



Leasbrook, Dixton, Monmouth

Redrow Homes South Wales

Monmouthshire RLDP Candidate Site Submission

Assessment of Phosphate Related Matters

August 2021

Leasbrook, Dixton, Monmouth

Redrow is promoting a 30 acre parcel of land for residential development on the north east edge on Monmouth town. The land is located within the Phosphorous Sensitive Area of the Wye Valley catchment and thus the RLDP promotion needs to consider how this matter may be dealt with and provide assurances that there are genuine prospects of the land being deliverable.

This paper sets out the background to the Phosphate issue and how Welsh Government is being proactive in identifying solutions. There are no solutions as yet in Wales that the regulatory bodies have given their approval to. This is awaited but no doubt will come.

The paper also sets out the experience of Redrow Homes across the UK and provides by way of example solutions that have been designed and submitted for approval by Redrow companies. In so doing we hope to demonstrate that Redrow is experienced in this matter and is pro-active in finding suitable solutions (for sites on an individual basis) as well as contributing to the regional debates on regional solutions.

No specific solution has been designed for the Leasbrook site as yet but should the site become allocated then work will commence to establish what the most appropriate solution will be. As a result it is appreciated that the site may need to come forward later in the plan period to allow sufficient time for a Welsh appropriate Phosphate solution to be developed, approved and implemented.

Phosphate Problems in the Wye Valley

In late 2020 Natural Resources Wales (NRW) anticipated widespread failure of its protected rivers due to high levels of phosphates. NRW stated at that time it was 'likely' to advise that all new development within the failing catchment areas should be made phosphate neutral. While Welsh rivers had been "typically" meeting the phosphates target of 50 micrograms per litre before 2016, a revised target limits of 10 and 20µg/L has meant multiple water quality failures were now being recorded by the regulator. In particular, NRW is concerned that excess levels of phosphate enrichment in some of Wales' 95 Special Areas of Conservation (SAC) are causing hyper-eutrophication; a process whereby nutrient overloading encourages huge mats of algae blooms to cover and starve a body of water of oxygen, killing aquatic species in the process.

NRW's actions have been prompted by a European Court of Justice ruling known as the 'Dutch Nitrogen Case' – a 2018 judgment that places an emphasis on the certainty of proposed mitigation measures to combat excess nutrient pollution affecting EU-protected sites.

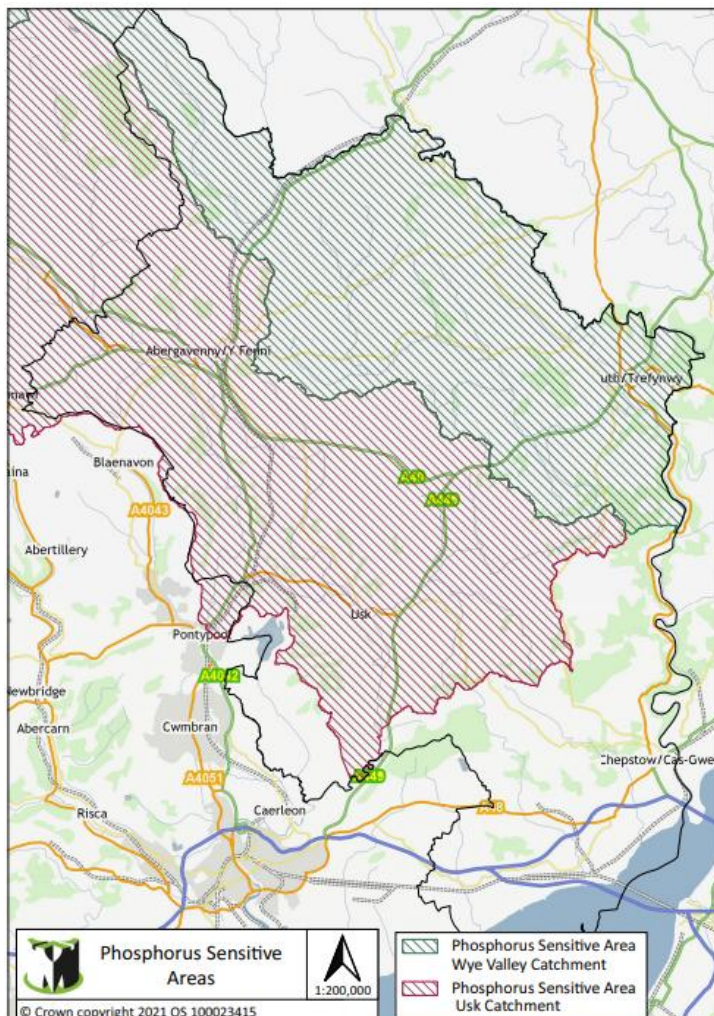
30 September 2020, Ann Weedy, NRW's operations manager said "[If] phosphates targets on the Wye and indeed any other Welsh rivers are failing then NRW will in all likelihood be advising that any new developments with the potential to generate additional phosphate loading in those catchments will need to demonstrate that they can achieve either nutrient neutrality or betterment before those developments can be approved."

Subsequently early in 2021 NRW issued their new policy in the form of two papers

- Planning Position Statement: SAC Designated Rivers and Phosphates
- NRW's interim advice for planning applications within the River Wye catchment.

These papers in effect created a moratorium on granting permission for new development in the defined affected areas. They did not however give guidance or advice on how to resolve the matter. To date there is still no confirmed definitive solutions from WG or the relevant regulatory bodies.

The affected area is shown on the plan below. Leasbrook, Monmouth is within the affected Wye Valley catchment area.



Potential Solutions – Pros and Cons

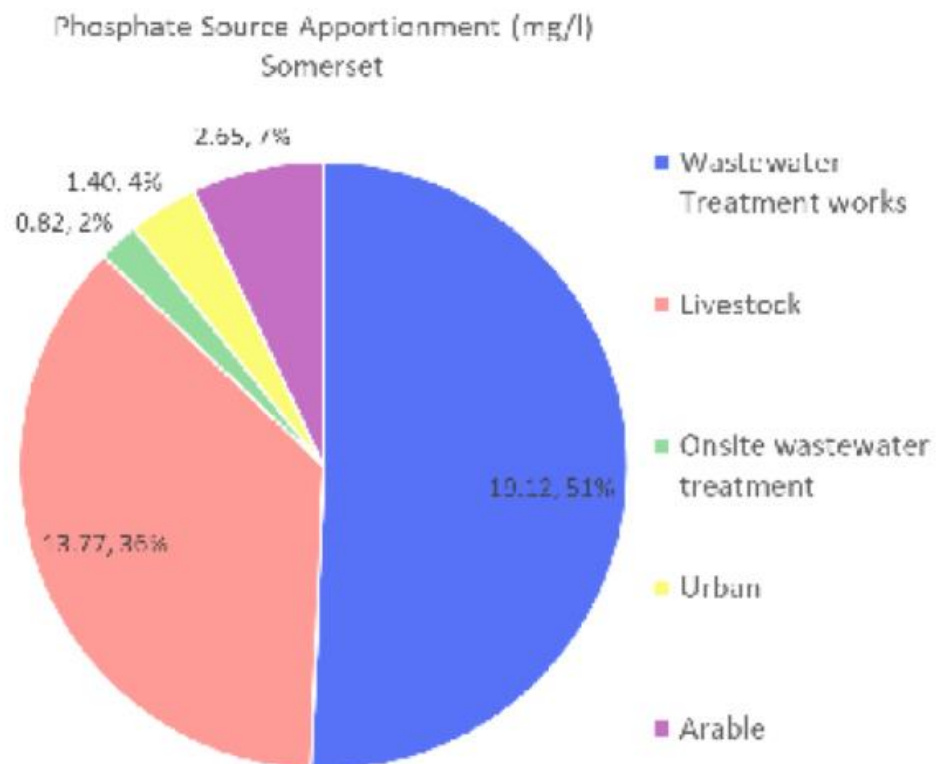
The experiences of various locations in England has seen the development of various means to tackle the phosphate (and Nitrate) problems. Areas around River Stour in Kent and the Solent and Avon River area on south coast have been grappling with the embargo on development for several years. The issue continues to spread to new river catchments throughout England; for example more recently with areas around the Somerset levels have been affected. Redrow has operating in companies within these areas of Kent, South Coast and Somerset and have had residential development proposals that have been affected and have experience in developing site specific solutions to achieve nutrient neutrality.

The potential solutions for achieving nutrient neutrality are

1. To stop or reduce the Phosphates entering the system in the first place

The embargo on development is resulting from waste going into the system which includes phosphates. Residential however is only a small contributor to the problem of phosphates entering the water system. The biggest contributors to the problem are water companies and agriculture (livestock). There does not appear to be any recourse against these uses in the same way that new development has been curtailed.

The illustration below shows the source of Phosphate pollutants in Somerset.



Source: SAGIS

2. Natural Based Solutions

Natural solutions involve creating wetland area where the vegetation cleanses the waters over a period of time. These wetlands areas can be created to cater for a single specific site or for a much larger regional based area solution (where credits are sold to developers to offset impact). The wetland need to be in the right place and set within the relevant river catchment, as such they cannot be created anywhere. The areas would need to be pre-constructed and undergone a period of monitoring to ensure the system was working before any development could tap into it. These solutions are not quick to set up, are not necessary proven to be effective and would result in significant areas of land being taken out of farming practices. It is almost certain that wetland areas would need to be owned and managed by a public body especially if a regional facility was created. On a positive note the areas would create new and expansive areas of biodiversity and with potential use for public open space.

3. Technical Solutions – Off Site

There are examples where DCWW have invested in putting the phosphate stripping technology into existing treatment works. We can therefore be certain that the technology exists and considered acceptable to the relevant regulatory bodies. We understand from DCWW that they need a licence from NRW to install and operate such technology in any water treatment plants. The water companies advise that they are unable to alter their pre-determined 5 yr AMP programmes which guide their capital investments. It seems that even where development companies have offered to fund the installation of such technology into treatment plants, they have been unable to accept as the AMP programmes are set in stone not allowing additional works or variations. It would be helpful if this bureaucratic barrier was removed so that any privately funded solutions that became available were facilitated within AMP programmes – even where already approved.

4. Technical Solutions – On-Site

It is possible to develop a small treatment works that can be located on an individual site to strip out the phosphates on a localised basis. The advice received from other Redrow divisional companies is that such facilities need to be built to adoptable standards and are not to be privately operated. Securing adoption agreement from Water Companies has proven difficult. The costs provided by Redrows South Eastern division for the on-site treatment plant apparatus is £1.7m. The installation costs and commuted sums for adoption costs are additional.

5. Off-site Credits

Both nature based and technology based solutions could be delivered through a 'Credit Scheme' which would allow developers to purchase credits which would pay towards off site mitigation. These work where on off-site often regional facility for phosphate stripping has been established. This could be a nature or technical based solution. The facility must be in public (or other appropriate body) ownership and managed by them. The facility can sell 'credits' to a development to offset the impact of that site as long as that proposed development is located within the same catchment area

Examples of schemes and initiatives being developed by other Public Bodies

- South Coast (Solent area)

Nutrient enrichment problems have been detected in the catchments of the Solent (Nitrates) and the Avon River (Phosphates) on the south coast of England. Councils have produced maps relating to water treatment areas which show where there are issues with new development and where the treatment works have sufficient nutrient neutrality technology installed. The maps allow consideration of the first step of what is called the Mitigation Hierarchy. The Mitigation Hierarchy comprises

- Avoidance of affected areas but if not possible it becomes about mitigating impacts via the following.
- A Solent nutrient trading platform being set up by DEFRA. Various 'appropriate bodies' are able to sell 'credits' to a developer to offset impact.
- The last stage is a developer led on site solution.

For mitigation a Nitrogen / Phosphate Calculator is available to calculate a sites impact and thus the level of credits to be purchased or on site mitigation to be developed.

- Ashford Borough Council:

Ashford have issues with the River Stour Catchment area. In response to the problems members of the council requested that officers to pursue a mitigation strategy that involved a single solution within the borough boundary. Officers prepared the Stodmarsh Mitigation Strategy with the help of expert consultants. The report was presented to Cabinet on 29th July 2021. The strategy identifies the ability to create a new strategic wetland in the borough which then provides the opportunity to generate "credits" which can be "sold" to development proposals (current and future). Developers buy the credits so that their schemes can be deemed nutrient neutral without further on site facilities. Cabinet was asked at the meeting o 21st July 2021 to authorise the purchase of land for the wetland, to approach central government for grants / loans, and to prepare a credit based system for adoption as SPG seeking developer contributions (for delivery and maintenance).

- Somerset Authorities

The authorities of Mendip, Sedgemoor, Somerset West and Taunton, South Somerset and Somerset County have written a joint letter to The Rt Hon Robert Jenrick MP and The Rt Hon George Eustice MP regarding the impact of the Natural England advise in relation to phosphates in the Somerset levels and Moors Ramsar site. The letter explains the impact on housing delivery, work they have underway to find solutions (regionally) and requests

- Capital funds to develop nature based solutions,
- Influence to be exerted to get investment and upgrade to waste water treatment works and
- Confirmation Government regulators will address those who are major contributors to the pollution.

Developing a Welsh Solution

The Welsh Government has set up a working group called the Oversight Board (including NRW and DCWW) to explore the phosphate problem and with a view to expediting the identification of a means of nutrient neutrality solution for Wales. This group is called the Oversight Board. A planning sub group has also been formed. At the time of writing the work of these groups is ongoing and no indication of any preferred solutions has yet been published.

Other regions in England that are working in a similar manner are starting to create regional solutions than combines both technical and natural solutions to secure nutrient neutrality and thus facilitate re-opening development. These emerging strategies could provide a benchmark against which other regions including Wales can establish their own responses.

Many other affected areas in England have published Phosphate calculators which allows development proposals to understand the impact of the schemes and the scale of mitigation they must cater for to achieve nutrient neutrality. This facility is not yet available in Wales although the HBF advise that NRW are reviewing other existing ones so that the Oversight Board can consider further what's best for Wales.

As all solutions will require the approval of the appropriate regulatory body (probably NRW) and presumably financial investment by the Water Companies we are all beholden to the timescales to which the Oversight Board is moving. It is considered by Redrow that the Welsh Government Oversight Board will identify and approve an acceptable solution that can then be implemented in practice thereafter.

The Welsh Governments Chief Planner Neil Hemmington has offered the following reply to a HBF Wales enquiry. The details were sent to HBF members via email on 23/04/2021.

“Following publication of the initial NRW guidance NRW has led discussions with LPAs, DCWW and ourselves. The intention is that this group will be formalised and include representatives from the development sector once the oversight group, which Water Branch is in the process of establishing, is up and running. Unfortunately, there has been a delay to getting the oversight group going due to the pre-election period.

I am very keen to ensure that this is not seen just as a planning/housing problem as other sources of phosphate may be more important. All relevant sectors need to be represented on the oversight group. It would be unacceptable for developers to pick up the tab when the problem is elsewhere. I will mention again to NRW the need to involve the development sector in discussions once the planning sub group has been formally constituted”.

We await further advice form the Oversight Board and remain optimistic about its work and the timescales for identifying and approving solutions appropriate for Wales.

Redrow Experience

As stated above Redrow are involved in various residential proposals throughout the country where solutions for phosphate removal have been developed. Some of these are outlined below. The purpose of setting out these examples is to illustrate that Redrow has experience and the will to investigate appropriate solutions for our residential proposals. While all the Redrow scheme proposals have yet to secure regulatory approval that is not because the proposals have been proven wanting but because the regulatory bodies are still considering matters.

- South Coast

A scheme here was originally within a waste treatment catchment area without the technology for allowing nutrient neutrality. The scheme however was allowed eventually by taking the waste to a different treatment plant that did have the relevant technology albeit by constructing a new pipeline connection. The result of investment in the infrastructure was to achieve “Avoidance” of the problem in accordance with the Mitigation Hierarchy.

- Kent

Colleagues in Kent have sites that have stalled for some significant time due to phosphate issues. In an attempt to overcome further delay the technical team with specialist consultants have designed an on-site waste treatment plant solution. The scheme is expensive at £1.7m capital costs (with site installation and adoption fees as extra) but will unlock the site. The onsite treatment plant proposal has been submitted for approval as it is to be adopted by the water authority? The scheme has not yet been approved but the Redrow team are optimistic it is forthcoming.

- Somerset Levels (Staplegrave, Taunton 750 homes)

The Redrow South West office has been working with landowner's to develop a natural based solution for this site in relation to phosphate issues on the Somerset levels. There are regionally based solutions being developed but for these to be tapped into would mean a significant delay as the solutions (natural and technical) are finalised, approved and then implemented. It was decided to seek a site specific solution to expedite the development. The scheme is 750 homes but 95 could be built as a result of taking all the land for building out of agricultural uses. The mitigation proposal for the remainder of the homes was a natural wetland to be created on land owned by the landowner but off site. This off site land is 4.5 hectares (with extra land available in reserve) and it will cost an estimated £1.2m to create the wetland. This natural scheme will require planning permission (before the residential is approved). It will also need to be created and monitored for a period of time to demonstrate it was working before the housing build can commence. Some issues have arisen about the competence of the regulatory bodies to assess and approve these works i.e. the regulatory bodies themselves do not feel they are competent to assess if proposals can deliver nutrient neutrality.

Conclusions and Summary

The land at Leasbrook is located within the Wye Valley Phosphate affected area. This paper seeks to set out the various considerations that the development proposals will need to assess for the site to achieve nutrient neutrality. At the current time there are no Welsh Government or other Welsh regulatory body standards / solutions that are acceptable. The issue is being considered by the Welsh Government and other stakeholders and we should be confident that a solution will present itself in the near future. After Welsh Government advice on what solutions will be acceptable then it will be possible for Redrow to devise a suitable solution for Leasbrook.

Colleagues in other Redrow regions have experience of seeking solutions to achieve nutrient neutrality. Such solutions are both natural and technical. There is experience within Redrow that can be drawn on to assist in identifying the appropriate solution for Leasbrook once we understand the regulatory regime in Wales.



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