Planning Response

Flosh Meadows
Cleator
The Meadows (SR12)
4/22/2092/001

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Client:
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Revision

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COAST
CONSULTING ENGINEERS

1.00 Planning response

1.01 Context

The following text sets out Coast Consulting Engineers formal response to comments received relating to a proposed residential development adjacent to Flosh Meadows, Cleator, dated 12 April 2022. The comments relate to the first phase of the development only, known as SR12 – The Meadows. The initial phase consists of twenty-one self-build units located at the southern end of the wider development.

2.00 LLFA comments

Looking through the information supporting this application the LLFA still have reservations over the evidence and the suitability of the proposed design of the surface water drainage system, the proposals for the existing culverts and the proposal to discharge surface water to a UU combined sewer. In particular we need more information/responses to these following points:

2.01 ***LLFA comment*** *- The current Drainage Strategy states that the ground is not suitable for infiltration but there are no test results provided. At some point the conclusion must have changed from 2014 when an infiltration strategy was proposed, presumably informed by testing. Please provide the BRE365 Infiltration testing to validate the proposed strategy or lack of infiltration potential.*

Coast response – Infiltration testing has been undertaken by Geo Environmental Engineering, report reference GEO2014-952. The testing provided results ranging from 4.1×10^{-6} m/s to 4.8×10^{-6} m/s, indicating that the ground conditions are unsuitable for the use of infiltration techniques.

2.02 ***LLFA comment*** *- If the conclusion / evidence shows that there is no infiltration occurring or is insufficient on the site, please explain how the existing field drains and where does the surface water discharge to? In accordance with best practice, a developed site should discharge to the same location as the pre-development scenario, mimicking the existing arrangement and not creating a new discharge location or putting extra stress or flood risk into an existing feature or area.*

Coast response – The field currently drains via a land drainage network to mill races within the development boundary. The mill races discharge in a southerly direction and outfall from the site to a culvert located below the A5086 public highway adjacent to the southern boundary of the site. It is proposed to divert the existing mill races along the northern and western edge of the site boundary, utilising a combination of swales and pipes to convey flows to the exiting point of outfall. Please refer to Coast Consulting Engineers document reference 1842-DS1.

2.03 ***LLFA comment*** *- There is no evidence that the two culverts running through the site are in fact mill races as claimed, please clarify the source of the culvert water and size / condition and construction of these culverts. Without clear evidence that they are discrete culverts for an off-site purpose, I have to conclude that if the field has poor or no infiltration potential, the existing field surface water must drain to these culverts as there is not other watercourse or receptor on site.*

Coast response – Please refer to Coast Consulting Engineers document reference 1842-DS1 which proves the history and legalities behind the existence of the mill races. It has previously been agreed between the LLFA and United Utilities that the culverts are mill races. Please also refer to the e mail correspondence dated 22nd September 2021 received from Michael Robinson on behalf of the LLFA.

2.04 ***LLFA comment*** *- The LLFA adopted the same policy as the EA regarding culverts - i.e. we have an anti-culvert policy. We cannot condone or support the retention of culverts across a site without suitable and compelling evidence that cannot be 'daylighted' and form an open watercourse. It is acknowledged that these culverts are not on natural alignments and do not run in the valley of the field. A holistic drainage strategy should be able to accommodate the watercourse(s) through the site, as a feature and naturalised, and unless proven otherwise, become the receptor for site surface water, at an attenuated greenfield rate.*

Coast response – Please refer to Coast Consulting Engineers document reference 1842-DS1 which proves the history and legalities behind the existence of the mill races. It is the preference of Lakeland Associates to discharge surface water utilising the hierarchy set out in the current edition of the NPPF. Having ruled out the use of infiltration techniques, it is therefore the preference to discharge surface water to the mill race.
Following concerns raised by Homes England legal team, confirmation has been sought from Baines Wilson LLP, United Utilities and the LLFA regarding the legalities of discharging to the culverts (mill race). All three have concluded that any connection of surface water drainage to the mill race from the development site would be illegal. Furthermore, a number of exercises have been completed to prove that a connection to a nearby surface water network cannot be achieved without the use of a surface water pump. The LLFA deemed that their preference is for surface water to be discharged to the combined sewer network via a gravity feed rather than utilising a pumped connection to the surface water network. United Utilities have also confirmed that their network has the capacity to accept the flows and have subsequently approved a section 104 application on this basis.
It is proposed to divert the existing mill races utilising a combination of swales and pipes.

2.05 ***LLFA comment*** *- If the discrete culvert / land drain (mill race) is demonstrated that it is necessary, then it should not run through private gardens – this will lead to a lack of ownership and maintenance problems in the future. It should run through a protected corridor which needs clearly identified on a plan. A maintenance schedule needs to be included at this stage including an inspection regime for the land drain and ownership established.*

Coast response – It is very disappointing that this comment has not been raised previously, given the implications it has upon site the site layout.

Given the depth of the mill race, approximately 1m deep along the western site boundary, we recommend that daylighting of the network is an unacceptable solution within plot curtilage (either front or rear), due to the potential health and safety risks. The corridor can be protected within curtilage and information provided within the homebuyers' pack showing the location of the diverted mill race and outlining the maintenance regime.

2.06 ***LLFA comment*** *- Where the land drain crosses under the internal roads it is assumed it will change ownership to the LHA. A manhole either side of the carriageway should be installed to allow easy access to clean upstream into the development and downstream to remove any blockages that may cause flooding within the development*

Coast response – The diverted route of the mill race does not include for any part of the system to be located below a public highway.

2.07 ***LLFA comment*** *- The land drain needs manholes at every change in direction, not just the silt trap, we recommend that change in direction is rethought as a change in direction at 90 degrees can cause hydraulic issues*

Coast response – Silt traps are inspection chambers (i.e non-man entry manholes for H&S reasons). 90-degree bends are allowed under the requirements of Building Regulations document H.

2.08 ***LLFA comment*** *- A standard detail on the headwall design is required at this stage as where it discharges is at right angle and could cause scour on the opposite bank.*

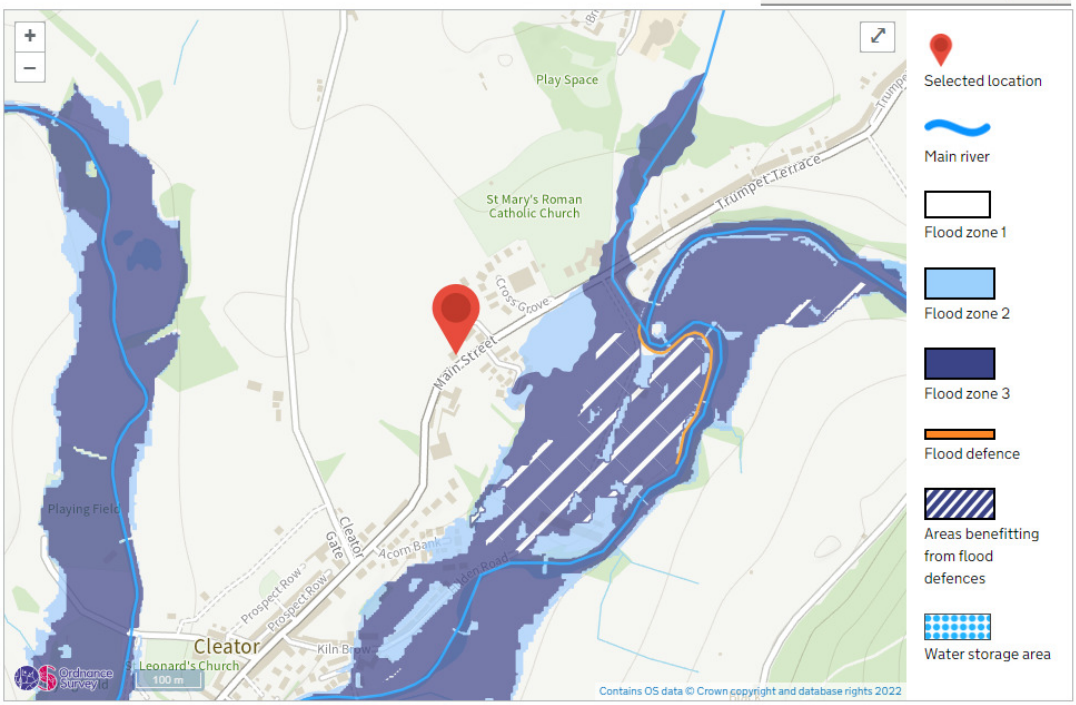
Coast response – Please refer to the revised engineering plans and details enclosed to accompany this response.

2.09 ***LLFA comment*** *- A Flood Risk Assessment is still required.*

Coast response – Please refer to the enclosed flood risk and drainage statement, reference RO/14016.200 Version 3, dated October 2017, by RWO Associates. A review of the current EA maps shows that the site is located within an area classified as a flood zone 1 and therefore appropriate for residential development. Please refer to the plan below.

Any overland flows generated from the agricultural land to the north of the site will be collected by the proposed swales, mill races and positive drainage network installed as part of the development site. Proposed dwellings will be designed to direct falls away from dwelling entrances.

Download printable map (PDF)



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