East Devon District Council Level 2 Strategic Flood Risk Assessment Detailed Site Summary Tables

Site Code	**Chlo_09**
Address	Land to north (Phase 1) of Exeter International Airport, Exeter, Devon
Area	15.3 hectares
Current land use	Mixture of Greenfield and Brownfield land at Exeter Airport.
Proposed land use	Employment
Flood Risk Vulnerability	Less vulnerable
Sources of flood risk	
Location of site	The site is located south of Cranbrook, at Exeter Airport. The site boundary incorporates the Devon and Somerset Fire and Rescue Service Training Depot and a handful of airport buildings. The site includes an unnamed watercourse flowing from east to west as a tributary of the River Clyst.
Topography	The Environment Agency's 1m resolution 2022 Composite LiDAR shows that the topography of the site declines from the northeast at 31mAOD to 17.6mAOD in the west, with a continuous gradient. The gradient is less than 3%, therefore the site is considered to have a very gentle slope and is unlikely to affect any proposed SuDS features. The catchment drains northwest, towards the River Clyst.
Existing drainage features	A watercourse is located on site, which is split into two tributary branches, before flowing northwest towards the River Clyst. Due to the location of the fire service depot, it is also likely existing drainage will be present for their services and may require an investigation prior to development. No other existing drainage features have been identified on site.
Fluvial	**Available data and mapping:** Environment Agency Flood Map for Planning for Rivers and Sea and the Exeter Skypark Flood Modelling. The Exeter Skypark Flood Modelling was developed by JBA Consulting in 2023 for Devon County Council. Chlo_09 - Fluvial 3.3% AEP – Depth Chlo_09 - Fluvial 3.3% AEP – Hazard Chlo_09 - Fluvial 3.3%AEP - Velocity Chlo_09 - Fluvial 1% AEP – Depth Chlo_09 - Fluvial 1% AEP – Hazard Chlo_09 - Fluvial 1% AEP - Velocity Chlo_09 - Fluvial 0.1% AEP – Depth Chlo_09 - Fluvial 0.1% AEP – Hazard Chlo_09 - Fluvial 0.1% AEP - Velocity **Data analysis:** Details of the sites location within each Flood Zone are provided within the SFRA Site Screening Appendix. Details are provided below for the Exeter Skypark flood modelling: **3.3% AEP (1 in 30 year) event:** Proportion - 12% Max Depth – 1.56m Mean Depth – 0.15m Max Velocity – 1.53m/s Mean Velocity – 0.16m/s

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Site Code	**Chlo_09**
Address	Land to north (Phase 1) of Exeter International Airport, Exeter, Devon
	Max Hazard – 3.43 Mean Hazard – 0.29 **1% AEP (1 in 100 year) event:** Proportion - 22% Max Depth – 1.88m Mean Depth – 0.14m Max Velocity – 1.73m/s Mean Velocity – 0.16m/s Max Hazard – 3.74 Mean Hazard – 0.26 **0.1% AEP (1 in 1000 year) event:** Proportion - 31% Max Depth – 2.06m Mean Depth – 0.17m Max Velocity – 2.33m/s Mean Velocity – 0.23m/s Max Hazard – 4.49 Mean Hazard – 0.32 **Flood characteristics:** <u>Flood Map for Planning</u> The site is shown to be entirely located within Flood Zone 1 of the Flood Map for Planning released in March 2025. • Flood Zone 1 represents areas which have less than 1 in 1000 (0.1%) chance of river flooding in a given year. However, it should be noted that it is apparent that the watercourse flowing through the site is not represented within the Flood Map for Planning due to its small catchment size, and therefore the Exeter Skypark modelling has been used to assess the fluvial flood risk to the site. <u>Exeter Skypark Flood Risk Modelling</u> The site is shown to flood during all three events, along the unnamed watercourse. In the 3.3% AEP event, the majority of flooding is shown to follow the watercourse, with flooding extending across topographical depressions to the west and south of the south of the site, covering 12%. Flood extents increase to 31% during the 0.1% AEP event, covering a significant portion of the south of the site. The mean depth, velocity and hazard during the 0.1% AEP event is shown to be 0.17m, 0.23m/s and 0.32 (a 'Caution') respectively.
Fluvial plus climate change	**Available data and mapping:** The Exeter Skypark Flood Modelling was developed by JBA Consulting in 2023 for Devon County Council. The model was also run to include the 46% and 61% climate change allowances. Chlo_09 - Fluvial 3.3% AEP plus 46% Climate Change – Depth Chlo_09 - Fluvial 3.3% AEP plus 46% Climate Change – Hazard Chlo_09 - Fluvial 3.3%AEP plus 46% Climate Change – Velocity Chlo_09 - Fluvial 1% AEP plus 46% Climate Change – Depth Chlo_09 - Fluvial 1% AEP plus 46% Climate Change – Hazard Chlo_09 - Fluvial 1%AEP plus 46% Climate Change – Velocity **Management Catchment:** Chlo_09 is located within the East Devon Management Catchment. The Environment Agency guidance recommends that the central allowance is assessed for sites within Flood Zones 2 and 3a for sites that have a flood risk vulnerability of 'More Vulnerable'. The

Site Code	**Chlo_09**
Address	Land to north (Phase 1) of Exeter International Airport, Exeter, Devon
	recommended uplift on peak river flow allowances for the central and higher central estimate for the 2080s are 46% and 61% respectively. The model was therefore set to run with a 46% and 61% climate change allowance to reflect these allowances and the results are discussed below for completeness, however mapping has only been provided for the 46% central allowance as recommended. **Data analysis:** **3.3% AEP (1 in 30 year) plus 46% Climate Change event:** Proportion - 22% Max Depth – 1.91m — Mean Depth – 0.15m Max Velocity – 1.81m/s — Mean Velocity – 0.18m/s Max Hazard – 3.82 — Mean Hazard – 0.27 **3.3% AEP (1 in 30 year) plus 61% Climate Change event:** Proportion - 24% Max Depth – 1.94m — Mean Depth – 0.15m Max Velocity – 1.91m/s — Mean Velocity – 0.18m/s Max Hazard – 3.93 — Mean Hazard – 0.28 **1% AEP (1 in 100 year) plus 46% Climate Change event:** Proportion - 27% Max Depth – 2.0m — Mean Depth – 0.16m Max Velocity – 2.13m/s — Mean Velocity – 0.2m/s Max Hazard – 4.13 — Mean Hazard – 0.3 **1% AEP (1 in 100 year) plus 61% Climate Change event:** Proportion - 29% Max Depth – 2.03m — Mean Depth – 0.16m Max Velocity – 2.24m/s — Mean Velocity – 0.21m/s Max Hazard – 4.22 — Mean Hazard – 0.31 **Flood characteristics:** Flooding is shown to follow the unnamed watercourse across all climate change events, increasing in extent across the western/southern portion of the site from 22% up to 29%. The mean depth, velocity and hazard during the 0.1% AEP event is shown to be 0.16m, 0.21m/s and 0.31 (a 'Caution') respectively.
Surface Water	Environment Agency's Risk of Flooding from Surface Water dataset for the 3.3%, 1% and 0.1% AEP events. As agreed with the Environment Agency, it should be noted that the data discussed below relates to the available surface water data prior to March 2025, as the data released in March 2025 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. The Exeter Skypark Flood Modelling was also available to include the surface water risk to the site; developed by JBA Consulting in 2023 for Devon County Council. Chlo_09 - Surface Water 3.3% AEP – Depth Chlo_09 - Surface Water 3.3% AEP – Hazard

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Site Code	**Chlo_09**
Address	Land to north (Phase 1) of Exeter International Airport, Exeter, Devon

Chlo_09 - Surface Water 3.3% AEP - Velocity
Chlo_09 - Surface Water 1% AEP – Depth
Chlo_09 - Surface Water 1% AEP – Hazard
Chlo_09 - Surface Water 1% AEP - Velocity
Chlo_09 - Surface Water 0.1% AEP – Depth
Chlo_09 - Surface Water 0.1% AEP – Hazard
Chlo_09 - Surface Water 0.1% AEP – Velocity

Chlo_09 - Surface Water 3.3% AEP Modelling – Depth
Chlo_09 - Surface Water 3.3% AEP Modelling – Hazard
Chlo_09 - Surface Water 3.3% AEP Modelling - Velocity
Chlo_09 - Surface Water 1% AEP Modelling – Depth
Chlo_09 - Surface Water 1% AEP Modelling – Hazard
Chlo_09 - Surface Water 1% AEP Modelling - Velocity
Chlo_09 - Surface Water 0.1% AEP Modelling – Depth
Chlo_09 - Surface Water 0.1% AEP Modelling – Hazard
Chlo_09 - Surface Water 0.1% AEP Modelling – Velocity

Data analysis:

Environment Agency's Risk of Flooding from Surface Water dataset

3.3% AEP (1 in 30 year) event:

Proportion - 5%

Max Depth – 1.27m	Mean Depth – 0.35m
Max Velocity – 1.7m/s	Mean Velocity – 0.33m/s
Max Hazard – 1.87	Mean Hazard – 0.98

1% AEP (1 in 100 year) event:

Proportion - 8%

Max Depth – 1.38m	Mean Depth – 0.31m
Max Velocity – 1.72m/s	Mean Velocity – 0.39m/s
Max Hazard – 2.08	Mean Hazard – 0.93

0.1% AEP (1 in 1000 year) event:

Proportion - 25%

Max Depth – 1.6m	Mean Depth – 0.23m
Max Velocity – 2.63m/s	Mean Velocity – 0.55m/s
Max Hazard – 2.85	Mean Hazard – 0.85

Exeter Skypark Surface Water Modelling

3.3% AEP (1 in 30 year) event:

Proportion – N/A due to modelling extent

Max Depth – 1.49m	Mean Depth – 0.05m
Max Velocity – 5.87m/s	Mean Velocity – 0.06m/s
Max Hazard – 2.81	Mean Hazard – 0.08

1% AEP (1 in 100 year) event:

Proportion – N/A due to modelling extent

Max Depth – 1.52m	Mean Depth – 0.05m
Max Velocity – 5.87m/s	Mean Velocity – 0.07m/s
Max Hazard – 3.03	Mean Hazard – 0.08

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Site Code	**Chlo_09**
Address	Land to north (Phase 1) of Exeter International Airport, Exeter, Devon
	Flood characteristics: The Risk of Flooding from Surface Water dataset shows that flooding is shown to increase from 5% to 25% across the site. Flooding is predominantly shown to flow along the watercourse, with a small area of flooding across the centre of the site during the 3.3% AEP event. The flood extent is shown to increase quite significantly during the 0.1% AEP event with flow paths crossing the centre and southern portions of the site from east to west. The mean depth, velocity and hazard during the 0.1% AEP event is shown to be 0.23m, 0.55m/s and 0.85 (a 'Danger to some') respectively. Within the Skypark modelling it is evident that the average flood risk is identified to be significantly lower than the superseded Risk of Flooding from Surface Water mapping. It should however be noted that the maximum depth, hazard and velocity is identified to be more significant in both the 3.3% and 1% AEP events. The flood extent is shown to be similar to the Risk of Flooding from Surface Water dataset, predominantly following the watercourses across the site, with additional shallow coverage scattered across the site. The mean depth, velocity and hazard during the 1% AEP event is shown to be 0.05m, 0.07m/s and 0.08 (a 'Caution') respectively. The superseded RoFSW dataset used in this assessment has been compared with the March 2025 NaFRA2 dataset. The flood extent is shown to be similar to the 0.1% AEP event for both datasets, with similar proportional percentages below, however the 2025 dataset shows a larger percentage at risk of surface water flooding during the 3.3% and 1% AEP events with slightly wider flow paths. • 3.3% AEP – 12% • 1% AEP – 18% • 0.1% AEP - 35%
Surface water plus climate change	**Available data and mapping:** Environment Agency's Risk of Flooding from Surface Water dataset for the 3.3%, 1% and 0.1% AEP events with 65% Climate Change scenarios. As agreed with the Environment Agency, it should be noted that the data discussed below relates to the available surface water data prior to March 2025, as the data released in March 2025 does not include depth, hazard and velocity information for climate change scenarios. The Exeter Skypark Flood Modelling was also available to include the surface water risk to the site for the 3.3% plus 40% AEP and 1% plus 45% Climate change events. Chlo_09 - Surface Water 3.3% AEP plus 65% Climate Change – Depth Chlo_09 - Surface Water 3.3% AEP plus 65% Climate Change – Hazard Chlo_09 - Surface Water 3.3% AEP plus 65% Climate Change - Velocity Chlo_09 - Surface Water 1% AEP plus 65% Climate Change – Depth Chlo_09 - Surface Water 1% AEP plus 65% Climate Change – Hazard Chlo_09 - Surface Water 1% AEP plus 65% Climate Change - Velocity Chlo_09 - Surface Water 0.1% AEP plus 65% Climate Change – Depth Chlo_09 - Surface Water 0.1% AEP plus 65% Climate Change – Hazard Chlo_09 - Surface Water 0.1% AEP plus 65% Climate Change – Velocity

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Site Code	**Chlo_09**
Address	Land to north (Phase 1) of Exeter International Airport, Exeter, Devon

Chlo_09 - Surface Water 3.3% AEP plus 40% Climate Change Modelling – Depth
Chlo_09 - Surface Water 3.3% AEP plus 40% Climate Change Modelling – Hazard
Chlo_09 - Surface Water 3.3% AEP plus 40% Climate Change Modelling - Velocity
Chlo_09 - Surface Water 1% AEP plus 45% Climate Change Modelling – Depth
Chlo_09 - Surface Water 1% AEP plus 45% Climate Change Modelling – Hazard
Chlo_09 - Surface Water 1% AEP plus 45% Climate Change Modelling - Velocity

Management Catchment: Chlo_09 is located within the East Devon Management Catchment. 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. This is appropriate for development with a lifetime beyond 2100. The recommended uplift on peak rainfall intensity for the 3.3% AEP is 40% and for the 1% AEP is 45%. As Risk of Flooding from Surface Water data with a 65% uplift was already available this has been used as the best available data for the 3.3%, 1% and 0.1% AEPs.

Data analysis:

Environment Agency's Risk of Flooding from Surface Water dataset

3.3% AEP (1 in 30 year) plus 65% climate change event:

Proportion - 13%
Max Depth – 1.53m — Mean Depth – 0.28m
Max Velocity – 2.24m/s — Mean Velocity – 0.47m/s
Max Hazard – 2.66 — Mean Hazard – 0.9

1% AEP (1 in 100 year) plus 65% climate change event:

Proportion - 23%
Max Depth – 1.62m — Mean Depth – 0.24m
Max Velocity – 2.6m/s — Mean Velocity – 0.56m/s
Max Hazard – 2.84 — Mean Hazard – 0.86

0.1% AEP (1 in 1000 year) plus 65% climate change event:

Proportion - 54%
Max Depth – 1.92m — Mean Depth – 0.27m
Max Velocity – 3.32m/s — Mean Velocity – 0.78m/s
Max Hazard – 4.16 — Mean Hazard – 1.02

Exeter Skypark Surface Water Modelling

3.3% AEP (1 in 30 year) plus 40% climate change event:

Proportion – N/A
Max Depth – 1.54m — Mean Depth – 0.05m
Max Velocity – 5.87m/s — Mean Velocity – 0.07m/s
Max Hazard – 3.12 — Mean Hazard – 0.09

1% AEP (1 in 100 year) plus 45% climate change event:

Proportion - N/A

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Address	Land to north (Phase 1) of Exeter International Airport, Exeter, Devon
	Max Depth – 1.57m Max Velocity – 5.81m/s Max Hazard – 3.4 Mean Depth – 0.06m Mean Velocity – 0.09m/s Mean Hazard – 0.1 **Flood characteristics:** The Environment Agency Risk of Flooding from Surface Water dataset shows flooding to cross the site from east to west and predominantly follow the watercourses, with associated ponding covering 13%. The flood extent is shown to significantly increase during the 0.1% AEP plus climate change event to cover 54% of site, with flow paths covering the majority of the site. The mean depth, velocity and hazard is shown to be 0.27m, 0.78m/s and 1.02 (a 'Danger to some') respectively. During the Skypark surface water modelling, flooding extents remain similar, with significantly smaller average depths, velocities and hazards. The maximum values are however shown to be greater. The mean depth, velocity and hazard during the 1% AEP plus climate change event is shown to be 0.06mm, 0.09m/s and 0.1 (a 'Caution') respectively.
Reservoir	The site is not located near to a Wet or Dry day reservoir flooding extent, according to the Environment Agency's reservoir flood mapping.
Groundwater	**Available data and mapping:** The JBA Groundwater Flood Data Map (GW5) is provided as a 5m resolution grid. Chlo_09 - Groundwater Emergence **Flood characteristics:** Groundwater levels on site are shown to be 'low risk' to the north and across the centre of the site, with levels predominantly shown to be between 0.025m and 0.5m below the grounds surface. Small, localised areas are shown to contain ground levels either at or very near (within 0.025m of the grounds surface) to the west and across the southern portion of the site during a 1% AEP groundwater flood event. In these instances, where groundwater levels are close to the ground surface, there is a significant risk of groundwater emergence during a flood event. Subsurface development or development requiring deep foundations run the risk of interfering with groundwater levels by displacing water. There is a requirement for site-specific flood risk investigations to determine the groundwater risk at the site through ground investigations and to demonstrate that proposed development will not impact the risk posed within or surrounding the site. Site-specific FRAs should also assess the suitability of SuDS within the areas at potential risk of groundwater emergence.
Sewers	No evidence of sewer flooding has been identified at or near the development site. South West Water's sewer network shapefile shows there is a sewer network close to the site along Spitfire Avenue within the Skypark Business Area, and therefore developers should refer to South West Water's guidance. A sewer requisition may be required to manage excess flows which cannot be dealt with on site.
Flood history	The site is not shown to be located within the Environment Agency's Recorded Flood Outlines extent.

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Address	Land to north (Phase 1) of Exeter International Airport, Exeter, Devon
	There are no flooding incidents within Devon County Council's dataset recorded within 100m of the site.
Policy zones	
Critical drainage areas	The site has not been identified to be located within a critical drainage area. Mapping: Chlo_09 - Critical Drainage Area
Coastal change management areas	The site has not been identified to be located within a coastal change management area.
Flood risk management infrastructure	
Existing defences	The Environment Agency's AIMS dataset shows there are no formal flood defences within the vicinity of the site.
Emergency planning	
Flood warning	A small portion of the site along the western boundary has been identified to be located within an area of flood alerts for the Rivers Clyst and Culm and their tributaries (113WAFTW07). The site is not shown to be located within a flood warning area. Chlo_09 - Flood Warnings and Alerts
Access and egress	Access and egress is unlikely to be possible due to significant flood depths (up to 400mm and 600mm) along the entrance to the site during the 1% AEP plus climate change surface water and fluvial events respectively. Access and egress may be possible to the south of the site off the former runway, however flood depths bisecting the centre of the site restrict access. The maximum hazard rating identified on site is shown to be a 'Danger to all', however the mean hazard is shown to be a 'Danger to some' covering the western and southern portions of the site. Access and egress should be assessed in a site-specific assessment in relation to the proposed development and a Flood Response Plan should be developed. This should be prepared in line with the ADEPT guidance on Flood Risk Emergency Plans for New Development as part of a planning application.
Requirements for drainage control and impact mitigation	
Broad-scale assessment of possible SuDS	**Geology and Soils** The geology is mixed and consists of mudstone, siltstone, and sandstone to the east, with interbedded sandstone and conglomerate to the west. Superficial deposits on site comprise of clay, silt and sand. The soils are shown to be slightly acid loamy and clayey soils with impeded drainage. This suggests that infiltration may not be a viable means of surface water disposal. **SuDS** In line with Defra's National Standards for Sustainable Drainage Systems, runoff from the development shall be discharged to the following final

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	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 • The site is located within a Nitrate Vulnerable Zone. Therefore, early engagement with the LLFA and the Environment Agency 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. • Groundwater levels are shown to be either at or very close to the grounds surface across the western and southern portion of the sites during a 1% AEP flood event, also suggesting that infiltration may not be viable. The infiltration potential of the site should therefore be confirmed through infiltration testing, in line with BRE 365. • Surface water discharge rates should not exceed pre-development discharge rates for the site and should be designed to be as close to greenfield runoff rates as reasonably practical 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. • SuDS measures should follow the 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. • Due to the topography, any surface water not intercepted via infiltration will drain via gravity to the western boundary. It is therefore recommended that the LLFA and the Environment Agency are consulted about viable discharge locations for surface water from the site and their attenuation potential.
Opportunities for wider sustainability benefits and integrated flood risk management	• Implementation of SuDS at the site could provide opportunities to deliver multiple benefits including volume control, water quality, amenity and biodiversity. This could also 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. • It should be noted that the implementation of SuDS should be designed in relation to the proposed development, excluding in the vicinity of the fire station, due to potentially contaminated water.

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	• 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 Devon County Councils SuDS Guidance. https://www.devon.gov.uk/floodriskmanagement/document/sustainable-drainage-system-guidance-for-devon-2023/#dcc-documents-cpt-contents
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 will need to be passed before the Exception Test is applied. The NPPF classifies the usage as "Less Vulnerable". The site is located within Flood Zone 1 of the latest Flood Map for Planning, as the watercourse flowing through the site is not represented. Detailed modelling identifies the site to be at risk of both fluvial and surface water flooding during all modelled events. Flow paths are shown to follow the watercourse, with additional flooding covering the west and southern portions of the site. Provided development is proposed outside of the areas at risk, the Exception Test is not required for this site as the site use is Less Vulnerable. However, a site-specific flood risk assessment would still need to demonstrate that the development is safe for its lifetime without impacting on flood risk elsewhere. The extent of Flood Zone 3b will need to be confirmed during a site-specific assessment as development will not be permitted in this area.

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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 East Devon District Council.
	
	• Consultation with East Devon District Council, and where relevant South West Water, Devon County Council, and the Environment Agency should be undertaken at an early stage. Works affecting an Ordinary Watercourse may require consent from Devon County Council.
	• Developers should consult with South West Water to ensure that the development aims to help achieve the targets of the Drainage and Wastewater Management Plan.
	• Development plans should use the Level 1 and 2 SFRA for East Devon District 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.
	• The site is located within a medium risk Cumulative Impact Assessment (CIA) catchment and therefore specific CIA policy documents are applicable to this site.
	
	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).
	• As outlined in the PPG, the Finished Floor Levels of the development should be raised to a minimum of whichever is higher of 600mm above the:
	  • Average ground level of the site,
	  • Adjacent road level to the building,
	  • Estimated river or sea flood level.
	
	• It is suggested that flood resilient design is adopted in the construction of development. The PPG sets out that flood resistant material that have low permeability should be used to at least 600mm above the estimated flood level; flood resilient materials to at least 600mm above the estimated flood level and raising of electrical equipment at least 600mm above the estimated flood level.
	• 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. A drainage strategy should help inform site layout and design to ensure runoff rates do not exceed greenfield rates.
	• Arrangements for safe access and egress are unlikely to be possible and will need to be considered further within a site-specific FRA for

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	the surface water events with an appropriate allowance for climate change, using the depth, velocity, and hazard outputs.

Key messages

The site is generally identified to be at medium risk due to the location of the unnamed watercourse flowing through the site boundary, effecting both fluvial and surface water flooding extents. Development is likely to progress if:

- A site-specific FRA is undertaken to assess the risk of fluvial and surface water flooding in relation to the proposed development.
- Development is placed outside of the areas at risk from fluvial and surface water flooding.
- The extent of Flood Zone 3b will need to be confirmed during a site-specific assessment as development will not be permitted in this area.
- Infiltration rates are assessed on site as part of a drainage strategy.
- The risk of groundwater flooding should be considered within a site-specific assessment to determine the groundwater risk at the site through ground investigations and to demonstrate that proposed development will not impact the risk posed within or surrounding the site. Site-specific FRAs should also assess the suitability of SuDS within the areas at potential risk of groundwater emergence.
- There is early engagement with the LLFA and the Environment Agency on the proposed SuDS measures and infiltration rate to discuss requirements on the site meeting relevant conditions due to the sites location within a Nitrate Vulnerable Zone and the location of the fire station.
- Cumulative Impact Assessment policy documents must be understood, and the cumulative impact of development should be considered.
- Consideration is given to the safe access and egress to the site during the design flood event. A Flood Response Plan should be prepared in line with ADEPT guidance.

The Environment Agency regularly reviews their flood risk mapping, and it is important that the Local Planning Authority, Lead Local Flood Authority and Environment Agency are approached to determine whether updated information is available prior to commencing a detailed Flood Risk Assessment.