

Flood Risk Assessment

(commensurate with scale and stage of scheme)

NPPF 2019 & PPG 2018 compliant

Village Hall Replacement

Same size footprint

No change to site operations or sensitivity

**Results in modern, better protected and
flood future-proofed community building
than is existing**

at:

**The Glebe Field, Village Hall,
St Mary in the Marsh, Romney Marsh, Kent,
TN29 0BX**

April 2019

ARK Ltd

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1.0 Scope

This report contains the details of a Flood Risk Assessment carried out by Ark Environmental Consultancy Limited (“ARK Ltd”) for The Glebe Field, Village Hall, St Mary in the Marsh, Romney Marsh, Kent, TN29 0BX, henceforth referred to as “the site” in this report.

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Please note this report does not purport to provide definitive legal advice nor can it be used to demonstrate that the site will never flood in the future. The Executive Summary contains an overview of key findings and conclusions. However, no reliance should be placed on the Executive Summary until the whole of the report has been read. Other sections of the report may contain information which puts into context the findings noted within the Executive Summary.

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2.0 Executive Summary

This FRA has been carried out in accordance with the National Planning Policy Framework (NPPF) 2019 & NPPG. It is to be used to assist the Local Planning Authority (LPA) and Environment Agency (EA) when considering the flooding issues of the proposed development as part of a planning application.

- **Tidal Defended large floodplain: drained marshland**
 - No flood compensation required
 - Scheme is NPPF/PPG “Less Vulnerable”
 - Scheme does not need to pass the Exception Test
 - No habitable areas
- **Results in better flood future-proofed village hall than existing**
- **Reduction in flood risk overall achieved by the scheme**
- No formal SUDS considered necessary given the scale and sensitivity of the scheme

Based on the likely flooding risk and small scale of the proposed development, it is considered that the proposed development can be constructed and operated safely in flood risk terms, without increasing flood risk elsewhere; it is therefore considered appropriate development in accordance with the NPPF/PPG.

3.0 Introduction

The FRA combined a desktop study, review of available information, consultations and an assessment of all sources of flooding posed to and from the site and proposed development, in accordance with National Planning Policy Framework (NPPF). Appropriate flood mitigation measures were then considered, either as already incorporated within the scheme or recommended for inclusion at detailed design stage. The suitability of the proposed development was also reviewed in the context of the NPPF and the technical guidance accompanying the NPPF.

4.0 Purpose of the Report

This FRA has been carried out in accordance with National Planning Policy Framework (NPPF). It is to be used to assist the Local Planning Authority (LPA) and Environment Agency (EA) when considering the flooding issues of the proposed development as part of a planning application.

The report provides the following information:

- An assessment of the flood risk posed to the site based on flood information and mapping provide by the EA and Strategic Flood Risk Assessment (SFRA);
- An assessment of the proposed development in terms of surface water run-off; and
- Proposals for measures to mitigate the flood risks posed to and from the development where appropriate.

5.0 Report Information Sources

The information source used to undertake this FRA has been collected from the following sources:

- British Geological Survey Website & iGeology App
- EA Website & Data
- Folkestone and Hythe Council (F&HC) Strategic Flood Risk Assessment (as updated);
- F&HC Preliminary (Surface Water) Flood Risk Assessment
- Kent County Council (KCC) as the Lead Local Flood Authority (LLFA) SUDS Policies and Guidance as applicable
- Internet mapping and searches.

6.0 Consultation

The EA have been consulted; the report follows the recommendations of previously approved similar reports for F&HC.

7.0 Overview of British Legislation

7.1 National Planning Policy

Note: where this report references NPPF 2019, this also covers PPG 2018.

The National Planning Policy Framework (NPPF) and PPG supercede all Planning Policy Statements (PPS's) and remaining Planning Policy Guidance (PPG's). Flood risk is retained as a key development consideration. The Sequential and Exception Tests are retained as part of the NPPF. The accompanying NPPF Technical Guidance also includes Tables 2 and 3 to assist with flood risk vulnerability classifications and development suitability.

Govt SUDS Guidance and new Climate Change allowances compliant.

7.2 Local Policy

Local Authorities (as amended) consider flood risk through relevant environmental and climate change policies which enforce the requirements of the NPPF and PPG.

The Strategic Flood Risk Assessment (SFRA) and Preliminary Flood Risk Assessment (PFRA) are key sources of flood risk specific information for the area. These provides a more detailed review of flood risks and recommendations for ensuring developments can be constructed and operated safely in accordance with the NPPF. Greater detail is provided in the report where appropriate.

Key policies for F&HC

- SFRA
 - FRA to demonstrate no risks posed to or from the scheme (NPPF compliance)
 - Appropriate evacuation in different flood scenarios (standard EA requirement)

8.0 Site Status and Environmental Setting

8.1 Site Location and Status

The site is defined by the existing village hall footprint. The site is in tidal FZ3 defended. See Appendix A for Location.

8.2 Current Site Description

The following description is based on information made available from internet mapping and aerial photography.

The site is currently a village hall.

The site is in an area which is a drained marshland enabled by a series of heavily managed drainage networks which have enabled agriculture on the reclaimed land.

8.2b Topographic Survey: not required

The exact site levels are not relevant for this scheme because the scheme does not need to have any raised floor levels and the flood levels are not relevant for the scheme: the operation of the site is not in questions.

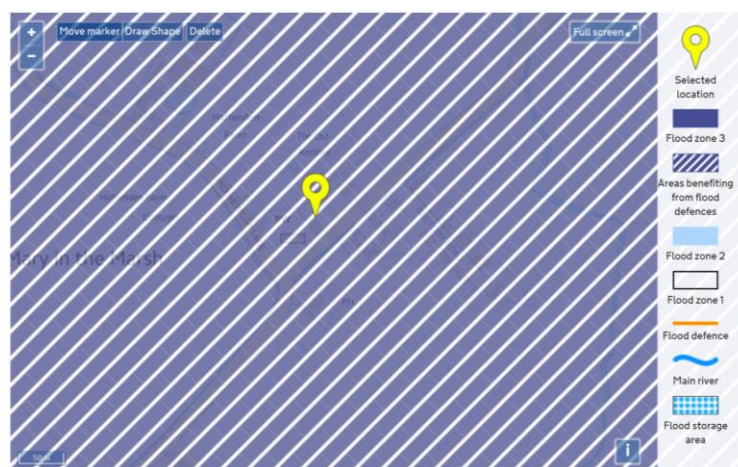
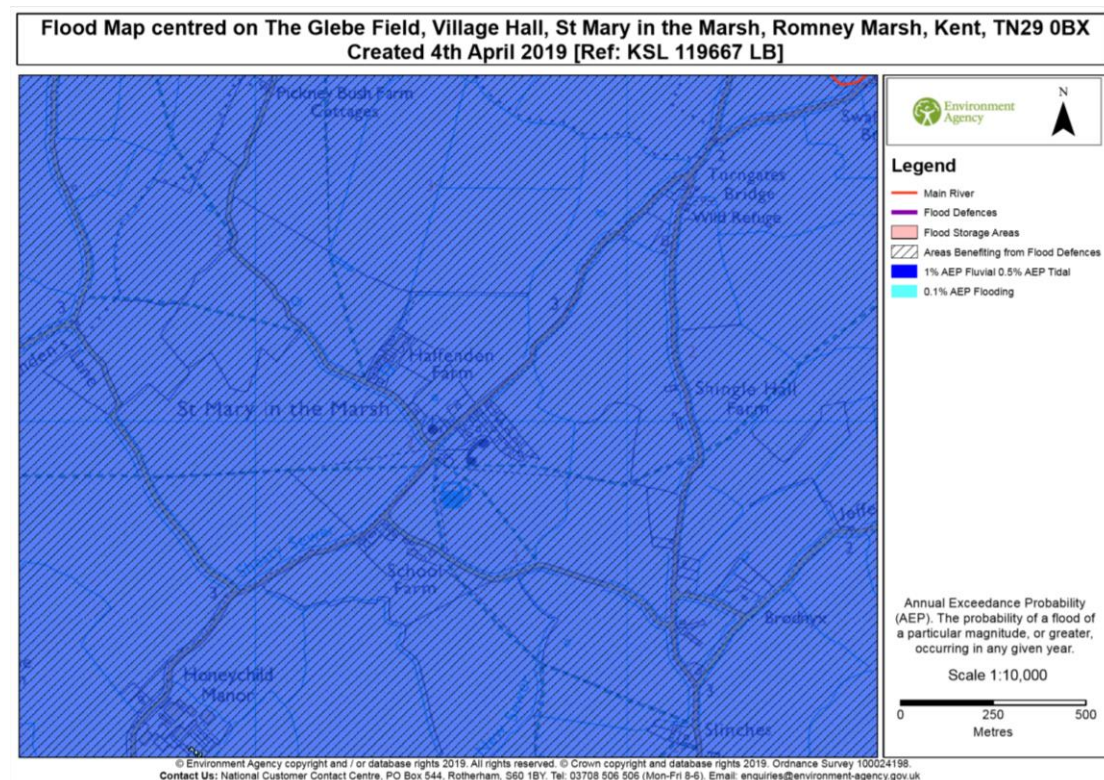
If there is an objection from the EA on the grounds of no topographic survey, it is assumed they have not read this report or understood the flood setting on the scheme.

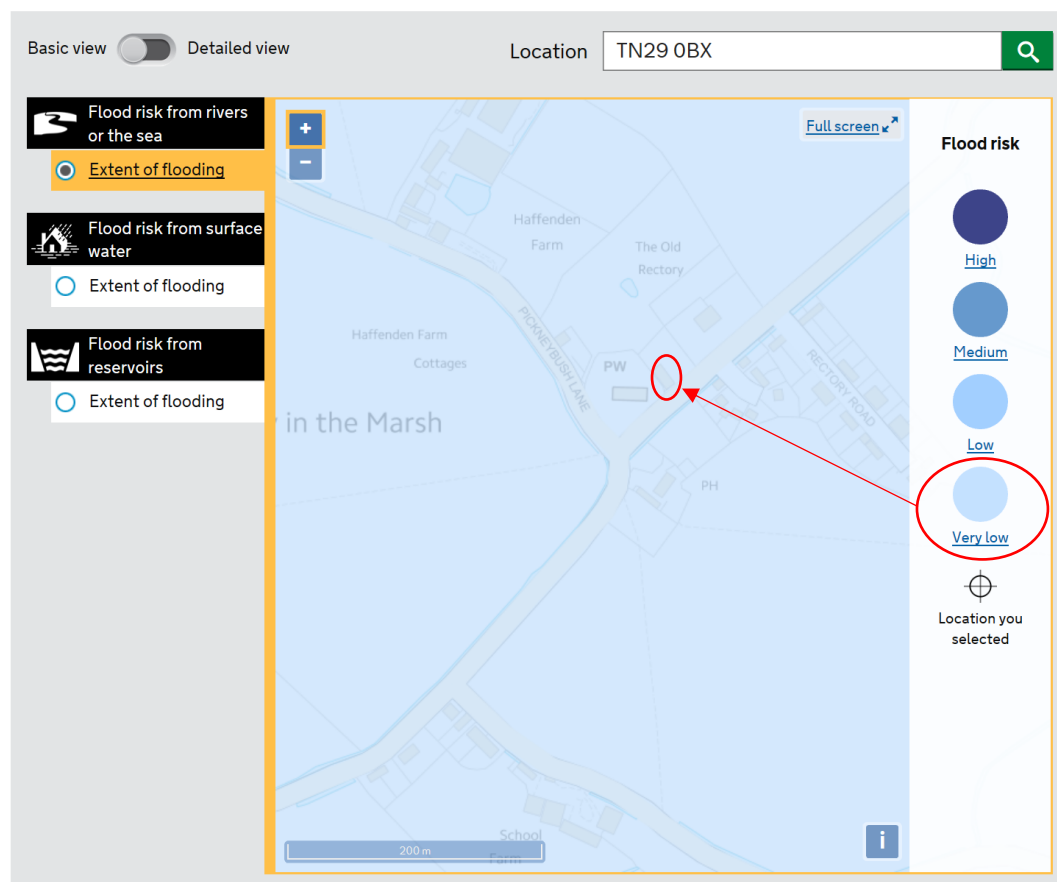
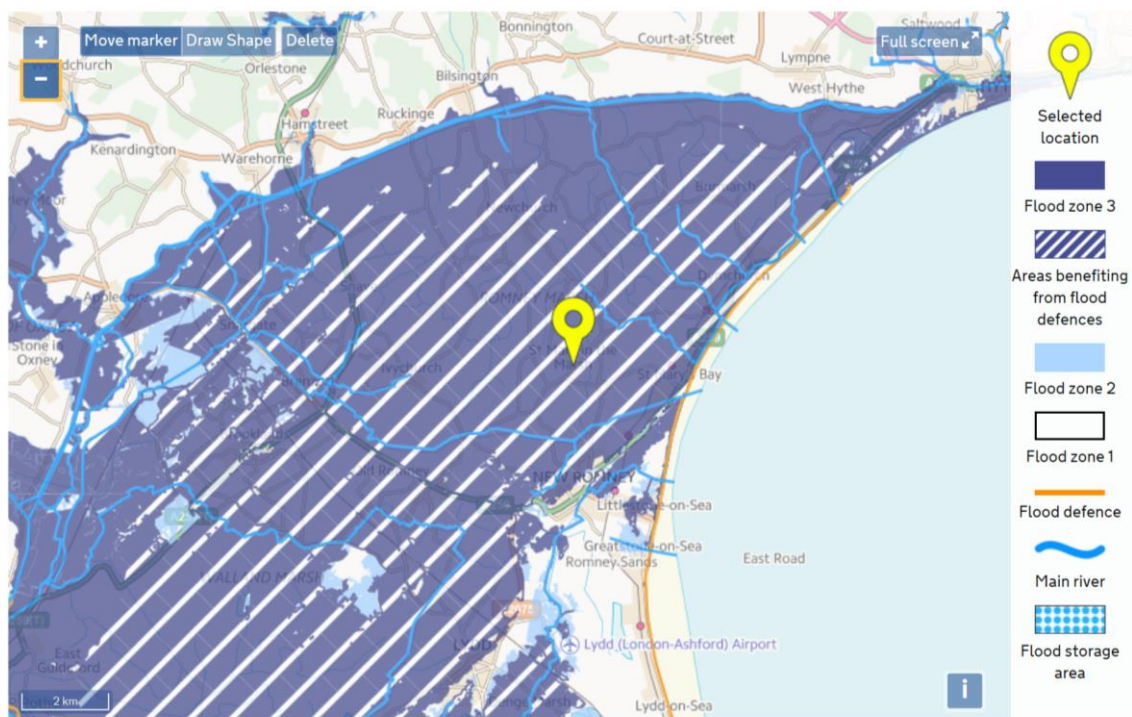
The Village Hall should not have to pay for a survey that is not necessary.

8.3 Existing Flood Risk

Flood Sources	Site Status	Comment on flood risk posed to / from the development
Fluvial / Tidal	Site is in Tidal FZ3 defended: large marshland floodplain Access & egress in low hazard LOW risk	No need to pass the Exception Test No flood compensation required No habitable areas Low risk Scheme is appropriate replacement building New modern flood resilience / resistance
Groundwater	SFRA mapping indicates site not in area of groundwater flooding.	The proposed development will not increase the risk of groundwater flooding Low Risk

Artificial Sources	No artificial sources within 250m	Low Risk
Surface Water / Sewer Flooding	Site is located within a surface water risk zone ACCESS & EGRESS IS IN NO - LOW HAZARD Condition, depth and location of surrounding infrastructure uncertain	New modern flood resilience / resistance Development will utilise existing connection to sewers, gravity drainage and non-return valves Development will not increase the peak flow or volume of discharge from the site: Low Risk: No further drainage assessment required as part of the FRA
Climate Change & new allowances	Included in the flood modelling extents Site not within climate change flood extent area	Development will not significantly increase the peak flow and volume of discharge from the site Low risk posed to and from the development





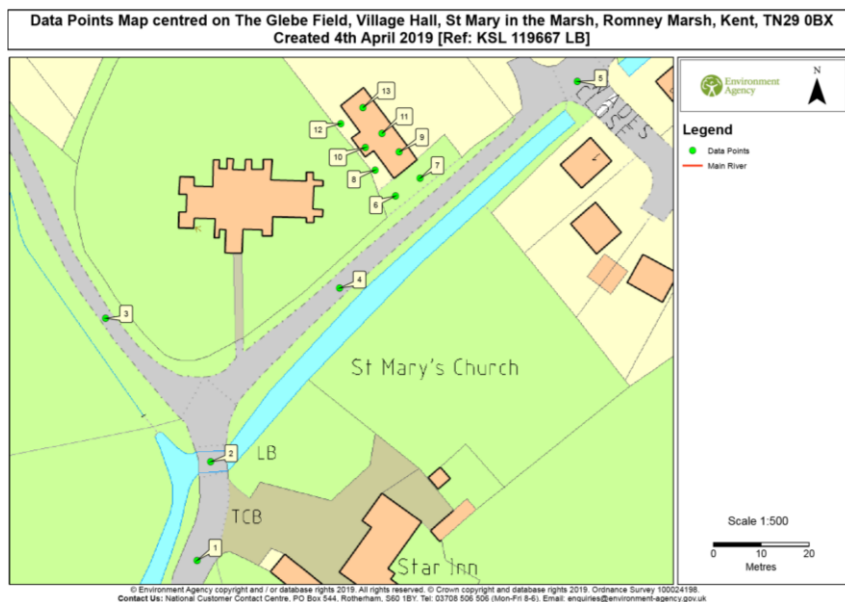
Tidal Flood Source:

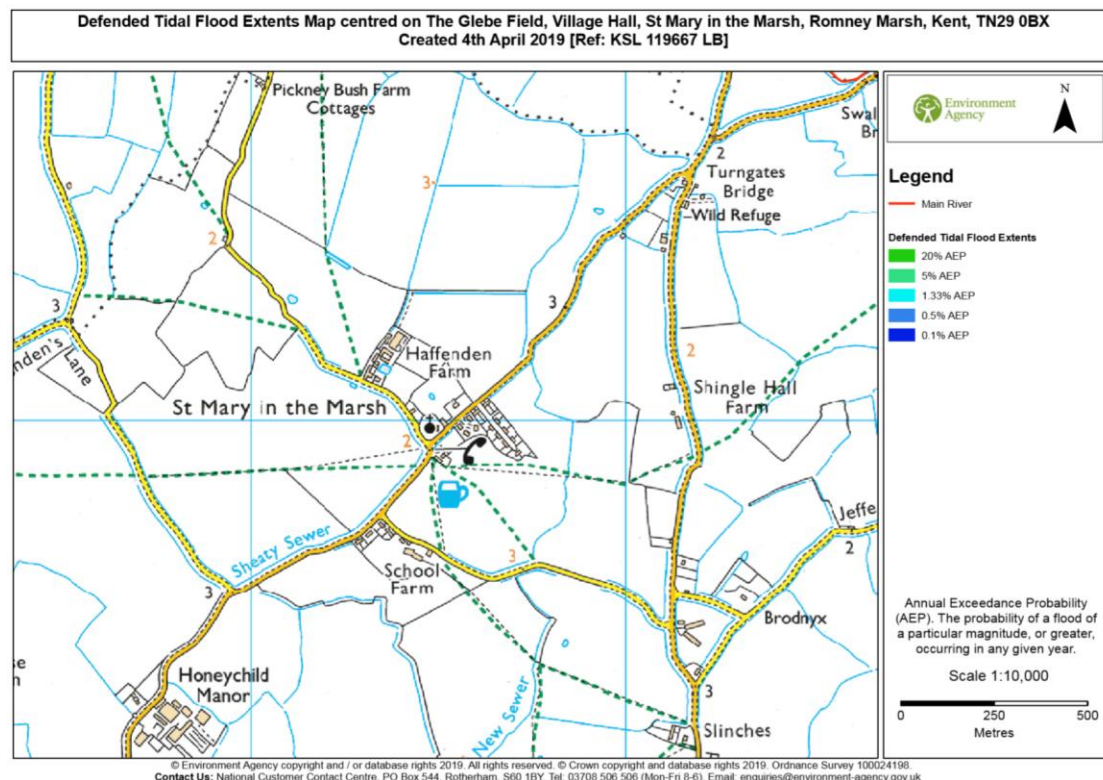
Mechanism: overtopping and surcharging due to tidal surcharge and capacity of drainage network.

The SFRA does not indicate any other sources of flooding posed to the site.

8.4 EA 2019 Tidal Modelled Flood Data

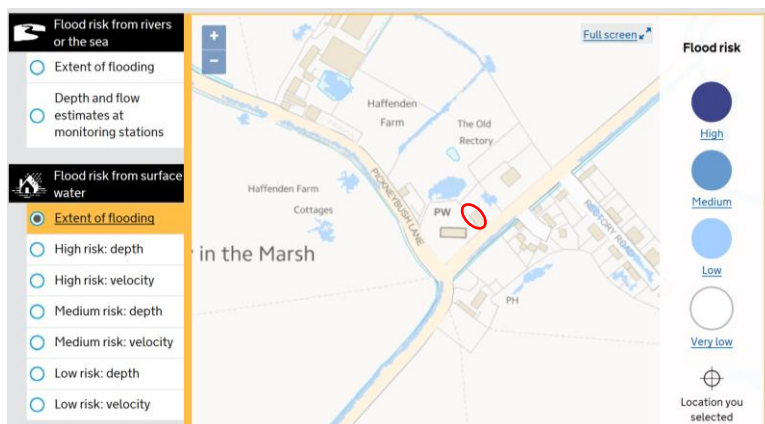
- Site is in EA's VERY LOW FLOOD RISK area
- Site is in area defended til the 1in1000year
- Site is within the undefended flood scenarios
- There are flood levels for the site, but these are not relevant for the replacement scheme
 - **Site is dry even in the 1in1000year defended**
 - No raising of floor levels required
 - Precautionary raise of flood resilient measures to 600mm above ground level





8.5 EA 2019 Surface Water Hazard Mapping

- Site is in NO hazard in all of the EA's surface water flood scenarios
- Access & Egress are always in NO hazard
- Refer to mapping extract below:



9.0 Assessment of Proposed Development

9.1 Proposed Development

The proposed development can be seen in Appendix B.

The proposed development comprises:

- Scheme is a replacement village hall
- No change to site operations or sensitivity
- No flood compensation required

REDUCES FLOOD RISK OVERALL:

- **Flood resilient measures hence better modern flood future-proofed building than existing**
- Non-return valves for existing / new drainage connections as required

Given the flood hazard setting and tidal risk, raised floor levels are not considered necessary.

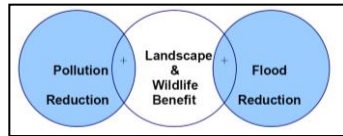
Drainage

- Use existing or seek approval for new connections to sewer (separate)
- To meet standard policy:
 - Non-return valves on all new units / connections if new elements are added

9.1b SUDS Hierarchy Check

Concept SUDS Strategy

The following diagram indicates the philosophy behind the proposed SUDS strategy, and is taken from the EA's SUDS guidance:



(Source: Environment Agency, 2009)

The Table below indicates the SUDS Hierarchy Appraisal for the site and proposed development:

Site Specific SUDS Appraisal

SUDS Hierarchy	SUDS Technique	Potential Benefits			Site Specific	
		Flood Reduction	Pollution Reduction	Landscape & Wildlife Benefit	?	Scheme Specific SUDS Suitability Appraisal and Comment
↑ ↓ Most Sustainable Least Sustainable	Living Roofs	•	•	•	X	Not required as site is defined by existing and proposed footprint; also not likely feasible given lightweight structure proposed. Not commensurate with nature, scale and sensitivity of the scheme
	Ponds / Basins	•	•	•	X	Not required as site is defined by existing and proposed footprint
	Swales	•	•	•	X	Not required as site is defined by existing and proposed footprint
	Infiltration Techniques	•	•		X	Not required as site is defined by existing and proposed footprint
	Permeable Surfaces / underground storage	•	•		X	Not required as site is defined by existing and proposed footprint
	Tanked Systems	•			X	Not required as site is defined by existing and proposed footprint

Key:

Potentially suitable at the site: *

Incorporated in the scheme: ✓

Not suitable / possible at the site: X

9.2 Flood Resilience

As per previous correspondence with planning officers and as agreed:

The FRA provides the recommended resilient measures that can be incorporated, it will depend on the construction team / specification of building as to what construction will actually need to be undertaken and what materials are used exactly. This does not invalidate the point and recommendations of this FRA. The FRA cannot simply specify the exact measures that need to be changed; they are not required of planning.

The proposed development will utilize the flood resilient techniques recommended in the NPPF Technical Guidance where appropriate and also the recommendations that have previously been issued by various local authorities.

The following are to be applied / used:

- Non-return valves as standard for ground floor
- Any waterproofing to be installed above ground level as appropriate
- Any plasterboards will be installed in horizontal sheets on ground & basement rather than conventional vertical installation methods to minimise the amount of plasterboard that could be damaged in a flood event
- Wall sockets will be raised to as high as is feasible and practicable in order to minimise damage if flood waters inundate the property
- Any wood fixings on ground floor will be robust and/or protected by suitable coatings in order to minimise damage during a flood event
- Any airbricks (unlikely to be used) will be raised to as high as is feasible and practicable
- Ideally electrics to be installed top to down
- Ideally any boilers / electric units to be installed as high as is feasible
- The Damp Proof Membrane / waterproofing will be installed above the main floor slab and tied in to the walls where appropriate, to reduce the turnaround time for returning the property to full operation after a flood event
- Storage of water sensitive materials to be sensibly as high up as is feasible

9.3 Refuge and Evacuation

The scheme is in EA FZ3 tidal defended and EA “Very Low Risk” from all sources; the identified surface water hazard has been addressed by design; Low risk from all other sources: no further assessment required.

Likely evacuation route: north to Westthorne / Hamstreet as closest urban areas fully out of floodplain / in FZ1 or south to New Romney to higher ground in FZ1 (but surrounded by FZ3).

9.4 Annual Monitoring

It is recommended that future site users should contact the EA on an annual basis to confirm the flood status of the property.

If the flood status has changed, the evacuation and refuge plan should be reviewed and updated by suitable flood risk consultants as appropriate.

9.5 Surface Water Runoff – Flood Risk from the Development

In accordance with the NPPF, this FRA also considers the risks posed from the development to surrounding areas.

Given there will be no significant increase in impermeable areas and the SUDS feasible it is considered there will be no significant increase in discharge from the site; the proposed development will also continue to use existing / have new connections to the existing sewers.

The proposals will incorporate new low-water demand devices where necessary and such that there is not likely to be an increase in peak flows or volume of flows.

Given the small scale of the proposed development it is considered likely that the development will have no impact on surrounding infrastructure. There will not be any significant increase in overland flow from the site.

9.6 Climate Change: including new allowances (Feb 2016)

The impact of climate change in accordance with the NPPF is likely to be an increase in the rainfall intensity in the future, which will increase peak storm flows to sewer. The proposed development will incorporate low flush and reduced water demand showers and toilets, such that the combined flows to sewer are likely to have a negligible impact. It is considered therefore that flows in the future are not likely to have a significant impact, even with an allowance for climate change.

9.7 Flood Risk Vulnerability

According to the NPPF/PPG retained Flood Risk Vulnerability Classification, the scheme would continue to be classified as “Less Vulnerable.”

The NPPF also retained Flood Risk Vulnerability and Flood Zone “Compatibility” Classification; this states that a “Less Vulnerable” development in Flood Zone 3 is appropriate without the need to pass the Exception Test.

Based on the data reviewed to date, the flood risk assessment recommends the property could be constructed and operated safely in flood risk terms without increasing flood risk elsewhere and is therefore NPPF/PPG compliant.

10.0 Conclusion

The site is considered to be generally at a low risk from all sources of flooding except the potential future residual surface water hazard.

The proposed development remains categorised as “Less Vulnerable” in accordance with the NPPF; it therefore continues to be an appropriate type of development within Flood Zone 3 tidal defended.

- Site is in FZ3 Tidal defended to the 1in1000year
 - In EA “Very Low” flood risk area
- No change to site operations or sensitivity
- REDUCES FLOOD RISK OVERALL
 - New modern flood resilience / resistance

The proposed scheme does not change the operation or sensitivity at the site and can incorporate suitable flood resilient measures and safe evacuation is feasible.

Based on the likely flooding risk, it is considered that the proposed development can be constructed and operated safely in flood risk terms, without increasing flood risk elsewhere and is therefore appropriate development in accordance with the NPPF/PPG.

11.0 Appendices

- A. Location and Existing Layout
- B. Proposed Plans

Appendices A & B