	Dorset Council **L2 SFRA - Detailed Site Summary Tables**
	Site details
Site Code	**WEY6**
Address	Ferry Peninsula, Weymouth
Area	5.0 hectares
Current land use	Entertainment, parking and disused ferry terminal (brownfield).
Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
	Sources of flood risk
Location of site within catchment	The site is coastal, located on a peninsula at the mouth of the River Wey, within Weymouth. The river flows south and then eastward through the Weymouth urban area.
Existing drainage features	The site is located on a narrow peninsula bounded by the sea and the River Wey. The tidal river mouth forms the southern boundary of the site, the sea forms the northern and eastern boundaries of the site. The western extremity of the site is a narrow neck of land joining the site to the town between the river and the town beach. There are no additional watercourses within the site boundary or in close proximity to the site. No surface water or combined sewers are recorded within the site.
Joint probability assessment	All hydraulic modelling undertaken as part of this assessment has used a joint probability approach based on the Environment Agency best practice FD2308 guidance. This avoids overestimating the amount of flood risk when multiple sources of flooding are being considered in conjunction. Rather than running all combinations of conditions for each event, the models were run for tidal dominated (TDT) event, fluvial dominated (FDT) event. For example, in a 0.5% AEP TDT event, the tidal boundary has 0.5% AEP conditions, whereas the fluvial boundary has 33% AEP conditions. The tables below detail the event combinations that were simulated for the TDT and FDT events.

TDT Event AEP (%)	50	5	2.5	1.33	1	0.5	0.1
Tidal AEP (%)	50	5	2.5	1.33	1	0.5	0.1
Fluvial AEP (%)	1000	500	100	100	50	33	6

FDT Event AEP (%)	50	10	5	2	1	0.5	0.1
Tidal AEP (%)	MHWS	MHWS	MHWS	100	50	33	6
Fluvial AEP (%)	50	10	5	2	1	0.5	0.1

For the surface water modelling a similar approach was taken when considering the downstream boundaries to avoid overestimating the extent of flood risk. As a result, for the 3.3% and 1% AEP events, the 50% AEP TDT and FDT boundary levels were applied

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	to the model while the 5% AEP TDT and FDT levels were applied to the surface water model for the 0.1% AEP event.
Fluvial dominated	**Available data and mapping:** A detailed coastal and fluvial TUFLOW model of Weymouth, developed for the Environment Agency in 2019 and updated as part of this Level 2 SFRA study has been used to describe the risk of fluvial flooding to the site. WEY6– Fluvial defended 3.3% AEP (depth) WEY6– Fluvial defended 1% AEP (depth) WEY6– Fluvial defended 0.1% AEP (depth) WEY6– Fluvial defended 3.3% AEP (hazard) WEY6– Fluvial defended 1% AEP (hazard) WEY6– Fluvial defended 0.1% AEP (hazard) WEY6– Fluvial defended 3.3% AEP (velocity) WEY6– Fluvial defended 1% AEP (velocity) WEY6– Fluvial defended 0.1% AEP (velocity) **Data analysis:** **3.3% AEP (1 in 30-year) event:** Proportion - <1% Max depth - 0m Mean depth - 0m Max velocity - 0m/s Mean velocity - 0m/s Max hazard - 0 Mean hazard - 0 **1% AEP (1 in 100-year) event:** Proportion - <1% Max depth - 0m Mean depth - 0m Max velocity - 0m/s Mean velocity - 0m/s Max hazard - 0 Mean hazard - 0 **0.1% AEP (1 in 1,000-year) event:** Proportion - <1% Max depth - 0m Mean depth - 0m Max velocity - 0m/s Mean velocity - 0m/s Max hazard - 0 Mean hazard - 0 **Flood characteristics:** Significant depths, velocities and flood hazard ratings along the boundary with the sea represent water levels of the sea, rather than the site itself. The furthest narrow pier extension of the area has not been modelled as land or included within the data analysis or flood characteristics. The site is shown not to be at risk of a 1 in 30-year (3.3% AEP), 1 in 100-year (1% AEP), or 1 in 1,000-year (0.1% AEP) fluvially dominant flood event.

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Fluvial dominated plus climate change	**Available data and mapping:** A detailed coastal and fluvial TUFLOW model of Weymouth, developed for the Environment Agency in 2019 and updated as part of this Level 2 SFRA study has been used to describe the risk of fluvial flooding to the site. For the climate change scenarios, future defences, based on the specifications outlined within Appendix A and C of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020) were applied to the model based on interventions undertaken across all three phases. An Outline Business Case is currently being produced to assess the future coastal defences for Weymouth. When undertaking a Site-Specific Flood Risk Assessment, this should be considered. WEY6– Fluvial defended 3.3% AEP + 47% CC uplift Central allowance (depth) WEY6– Fluvial defended 1% AEP + 47% CC uplift Central allowance (depth) WEY6– Fluvial defended 0.1% AEP + 47% CC uplift Central allowance (depth) WEY6– Fluvial defended 3.3% AEP + 47% CC uplift Central allowance (hazard) WEY6– Fluvial defended 1% AEP + 47% CC uplift Central allowance (hazard) WEY6– Fluvial defended 0.1% AEP + 47% CC uplift Central allowance (hazard) WEY6– Fluvial defended 3.3% AEP + 47% CC uplift Central allowance (velocity) WEY6– Fluvial defended 1% AEP + 47% CC uplift Central allowance (velocity) WEY6– Fluvial defended 0.1% AEP + 47% CC uplift Central allowance (velocity) **Data analysis:** **3.3% AEP (1 in 30-year) event:** Proportion - 91% Max depth - 10.78m Mean depth - 0.89m Max velocity - 2.13m/s Mean velocity - 0.16m/s Max hazard - 6.64 Mean hazard - 1.43 **1% AEP (1 in 100-year) event:** Proportion - 92% Max depth - 10.85m Mean depth - 0.94m Max velocity - 2.14m/s Mean velocity - 0.17m/s Max hazard - 6.72 Mean hazard - 1.47 **0.1% AEP (1 in 1,000-year) event:** Proportion - 93% Max depth - 11.03m Mean depth - 1.12m Max velocity - 2.4m/s Mean velocity - 0.2m/s Max hazard - 6.74 Mean hazard - 1.6 **Flood characteristics:** The results described below are based on the defences proposed as part of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020). An Outline Business Case is currently being prepared to assess the level of protection offered by the scheme. Any Site-Specific Flood Risk Assessment should consider the OBC once this is completed.

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	Significant depths, velocities and flood hazard ratings along the boundary with the sea represent water levels of the sea, rather than the site itself. The furthest narrow pier extension of the area has not been modelled as land or included within the data analysis or flood characteristics. During a 1 in 30-year (3.3% AEP) event plus climate change only a small proportion of the site is flood free (the Pavilion site and small areas along the old platform along the southern edge of the site). Flood depths are approximately 1.0m across much of the site but range between 1.6m to the north of the Pavilion to less than 0.5m along the southern edge of the site. Velocities are generally less than 0.3m/s across much of the site, increasing to 0.6m/s along the road running east to west along the southern edge of the site, and to 2.0m/s in an area on the edge of the site to the north of the Pavilion where the concrete wall ends. Almost the entirety of the flooded area has a 'Significant' flood hazard rating (1.25 to 2.0), with a narrow zone of 'Moderate' hazard (0.75 to 1.25) and 'Low' hazard (less than 0.75) along the southern boundary of the site. A small area of 'Extreme' hazard (greater than 2.0) is located at the roundabout to the north of the Pavilion. In a 1 in 100-year (1% AEP) event plus climate change, flood depths, velocities and hazard ratings are very similar to the 1 in 30-year (3.3% AEP) event plus climate change. In a 1 in 1,000-year (0.1% AEP) event plus climate change, flooding increases slightly to cover the entire site except for the Pavilion. Depths increase slightly to a maximum of 1.8m to the north of the Pavilion. Velocities increase to 0.7m/s along the southern road and to 2.3m/s to the north of the Pavilion but remain less than 0.3m/s across much of the site. The flood hazard rating increases so that most of the southern edge has a 'Significant' rating. The area of 'Extreme' hazard north of the Pavilion increases slightly. Flood water enters the site primarily at the western end of the concrete wall to the north of the Pavilion and flows east and south from there. Water also enters to the north of the Pavilion forecourt carpark. As the event increases water enters from the southern edge of the site.
Surface Water (no downstream boundary)	**Available data and mapping:** The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site. WEY6– Surface water (no downstream boundary) 3.3% AEP (depth) WEY6– Surface water (no downstream boundary) 1% AEP (depth) WEY6– Surface water (no downstream boundary) 0.1% AEP (depth) WEY6– Surface water (no downstream boundary) 3.3% AEP (hazard) WEY6– Surface water (no downstream boundary) 1% AEP (hazard) WEY6– Surface water (no downstream boundary) 0.1% AEP (hazard) WEY6– Surface water (no downstream boundary) 3.3% AEP (velocity) WEY6– Surface water (no downstream boundary) 1% AEP (velocity) WEY6– Surface water (no downstream boundary) 0.1% AEP (velocity)

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Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
	Data analysis: **3.3% AEP (1 in 30-year) event:** Proportion - 18% Max depth - 3.88m — Mean depth - 0.12m Max velocity - 9.91m/s — Mean velocity - 0.38m/s Max hazard - 18.83 — Mean hazard - 0.8 **1% AEP (1 in 100-year) event:** Proportion - 21% Max depth - 3.88m — Mean depth - 0.12m Max velocity - 9.9m/s — Mean velocity - 0.34m/s Max hazard - 18.83 — Mean hazard - 0.79 **0.1% AEP (1 in 1,000-year) event:** Proportion - 27% Max depth - 3.88m — Mean depth - 0.12m Max velocity - 9.9m/s — Mean velocity - 0.27m/s Max hazard - 18.83 — Mean hazard - 0.75 **Flood characteristics:** Significant depths, velocities and flood hazard ratings along the boundary with the sea represent water levels of the sea, rather than the site itself. The furthest narrow pier extension of the area has not been modelled as land or included within the data analysis or flood characteristics. In a 1 in 30-year (3.3% AEP) event flooding is mostly located in areas extending east from the roundabout north of the Pavilion and along the railway tracks in the south of the site. Maximum depths (0.1-0.2m) are found at the roundabout and on the Esplanade to the west of the Pavilion. Velocities are less than 0.1m/s across the site with the exception of a small area of 0.1m/s at the roundabout. The flooded areas have a flood hazard rating of 'Low' hazard (less than 0.75). In a 1 in 100-year (1% AEP) event extents only slightly increase with depths reaching a maximum of 0.3m near the roundabout. Flood depths reach 0.1-0.2m east from the roundabout and at both north and south edges of the site in the far west but are mostly less than 0.1m. The greatest velocities of up to 0.1m/s extend from the roundabout eastwards along a flow path from the central area of the site draining west to the roundabout, then north to the edge of the site. The flooded areas have a flood hazard rating of 'Low' hazard except for a small area by the roundabout which has a 'Moderate' hazard (0.75 to 1.25) rating. In the 1 in 1,000-year (0.1% AEP) event flood extents increase but are mostly still located in the areas extending east from the roundabout and along the railway tracks in the south of the site. An increasing proportion of the site is flooded to 0.1-0.2m depth. Velocities increase slightly across the site with a maximum of 0.2m/s near the roundabout with some areas just exceeding 0.1m/s to its east but many areas still have velocities of less than 0.1m/s. The flooded areas have a flood hazard rating of 'Low' hazard except for a small area by the roundabout which has a 'Moderate' hazard (0.75 to 1.25) rating.

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Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
Surface water (no downstream boundary) plus climate change	**Available data and mapping:** The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site. For the climate change scenarios, future defences, based on the specifications outlined within Appendix A and C of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020) were applied to the model based on interventions undertaken across all three phases. An Outline Business Case is currently being produced to assess the future coastal defences for Weymouth. When undertaking a Site-Specific Flood Risk Assessment, this should be considered. WEY6– Surface water (no downstream boundary) 3.3% AEP + 40% CC (depth) WEY6– Surface water (no downstream boundary) 1% AEP + 45% CC (depth) WEY6– Surface water (no downstream boundary) 0.1% AEP + 45% CC (depth) WEY6– Surface water (no downstream boundary) 3.3% AEP + 40% CC (hazard) WEY6– Surface water (no downstream boundary) 1% AEP + 45% CC (hazard) WEY6– Surface water (no downstream boundary) 0.1% AEP + 45% CC (hazard) WEY6– Surface water (no downstream boundary) 3.3% AEP + 40% CC (velocity) WEY6– Surface water (no downstream boundary) 1% AEP + 45% CC (velocity) WEY6– Surface water (no downstream boundary) 0.1% AEP + 45% CC (velocity) **Data analysis:** **3.3% AEP (1 in 30-year) event:** Proportion - 22% Max depth - 3.88m — Mean depth - 0.13m Max velocity - 9.84m/s — Mean velocity - 0.33m/s Max hazard - 18.76 — Mean hazard - 0.79 **1% AEP (1 in 100-year) event:** Proportion - 26% Max depth - 3.88m — Mean depth - 0.12m Max velocity - 9.84m/s — Mean velocity - 0.28m/s Max hazard - 18.76 — Mean hazard - 0.77 **0.1% AEP (1 in 1,000-year) event:** Proportion - 35% Max depth - 4.49m — Mean depth - 0.13m Max velocity - 8.92m/s — Mean velocity - 0.28m/s Max hazard - 21.92 — Mean hazard - 0.77 **Flood characteristics:** The results described below are based on the defences proposed as part of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020). An Outline Business Case is currently being prepared to assess the level of protection offered by the scheme. Any Site-Specific Flood Risk Assessment should consider the OBC once this is completed. Significant depths, velocities and flood hazard ratings along the boundary with the sea represent water levels of the sea, rather than the site itself. The furthest narrow pier

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Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
	extension of the area has not been modelled as land or included within the data analysis or flood characteristics. In a 1 in 30-year (3.3% AEP) event plus 40% climate change uplift, surface water flooding is similar to the 1 in 100-year (1% AEP) event. Depths reach a maximum of 0.3m near the roundabout and 0.1-0.2m east from the roundabout and at both north and south edges of the site in the far west but are mostly less than 0.1m. The greatest velocities of 0.1-0.2m/s extend from the roundabout eastwards along a flow path from the central area of the site draining west to the roundabout, then north to the edge of the site. The flooded areas have a flood hazard rating of 'Low' hazard except for a small area by the roundabout which has a 'Moderate' hazard (0.75 to 1.25) rating. In the 1 in 100-year (1% AEP) event plus 45% climate change uplift, surface water flooding increases slightly on the 3.3% AEP event plus 40% climate change uplift. Depths remain similar across the site but increase to a maximum of 0.4m near the roundabout. Velocities increase marginally to a maximum of 0.2m/s east of the roundabout. Flood hazard ratings remain similar except for a slight increase in the area of 'Moderate' hazard rating by the roundabout. In the 1 in 1,000-year (0.1% AEP) event plus 45% climate change uplift, surface water flooding extents again increase slightly on the 1% AEP event plus 45% climate change uplift. Depths remain similar but velocities increase significantly to 2.5m/s on the north edge of the roundabout. Elsewhere, velocities remain 0.1-0.2m/s east from the roundabout but are less than 0.1m/s in the rest of the site. Flood hazard ratings remain very similar to the 1% AEP event plus 45% climate change uplift, with a slight increase in the size of the area of 'Moderate' hazard rating by the roundabout.
Surface water (tidal dominated downstream boundary)	**Available data and mapping:** The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site. WEY6– Surface water (tidal downstream boundary) 3.3% AEP (depth) WEY6– Surface water (tidal downstream boundary) 1% AEP (depth) WEY6– Surface water (tidal downstream boundary) 0.1% AEP (depth) WEY6– Surface water (tidal downstream boundary) 3.3% AEP (hazard) WEY6– Surface water (tidal downstream boundary) 1% AEP (hazard) WEY6– Surface water (tidal downstream boundary) 0.1% AEP (hazard) WEY6– Surface water (tidal downstream boundary) 3.3% AEP (velocity) WEY6– Surface water (tidal downstream boundary) 1% AEP (velocity) WEY6– Surface water (tidal downstream boundary) 0.1% AEP (velocity) **Data analysis:** **3.3% AEP (1 in 30-year) event:** Proportion - 18% Max depth - 2.76m Mean depth - 0.11m Max velocity - 0.36m/s Mean velocity - 0.04m/s Max hazard - 2.66 Mean hazard - 0.58

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	1% AEP (1 in 100-year) event: Proportion - 21% Max depth - 2.76m — Mean depth - 0.11m Max velocity - 0.36m/s — Mean velocity - 0.04m/s Max hazard - 2.66 — Mean hazard - 0.59 **0.1% AEP (1 in 1,000-year) event:** Proportion - 27% Max depth - 2.94m — Mean depth - 0.12m Max velocity - 0.4m/s — Mean velocity - 0.05m/s Max hazard - 2.79 — Mean hazard - 0.61 **Flood characteristics:** The results described below are based on the defences proposed as part of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020). Significant depths, velocities and flood hazard ratings along the boundary with the sea represent water levels of the sea, rather than the site itself. The furthest narrow pier extension of the area has not been modelled as land or included within the data analysis or flood characteristics. In a 1 in 30-year (3.3% AEP) event, flooding is mostly located in areas extending east from the roundabout north of the Pavilion (depths < 0.2m) and along the railway tracks in the south of the site (depths < 0.1m). Maximum depths of 0.2m are found at the roundabout and on the Esplanade to the west of the Pavilion. Velocities are less than 0.1m/s across the site with the exception of a small area of 0.1m/s at the roundabout. The flooded areas have a flood hazard rating of 'Low' hazard (less than 0.75). In a 1 in 100-year (1% AEP) event, extents only slightly increase with depths reaching a maximum of 0.3m near the roundabout. Flood depths reach 0.1-0.2m east from the roundabout and at both north and south edges of the site in the far west but are mostly less than 0.1m. The greatest velocities of up to 0.1m/s extend from the roundabout eastwards along a flow path from the central area of the site draining west to the roundabout, then north to the edge of the site. The flooded areas have a flood hazard rating of 'Low' hazard except for a small area by the roundabout which has a 'Moderate' hazard (0.75 to 1.25) rating. In the 1 in 1,000-year (0.1% AEP) event, flood extents increase but are mostly still located in the areas extending east from the roundabout and along the railway tracks in the south of the site. An increasing proportion of the site is flooded to 0.1-0.2m depth. Maximum depth of 0.4m occurs at the roundabout, the areas at both north and south edges of the site in the far west have depths of 0.2m. Velocities increase slightly across the site with a maximum of 0.2m/s near the roundabout with some areas just exceeding 0.1m/s to its east but many areas still have velocities of less than 0.1m/s. The flooded areas have a flood hazard rating of 'Low' hazard except for an area by the roundabout which has a 'Moderate' hazard (0.75 to 1.25) rating.
Surface water (tidal dominated downstream	**Available data and mapping:** The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site. For the climate change scenarios, future defences, based on the specifications outlined within Appendix

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boundary) plus climate change	A and C of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020) were applied to the model based on interventions undertaken across all three phases. An Outline Business Case is currently being produced to assess the future coastal defences for Weymouth. When undertaking a Site-Specific Flood Risk Assessment, this should be considered. WEY6– Surface water (tidal downstream boundary) 3.3% AEP + 40% CC (depth) WEY6– Surface water (tidal downstream boundary) 1% AEP + 45% CC (depth) WEY6– Surface water (tidal downstream boundary) 0.1% AEP + 45% CC (depth) WEY6– Surface water (tidal downstream boundary) 3.3% AEP + 40% CC (hazard) WEY6– Surface water (tidal downstream boundary) 1% AEP + 45% CC (hazard) WEY6– Surface water (tidal downstream boundary) 0.1% AEP + 45% CC (hazard) WEY6– Surface water (tidal downstream boundary) 3.3% AEP + 40% CC (velocity) WEY6– Surface water (tidal downstream boundary) 1% AEP + 45% CC (velocity) WEY6– Surface water (tidal downstream boundary) 0.1% AEP + 45% CC (velocity) **Data analysis:** **3.3% AEP (1 in 30-year) event:** Proportion - 92% Max depth - 4.64m — Mean depth - 0.92m Max velocity - 4.55m/s — Mean velocity - 0.2m/s Max hazard - 17.16 — Mean hazard - 1.54 **1% AEP (1 in 100-year) event:** Proportion - 92% Max depth - 4.64m — Mean depth - 0.92m Max velocity - 4.55m/s — Mean velocity - 0.2m/s Max hazard - 17.16 — Mean hazard - 1.54 **0.1% AEP (1 in 1,000-year) event:** Proportion - 99% Max depth - 4.87m — Mean depth - 1.34m Max velocity - 4.98m/s — Mean velocity - 0.69m/s Max hazard - 17.06 — Mean hazard - 2.46 **Flood characteristics:** The results described below are based on the defences proposed as part of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020). An Outline Business Case is currently being prepared to assess the level of protection offered by the scheme. Any Site-Specific Flood Risk Assessment should consider the OBC once this is completed. Significant depths, velocities and flood hazard ratings along the boundary with the sea represent water levels of the sea, rather than the site itself. The furthest narrow pier extension of the area has not been modelled as land or included within the data analysis or flood characteristics.

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	In both a 1 in 30-year (3.3% AEP) event plus 40% climate change uplift and 1 in 100-year (1% AEP) event plus 45% climate change uplift, surface water flooding is much more extensive than in the 1 in 1,000-year (0.1% AEP) event. Flooding covers almost the entirety of the site except the Pavilion itself and some smaller areas along the southern edge of the site. Depths are generally greater than 1.0m between the northern point and the Pavilion and 0.4-1.2m in the site's eastern third. The maximum depth (1.7m) is at the roundabout. Areas immediately west of the Pavilion have depths of 0.2-0.8m but the access roads are flooded to 0.4-1.2m in the west. Velocities are less than 0.2m/s across the east of the site (generally less than 0.1m/s) but increase to 1.2m/s locally to the west of the Pavilion. North of the roundabout there is a small area with velocities reaching 1.0m/s. Almost the entire site has a 'Significant' flood hazard rating (1.25 to 2.0) with an area of 'Extreme' flood hazard rating (greater than 2.0) approximately 100m long centred on the roundabout and another along the southern access road where it enters the site. In a 1 in 1,000-year (0.1% AEP) event plus 45% climate change uplift, surface water flooding extents and depths increase on the 3.3% and 1% events plus climate change uplift. Depths increase to 2.0m at the roundabout and exceed 1.4m over almost the entirety of the site east of the Pavilion and exceed 1.6m on both access roads west of the Pavilion. Velocities significantly increase to 2.0m/s on the access road to the north and west of the Pavilion, to 0.7m/s on the southern access road and to 0.3-0.9m/s across most of the site. Much of the site has an 'Extreme' flood hazard rating.
Surface water (fluvial dominated downstream boundary)	**Available data and mapping:** The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site. WEY6– Surface water (fluvial downstream boundary) 3.3% AEP (depth) WEY6– Surface water (fluvial downstream boundary) 1% AEP (depth) WEY6– Surface water (fluvial downstream boundary) 0.1% AEP (depth) WEY6– Surface water (fluvial downstream boundary) 3.3% AEP (hazard) WEY6– Surface water (fluvial downstream boundary) 1% AEP (hazard) WEY6– Surface water (fluvial downstream boundary) 0.1% AEP (hazard) WEY6– Surface water (fluvial downstream boundary) 3.3% AEP (velocity) WEY6– Surface water (fluvial downstream boundary) 1% AEP (velocity) WEY6– Surface water (fluvial downstream boundary) 0.1% AEP (velocity) **Data analysis:** **3.3% AEP (1 in 30-year) event:** Proportion - 17% Max depth - 2.11m Mean depth - 0.09m Max velocity - 0.55m/s Mean velocity - 0.03m/s Max hazard - 2.22 Mean hazard - 0.56 **1% AEP (1 in 100-year) event:** Proportion - 20% Max depth - 2.11m Mean depth - 0.09m Max velocity - 0.55m/s Mean velocity - 0.04m/s Max hazard - 2.22 Mean hazard - 0.58

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Current land use	Entertainment, parking and disused ferry terminal (brownfield).
Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
	0.1% AEP (1 in 1,000-year) event: Proportion - 27% Max depth - 2.11m Mean depth - 0.1m Max velocity - 0.55m/s Mean velocity - 0.04m/s Max hazard - 2.23 Mean hazard - 0.6 **Flood characteristics:** Significant depths, velocities and flood hazard ratings along the boundary with the sea represent water levels of the sea, rather than the site itself. The furthest narrow pier extension of the area has not been modelled as land or included within the data analysis or flood characteristics. In a 1 in 30-year (3.3% AEP) event flooding is mostly located in areas extending east from the roundabout north of the Pavilion and along the railway tracks in the south of the site. Maximum depths (0.1-0.2m) are found at the roundabout, directly east from this and on the Esplanade to the west of the Pavilion. Velocities are less than 0.1m/s across the site with the exception of a small area of 0.1m/s at the roundabout. The flooded areas have a flood hazard rating of 'Low' hazard (less than 0.75). In a 1 in 100-year (1% AEP) event extents only slightly increase with depths reaching a maximum of 0.3m near the roundabout. Flood depths are 0.1-0.2m east from the roundabout and at both north and south edges of the site in the far west but are mostly less than 0.1m. The greatest velocities of 0.2m/s are close to the roundabout and up to 0.1m/s extending from the roundabout eastwards along a flow path from the central area of the site draining west to the roundabout, then north to the edge of the site. The flooded areas have a flood hazard rating of 'Low' hazard except for a small area by the roundabout which has a 'Moderate' hazard (0.75 to 1.25) rating. In the 1 in 1,000-year (0.1% AEP) event flood extents increase but are mostly still located in the areas extending east from the roundabout and along the railway tracks in the south of the site. Maximum depth (0.4m) occurs at the roundabout. An increasing proportion of the site is flooded to 0.1-0.2m depth. Velocities increase slightly across the site with the maximum of 0.2m/s still near the roundabout, some areas now just exceed 0.1m/s to its east but many areas still have velocities of less than 0.1m/s. The flooded areas have a flood hazard rating of 'Low' hazard except for a small area by the roundabout which has a 'Moderate' hazard (0.75 to 1.25) rating.
Surface water (fluvial dominated downstream boundary) plus climate change	**Available data and mapping:** The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site. For the climate change scenarios, future defences, based on the specifications outlined within Appendix A and C of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020) were applied to the model based on interventions undertaken across all three phases. An Outline Business Case is currently being produced to assess the future coastal defences for Weymouth. When undertaking a Site-Specific Flood Risk Assessment, this should be considered. WEY6– Surface water (fluvial downstream boundary) 3.3% AEP + 40% CC (depth) WEY6– Surface water (fluvial downstream boundary) 1% AEP + 45% CC (depth) WEY6– Surface water (fluvial downstream boundary) 0.1% AEP + 45% CC (depth) WEY6– Surface water (fluvial downstream boundary) 3.3% AEP + 40% CC (hazard) WEY6– Surface water (fluvial downstream boundary) 1% AEP + 45% CC (hazard)

	Dorset Council **L2 SFRA - Detailed Site Summary Tables**
	Site details
Site Code	**WEY6**
Address	Ferry Peninsula, Weymouth
Area	5.0 hectares
Current land use	Entertainment, parking and disused ferry terminal (brownfield).
Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
	WEY6– Surface water (fluvial downstream boundary) 0.1% AEP + 45% CC (hazard) WEY6– Surface water (fluvial downstream boundary) 3.3% AEP + 40% CC (velocity) WEY6– Surface water (fluvial downstream boundary) 1% AEP + 45% CC (velocity) WEY6– Surface water (fluvial downstream boundary) 0.1% AEP + 45% CC (velocity) **Data analysis:** **3.3% AEP (1 in 30-year) event:** Proportion - 61% Max depth - 3.83m — Mean depth - 0.39m Max velocity - 2.83m/s — Mean velocity - 0.08m/s Max hazard - 10.57 — Mean hazard - 1.05 **1% AEP (1 in 100-year) event:** Proportion - 61% Max depth - 3.83m — Mean depth - 0.39m Max velocity - 2.83m/s — Mean velocity - 0.08m/s Max hazard - 10.57 — Mean hazard - 1.05 **0.1% AEP (1 in 1,000-year) event:** Proportion - 61% Max depth - 3.83m — Mean depth - 0.38m Max velocity - 2.82m/s — Mean velocity - 0.13m/s Max hazard - 10.48 — Mean hazard - 1.06 **Flood characteristics:** The results described below are based on the defences proposed as part of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020). An Outline Business Case is currently being prepared to assess the level of protection offered by the scheme. Any Site-Specific Flood Risk Assessment should consider the OBC once this is completed. Significant depths, velocities and flood hazard ratings along the boundary with the sea represent water levels of the sea, rather than the site itself. The furthest narrow pier extension of the area has not been modelled as land or included within the data analysis or flood characteristics. Flooding to this site is predominantly from the MHWS tidal level, applied as part of the fluvial dominant event. In both a 1 in 30-year (3.3% AEP) event plus 40% climate change uplift and a 1 in 100-year (1% AEP) event plus 45% climate change uplift, flooding is much more extensive than in the 1 in 1,000-year (0.1% AEP) present day event. Flooding covers much of the site, except the Pavilion, the car park to its west and the eastern and southern edges of the site. The maximum depths (0.6-0.9m) are along the road north of the Pavilion and at the roundabout. Depths range between 0.2-0.7m in much of the car park to the east of the Pavilion. The access roads to the south and west of the Pavilion have depths of at least 0.4m. Velocities are less than 0.1m/s across the east of the site but increase to 0.4m/s on the southern access road and to 0.8m/s along the north edge of the site, affecting the northern access road and north of the roundabout. Much of the northern access road and western half of the main car park has a 'Significant' flood hazard rating (1.25 to 2.0), with an area of

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Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
	'Extreme' flood hazard rating (greater than 2.0) along the north edge of the site impacting a very narrow strip along the northern access road. Other areas including the southern access road have a 'Moderate' flood hazard rating (0.75 to 1.25). The far east of the flooded section has a 'Low' flood hazard rating (less than 0.75). In a 1 in 1,000-year (0.1% AEP) event plus 45% climate change uplift, extents, depths, velocities and flood hazard ratings are similar to the 1% AEP event plus 45% climate change uplift, except for an increase in velocity along the north edge of the site which impacts the northern access road; here velocities increase to 1.2m/s.
Tidal dominated	**Available data and mapping:** A detailed coastal and fluvial TUFLOW model of Weymouth, developed for the Environment Agency in 2019 and updated as part of this Level 2 SFRA study has been used to describe the risk of fluvial flooding to the site. WEY6– Tidal defended 3.3% AEP (depth) WEY6– Tidal defended 0.5% AEP (depth) WEY6– Tidal defended 0.1% AEP (depth) WEY6– Tidal defended 3.3% AEP (hazard) WEY6– Tidal defended 0.5% AEP (hazard) WEY6– Tidal defended 0.1% AEP (hazard) WEY6– Tidal defended 3.3% AEP (velocity) WEY6– Tidal defended 0.5% AEP (velocity) WEY6– Tidal defended 0.1% AEP (velocity) **Data analysis:** **3.3% AEP (1 in 30-year) event:** Proportion - <1% Max depth - 4.07m Mean depth - 0.78m Max velocity - 0.17m/s Mean velocity - 0.04m/s Max hazard - 2.91 Mean hazard - 1.01 **0.5% AEP (1 in 200-year) event:** Proportion - 19% Max depth - 4.61m Mean depth - 0.13m Max velocity - 0.71m/s Mean velocity - 0.06m/s Max hazard - 3.37 Mean hazard - 0.61 **0.1% AEP (1 in 1,000-year) event:** Proportion - 33% Max depth - 4.77m Mean depth - 0.24m Max velocity - 1.17m/s Mean velocity - 0.08m/s Max hazard - 3.52 Mean hazard - 0.86 **Flood characteristics:** Significant depths, velocities and flood hazard ratings along the boundary with the sea represent water levels of the sea, rather than the site itself. The furthest narrow pier

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Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
	extension of the area has not been modelled as land or included within the data analysis or flood characteristics. The site is shown not to be at risk of a 1 in 30-year (3.3% AEP) event. In a 1 in 200-year (0.5% AEP) event, water depths reach a maximum of 0.4m at the roundabout by the Pavilion but are mostly less than 0.2m across the rest of the flooded area, except along the car park's main exit road to the east and west of the Pavilion (up to 0.3m). Velocities are less than 0.1m/s across much of the site (up to 0.3m/s on sections of the car park exit road) but reach 0.7m/s by the breach point north of the roundabout. The flooded area mostly has a flood hazard rating of 'Low' (less than 0.75), with the roundabout area and sections of the car park exit road having a 'Moderate' (0.75 to 1.25) rating. Flood extents increase in a 1 in 1,000-year (0.1% AEP) event, with depths reaching 0.6m. Velocities are similar across much of the site but increase to 1.1m/s at the edge of the site by the roundabout north of the Pavilion. Flood hazard ratings increase slightly with most of the flooded area having flood hazard ratings of 'Low' (less than 0.75) and 'Moderate' (0.75 to 1.25), the roundabout area and a small section of the car park exit road increase to a 'Significant' (1.25 to 2.0) rating. Flood water enters the site at two points on the northern edge. Some water enters the far west of the site to the north west of the Pavilion Forecourt car park, reaching depths of less than 0.2m. The main breach point is at the western end of the concrete wall by the roundabout north of the Pavilion. From here water flows east and south into the site.
Tidal dominated plus climate change	**Available data and mapping:** A detailed coastal and fluvial TUFLOW model of Weymouth, developed for the Environment Agency in 2019 and updated as part of this Level 2 SFRA study has been used to describe the risk of fluvial flooding to the site. For the climate change scenarios, future defences, based on the specifications outlined within Appendix A and C of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020) were applied to the model based on interventions undertaken across all three phases. An Outline Business Case is currently being produced to assess the future coastal defences for Weymouth. When undertaking a Site-Specific Flood Risk Assessment, this should be considered. WEY6 – Tidal defended 3.3% AEP + 1.71m CC uplift Upper end allowance (depth) WEY6 – Tidal defended 0.5% AEP + 1.71m CC uplift Upper end allowance (depth) WEY6 – Tidal defended 0.1% AEP + 1.71m CC uplift Upper end allowance (depth) WEY6 – Tidal defended 3.3% AEP + 1.71m CC uplift Upper end allowance (hazard) WEY6 – Tidal defended 0.5% AEP + 1.71m CC uplift Upper end allowance (hazard) WEY6 – Tidal defended 0.1% AEP + 1.71m CC uplift Upper end allowance (hazard) WEY6 – Tidal defended 3.3% AEP + 1.71m CC uplift Upper end allowance (velocity) WEY6 – Tidal defended 0.5% AEP + 1.71m CC uplift Upper end allowance (velocity) WEY6 – Tidal defended 0.1% AEP + 1.71m CC uplift Upper end allowance (velocity) **Data analysis:** **3.3% AEP (1 in 30-year) event:** Proportion - 98% Max depth - 11.12m Mean depth - 1.15m

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Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
	Max velocity - 2.21m/s Max hazard - 6.96 **0.5% AEP (1 in 200-year) event:** Proportion - 98% Max depth - 11.31m Max velocity - 2.28m/s Max hazard - 7.33 **0.1% AEP (1 in 1,000-year) event:** Proportion - 99% Max depth - 11.47m Max velocity - 2.85m/s Max hazard - 7.72 Mean velocity - 0.18m/s Mean hazard - 1.61 Mean depth - 1.33m Mean velocity - 0.2m/s Mean hazard - 1.79 Mean depth - 1.48m Mean velocity - 0.25m/s Mean hazard - 1.91 **Flood characteristics:** The results described below are based on the defences proposed as part of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020). An Outline Business Case is currently being prepared to assess the level of protection offered by the scheme. Any Site-Specific Flood Risk Assessment should consider the OBC once this is completed. Significant depths, velocities and flood hazard ratings along the boundary with the sea represent water levels of the sea, rather than the site itself. The furthest narrow pier extension of the area has not been modelled as land or included within the data analysis or flood characteristics. Almost the entirety of the site would be inundated in a 1 in 30-year (3.3% AEP) event with climate change, except for the wall along the north-eastern edge of the site. Flood depths reach a maximum of 1.9m north of the Pavilion and 1.4-1.8m in many areas of the car park to the east and south. Depths reach 1.4m on both north and south access roads. Velocities reach 2.2m/s at the end of the concrete wall north of the Pavilion but large areas of the site have velocities of less than 0.3m/s. Around some of the buildings and along the southern access road velocities are 0.3-0.7m/s. Much of the site has a 'Significant' (1.25 to 2.0) flood hazard rating, with the area to the north and east of the Pavilion having an 'Extreme' (greater than 2.0) rating. The Pavilion building and small areas along the southern edge have 'Moderate' (0.75 to 1.25) and 'Low' (less than 0.75) ratings. As with the 1 in 30-year (3.3% AEP) event with climate change, the majority of the site would be inundated in a 1 in 200-year (0.5% AEP) event with climate change. Depths and velocities are very similar to the 1 in 30-year (3.3% AEP) event with climate change. Flood hazard ratings increase slightly, the 'Low' hazard area disappears and the only area having a 'Moderate' rating is the Pavilion building. In a 1 in 1,000-year (0.1% AEP) event with climate change, depths increase slightly from the 0.5% AEP event with climate change, reaching a maximum of 2.3m north of the Pavilion and up to 2.2m in areas of the car park. Depths increase to 1.8m on both north and south access roads. Velocities increase to 2.8m/s at the end of the concrete wall north of the Pavilion and exceed 1.0m/s in locations on both north and south access roads but otherwise are very similar. Flood hazard ratings increase, a large area of the car park to the east of the Pavilion and an area to its west, extending

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Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
	across the peninsula and both its access roads, have an 'Extreme' rating. The only area with a 'Moderate' rating is the Pavilion building. Flow routes are the same as in the present day tidal flooding events. However, in the tidal flooding plus climate change events, eventually water enters the site along its southern edge.
Reservoir	No risk of flooding from reservoir breaches has been identified within or around the vicinity of this site.
Groundwater	The JBA Groundwater Flood Map, at 5m resolution, shows that the entirety of this site is within the 'No risk' zone, deeming it as having a negligible risk from groundwater flooding during a 1% AEP groundwater flood event due to the nature of the local geology deposits. This assessment does not negate the requirement that an appropriate assessment of the groundwater regime should be carried out at the site-specific FRA stage.
Flood history	Recorded Flood Outlines – Environment Agency: There are no recorded incidences of tidal or fluvial flooding occurring in or around the surrounding area of the site. Historic Flood Risk – Dorset Council (LLFA): no recorded incidences of tidal, fluvial, storm sewer or surface water flooding occurring in or around the surrounding area of the site.
	Flood risk management infrastructure
Defences – present day	Along the southern edge of the site (the mouth of the River Wey), from west to east: ID: 178, Type: Natural high ground providing fluvial/tidal protection, Design Standard of Protection: 1 in 200-year (0.5% AEP), Condition: Not provided, Asset owner: Unknown, Asset maintainer: Private individual, Company or Charity. ID: 39027, Type: Wall providing fluvial/tidal protection, Design Standard of Protection: 1 in 200-year (0.5% AEP), Condition: Not provided, Asset owner: Unknown, Asset maintainer: Private individual, Company or Charity. ID: 177, Type: Natural high ground providing fluvial/tidal protection, Design Standard of Protection: 1 in 200-year (0.5% AEP), Condition: Not provided, Asset owner: Unknown, Asset maintainer: Private individual, Company or Charity. The furthest narrow pier extension of the area, not included in the data analysis or flood characteristics: ID: 176, Type: Quay providing coastal protection, Design (and current) Standard of Protection: 1 in 0-year, Condition: Not provided, Asset owner: Unknown, Asset maintainer: Private individual, Company or Charity. No defences are recorded along the east and north edges of the site. Outside and to the north and west of the site's boundary but reducing flood risk to the site is the promenade providing coastal protection along the back of Weymouth beach.
Defences – proposed	It is proposed to replace the walls surrounding the Ferry Peninsula. It is not proposed to raise the crest level of these walls. The Weymouth Harbour and Esplanade FCRM Strategy states 'should development be brought forward on the peninsula, mitigation measures funded by developers may be required.' The Outline Business Case and Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020) should be consulted to provide an understanding of the land which will need to be safeguarded against future development to enable the construction of these defences.

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Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
Residual risk	The modelled breach is located at Ferry Peninsula, on the north eastern edge of the site, approximately 50m south east from the north most point. Baseline in this context refers to the equivalent percentage AEP present day or climate change tidal flooding event without a breach. In a 1 in 30-year (3.3% AEP) event, there is no baseline flooding of the site and none with the breach. In a 1 in 200-year (0.5% AEP) event, the main area of flooding remains the same and the main point of entry of the flood water remains just north of the Pavilion roundabout. Flood water does not enter the site from the breach point. There is a very slight decrease in flood extents along the north west edge of the site from the baseline event, decreasing flood extents slightly on the northern access road. This is likely to have been caused by the change in the timing of the flooding. In a 1 in 30-year (3.3% AEP) event plus climate change and future defences, there is no increase on baseline flooding depth, extent or hazard within the site, the main point of entry of the flood water remains just north of the Pavilion roundabout. In a 1 in 200-year (0.5% AEP) event plus climate change and future defences, there is no increase on baseline flooding depth, extent or hazard within the site, the main point of entry of the flood water remains just north of the Pavilion roundabout.
	Emergency planning
Flood warning	Much of the site is located in three Environment Agency Flood Warning Areas 111FWTWEYH001 "Weymouth Harbour at Lakeside Walk, Hope Street and Nothe Parade", 111FWTWEYH002 "Weymouth Harbour at Weymouth Harbourside" and 111FWTWEYH003 "Weymouth Harbour at Weymouth Town". These provide flood warnings for the English Channel. Much of the site is located in two Flood Alert Areas: 111WATWEYH "Weymouth Harbour" and 111WACECD "East coast of Dorset". These both provide flood alerts for the English Channel.
Access and egress	The only access and egress to the site is via The Esplanade on the narrow neck of land at the western extremity of the site. From here the main route is via The Esplanade to the north and the B3155, or via smaller roads southwest along Custom House Quay. Access and egress for the site may be possible during present day events, although during the 1 in 200-year (0.5% AEP) present day tidal event depths at the roundabout on the north side of the Pavilion reach 0.4m and the flood hazard rating is 'Significant' in the 1 in 1000-year (0.1% AEP) tidal event. However, with climate change access and egress is likely to become challenging as the flood hazard rating at the roundabout is 'Extreme' in the 1 in 30-year (3.3% AEP) tidal event with climate change and depths of up to 0.3m at the roundabout in the 3.3% AEP surface water plus climate change event. All fluvial flooding events plus climate change result in 'Significant' flood hazard rating across the neck of the peninsula. For detailed information on safe access and egress, please see the hazard maps.
	Requirements for drainage control and impact mitigation

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Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
Broadscale assessment of possible SuDS	Geology at the site (from BGS 625K mapping) consists of: • Superficial deposits: alluvium (clay, silt and sand) underlies the west third of the site, no superficial deposits are shown underlying the rest of the site. • Bedrock: no bedrock is shown underlying the site on the mapping. Topography – there are no steep slopes within the site. Surface water flood risk – in a 1 in 100-year (1% AEP) event plus 45 years' climate change flooding is quite widespread across the site with depths of 0.1-0.3m. 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. Historic landfill – the site is not located within a historic landfill site. BGS data indicates that the underlying geology is likely to have highly variable permeability. Therefore, permeability should be confirmed through infiltration testing. Off-site discharge in accordance with the SuDS hierarchy may be required to discharge surface water runoff from the site. The site is not considered to be susceptible to groundwater flooding, due to the nature of the local geological conditions. This should be confirmed through additional site investigation work. Below ground development such as basements may still be susceptible to groundwater flooding and due to the proximity of the site to the coast, groundwater may be impacted by sea water ingress. Proposed attenuation features such as basins, ponds and tanks should be located outside of Flood Zone 2 or 3 to avoid the potential risks to the hydraulic capacity or structural integrity of these features. Surface water outfalls that discharge into the sea may be susceptible to surcharging/tide locking due to water levels in the sea. The impacts of tide locking/flood flows will need to be considered in terms of the attenuation storage requirements of the site and placement of the outfalls. Development at this site should not increase flood risk either on or off site. 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 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 clean improve water quality of surface water runoff discharged from the site and reduce the impact on receiving water bodies. Opportunities to incorporate source control techniques such as green roofs, permeable surfaces and rainwater harvesting must be considered in the design of the site. 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. Developers should seek to discharge surface water at greenfield rates. Where this is not possible, a significant reduction in current brownfield runoff rates should be achieved 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.

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	Surface water flood mapping indicates the presence of surface water flow paths during the 0.1% AEP event plus climate change. Existing flow paths should be retained and integrated with blue-green infrastructure and public open space. If it is proposed to discharge runoff to the 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.
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, amenity and biodiversity. This could provide wider sustainability benefits to the site. Proposals to use SuDS techniques should be discussed with relevant stakeholders (LPA, LLFA and EA) at an early stage to understand possible constraints. • Due to the size of the site, there is likely to be limited space for green infrastructure. It is recommended that areas of hard paving are designed to ensure that flood water can be stored during a flood event alongside the use of green features such as rain gardens and tree pits.
	NPPF and planning implications
Exception Test requirements **(LA considerations)**	Unless the development proposals include only 'Less Vulnerable' uses, 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 site lies within Flood Zone 3, therefore, dependent on the proposed land use, the Exception Test is required for the site (see table 2 of the Planning Practice Guidance for further details) The Exception Test is needed if: • 'More Vulnerable' and 'Essential Infrastructure' development is located within Flood Zone 3a and 'Highly Vulnerable' development is located within Flood Zone 2. • 'Highly Vulnerable' infrastructure should not be permitted within Flood Zone 3a and Flood Zone 3b. • 'More Vulnerable' and 'Less Vulnerable' infrastructure should not be permitted within Flood Zone 3b. • The site is located in an area at high risk of surface water flooding. The development of a Local Adaptation and Resilience plan for Weymouth is recommended, considering the updated PPG, development of Nature Recovery Networks, requirements for Biodiversity net gain in development and to demonstrate that the development and use of land in the local planning authority's area contribute to the mitigation of, and adaptation to, climate change. To satisfy the exception test, development of this site would need to be compliant with the findings of the Local Adaptation and Resilience Plan. Land that needs to be safeguarded against future development to enable the construction of the proposed flood defences will be identified within the Outline Business Case.
Requirements and guidance for site-	**Flood Risk Assessment:**

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Current land use	Entertainment, parking and disused ferry terminal (brownfield).
Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
specific Flood Risk Assessment **(Developer considerations)**	• At the planning application stage, a site-specific Flood Risk Assessment will be required for this site as it exceeds one hectare in size, lies within Flood Zone 3 and is at increased flood risk in future. • All sources of flooding, particularly the risk of tidal, fluvial and surface water flooding should be considered as part of a site-specific flood risk assessment. • Development type and design should be carefully considered, residential development should be avoided on this site as it is considered 'More Vulnerable' infrastructure, unless appropriate arrangements can be put in place to secure safe access and egress, or emergency plan provisions address matters affecting vulnerability of residents. • The site should be considered for 'Less Vulnerable' or 'Water Compatible Development' as much of the site lies within Flood Zone 3 and 'More Vulnerable' development cannot be steered to areas of lower risk. • The site-specific FRA should be carried out in line with the National Planning Policy Framework; Flood Risk and Coastal Change Planning Practice Guidance. • Consultation with the Local Authority and the Lead Local Flood Authority (both being Dorset Council) should be undertaken at an early stage. • • The Outline Business Case for the future flood defences should be consulted to understand what land is safeguarded against future development to support the construction of the defences. **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). • Arrangements for safe access and egress will need to be provided during the design flood event (defined as river or surface water flooding likely to occur with a 1% annual flood probability plus an appropriate allowance for climate change or tidal flooding with a 0.5% annual flood probability plus an appropriate allowance for climate change). The depth, velocity and hazard outputs can be used to support this. Designs and access and egress arrangements will need to incorporate measures so development and occupants are safe. • Provisions for safe access and egress must not impact on surface water flow routes or contribute to loss of floodplain storage. Consideration should be given to the siting of access points with respect to areas of surface water flood risk. Due to the significant flood risk posed to the site, a site-specific flood risk assessment may need to show that appropriate evacuation procedures and flood response infrastructure are in place to manage the residual risk associated with an extreme flood event. • Flood resilience and resistance measures should be implemented wherever appropriate during the construction phase, e.g. use of boundary walls and raising of floor levels to a minimum of whichever is higher of 300mm above the: ○ average ground level of the site; ○ adjacent road level to the building; ○ estimated design flood level. • Flood resilience measures should be tested to ensure they do not increase flood risk elsewhere. • 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

	Dorset Council **L2 SFRA - Detailed Site Summary Tables**
	Site details
Site Code	**WEY6**
Address	Ferry Peninsula, Weymouth
Area	5.0 hectares
Current land use	Entertainment, parking and disused ferry terminal (brownfield).
Proposed land use	Leisure/tourist-related uses, complementary town centre uses which may include residential, parking.
	drainage strategy should help inform site layout and design to ensure there is no increase in runoff beyond current greenfield rates. • As the site is brownfield, developers should seek to discharge surface water at greenfield rates. Where this is not possible, a significant reduction in current brownfield runoff rates should be achieved in consultation with the LLFA. • Developers should refer to: Dorset Level 1 SFRA, Dorset Level 2 SFRA, Dorset Council's National and Local List of Requirements for Planning Applications.