

FLOOD RISK ASSESSMENT:

Bognor Regis Pier, Bognor Regis, West Sussex, PO21 1SY

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Flood Risk Assessment (FRA)

Site: Existing storage unit, Bognor Regis Pier, Bognor Regis, West Sussex, **PO21 1SY**

Proposal: Internal conversion to **café/sauna** (no enlargement of building or hardstanding)

LPA: Arun District Council (ADC)

1. Executive summary

- The site lies on an existing **pier structure on the open coast** at Bognor Regis. On the Environment Agency (EA) **Flood Map for Planning**, the pier frontage is within **Flood Zone 3 (High Probability)** when assessed **ignoring the benefit of defences** (coastal/tidal source). [Defra Data Services](#)
- The development is a **change of use within an existing envelope** with **no increase in built footprint, ground raising, or new obstructions to flood flows**. The **impact on flood risk is negligible** and there is **no increased flood risk elsewhere**.
- The use falls within **“More Vulnerable”** (restaurants/café; assembly and leisure) per NPPF Annex 3, which is **compatible in Flood Zone 3a subject to the Exception Test**; it is **not compatible in Zone 3b**. The site is a fixed pier structure on the open coast and functions outside of a fluvial floodplain; it should therefore be treated as **Zone 3a (tidal)** for compatibility purposes. [GOV.UK+1](#)
- Safe management relies on a **robust Flood Emergency Plan (FEP)**, **no sleeping accommodation, finished floor levels and thresholds resilient to wave splash, resilient construction, and rapid closure procedures** under EA/Met Office warnings.
- With these measures, the café/sauna can be made **safe for its lifetime** without increasing flood risk elsewhere and **meets NPPF and PPG** on flood risk and coastal change. [GOV.UK](#)

2. Site & proposal

- **Location:** Bognor Regis Pier extends south from The Esplanade into the English Channel. Postcode **PO21 1SY**.
- **Existing:** Single-storey storage unit on the pier deck, set above beach level on a piled superstructure.
- **Proposed:** Internal fit-out to create a **small café and sauna** with plant, WCs, and ancillary storage. **No extension, no external wall realignment, no change to pier substructure, no new impermeable land take.**

3. Planning policy context

- **NPPF & PPG (Flood risk & coastal change):** Requires Sequential/Exception Tests where relevant and FRAs to demonstrate developments are safe for their lifetime, taking climate change into account and **not increasing risk elsewhere**. [GOV.UK](#)
- **Vulnerability & compatibility:** Restaurants/café and assembly/leisure are **“More Vulnerable”** uses (Annex 3). In **Zone 3a** they are **appropriate only if the Exception Test is passed**; **not permitted in Zone 3b**. [GOV.UK+1](#)

- **Local policy (Arun DC):** Local guidance emphasises applying Sequential/Exception Tests, climate change allowances, and use of SuDS where feasible. Coastal strategy and SMP policies apply along this frontage. [Arun District Council+2Arun District Council+2](#)

4. Sources of flood risk

4.1 Tidal/coastal (principal risk)

- The frontage is **open coast**; the EA Flood Map places it in **Flood Zone 3** ignoring defences. Coastal hazards include **extreme sea levels, storm surge, wave run-up/splash**, and **overtopping** during severe storms. [Defra Data Services](#)

4.2 Surface water (pluvial)

- On-pier buildings have **minimal catchment** and drain to the marine environment; surface water ponding risk is **low** compared with tidal hazards. Long-term flood risk tools identify surface water as a separate layer to be checked, but on-pier risk is typically limited to **roof drainage surcharge** in intense events. [GOV.UK](#)

4.3 Groundwater, fluvial, reservoirs

- **Groundwater** and **fluvial** risks are **not applicable** to a marine pier structure. **Reservoir** risk to the locality is mapped nationally but is **not a design driver** for this site. [GOV.UK](#)

5. Sequential & Exception Tests

- **Sequential Test:** In general, town-centre seafront uses with a **locational need or functional relationship to the coast/tourism** may justify location where alternatives are not reasonable. The proposal is **conversion of an existing coastal pier unit**, so there is **no realistic sequentially preferable alternative** that achieves the same function within the site.
- **Exception Test:**
 1. **Wider sustainability benefits:** Supports **seafront economy**, activates the pier, and repurposes an underused unit.
 2. **Safety:** Section 8 sets out measures ensuring the development is **safe for its lifetime, resilient**, and **does not increase risk elsewhere**.
On this basis the Exception Test can be **passed** (subject to LPA agreement), consistent with **PPG/NPPF**. [GOV.UK](#)

6. Climate change allowances & lifetime

- **Design life:** 25–40 years typical for a small commercial fit-out; structural elements of the pier are maintained under separate regimes.
- **Allowances:** FRAs must consider **sea level rise, peak rainfall intensity** (for roof drainage), and **wave climate** over the lifetime, using current **EA climate change allowances** (sea level rise; peak rainfall +20% to +40% depending on lifetime). [GOV.UK+1](#)

- Management measures (Section 8) respond to **periodic overtopping/splash** during extreme events over the lifetime.

7. Flood hazards at the site

- **Mechanisms:** Extreme tide/surge with **wave overtopping** and **wind-blown spray**.
- **Consequence:** Temporary **inundation of the deck** and **ingress to the unit** during severe coastal events. Depths on the pier deck are **transient** and dominated by wave action rather than still-water ponding.
- **Residual risks:** Failure or damage to defences elsewhere causing raised water levels; blockage of door thresholds; failure to enact closure plan. National tools and local strategy confirm the frontage is actively managed under **SMP “Hold the Line”/coastal strategies** along much of the Bognor/Aldwick frontage. [GOV.UK+1](#)

8. Mitigation, resilience, and safe access/egress

8.1 Building/fit-out (resistance & resilience)

- **No change to structural footprint** or pier substructure (negligible hydraulic impact).
- **External openings:**
 - Primary entrance thresholds set **≥100 mm above pier deck** where practicable.
 - **Demountable flood barriers** to external doors (quick-fit channels stored on site).
- **Internal specification:**
 - **Water-resistant finishes** to **~600–900 mm** above floor (cementitious render, ceramic or marine-grade finishes).
 - **Closed-cell insulation, marine-grade stainless steel fixings.**
 - **Raised services:** electrical outlets, distribution boards, and key plant **≥600 mm** above FFL; use **IP-rated** equipment in lower zones.
 - **Sacrificial joinery** below 300 mm; **non-return valves** on any wastewater connections.
- **Doors & glazing:** Robust frames; laminated safety glazing; sealant details to resist driven spray.

8.2 Drainage & SuDS

- Impermeable area **unchanged**; runoff goes to the **marine environment** via existing drainage.
- Provide **roof downpipe leaf guards, inspection access**, and **non-return air admittance** to limit blow-back.
- ADC confirms SuDS can be acceptable in tidal areas where risks are isolated; on a pier, conventional SuDS are generally **not applicable**, but the principle of **attenuation-on-structure** isn't required because **runoff volume is unchanged** and there is **no land drainage receptor**. [Arun District Council](#)

8.3 Flood Emergency Plan (FEP)

- **Warning & triggers:**

- Register to receive **EA Flood Alerts/Warnings** and monitor **Met Office severe weather**; designate **triggers** for **pre-closure** (e.g., EA “Flood Warning” for the coastal cell, or pier owner’s storm protocol). [GOV.UK](#)
- **Operational response:**
 - **Shut and secure** premises under warning; **demount barriers**; isolate **non-essential power**; move stock/equipment above **600 mm**.
 - **No sleeping accommodation**; customers/staff **evacuate via the pier walkway** directly to **The Esplanade** well in advance of peak conditions.
- **Routing & refuge:**
 - The safe route is **landward along the pier** (wide, level, hand-railed), then onto **The Esplanade**; **no reliance on emergency services** for routine evacuation.
- **Training & drills:** Staff induction and **annual exercises**; log of **barrier deployment times**; laminated **grab sheets**.

8.4 Management & maintenance

- **Barrier & seal kit** kept on-site; **quarterly inspection** schedule.
- **Backflow valves** and drain gullies **inspected pre-winter** and after named storms.
- **Post-event:** clean-down protocol with **rapid re-commissioning checklist** (electrics, gas, vapour seals).

9. Residual risk & emergency planning

- **Wave splash/overtopping** during exceptional storms can exceed barrier heights; hence reliance on **timely closure** rather than “stay-open” during events.
- **Utilities isolation** included in FEP; **plant mounted high** to minimise loss.
- Participation in EA **warning services** and ADC **coastal operations notifications** reduces residual risk. [GOV.UK+1](#)

10. Impact on flood risk elsewhere

- **No increase in building footprint, no change to pier structure, no ground raising, no change to floodplain storage or flow routes.**
- Surface water runoff **unchanged**; foul flows remain **de minimis** and controlled via existing connections with **backflow protection**.
- Therefore the scheme **does not increase flood risk elsewhere** (meets NPPF policy tests). [GOV.UK](#)

11. Conclusions

- The site is within **EA Flood Zone 3 (tidal)**; risks are **coastal/wave-driven**. [Defra Data Services](#)
- The proposal is a **conversion only** with **negligible physical impact** on flood hydraulics.
- With the specified **resilience measures, warning-led operational plan, and no sleeping use**, the development can be made **safe for its lifetime, does not increase risk elsewhere, and accords with NPPF/PPG and ADC guidance**. [GOV.UK+1](#)