

Why it is Unsafe to Build on Warren Meadow, Adjoining Warren Crescent 13/01555/CT3

Warren Meadow, adjoining Warren Crescent, is a delightful stretch of mown grassland, popular with children playing football, families and walkers along FP80. Incorrectly described as 'having little amenity value' it is the one remaining accessible open space on the Town Furze estate. A door-to-door and online petition objecting to the development was signed by over 325 residents of Town Furze, a number far in excess of the 230 estate's households.

Deemed unfit for development in 1954, the land became a dump for contaminated builder's rubble, in places up to 6m thick, now held in place by vegetation and tree roots. A major historic landslip of this material into the Valley occurred in the 1960s, burying a fen area and a Thames Water sewer line and hatchway, rendering maps of the Valley inaccurate (see document on the Bank and map by J Webb of FoLV).

Warren Meadow is edged by a precipitous drop down the tipped embankment into the Lye Valley SSSI, whose tufa-forming valley-head spring fen is internationally rare. It is the Council's least understood possession, a wetland, which should be protected under NPPF, having survived 10,000 years with its original flora and (presumably) small fauna. It depends upon rainfall water filtering through the ground, seeping slowly through the layers of sand and limestone beneath the rubble and emerging as springs along the valley sides. The fen needs strongly alkaline water (ph 7-8.3) which is extremely 'hard' i.e. with very high dissolved Calcium (range 120-156mg/l) which forms tufa in the fen - lime crust like the scale in a kettle.

Despite local need for green space for the estate's many flat-dwellers, planning permission was granted in 2016 for 10 houses conditional upon the inclusion of a SUDS swale/soakaway to mitigate against i.e. reduce (not prevent) damage to the SSSI fen. The swale/soakaway was intended to catch roof-run and other rainwater, filter it through limestone chipping fill (to be renewed every 20 years and whenever pollution occurs e.g. from vehicles parked on drives) and feed into the fen. This soakaway would be dug down up to 4 metres or more to reach the natural rock, the resulting rubble forming a bund or barrier around it.

But the swale design has the following crucial harms:

- The proposed soakaway/swale cannot replicate the water chemistry required by the fen (alkaline extremely 'hard' water very high in Calcium). Three contractors to OCC (Peter Brett Associates, WSP and SDS Consulting) disagree on the swale structure, design and effective functioning.
- Geotechnical Engineering's report on the stability of the tipped embankment states categorically that **'additional or concentrated discharge of water in close proximity to the slope should be avoided.'** Yet the swale is a soakaway discharging run-off water in a concentrated location less than 3 metres from the cliff edge of the made ground slope.
- As the swale/soakaway is dug out (3-5m down) tree roots will be destroyed and the rubble/clay will be piled on top of the tree roots adjacent as a bund or barrier; this will stress and probably kill them.
- Geotechnical appear unaware of the previous landslip identified by FoLV (see our document) and stress the role of vegetation and trees in keeping the bank firm. However, if the design is implemented as permitted, it will be necessary to severely cut back the tree canopy to avoid leaves fouling and blocking the swale/soakaway. Root and canopy damage may kill the field maple trees. So the trees will not maintain bank stability.

- A torrential storm, a swale/soakaway full of water, dead trees and a slippage zone under made ground caused by the buried spring line are a recipe for a bank collapse (landslip) down burying fen adjacent.

Safety of the houses, foundation construction and loading by weight of housing, insurance

Geotechnical Engineering also examined the stability of the precipitous drop into the valley, not far from the proposed houses (back walls only 9m away from the break in slope at cliff edge).

- A 'safe' slope (according to Curt Lamberth's investigation, see accompanying FoLV document) is 22 degrees at most. The drop down from Warren Meadow is between 32 and 42 degrees – i.e. unsafe and unstable.
- During foundation construction the vibrations and weight of digging and construction machinery will also cause bank instability. Damage to stabilising tree roots likely by necessary contaminated soil removal.
- The additional weight of houses on heavy concrete strip pad foundation blocks, to 3m (or more) down to reach natural rock, must be considered. Foundations will be dug into and may crush the water bearing sand/limestone layers of the Beckley sands beneath. This will disrupt and cut off the flow of water to the SSSI fen. If so, the fen will dry. Oxidation of peat will then release tonnes of carbon dioxide, contrary to Council Climate Emergency policy.
- The bank instability will be a continuing threat, particularly with increasingly wet winters with torrential rain-storms as we are having with Climate Change. As spring-water streams continue to run beneath the made ground part of the bank, a slippage zone is possible, so will it be undermined (as was the slag heap at Aberfan), with disastrous consequences.
- Geotechnical Engineering calculated a **zone of instability** stretching back nearly 4m from the break of slope (cliff edge) of the made ground tipped embankment. Insuring the properties is likely to be a problem, therefore. The back wall of some houses is as near as 9m from the break of slope and thus **only 5m from the zone of instability**.

The site was deemed unsuitable for development in 1954. It is unsuitable now. This planning application should be shelved, the land returned to community benefit and family housing provided on the many large sites in and around Oxford.

Please act now to revoke the planning permission for this site.

The Committee of the Friends of Lye Valley