	Strategic Flood Risk Assessment **Detailed Site Summary Tables** **Lancing Police Station, 107 -111 North Road, Lancing BN15 9BB**	

Site details	
Site Code	**ADC/025/13**
Address	Lancing Police Station, 107 -111 North Road, Lancing BN15 9BB
Area	0.1ha
Current land use	Commercial
Proposed land use	Residential
Flood Risk Vulnerability	More vulnerable
Sources of flood risk	
Location of the site within the administrative area	The site is located in Lancing, in the south west of the Adur District boundary. The site is currently used for commercial purposes.
Topography	The Environment Agency's 1m resolution 2022 Composite LiDAR shows that the topography of the site is relatively flat with an approximate 0.1% gradient. *Lancing Police Station - Topography*
Existing drainage features	As this site has been developed on for commercial land use and is located within an urban area, existing drainage features will already be present at the site.
Flood Map for Planning (Rivers and Sea)	**Available data and mapping:** Environment Agency Flood Map for Planning for Rivers and Sea. *Lancing Police Station - FMfP* **Data analysis:** Details of the sites location within each Flood Zone are provided within the SFRA Site Screening Appendix. **Flood characteristics:** The site is located within Flood Zone 1. • Flood Zone 1 represents areas which have less than a 1 in 1000 (0.1%) chance of river or tidal flooding in a given year. Surface Water flooding should be considered. It is understood that additional Surface Water datasets will be published in 2025.
Tidal	**Available data and mapping:** 2025 Arun-Adur modelling – defended scenario. *Depth* *Lancing Police Station – Tidal – Present Day – 3.3%* *Lancing Police Station – Tidal – Present Day – 0.5%* *Lancing Police Station – Tidal – Present Day – 0.1%* *Hazard* *Lancing Police Station – Tidal – Present Day – 3.3%* *Lancing Police Station – Tidal – Present Day – 0.5%*

	Lancing Police Station – Tidal – Present Day – 0.1% *Velocity* *Lancing Police Station – Tidal – Present Day – 3.3%* *Lancing Police Station – Tidal – Present Day – 0.5%* *Lancing Police Station – Tidal – Present Day – 0.1%* **Data analysis:** Details of the site's location within the 2025 Arun-Adur modelling are provided within the Level 2 SFRA Site Screening Appendix. **Flood characteristics:** The site has not been identified to be located within an area at risk of tidal flooding within the present day defended scenario.
Tidal with Climate Change	**Available data and mapping:** Arun-Adur modelling – defended. The Environment Agency guidance recommends that the Higher Central (55%) and Upper End (107%) allowance is considered. *Depth – 70th percentile (higher central)* *Lancing Police Station – Tidal – Future – 3.3%* *Lancing Police Station – Tidal – Future – 0.5%* *Hazard - 70th percentile (higher central)* *Lancing Police Station – Tidal – Future – 3.3%* *Lancing Police Station – Tidal – Future – 0.5%* *Velocity -70th percentile (higher central)* *Lancing Police Station – Tidal – Future – 3.3%* *Lancing Police Station – Tidal – Future – 0.5%* *Depth – 95th percentile (upper end)* *Lancing Police Station – Tidal – Future – 3.3%* *Lancing Police Station – Tidal – Future – 0.5%* *Hazard - 95th percentile (upper end)* *Lancing Police Station – Tidal – Future – 3.3%* *Lancing Police Station – Tidal – Future – 0.5%* *Velocity -95th percentile (upper end)* *Lancing Police Station – Tidal – Future – 3.3%* *Lancing Police Station – Tidal – Future – 0.5%* **Data analysis:** Details of the site's location within the 2025 Arun-Adur modelling are provided within the Level 2 SFRA Site Screening Appendix **Flood characteristics:** The site has not been identified to be located within an area at risk of future tidal flooding within the defended scenario.
Surface Water	**Available data and mapping:** Environment Agency Risk of Surface Water flooding for the 3.3%, 1% and 0.1% AEP events. It should be noted that the data discussed below relates to the available surface water data prior to March 2025, as the newly released data does not include depth, hazard and velocity information. A comparison of the two surface water flooding datasets is discussed below and are detailed within the Site Screening document undertaken as part of the Level 2 SFRA**.** *Lancing Police Station – Surface Water Depth – Present Day – 3.3%* *Lancing Police Station – Surface Water Depth – Present Day – 1%* *Lancing Police Station – Surface Water Depth – Present Day – 0.1%* *Lancing Police Station – Surface Water Hazard – Present Day – 3.3%* *Lancing Police Station – Surface Water Hazard – Present Day – 1%* *Lancing Police Station – Surface Water Hazard – Present Day – 0.1%*

	Lancing Police Station – Surface Water Velocity – Present Day – 3.3% *Lancing Police Station – Surface Water Velocity – Present Day – 1%* *Lancing Police Station – Surface Water Velocity – Present Day – 0.1%* *Lancing Police Station – Surface Water – Present Day – NAFRA2* **Description of surface water flow paths:** The site has not been identified to be located within an area at risk of surface water flooding during present day events. The NAFRA2 dataset also does not indicate surface water flooding within the site boundary.
Surface Water with Climate Change	**Available data and mapping:** Surface Water flooding for the 3.3%, 1% and 0.1% AEP events with climate change, using data available prior to March 2025. The Environment Agency guidance recommends that the Upper End allowance is considered for both the 3.3% and 1% AEPs for the 2070's epoch, unless the allowance for the 2050's epoch is higher, in which case this should be used. The recommended uplift on peak rainfall intensity for the 3.3% AEP is 40% and for the 1% AEP is 45%. <u>*Depth*</u> *Lancing Police Station – Surface Water – Future – 3.3%+20CC* *Lancing Police Station – Surface Water – Future – 3.3%+40CC* *Lancing Police Station – Surface Water – Future – 1%+25CC* *Lancing Police Station – Surface Water – Future – 1%+45CC* *Lancing Police Station – Surface Water – Future – 0.1%+25CC* *Lancing Police Station – Surface Water – Future – 0.1%+45CC* <u>*Hazard*</u> *Lancing Police Station – Surface Water – Future – 3.3%+20CC* *Lancing Police Station – Surface Water – Future – 3.3%+40CC* *Lancing Police Station – Surface Water – Future – 1%+25CC* *Lancing Police Station – Surface Water – Future – 1%+45CC* *Lancing Police Station – Surface Water – Future – 0.1%+25CC* *Lancing Police Station – Surface Water – Future – 0.1%+45CC* <u>*Velocity*</u> *Lancing Police Station – Surface Water – Future – 3.3%+20CC* *Lancing Police Station – Surface Water – Future – 3.3%+40CC* *Lancing Police Station – Surface Water – Future – 1% +25CC* *Lancing Police Station – Surface Water – Future – 1% +45CC* *Lancing Police Station – Surface Water – Future – 0.1%+25CC* *Lancing Police Station – Surface Water – Future – 0.1%+45CC* **Description of surface water flow paths:** The site has not been identified to be located within an area at risk of surface water flooding during climate change events.
Tidally influenced Surface Water Risk Zone	**Available data and mapping:** JBA's Tidally influenced Surface Water Risk Zones derived using the RoFSW data, the Present day 1% AEP extreme tidal level, LiDAR data and the Environment Agency's climate change sea level uplift allowance for South East England. *Lancing Police Station – Tidal Drainage Risk Zones* **Flood characteristics:** The site is located within SW0 of the Surface Water Risk Zone mapping, above the future tidal level. • SW0 - Above the future tidal level. • SW1 - Not at risk of SW flooding and above the current tidal level but below the future tidal level.

	• SW2 - Not at risk of SW flooding but below the present-day tidal level OR at risk of SW flooding from climate change only and above the current day tidal level but below future tidal level. • SW3 - At risk of SW flooding from climate change only and below the present-day tidal level OR At risk of SW flooding without climate change and above current day tidal level but below future tidal level. • SW4 - At risk of SW flooding without climate change and below present-day tidal level.
Groundwater	**Available data and mapping:** The JBA Groundwater Flood Data Map (GW5) is provided as a 5m resolution grid. *Lancing Police Station – Groundwater Flood Risk* **Flood characteristics:** During a 1% AEP groundwater flood event, there is medium to high risk of groundwater flooding. In the northern and eastern areas of the site groundwater levels are either at or very near (within 0.025m of) the ground surface. In the southern and western parts of the site groundwater levels are between 0.025m and 0.5m below the ground surface.
Tidally influenced Groundwater Risk Zone	**Available data and mapping:** JBA's Tidally influenced Groundwater Risk Zones derived using the JBA Groundwater data, the British Geological Society 50k bedrock mapping, the Present day 1% AEP extreme tidal level, LiDAR data and the Environment Agency's climate change sea level uplift allowance for South East England. *Lancing Police Station – Groundwater Risk Zones* **Flood characteristics:** The site is located within GW0 of the Groundwater Risk Zone mapping, above the future tidal level. • GW0 - Above the future tidal level. • GW1 - Groundwater level more than 0.5m below the surface and region is above the current tidal level but below the future tidal level. • GW2 - Groundwater level more than 0.5m below the surface and region is below the present-day tidal level OR groundwater level between 0.025m and 0.5m below the surface and region is above the current tidal level but below the future tidal level. • GW3 - Groundwater level between 0.025m and 0.5m below the surface and region is below the present-day tidal level OR Groundwater level within 0.025m of the surface and region is above the current tidal level but below the future tidal level. • GW4 Groundwater level within 0.025m of the surface and region is below the present day tidal level.
Sewers	**Available data:** Drainage and Wastewater Management Plan (DWMP) Overview of the Adur and Ouse River Basin Catchment and

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	Southern Water's Sewer Incident Report Form data (SIRF) at a five digit post code level. **Flood characteristics:** 59 reportable sewer incidents have occurred since 1990 within the five-digit postcode area of the proposed development site. Thes incidents have been attributed to hydraulic overload following rainfall.	
Flood history	**Available data and mapping:** The Environment Agency's Recorded Flood Outlines dataset and WSCC recorded flood incidents. *Lancing Police Station – Historic Flooding* **Flood characteristics:** The site is not shown to be located with the Environment Agency's Recorded Flood Outlines dataset or the WSCC recorded flood incidents dataset extents.	
Flood risk management infrastructure		
Existing Defences	The Environment Agency's AIMS dataset identifies no formal flood defence within the vicinity of the site. *Lancing Police Station – Defences*	
Residual risk	**Available data and mapping:** 2025 Arun-Adur modelling – breach scenario. *Depth* *Lancing Police Station – Breach A–3.3%* *Lancing Police Station – Breach A – 0.5%* *Lancing Police Station – Breach A – 0.1%* *Lancing Police Station – Breach B–3.3%* *Lancing Police Station – Breach B – 0.5%* *Lancing Police Station – Breach B – 0.1%* *Lancing Police Station – Breach C–3.3%* *Lancing Police Station – Breach C – 0.5%* *Lancing Police Station – Breach C – 0.1%* *Lancing Police Station – Breach D –3.3%* *Lancing Police Station – Breach D – 0.5%* *Lancing Police Station – Breach D – 0.1%* *Lancing Police Station – Breach E–3.3%* *Lancing Police Station – Breach E – 0.5%* *Lancing Police Station – Breach E – 0.1%* *Hazard* *Lancing Police Station – Breach A–3.3%* *Lancing Police Station – Breach A – 0.5%* *Lancing Police Station – Breach A – 0.1%* *Lancing Police Station – Breach B–3.3%* *Lancing Police Station – Breach B – 0.5%* *Lancing Police Station – Breach B – 0.1%* *Lancing Police Station – Breach C–3.3%* *Lancing Police Station – Breach C – 0.5%* *Lancing Police Station – Breach C – 0.1%* *Lancing Police Station – Breach D –3.3%* *Lancing Police Station – Breach D – 0.5%* *Lancing Police Station – Breach D – 0.1%*	

	Lancing Police Station – Breach E–3.3% *Lancing Police Station – Breach E – 0.5%* *Lancing Police Station – Breach E – 0.1%* *Velocity* *Lancing Police Station – Breach A–3.3%* *Lancing Police Station – Breach A – 0.5%* *Lancing Police Station – Breach A – 0.1%* *Lancing Police Station – Breach B–3.3%* *Lancing Police Station – Breach B – 0.5%* *Lancing Police Station – Breach B – 0.1%* *Lancing Police Station – Breach C–3.3%* *Lancing Police Station – Breach C – 0.5%* *Lancing Police Station – Breach C – 0.1%* *Lancing Police Station – Breach D –3.3%* *Lancing Police Station – Breach D – 0.5%* *Lancing Police Station – Breach D – 0.1%* *Lancing Police Station – Breach E–3.3%* *Lancing Police Station – Breach E – 0.5%* *Lancing Police Station – Breach E – 0.1%* **Flood characteristics:** The site is not considered to be at risk in the breach scenarios tested.
Emergency planning	
Flood warning	The site has not been identified to be within an Environment Agency Flood Warning or Flood Alert Area. *Lancing Police Station – Flood Warning*
Access and egress	**Surface Water 1% AEP plus 45% climate change (upper end allowance)** Access and egress are not affected during 1% AEP plus climate change surface water modelling. **Tidal 0.5% AEP plus 55% climate change (higher central allowance)** Access and egress are not affected during the 0.5% AEP plus climate change tidal events.
Requirements for drainage control and impact mitigation	
Broad-scale assessment of possible SuDS	**Geology & Soils** The geology consists of Newhaven Chalk Formation comprised of chalk. The superficial deposits consist of River Terrace Deposits (sand, silt and clay). The soils are shown to be freely draining slightly acid loamy soils. The geology of the Adur District is complex; areas of chalk are often capped with small sections of clay. This can result in groundwater being trapped beneath the clay layer and surface water pooling at the surface unable to infiltrate. Groundwater may find a fissure in the clay and rise to the surface resulting in flooding that is difficult to predict in terms of location and scale. **SuDS** Implementation of SuDS at the site could provide opportunities to deliver multiple benefits including volume control, water quality, amenity and

biodiversity. Evidence should be given where multiple benefits are not provided to show that this is not possible.

Preference should be given to multi-functional sustainable drainage systems, and to solutions that allow surface water to be discharged according to the hierarchy of drainage options listed in the PPG Flood Risk and Coastal Change paragraph 056.

The layout and function of drainage systems needs to be considered at the start of the design process for new development, as integration with road networks and other infrastructure can maximise the availability of developable land.

Suitability and considerations for sustainable drainage

In line with Defra's National Standards for Sustainable Drainage Systems, runoff from the development shall be discharged to the following final destinations, to the maximum extent practicable, in accordance with the below hierarchy:

- Priority 1: collected for non-potable use
- Priority 2: infiltrated to ground
- Priority 3: discharged to an above ground surface water body
- Priority 4: discharged to a surface water sewer, or another piped surface water drainage system
- Priority 5: discharged to a combined sewer

SuDS measures should also follow West Sussex County Council's discharge hierarchy, and if it is proposed to discharge runoff to a watercourse or sewer system, the condition and capacity of the receiving watercourse or asset should be confirmed through surveys and the discharge rate agreed with the asset owner based on the National Standards for SuDS.

Although chalk is porous, the risk of medium to high groundwater levels on site suggests that infiltration may be limited. For Brownfield sites, infiltration should be investigated as the first option, but where evidence can be provided that this is unviable offsite discharge may be required for surface water runoff. Additional site investigation work may be required to support the detailed design of the drainage system. This may include groundwater monitoring, in line with BRE 365 or similar, to demonstrate that a sufficient unsaturated zone has been provided above the highest occurring groundwater level.

Surface water discharge rates should not exceed pre-development discharge rates and aim to be restricted to Greenfield Qbar. If that is not possible; flow should be restricted to as close to Qbar as is achievable, with a minimum requirement of 50% betterment. This should be done in consultation with the LLFA. It may be possible to reduce site runoff by maximising the permeable surfaces on site using a combination of permeable surfacing and soft landscaping techniques.

	The site is located within a Nitrate Vulnerable Zone. Therefore, early engagement with the LLFA and the EA is recommended to determine requirements for the site to manage the impact to surrounding watercourses. Consideration of water quality is likely to be of high importance and demonstrated through the use of the Simple Index Approach. The site has not been identified to be located within a historic landfill site or a Groundwater Source Protection Zone.
Opportunities for wider sustainability benefits and integrated flood risk management	• SuDS could be used to provide wider sustainability benefits to the site and surrounding area. Proposals to use SuDS techniques should be discussed with relevant stakeholders (LPA, LLFA and Environment Agency) at an early stage to understand possible constraints. • Preference should be given to multi-functional sustainable drainage systems, and to solutions that allow surface water to be discharged according to the hierarchy of drainage options listed in the PPG Flood Risk and Coastal Change paragraph 056. • The design of the surface water management proposals should take into account the impacts of future climate change over the projected lifetime of the development. • Opportunities to incorporate source control techniques such as green roofs, permeable surfaces and rainwater harvesting must be considered in the design of the site. • SuDS are to be designed so that they are easy to maintain, and it should be set out who will maintain the system, how the maintenance will be funded and should be supported by an appropriately detailed maintenance and operation manual. • SuDS should be designed with a holistic approach, combining ecology, landscape and drainage requirements specific to the site, and incorporating Biodiversity Net Gain requirements. • Opportunities to incorporate filtration techniques such as filter strips, filter drains and bioretention areas must be considered. Consideration should be made to the existing condition of receiving waterbodies and their Water Framework Directive objectives for water quality. The use of multistage SuDS treatment will improve water quality of surface water runoff discharged from the site and reduce the impact on receiving water bodies. • The potential to utilise conveyance features such as swales to intercept and convey surface water runoff should be considered. Conveyance features should be located on common land or public open space to facilitate ease of access. • SuDS should be designed in line with the National Standards for Sustainable Drainage Systems.
NPPF and planning implications	
Exception Test requirements **(Local Authority considerations)**	The Local Authority will need to confirm that the sequential test has been carried out in line with national guidelines. The sequential test is required due to the groundwater risk at the site. Once the sequential test has been passed, a sequential approach to development should still be undertaken. The NPPF classifies the usage as "More Vulnerable"; given the site is located within Flood Zone 1, provided development is proposed outside of the areas of risk, the exception test is not required for this site. However,

	within the FRA evidence that development at this site does not increase flood risk elsewhere and that the development is safe throughout its lifetime will be required
Requirements and guidance for site-specific Flood Risk Assessment **(Developer considerations)**	**Flood Risk Assessment:** The Level 1 SFRA has more guidance on this section and any relevant policies and information applicable to development within Adur. • All sources of flooding should be included as part of the site specific FRA. • The most recent risk of Flooding from Surface Water dataset should be used. • Consultation with Adur and Worthing Councils, West Sussex County Council, and where relevant the Environment Agency and Southern Water should be undertaken at an early stage. • Developers should consult with Southern Water to ensure that the development aims to help achieve the targets of the Drainage and Wastewater Management Plan. • The existing drainage will need to be investigated prior to development. • Development plans should use the Level 1 and 2 SFRA for Adur and Worthing Council, as well as the Local Flood Risk Management Strategies to identify cumulative flood risk issues. It should also promote an integrated approach to water management. • Applicants are expected to provide fully detailed plans of the site's existing surface water drainage arrangements, including impermeable areas, gullies, outfalls, pipes & diameters, manholes, etc., to prove the extent of the existing positively drained areas and their associated points of discharge. **Guidance for site design and making development safe:** • The developer will need to show, through an FRA, that future users of the development will not be placed in danger from flood hazards throughout its lifetime. It is for the applicant to show that the development meets the objectives of the NPPF's policy on flood risk. For example, how the operation of any mitigation measures can be safeguarded and maintained effectively through the lifetime of the development. (Para 048 Flood Risk and Coastal Change PPG). • Consideration of the risk of groundwater flooding at the site is required. Monitoring and ground investigations should be undertaken to determine the risk and inform site management. • A drainage strategy should be prepared to understand infiltration capacity at the site given the underlying chalk geology and risk of groundwater emergence. • Groundwater mapping indicates a high risk of groundwater flooding at the site. Following groundwater monitoring, development should be directed away from areas of high groundwater risk. • The risk from surface water flow routes should be quantified as part of a site-specific FRA, including a drainage strategy, so runoff magnitudes from the development are not increased by development across any ephemeral surface water flow routes (temporary/seasonal surface water flow paths). A drainage

strategy should help inform site layout and design to ensure runoff rates do not exceed greenfield Qbar rates.

Key messages

The site has been identified to be at low risk of flooding due to its location within Flood Zone 1. Following a consideration of the groundwater risk at the site by the developer it is likely that development would be appropriate, and more vulnerable development would be permitted.

Sources of information

National Planning Policy Framework (NPPF)

https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf

Planning Practice Guidance (PPG), Flood Risk and Coastal Change

https://www.gov.uk/guidance/flood-risk-and-coastal-change

Flood Map for Planning (NaFRA2 2025)

https://www.data.gov.uk/dataset/104434b0-5263-4c90-9b1e-e43b1d57c750/flood-map-for-planning-flood-zones1

Long Term Flood Risk

Where do you want to check? - Check your long term flood risk - GOV.UK

British Geological Survey (BGS) Geology Viewer

https://geologyviewer.bgs.ac.uk/

Southern Water's Drainage and Wastewater Management Plan

https://www.southernwater.co.uk/about-us/our-plans/drainage-and-wastewater-management-plans/

National standards for sustainable drainage systems (SuDS)

https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds

Flood Warning sign up

https://www.gov.uk/sign-up-for-flood-warnings