APPENDIX C
FRA Pro-forma
Flood risk assessment for new development

This pro-forma should be completed and submitted with the planning application for developments for which a Flood Risk Assessment (FRA) is required. Guidance notes are provided at the end of this form to help you complete it. Your planning authority and the Environment Agency will be able to advise you on the detailed scope of the FRA and their guidance should be sought prior to completing the pro-forma.

1 Development description and location

1a. What type of development is proposed and where will it be located?

A housing development of 20 dwellings as shown on the accompanying plans. The site is bounded by the A61 to the east, Westwood New Road to the west and Glebe Court and properties on Fenn Road to the north. It is currently 'greenfield' with last use as horse pasture and stabling.

1b. What is its vulnerability classification?

PPS25 table D.2: Flood Risk Vulnerability classification: "More Vulnerable"

1c. Is the proposed development consistent with the Local Development Documents?

Yes.

1d. Please provide evidence that the Sequential Test or Exception Test has been applied in the selection of this site for this development type?

The proposals are located in Flood Zone 1 – annual probability of flooding less than 1:1000. PPS25 does not require that Sequential Test is applied. The proposed use is consistent with surrounding residential uses. Refer to accompanying Drainage Statement.

2. Definition of the flood hazard

2a. What sources of flooding could affect the site? (see Annex C PPS25).

Fluvial Flooding: The Environment Agency website has been interrogated. The development site is not within or proximate to any watercourse and is substantially elevated from local landforms and roads. There is therefore minimal risk of fluvial flooding to the site. This is the case for both the undefended 1% annual exceedance probability (AEP) and 0.1% AEP flood events including the impacts of climate change. The site is not at risk of flooding from reservoirs or sea.

Surface water flooding: there is no risk of overland surface water flooding to the site from off-site sources because the site is elevated from land and roads on all sides. The surrounding levels generally falling in a northerly direction. The site will be no more vulnerable in its post development condition.

Sewer flooding: Off-site sewers are all situated at lower level and so cannot affect the site. Localised flooding can occur if site sewers are overwhelmed by heavy rainfall or if they fail or become blocked.

Groundwater flooding; Based on site inspection, the site falls significantly to the north, is elevated from surrounding land on all sides, and there is no evidence of waterlogging on site. The risk of groundwater flooding is therefore considered to be minimal.

2b. For each identified source, describe how flooding would occur, with reference to any historic records wherever these are available.

According to consultees there is no history of any flooding affecting the site and there is no evidence that the site will be affected by external flood sources.

2c. What are the existing surface water drainage arrangements for the site?

Discharge to adopted surface water sewer in Thorncliff Road or combined sewer in Fenn Road in agreement with Yorkshire Water.

3. Probability

3a Which flood zone is the site within?

The site is within flood zone 1.

3b If there is a Strategic Flood Risk Assessment covering this site, what does it show?

There is no Strategic Flood Risk Assessment covering this site. However, the site falls within the Barnsley Preliminary Flood Risk Assessment Report (July 2011). No flood issues are identified.

3c What is the probability of the site flooding taking account of the contents of the SFRA and of any further site-specific assessment?

Minimal.

3d What are the existing rates and volumes of run-off generated by the site?

Refer to accompanying Drainage Statement.

4. Climate change

4a How is flood risk at the site likely to be affected by climate change?

Off-site flood sources will continue not to affect the site because of its elevated location. On-site sewerage will be designed in accordance with building regulations to allow for climate change. Therefore the site will not be affected.

5. Detailed development proposals

5a Please provide details of the development layout, referring to the relevant drawings.

Please refer to the attached drawings.

5b Where appropriate, demonstrate how land-uses most sensitive to flood damage have been placed in areas within the site that are at least risk of flooding.

Not relevant.

6. Flood risk management measures

6a. How will the site be protected from flooding, including the potential impacts of climate change, over the development's lifetime?

There remains a small risk of temporary overland flows from high levels of rainfall that cannot be accommodated within the drainage system or overland flows from failure or blockage of the sewers on site. The site levels should be set to allow overland flow through the site and ground floor levels of buildings should be set above surrounding levels to protect habitable areas. The likelihood of flooding under normal operation depends on the capacity of the local sewerage system. If adopted, sewers are designed not to flood in a 1:30y rainfall event, allowing 30% increase for climate change, and not to affect property in the 1:100y event.

7. Off site impacts

7a How will you ensure that your proposed development and the measures to protect your site from flooding will not increase flood risk elsewhere?

The proposed development has been designed to minimise impermeable area and therefore minimise runoff. Some surface water runoff will be discharged by infiltration if possible. Drainage systems will be designed to cope with storm events in accordance with building regulations. Discharges to surface water and combined sewerage will be limited by attenuation to rates required by Yorkshire Water to minimise potential negative effects on others.

7b How will you prevent run-off from the completed development causing an impact elsewhere?

See above.

8. Residual risks

8a What flood-related risks will remain after you have implemented the measures to protect the site from flooding?

See above. Some minimal risk of overland flows will remain, as exists in the current situation.

8b How, and by whom, will these risks be managed over the lifetime of the development?
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Adequate drainage will be constructed to allow for climate change in accordance with building regulations. Maintenance of the system once installed will be the responsibility of the utilities provider if adopted and site management if not.