

	Exeter City Council Level 2 Strategic Flood Risk Assessment Detailed Site Summary Tables	
Site Code	014	
Address	Marsh Barton	
Area	53.6 hectares	
Current land use	Brownfield mixed use – including commercial, industrial, leisure and retail use.	
Proposed land use	Mixed Use – No allocation but identified as 'Regeneration opportunity area'	
Flood Risk Vulnerability	More Vulnerable	
Sources of flood risk		
Location of site	The site is located in the southwest of Exeter and to the west of the River Exe. Surrounding the site to the north and west are residential properties and to the south are industrial and commercial premises. The Great Western main line railway borders the east of the site, Alphington Road borders the west of the site and Grace Road West/Grace Road Central border to the south.	
Topography	Mapping (presented at the end of this document): Marsh Barton_Topography The Environment Agency's 1m Resolution 2022 Composite LiDAR shows that the topography follows a general downward trend from northwest (approximately 8mAOD) to southeast (5mAOD). There is a disused railway line which cuts across the site from the north so southwest which produces the highest elevation in the site (12mAOD). The site is considered to have little slope, which is unlikely to affect any proposed SuDS features	
Existing drainage features	Mapping (presented at the end of this document): Marsh Barton_Watercourses The River Exe flows in a southeasterly direction approximately 450m east of the site. The Exeter Ship Canal flows north to south, approximately 80m east of the site. The Alphin Brook flows eastwards, approximately 250m south of the site. A drainage channel for the railway line is situated along the east boundary of the site, flowing in a southerly direction to join into the Alphin Brook.	
Flood Zones	Available data: Environment Agency Flood Map for Planning for Rivers and Sea. Mapping (presented at the end of this document): Marsh Barton_FMfP Data analysis: Proportion of site in each Flood Zone. Flood Zone 1 – 0 % Flood Zone 2 – 3 % Flood Zone 3a – 97 % Flood Zone 3b – 0 % Flood characteristics: The site is located almost entirely within Flood Zone 3a, with the remainder situated within Flood Zone 2.	

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	Flood Zone 1 represents areas which have less than 1 in 1000 (0.1% Annual Exceedance Probability (AEP)) chance of river flooding in a given year. Flood Zone 2 represents areas which have less than 1 in 100 (1% AEP) but greater than 1 in 1000 (0.1% AEP) chance of river flooding in a given year. Flood Zone 3 representing an area greater than 1 in 100 (1% AEP) chance of river flooding in a given year. The Sequential Test must be satisfied before the Exception Test is applied. The Exception Test must be satisfied for any 'More Vulnerable' development in Flood Zone 3a. 'Highly vulnerable' development is not permitted in Flood Zone 3a. Flood Zone 2 and 3a extent in the Flood Map for Planning (100%) is marginally greater than the extent of the fluvial 0.1% AEP event (97%) in the River Exe Scheme defended Modelling. The Flood Zone 3 extent in the Flood Map for Planning (97%) is greater than the extent of the fluvial 1% AEP defended event (0%) in the River Exe Scheme Modelling. The River Exe Modelling includes the recently constructed Exeter Flood Defence Scheme (FDS). This mapping indicates that the defences significantly reduce the extent of flooding to the site during the 1% AEP event.	
Fluvial	Available data: Environment Agency River Exe Scheme Modelling for 3.3%, 1% and 0.1% Annual Exceedance Probability (AEP) events. The 2024 update to the River Exe modelling includes the recently constructed Exeter Flood Defence Scheme (FDS) – see details of defences in the existing defences section below. Mapping (presented at the end of this document): Marsh Barton_Fluvial_0030_Depth Marsh Barton_Fluvial_0030_Hazard Marsh Barton_Fluvial_0030_Velocity Marsh Barton_Fluvial_0100_Depth Marsh Barton_Fluvial_0100_Hazard Marsh Barton_Fluvial_0100_Velocity Marsh Barton_Fluvial_1000_Depth Marsh Barton_Fluvial_1000_Hazard Marsh Barton_Fluvial_1000_Velocity Data analysis: 3.3% AEP (1 in 30 year) Mapping shows that the site is not impacted by flooding in this event. 1% AEP (1 in 100 year) Mapping shows that the site is not impacted by flooding in this event.	



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	0.1 % AEP (1 in 1000 year) Proportion – 97% Max Depth – 5.3m Mean Depth – 1.77m Max Velocity – 5.99m/s Mean Velocity – 0.46m/s Max Hazard – 20.9 (Danger for all) Mean Hazard – 2.74 (Danger for all) Flood characteristics: The site is not shown to be at risk of flooding during the 3.3% or 1% AEP event. The site is shown to be at high risk of flooding in the 0.1% AEP event. Flood depths across the site generally exceed depths of 1.5m, with peak depths identified along Marsh Barton Road, Trusham Road, Marsh Green Road (North and West) and Christow Road. To the northeast of the site, flood depths are lower. In the northeast, a small dry island is identified at Exton Road Recycling Centre. The disused railway line which crosses the site provides another dry island, given the greater elevations, which reach 11.2mAOD along this track. The maximum depth, velocity and hazard at the site in the 0.1% AEP event are 5.3m, 5.99m/s and 20.9 (Danger for All). All areas surrounding the site are situated in Flood Zone 2 or Flood Zone 3, indicating the significant fluvial flood risk to the area.
Fluvial plus climate change	Available data: Environment Agency River Exe Scheme Modelling for 1% Annual Exceedance Probability (AEP) plus climate change event. Management Catchment: East Devon Management Catchment Mapping (presented at the end of this document): Marsh Barton_Fluvial_0100_46CC_Depth Marsh Barton_Fluvial_0100_46CC_Hazard Marsh Barton_Fluvial_0100_46CC_Velocity Marsh Barton_Fluvial_0100_61CC_Depth Marsh Barton_Fluvial_0100_61CC_Hazard Marsh Barton_Fluvial_0100_61CC_Velocity Data analysis: Higher Central 1 % AEP (1 in 100 year) plus 61 % Climate Change CC3 Proportion – 96.5% Max Depth – 5.08m Mean Depth – 1.55m Max Velocity – 5.79m/s Mean Velocity – 0.39m/s Max Hazard – 18.45 (Danger for all) Mean Hazard – 2.41 (Danger for all) Central 1 % AEP (1 in 100 year) plus 46 % Climate Change CC5 Proportion – 95.5 % Max Depth – 4.96m Mean Depth – 1.4m Max Velocity – 5.78m/s Mean Velocity – 0.35m/s Max Hazard – 16.49 (Danger for all) Mean Hazard – 2.22 (Danger for all)

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	Flood characteristics: The site is shown to flood during both climate change events. Flooding extents are similar in the 1% plus 46% climate change and 1% plus 61% climate change event, proportions of 95.5% and 96.5%, respectively. The disused railway line and area at Exton Road Recycling Centre in the northeast remain dry in both flood events. The flood depths exceeding 1.5m in the 46% climate change event are identified at Exeter Gas Power Station, along Marsh Green Road West and East and Trusham Road. The majority of the land west of the disused railway line is impacted by depths in excess of 1.5m. In the 1% AEP plus 61% climate change event, the extent of flood depths greater than 1.5m increase. The extents increase along Christow Road, along Marsh Green Road North and Marsh Barton Road. The maximum flood depth and velocity remain similar in both events, 4.96m and 5.78m/s (46% CC) and 5.08m and 5.79m/s (61% CC). In both climate change events, flooding initially enters the site from the west, moving across the site in a southeasterly direction. This conveyance route facilitates the movement of fluvial water through the site, and back towards the River Exe. Disruption to this flow path could divert flood waters elsewhere and consequently increase the risk outside the site. During the design flood event flood waters generally flow from north/northeast to south/southwest across the site. Flooding to the northern/eastern part of the site (between the Great Western main line railway and the disused railway line) originates from four locations; Exton Road/Tan Lane flowing in a southerly direction under the railway line and into the site, Marsh Barton Road, flowing under the railway line in an easterly direction, overtopping the disused railway line near Ashton Road, flowing in an easterly direction, and Marsh Green Road West, flowing in an easterly direction. Flood waters leave the site to the south/southeast, passing across Alphington Road and also flowing over the Great Western main line railway in an easterly direction near to the train station.	
Surface Water	Available data: Environment Agency Risk of Flooding from Surface Water for the 3.33%, 1% and 0.1% Annual Exceedance Probability (AEP) events. Mapping (presented at the end of this document): Marsh Barton_RoFSW_0030_Depth Marsh Barton_RoFSW_0030_Hazard Marsh Barton_RoFSW_0030_Velocity Marsh Barton_RoFSW_0100_Depth Marsh Barton_RoFSW_0100_Hazard Marsh Barton_RoFSW_0100_Velocity Marsh Barton_RoFSW_1000_Depth Marsh Barton_RoFSW_1000_Hazard Marsh Barton_RoFSW_1000_Velocity	

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	Data analysis: 3.3 % AEP (1 in 30 year) event: Proportion – 1% Max Depth – 0.76m Max Velocity – 0.8m/s Max Hazard – 1.38 (Danger for most) Mean Depth – 0.26m Mean Velocity – 0.13m/s Mean Hazard – 0.78 (Danger for some)	
	1 % AEP (1 in 100 year) event: Proportion – 4 % Max Depth – 1.04m Max Velocity – 0.99m/s Max Hazard – 1.52 (Danger for most) Mean Depth – 0.28m Mean Velocity – 0.14m/s Mean Hazard – 0.86 (Danger for some)	
	0.1 % AEP (1 in 1000 year) event: Proportion – 26.5% Max Depth – 1.74m Max Velocity – 1.93m/s Max Hazard – 2.2 (Danger for all) Mean Depth – 0.36m Mean Velocity – 0.21m/s Mean Hazard – 1.03 (Danger for most)	
	Flood characteristics: The site is shown to flood during all AEP events with scattered flooding across the site I the 3.3% and 1% AEPs. In the 3.3% AEP event, flooding is minimal, with the largest extents identified on Marsh Barton Road, Marsh Green Road West and Kenton Place. In the 1% AEP event, flood extents increase in the above locations and further flooding is introduced along Ashton Road (west of the disused railway line) and along Trusham Road. In the 0.1% AEP event, flooding covers almost all roads within the site, with particular increase in flood extent in the southeast surrounding Exeter Gas Power Station and Marsh Green Road East, and in the west at Alphington Park. Maximum flood depths increase from 0.76m to 1.74m from the 3.3% AEP to the 0.1% AEP event and hazard rating increases from 1.38 (Danger for Most) to 2.2 (Danger for All) in areas at risk of flooding.	
Surface water plus climate change	Available data: JBA climate change updates to the Environment Agency Risk of Flooding from Surface Water mapping Management Catchment: East Devon Management Catchment The Environment Agency guidance recommends that the Upper End allowance is considered for the 1% AEP 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 the development with a lifetime beyond 2100. The recommended uplift on peak rainfall intensity for the 1% AEP event is 45%. A 65% climate change uplift has been used as a conservative estimate for the Upper End allowance for the East Devon management catchment. Mapping (presented at the end of this document): Marsh Barton_RoFSW_0030_65CC_Depth Marsh Barton_RoFSW_0030_65CC_Hazard	

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	Marsh Barton_RoFSW_0030_65CC_Velocity Marsh Barton_RoFSW_0100_65CC_Depth Marsh Barton_RoFSW_0100_65CC_Hazard Marsh Barton_RoFSW_0100_65CC_Velocity Marsh Barton_RoFSW_1000_65CC_Depth Marsh Barton_RoFSW_1000_65CC_Hazard Marsh Barton_RoFSW_1000_65CC_Velocity Data analysis: 3.3 % AEP (1 in 30 year) plus 65 % climate change event: Proportion – 7% Max Depth – 1.24m Mean Depth – 0.3m Max Velocity – 1.06m/s Mean Velocity – 0.13m/s Max Hazard – 1.63 (Danger for most) Mean Hazard – 0.89 (Danger for some) 1 % AEP (1 in 100 year) plus 65 % climate change event: Proportion – 20% Max Depth – 1.64m Mean Depth – 0.32m Max Velocity – 2.21m/s Mean Velocity – 0.17m/s Max Hazard – 2.0 (Danger for all) Mean Hazard – 0.95 (Danger for some) 0.1 % AEP (1 in 1000 year) plus 65 % climate change event: Proportion – 45% Max Depth – 2.96m Mean Depth – 0.45m Max Velocity – 3.28m/s Mean Velocity – 0.24m/s Max Hazard – 3.17 (Danger for all) Mean Hazard – 1.17 (Danger for some) Flood characteristics: The site is shown to flood in the 3.3%, 1% and 0.1%, plus climate change events. Flood extent in the 3.3% AEP plus 65% climate change event is similar to the 1% AEP event, mainly flooding along Marsh Green Road West, Trusham Road and Ashton Road. In the 1% AEP plus 65% climate change event, the extent increases primarily in the southeast by Exeter Gas Power Station, the junction of Marsh Green Road West and Trusham Road, and along Marsh Barton Road. In both events, flood depths are generally below 0.6m with small instances of depths up to 1.2m in the southeast and in the west along Ashton Road. In the 0.1% plus 65% climate change event, additional flood risk is introduced to the east of the site between Marsh Green Road East and the railway line and in the west of the site along Retail Park Close. Marsh Barton Road is shown to have a hazard rating of 'Danger for All'. Along Marsh Barton Road, at the point it passes beneath the disused railway line, flood depths reach a maximum of 2.96m. Across the site, flood depths are generally between 0.3m and 0.9m across the site.	

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	The average site depth, velocity and hazard in the 0.1% plus 65% climate change event are 0.45m, 0.24m/s and 1.17 ('Danger for Some'). There is a flow path of water in a southeasterly direction across the site in both the 1% AEP plus 65% climate change event and 0.1% AEP event. This conveyance route facilitates the movement of surface water flow through the site. Disruption to this flow path could divert flows and consequently increase the risk of flooding elsewhere. Flow diversion features can help to attenuate and encourage the infiltration of this water without removing the flow route. During the surface water design flood event flooding enters the site from Marsh Barton Road in an easterly direction, and continues along Trusham Road in a southerly direction and then Marsh Green Road East in an easterly direction, leaving the site in the southeastern corner near Grace Road Central.	
Reservoir	Available data: Environment Agency Reservoir Flood Extents for Dry Day and Wet Day Scenarios Mapping (presented at the end of this document): Marsh Barton_Reservoir_Flood_Extents Flood characteristics: In the rare event of a reservoir breach, the majority of the site is at risk from flooding. In a wet day scenario, the site is at risk of flooding from Shobrooke Park Lake (no risk designation) and Wimbleball Reservoir (High-risk designation). In a dry day scenario, the site is at risk only from Wimbleball (High-risk designation). Impact of reservoir breach has not been assessed within this Level 2 SFRA.	
Groundwater	Available data: The JBA Groundwater Flood Data Map (GW5) is provided as a 5m resolution grid. This is a groundwater flood emergence dataset which shows the risk based on the proximity of groundwater to the surface during a 1% AEP groundwater flood event. Mapping (presented at the end of this document): Marsh Barton_Groundwater5m Flood characteristics: JBA's Groundwater mapping indicates that the north of the site is not at risk from groundwater flooding. The south of the site is at high risk of groundwater flooding, with groundwater levels between 0.025m and 0.05m below the ground surface level during a 1% AEP groundwater flood event. In the south of the site, where groundwater levels are close to the ground surface, there is a significant risk of groundwater emergence. 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 assessments to determine the groundwater risk at the site through ground investigations and to demonstrate that proposed development will not impact the risk within the	

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	site or to land surrounding the site. Site-specific FRAs should assess the suitability of SuDS within the areas at potential risk of groundwater emergence.	
Sewers	Available data and mapping: South West Water Drainage and Wastewater Management Plan Flood characteristics: The site is situated within the catchment of the Countess Wear WwTW. South West Water's DWMP indicates an immediate moderate risk of sewer flooding in a 1 in 10 year event and in a 1 in 50 year event. Internal sewer flooding within the catchment is not a risk and the system is considered resilient. The 'Sewer Flooding' map shows that external flooding is most common across Exeter City centre. The Exe DWMP Plan highlights that across the Exe River Catchment in 2023 there were 17 external flood incidents caused by 'Hydraulic Overload' and 199 external flood incidents caused by 'Other' sources. The Exe DWMP highlights that in the Exe Catchment in 2023 there were three internal flood incidents caused by 'Hydraulic Overload' and 10 internal flood incidents caused 'Other' sources.	
Flood history	Available data: Environment Agency Historic Flood Map and Recorded Flood Outlines map Mapping (presented at the end of this document): Marsh Barton_Historic_Flood_Map Flood characteristics: The entire site is shown to be located within the Environment Agency's Historic Flood Map and Recorded Flood Outlines map. The 'Recorded Flood Outlines' map shows that the flood events which impacted the site both occurred in 1960. One instance was on the River Exe in December 1960, due to channel capacity exceedance (prior to the building of flood defences along the River Exe), and one instance was on the Alphin Brook in 1960 due to channel capacity exceedance. Excessive flooding occurred in 1960 in Exeter, prior to the building of flood defences along the River Exe. Flooding events between December 2013 and February 2014 where Marsh Green Road East and the workshop of 1 commercial property in Marsh Barton were reported to have flooded. Blocked drains were reported to be the cause of the pooling water, combined with a sewer overload. In October 2021, nine properties in Exeter experienced surface water flooding. On 17th September 2023, Marsh Barton experienced significant flooding, and reports indicate impassable flood depths along Marsh Barton Road.	
Policy zones		
Critical drainage areas	The site has not been identified to be located within an area with critical drainage problems.	

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Flood risk management infrastructure		
Existing defences	Available data: Environment Agency AIMS spatial flood defences dataset Mapping (presented at the end of this document): Marsh Barton_AIMS_Spatial_Flood_Defences The Environment Agency’s AIMS dataset shows there are no formal defences located within the site. In the vicinity of the site, the Environment Agency AIMS mapping identifies an embankment defence along the east bank of the Exeter Ship Canal, part of the Exeter Flood Defence Scheme, the Haven Bank Wall defence, situated north of the site, and Alphin Brook formal wall and embankment defences. The Alphin Brook, 240m south of the site, has a fluvial embankment. Approximately 450m east of the site, there is an embankment defence situated between the canal and the Exe flood relief channel and 460m northeast of the site is the Haven Banks Wall formal defence. These defences form part of the Exeter FDS which has an overall scheme Standard of Protection between 1.33% AEP to 1% AEP (1 in 75year to 1 in 100 year). The Exeter flood defence scheme was completed in 2022 and reduced flood risk to more than 3,000 homes and businesses in Exeter. The works were split into two phases. During phase 1 the Trews flood relief channel and the side spill weir at the top of the channel were lowered, increasing the flow capacity of the flood relief channel, which will help reduce flood risk to the quay area during high river flows. During phase 2 new embankments were constructed between Cowley Bridge and Bridge Road, Countess Wear along with new flood walls, flood gates, control structures and bespoke demountable defences at Exeter Quay. The Alphin Brook has not been included in the scope of modelling for this study, as its impact on the site location is not anticipated to be significant.	
	The site is partially located in the ‘Reduction in Risk of Flooding from Rivers and Sea due to Defences’ map. The site is at risk from defence breach or overtopping due to the presence of nearby formal wall defences, which could be compromised during extreme flood event. The Haven Banks Wall defences to the northeast of the site have a design Standard of Protection of 100 years, which may fail or be breached during periods of intense rainfall. Fluvial breach modelling was undertaken as part of the Exe Scheme Hydraulic Model update. The breach scenario ‘EXE_DEF_112_AP_BR5_Q100’ shows the 1% AEP breach scenario, based on a failure to close the flood gate north of Haven Road. Flooding encroaches the site from the north via an underpass beneath the railway line on Exton Road and from the east via a pedestrian footpath beneath the railway, off Marsh Green Road North. Flooding travels across the site in a south / south-westerly direction, with additional flood water eventually entering the site from the west onto Marsh Barton Road. In the breach modelling, flood water does not pass through the flood gate location near Haven Road until 28 hours and flooding does not enter the site	

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	for 8.5 hours after this. The time to maximum flood level in the site is between 38 and 47 hours, showing there is a slow and long onset of residual flooding to the site. The site is expected to experience flooding to depths of 4.5mAOD and in places is expected to reach hazard rating of 'Danger for all'. During the 1% AEP, the fluvial flooding does not encroach on the site. This indicates the level of protection the fluvial flood defences along the River Exe are providing to the site. The site is at risk from reservoir failure in the dry and wet day scenarios.	
Emergency planning		
Flood warning	The site is located in the River Exe at Exeter flood warning area (113FWFEXE11) and the Lower Exe flood alert area (113WABTW10). Mapping (presented at the end of this document): Marsh Barton__Alert_Warning_Areas	
Access and egress	Access to the site is via Trusham Road to the south, Grace Road Central in the southeast, Marsh Green Road West in the southwest, Marsh Barton Road in the west and Exton Road in the north. In the fluvial design flood event (1% plus 46% climate change), Marsh Barton Road, Trusham Road, Marsh Green Road West and Grace Road Central are all categorised as a 'Danger for All' hazard. All of the roads are subject to flood depths greater than 1.5m in places, making the roads unpassable in the flood event. During the design fluvial flood event, dry islands exists at Exton Road Recycling Centre and along the disused railway line. Initial out of bank flooding occurs north of Marsh Barton before flowing into this area of Exeter. From this time, fluvial flooding does not enter the site for another 3-4 hours. The south section of Trusham Road remains unimpacted by flooding until a further 2hrs hours, making it the most suitable emergency egress route. The River Exe hydraulic modelling indicates a flood duration on the site of approximately 36 hours. In the surface water design event (1% plus 65% climate change used as a conservative approach) the south of Trusham Road and Grace Road Central are at 'No Risk' or a 'Danger for Some' rating, with depths limited to below 0.6m. Flooding along Marsh Barton Road, Marsh Green Road West and Exton Road reach a hazard rating of 'Danger for Most'. Dry islands are evident across the site in the surface water design event, including Exeter Road Recycling Centre, parts of Stone Lane Retail Park and the area east of Marsh Green Road North. Further consideration is required to ensure that safe access and egress can be achieved during the design flood events (1% AEP plus 46% CC fluvial and 1% AEP plus 45% surface water events) taking into account all potential flood risk and the site's topography. Given that the site is at high risk of flooding in the present day and is shown to be sensitive to the effects of climate change in the future, a flood warning and evacuation plan would be required to demonstrate the safety of all site users.	

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Requirements for drainage control and impact mitigation		
Broad-scale assessment of possible SuDS	Geology BGS data indicates that the underlying geology is Alphington Breccia Formation overlain with Alluvium superficial deposits. Soils at the site are identified as being freely draining. The underlying geology is likely to be poorly draining. Any proposed use of infiltration should be supported by infiltration testing. Off-site discharge in accordance with the SuDS hierarchy is required to discharge surface water runoff.	
	SuDS The site is not located within a Groundwater Source Protection Zone and there are no restrictions over the use of infiltration techniques with regard to groundwater quality. Groundwater levels are indicated to be at or very near (within 0.025m) ground level and there is a risk of groundwater flooding at the surface during a 1% AEP event, which may flow to and pool within topographic low spots. Detention and attenuation features should be designed to prevent groundwater ingress from impacting hydraulic capacity and structural integrity. Additional site investigation work may be required to support the detailed design of the drainage system. This may include groundwater monitoring to demonstrate that a sufficient unsaturated zone has been provided above the highest occurring groundwater level. Below ground development such as basements are not appropriate at this site. The site is not located within a historic landfill site. The site is situated almost entirely within Flood Zone 3 and subsequently, it is expected that attenuation features such as basins, ponds and tanks may not be feasible, given the lack of capacity to situate them outside of Flood Zone 3. Surface water outfalls that discharge into the Exeter Ship Canal or River Exe may be susceptible to surcharging due to water levels in the waterbodies. The impacts of flood flows will need to be considered in terms of the attenuation storage requirements of the site and placement of the outfalls. 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 Given the significant levels of flood risk to the site, consideration should be given the reducing runoff from the site as much as possible through source control measures such as rainwater harvesting systems and green roofs. Given this is a regeneration area, the cumulative impacts of this development are unlikely to be significant.	
Opportunities for wider sustainability benefits and integrated	Implementation of SuDS at the site could provide opportunities to deliver multiple benefits including volume control, water quality, amenity and biodiversity. They could also provide wider sustainability benefits to the site and surrounding area. Proposals to use SuDS	

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flood risk management	techniques should be discussed with relevant stakeholders (LPA, LLFA and EA) at an early stage to understand possible constraints. 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 or 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 where this can be provided outside of the design flood event extent. Conveyance features should be located on common land or public open space to facilitate ease of access, ensuring an improvement or enhancement to the existing flood conveyance routes and ponding locations of fluvial and surface water in the site.	
NPPF and planning implications		
Exception Test requirements (Local Authority considerations)	In order to pass the Exception Test, development must be able to made safe for its lifetime, without increasing flood risk elsewhere. In order to achieve this, and prevent increase in flooding outside the site, the following must be addressed: Flood Mitigation: Implement mitigation measures that control flow without obstructing existing fluvial conveyance routes through the site. Finished Floor Levels (FFL): Ensure FFLS are set at least 300mm above the River Exe flood levels, 600mm above the average ground level of the site, or 600mm above the adjacent road level to the buildings, whichever is higher. Floodwater Compensation: Where floodwater displacement is unavoidable, provide on-site flood storage and conveyance measures to maintain pre-development flow rates and conveyance capacity or provide betterment.	

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	Detailed site-specific hydraulic modelling will need to be carried out by developers to demonstrate that development is safe from flood risk for its lifetime and that there are no offsite impacts on flood risk.	
Requirements and guidance for site-specific Flood Risk Assessment (Developer considerations)	Flood Risk Assessment: A site-specific Flood Risk Assessment is required for any proposals for redevelopment given the following: The site is at significant risk of flooding from multiple source (e.g. fluvial, surface water and groundwater). The Level 1 SFRA has more guidance on the requirements for site specific Flood Risk Assessment and relevant policies and information applicable to development within Exeter City Council. Consultation with Exeter City Council and Devon County Council, and the Environment Agency should be undertaken at an early stage. 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 SFRA for Exeter City Council, as well as Local Flood Risk Management Strategies to identify cumulative flood risk issues within a site specific flood risk assessment. It should also promote an integrated approach to water management. Guidance for site design and making development safe: Any developer will need to show, through an FRA, that future users of 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). Development should be, where applicable, directed to the areas of lowest / no risk of groundwater flooding. The developer will need to confirm, through additional ground investigations, the risk of groundwater emergence at the site. Through the FRA, the developer should demonstrate that the development will not increase risk either within the site or elsewhere. The risk of breach and failure of defences should be modelled as part of a site-specific FRA, to determine the residual risk posed to the site development. In particular, consideration of reservoir breach would be required within a site specific flood risk assessment and emergency response plan for any development at the site. 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 the site layout and design to ensure runoff rates do not exceed greenfield rates.	

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Site Code	014	
Address	Marsh Barton	
	Further consideration will be needed to identify and demonstrate routes of safe access and egress, within an FRA, to the design surface water and fluvial events with an appropriate allowance for climate change, using the depth, hazard and velocity outputs. Due to the significant flood risk across the site, a flood warning and evacuation plan is likely to be required. As outlined in the PPG, the Finished Flood Levels of the development should be raised to a minimum of whichever is higher of the following: 600mm above the: - o 600mm above the average ground level of the site - o 600mm above the adjacent road level to the building - o 300mm above the estimated river or sea flood level (River Exe design flood event) It is suggested that flood resilient design is adopted in the construction of the 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.	
Key messages		
The site is identified as being at high risk of flooding. The site is situated 97% in Flood Zone 3, 95.5% in the design fluvial event, 20% in the design surface water event and at is at high risk of groundwater flooding. The key access route to the site during a flood event is likely to be via Marsh Barton Road and Marsh Green Road West towards Alphington Road. During the River Exe design fluvial event (central climate change allowance), access to these routes would be obstructed by flood depths of over 1.5m. During the surface water design event, the surface water ponding Marsh Barton Road exceeds 1.5m making this route impassable. Flood depths on Marsh Green Road West reach up to 0.6m, however it is likely that sections would remain passable. Given the high flood risk posed to the site, any proposals for redevelopment will need to include: A site-specific Flood Risk Assessment to assess the risk of surface water, fluvial and groundwater flooding in relation to the proposed development, and the emergency access and egress arrangements. An Emergency Response Plan is prepared in line with ADEPT guidance: https://www.adeptnet.org.uk/system/files/documents/ADEPT%20%26%20EA%20Flood%20risk%20emergency%20plans%20for%20new%20development%20September%2020219....pdf Detailed modelling as part of the site-specific flood risk assessment to assess the latest understanding of flood risk and the impact of development on this. An assessment of the risk of reservoir breach and incorporate this risk into an emergency response plan for the site development. Evidence that the Exception Test is satisfied.		



Exeter City Council Level 2 Strategic Flood Risk Assessment Detailed Site Summary Tables

**Site Code****014****Address**

Marsh Barton

An assessment of on-site infiltration rates as part of a drainage strategy.

Consideration of the risk of defence breach and failure in the context of development and the safety of users.

Finished floor levels, raised to a minimum of whichever is higher of 600mm above the average ground level of the site, 600mm above the adjacent road level to the building or 300mm above the estimated River Exe flood level.

Some parts of the site's flood risks might only be resolvable at a strategic wide level (beyond the site) rather than plot or semi site level.

Design flood event	Maximum Hazard	Average Hazard
Fluvial – River Exe 1% Annual Exceedance Probability (AEP) plus 46%CC	16.49 (Danger for all)	2.22 (Danger for all)
Surface Water 1% Annual Exceedance Probability (AEP) plus 65% CC	2.0 (Danger for all)	0.95 (Danger for some)

Sources of information

National Planning Policy Framework -

https://assets.publishing.service.gov.uk/media/669a25e9a3c2a28abb50d2b4/NPPF_December_2023.pdf

Planning Practice Guidance, Flood Risk and Coastal Change -

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

Section 19 Flood Investigation, Devon Winter Flood December 2013 to February 2014 -

<https://devoncc.sharepoint.com/sites/PublicDocs/Planning/FloodRisk/Forms/AllItems.aspx?id=%2Fsites%2FPublicDocs%2FPlanning%2FFloodRisk%2FInvestigations%20and%20Incidents%2FDevon%20December%202013%20January%202014%20Floods%20Report%20Final%2Epdf&parent=%2Fsites%2FPublicDocs%2FPlanning%2FFloodRisk%2FInvestigations%20and%20Incidents&p=true&ga=1>

Devon Live, Flooding 17th September 2023 - <https://www.devonlive.com/news/devon-news/flash-flooding-across-exeter-after-8758634>

Section 19 Investigation, Exeter and Devon-Wide Flood 4th-5th October 2021 -

<https://www.devon.gov.uk/floodriskmanagement/document/exeter-and-devon-wide-floods-4th-5th-october-2021/>

Section 19 Investigation, 17th September 2023 -

<https://www.devon.gov.uk/floodriskmanagement/document/flood-investigation-report/#5-exeter-flood-incident-extent-and-impact>

British Geological Survey, GeoIndex - <https://mapapps2.bgs.ac.uk/geoindex/home.html>

LandIS Soilscales - <https://www.landis.org.uk/soilscales/>



Exeter City Council Level 2 Strategic Flood Risk Assessment Detailed Site Summary Tables



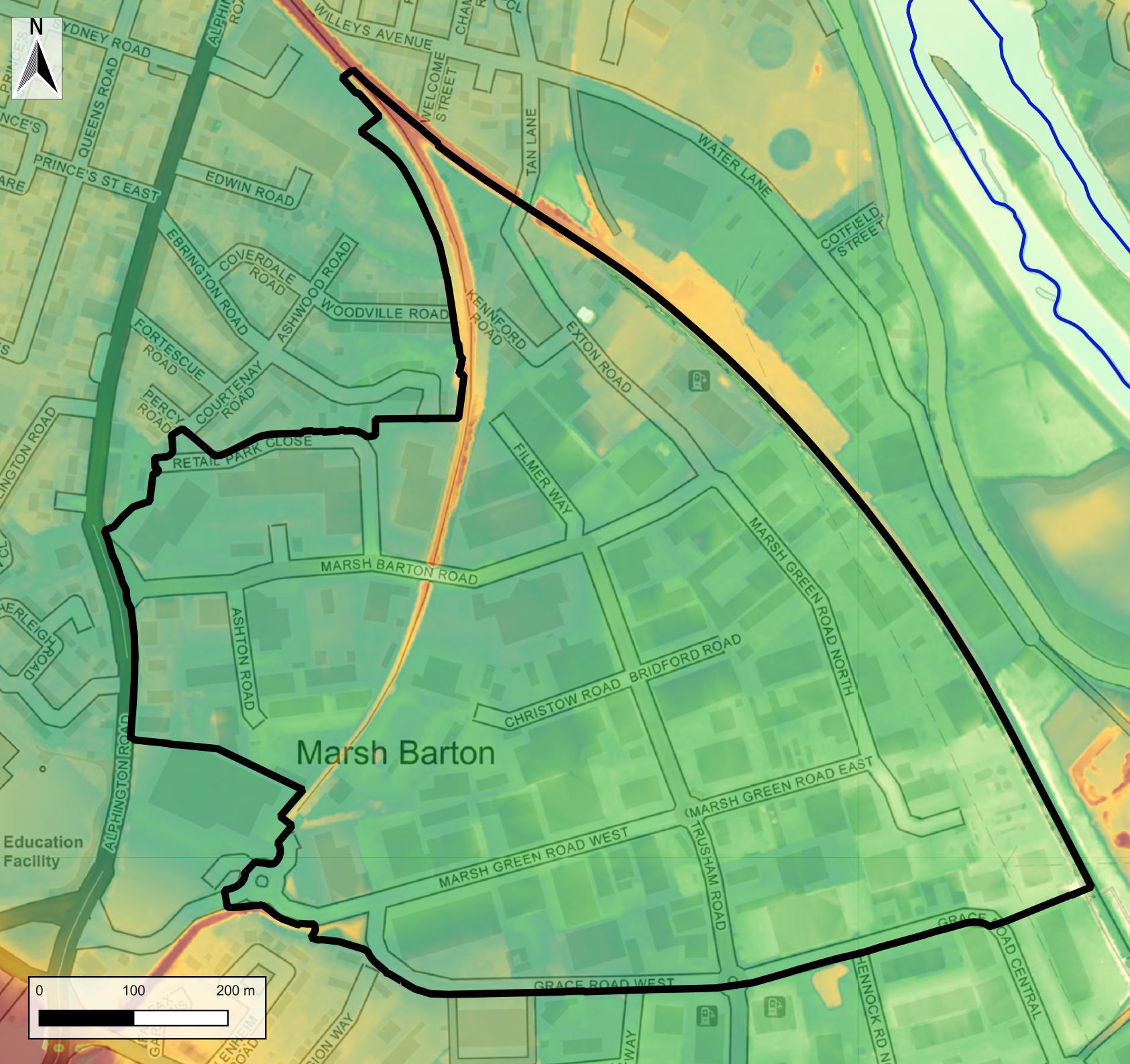
Site Code

014

Address

Marsh Barton

South West Water's Drainage and Wastewater Management Plan -
https://www.southwestwater.co.uk/siteassets/documents/about-us/dwmp/strategic-catchments/exe_l2_dwmp_plan.pdf



Legend



Site Location

LIDAR 1m DTM 2022

Elevation (mAOD)



68.8

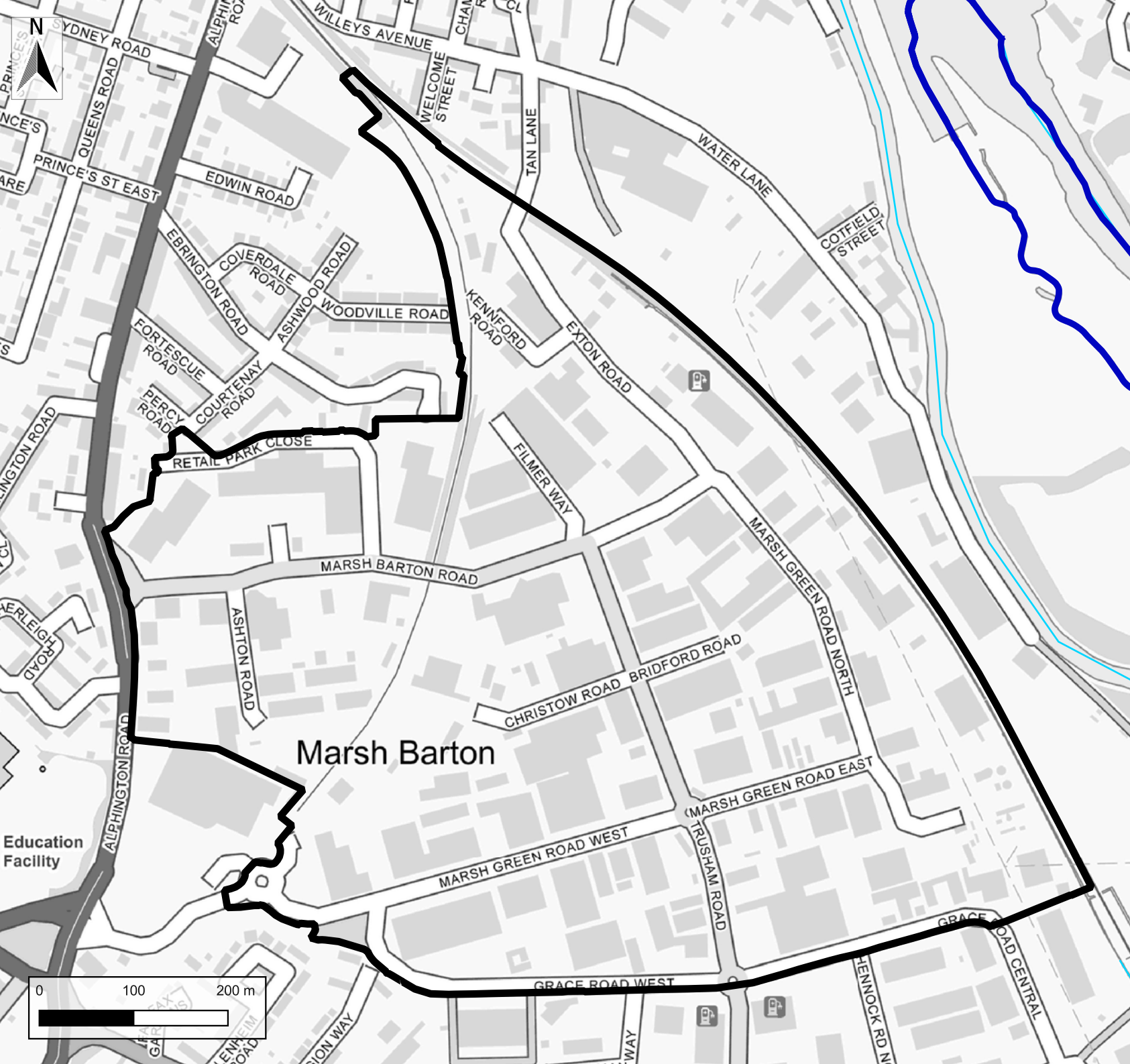
23.1

Drawn By:	BG	Date:	08/08/2024
Checked By:	EH	Date:	08/08/2024
Approved By:	EH	Date:	08/08/2024
Status:	S3	Revision:	P01
Figure Title:	Topography		
File Name:	Exeter SFRA L2		

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0 100 200 m



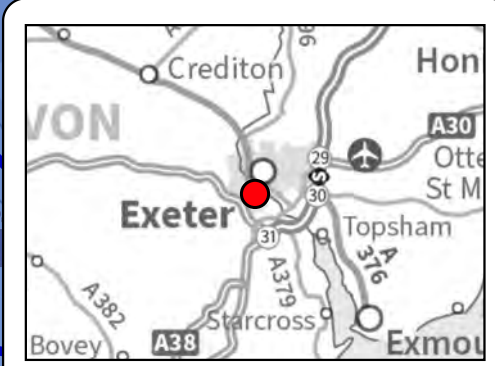
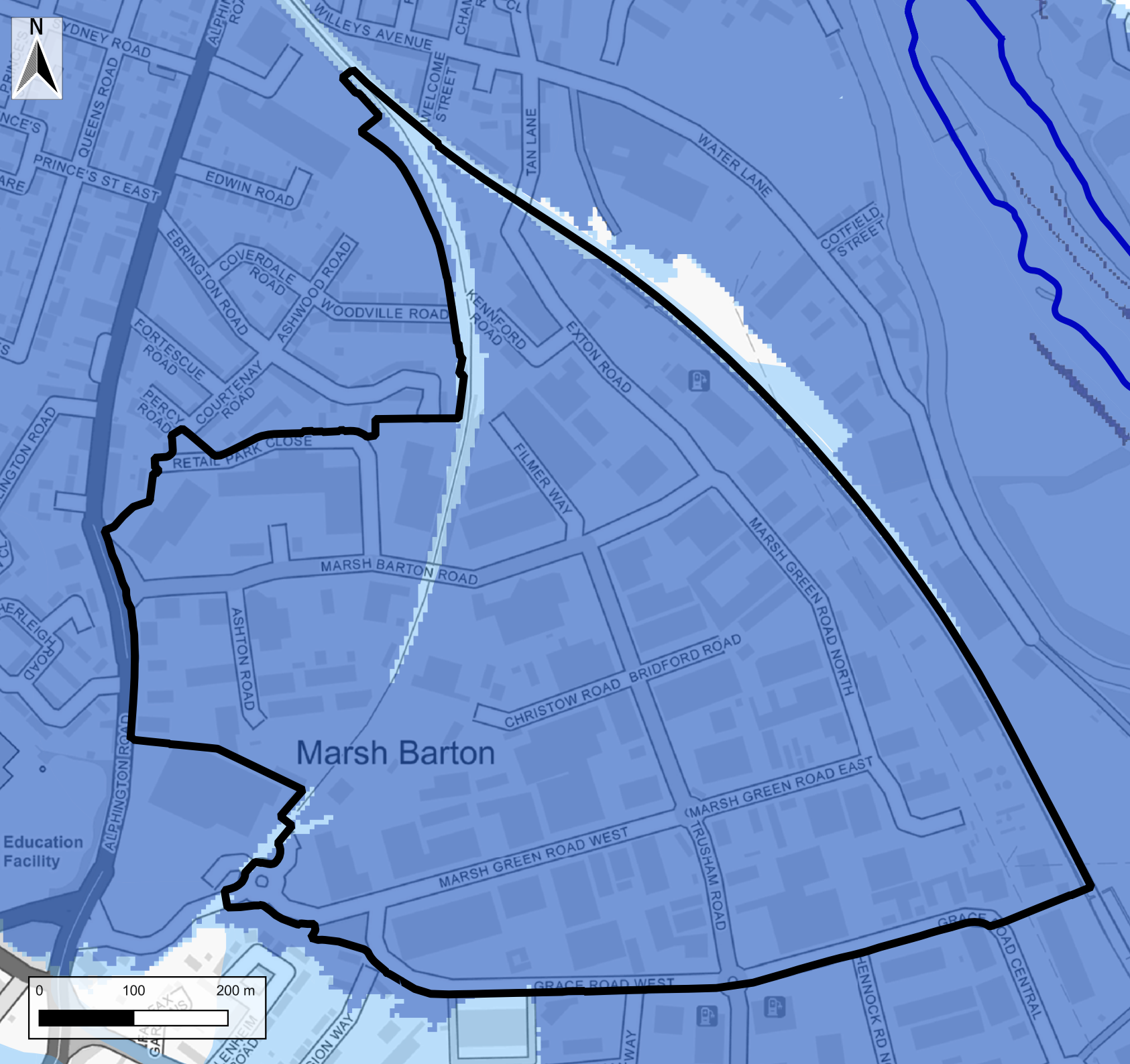


Legend

- Site Location
- Statutory Main River
- Ordinary Watercourse

Drawn By: BG **Date:** 12/08/2024
Checked By: EH **Date:** 12/08/2024
Approved By: EH **Date:** 12/08/2024
Status: S3 **Revision:** P01
Figure Title: FMfP Flood Zones
File Name: Exeter SFRA L2

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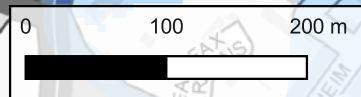


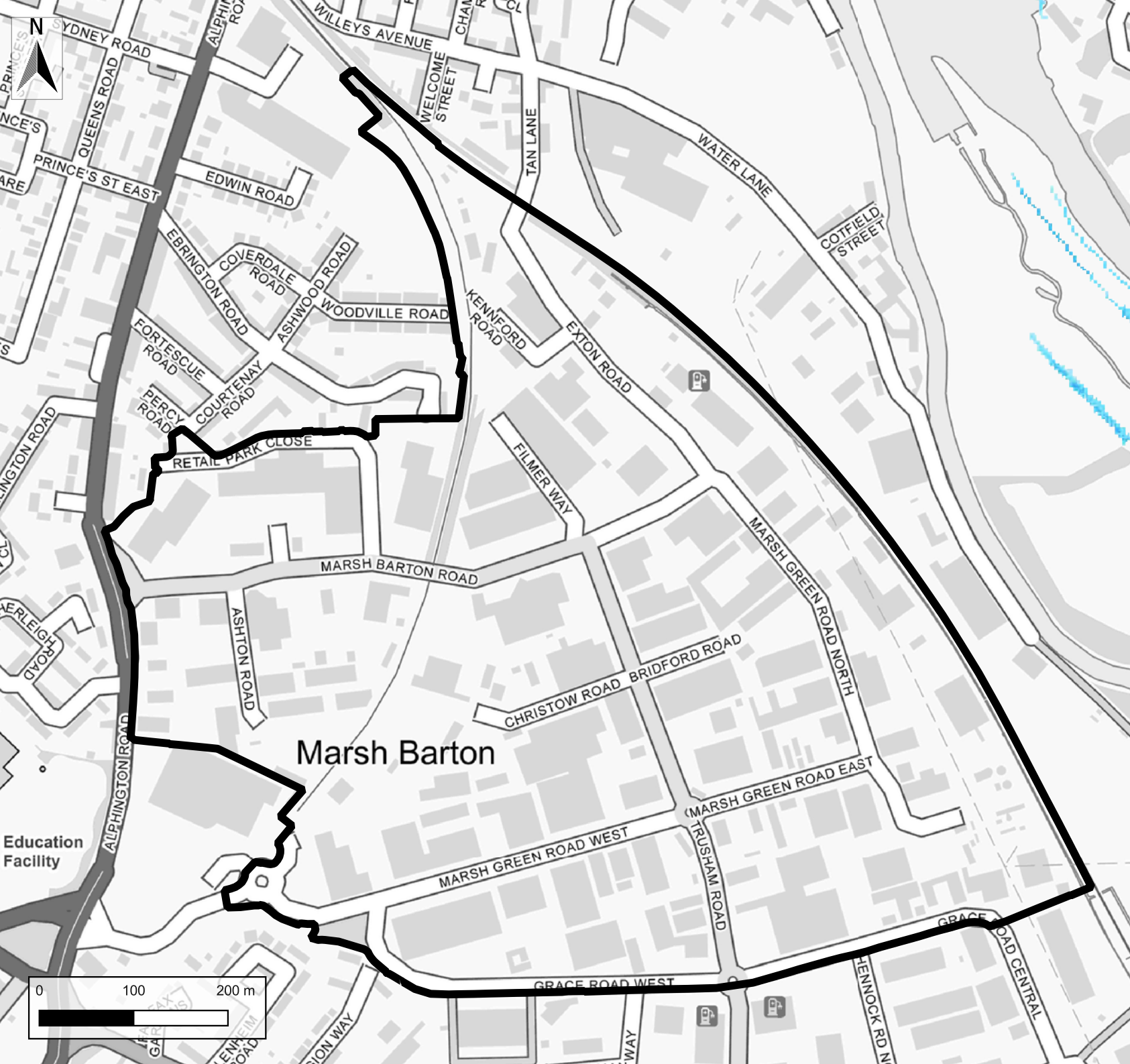
Legend

-  Site Location
-  Statutory Main River
-  Flood Zone 2
-  Flood Zone 3a
-  Flood Zone 3b

Drawn By: BG Date: 23/10/2024
Checked By: EH Date: 23/10/2024
Approved By: EH Date: 23/10/2024
Status: S3 Revision: P01
Figure Title: Flood Zones
File Name: Exeter SFRA L2

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Legend

 Site Location

Fluvial 3.3% AEP event

Depth (m)

 < 0.10

 0.10 - 0.30

 0.30 - 0.60

 0.60 - 0.90

 0.90 - 1.20

 1.20 - 1.50

 > 1.50

Drawn By:	BG	Date:	30/10/2024
Checked By:	EH	Date:	30/10/2024
Approved By:	EH	Date:	30/10/2024
Status:	S3	Revision:	P02
Figure Title:	Fluvial 3.3% depth		
File Name:	Exeter SFRA L2		

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Legend

Site Location

Fluvial 3.3% AEP

Hazard Rating

No hazard

Very low hazard - Caution

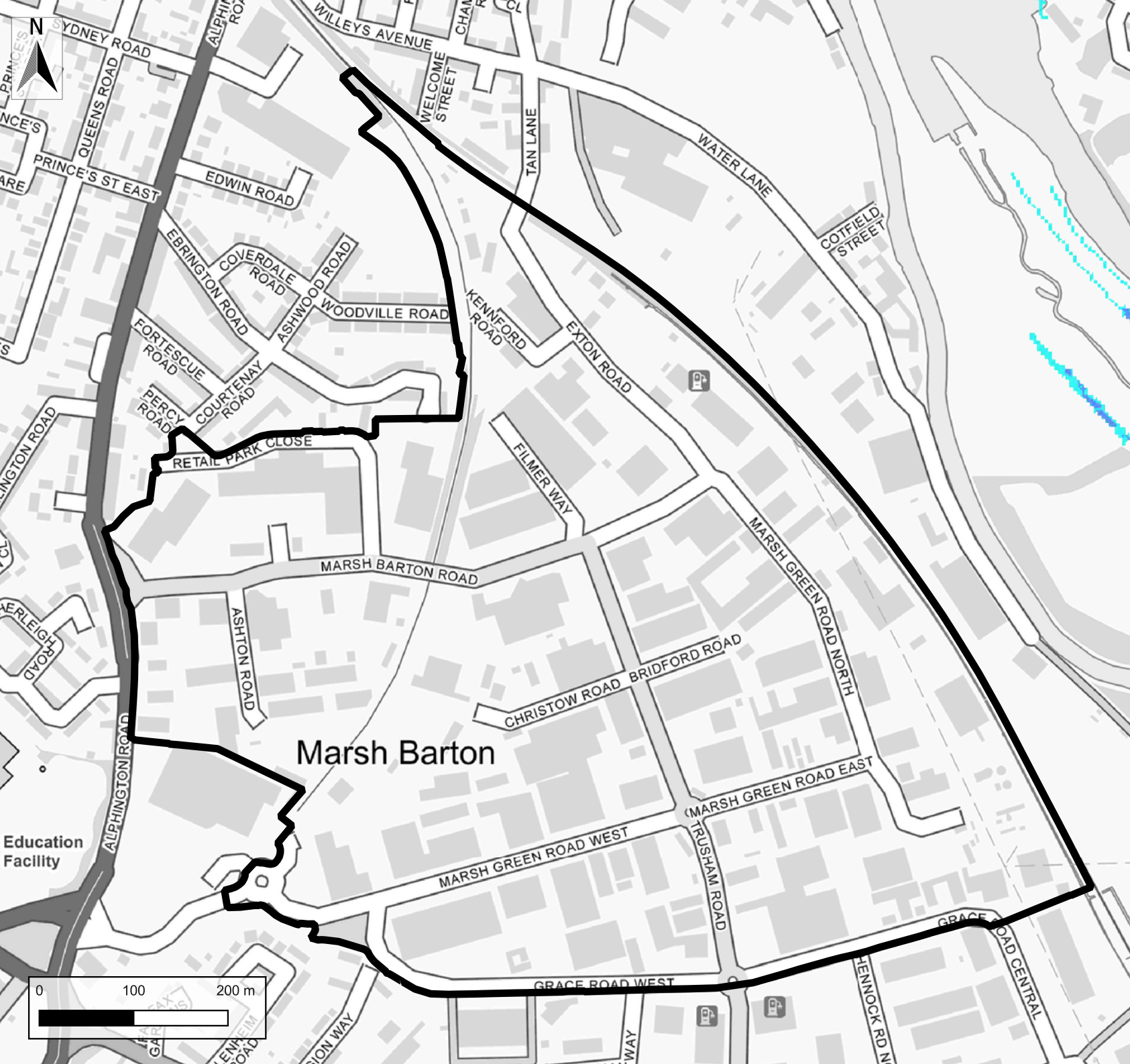
Danger for some

Danger for most

Danger for all

Drawn By: BG Date: 05/08/2024
Checked By: EH Date: 05/08/2024
Approved By: EH Date: 05/08/2024
Status: S3 Revision: P01
Figure Title: Fluvial 3.3% AEP Hazard
File Name: Exeter SFRA L2

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Legend

 Site Location

Fluvial 3.3% AEP

Velocity (m/s)

 0.0 to 0.2

 0.2 to 0.5

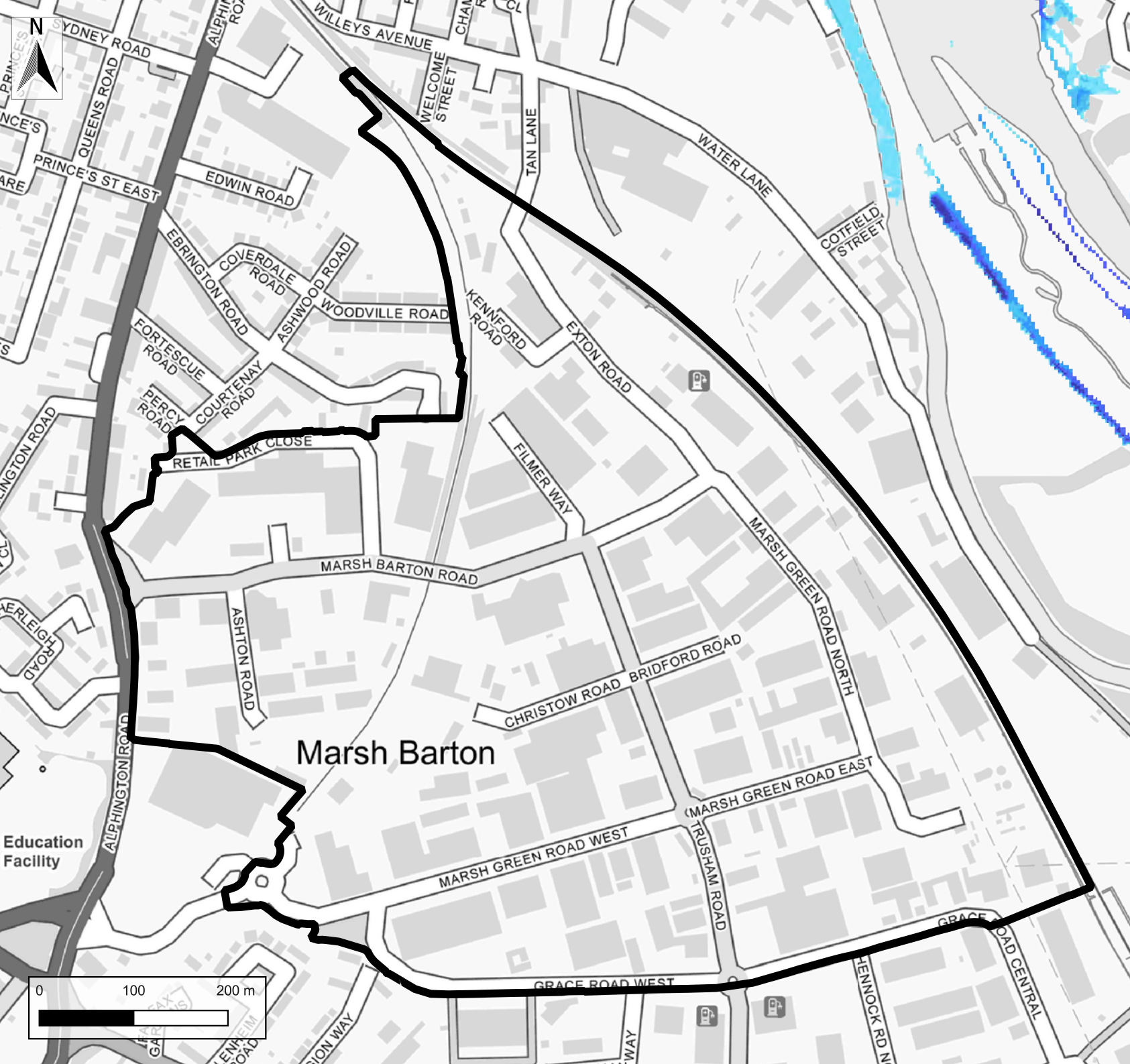
 0.5 to 1.0

 1.0 to 2.0

 > 2.0

Drawn By: BG Date: 05/08/2024
Checked By: EH Date: 05/08/2024
Approved By: EH Date: 05/08/2024
Status: S3 Revision: P01
Figure Title: Fluvial 3.3% AEP Velocity
File Name: Exeter SFRA L2

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Legend

 Site Location

Fluvial 1% AEP event

Depth (m)

 < 0.10

 0.10 - 0.30

 0.30 - 0.60

 0.60 - 0.90

 0.90 - 1.20

 1.20 - 1.50

 > 1.50

Drawn By: BG Date: 30/10/2024
Checked By: EH Date: 30/10/2024
Approved By: EH Date: 30/10/2024
Status: S3 Revision: P02
Figure Title: Fluvial 1% depth
File Name: Exeter SFRA L2

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Legend

 Site Location

Fluvial 1% AEP

Hazard Rating

 No hazard

 Very low hazard - Caution

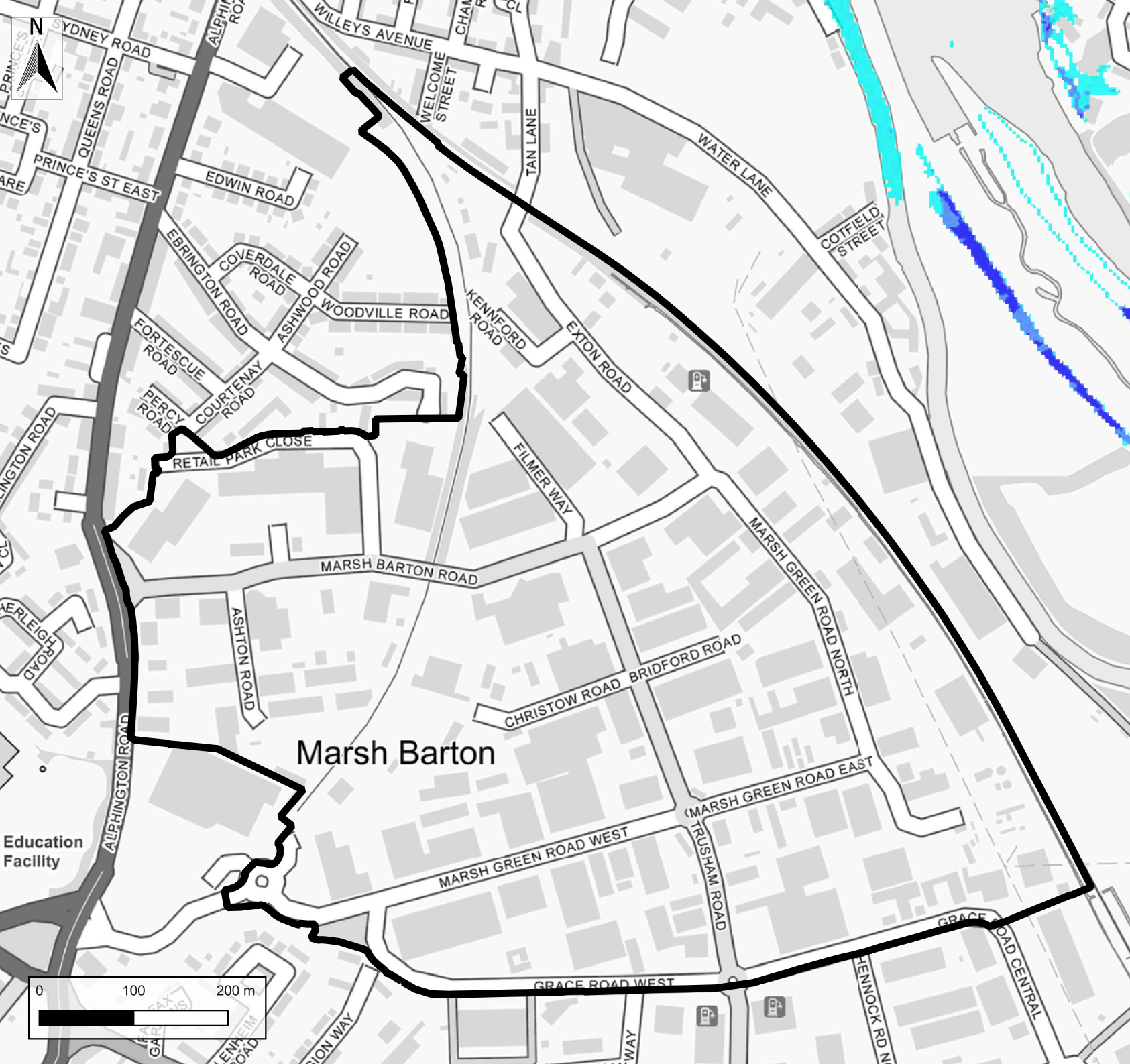
 Danger for some

 Danger for most

 Danger for all

Drawn By: BG Date: 05/08/2024
Checked By: EH Date: 05/08/2024
Approved By: EH Date: 05/08/2024
Status: S3 Revision: P01
Figure Title: Fluvial 1% AEP Hazard
File Name: Exeter SFRA L2

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Legend

 Site Location

Fluvial 1% AEP

Velocity (m/s)

 0.0 to 0.2

 0.2 to 0.5

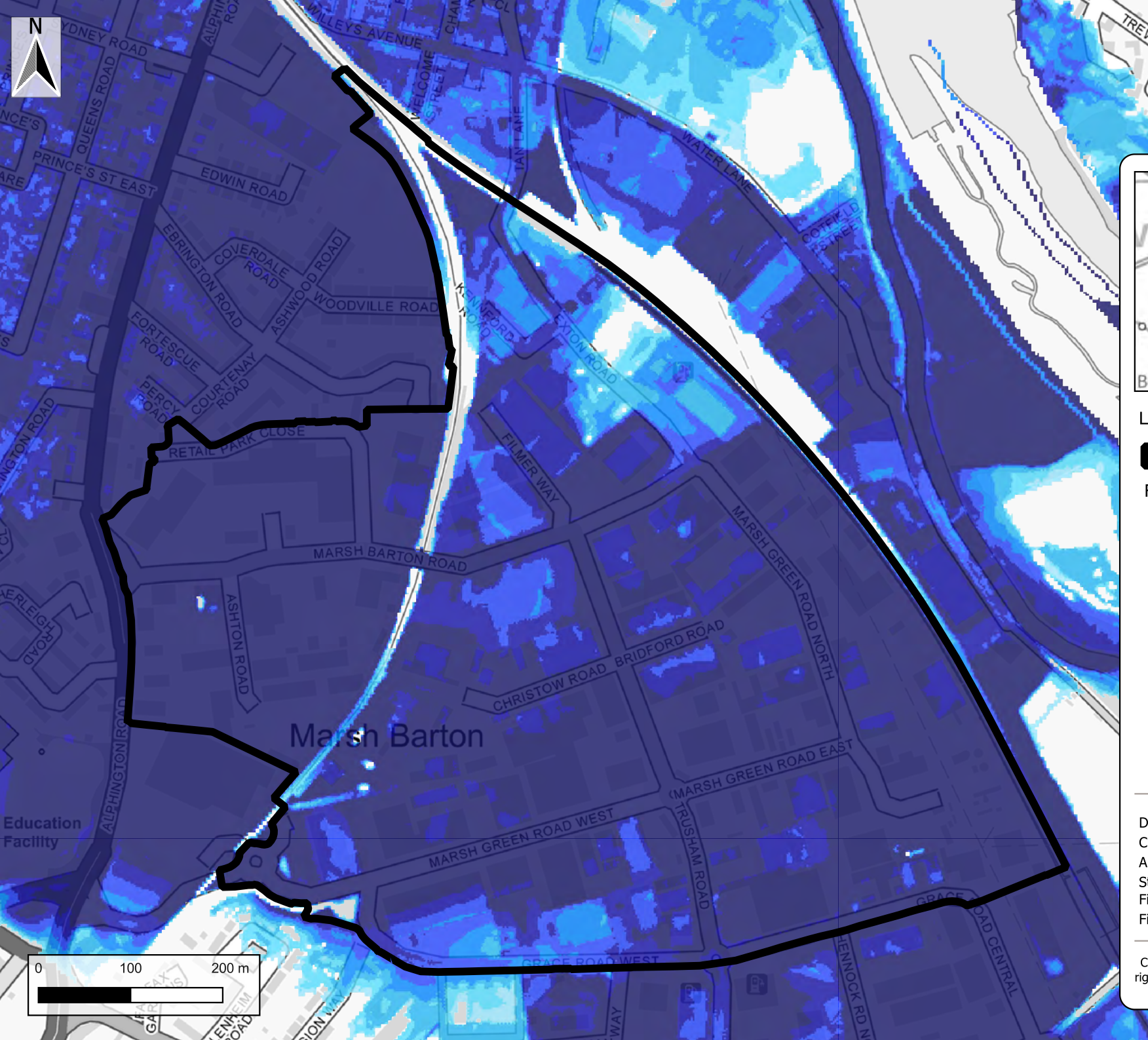
 0.5 to 1.0

 1.0 to 2.0

 > 2.0

Drawn By: BG Date: 05/08/2024
Checked By: EH Date: 05/08/2024
Approved By: EH Date: 05/08/2024
Status: S3 Revision: P01
Figure Title: Fluvial 1% AEP Velocity
File Name: Exeter SFRA L2

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Legend

 Site Location

Fluvial 0.1% AEP event

Depth (m)

 < 0.10

 0.10 - 0.30

 0.30 - 0.60

 0.60 - 0.90

 0.90 - 1.20

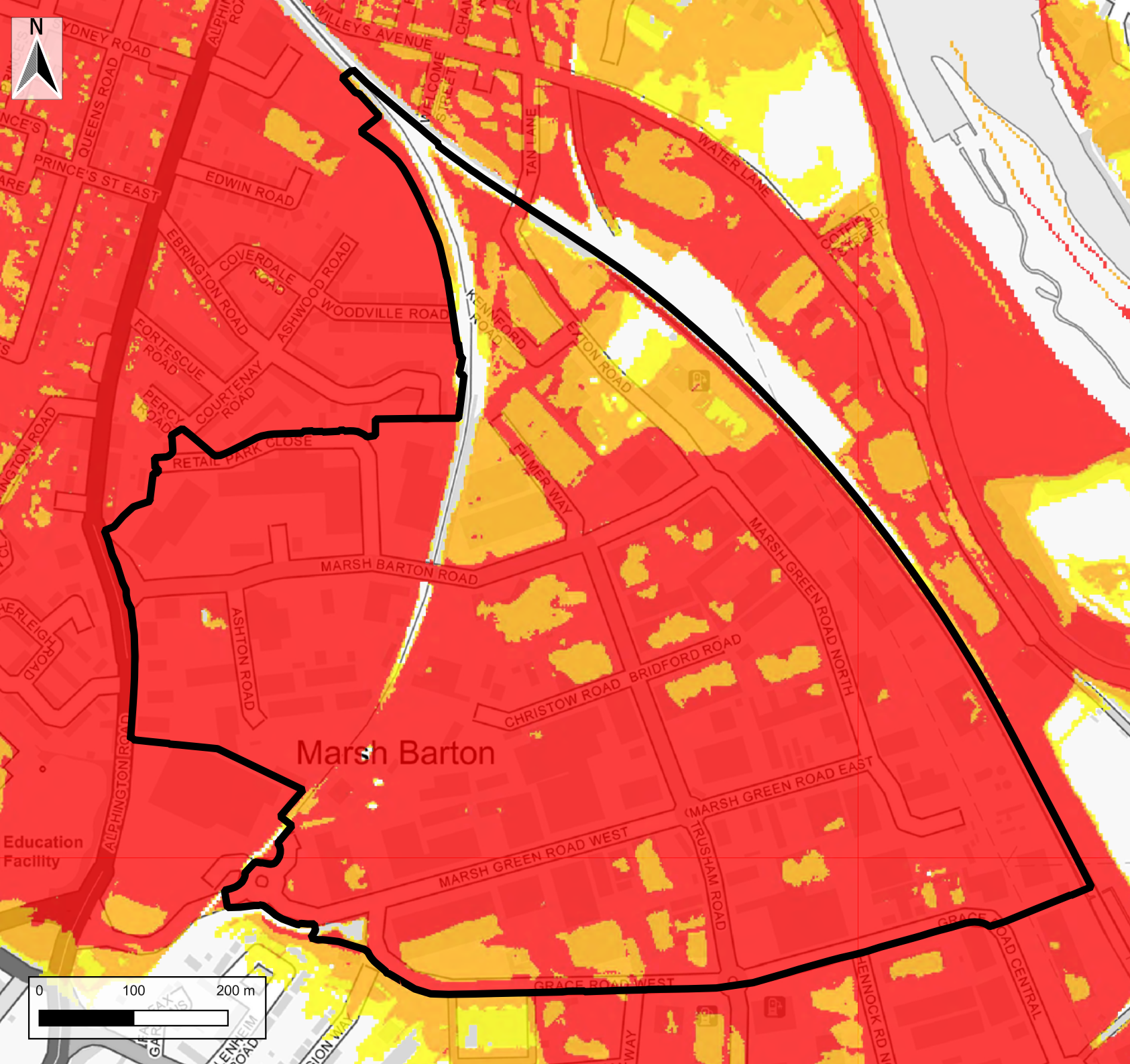
 1.20 - 1.50

 > 1.50

Drawn By:	BG	Date:	30/10/2024
Checked By:	EH	Date:	30/10/2024
Approved By:	EH	Date:	30/10/2024
Status:	S3	Revision:	P02
Figure Title:	Fluvial 0.1% depth		
File Name:	Exeter SFRA L2		

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0 100 200 m



Legend

Site Location

Fluvial 0.1% AEP

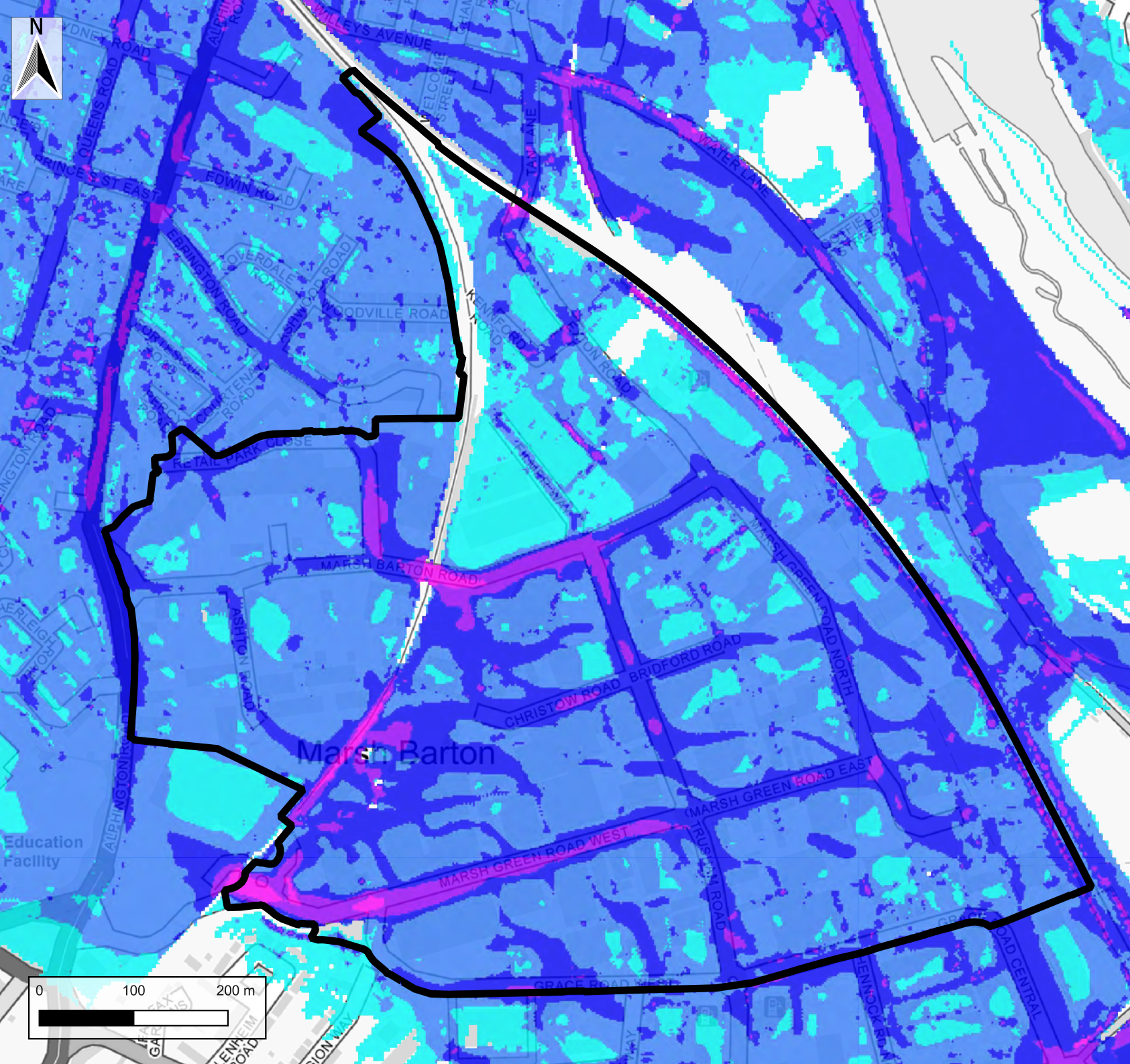
Hazard Rating

- No hazard
- Very low hazard - Caution
- Danger for some
- Danger for most
- Danger for all

Drawn By: BG Date: 05/08/2024
Checked By: EH Date: 05/08/2024
Approved By: EH Date: 05/08/2024
Status: S3 Revision: P01
Figure Title: Fluvial 0.1% AEP Hazard
File Name: Exeter SFRA L2

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Legend

 Site Location

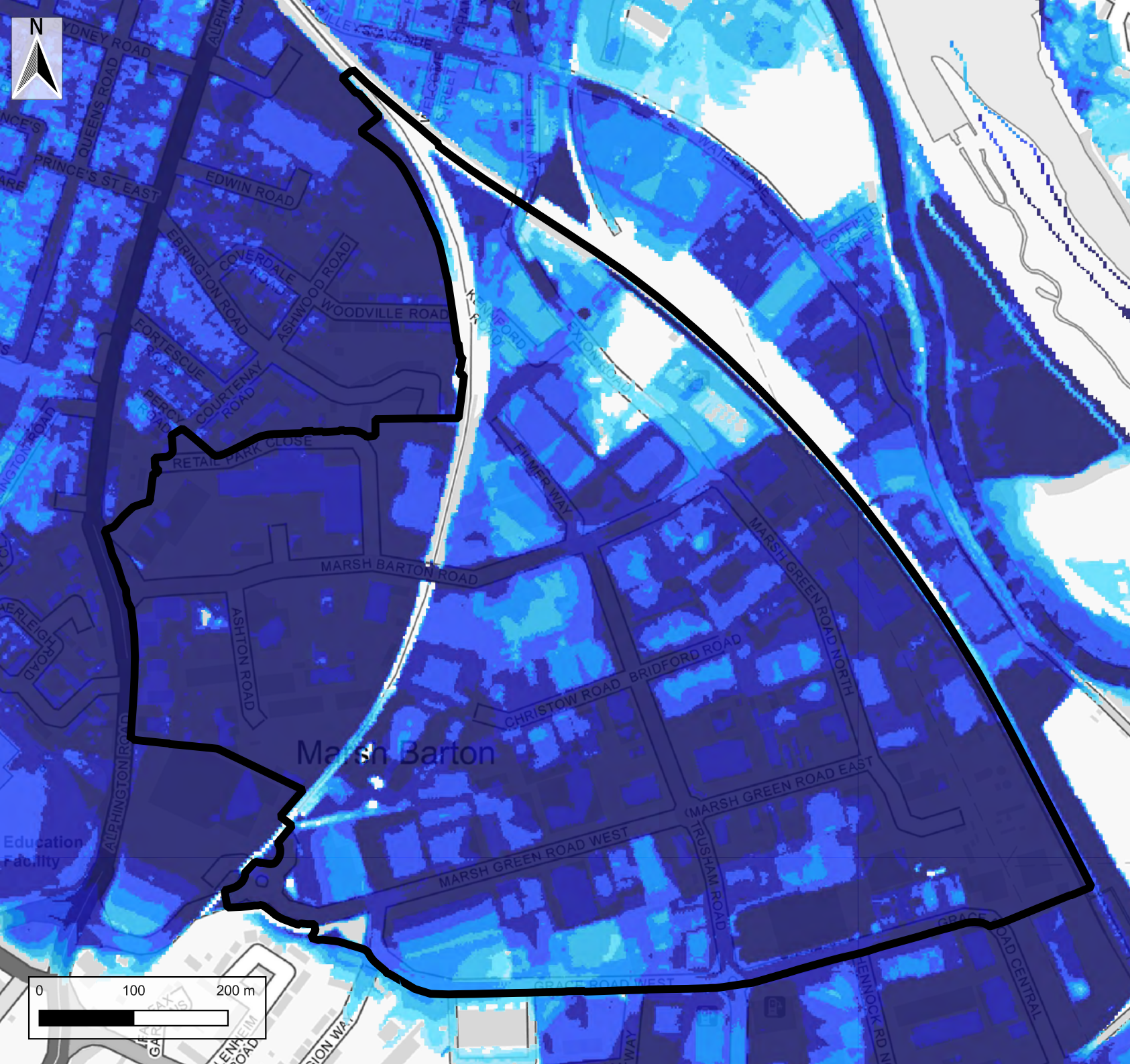
Fluvial 0.1% AEP

Velocity (m/s)

-  0.0 to 0.2
-  0.2 to 0.5
-  0.5 to 1.0
-  1.0 to 2.0
-  > 2.0

Drawn By:	BG	Date:	05/08/2024
Checked By:	EH	Date:	05/08/2024
Approved By:	EH	Date:	05/08/2024
Status:	S3	Revision:	P01
Figure Title:	Fluvial 0.1% AEP Velocity		
File Name:	Exeter SFRA L2		

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Legend

Site Location

Fluvial 1% AEP plus 46% climate change

Depth (m)

< 0.10

0.10 - 0.30

0.30 - 0.60

0.60 - 0.90

0.90 - 1.20

1.20 - 1.50

> 1.50

Drawn By:	BG	Date:	30/10/2024
Checked By:	EH	Date:	30/10/2024
Approved By:	EH	Date:	30/10/2024
Status:	S3	Revision:	P02
Figure Title:	Fluvial 1% + CC depth		
File Name:	Exeter SFRA L2		

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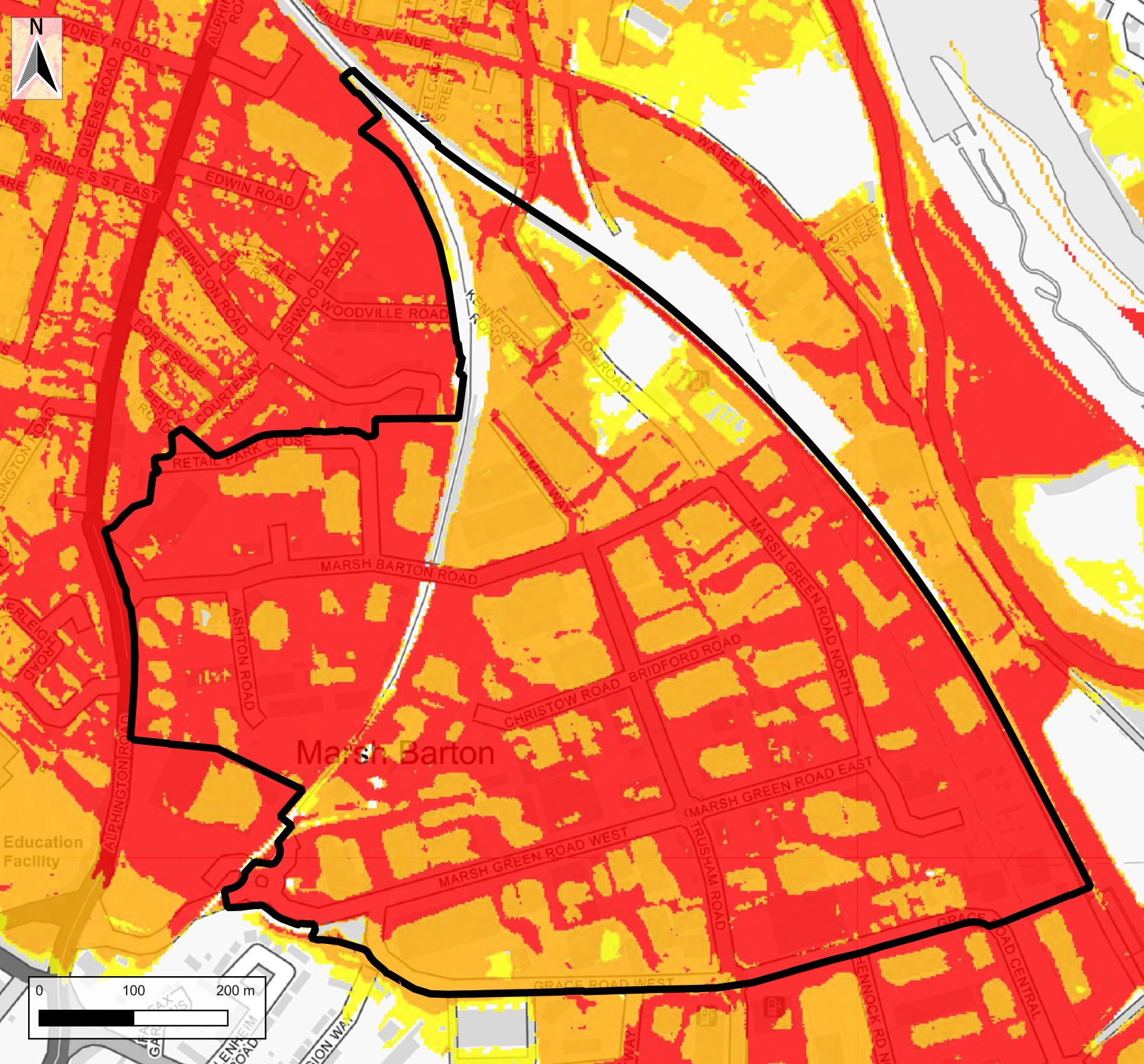
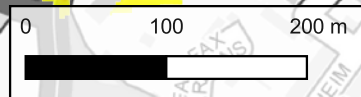


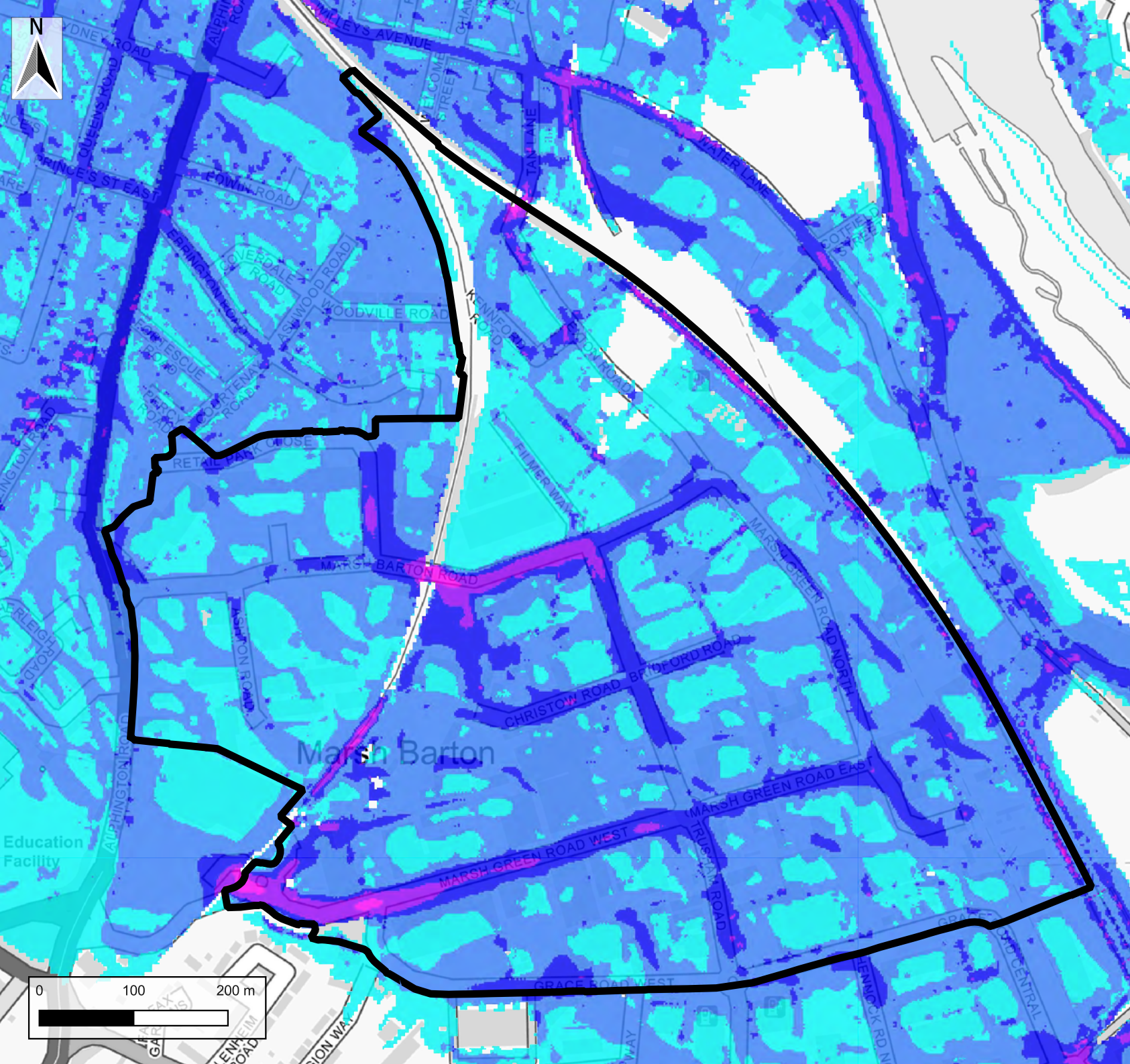
Legend

-  Site Location
- Fluvial 1% AEP plus 46% CC
- Hazard Rating
 -  No hazard
 -  Very low hazard - Caution
 -  Danger for some
 -  Danger for most
 -  Danger for all

Drawn By: BG **Date:** 06/08/2024
Checked By: EH **Date:** 06/08/2024
Approved By: EH **Date:** 06/08/2024
Status: S3 **Revision:** P01
Figure Title: Fluvial 1% AEP + 46% CC
File Name: Exeter SFRA L2

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Legend

Site Location

Fluvial 1% AEP plus 46% CC

Velocity (m/s)

0.0 to 0.2

0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

> 2.0

Drawn By: BG Date: 05/08/2024
Checked By: EH Date: 05/08/2024
Approved By: EH Date: 05/08/2024
Status: S3 Revision: P01
Figure Title: Fluvial 1% AEP + 46% CC
File Name: Exeter SFRA L2

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Legend

Site Location

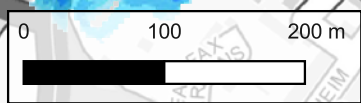
Fluvial 1% AEP plus 61% climate change

Depth (m)

- < 0.10
- 0.10 - 0.30
- 0.30 - 0.60
- 0.60 - 0.90
- 0.90 - 1.20
- 1.20 - 1.50
- > 1.50

Drawn By:	BG	Date:	30/10/2024
Checked By:	EH	Date:	30/10/2024
Approved By:	EH	Date:	30/10/2024
Status:	S3	Revision:	P02
Figure Title:	Fluvial 1% + CC depth		
File Name:	Exeter SFRA L2		

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Exeter
City Council



Legend



Site Location

Fluvial 1% AEP plus 61% CC

Hazard Rating



No hazard



Very low hazard - Caution



Danger for some



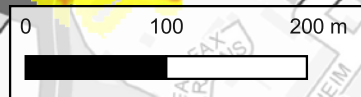
Danger for most

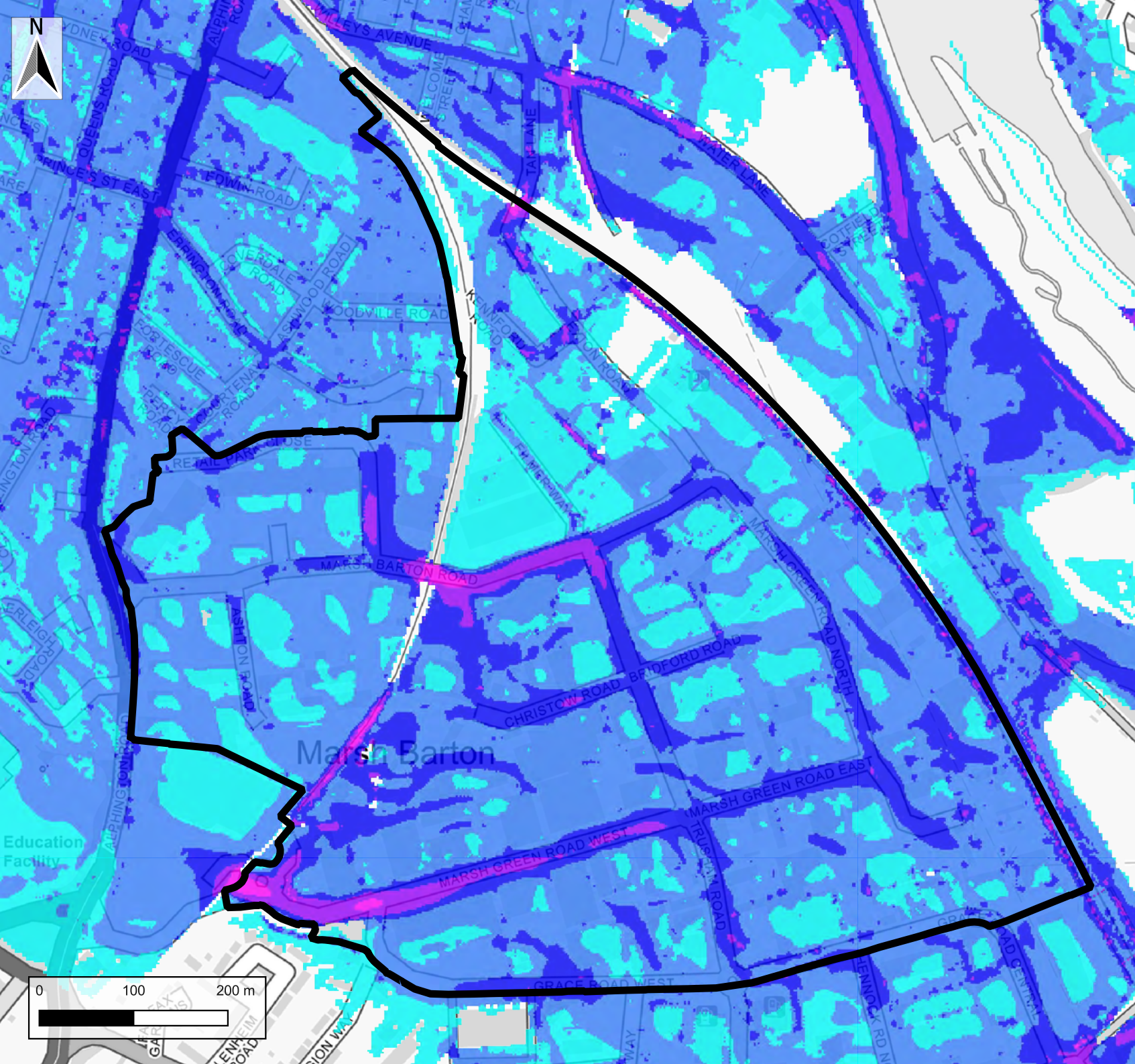


Danger for all

Drawn By: BG **Date:** 06/08/2024
Checked By: EH **Date:** 06/08/2024
Approved By: EH **Date:** 06/08/2024
Status: S3 **Revision:** P01
Figure Title: Fluvial 1% AEP + 61% CC
File Name: Exeter SFRA L2

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Legend

 Site Location

Fluvial 1% AEP plus 61% CC

Velocity (m/s)

 0.0 to 0.2

 0.2 to 0.5

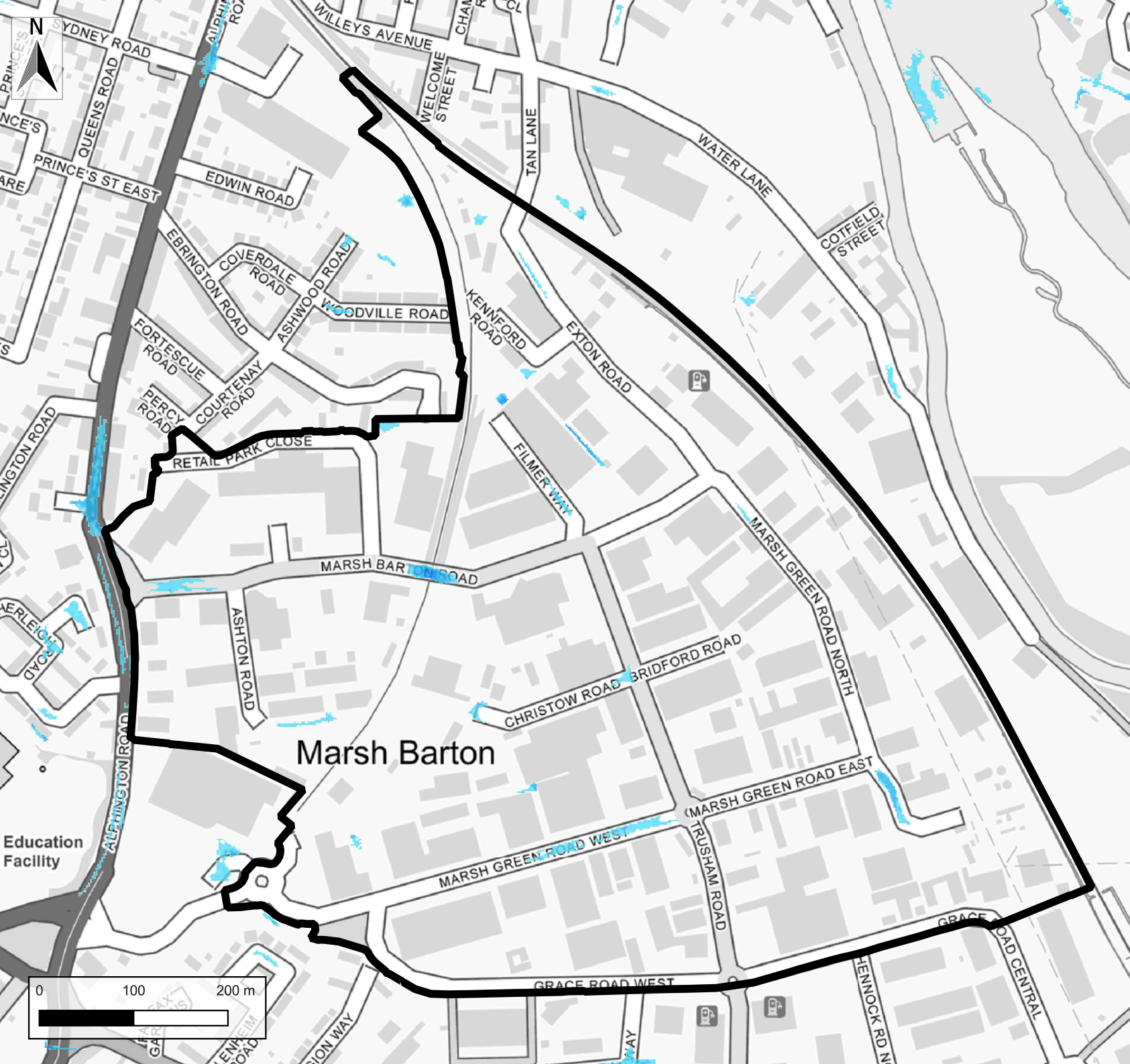
 0.5 to 1.0

 1.0 to 2.0

 > 2.0

Drawn By: BG **Date:** 05/08/2024
Checked By: EH **Date:** 05/08/2024
Approved By: EH **Date:** 05/08/2024
Status: S3 **Revision:** P01
Figure Title: Fluvial 1% AEP + 61% CC
File Name: Exeter SFRA L2

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Legend

 Site Location

Surface Water 3.3% AEP event

Depth (m)

 < 0.10

 0.10 - 0.30

 0.30 - 0.60

 0.60 - 0.90

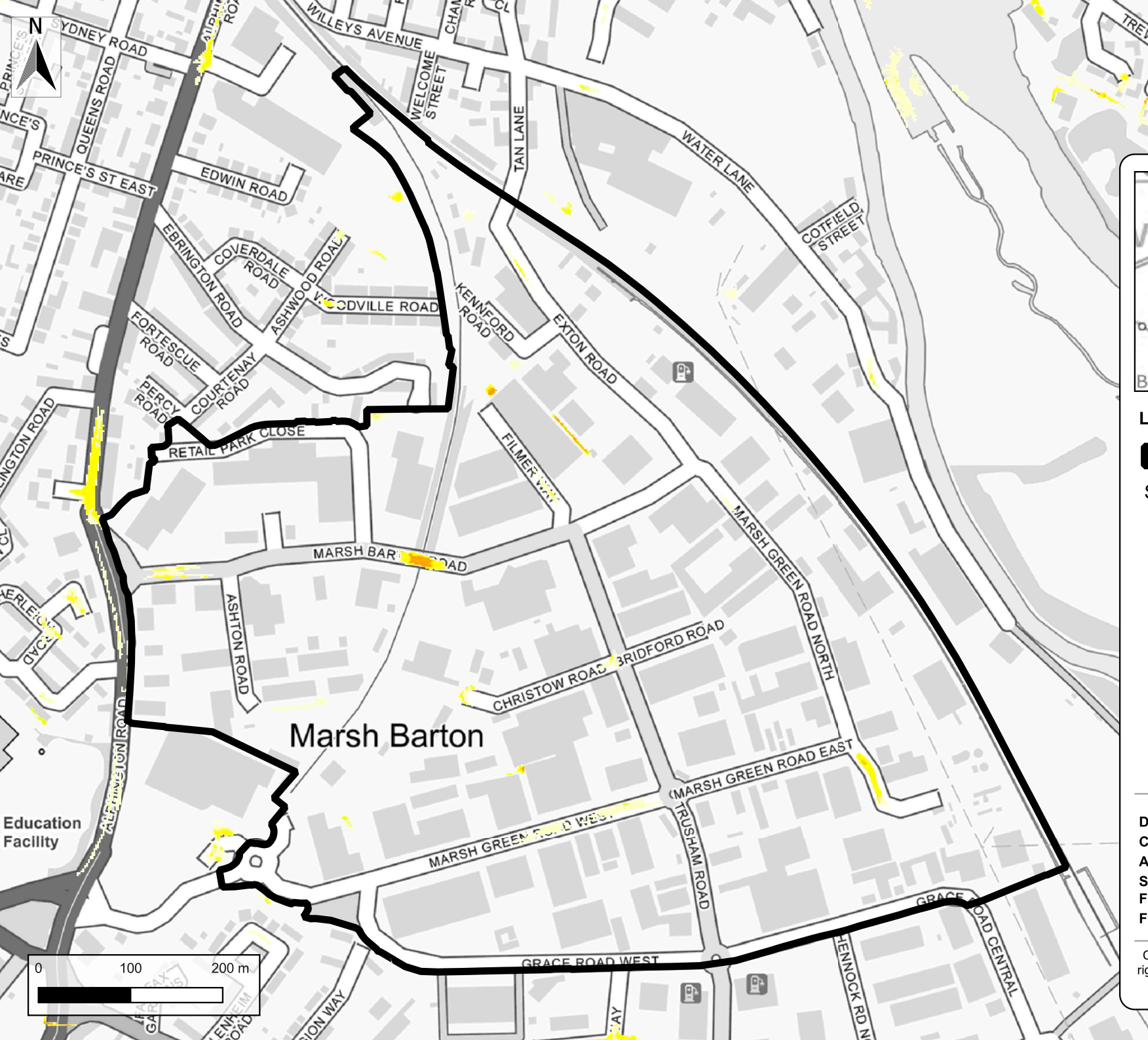
 0.90 - 1.20

 1.20 - 1.50

 > 1.50

Drawn By:	BG	Date:	30/10/2024
Checked By:	EH	Date:	30/10/2024
Approved By:	EH	Date:	30/10/2024
Status:	S3	Revision:	P02
Figure Title:	RoFSW 3.3% AEP depth		
File Name:	Exeter SFRA L2		

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Legend

 Site Location

Surface Water 3.3% AEP

Hazard Rating

 No hazard

 Very low hazard - Caution

 Danger for some

 Danger for most

 Danger for all

Drawn By: BG Date: 08/08/2024

Checked By: EH Date: 08/08/2024

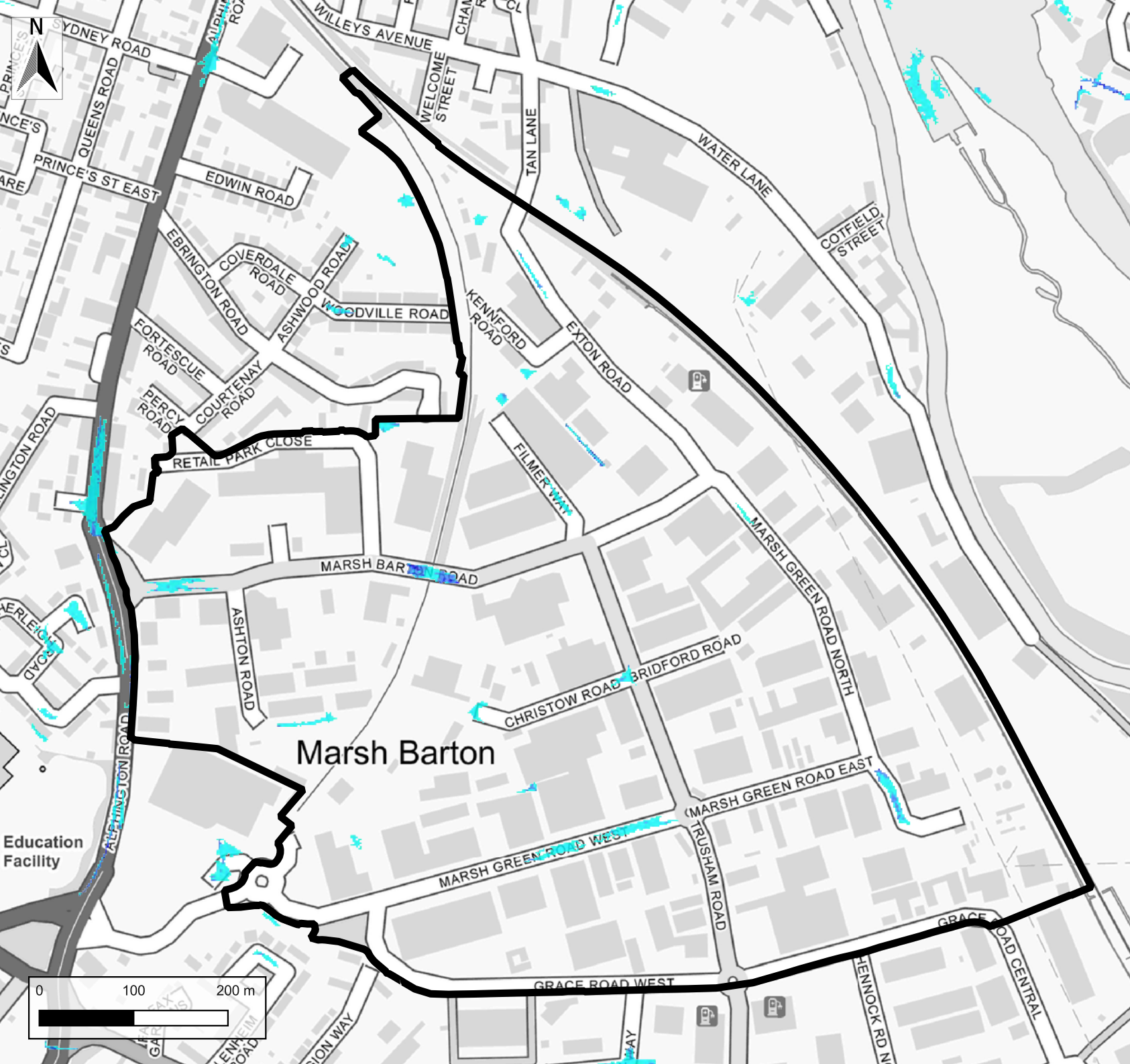
Approved By: EH Date: 08/08/2024

Status: S3 Revision: P01

Figure Title: RoFSW 3.3% AEP Hazard

File Name: Exeter SFRA L2

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Legend

 Site Location

Surface Water 3.3% AEP

Velocity (m/s)

 0.0 to 0.2

 0.2 to 0.5

 0.5 to 1.0

 1.0 to 2.0

 > 2.0

Drawn By: BG Date: 08/08/2024

Checked By: EH Date: 08/08/2024

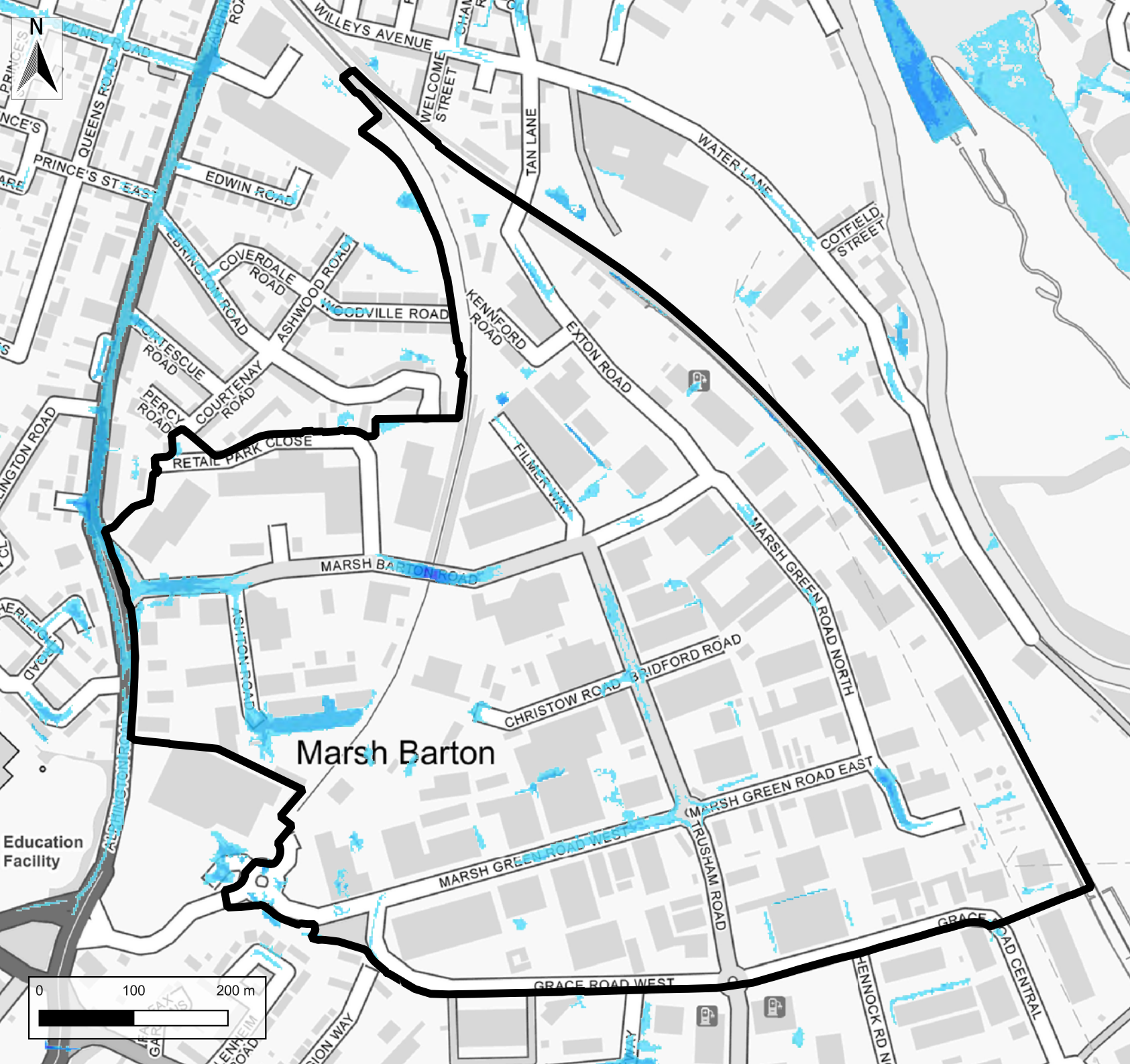
Approved By: EH Date: 08/08/2024

Status: S3 Revision: P01

Figure Title: RoFSW 3.3% AEP Velocity

File Name: Exeter SFRA L2

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Legend

 Site Location

Surface Water 1% AEP event

Depth (m)

 < 0.10

 0.10 - 0.30

 0.30 - 0.60

 0.60 - 0.90

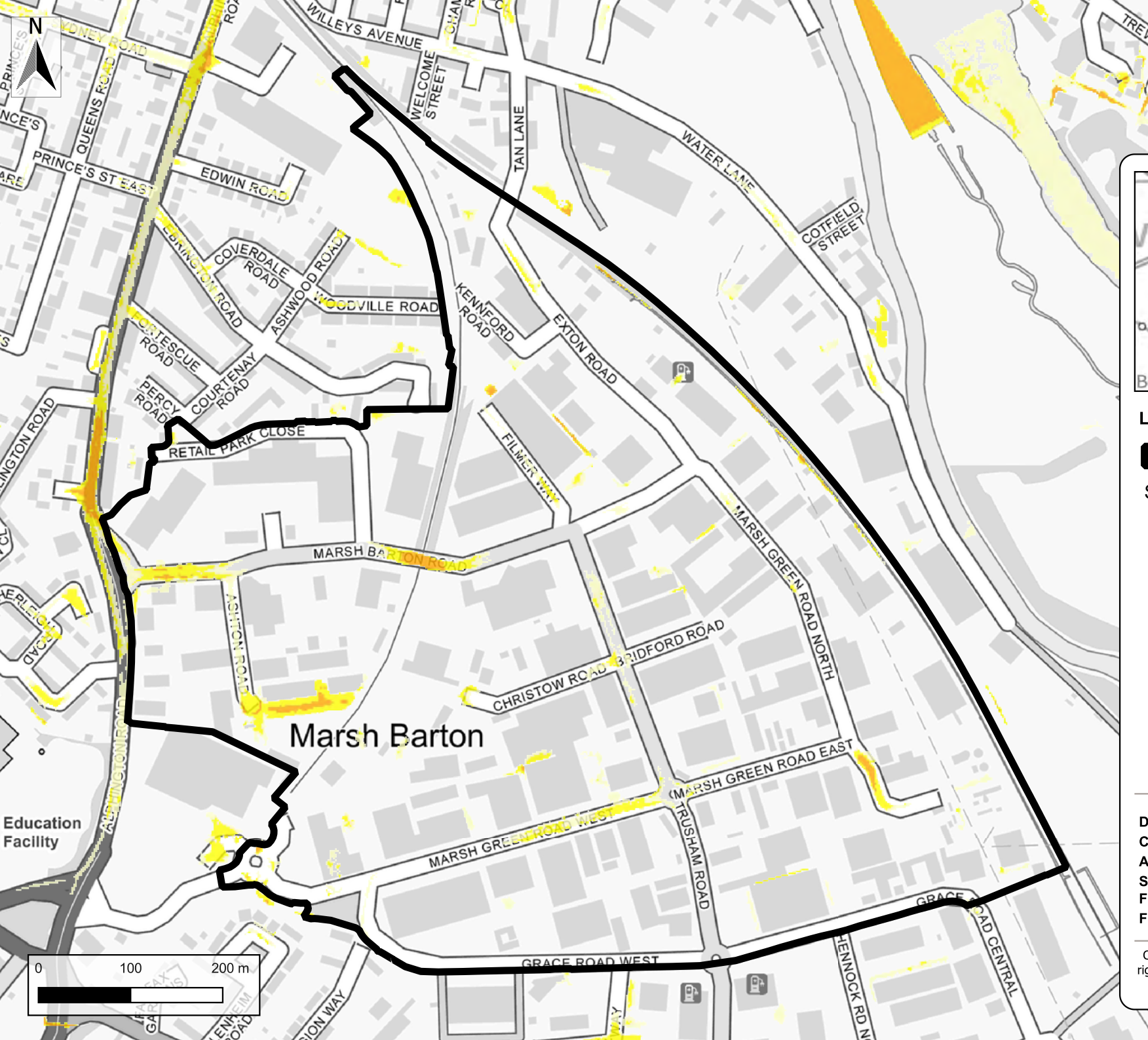
 0.90 - 1.20

 1.20 - 1.50

 > 1.50

Drawn By: BG Date: 30/10/2024
Checked By: EH Date: 30/10/2024
Approved By: EH Date: 30/10/2024
Status: S3 Revision: P02
Figure Title: RoFSW 1% AEP depth
File Name: Exeter SFRA L2

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Legend

 Site Location

Surface Water 1% AEP

Hazard Rating

 No hazard

 Very low hazard - Caution

 Danger for some

 Danger for most

 Danger for all

Drawn By: BG Date: 08/08/2024

Checked By: EH Date: 08/08/2024

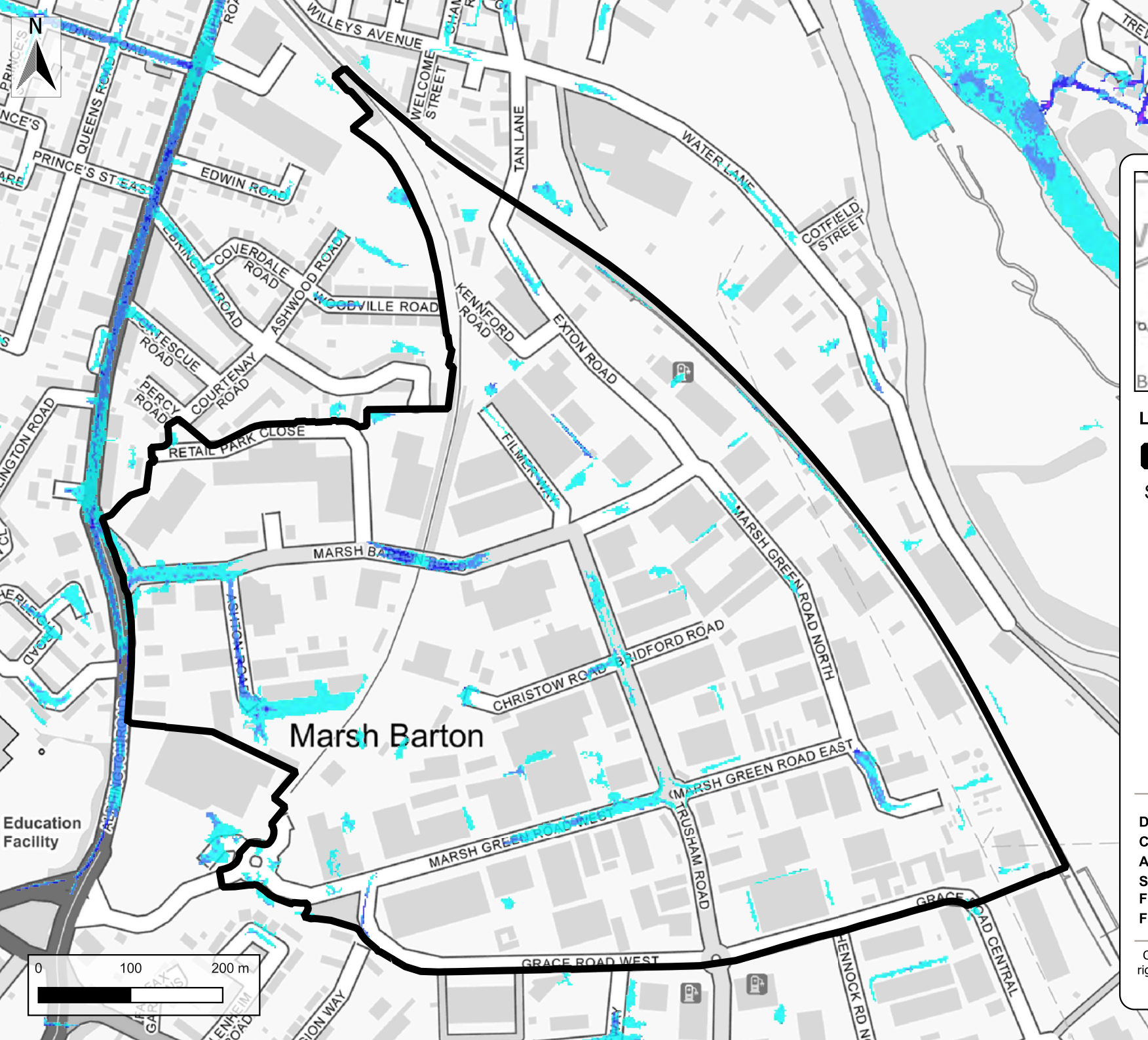
Approved By: EH Date: 08/08/2024

Status: S3 Revision: P01

Figure Title: RoFSW 1% AEP Hazard

File Name: Exeter SFRA L2

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Legend

Site Location

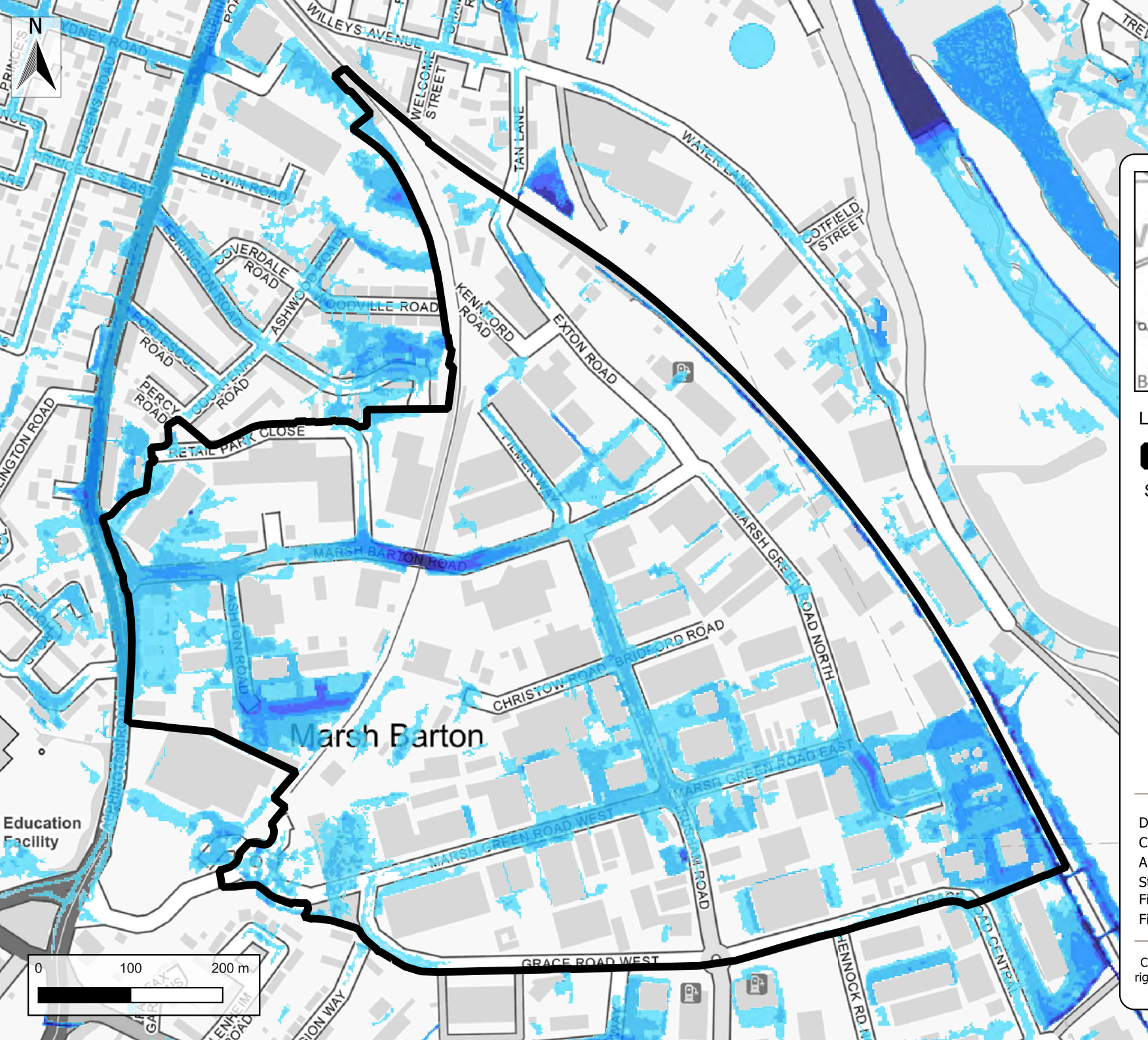
Surface Water 1% AEP

Velocity (m/s)

- 0.0 to 0.2
- 0.2 to 0.5
- 0.5 to 1.0
- 1.0 to 2.0
- > 2.0

Drawn By: BG Date: 08/08/2024
Checked By: EH Date: 08/08/2024
Approved By: EH Date: 08/08/2024
Status: S3 Revision: P01
Figure Title: RoFSW 1% AEP Velocity
File Name: Exeter SFRA L2

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Legend

 Site Location

Surface Water 0.1% AEP event

Depth (m)

 < 0.10

 0.10 - 0.30

 0.30 - 0.60

 0.60 - 0.90

 0.90 - 1.20

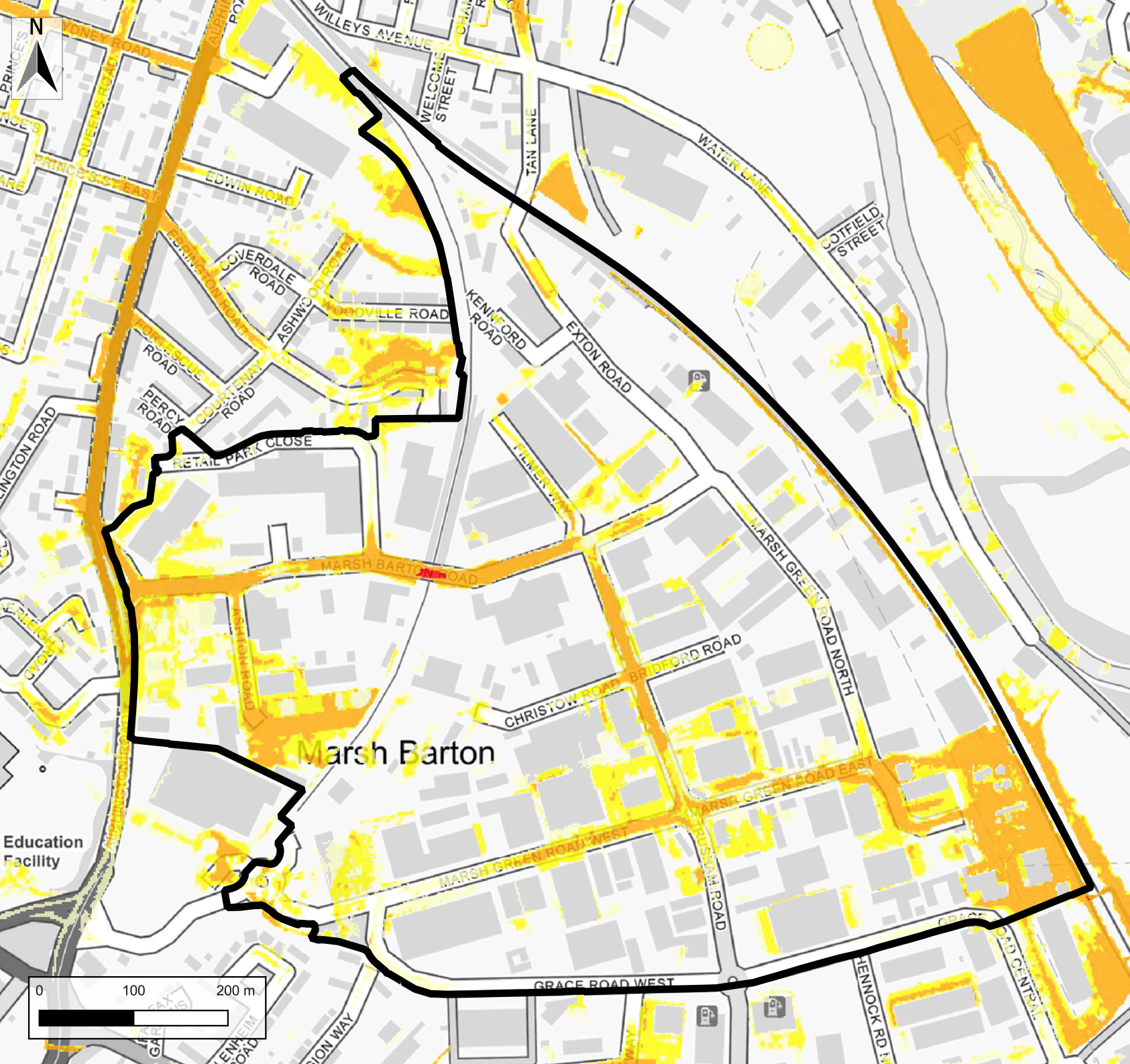
 1.20 - 1.50

 > 1.50

Drawn By: BG Date: 30/10/2024
Checked By: EH Date: 30/10/2024
Approved By: EH Date: 30/10/2024
Status: S3 Revision: P02
Figure Title: RoFSW 0.1% AEP depth
File Name: Exeter SFRA L2

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0 100 200 m



Legend

 Site Location

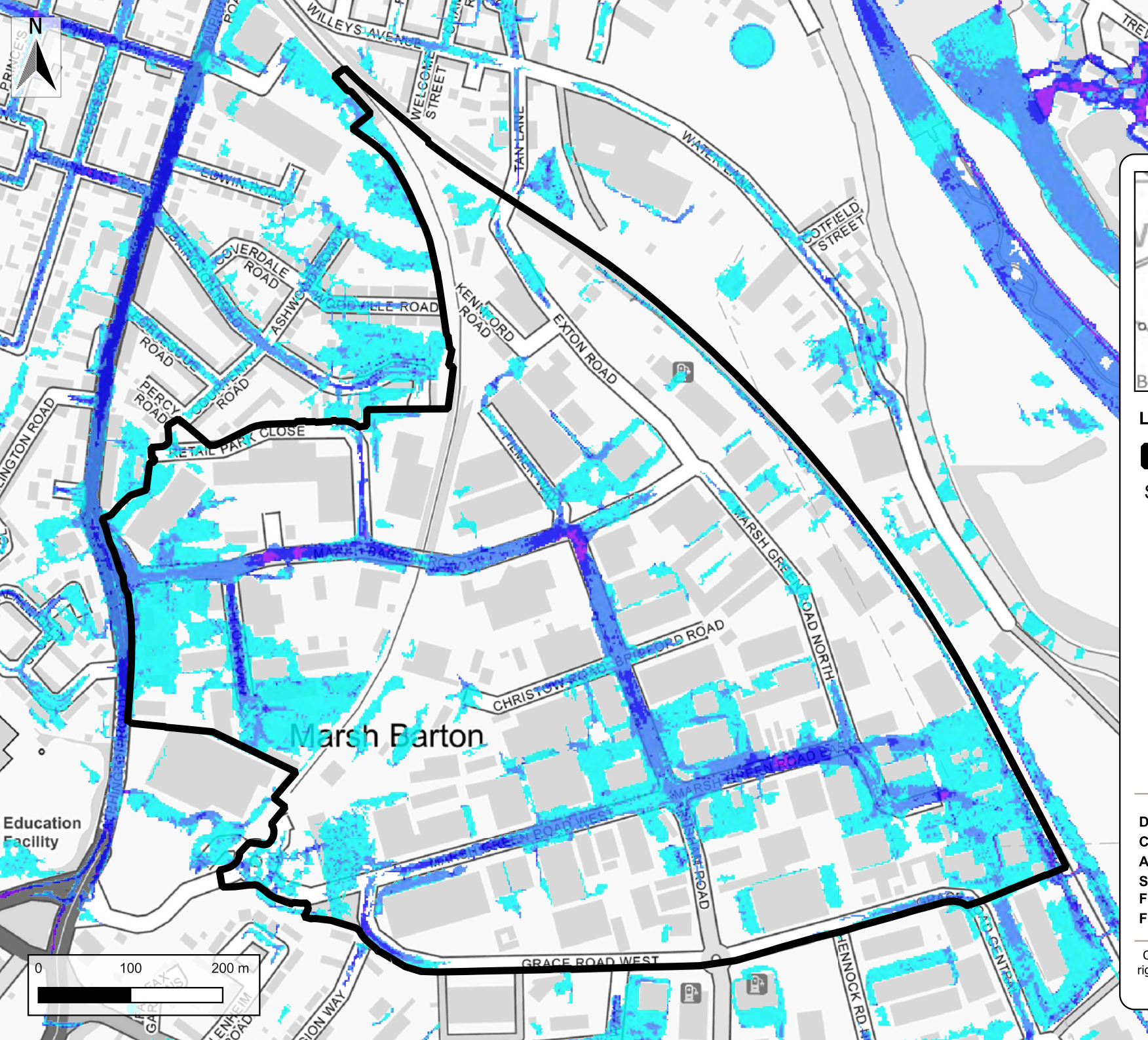
Surface Water 0.1% AEP

Hazard Rating

-  No hazard
-  Very low hazard - Caution
-  Danger for some
-  Danger for most
-  Danger for all

Drawn By: BG Date: 08/08/2024
Checked By: EH Date: 08/08/2024
Approved By: EH Date: 08/08/2024
Status: S3 Revision: P01
Figure Title: RoFSW 0.1% AEP Hazard
File Name: Exeter SFRA L2

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Legend

 Site Location

Surface Water 0.1% AEP

Velocity (m/s)

 0.0 to 0.2

 0.2 to 0.5

 0.5 to 1.0

 1.0 to 2.0

 > 2.0

Drawn By: BG Date: 08/08/2024

Checked By: EH Date: 08/08/2024

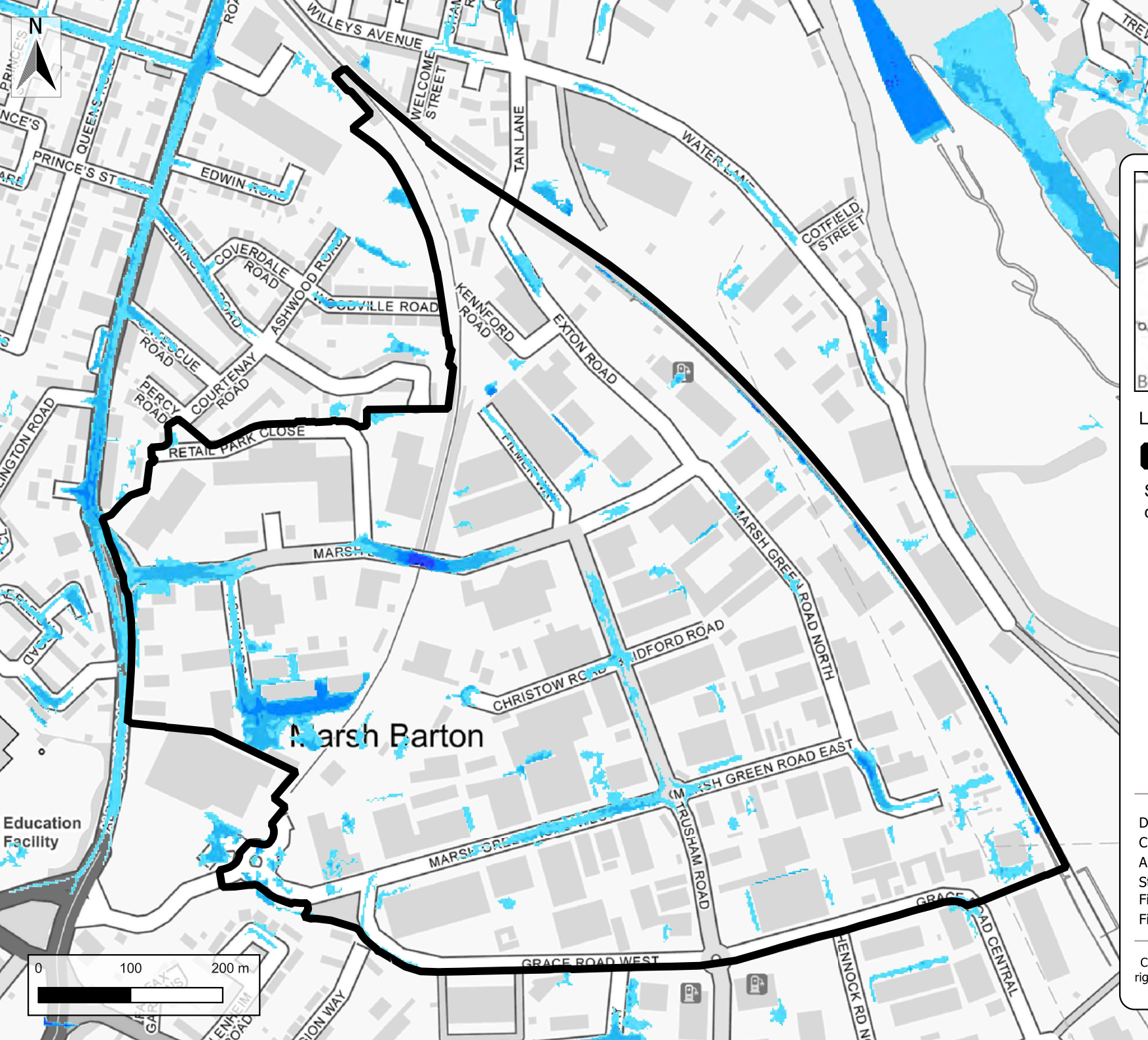
Approved By: EH Date: 08/08/2024

Status: S3 Revision: P01

Figure Title: RoFSW 0.1% AEP Velocity

File Name: Exeter SFRA L2

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Legend

 Site Location

Surface Water 3.3% AEP plus 65%
climate change

Depth (m)

 < 0.10

 0.10 - 0.30

 0.30 - 0.60

 0.60 - 0.90

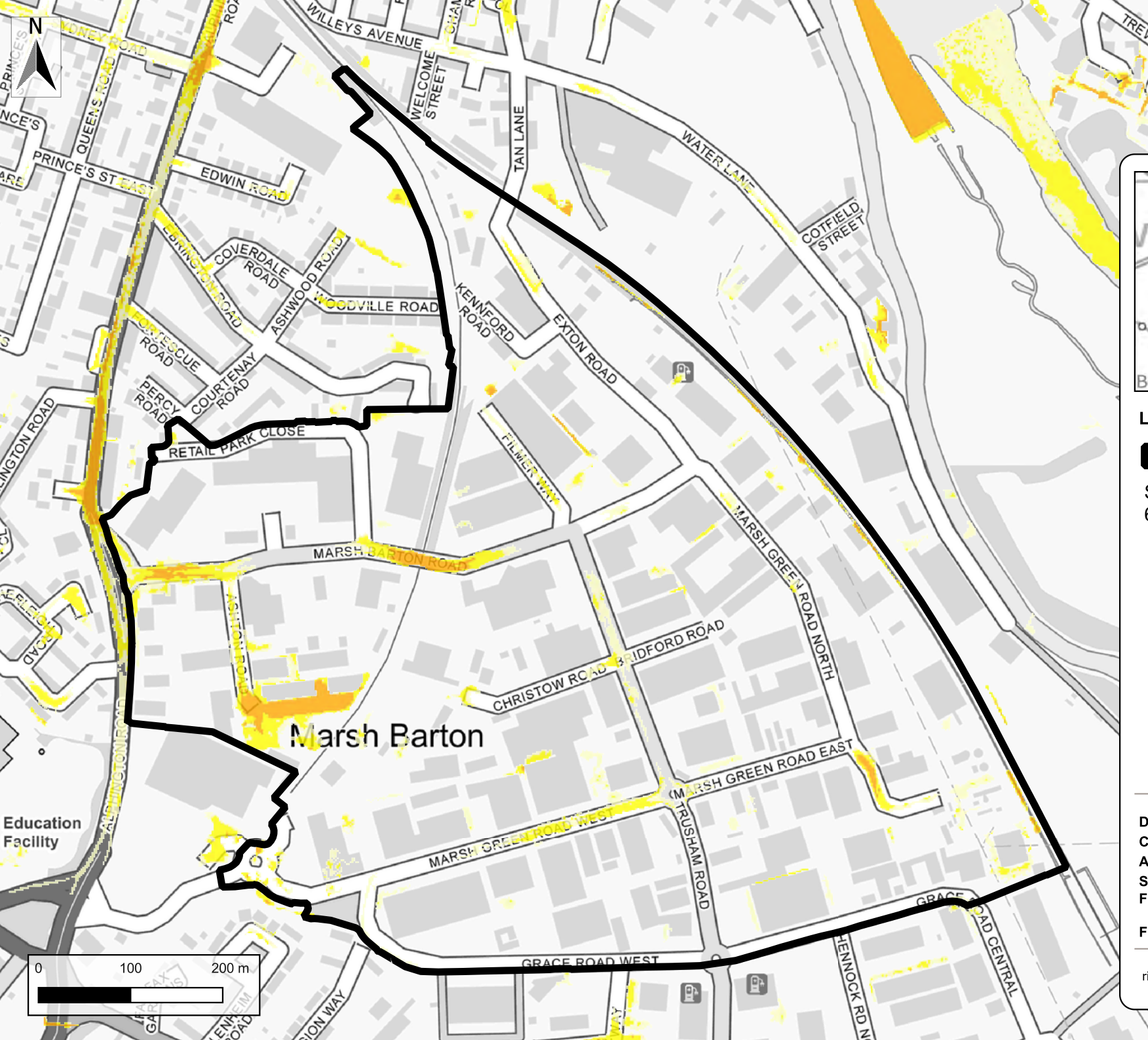
 0.90 - 1.20

 1.20 - 1.50

 > 1.50

Drawn By:	BG	Date:	30/10/2024
Checked By:	EH	Date:	30/10/2024
Approved By:	EH	Date:	30/10/2024
Status:	S3	Revision:	P02
Figure Title:	RoFSW 3.3% plus CC depth		
File Name:	Exeter SFRA L2		

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Legend

 Site Location

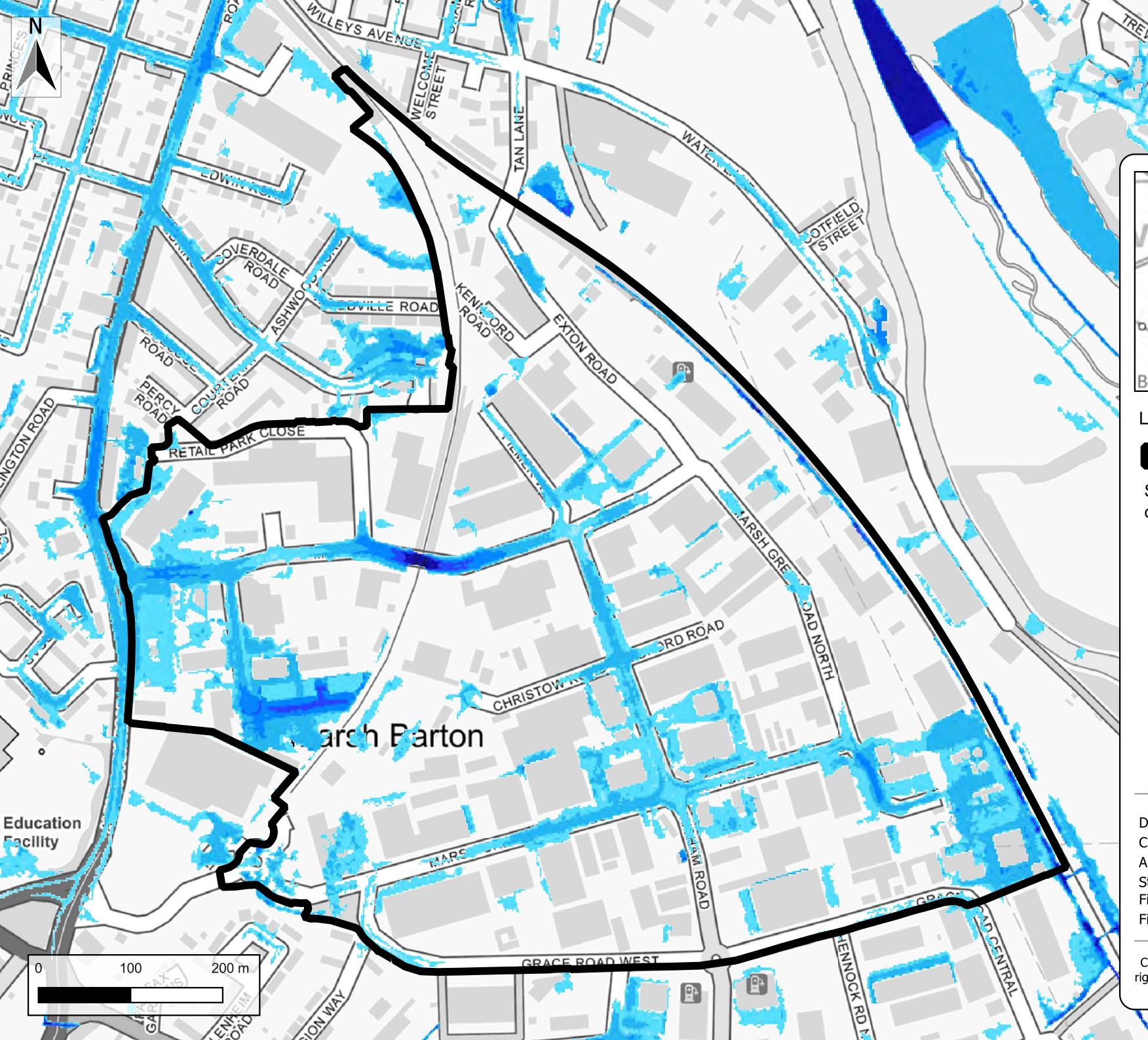
Surface Water 3.3% AEP plus
65% climate change

Hazard Rating

-  No hazard
-  Very low hazard - Caution
-  Danger for some
-  Danger for most
-  Danger for all

Drawn By: BG Date: 08/08/2024
Checked By: EH Date: 08/08/2024
Approved By: EH Date: 08/08/2024
Status: S3 Revision: P01
Figure Title: RoFSW 3.3% AEP + 65% CC
Hazard
File Name: Exeter SFRA L2

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Legend

 Site Location

Surface Water 1% AEP plus 65%
climate change

Depth (m)

 < 0.10

 0.10 - 0.30

 0.30 - 0.60

 0.60 - 0.90

 0.90 - 1.20

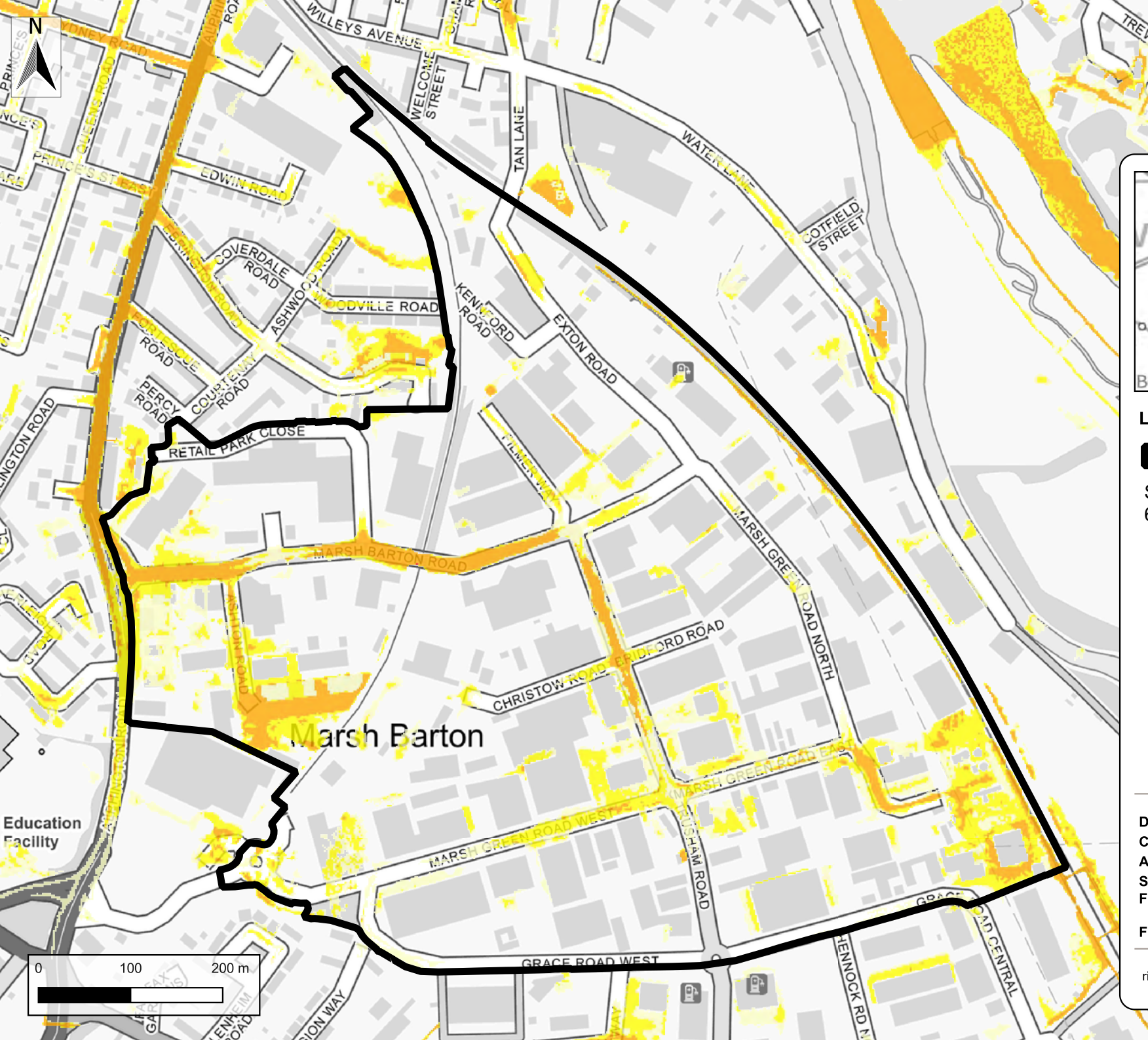
 1.20 - 1.50

 > 1.50

Drawn By:	BG	Date:	30/10/2024
Checked By:	EH	Date:	30/10/2024
Approved By:	EH	Date:	30/10/2024
Status:	S3	Revision:	P02
Figure Title:	RoFSW 1% plus CC depth		
File Name:	Exeter SFRA L2		

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0 100 200 m



Legend

 Site Location

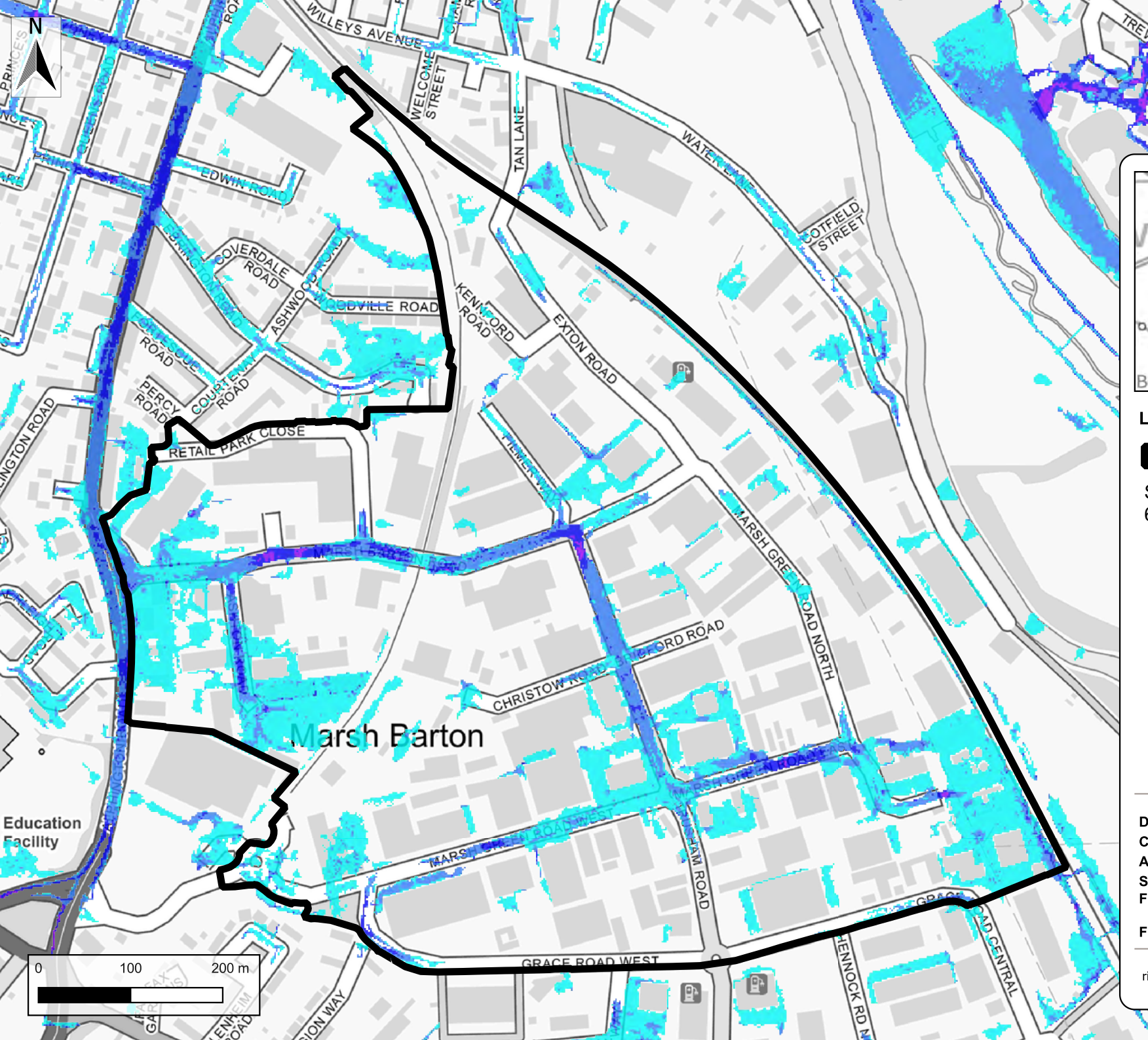
Surface Water 1% AEP plus
65% climate change

Hazard Rating

-  No hazard
-  Very low hazard - Caution
-  Danger for some
-  Danger for most
-  Danger for all

Drawn By: BG Date: 08/08/2024
Checked By: EH Date: 08/08/2024
Approved By: EH Date: 08/08/2024
Status: S3 Revision: P01
Figure Title: RoFSW 1% AEP + 65% CC
Hazard
File Name: Exeter SFRA L2

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Legend

 Site Location

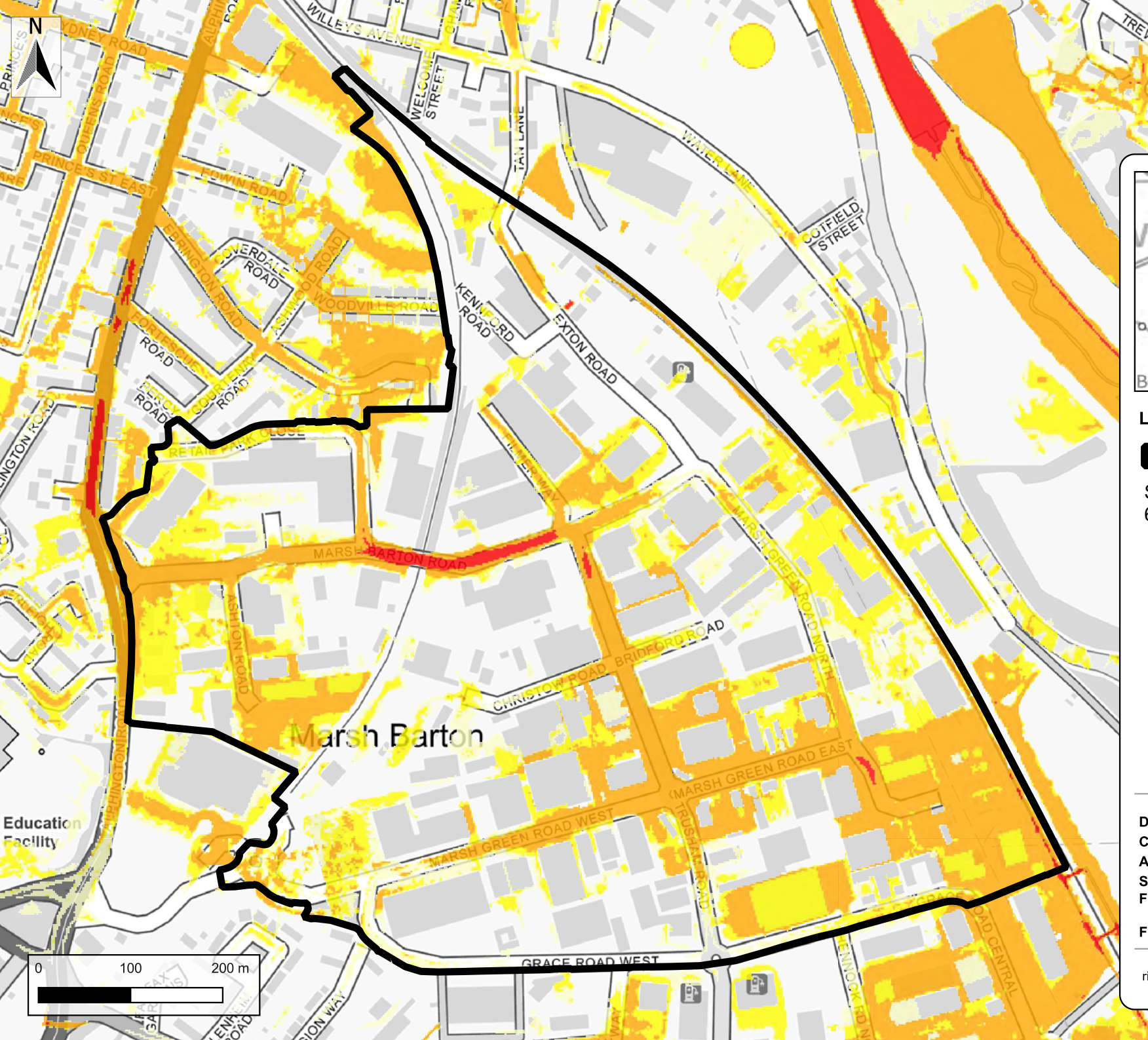
Surface Water 1% AEP plus
65% climate change

Velocity (m/s)

-  0.0 to 0.2
-  0.2 to 0.5
-  0.5 to 1.0
-  1.0 to 2.0
-  > 2.0

Drawn By:	BG	Date:	08/08/2024
Checked By:	EH	Date:	08/08/2024
Approved By:	EH	Date:	08/08/2024
Status:	S3	Revision:	P01
Figure Title:	RoFSW 1% AEP + 65% CC Velocity		
File Name:	Exeter SFRA L2		

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Legend

 Site Location

Surface Water 0.1% AEP plus
65% climate change

Hazard Rating

-  No hazard
-  Very low hazard - Caution
-  Danger for some
-  Danger for most
-  Danger for all

Drawn By: BG Date: 08/08/2024
Checked By: EH Date: 08/08/2024
Approved By: EH Date: 08/08/2024
Status: S3 Revision: P01
Figure Title: RoFSW 0.1% AEP + 65% CC
Hazard
File Name: Exeter SFRA L2

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Legend

 Site Location

Surface Water 0.1% AEP plus
65% climate change

Velocity (m/s)

 0.0 to 0.2

 0.2 to 0.5

 0.5 to 1.0

 1.0 to 2.0

 > 2.0

Drawn By: BG Date: 08/08/2024

Checked By: EH Date: 08/08/2024

Approved By: EH Date: 08/08/2024

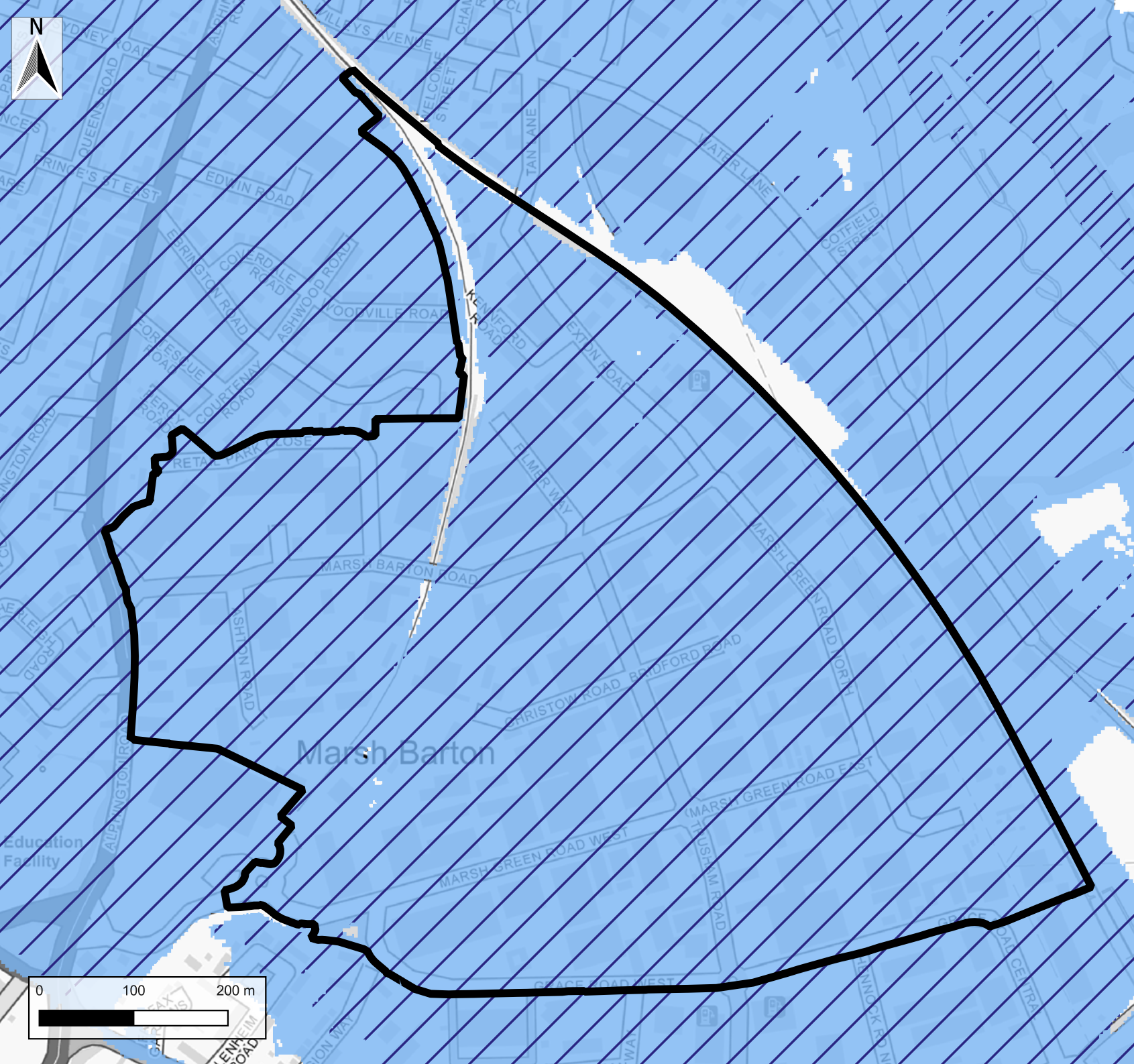
Status: S3 Revision: P01

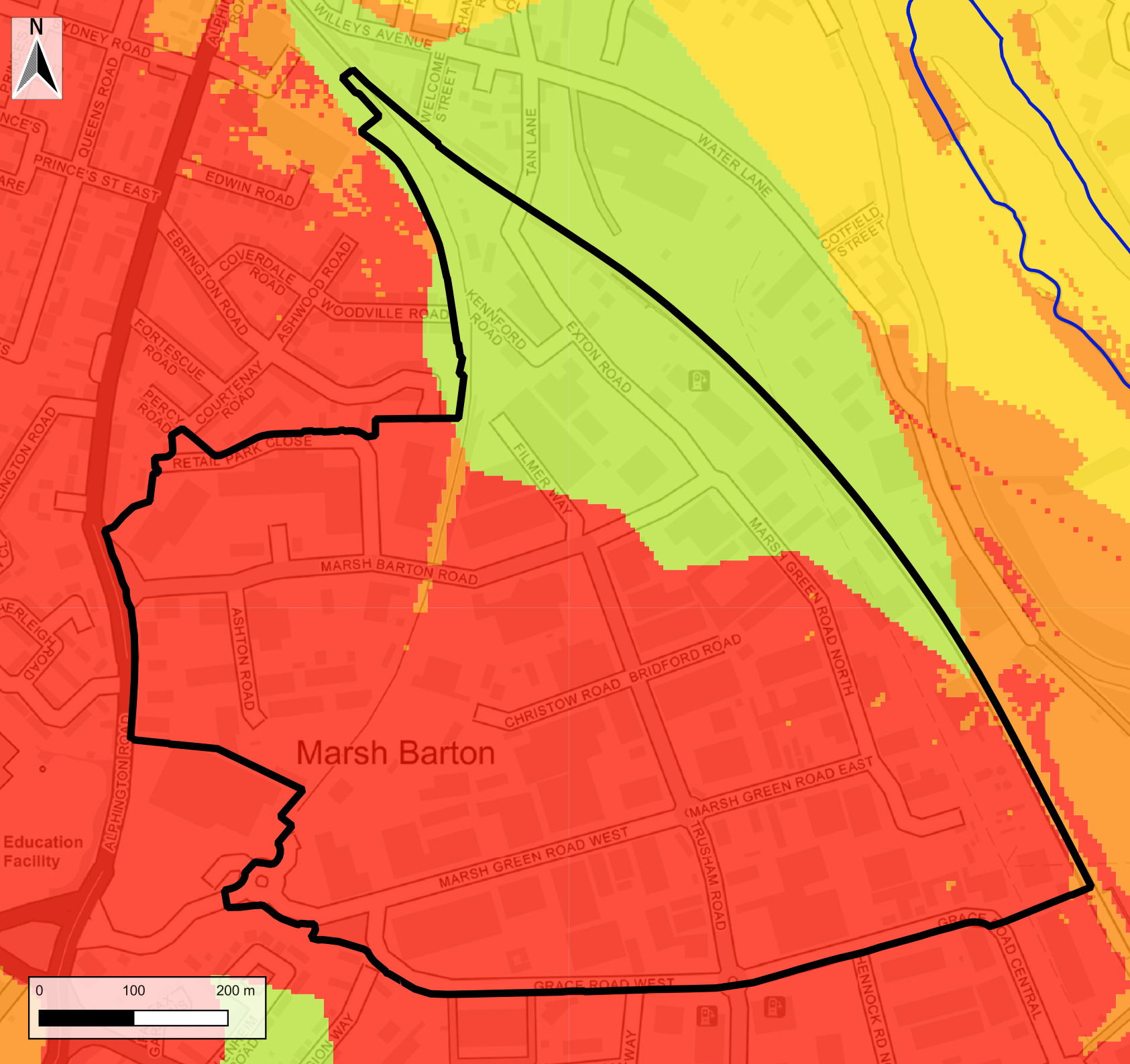
Figure Title: RoFSW 0.1% AEP + 65% CC
Velocity

File Name: Exeter SFRA L2

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0 100 200 m





Legend

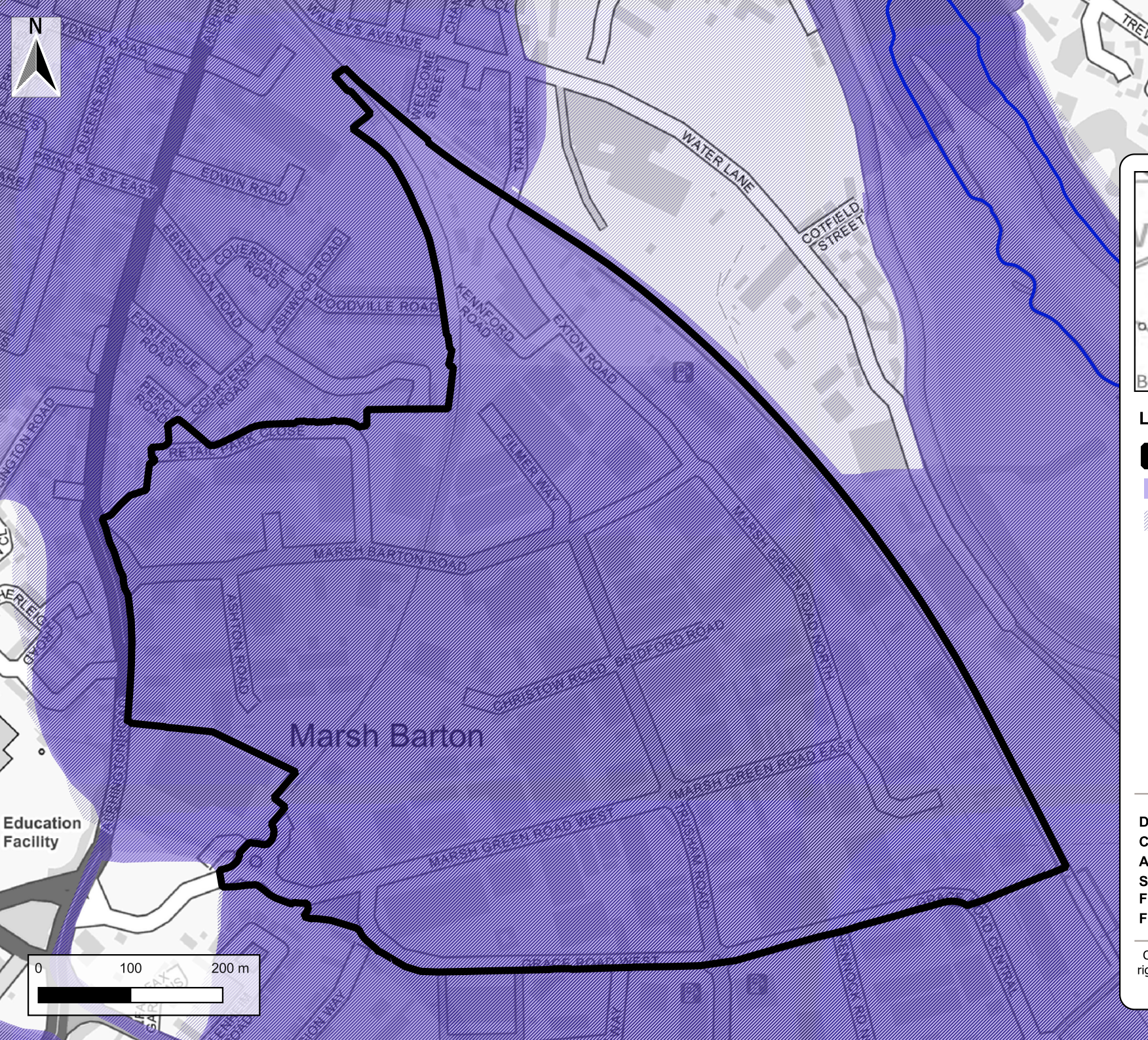
 Site Location

Groundwater Levels Risk Map

-  Groundwater levels are either at or very near (within 0.025m of) the ground surface.
-  Groundwater levels are between 0.025m and 0.5m below the ground surface.
-  Groundwater levels are between 0.5m and 5m below the ground surface.
-  Groundwater levels are at least 5m below the ground surface.
-  No risk.

Drawn By: BG Date: 06/08/2024
Checked By: EH Date: 06/08/2024
Approved By: EH Date: 06/08/2024
Status: S3 Revision: P01
Figure Title: Groundwater
File Name: Exeter SFRA L2

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Legend

-  Site Location
-  Historic Flood Map
-  Recorded Flood Outlines

Drawn By: BG **Date:** 06/08/2024
Checked By: EH **Date:** 06/08/2024
Approved By: EH **Date:** 06/08/2024
Status: S3 **Revision:** P01
Figure Title: Historic Flood Map
File Name: Exeter SFRA L2

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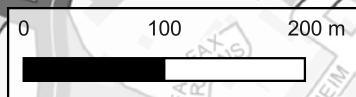


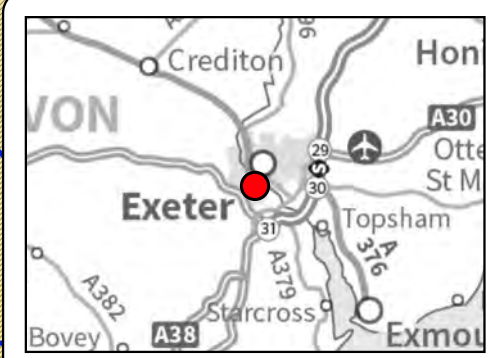
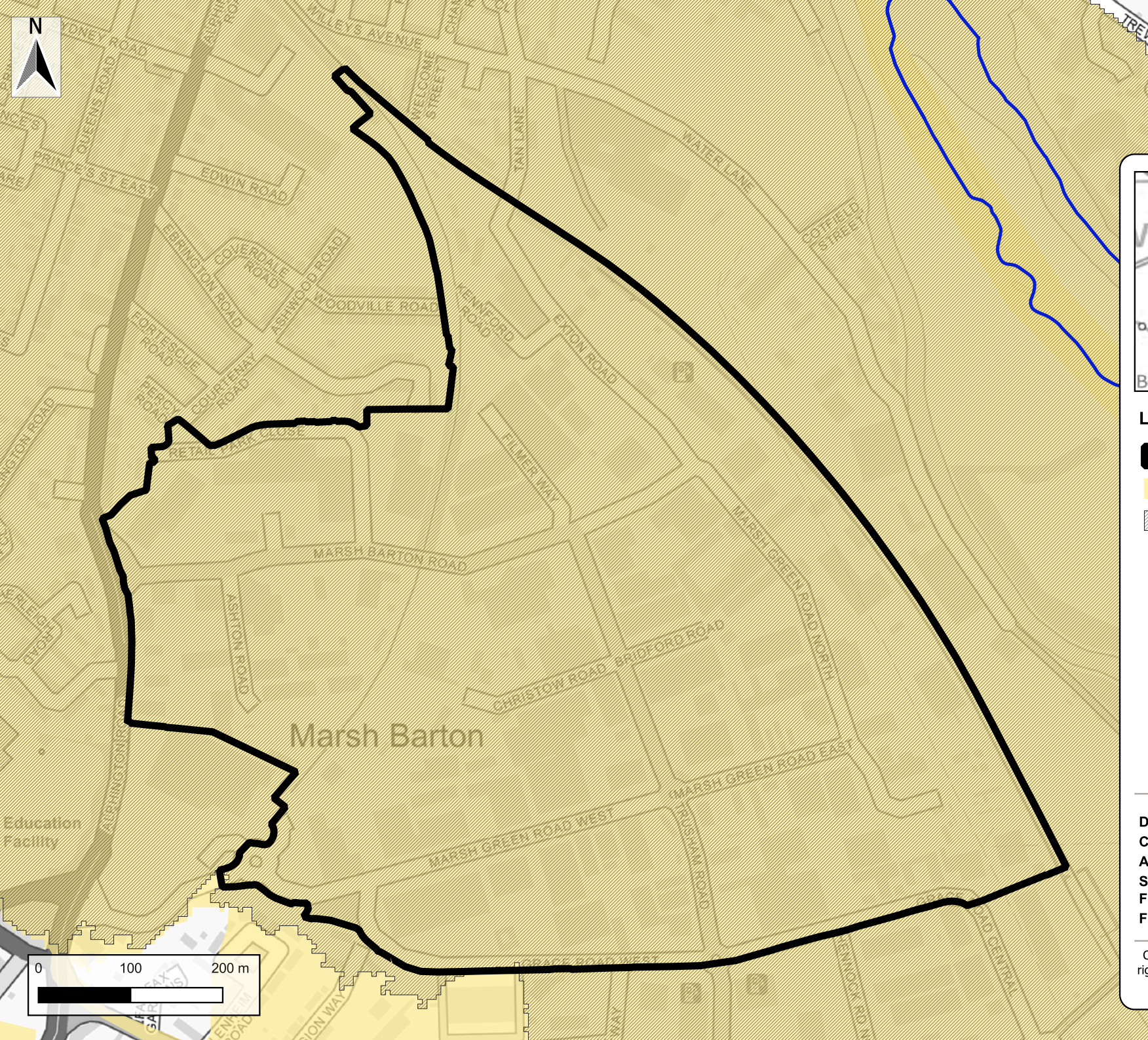
Legend

-  Site Location
-  AIMS Spatial Flood Defences including standardised attributes

Drawn By: BG Date: 22/10/2024
Checked By: EH Date: 22/10/2024
Approved By: EH Date: 22/10/2024
Status: S3 Revision: P01
Figure Title: Flood Alert and Warning Areas
File Name: Exeter SFRA L2

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Legend

-  Site Location
-  Flood Alert Areas
-  Flood Warning Areas

Drawn By:	BG	Date:	06/08/2024
Checked By:	EH	Date:	06/08/2024
Approved By:	EH	Date:	06/08/2024
Status:	S3	Revision:	P01
Figure Title:	Flood Alert and Warning Areas		
File Name:	Exeter SFRA L2		

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