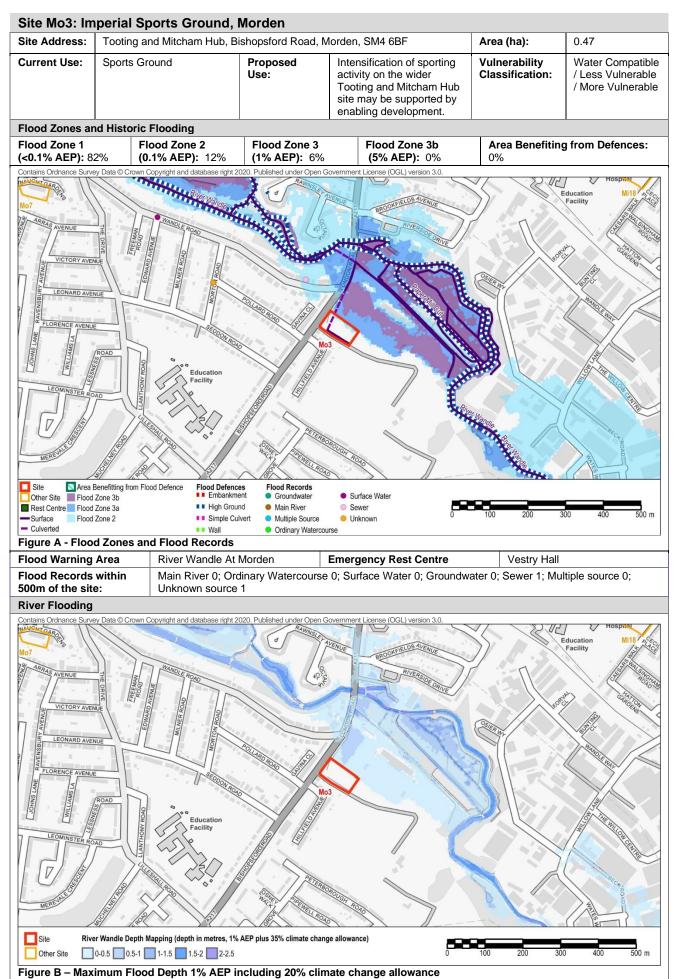
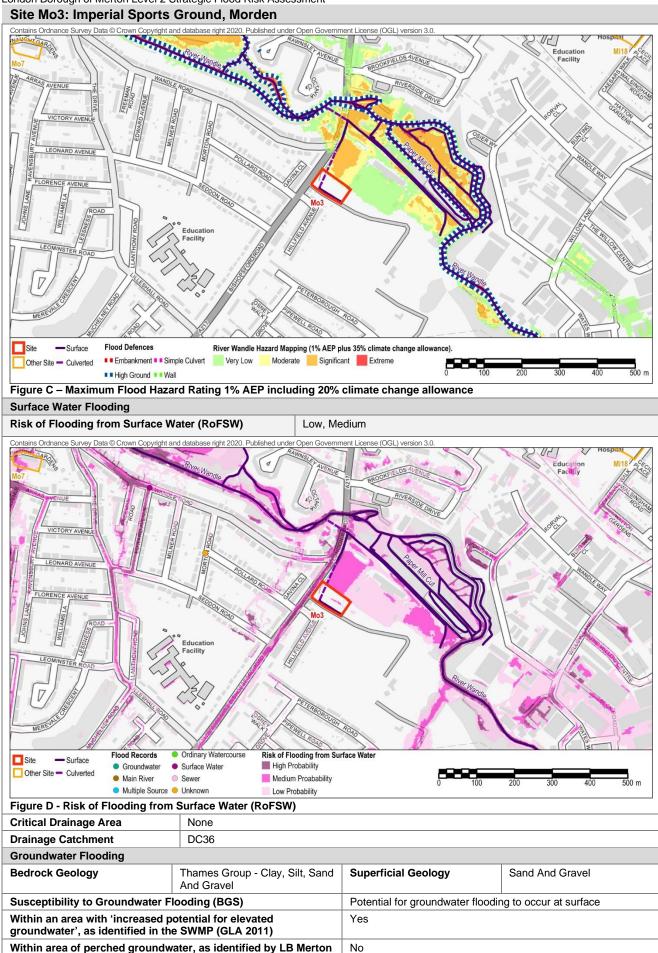
Mo3 Imperial Sports Ground





in the Level 1 SFRA (AECOM, 2020)

Site Mo3: Imperial Sports Ground, Morden

Other Sources	
Risk of flooding from reservoirs	Not shown to be at risk of flooding from reservoirs on the Long Term Flood Risk Map.

Summary

The River Wandle flows north east approximately 200m to the north of the site. The main River Wandle channel is shown to have high ground on either side. The channels within the Watermeads Nature Reserve to the south of the main channel are not shown to be protected by high ground. The majority of the site is defined as Flood Zone 1 Low probability of river flooding however, the northern edge of the site boundary is defined as Flood Zone 2, Medium probability of river flooding, and Flood Zone 3a High probability of river flooding.

There is an ordinary watercourse located within the site boundary which flows at surface level before entering a culvert and flowing north to join the River Wandle. There are records of flooding from sewers and unknown sources within 500m of the site.

Modelling outputs for the River Wandle for the 1% AEP event including 35% increase in peak river flows as a result of climate change, indicates flood depths along the north edge of the site are approximately 0.5m. The hazard rating is 'Moderate', meaning 'danger for some' (i.e. includes children, the elderly).

The Risk of Flooding from Surface Water mapping identifies the potential for surface water to flow south easterly through the centre of site.

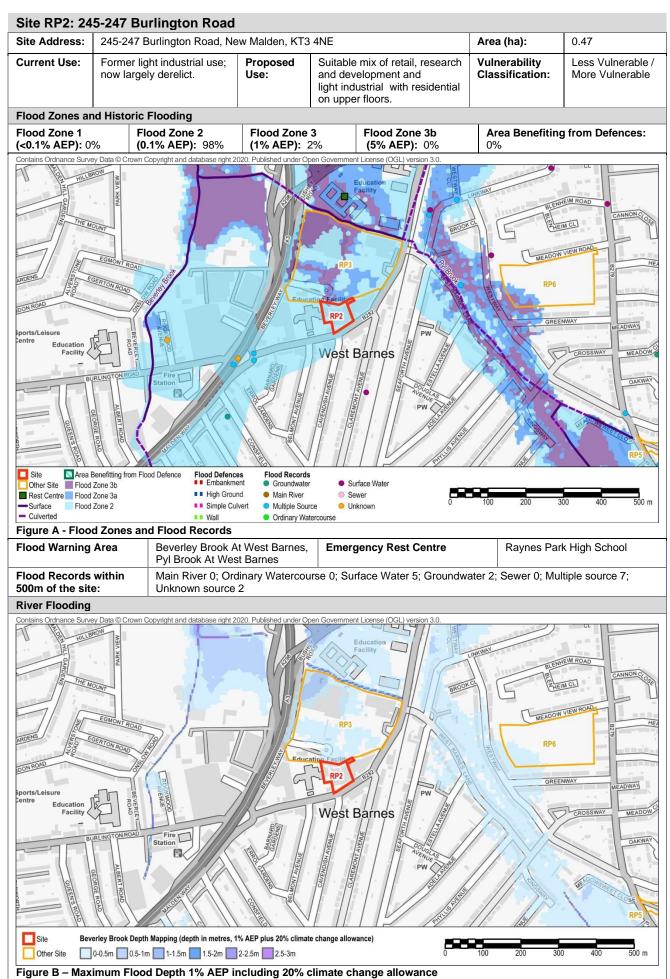
There are groundwater flooding records in this area, and broadscale mapping suggests that the local area may be susceptible to groundwater flooding at surface.

Site Specific Recommendations

The proposed use for the site includes mixed-use including residential which is defined as More Vulnerable. More Vulnerable development is only permitted in Flood Zone 3 (i.e. along the northern edge of the site) where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. In order to satisfy the requirements of the Exception Test, the following recommendations are made:

- A sequential approach should be applied within the site, steering development away from the northern edge of the site towards those areas in Flood Zone 1 and at lower risk of surface water flooding.
- An ordinary watercourse is located within the site boundary and the risk of flooding from this source should be further
 assessed as part of a site specific flood risk assessment. Development should be set back from the edge of the Ordinary
 Watercourse. Consent will be required from Merton Council as the Lead Local Flood Authority for any works affecting flow in
 this watercourse.
- Finished floor levels for More and Less Vulnerable development should be set 300mm above the 1% AEP flood level including 35% allowance for climate change.
- The site is located on the edge of the floodplain, and dry access/egress (i.e. above the modelled flood level for the 1% AEP event including 35% climate change allowance) should be achievable along Bishopsford Road.
- Any increase in building footprint along the northern part of the site will need ensure no loss in floodplain storage. Floodplain
 compensation must be provided on a level-for-level and volume-for-volume basis in relation to the 1% AEP event including
 climate change. Further guidance on the provision of compensatory flood storage is provided in section A3.3.10 of the CIRIA
 document C624.
- The site is located within the Flood Warning Area for River Wandle at Morden. Occupants of the site should sign up to receive the Flood Warning Service.
- The natural surface water flow patterns on the site should be considered when preparing the surface water drainage strategy for the site to ensure that the risk to neighbouring areas is reduced. Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and impermeable surfacing.
- The risk of groundwater flooding and groundwater levels should be further assessed as part of a Site Investigation.

RP2 245-247 Burlington Road



London Borough of Merton Level 2 Strategic Flood Risk Assessment Site RP2: 245-247 Burlington Road Contains Ordnance Survey Data © Crown Copyright and database right 2020. Published under Open Government License (OGL) version 3.0 GREENWAY West Barnes MEADOW, Beverley Brook Hazard Mapping (1% AEP plus 20% climate change allow Other Site - Culverted ■ High Ground ■ Wall Figure C – Maximum Flood Hazard Rating 1% AEP including 20% climate change allowance **Surface Water Flooding** Risk of Flooding from Surface Water (RoFSW) Low West Barnes Ordinary Watercourse Risk of Flooding from Surface Wate Flood Records Site - Surface High Probability Groundwater Surface Water Other Site - Culverted Main River Sewer Medium Proabability Multiple Source Unknown Low Probability

Figure D - Risk of Flooding from	Surface water (RoFSW)		
Critical Drainage Area	Group7_001 West Barnes [Merton]		
Drainage Catchment	DC30		
Groundwater Flooding			
Bedrock Geology	Thames Group - Clay, Silt, Sand And Gravel	Superficial Geology	Sand And Gravel
Susceptibility to Groundwater Flooding (BGS)		Potential for groundwater flooding to occur at surface	
Within an area with 'increased potential for elevated groundwater', as identified in the SWMP (GLA 2011)		Yes	
Within area of perched groundwater, as identified by LB Merton in the Level 1 SFRA (AECOM, 2020)		No	

Site RP2: 245-247 Burlington Road

Other Sources	
Risk of flooding from reservoirs	Not shown to be at risk of flooding from reservoirs on the Long Term Flood Risk Map.

Summary

The Pyl Brook, a tributary of the Beverley Brook flows west approximately 270m north of the site. The majority (98%) of the site is defined as Flood Zone 2, Medium probability of river flooding. The northern fringe of the site boundary is defined within Flood Zone 3a, High Probability of river flooding and Flood Zone 3b Functional Floodplain. There are records of flooding from a range of sources including surface water, groundwater, multiple sources and unknown sources within 500m of the site.

Modelling outputs for the Pyl Brook for the 1% AEP event including 20% increase in peak river flows as a result of climate change, indicates flood depths at along the north the site boundary to be 0.5m. The hazard rating is 'Very Low', a meaning 'caution'. The Environment Agency are currently updating the modelling for the Beverley Brook including the Pyl Brook, and the revised modelling will include a 35% increase in peak river flow as a result of climate change allowance.

The Risk of Flooding from Surface Water mapping identifies the potential for surface water to pond to the across the majority of the site and local area. There are records of surface water flooding in proximity to the site and it is located within a Critical Drainage Area (CDA 1 West Barnes).

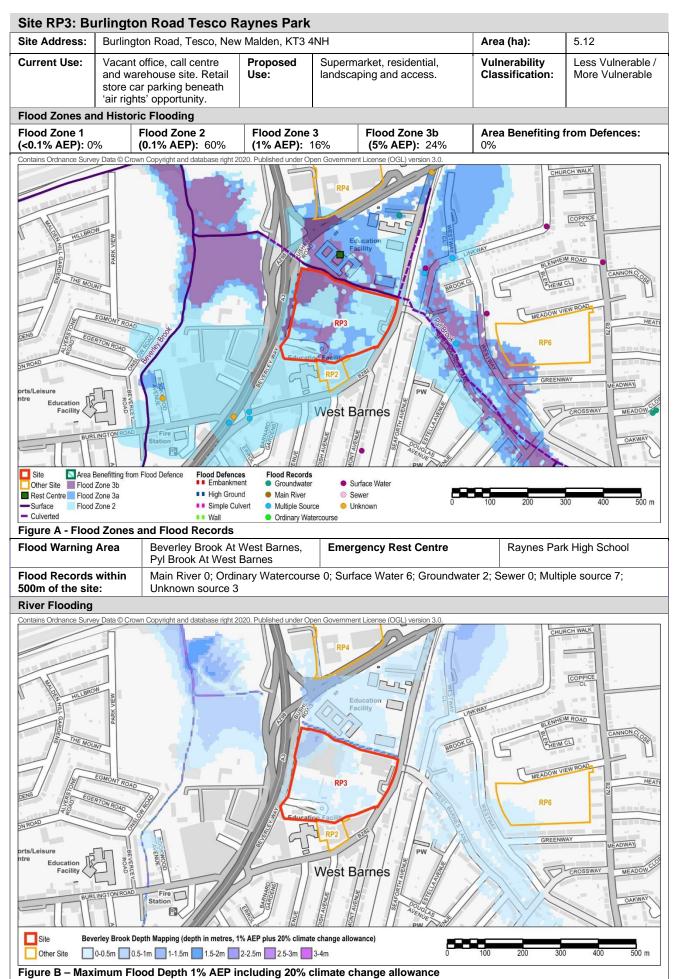
There are groundwater flooding records in this area, and broadscale mapping suggests that the local area may be susceptible to groundwater flooding at surface.

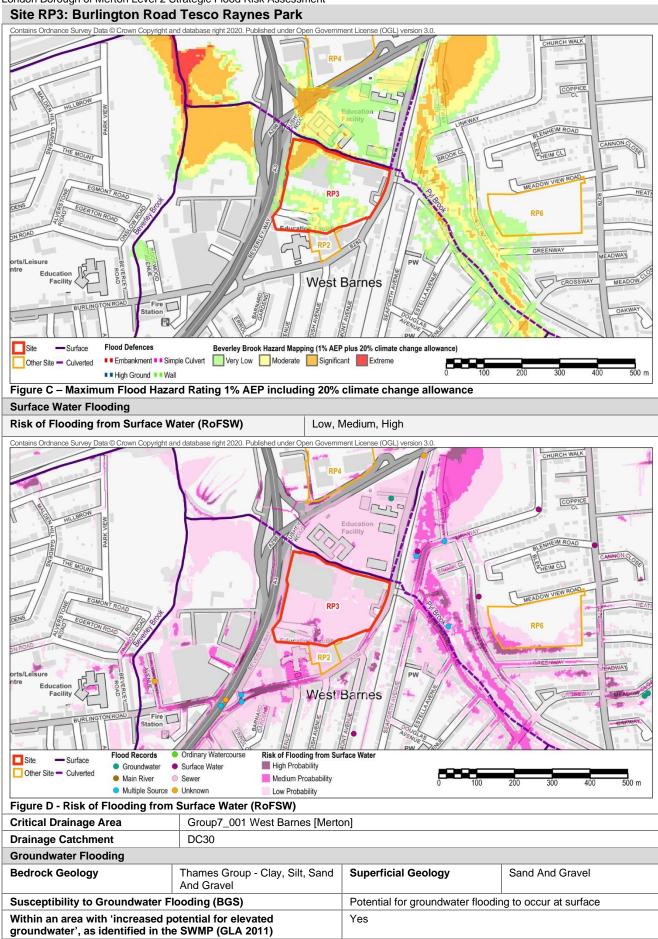
Site Specific Recommendations

The proposed use for the site is mixed-use including residential which arise defined as More Vulnerable. More Vulnerable development is permitted in Flood Zone 2. The Exception Test is not required. However, given the proximity to areas of Flood Zone 3a, and the risk of flooding from the Pyl Brook in the future as a result of climate change, the following recommendations are made:

- Development is not permitted in Flood Zone 3b Functional Floodplain. The Environment Agency are currently updating the
 modelling for the Beverley Brook including the Pyl Brook, and the revised modelling will include delineation of Flood Zone 3b
 Functional Floodplain in this location.
- A sequential approach should be applied within the site, steering development towards those areas at lower risk of flooding from all sources.
- Finished floor levels for More and Less Vulnerable development should be set 300mm above the 1% AEP flood level including 35% allowance for climate change. The Environment Agency are currently updating the modelling for the Beverley Brook including the Pyl Brook, and the revised modelling will include a 35% increase in peak river flow as a result of climate change allowance.
- The proposed development must not reduce the ability of the floodplain to store water. This should be considered in relation to the 1% AEP modelled flood event including 35% allowance for climate change. Floodplain compensation storage must be provided on a level-for-level and volume-for-volume basis. Given the entire site is located within the 1% AEP including 35% flood extent, it will not be possible to provide compensation storage within the site itself. Further guidance on the provision of compensatory flood storage is provided in section A3.3.10 of the CIRIA document C624.
- Arrangements should be made for safe access and egress away from the site. This is likely to be to the south onto the B282.
 A safe place of temporary refuge must be provided above the modelled flood level for the 1% AEP including 35% climate change. The Environment Agency are currently updating the modelling for the Beverley Brook including the Pyl Brook, and the revised modelling will include a 35% increase in peak river flow as a result of climate change allowance.
- The site is located within the Flood Warning Area for Beverley Brook At West Barnes, and the Pyl Brook At West Barnes. Occupants of the site should sign up to receive the Flood Warning Service.
- A Flood Warning and Evacuation Plan should be prepared by occupants of the site demonstrating what actions site users will
 take before, during and after a flood event to ensure their safety, and to demonstrate the development will not impact on the
 ability of the local authority and the emergency services to safeguard the current population.
- The natural surface water flow patterns on the site should be considered when preparing the surface water drainage strategy
 for the site to ensure that the risk to neighbouring areas is reduced. Development proposals for the site should seek to restrict
 surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water
 making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft
 landscaping, planting and impermeable surfacing.
- The risk of groundwater flooding and groundwater levels should be further assessed as part of a Site Investigation.

RP3 Burlington Road Tesco, Raynes Park





No

Within area of perched groundwater, as identified by LB Merton

in the Level 1 SFRA (AECOM, 2020)

Site RP3: Burlington Road Tesco Raynes Park

Other Sources	
Risk of flooding from reservoirs	Not shown to be at risk of flooding from reservoirs on the Long Term Flood Risk Map.

Summary

The Pyl Brook, a tributary of the Beverley Brook, flows along the north boundary of the site. The majority of the site is defined as Flood Zone 2, Medium probability of river flooding. The north west, parts of the centre of the site and part of the south of the site are in Flood Zone 3a, High Probability of river flooding and Flood Zone 3b Functional Floodplain. There are records of flooding from a range of sources including surface water, groundwater, multiple sources and unknown sources within 500m of the site. A rest centre is located approximately 50m north of the site, however the rest centre is in Flood Zone 3b Functional Floodplain.

Modelling outputs for the Pyl Brook for the 1% AEP event including 20% increase in peak river flows as a result of climate change, indicates flood depths at the north west of the site range between 1m to 1.5m. The modelling outputs show flood depth across the reminder of the site are approximately 1m. The hazard rating is 'Significant', at the north west of the site meaning 'danger for most' and 'Moderate' across the remainder of the site meaning 'danger for most' (i.e. includes children, the elderly). The Environment Agency are currently updating the modelling for the Beverley Brook including the Pyl Brook, and the revised modelling will include a 35% increase in peak river flow as a result of climate change allowance.

The Risk of Flooding from Surface Water mapping identifies the potential for surface water to pond to the north and south of the site. There are records of surface water flooding in proximity to the site and it is located within a Critical Drainage Area (CDA 1 West Barnes).

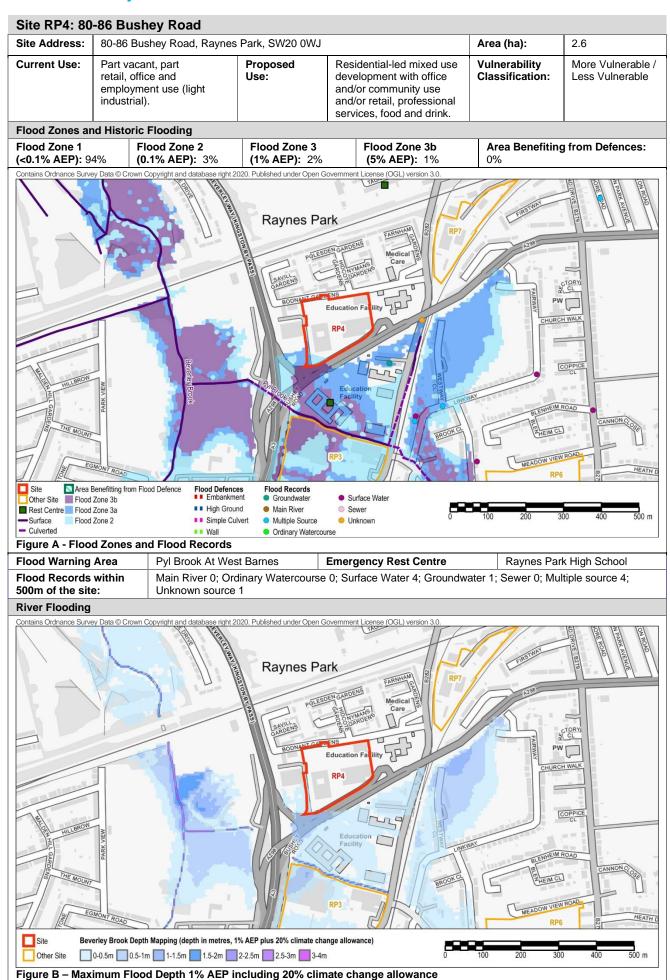
There are groundwater flooding records in this area, and broadscale mapping suggests that the local area may be susceptible to groundwater flooding at surface.

Site Specific Recommendations

The proposed use for the site is mixed-use including residential which is defined as More Vulnerable. More Vulnerable development is only permitted in Flood Zone 3 where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. In order to satisfy the requirements of the Exception Test, the following recommendations are made:

- Development is not permitted in Flood Zone 3b Functional Floodplain. The Environment Agency are currently updating the modelling for the Beverley Brook including the Pyl Brook, and the revised modelling will include delineation of Flood Zone 3b Functional Floodplain in this location.
- Development should be set back from the edge of the Pyl Brook by at least 8m.
- A sequential approach should be applied within the site, steering development towards those areas in Flood Zone 2 and at lower risk of surface water flooding. Development should be avoided in Flood Zone 3a.
- Finished floor levels for More and Less Vulnerable development should be set 300mm above the 1% AEP flood level including 35% allowance for climate change. The Environment Agency are currently updating the modelling for the Beverley Brook including the Pyl Brook, and the revised modelling will include a 35% increase in peak river flow as a result of climate change allowance.
- The proposed development must not reduce the ability of the floodplain to store water. This should be considered in relation to the 1% AEP modelled flood event including 35% allowance for climate change. The site is heavily constrained and in a densely urbanised area, and therefore providing floodplain compensation storage is unlikely to be viable. It is therefore recommended that development is steered away from the 1% AEP modelled flood event including 35% allowance for climate change.
- Arrangements should be made for safe access and egress away from the site. This is likely to be to the east onto the B282.
 A safe place of temporary refuge must be provided above the modelled flood level for the 1% AEP including 35% climate change. The Environment Agency are currently updating the modelling for the Beverley Brook including the Pyl Brook, and the revised modelling will include a 35% increase in peak river flow as a result of climate change allowance.
- The site is located within the Flood Warning Area for Beverley Brook At West Barnes, and the Pyl Brook At West Barnes. Occupants of the site should sign up to receive the Flood Warning Service.
- A Flood Warning and Evacuation Plan should be prepared by occupants of the site demonstrating what actions site users will
 take before, during and after a flood event to ensure their safety, and to demonstrate the development will not impact on the
 ability of the local authority and the emergency services to safeguard the current population.
- The natural surface water flow patterns on the site should be considered when preparing the surface water drainage strategy for the site to ensure that the risk to neighbouring areas is reduced. Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and impermeable surfacing.
- The risk of groundwater flooding and groundwater levels should be further assessed as part of a Site Investigation.

RP4 80-86 Bushey Road



Site RP4: 80-86 Bushey Road

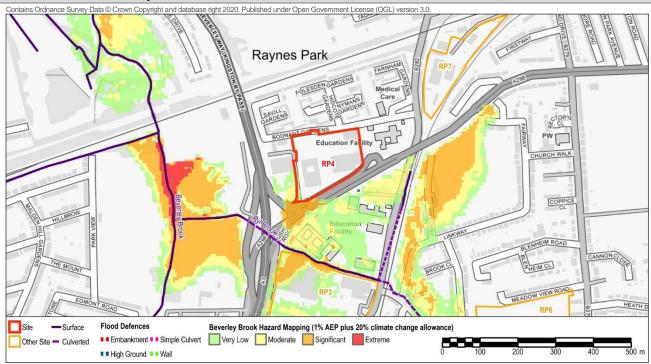


Figure C – Maximum Flood Hazard Rating 1% AEP including 20% climate change allowance

Surface	Water	Flooding
Guilage	TTULCI	1 100011119

Risk of Flooding from Surface Water (RoFSW) Low, Medium, High

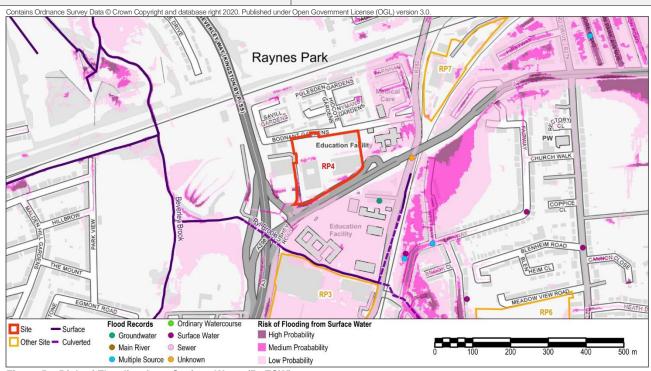


Figure D - Risk of Flooding from Surface Water (RoFSW)

Critical Drainage Area	Group7_002 Raynes Park [Merton]		
Drainage Catchment	DC29		
Groundwater Flooding			
Bedrock Geology	Thames Group - Clay, Silt, Sand And Gravel	Superficial Geology	Sand And Gravel
Susceptibility to Groundwater Flooding (BGS)		Potential for groundwater flooding to occur at surface	
Within an area with 'increased p groundwater', as identified in th		Yes	
Within area of perched groundwater, as identified by LB Merton in the Level 1 SFRA (AECOM, 2020)		No	

Site RP4: 80-86 Bushev Road

flooding from reservoirs on the Long Term Flood Risk Map.

Summary

The Pyl Brook, a tributary of the Beverley Brook flows west approximately 200m to the south of the site. The majority of the site is defined as Flood Zone 1, Low probability of river flooding. The south west part of the site is located in Flood Zone 2, Medium Probability river flooding, Flood Zone 3a, High probability river flooding and Flood Zone 3b Functional Floodplain. There are records of flooding from a range of sources including surface water, groundwater, multiple sources and unknown sources within 500m of the site.

Modelling outputs for the Pyl Brook and Beverley Brook for the 1% AEP event including 20% increase in peak river flows as a result of climate change, indicates flood depths to south east of the site are approximately 0.5m. The hazard rating is 'Moderate', meaning 'danger for some' (i.e. includes children, the elderly). The Environment Agency are currently updating the modelling for the Beverley Brook including the Pyl Brook, and the revised modelling will include a 35% increase in peak river flow as a result of climate change allowance.

The Risk of Flooding from Surface Water mapping identifies the potential for surface water to flow south through the site and pond on the south west edge of the site boundary. There are records of surface water flooding in proximity to the site and it is located within a Critical Drainage Area (CDA 2 Raynes Park).

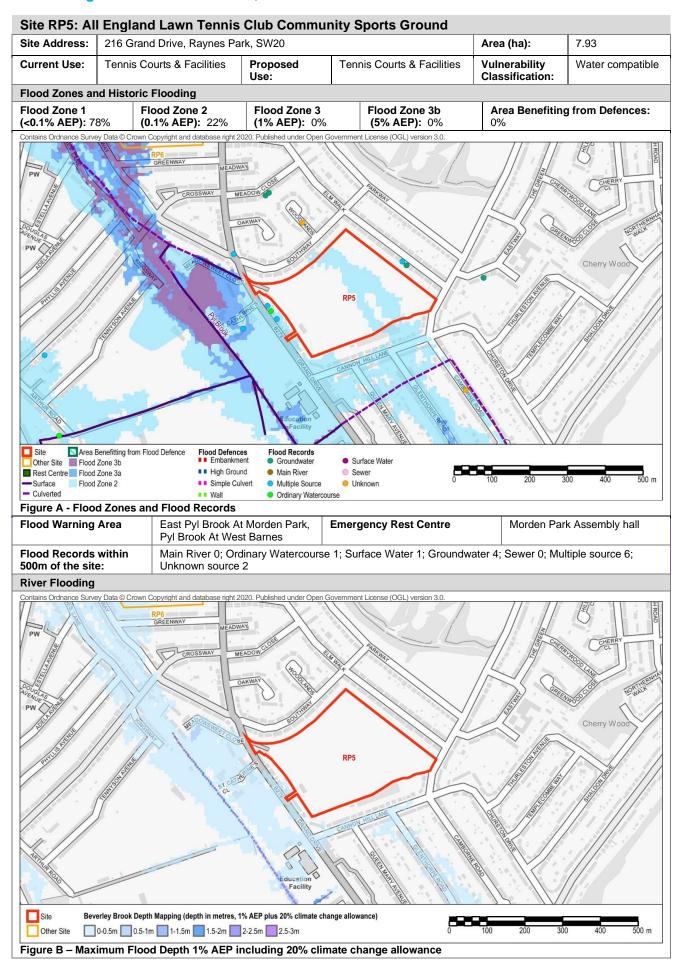
There are groundwater flooding records in this area, and broadscale mapping suggests that the local area may be susceptible to groundwater flooding at surface.

Site Specific Recommendations

The proposed use for the site is mixed-use including residential which is defined as More Vulnerable. More Vulnerable development is only permitted on this site where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. In order to satisfy the requirements of the Exception Test, the following recommendations are made:

- A sequential approach should be applied within the site, steering development towards those areas in Flood Zone 1 and at lower risk of surface water flooding. Development should be avoided in the south west part of the site close to Flood Zone 3b Functional Floodplain.
- Finished floor levels for More and Less Vulnerable development should be set 300mm above the 1% AEP flood level including
 an allowance of 35% for climate change. The Environment Agency are currently updating the modelling for the Beverley
 Brook, and the latest modelled flood levels including climate change should be used to inform the site design and finished
 floor levels.
- The site is located on the southern edge of the floodplain, and dry access/egress (i.e. above the modelled flood level for the 1% AEP event including 35% climate change allowance) should be achievable on the southern edge along the A289 or to the north along Bodnant Gardens and the B282.
- Any increase in building footprint along the south western part of the site will need ensure no loss in floodplain storage.
 Floodplain compensation must be provided on a level-for-level and volume-for-volume basis in relation to the 1% AEP event including climate change. Further guidance on the provision of compensatory flood storage is provided in section A3.3.10 of the CIRIA document C624.
- The site is located within the Flood Warning Area for Ply Brook at West Barnes. Occupants of the site should sign up to receive the Flood Warning Service.
- The natural surface water flow patterns on the site should be considered when preparing the surface water drainage strategy for the site to ensure that the risk to neighbouring areas is reduced. Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and impermeable surfacing.
- The risk of groundwater flooding and groundwater levels should be further assessed as part of a Site Investigation.

RP5 All England Lawn Tennis Club, Grand Drive





London Borough of Merton Level 2 Strategic Flood Risk Assessment

Site RP5: All England Lawn Tennis Club Community Sports Ground

Other Sources	
Risk of flooding from reservoirs	Not shown to be at risk of flooding from reservoirs on the Long Term Flood Risk Map.

Summary

The site is located on the edge of the floodplain of the Pyl Brook, a tributary of the Beverley Brook. The centre of the site is defined Flood Zone 2, Medium probability of river flooding. There are records of flooding from a range of sources including surface water, groundwater and ordinary watercourses within 500m of the site.

The Risk of Flooding from Surface Water mapping identifies the potential for surface water to flow north westerly through the site and pond on the northern edge. There are records of surface water flooding in proximity to the site and it is located within a Critical Drainage Area (CDA 2 Raynes Park).

There are groundwater flooding records in this area, and broadscale mapping suggests that the local area may be susceptible to groundwater flooding at surface.

Site Specific Recommendations

The proposed use of the site is compatible with the flood zone. The Exception Test is not required.

A sequential approach should be applied within the development site, steering those more vulnerable elements of the development towards areas at lower risk of flooding from all sources.

Development of the site should consider the surface water flow paths in the area and ensure there is no increase in flood risk to neighbouring areas. Opportunities should be taken to reduce the risk of surface water flooding to the surrounding areas. Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and impermeable surfacing.