To: Oxford Planning Control and Conservation **planning@oxford.gov.uk**

From: Members of the Committee of Friends of Lye Valley

Re: **21/02639/FUL Land West of 75 Town Furze, Oxford OX3 7EW**
Erection of 2 x 4 bed dwelling houses (Use Class C3). Provision of amenity space, car parking and bin stores. Associated landscaping, boundary treatments and ancillary works.

OBJECTION to this application from Friends of Lye Valley (FoLV) 03 Nov 2021

C O N T E N T S

Summary

The Lye Valley South fen, Unit 2 of the SSSI, is a short way downslope from this proposed green garden development. It is an internationally rare wetland habitat, vulnerable due to its very small size, and hugely dependent on ground and surface water supply from the development area. Despite a proposed reduction in the number of houses (compared to previous applications for this site) and many measures to make these houses more energy efficient (solar pv, insulation, air-source heat pumps) **this development is still in an unsustainable location as regards the protection from damage needed by the SSSI's irreplaceable lowland fen habitat.** The revised SuDS proposal still presents a risk to the continuation in perpetuity of undamaged essential ground and surface water supply to the fen. The houses would bring **light pollution** to the fen and the dark valley. Despite the proposed houses being situated somewhat back from the road and downslope, their **damaging effect on the present visual amenity**, caused by obstructing the valued green landscape view over the golf course from Lye Valley Road, would remain for posterity. **Issues of pluvial flooding and car parking** are also discussed in this submission.

Introduction and background

Friends of Lye Valley (FoLV) is a voluntary group which exists to protect and conserve the wildlife of Lye Valley SSSI and LWS areas of internationally rare wetland habitat (calcareous, alkaline, tufa-forming, valley-head spring-fen) comprising the North Fen section east of the Churchill Hospital (owned by Oxford City Council) and the South Fen section (in private ownership in gardens south of Lye Valley road), next to Boundary Brook and adjacent to Oxford Golf Club course.
For further details see our website: **http://www.friendsoflyevalley.org.uk/index.html**, which also has more information on our interests and activities, and also the Lye Valley page of the website of Dr Judy Webb: **https://judithwebb.weebly.com/lye-valley.html**

A. Issues relating to the effect of the development on Lye Valley SSSI South fen

① Rainwater – surface and groundwater catchment of the fen

This is not just a run-of-the-mill garden development proposal. This is a proposal for a sloping, green, permeable, grassy area of fen catchment that absorbs rainwater and feeds it slowly to the south fen section of an SSSI wetland downslope. (Some rainwater is absorbed by the soil and becomes groundwater, some flows over the surface.)

The calculated rainwater catchment of the SSSI has been available since 2007 in a report by expert hydrologist **Dr Curt Lamberth**[1], yet the Hydrological Assessment document for this application presents an entirely misleading representation of the fen catchment (Fig 9, p.15). The calculated catchment area given in that document of **2.842 km² is not an accurate representation of the water catchment of the south fen.**

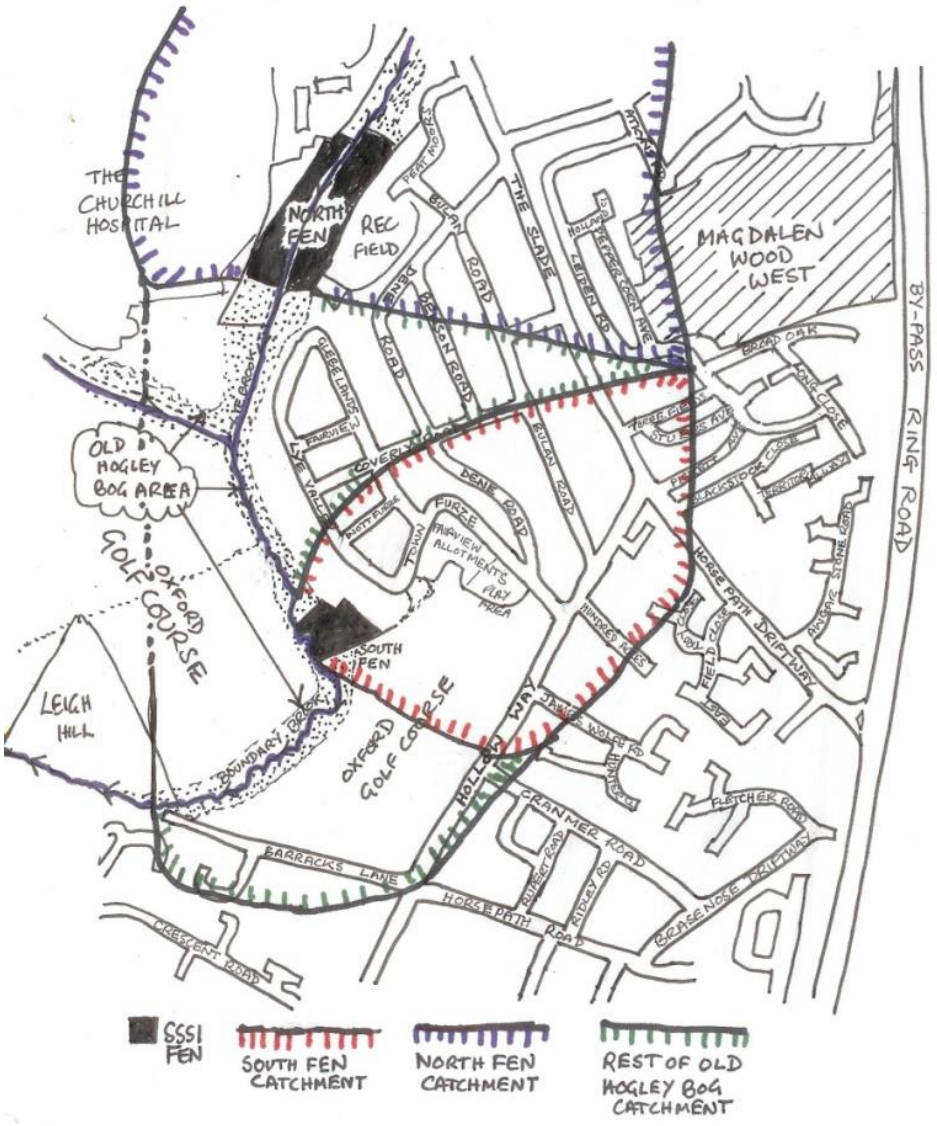
[1] Lamberth, C. (2007) 'Investigation of the possible hydrological effects on the Lye Valley Sites of Special Scientific Interest and the riparian zones of the Lye and Boundary Brooks as a result of development on Southfield Golf Course'. Unpublished report to Oxford City Council available at: **https://drive.google.com/file/d/0B73oYRm5m97oYTdDV3YyTTd2Nk0/view?resourcekey=0-K8-fAFmDrnpC80Kt2NFF8Q**

Dr Lamberth designed the River of Life I project for the Earth Trust/Environment Agency.

See also: **https://headingtonheritage.wordpress.com/lye-valley-explorer-map/**

The relevant rainwater catchment area for the south fen SSSI is indicated in the sketch below, drawn by **Dr Judy Webb.** The area of this specific, small and thus vulnerable, water catchment is **estimated by FoLV as approximately only 20.5ha.** About half of this catchment is now covered in urban development, **with a considerable impermeable area.** Consequently **the remaining green spaces within it are now critical water supply areas for the south fen.**

Fig. 1: Dr Webb's sketch map of the combined surface and groundwater catchment areas[2]**. Black shading** indicates the north and south fen units of the Lye Valley SSSI. **Red markings** outline catchment limits for South Fen unit (centre: grid ref SP5502 0528).



[2] Dr Webb based her sketch on **a marked aerial-view map produced by Dr Curt Lamberth** in response to a request from **Natural England** for indications of groundwater and rainwater catchment limits, covering the north and the south fen areas separately. FoLV also received a copy. For that map, which is available as an **Appendix** to this submission, Dr Lamberth combined information given by two marked aerial maps used in his 2007 report (**see Footnote 1**) using Fig. 5, p. 18, (groundwater) and Fig. 6, p.26 (surface water).

② SSSI Fen habitat quality, rarity, condition, national and international importance

We are in a **biodiversity crisis.** All high biodiversity sites need the highest protections possible to preserve the important species present and the south fen is one such site extremely rich in wetland species.

The South Fen unit of the Lye Valley SSSI contains an alkaline, calcium-dependent, tufa- and peat-forming, spring-fen habitat (the **rarest category** of the National Planning Policy Framework's Irreplaceable Habitat category of '**Lowland Fen'**) of national and international importance[3], as well as British National Vegetation Classification categories **M13 black bog rush-blunt-flowered rush community** with areas of **M22/M24** fen meadow.

This tiny site contains 22 plant species on the **Rare Plants Register for the county**[4] and a number of rare wetland-dependent invertebrates. A hundred years ago the north and south fen units of the SSSI were linked by open, short, quality fen habitat and in the 1700s the whole large wetland area was known as 'Hogley Bog' occupying over 20ha.. **Nothing regarding the importance of habitat or species present is even mentioned in the Ecology Survey Report by GS Ecology accompanying this development proposal.**

Peat coring in October 2018 led by **Professor Adrian Parker** of the Geography Department of Oxford Brookes University indicated sediments of 2m depth under the south fen surface with a **huge store of carbon in the peat.** Radiocarbon dating of the bottom of the core gave a date of **14,000 years Before Present**[5] indicating a wetland of great antiquity, which started forming on this spot at after the ice melt at the end of the last Ice Age.

It is a truly ancient ecosystem within the bounds of Oxford City and one of the city's wildlife jewels.

When considering the potential damaging effects on a habitat as rare and irreplaceable as this – a biodiversity hot-spot in a very small and sensitive site – the **precautionary principle** should apply. No development of any sort within its current green buffer zone/water catchment should be allowed. This biodiversity hot-spot **is a key node site within a future Nature Recovery Network** proposed for the Lye Valley (see '**Vision for the Lye Valley'** at **http://www.friendsoflyevalley.org.uk/**)

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[3] *European context:* 'European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC), Fourth Report by the United Kingdom under Article 17 on the implementation of the Directive from January 2013 to December 2018. Supporting documentation for the conservation status assessment for the habitat: **H7230 - Alkaline fens England' – Annex D on the main results of the surveillance under Article 17 for Annex I habitat types.**

[4] ***Oxfordshire's Threatened Plants***, Erskine et. al, 2018

[5] 'Before Present' (BP) is used to specify when events occurred before the origin of practical radiocarbon-dating began in the 1950s. Because the 'present' time changes, standard practice is to use 1 January 1950 as the commencement date (epoch) of the age scale. *Information from Wikipedia*

The proposed housing development plot may be thought small at **0.16ha**, but that area is significant in comparison to the area of the SSSI. It is **one third** of the size of the whole South fen SSSI unit 2, which is only **0.5ha.**

Management work to improve the **habitat condition** of the SSSI South fen unit 2 by Oxford City Council and FoLV and other volunteers, involving grant-funding from Natural England and hundreds of hours of work by staff and volunteers, has been on-going annually for the last **12 years**. As a result, this unit of the SSSI is now in '**Favourable'** Habitat condition status as assessed by Natural England. It is **the only fen section in the county to have been restored to this state.**

Oxford Local Plan 2036 Policy G2 – Protection of Biodiversity and Geodiversity, is relevant. Will the suggested SuDS design be good enough **long term** for the survival of fen biodiversity?

We note the application proposal cites all the **National Planning Policy Framework** paragraphs on sustainable development but not the key paragraphs on **irreplaceable habitats**. The combination of **paragraphs 180b) (protection of SSSIs) and 182 (removing the presumption in favour of sustainable development)** should mean that **only proposals that give cast-iron assurances of no damage can even be considered.** By ignoring these paragraphs the developers try to present damage to the fen as a minor inconvenience that can be covered by a best-efforts condition.

The NPPF Glossary states (with our emphasis): "***Irreplaceable habitat:*** *Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and* ***lowland fen****."*

The Lye Valley SSSI South Fen habitat meets that definition.

The NPPF (July 2021) states (with our emphasis): "*180. When determining planning applications, local planning authorities should apply the following principles: [...] 3 c) development resulting in the* ***loss or deterioration of irreplaceable habitats*** *(such as ancient woodland and ancient or veteran trees)* ***should be refused, unless there are wholly exceptional reasons*** *and a suitable compensation strategy exists; and...*"

Any built development on this scale at this site would result in too high a risk of "**loss or deterioration of irreplaceable habitat"**. We do not consider that the "wholly exceptional reasons" argument applies to this development. Therefore we consider that the application "should be refused".

③ **The proposed SuDS offers inadequate protection for water supply to the SSSI fen.**

Wetlands live or die by sufficient water; it is their life-blood**. Invisible water supply through ground and soil, at the right volume, right delivery pattern, right delivery timing and right chemistry is the life blood of the rare alkaline, tufa-forming and peat-forming fen areas of the fen**. Only a green catchment can do this (and it does it forever at no cost, with no maintenance). The nearer to the fen, the greater the importance of green vegetated permeable soil to act as a water-holding sponge, which allows water percolation to deeper layers of geology – the aquifer.

Water flow from the north supplies the SSSI spring-fed South Fen through and under the proposed development site. Much of the fen's original water supply from the catchment has ceased due to prior urban development on the limestone hillside above the fen (rain water that should have entered the ground is now re-directed to surface drains emitting into the Lye Brook). It is already on '**reduced water rations',** meaning some marginal peaty areas are damaged by being too dry (the peat is oxidising, liberating CO2), as the springs have retreated downslope. **This SuDS design is considered destructive of the remaining normal water supply mechanism** to the fen on the green sloping hillside above it and therefore development will damage the SSSI – **this is a ground for refusal of this application.**

Oxford Local Plan Policy RE 4 is relevant:
'RE4 *Within the surface and groundwater catchment area for the Lye Valley SSSI development will* ***only be permitted*** *if it includes SuDS and where* ***an assessment can demonstrate that there will be no adverse impact*** *on the surface and groundwater flow to the Lye Valley SSSI.'*

The design of SuDS presented for this application differs from that of previous development applications for this site, **but no such required assessment demonstrating no adverse impact on the surface and groundwater flow to the Lye Valley SSSI is presented.**

This new SuDS 'solution' is technologically complex. The more complex any man-made system is, the more prone to failure it will be in the future; rigorous maintenance is required (forever). The Hydrological Assessment document talks about checking for pipe-blocking and consequent surcharges. Putting the SuDS infiltration mainly to the north of the proposed development may result in unintended negative consequences (*discussed below*).

These new designs still provide inadequate protection for undamaged surface and groundwater flow to the Lye Valley SSSI South Fen. There is still a high likelihood that the SSSI will be negatively impacted. **There is no proof that such man-made structures can replicate the natural infiltration and supply processes** currently in the greenfield above the fen to produce the correct flow and chemistry of the fen spring wate, even with future SuDS maintenance. In any case, on a private site, maintenance and ultimate SuDS replacement **cannot be ensured in perpetuity.** The **precautionary principle** should be applied to anything likely to negatively affect this key SSSI fen site – thus this potentially damaging development should not be allowed.

The whole of the small 20.5ha rainwater catchment for the south fen should be considered a '**Groundwater Protection Zone'.**

Dr Curt Lamberth's conclusions on SuDS presented in his 2007 Pre-EIA hydrological study and report commissioned by Oxford City Council[6], are relevant:

'Groundwater protection zones are not fully mitigated by the use of SUDS therefore development within these areas must be restricted or eliminated*. Thus development must be restricted or eliminated on Southfield Golf Course East in order to protect the South SSSI and development must be restricted or eliminated within the buffer areas indicated in Tables 5 and 6 to protect the Lye and Boundary Brook riparian corridors.'*

SuDS are well known as flood-risk reduction mechanisms, but here the **crucial role is infiltration to the soil** – facilitating re-supply, to the soil and underground geology, of rain water that is prevented from naturally entering the soil by the impermeable roofs and paving.

How big an area of the hillside will be made impermeable and how will water from this area enter the ground? We are told **270** sq. m. per house, total **540** sq. m. for the whole development.

In the Hydrological Assessment document the Surface Water Management Plan shows water that should have gently percolated into, or gently run-over, a grassed sloping hillside is to be collected together and instead run (much more quickly) into the far smaller area under 'permeable paving' to the north, used for car parking (near Lye Valley Road). Under this parking area would be **SuDS geo-cellular crates** in an area of **37** sq.m. per house (total **74** sq. m.) in a layer 0.66m deep at the front of each of the houses.

We note that this SuDS provides 40% increased storage capacity to account for future climate change. **Will this be enough with Climate Breakdown deluge rainstorms**?

All rain water falling on a total of **540** sq. m. of hard surfacing (roofs/paving) is to be collected and run (in pipes?) into a much smaller area to the north of **74** sq. m. of land and infiltrated there. The total rain water falling is thus to be concentrated into **only 14%** of the house and paving land area. This **concentration** of water flow and its placement all in a **different location** is a massive change to the natural soil infiltration pattern.

[6] Lamberth, C. (2007) 'Investigation of the possible hydrological effects on the Lye Valley Sites of Special Scientific Interest and the riparian zones of the Lye and Boundary Brooks as a result of development on Southfield Golf Course', **p. 39**. Unpublished report to Oxford City Council available at: **https://drive.google.com/file/d/0B73oYRm5m97oYTdDV3YyTTd2Nk0/view?resourcekey=0-K8-fAFmDrnpC80Kt2NFF8Q**

Dr Lamberth designed the River of Life I project for the Earth Trust/Environment Agency.

See also: **https://headingtonheritage.wordpress.com/lye-valley-explorer-map/**

Significantly, the rainwater would be put into the ground under the parking area, which is **lower** than the raised platform for the houses. Down slope of this parking area is to be the **raised made-ground of recycled aggregate and the house foundations – infiltration water may flow through this with unpredictable consequences**.

Infiltration test pits carried out by Paddock Geoengineering are in locations downslope of the proposed houses on their raised platforms and therefore **no infiltration data is available** for the **critical SuDS area** under the car parking paving off Lye Valley Road (see Fig. 8 in the Hydrological Assessment, p. 14, for locations).

All infiltration data quoted are therefore misleading with regard to the future functioning of these northern SuDS geo-cellular crates **because the test pits were not dug in the SuDS proposed location.** What if the geo-cellular crates are on a band of hard, less permeable, Wheatley limestone, not permeable sandstone as elsewhere on site? Will all that roof and paving area water actually go into the ground?

We note an **additional** '**geo-cellular soakaway'** is also proposed in the back garden of house two, some distance down slope towards the fen limits (see diagram in 'Energy Statement', p. 17). **We are given no details of this additional geo-cellular soakaway**, i.e. its size or whether or not it is connected to the geo-cellular SuDS crates just off Lye Valley Road (does it take their exceedance overflow or take water straight from the houses?) or indeed whether its dimensions are – or are not – included in the quoted volume of the geo-cellular crates.

④ Disproportionate impact of this proposed development site on the hydrology of the south fen in the context of restoration re-wetting

Five private landowners own sections of the South Fen. It might be thought that this proposed development on the one landownership of Land West of 75 Town Furze would affect only a small part of the south fen, so its effects would be minimal. This is not so. The **whole of the South Fen of the SSSI is affected by water flow from this one land ownership now subject to a housing application.** The site in question has a **disproportionately large influence** on the normal water supply to the tiny 0.5ha SSSI South Fen.

Rain water currently flowing over the sloping hillside surface of this site, or emerging as seepage zones on the south and east margins of the land ownership, is **intercepted and directed into a marginal drain,** which runs NE to SW. Previously this drain carried water **past** the south fen and **it was lost into the Boundary Brook**. However Natural England grant-funded a number of log dams in this ditch to stop this spring water leaving and it is **now directed onto the centre of the south fen**, achieving useful re-wetting, preventing summer drought drying the fen out, improving its habitat condition.

Water from this one single land ownership thus now affects the whole of the south fen. Any disruption to water flow on the proposed development site affects the whole of the south fen. **Four other south-fen section landowners may have their property affected by any hydrological change resulting from this housing proposal.**

⑤ **There is a lack of information regarding house foundations and ground-raising to form a level platform for houses, parking and paving surrounds.**

We note from the Energy Statement, section 4.14, that it is planned to import quantities (100s of tonnes?) of '**recycled aggregate' (construction and demolition waste, or rubble)** to build up the naturally sloping land to the 570 sq.m. of a raised platform area for houses and paved surrounds. The expected depth of the deposited aggregate is not given, but from the elevations of house one and two (Sections A-A and B-B drawings by West Waddy Archadia) the back (south edge) of the raised platform paving would have an aggregate depth apparently well over 2m deep.

Under the back wall of both houses the depth of aggregate is estimated from the drawings at around 1.5m deep. Such recycled aggregate could include, for example: concrete, brick and tarmac (with bitumen), the last bringing unwanted contaminants (organic chemical pollutants like PCAHs in bitumen) to the site. **Such pollutants would then be washed out of the aggregate by water flow from the infiltration geo-cellular SuDS crates up slope, down towards the SSSI fen springs below, changing their water chemistry for the worse**.

This ground-raising to well over 2m extends to the very border of the hedge to the landownership to the west of the proposal development area. **A number of trees and shrubs along this hedge line will therefore have their root zones on the east side buried by recycled aggregate and may suffer damage due to root death**. This raised platform (at maximum well over 2m high) will form **a shading wall to the next property and may impact on the neighbouring landowners' enjoyment of their green garden.**

No details at all are given of the proposed structure of the house foundations. In this case of a hydrologically-linked protected site, information on foundations should not just be a matter for building control. **Vitally important and fully detailed plans should be presented as part of the planning application**. Foundations will potentially impact underground water flow through natural geology to the protected site. Water flow may be blocked/disrupted. All foundations here will have to go down through the depth of made-ground recycled aggregate (as far as 1.5m) and then be dug into the hillside (to what depth?) to be bedded levelly and securely into the natural site geology.

The depth of these foundations at the back of the houses is therefore of much interest. Given the instability of made-ground of recycled aggregate, it might even be necessary to support the houses on piles. **Piles would go even further into the natural geology and into the zone of underground water movement towards the fen springs. This cannot be permitted.** The groundwater table was assessed (Hydrological Assessment document, reporting on test pits on site) as at 2.40m depth, measured in April 2021 (a drought month). This does not reflect the groundwater level variations that might occur throughout the year. **In a wet winter the water table could be very much higher.**

Deep concrete strip pad foundations, or foundations involving piling, would be a completely unacceptable solution due to potential damage to the normal hydrology of the fen.

⑥ Pluvial Flooding issues at the site – Unintended consequences - Proposed Development SuDS potentially overwhelmed by road floodwater in a storm?

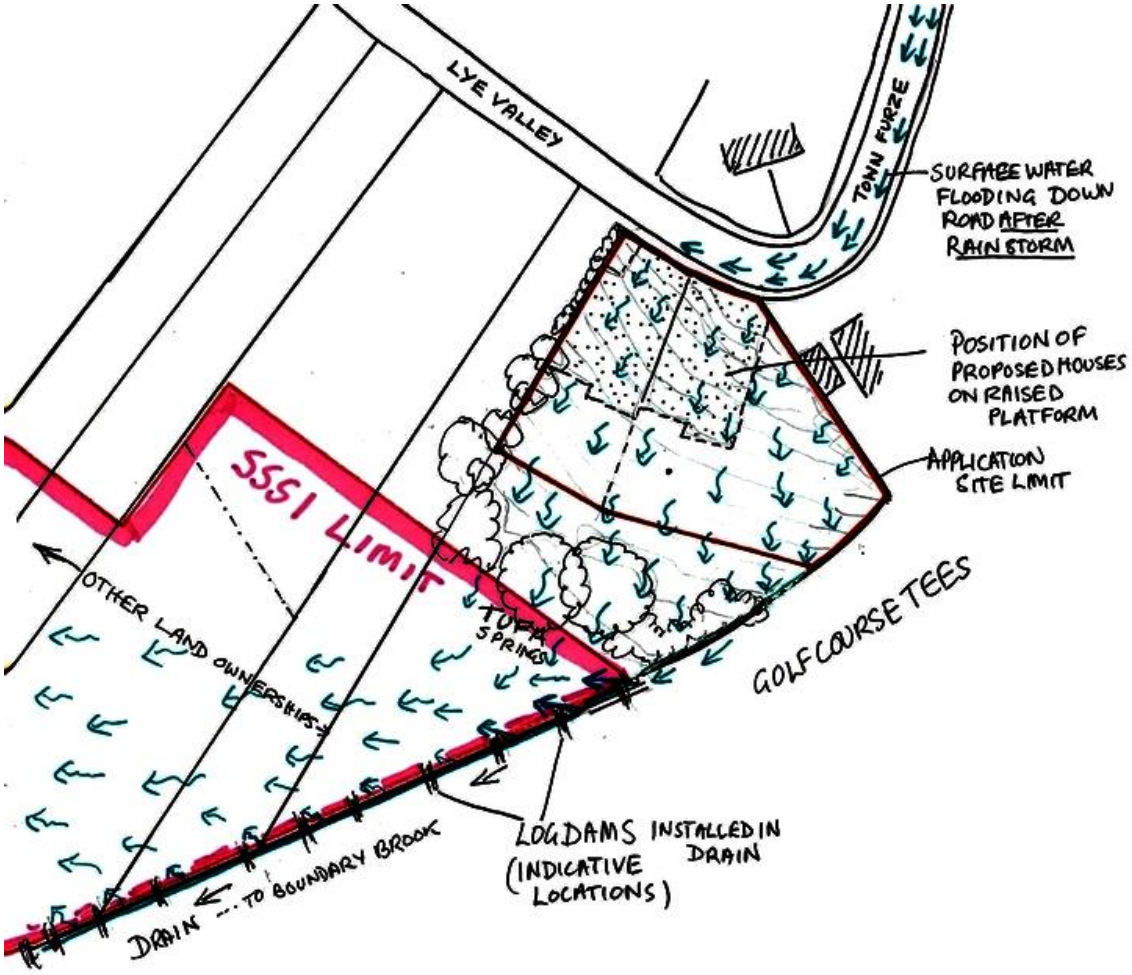
We are now not merely in climate change, but into **Climate Breakdown**. Already intense (deluge) rainstorms are happening and these are predicted to become worse in future. Among documents accompanying the application, the **Environment Agency Flood Risk Extent from Surface Water** (Fig 11, p 17 in the Hydrological Assessment document) shows surface water flooding down Town Furze Road and round the corner of Lye Valley Road next to the proposed development site. Locals report that the sloping section of Town Furze Road turns into a water chute in a rainstorm. **See photograph below** of exactly the same surface flooding down a nearby road on the same hill with the same gradient in a storm.

Dropping the kerb for access onto the proposed development site from Lye Valley Road would allow this road surface flood water to rush onto the site, where it would immediately encounter the permeable paving and SuDS infiltration geo-cellular crates under the car parking area, lower than the houses on their raised platforms. Floodwater might not enter the houses, but the SuDS permeable paving and underlying geo-cellular crates would obviously have to cope with a much larger volume of water than what they are sized to accommodate from the development (i.e. all the rainwater that falls on the sloped hillside area of Town Furze Road tarmac, in addition to the water from the 540 sq. metres of development hard surfaces). Permeable paving and geo-cellular crates will fill up or be overwhelmed with all that road flood water, plus run-off from the development's roofs/paving. The crates will not be big enough, and overflow will result, possibly under the houses through the aggregate layer of built-up made-ground. **This is an unsustainable location for development, since surface water flooding to the site will be made worse by Climate Breakdown**

Surface water flooding in a rainstorm on Coverley Road
near, and with same slope gradient as, Town Furze, on 11.05.2016
In foreground, rainwater in a sheet rushing towards the footpath down into Lye Valley

Figure 2:

Sketch map to show application site in relation to South Fen SSSI limits and other landownerships. Green arrows indicate likely gentle surface water flow in the undeveloped situation. The faint, pale-grey, slightly wavy, lines approximate land contours.



- Note how surface and spring water flow from the applicant's land ownership is now redirected by log dams in the southern drain (installed 2016) into the centre of the south fen SSSI, achieving re-wetting.
- Note occasional surface water flooding down Town Furze Road.

Sketch Map by J A Webb based on information in diagrams in the application's supporting documents (especially West Waddy Archadia's document 945-WW-00-EX-DR-A-0002) and definitive SSSI limits maps supplied by Natural England to Friends of Lye Valley.

The whole discussion to this point in Section A shows the *complete unpredictability* of the outcome of development with the SuDS planned, in respect of a) water flow over surface and underground down to the whole of the south fen, and b) the sustainability of this location for housing.

⑦ Development site garden as a buffer zone to the SSSI, and potential use of the site by fen species

All biological SSSIs need a green undeveloped buffer zone of at least 200m. Such a good buffer is especially important to a very small portion of an extremely rare habitat, such as is the case here. The current green buffer to the South Fen SSSI in this abandoned garden of Land West of 75 Town Furze would be drastically reduced by this development. The application red line indicating the back garden's fence is stated to be only **13m away from the SSSI northern limit,** and the back wall of the nearest house is only **35m from the SSSI fen limit** (quoted from the GS Ecology Report). Paving is planned to go around the houses on a raised platform of recycled aggregate (to well over 2m high) and the edge of this platform will be even nearer the SSSI red line limit. **The buffer zone that would remain beyond the house gardens after development would be far too small to protect the SSSI.**

The Planning Statement with this application says in section 5.5: '*The application site is currently vacant, surplus land..'* thus implying it is useless and ripe for development. **Nothing could be farther from the truth, as it is so near to the South Fen section of the SSSI.**

The site has two vital supporting roles for the adjacent fen:.

- Apart from essential water infiltration for the fen all over this abandoned greenfield garden, **all of the site** (even if it is 'species-poor grassland', as quoted in the GS Ecology Report) **could be important to mobile invertebrates breeding in the SSSI wetland fen adjacent. This aspect is not assessed by GS Ecology**; **their ecology survey is therefore inadequate.**

  It is well-known to ecologists that a small protected area (such as this 0.5ha SSSI unit of wet fen) may be too small to support the entire life cycles of any mobile insects that are found breeding there. **The Ecological Survey by GS Ecology** presented with this application (*a survey consisting of desk studies and a site walk-over on 5th May 2021 by two ecologists who looked* only *at plants*) **presents no full species lists from the site and the report does not review the numerous species records for the adjacent fen SSSI held at Thames Valley Environmental Record Centre**. The ecologists therefore have no idea what invertebrate species are present in the SSSI and what their life cycle needs are. The proposed development site is important to some of the species (e.g. Notable or Rare specific flies, moths, beetles) that breed in the short fen habitats, as these may need to visit nearby flowers for food (nectar and pollen) to complete their life cycles.

- **The rough grassland and scrub of the proposed development site may also support invertebrate species in its own right – but this has not been not assessed.** The **ecological integrity** of the very small section of SSSI rare calcareous alkaline fen habitat as a whole is incomplete without a range of such supporting habitats nearby (such as in this garden) including short dry-land flowers, tall ruderal plant species flowers and woodland / scrub habitats.

⑧ Light spillage/pollution from the proposed development to the SSSI

We note smaller windows are proposed at the rear of the two houses in order to try and restrict light spillage at the back to the SSSI and supporting habitat. This is presumed to be enough to protect sensitive wildlife. However the valley is currently a **dark zone, rare within the city,** with the SSSI recorded as having a significant diversity of moths and a population of much-loved glow-worms. **Even with small windows in these houses, light will escape to an area that has never been lit up before**. GS Ecology in their report suggest '*restricting use of exterior lights by planning condition'*. How is this any long-term solution to light pollution?

Whatever exterior lighting is installed when houses are built, owners are completely free to install more or brighter lights in future.

Very popular these days are **new LED intense white lights,** which are so cheap to use, many property owners keep them on all night. **These are now known to be particularly damaging to moth populations**. Lighting up the dark Valley cannot be prevented**,** if this development goes ahead**. Nocturnal invertebrates will confuse lights with mates and fail to mate, causing population decline.**

B. Landscape Setting of the SSSI and Character and Appearance of the Area.

The proposed development plot is in a unique siting, being in a green gap that affords long-distance green views from Lye Valley Road and Town Furze Road over the SSSI and across the adjacent Oxford Golf Course. Building two houses on just this one plot would have a significant impact on the **visual amenity and character of the area**. The development would not, as claimed in supporting documents, merely involve continuation of existing residential development with no resulting harm to the character and appearance of the area. There would thus be **a negative** i**mpact on Townscape Character (Oxford Core Strategy Policy CS18).**

View of the proposed development site from the corner at junction of Town Furze and Lye Valley Road showing uninterrupted green landscape view across Oxford Golf Course Taken in April Photo J A Webb

C. The development would set a damaging precedent

Allowing development on this site would set a damaging precedent for further development on areas to the west of Lye Valley Road along its length.

Historically, Land West of 75 Town Furze is a site that has repeatedly had planning permission refused (at least six times), including two previous appeals to the Secretary of State, which were dismissed. Previous refusals have all agreed that intrusion into the landscape at this key site would have a negative impact on local amenity and character and also provide a precedent for ribbon development all along the currently un-built green side of Lye Valley road, even if only undertaken one garden at a time. **If this current proposal is agreed, a slew of applications for houses on raised ground platforms of rubble in green gardens on the valley slope all along the road can be expected**. The adopted Oxford Local Plan 2036 designates this strip as **Green Infrastructure.** We hope this means all housing applications in this green ribbon will be rejected to preserve the green character and as supporting habitat to the valley wildlife areas below.

Also, any further loss of permeable green space on this high ground with a steep slope into the valley will result in **increased surface rainwater run-off to the Boundary Brook** below the site, resulting in further erosion of rare fen habitat and further flooding problems in the area or downstream (Barracks Lane/Cowley Marsh/Florence Park area/Campbell Road areas). The force and volume of rainwater run-off that is already entering the **Lye Brook**, **which flows into the Boundary Brook**, can be seen in this photo of the drain from the Town Furze estate discharging into the North Fen of the Lye Valley at the end of July 2021 **after a rainstorm lasting only five minutes.**

Surface water run-off from drain from Town Furze estate discharging into Lye Valley North Fen after 5-minute rainstorm Photo by Dr Judy Webb, end July 2021

D. Proposed car parking on site

Plans for these two houses show **two car parking spaces for each house on the paving in front.** Extra cars belonging to the house occupants could park in the Lye Valley road in the CPZ. These two 4-bedroom houses could therefore bring as many as six more cars to Lye Valley Road.

As with other such garden areas here, there is no pavement next to this plot, so no possibility of pavement parking.

We are aware that the Lye Valley estate is already a 'hot-spot' for HMOs and are concerned that the proposed houses may well become HMOs. This would bring more random vehicle parking, as well as more delivery vehicles, etc.

The available road space is too small to contemplate development in this location and is a planning ground for objection to this application.

The **Planning Statement** states it is a **seven minutes' walk from the site to a bus stop on Hollow Way** (0.3 miles/0.48 km, measured on Google maps) but a longer distance of 1.1km (no time quoted) to a food store (supermarket) is given as a reason for allowing one car per house.

A local resident who lives on Lye Valley Road near to the site says the nearest food store is **Aldi**, off Horspath Driftway at OX3 7JN – a **12-minute walk** (measured on Google maps) for a fit person from that position on Lye Valley Road. According to the Oxford Local Plan 2036, there is thus no reason for any car parking to be provided at all. In this case, therefore, provision of a driveway and parking for two cars in the frontage of each house contravenes **Oxford Local Plan 2036 Policy M3 Motor Vehicle Parking** due to the proximity of the development to shops and bus stops on the Slade.

Conclusions

- The SUDS design for this current application provides nothing to change our view that it will be insufficient to protect undamaged water flow to the SSSI fen forever.

- Issues of loss of SSSI fen buffer zone, potential usage of the development site by fen insects and light pollution from houses affecting fen insects are also important points of concern.

- With regard to the effects on the SSSI, the proposal is still contrary to the policies of the National Planning Policy Framework relating to lowland fen irreplaceable habitat (quoted earlier) and Oxford Core Strategy 2026:

  Core Strategy Policy CS2 Previously Developed and Greenfield land:
  'Greenfield land will not be allocated for development if any part of the development would be on Flood Zone 3b, or if it would cause harm to a site designated for its ecological value'.

Core Strategy Policy CS12 Biodiversity:
'*International and national sites (the SAC and SSSIs): These must be protected from any development that will have an adverse impact*.'

- Surface water flooding, damage to the green setting and car parking issues are all additional concerns.

For all the above reasons we request this planning application be refused.

Yours faithfully

Members of the Committee of Friends of Lye Valley:

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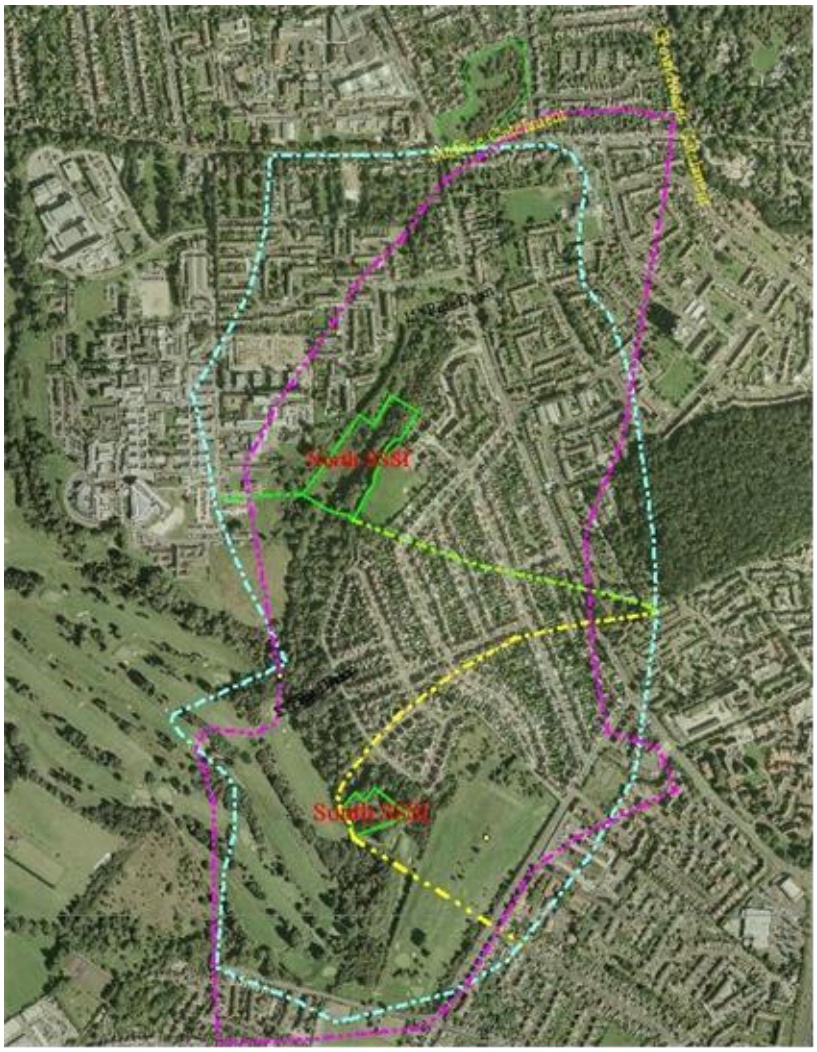
http://www.friendsoflyevalley.org.uk/

https://judithwebb.weebly.com/lye-valley.html

Appendix

Surface water and ground water catchments of Lye Brook/Boundary Brook, and demarcation of North and South fen sections of Lye Valley SSSI. Supplied to **Natural England** and to FoLV by **Dr Curt Lamberth**, who designed the **River of Life I** project for the Earth Trust/Environment Agency.



Some rainwater is absorbed by the soil and becomes groundwater, some flows over the surface

KEY: **Green solid lines** mark borders of the Lye Valley North Fen and South Fen SSSI
Pale blue-green broken line indicates extent of **surface water** catchment for both fen areas
Pink-purple broken line indicates extent of **groundwater** catchment for both fen areas
Yellow broken line marks catchment area **specific to South Fen SSSI** for **both surface water and ground water**

Dr Lamberth produced this marked map in response to a request from **Natural England** for indications of groundwater and rainwater catchment limits, covering the north and south fen areas separately. (FoLV received a copy.) He combined information given by two marked maps used in his 2007 report to Oxford City Council**:** Fig. 5, p. 18, groundwater, and Fig. 6, p. 26, surface water, in 'Investigation of the possible hydrological effects on the Lye Valley Sites of Special Scientific Interest and the riparian zones of the Lye and Boundary Brooks as a result of development on Southfield Golf Course', Lamberth, C. (2007). Unpublished report to Oxford City Council, available at **https://drive.google.com/file/d/0B73oYRm5m97oYTdDV3YyTTd2Nk0/view?resourcekey=0-K8-fAFmDrnpC80Kt2NFF8Q**