flood incidents in the borough.

This analysis has shown that there is a high risk of flooding from multiple sources across the LBB. The highest risk areas are within the main river valleys of Silk Stream, Dollis brook and Pymmes brook where the surrounding areas are at risk of fluvial, surface water and groundwater flooding

Barnet Surface Water Management Plans (SWMPs) (2011)

The SWMP for the Council was produced in 2011 as part of the Drain London programme led by GLA (Tier 2). This document is a plan which outlines the preferred surface water management strategy for the Council and identified 33 Critical Drainage Areas (CDA's)-which are at highest risk of surface water (or sewer) flooding.

Barnet Local Flood Risk Management Strategy (October 2017)

This strategy outlines the national and local objectives and measures for managing flood risk within Barnet. It also prepared a priority ranking for the 33 CDA's which helped the Council to identify top ten Critical Drainage Areas which were then included in the National FCERM programme ⁶ in 2018.

West London Strategic Flood Risk Assessment (SFRA)-Level 1

The West London Boroughs of Barnet, Brent, Ealing, Harrow, Hillingdon and Hounslow commissioned the production of a joint [Level 1 Strategic Flood Risk Assessment-which is a unique joint -borough SFRA](#) with an overarching aim is to provide the evidence base for ensuring development is steered away from areas identified most at risk from various flood sources, reducing the risk of flooding to its resident. It is unique in its type being an online SFRA and continually being updated. It clearly includes the overarching National and regional planning policies to which the proposed developments should adhere to-**for example the Council should protect undeveloped Flood zone 3b⁷-functional flood plain**. It also specifies the requirements of the Flood Risk Assessments to be undertaken by the developers, including the checklists for submission of their drainage strategies for the proposed developments.

Barnet Strategic Flood Risk Assessment (SFRA)-Level 2 (April 2021)

The Council completed its Level 2 Strategic Flood Risk Assessment last year to build an evidence base for the draft Local Plan. Detailed assessments were undertaken for each flood source, planning considerations, and potential mitigation measures were

⁶ National Flood & Coastal Erosion Risk Management (FCERM) programme managed by Environment Agency.

⁷ *The National Planning Policy framework defines Flood Zone 3b as the zone that comprises land where water has to flow or be stored in times of flood (typically a land which would flood with an annual probability of 1 in 20 (5%) or greater in any year).*

assessed for 18 sites; in order to take an informed decision on which sites to be taken forward for development or not in the Local Plan.

Flood and Water Management proposed policies for local plan (DRAFT)

- Robust policies to incorporate Sustainable Urban Drainage Solutions (SuDS) in the major and minor developments has been put forward for the Reg19-Draft Water Management Policies [in lines with Non Statutory Technical Standards for SuDS](#).⁸
- A further policy has been put forward for the buildings should not be sited over the top of new or existing culverts/ordinary watercourses.
- River restoration and deculverting has been encouraged in the draft policies.

Flood Risk Management Plan Objectives-Cycle 2 (2021-27)

The Council has put forward Eight “SMART” Flood Risk Management Plan Objectives **(required under Flood Risk regulations, 2009)** as approved by the [Environment Committee in June, 2020](#) and included in the Flood Risk Management Plan, Cycle 2(2021-27)-under consultation. These objectives are listed in Section 10.

⁸ *Non-statutory technical standards for the design, maintenance and operation of sustainable drainage systems to drain surface water.*

Appendix 3

Thames Water Flooding issues status report

Foul Flooding hotspots	Date Last update received	Latest update from Thames Water	Next update expected
West Walk	17/02/22	Thames Water has arranged a thorough clean and camera survey to be carried out on several sections of lines in the local vicinity, including their 225mm foul main and 300mm survey water main. The works are planned to start on 18 February. Once this work has been done, the CCTV surveys will be reviewed to determine next steps	3rd March 2022
Watling Park	10/02/22	Meeting held with Thames Water on 10th February 2022. Not many overflows for this manhole have formally been reported to Thames Water. Thames Water expect this as a blockage issue and encourage better reporting. The Planned installation of signage on site to promote reporting.	Mid-March 2022 (follow up)
West Hendon Playing fields.	10/02/22	Meeting held with Thames Water on 10th February 2022. Not many overflows for this manhole have formally been reported to Thames Water. Thames Water expect this as a blockage issue and encourage better reporting.	Mid-March 2022 (follow up)
Footpath near Stoney fields Park (Or Outfall Stoney fields Park)	22/01/21	Flooding was expected due to a blockage issue. The blockage was cleared off by the Thames Water Operational team.	Resolved
Footpath near Oakleigh Road South	10/02/22	Waiting for a planned maintenance date from Thames Water to investigate the pipe network further downstream. The Crescent Road enquiry is linked to this flooding issue.	Mid-March 2022
Torrington Park	02/12/21	Foul flooding issue is expected to be resolved. Thames Water undertook clearance works to the underground foul water tank on Torrington Park and lining works to the watercourse. In the recent December flooding, there was no reported sewage flooding although flooding from the watercourse was reported. Continued monitoring.	Resolved
Hertford Road	16/02/22	Meeting with Thames Water and residents planned for 24th February 2022	24th February 2022