

Woolwich Arsenal OSD Sites A and B

Summary Information	
Site Reference	P4-W11
Address	Woolwich Arsenal DLR Station (Greens End), SE18 6EU; Woolwich Arsenal Station (Woolwich New Road), SE18 6EU
Area (ha)	1.92
Current Use	Site A: DLR Station, railway operational land and associated structures, retail use and residential/office uses above ground floor. Site B: Woolwich Arsenal DLR / Network Rail station and associated operational transport land, tracks, cutting, buildings, transformer and substation (Sui Generis), retail / cafes, TfL / DLR staff car parking and Woolwich Arsenal Station car park.
Current Vulnerability	Essential Infrastructure
Proposed Use	Mixed-use development with upgraded railway and DLR station, town centre commercial units at ground floor, and enhanced public realm.
Proposed Vulnerability	Essential Infrastructure

Current Risk Summary					
Fluvial / Tidal			Groundwater		
FZ2	0.00	% of site	Limited potential for flooding to occur	92.00	% of site
FZ3a	0.00	% of site	Potential for flooding of properties below ground level	0.00	% of site
FZ3b	0.00	% of site	Potential for flooding to occur at surface	8.00	% of site
Surface Water			Sewer Flooding		
High	17.19	% of site	Number of incidents within the predominant postcode	30 - 40	
Medium	30.82	% of site	Is the site located within the Thamesmead area?	No	
Low	53.16	% of site			
Flood Defences			Flood Warning Area		
The site is at risk of flooding from rivers, taking into account the presence and condition of flood defences according to the EA’s RoFRS layer.			The EA Flood Warning Service is not available at this site.		

See webmap supporting assessment: [Greenwich - Level 1 and 2 SFRA](#)



1.1 Surface Water

Description of Flood Mechanism	
Surface water flood risk is concentrated primarily along the railway lines, but also in the area across Woolwich New Road and in the northeastern corner of the site. Areas of high risk are also concentrated along the railway lines, particularly in the southwestern area, and in the northeastern corner of the site,	
Mitigation – Flood Risk Requirements	Mitigation – Surface Water Drainage
Development should be directed away from the railway lines, particularly the southwestern areas of the site, and towards some of the northern, eastern and southern areas of the site, and the area across Woolwich New Road where there is less risk of surface water flooding.	See SFRA Level 2 Report mitigation requirement 5.0 for further development stipulations
Development should comply with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.3 and 4.9.	Developments should apply the Sustainable Drainage Hierarchy set out in Policy SI 13 of the London Plan as well as Policy E2 of the existing Greenwich Local Plan and Policy EN6 of the draft Local Plan.
	Ground investigations are required to confirm whether infiltration SuDS are suitable.
Climate Change Considerations	
During the high risk events, the extent increases around the pre-existing areas of high risk, most notably around the railway lines, and there is a new area of high risk in the area across Woolwich New Road. The maximum depth, velocity and hazard remain unchanged.	
During the medium risk events, the extent increases around the pre-existing areas of medium risk, most notably around the railway lines in the southern area of the site, and in the area across Woolwich New Road. The maximum depth, velocity and hazard remain unchanged.	
During the low risk events, the extent increases around the pre-existing areas of low risk, predominantly in the southern and southwestern areas of the site. The maximum depth, velocity and hazard remain unchanged.	

Risk Assessment				
Parameter	High	Medium	Low	Units
Max. Depth	1.2	1.2	1.2	m
Max. Velocity	2.0	2.0	2.0	m/s
Max. Hazard	2.0	2.0	2.0	N/A



Risk Assessment – with Climate Change				
Parameter	High	Medium	Low	Units
Max. Depth	1.2	1.2	1.2	m
Max. Velocity	2.0	2.0	2.0	m/s
Max. Hazard	2.0	2.0	2.0	N/A

1.2 Sewer

Risk Assessment	Mitigation Requirements
The site falls within a postcode area with 30 – 40 reported flood incidents from sewer flooding. The site is assumed to be served by separate foul, surface water and combined networks, given their proximity to the site.	The applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections. If historic flooding has occurred, the applicant must demonstrate how this risk will be managed throughout the development's lifetime.

1.3 Groundwater

Risk Assessment	Mitigation Requirements
The majority of the site has limited potential for groundwater flooding to occur, and a small section on the southern side of the site has potential for groundwater flooding to occur at the surface. The majority of the site is underlain by Thanet Sand Formation bedrock, a small section of the south of the site is underlain by Lambeth Group. The northern and eastern sections of the site also have superficial deposits of Alluvium.	For new developments that involve groundworks, especially if basements are planned, the applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation. If there is a potential level of impact, mitigation actions must be proposed. This must be prepared by a chartered professional or specialist.

1.4 Artificial

Risk Assessment	Mitigation Requirements
This site is not at risk of reservoir flooding.	N/A - No reservoir risk is predicted at this site.



1.5 Planning Considerations – Safety of Development

A.	Can the development be future-proofed for climate change considerations?
	- The risk of surface water flooding climate change scenario indicates that climate change impacts are projected to increase the extents of surface water flooding. The maximum depth, velocity and hazard remain unchanged in all events. - See SFRA - Level 2 Report Section 4 mitigation requirement number 4.4 for the required flood resistant / resilient building stipulations.
B.	Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?
	- The development must use surface water drainage techniques to manage surface water runoff onsite through above-ground SuDS and/or below-ground attenuation. - Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13. - See SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.3, 4.8, 4.9 and 5.0 and Policies E2, E3 of the Greenwich Local Plan and Policy EN6 of the draft Local Plan for further development stipulations.
C.	What is the cumulative impact of the development land use change and will flood risk increase?
	- The development land use is not changing from Essential Infrastructure. - The site is largely impermeable; however, there are small sections in the northwestern and eastern areas of the site that are permeable. - Development must mitigate any increase in impermeable area to the site with runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on the site will increase surface water runoff and flood risk if not managed properly.
D.	How can the development reduce risk overall?
	- Development should be directed towards some of the northern, eastern and southern areas of the site, and the area across Woolwich New Road where there is less risk of surface water flooding. - By complying with Policy E2 of the Greenwich Local Plan and Policy EN6 of the draft Local Plan through demonstrating that the development will avoid or minimise all sources of flood risk to people and property taking climate change into account, and incorporating SuDS measures in order to manage surface water runoff as close to its source as possible and to meet the required SuDS performance standards. - By complying with SFRA - Level 2 Report Section 4 mitigation requirement 4.4.
E.	Which safe access and egress routes are recommended?
	Safe access and egress should be directed towards Spray Street, Vincent Road or Greens End based on the different sections of the site, avoiding the areas of high surface water risk on Spray Street and Vincent Road.
F.	Will development require a flood risk permit/watercourse consent?



No, the site is not within 16m of a tidal River, 8m of a Main River or 5m of an Ordinary Watercourse.

G. Can the site pass the Exception Test?

The exception test is not required as the proposed site use is 'Essential infrastructure' and the site is located in Flood Zone 1.

