

Site Name: Lyndeau Industrial Estate

Site ID:	AW1	Site Address:	Abbey Wood	Area (ha):	3.3
Current Use:	Industrial and vacant	Proposed Use:	Residential	Vulnerability Classification:	More Vulnerable

Tidal Source:

Flood Zone 1 (<0.1% AEP): 0%	Flood Zone 2 (0.1% AEP): 100%	Flood Zone 3 (1% AEP): 78%	Flood Zone 3b (5%AEP): 0%	Area Benefiting from Defences: 78.2%
--	--------------------------------------	-----------------------------------	----------------------------------	---

Flood Zones and Flood Defences

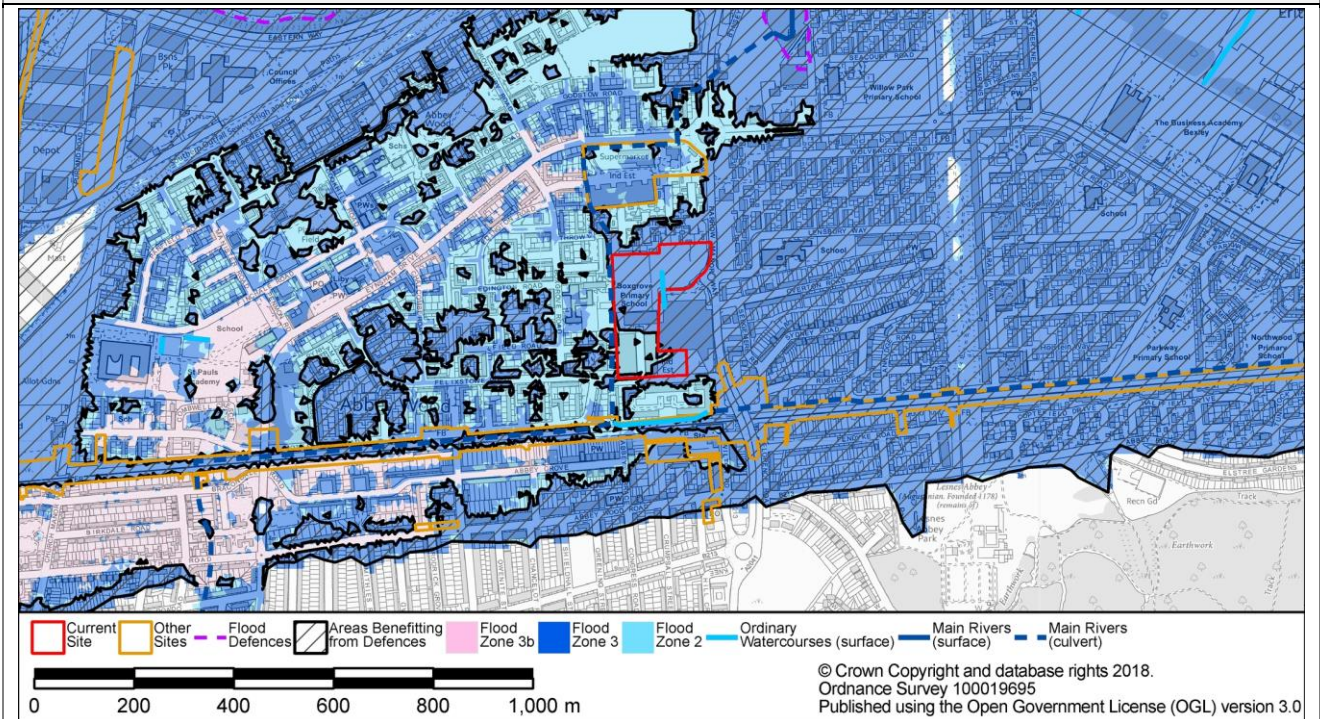


Figure A - Flood Zones

Flood Defence Source:	fluvial	Upstream of Thames Barrier?	Yes
Flood Defence Type:	high_ground	Standard of Protection:	20
Flood Warning Area	Tidal Thames from Erith High Street East to Woolwich Arsenal (100% Overlap)	Emergency Rest Centre	Boxgrove Primary School

Residual Tidal Flood Risk

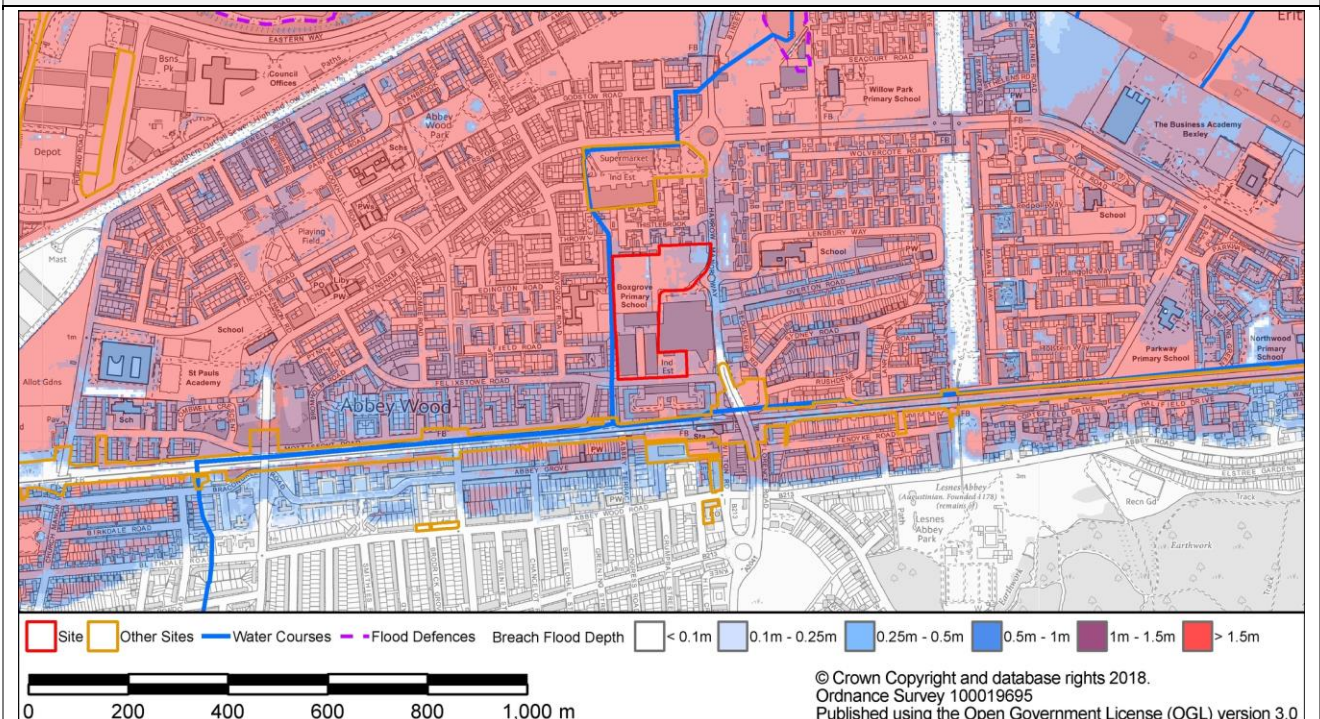


Figure B - Maximum Flood Depth (Downriver Breach Assessment, 0.5% AEP 2115)

Site Name: Lyndeau Industrial Estate

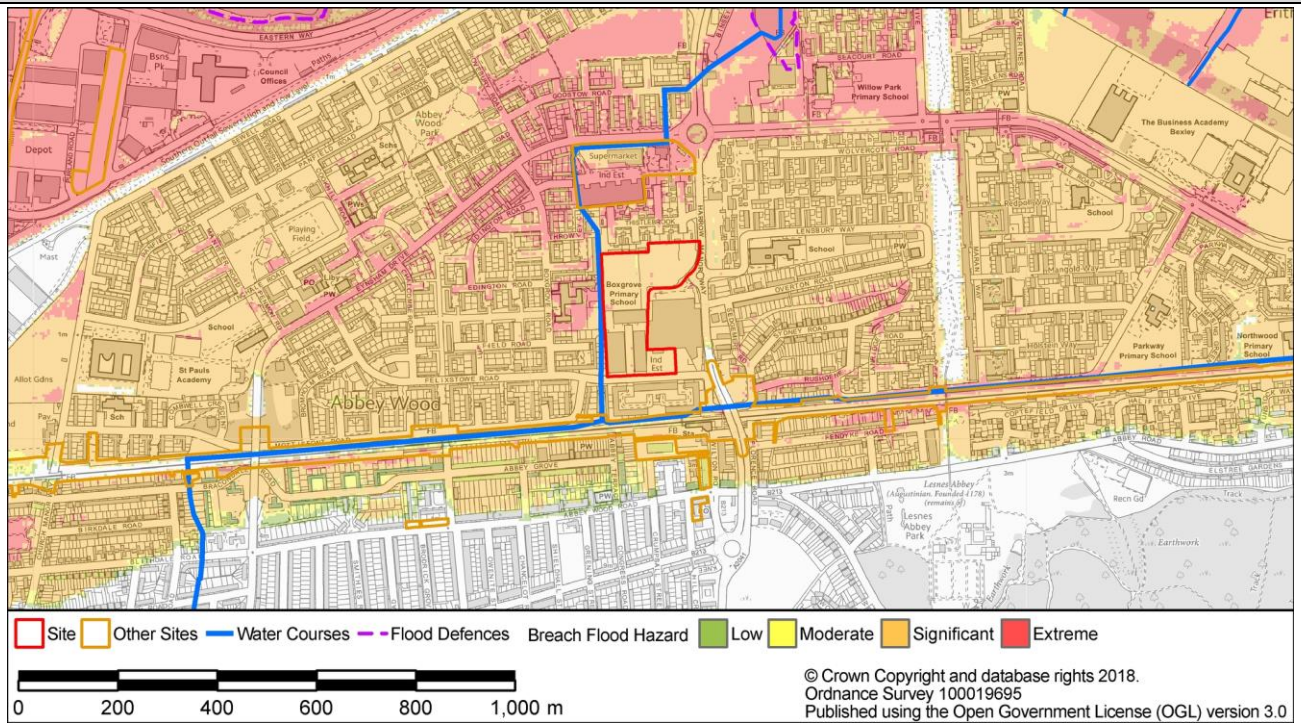


Figure C - Maximum Flood Hazard (Downriver Breach Assessment, 0.5% AEP 2115)

Fluvial Flood Hazard, Depth and Velocity

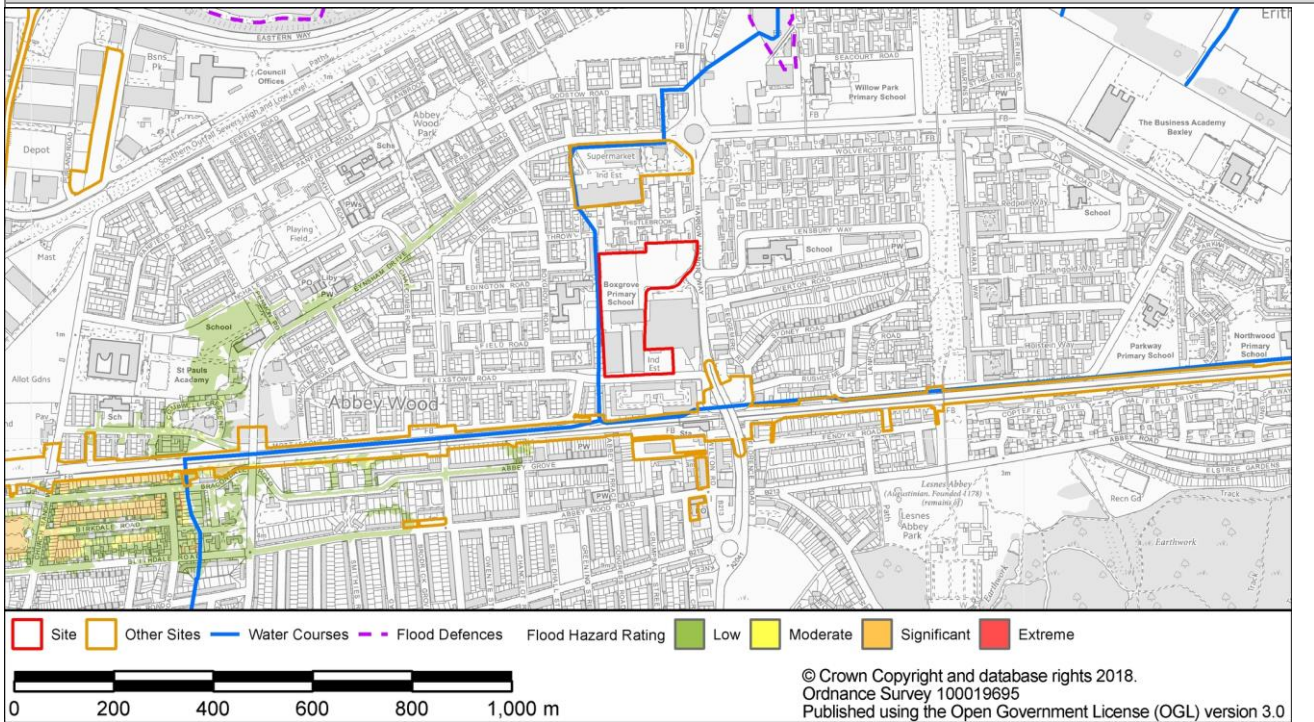


Figure D - Flood Hazard Rating

Site Name: Lynde Industrial Estate

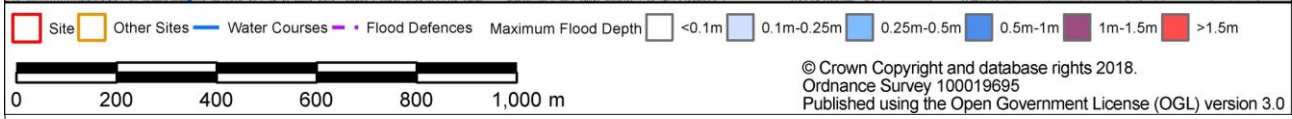
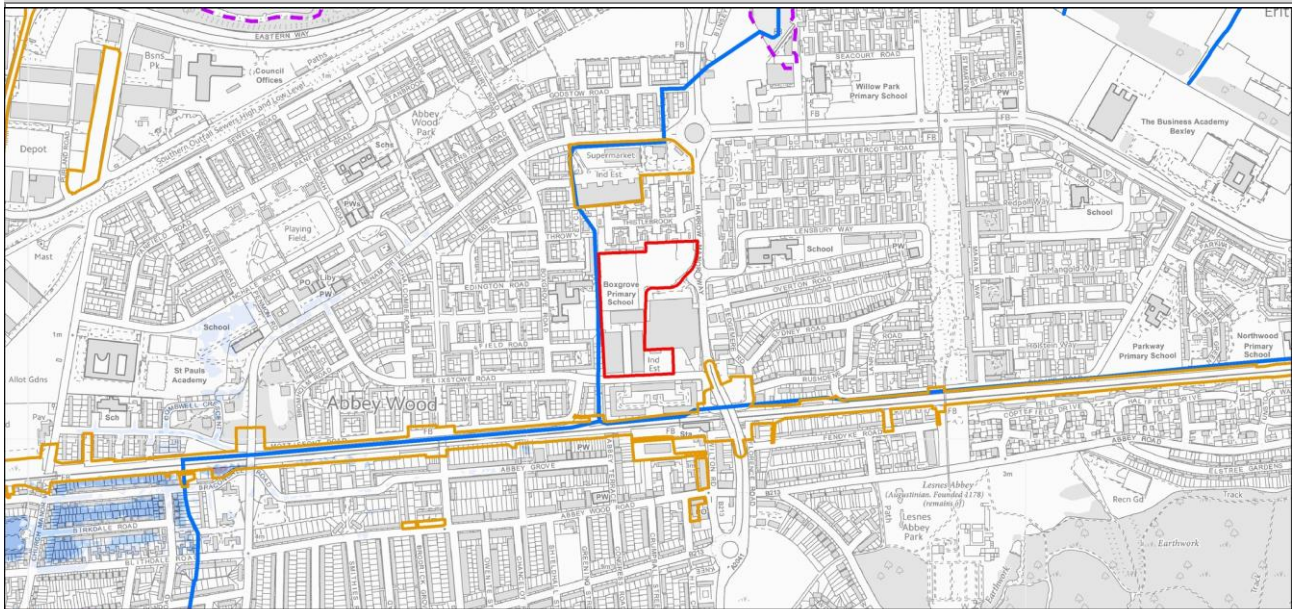


Figure E – Maximum Flood Depth

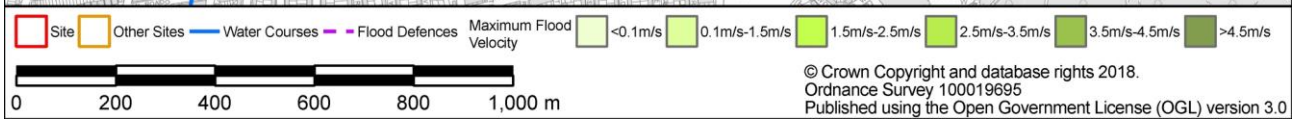
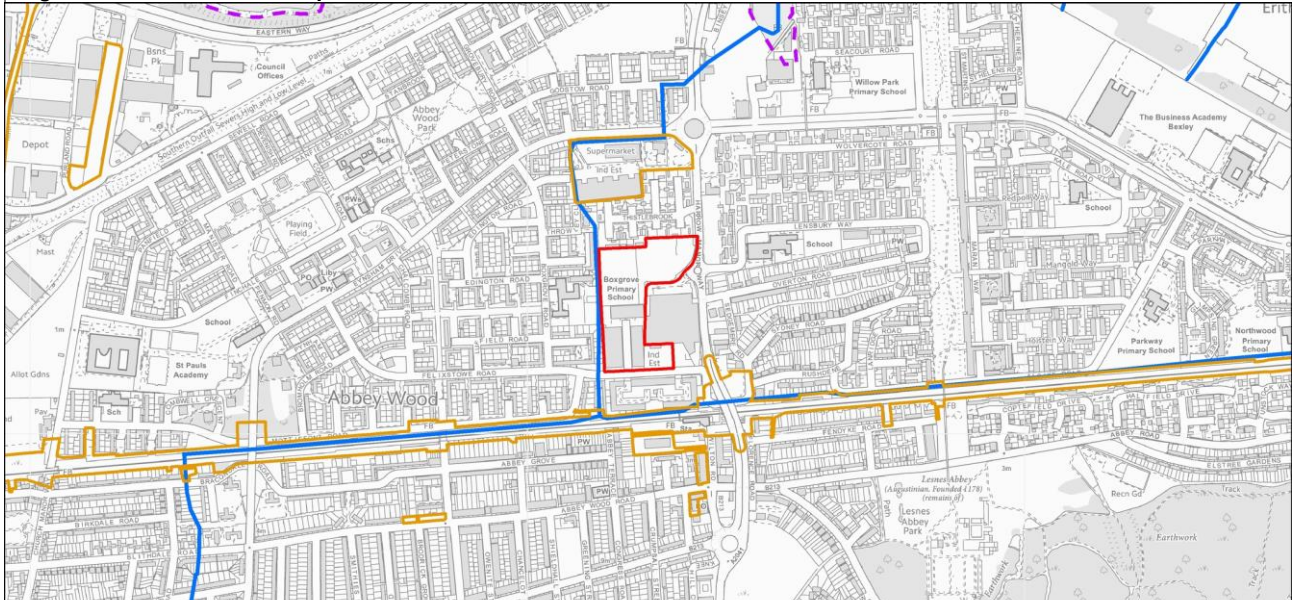


Figure F – Maximum Flood Velocity

Surface Water Source

Risk of Flooding from Surface Water (RoFSW)

Medium

Site Name: Lyndeau Industrial Estate

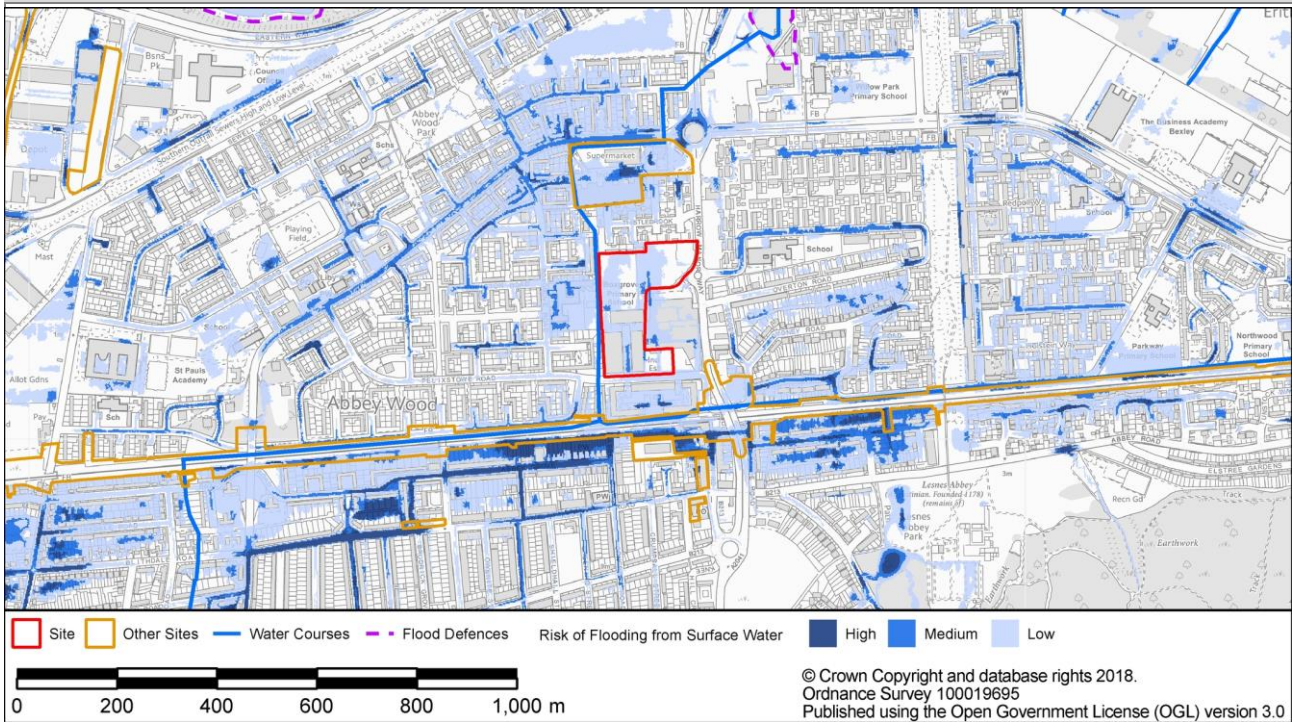


Figure G Risk of Flooding from Surface Water (RoFSW)

Critical Drainage Area	Group6_001 (100% Overlap)		
Groundwater Source			
Bedrock Geology	Thanet Sand Formation	Superficial Geology	Alluvium - Clay, Silty, Peaty, Sandy
Bedrock Aquifer Designation	Secondary A (100% Overlap)	Superficial Aquifer Designation	Secondary (undifferentiated) (100% Overlap)
Potential Groundwater Flooding Zone	Zone B		
Other Sources			
Sewer Flooding (within 4 digit postcode)	Internal Flood Incidents: 2 External Flood Incidents: 8		
Artificial sources	A proportion of the site is at risk of flooding from a breach of the Butts Canal. At the time of publishing this SFRA, the Environment Agency is in the process of developing a new model for the Marsh Dykes System. Developers should contact RB of Greenwich and the Environment Agency for the most up to date flood extent data for this catchment.		

Site Specific Recommendations

The site is predominantly located within Flood Zone 3. A small proportion of the site is located in Flood Zone 2. The area of the site that is at risk from Flood Zone 3 is at residual risk of flooding as it benefits from the presence of flood defences. More Vulnerable uses must be located on the first floor or above, with Less Vulnerable uses at ground level. Basements are not permitted within Flood Zone 3 and are discouraged within areas of Flood Zone 2. The ROFSW map shows that site and surrounding area is at medium risk of surface water flooding. An assessment of the local surface water flow paths should be made during the development of the site design. Buildings and other more vulnerable aspects of the development should be placed away from those areas at risk of surface water ponding.

Finished floor levels should be set at whichever level is higher for fluvial or tidal flooding. For Tidal Flooding, Finished Floor Levels should either be: 300mm above the general ground level of the site or 600mm above the estimated sea level for a 1 in 200 year (0.5%AEP) event (including climate change). For Fluvial Flooding, Finished Floor Levels should either be: 300mm above the general ground level of the site or 600mm above the estimated River level for a 1 in 100 year (0.5%AEP) event (including climate change). A number of flood resistance and resilience measures can be implemented into new developments to mitigate potential flooding. Guidance on resilience measures can be found in the document 'Improving the Flood Performance of New Buildings, Flood Resilient Construction' published by The Department for Communities and Local Government (CLG).

Floodplain compensation storage should be provided for the area of the site within Flood Zone 3 associated with fluvial watercourses. Further details are provided in the Developer Guidance.

Potential overland flow paths from surface water should be determined and appropriate solutions proposed to minimise the impact of the development, whilst ensuring that flows are not diverted towards other properties elsewhere. Developers should consider using design for exceedance approaches by using urban areas and infrastructure to help manage local flooding. Flow paths should be assessed to inform the strategic location of SuDS and techniques to route flows around the edge of buildings. Careful consideration should be given to the use of fences and landscaping walls so as to prevent causing obstruction to flow routes.

Unobstructed safe access routes to and from the development should be provided. These should provide access to higher ground that is not at risk from flooding. It is strongly recommended that permanent internal access to upper floors is provided for all users of the site to provide safe refuge in a flood event. In the event of a breach in defences there is potential that dry routes to a safe location may be limited. The local area is covered by the 'Tidal Thames from Erith High Street East to Woolwich Arsenal' Environment Agency Flood Warning Area. A Flood Warning and Evacuation Plan (FWEP) must be prepared for the site, detailing how flood warning will be provided as well as how the safety of occupants and access to/from the development will be ensured. Further details of

Site Name: Lyndean Industrial Estate

what should be included can be found in the Developer Guidance.

Reference to the SWMP Appendix D Figure D6 identifies that (prior to the completion of a site investigation to determine precise local conditions) infiltration of surface water into the ground is uncertain for the site. Site investigations will be required prior to the development of a Drainage Strategy for the site. Development should utilise sustainable urban drainage systems (SUDS) unless there are practical reasons for not doing so. The site is located within the Group6_001 Critical Drainage Area. The potential development must not increase flood risk to other areas within the CDA. Where an increased risk exists, developers need to provide a Drainage Strategy to demonstrate how they intend to address this, by what methods, over what timeframe and how maintenance of such works would be funded over its lifetime. This should include a consideration of SuDS in line with the London Plan 5.13 and Local Plan Policies. Surface water run-off should be managed in line with Royal Greenwich's surface water management requirements, as set out in Chapter 4 of the Developer Guidance.

Summary

The site is predominantly within Flood Zone 3, and has a residual risk of tidal/fluvial flooding for part of the site. It also has a high surface water flood risk and could be potentially flooded by a breach of the Butts Canal. Tidal/Fluvial flood risk mitigation measures should be implemented into the site design to manage flood risk. It is recommended that effective surface water management measures are implemented, including careful site and building layout and the incorporation of SuDS, in order to reduce flooding both on the site and routing of flood water to other areas. Due to the extent of flood risk on the site, a flood warning and evacuation plan should be implemented to ensure access to and from the site. On this basis, it is likely that this site could pass the Exception Test.