

PS36 Reg-19 Response to Stroud Local Plan 2021

PS36 - Sharpness new settlement - is unsound. It is not justified, not effective, and not consistent with the National Planning Policy Framework (NPPF). It has not been positively prepared. BER016/17 is also **legally non-compliant**.

The reasons for all the above are outlined below:

1. Employment
2. Sustainability: Traffic CO2 Emissions, Public & Sustainable Transport
3. Local Roads & Routes
4. Flooding, Climate change & Coastal Change
5. HRAs - afterthought, rubberstamping, & unavailable for oversight
6. HRA & Severn Estuary - Ramsar Site, SAC, SPA & SSSI
7. The SANG, the Nature Reserve & Rerouting the Severn Way
8. Shoreline Management Plan, Hold The Line & Salt Marsh
9. Other Wildlife & Habitats
10. Heritage & survival of Berkeley Town Centre
11. Ammonium Nitrate & Tsunami/1607 floods
12. Spatial Strategy & Site Selection
13. Process
14. PS36 is Not Legally Compliant
15. Suggested Changes to Local Plan

***** IMPORTANT NOTE: This PS36 Response is accompanied by Photo Evidence which is to be uploaded in a separate PDF file** (and as separate image files if I can do that when I do the online Form).

1. Employment

1.1 No realistic employment strategy

I can find no strategy as to how all the employment promised by the Local Plan - and assumed by the Sustainability Assessments - will be delivered within or close to PS36. The evidence strongly implies that it cannot be delivered, and certainly not on a scale to prevent PS36 being yet another dormitory commuter town.

1.2 Employment Land Review

The latest Stroud District Employment Land Review (2021) continues to clearly state its doubt that a knowledge business park can be delivered.

Page 8 xxi) Questions of deliverability remain over the Knowledge Park proposal at the Sharpness New Settlement.

That report recommends:

Page 9 That the owners, and their agents, of PS36: New Settlement at Sharpness be asked to provide more evidence on deliverability

That the owners, and their agents, of PS37: New settlement at Wisloe be asked to provide more evidence on deliverability

Page 150 A Knowledge Based business park would require a specialist developer to deliver, to market and to manage premises over the long term to maintain high standards. No such partner has been secured or is understood to have shown an interest at this time

More warehousing is put forward as the most likely alternative.

The developers promoting PS36 are housing developers only and no partner has been found to develop the business/industry/employment side.

It also states regarding Berkeley:

2.65 ...the accessibility to employment opportunities in these locations is relatively poor and any residential development may contribute to unsustainable travel patterns.

2.66 The conclusion for deliverability overall was that the urban extensions are more likely to be deliverable than new settlements.

1.3 Current employment zones by Sharpness Dock & Berkeley Power Station

The employment zones near Sharpness Dock and Berkeley Power Station have continued to struggle to attract employers to those out of the way locations with empty sites having long been available. Sharpness has attracted only large warehouses with many large lorries but few jobs. The Power Station area has found two public sector, specialist colleges to take up a large, cheap space but the area has failed to attract much private enterprise. It does have lots of spare parking though, which is bad news for sustainability and traffic volumes through Berkeley's historic and residential town centre.

The Berkeley/Oldbury joint bid for a nuclear fusion prototype plant is just one of 15 bids which recently passed the initial assessment. Bids from further north may be at an advantage due to the levelling up agenda. Winning this bid is unlikely and certainly cannot be assumed.

1.4 Employment zones & tidal flooding

Both the Sharpness Dock and Power Station employment zones are under serious threat of tidal flooding, especially with rising sea level and the future's increasing frequency and strength of storm/tidal surges due to climate change. The Power Station and docks were located there solely because of the Severn. For other businesses and industries, it is an increasingly risky location. The roads to them are also under threat of disruption due to flooding, particularly for cyclists and pedestrians.

1.5 Attracting tech and other employers

Early stage, growing or large hi-tech companies will not be drawn to the Berkeley Vale area including PS36. There are many location related issues including recruitment, credibility with potential clients and investors, and sector culture. PS36 + Berkeley + Sharpness will still be a small town off the beaten track and remote from cities, big towns and large populations.

Most small tech start-ups do not grow much but those that do are soon bought by large companies who then close the small offices. A Renishaw type success story is exceedingly rare. The housing developers and district council do not have a realistic vision that can be delivered. There is a good reason why employers (even public sector ones) pay high city rents.

1.6 Current and new areas of employment growth in county

The Gloucestershire Economic Needs Assessment 2020 previous report states that the county's employment growth is happening around the outskirts of Gloucester near the M5 junctions for industrial space and in Cheltenham and Gloucester city centres and nearby business parks for office space. The cities attract young people - a key target of Gloucestershire's economic policy. The Berkeley/Sharpness area will also face stiff competition from the new eco business park near J13/Stonehouse and the tech hub near Cheltenham GCHQ - both will have more kudos and appeal to both employers and employees. Skilled employees want to be within reach of a choice of suitable employers, and employers need to draw from a sufficiently large pool.

The Gloucestershire Economic Needs Assessment 2020 report states:

Page 9 0.23 One of the key determinants of location being a desire to retain existing staff, and as such most occupiers considering relocation are keen to stay within easy commuting range of their existing staff

1.7 No rail link to most major or new growth employment areas

This pattern of employment location means that relatively few of those in PS36 who commute out will find the proposed rail link to Gloucester convenient enough to use. Even if a rail link opens, the work destination has to be convenient to a station as well as the home residence. (It may well act to attract people already working in Gloucester city centre to move out to Sharpness and thus commute much further.) The key employment area around Aztec West/Almondsbury near the M4/M5 interchange also does not have a rail station.

1.8 Geographically limited connectivity

In addition to being in a remote area, Berkeley and Sharpness are also midway along a narrow geographical corridor between the Severn and the Cotswold Edge. There are effectively only two directions of commute and connectivity rather than the typical four or more.

1.9 Effect of pandemic

The long term effect of the Covid pandemic on work patterns is yet unknown but if many workers split work between home and the office, workers will still need to commute but demand for office space will reduce. It is reasonable to expect there to be a surplus of office space in better connected and established locations making attracting employers to Berkeley/Sharpness even harder and the development of new employment units/offices unviable.

1.10 Social impact of lack of local employment

There is a large negative social impact of most jobs being a commute away. Commuting is expensive and not feasible for lower paid jobs. It is also time consuming, less reliable, and simply not feasible for many with child or other caring responsibilities.

It is natural that recruiters and employers favour more local applicants. There is a danger of PS36 becoming a town with high unemployment and similar problems to other remote towns.

2. Sustainability: Traffic C02 Emissions, Public & Sustainable Transport

This section follows on directly from my Employment section.

2.1 Unrealistic expectation of self-containment

The NPPF warns against expecting an unrealistic level of self-containment. It states: *15 (b) ensure that their size and location will support a sustainable community, with sufficient access to services and employment opportunities within the development itself (without expecting an unrealistic level of self-containment), or in larger towns to which there is good access.*

From PS36's inception and throughout the whole process and all their sustainability assessments, Stroud District Council and the promoter have expected an unrealistic level of self-containment by PS36. This is in addition to reliance on an unlikely rail link and other unlikely and unrealistic expectations. Sustainability assessment/modelling is very far from being an exact process and uses many guesses and presumptions many of which are likely to be very wrong. However they jig the modelling, and given that eco homes can be built anywhere, it is just not credible that PS36 is a sustainable location in comparison to others in the district closer to large urban areas.

2.2 Distance from everywhere

Sharpness & Berkeley are the furthest points in Stroud District from large cities/towns and all the main employment areas and most public services. Bristol, Almondsbury interchange, Gloucester and Cheltenham are around 20, 14, 18 and 25 miles away respectively. Those are not commutable cycling or electric scooter distances for the vast majority of people. The nearest station Cam & Dursley is several miles away - it is not a safe cycle ride and is already oversubscribed with severe parking problems.

2.3 Number & distance of commuter journeys

Creating a new town at PS36 - the location in Stroud District furthest from major employment centres - cannot be a sustainable option or the most sustainable. The significant increase in both the total number and the average distance of commuter journeys - especially by car - will add to Stroud District's CO2 emissions and seriously impact on its ability to meet its CO2 reduction targets. There will also be more pollution and disturbance. Even trains and coaches produce emissions per mile - nearly empty ones are worse than cars.

2.4 Commuters in & out

In the unlikely scenario that the hoped quota of jobs is created around PS36 and Berkeley/Sharpness, there will not be a natural one to one match of residents to jobs, so large numbers would need to commute into the area as well as out. People now change job more frequently but will commute and move home less often. The Lowry painting days of most people working just down the road are long gone, especially when it comes to better paid jobs and specialist skills. But even in an overly optimistic scenario of a good proportion

employed locally, the sheer size of PS36 would still mean an exceptionally large increase in cars unsustainably commuting a relatively long distance out of this remote area.

2.5 Leisure & personal travel

There are also leisure and personal journeys to shops, cinemas, hospitals, schools, recycling tip etc. Being remote from such facilities and many public services will make it much more difficult for people to give up owning/using a car - and when they have a car, naturally they will tend to use it rather than use public transport or cycle/walk. This will be even more so before services such as the schools are delivered - if ever.

It is likely that many within PS36 will regularly travel some distance for walks to escape the muddy landscape. We frequently drive to the Cotswold AONB for that exact reason.

2.6 Public transport for a remote small town

It is much easier to set up an effective public transport system in a large urban area of dense population where buses can run frequently, relatively cheaply, and at most waking hours to all the local destinations. Until that is achieved and proven in cities, larger towns and existing small towns, it is just experimental wishful thinking for the developers and council to say people will not be relying on cars in the remote Berkeley Vale. Where is the evidence people will not use cars? (We are not in a world where talk is of that choice being removed.) Public transport is also expensive, especially if one already runs a car - which is most likely in a remote area.

2.7 Funding for unprofitable public transport

Where are the guarantees in the Local Plan for funding of loss-making public transport to continue indefinitely? Will there be a full service from the start of the development? What if the development is not completed? There are already enough commuters in the area to fill coaches but operators do not see this as viable. I support the idea of coaches but even if delivered it will not take enough car journeys off the road to make PS36 a sustainable choice in comparison to other locations. And even coaches produce emissions per mile - and are worse than cars if not full enough. There will also be plenty of non-work related travel with destinations not served by public transport. Building a new town so far from cities and larger towns with all their facilities/services is not comparably sustainable.

2.8 Social impact of lack of no transport

Being such a distance from large urban areas has a very negative impact on those who cannot afford a car or public transport, and the young who cannot yet drive, and those who cannot drive due to health, disability, or age (or a ban).

Even if there is a rail link, some people will still need cars or busses to get to the station - not everyone can walk or cycle. Are frequent local busses guaranteed?

2.9 New Sharpness line rail link

The Local Plan's case for PS36 refers several times to - and is reliant on - a new rail link which will go to Gloucester only, requiring a change at Cam to go south to Bristol. I have seen no evidence that there can be confidence that funding for this rail link and any new stations will appear. In fact, the evidence I have seen and heard from those well placed to know suggests the opposite and that funding is very unlikely. Furthermore, the Birmingham-Bristol rail track is already very busy and there is not the capacity for further slow, local trains

stopping at Cam. The timetable will not be frequent and extensive enough to get people out of cars which take them almost door to door.

2.10 Vision of a new Severn bridge

The vision and initial Plan for PS36 was that there would be a new motorway junction and road bridge across the Severn to Lydney (since ruled out over technical feasibility doubts). The selection of the PS36 location for development was not born out of a plan or desire to reduce car travel and road traffic but the opposite, throwing into question its supposed selection based on sustainability or CO2 reduction. At the Emerging Plan stage, the bridge was reduced to a rail and cycle link to Lydney. That is unlikely to happen as it is out of the way as an alternative to the Severn Tunnel (that being the driving force for a bridge), and there are rail track subsidence and future tidal flooding issues on the other side of the Severn. This rail/cycle route has quietly disappeared off the radar of the Local Plan.

2.11 Sustainability, emission targets and alternative uses of the land

In terms of other uses of the PS36 landscape, it has been rated by the council as less sensitive to solar or wind power than most of the district. (That is one other area where the council can influence emissions.) PS36 is currently mainly farmland with a few small woodland areas and provides supporting habitats for the Severn estuary. There are changes in the pipeline as to how farmers will be paid, especially regarding nature and habitats.

Some of PS36 could be reverted to salt marsh which is an excellent carbon sink.

The environmental and economic potential of this land to contribute to biodiversity, carbon sinks and renewable energy (as well as food production) has not been fully recognised and accounted for by the Local Plan in its sustainability assessment. Some of PS36 is needed for flood management, especially to defend Berkeley from tidal-lock.

2.12 Sensitivity of landscape to sustainable housing development

The landscape of PS36 is highly visible from far and wide on the other side of the Severn. PS36 is in Berkeley Vale's flat flood plain. Higher density and mid-rise housing will be more sustainable in terms of heating, travel and loss of greenfield land. It will also provide more affordable homes and more homes for small households as required. Higher density housing and raised housing (due to flood risks) will be especially difficult to blend into the landscape and heritage of the PS36/Berkeley area and is better suited to other locations in the district. Eco style housing can be built anywhere, not just in the Berkeley Cluster.

2.13 Stroud District Landscape Assessment 2000

The Stroud District Landscape Assessment 2000 is an informative read - and enjoyable too, unlike the rest of the evidence.

On pages 72 to 75 it provides a good description and understanding of the Severn Vale Grazing Marshes which form the lower part of PS36. On pages 77 to 80 it goes on to provide a description of the Sandstone Ridge which forms the higher part PS36 and on which most of Berkeley perches.

Page 75 The flat nature of the marshes makes them sensitive to change due to their inability to absorb visually intrusive development, and screen planting here would be inappropriate.

Page 80 This is a sensitive landscape visible from a wide area across Stroud District and from the other side of the estuary and new development therefore needs to be considered carefully.

3. Local Roads & Routes

3.1 Nearest A road & motorway junctions

Berkeley is a couple of miles from the nearest A road, the A38. Locally, the A38 passes through various settlements and so has many speed restrictions ranging from 30mph. It has long been tamed from its previous life as a fast road. None of it is dual carriageway. More houses have been built on it and Stone primary is on it. From the A38 junctions it is then around 5 further miles south to J14 and 8 miles north to J13. The A38 and M5 junctions will be overwhelmed by PS36. Road expansion raises further sustainability questions. The M5 Junctions J14 and J13 are already stretched at peak times.

3.2 New development around Thornbury

The extra traffic from all the new, large housing developments which are planned around the Thornbury area and by the A38 also need to be taken into account. In addition to northbound travel from that area, J14 is likely to be used by southbound residents avoiding the already bad, long queues on the A38 at Almondsbury.

3.3 A38 as the only relief road to M5

The A38 acts as the relief road to the M5. Due to the geography, there is no other viable relief road in the area. Alternative diversions via main roads can be exceedingly long indeed. The local country lanes either side of the motorway are narrow and windy, many with flood ditches both sides - they would very quickly become gridlocked.

If there is an accident on the M5 and an accident or flooding on the A38 at the same time (not a coincidence or such an unlikely scenario in bad weather), then there will be gridlock mayhem with emergency services' access blocked. With all the extra traffic from PS36 relying on the A38, the whole situation will be exacerbated.

3.4 Access from Sharpness & Berkeley to the A38

The main access to Berkeley and Sharpness is via the B4066 from Berkeley Heath. This is a dangerous, scary road with no space to walk. It is used by lorries going to Sharpness. It is very dangerous for cyclists and pedestrians. This road is lined with ditches and would be difficult to widen. There are entrances to a fair number of houses, plus businesses open to the public. This road is very prone to surface flooding after heavy rain. Its junction with the A38 has long been recognised as dangerous and inadequate and is also prone to flooding.

The long talked about continuation of the Berkeley bypass to the A38 has never happened.

Alkington Lane which is a short cut from the B4066 to Newport is really inadequate already as it is narrow with a blind bend and suffers constant road edge subsidence, running water, and potholes. It is very dangerous for cyclists and walkers - but it is still used by many Sharpness lorries.

The minor road from Wanswell to the A38 also has a dangerous junction and is dangerous for cyclists and pedestrians.

3.5 No back route north except canal towpath

Between Berkeley/Sharpness and J13, there is no alternative road route west of the A38 due to the wetlands, and no reasonable route on the east side. The only cycle route is the narrow canal towpath also used by walkers. There is a safety and annoyance conflict between walkers and cyclists using the canal towpath - and much of it is currently unsurfaced. Due to geography, Sharpness and Berkeley are extremely reliant on the A38.

3.6 Berkeley High Street

Berkeley High Street is an important heritage asset in a conservation area. It is narrow and vehicles use the pavement to pass. It is unfeasible to make it one way as there are no alternative access routes. It is a shortcut to the A38 at Stone via narrow and windy country lanes. PS36 will result in more traffic up and down Berkeley High Street, and more chaos at the junction in Market Place.

3.7 Traffic route through Berkeley's historic town centre

Should the employment area by Berkeley Power Station area take off as hoped by the council, the only two routes to this employment area will still be inadequate i.e., through Berkeley's historic town centre and heritage conservation area, or from Stone via narrow country lanes with ditches and bends. Both routes regularly suffer from road flooding.

There will be no direct road access from PS36, forcing cars from the new town to drive through Berkeley town centre and other residential streets.

All roads into Berkeley Town Centre are now effectively a single-track road. This is due to roadside parking. No solution has been found for the increasing parking pressures in Berkeley.

The main access road into Berkeley suffers from bad flooding near the castle entrance. The adjacent meadow is now semi permanently flooded and has been nicknamed the Berkeley Lagoon - someone has even added some pink flamingos.

3.8 Loss of only potential alternative route to Power Station employment zone

The siting of PS36 will not only increase traffic problems in Berkeley's town centre, it will also rule out any solution to access to the Power Station area avoiding Berkeley town centre. That solution would be a short road connecting the main road to Sharpness to the road to the Power Station (Lynch Road). Bear in mind that there is a joint Oldbury/Berkeley bid for a nuclear fusion prototype plant. A new bypass on the south side of Berkeley is not feasible (conservation area, extensive flood meadows).

3.9 Knock-on effects & rat runs

As one route gets busier (e.g., the junctions at the A38), inevitably the alternative routes become rat runs. So, the knock-on effect will be felt well beyond PS36 and its routes. In addition, more traffic on the country lanes will result in a loss of recreation amenity for cyclists including the popular National Cycling Route.

3.10 Proposed cycling and walking routes

The Local Plan does not promise any real solutions to these local road problems. It says safe cycling/walking routes will be provided 'where feasible'. Looking at this in the whole and given the technical difficulty and funding required but not guaranteed, such a route to the A38 does not look 'feasible'. For people to cycle and walk more, the network needs to be joined up. People will be deterred by the weakest links.

3.11 Flooded roads, wind & rain

Many of the roads in the area suffer from surface or fluvial flooding relatively often and on some occasions all roads into the Berkeley & Sharpness area have been blocked by flooding - there is a good reason why Berkeley is known as the 'Town in the Marshes'. This situation is much worse for cyclists and walkers than for drivers.

PS36 is estuary side and in a very exposed position, especially to prevailing wind direction and wet, windy weather from the south-west. The wind does get very noticeably stronger closer to the Severn. It is noticeably harder to cycle near the power station than Berkeley, which in turn is a windier place than say Cam and Dursley. This exposure to the weather will have a negative impact on willingness to walk/cycle/scooter all year and we are not in a world where we are talking about forcing people to do this. The road and pavement to the Power Station employment area are both prone to flooding. The pavement is also in a poor condition.

3.12 No plan or funding for road upgrades

The local roads are inadequate for PS36. The Local Plan largely ignores the traffic and local road issues and gives no explanation of local road improvements or the amounts and sources of necessary funding. The developer has said that roads will not be upgraded.

I am not arguing that there should be a huge road development program in the area. Upgrading the junctions and roads will also lead to more traffic and sustainability issues. The road building itself produces emissions.

The solution is to site new developments closer to the larger urban areas where really good public transport is viable, journeys are shorter, and cycling/walking/scootering distances to work etc are practical.

4. Flooding, Climate change & Coastal Change

4.1 Flooding and a 'Town in the Marshes'

The Berkeley Vale is a flood plain and at high risk of various types of flooding - fluvial, surface, run-off and coastal. Berkeley was called the Town in the Marshes for a reason. This is still apparent from the waterlogging all around the area for months on end every winter and the flooding that periodically occurs in many places, including bordering and within PS36. Many roads are lined by drainage ditches on both sides. Fields and footpaths very easily turn to mud and puddles, and this is particularly true of land within PS36. **Please look at Image 8 in my Photo Evidence.**

Land has been reclaimed and protected from the estuary by sea defences. Although river flood management systems/changes have already been put in place over the years

(including sluice gates by the mouth of Berkeley Pill and straightening the Little Avon River), there is still plenty of fluvial flooding from not just the Avon/Pill but also from several brooks. On occasions, every road route into the Berkeley & Sharpness area has been impassable due to flood water and the area becomes an island.

When the Severn tides are high, the sluice gates at the mouth of Berkeley Pill are closed and this stops the Pill, the Little Avon River, and the brooks from PS36 that run into the Pill from draining into the Severn. (One of those brooks is prone to flooding Lynch Road on the way to the power station.) This blocking of the mouth of the Pill causes fluvial flooding in the lower area of PS36 and causes fluvial flooding to back up into Berkeley along the Pill and the Little Avon River and their various brooks. The Pill ultimately drains much of the area including brooks running from the north-east of Berkeley as well as the south-east of Berkeley. **Please see Image 4 in my Photo Evidence.**

There has been extensive flooding in the Berkeley area particularly in Jan 2001, July 2007, and Nov 20012 – but there are many other occasions. There are serious omissions from the very bare boned summary of flood history in the table at 4.1 of Stroud Level 2 Strategic Flood Risk Assessment 2021. Section 4.5 does however go into the additional surface water problem of the area.

4.2 Increase in water entering brooks & Pill

Any increase in the rate or volume of water entering the Pill - which is likely if PS36 is developed and due to climate change - will increase the already high risk and level of flooding not just downstream but also upstream into Berkeley when the Pill backs up due during tidal lock. E.g., flooding in Berkeley in January 2001 and November 2012.

With increasing storms and increasing sea levels from climate change, the area of PS36 faces the risk of the double whammy of fluvial flooding and tidal flooding. The gates will have to be closed more frequently and for longer periods of time.

On the July 2021 floods currently happening in Europe, the BBC is reporting that, *“Scientists say governments must both cut the CO2 emissions that are fuelling extreme events, AND prepare for more extreme weather.”* If we are sensible, this should affect where we choose to build.

The Local Plan is very cavalier about the flooding issues with a tendency to push assessments further down the line and make assumptions that anything and everything can and will be successfully designed out and mitigated. Given the evidence of my own eyes and knowledge of the area, the location is entirely unsuitable for a new settlement. The high spring tides even without a surge reach the top of PS36’s sea defences. **Please look at Images 4 and 3 in my Photo Evidence.** The sea defence vulnerability is confirmed by the SMP and SFRA Appendix H.

4.3 Flooding maps/evidence with no oversight

The flooding maps in the SFRA Appendices B to J are computer screenshots which show Stroud DC’s planning department’s internal chat messages and employee list more clearly than they do the modelled flood maps. Discussions include the officer’s home improvements and the health of a non-council employee clearly identified by name and employer. How

could these screenshots appear outside the planning department let alone in the final evidence if there was sufficient checking and oversight of these maps? These maps do not inspire confidence and they need checking.

4.4 Sea Level & climate predictions

Climate change is happening. Recent studies and reports by respected authorities are painting an ever-bleaker picture of warming and its consequences - the rate of Antarctic ice melting is already worse than the previous worst case scenarios, resulting in sea level rise happening more quickly. Worse still, scientists say that sea level rise will accelerate. So, we are already further along the upward curve of an accelerating process than was the official guidance when the Local Plan was conceived. Given the lack of progress made so far on reducing global emissions (not just still increasing but increasing faster than ever), using out of date predictions for sea level rises is unsound. Sea levels will rise whatever emission reductions we make.

4.5 Storm/tidal surges up a funnel shaped estuary are exponential

The funnel shape of the Severn Estuary causes the second highest tidal range in the world. Research based largely on the Severn Estuary and published in 2018 has shown that this funnel effect also causes the additional tide height caused by a storm surge to increase exponentially as the surge moves upstream. This means that a storm surge combined with a high tide could be extremely bad at Berkeley Pill and Sharpness but would be even more devastating further upstream and as far as Gloucester and beyond.

See <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6203349/>

Uncertainty in estuarine extreme water level predictions due to surge-tide interaction

5. Conclusion

Variability in the storm surge component of total water level needs to be captured accurately to reduce uncertainty in site specific hazard assessments. This is especially the case in hyper-tidal estuaries, where the tidal range may exceed 6m, and the surges can be amplified towards the head of the estuary, increasing flood risk in that region.

This research has shown that maximum surge elevations increase up-estuary, with surge curves displaying greater magnitude and shorter duration. A total water level prediction for a location up-estuary, which is estimated using down-estuary tide gauge data, could lead to total water level being under-predicted, and will have consequence for the duration that flood water may be able to over wash coastal defences. Local forecasting systems, which rely on accurate estimations of storm surge, should consider changes in surge elevation and shape with distance up-estuary from nearby tide gauge sites.

Regarding the devastating Bristol Channel Flood of 1607, *“in attributing the flood to a storm surge in their 2006 paper, Horsburgh and Horritt show that those proposing a tsunami hypothesis underestimate the volume of water and coastal damage involved in storm surges,”* (Wikipedia)

Regardless of whether the cause was a tsunami or a storm surge, there is no doubt that it happened - so it could happen again.

4.6 Incomplete & out of date flood risk modelling

The flood risk modelling does not allow for the effect of storm/tidal surges in addition to sea level rises due to climate change.

The modelling does not use up to date predictions for climate change.

Some watercourses have not yet been included in the modelling for PS36.

Regarding PS36, Appendix P of the Stroud Level 2 Strategic Flood Risk Assessment states: *Page 74 There are some watercourses that potentially affect the sites that have not been included in the modelling and so further detail is required to understand the extent of Flood Zones and actual flood risk.*

The brief April 2021 HRA Update also refers to PS36 flood modelling still awaited.

4.7 Hold The Line & reconstruction of sea defences

It is the case that tides do already reach the top of the defences for most of the PS36 stretch of the Severn - and that is without any storm/tidal surge or sea level rise. **Please see Image 4 of my Photo Evidence.**

Regarding PS36, The Stroud Level 2 Strategic Flood Risk Assessment states:

Page 78 The site is likely to be impacted by climate change.... climate change is likely to increase the risk of fluvial and tidal flooding to the site.

4.8 Coastal and fluvial flood management flexibility

The Severn Estuary as a whole is notorious for having extensive coastal infrastructure resulting in a lot of line to hold. There will be coastal squeeze with a loss of salt marshes. The incoming tidal water must go somewhere.

Applying the NPPF, Stroud District should not be planning a new town in the floodplain so close to the rising Severn. PS36 not only creates more infrastructure and development to be at risk and defended but takes away future flexibility and opportunities to manage flooding e.g., by creating functional floodplains. It also takes away the opportunity to create more salt marsh which is an excellent carbon sink and a positive for sustainability and biodiversity.

The Stroud Level 2 Strategic Flood Risk Assessment states regarding PS36:

Page 78 The site provides opportunities to provide storage of surface water.... This is likely to provide benefit during periods of high tide or high river level on the River Severn, when tributary watercourses and the Little Avon become tide-locked and back up. Opportunities should be taken to contribute to improvements of the existing flood embankment at the western site boundary, which is currently 'fair' in condition.

4.9 Funding for higher sea defences

The Stroud Level 2 Strategic Flood Risk Assessment states:

Page 79: The site benefits from the presence of existing defences. As a consequence of climate change effects the standard of protection afforded by these defences will be reduced. A commitment must be made so appropriate provisions for flood risk management measures are secured for the lifetime of the development.

I could not see evidence of this funding commitment. Should it be argued that the defences will automatically be made high enough to prevent risk of the sewage works flooding, then I

point out that that is certainly not the case at present. **Please see Image 4 of my Photo Evidence.**

4.10 Flooding of PS36's community green spaces.

The area of PS36 to be given over to the Sustainable Alternative Natural Greenspace (SANG) near the Severn, the allotments, and a nature reserve is at high risk of flooding. This is currently mostly fluvial flooding especially during tidal-lock but there is also the risk of tidal flooding, especially with climate change.

The other thinner strip of green space which runs along the Berkeley side of PS36 is also very prone to flooding with further burden from PS33. The brook here drains into the Pill so flooding backing up the Pill will also back up here.

4.11 Impact of development on flooding surrounding areas

The Stroud Level 2 Strategic Flood Risk Assessment states:

Page 79 The site is located within a catchment identified as highly sensitive to the cumulative impact of development. The effects which development of the site may have on flood risk within the catchment will need to be considered within a site-specific flood risk assessment.

There is an identified risk of the development causing or increasing flooding to other areas, especially as just about the whole wider locality except the very lowest lying land will be developed.

Rainfall from PS36 entering the Berkeley Pill or its brooks at a faster rate will exacerbate flooding upstream in Berkeley (especially during a tidal lock) and flooding downstream on Lynch Road and in PS36 itself.

Bordering the lower western edge of PS36 are several listed buildings and homes, the local sewage works which abuts the Severn, the docks employment area, and the access road to Newtown/Sharpness villages.

The impact of new housing on adjacent land has already been very apparent to the north-east of Berkeley where the current Canonbury Rise development has very noticeably increased the flooding in the fields to the east and north-east of Berkeley.

4.12 Trapped by water

PS36 in conjunction with Sharpness and Berkeley will be an urban area trapped by water and low lying, soggy land. All the slightly higher ground will have been developed. It will be difficult to find space for building more facilities and public services in the future and this will impact the ability of the new settlement to adapt and thrive. For periods of time, it will be surrounded by flood water with little recreational space and blocked roads.

5. HRAs - afterthought, rubberstamping, & unavailable for oversight

5.1 Habitats Regulations Assessment (HRA) & PS36 selection

The initial version of the local plan had no published HRA and diminished the importance of the local stretches of the Severn SSSI, SAC, SPA & Ramsar site. It overlooked significant

impacts of urbanisation and a huge increase in population, recreation, and visitors to the area. There was a lack of comprehensive bird surveys and other evidence (Visitor Survey 2016 5.40). Studies and mitigation strategies were pushed into the future, and some have still not transpired.

The 2019 HRA then raised many good, relevant points and cast doubt on whether PS36 would be possible. However, the 2021 HRA now comes to sweeping conclusions without any reference to research or evidence.

It is sometimes overlooked that the protections apply to fish species as well as birds, and that the RAMSAR protection applies to wetland habitats and the Wildfowl Assemblage. It is not just about the migratory non-breeding birds.

The initial selection of PS36 was uninformed by an appropriate Habitats Regulations Assessment. That is a glaring omission considering the scale of the proposed development i.e., a new town bordering the Severn SSSI/SAC/SPA/Ramsar site in what is currently termed a 'rural hinterland' by the council.

The subsequent 2018 HRA did not even tick urban impacts as a possible impact pathway in its Table 2 despite stating in 2.9 that "*Table 2 is therefore a precautionary identification of potential impact pathways at Emerging Strategy stage, for further consideration*" - and plans at that time showed houses being proposed within 400m of the Severn.

5.2 Late preparation of HRAs

Throughout this process, the HRA has been published after the Local Plan. (The proof is in responses to past consultations.) The HRA's strategic function appears to have been to support the Local Plan rather than to inform it. At the start of the previous consultation, the 2019 HRA was not available and was first published towards the end of the consultation period.

The 2021 HRA has a publication date of 23 May 2021 and is a new and totally different document to the previous HRA. This HRA release was well after the council voted on the Pre-submission Draft Local Plan in April. A document listed amongst the evidence as a Working Draft HRA and dated April is just a 4-page brief update which in no way acts as a substitute for the later 147-page HRA.

5.3 Council voted without the HRA

From the 2021 HRA:

1.10 Role of the competent authority

Although this HRA has been prepared to help the Council discharge its duties under the Habitats Regulations, the Council is the competent authority, and it must decide whether to accept this report or otherwise. Further, it should be noted that this HRA has been prepared for the purposes of preparing and examining the Plan.

The 2021 HRA was not ready for the purpose of preparing the Plan.

When the Council voted, it was not in a position to 'accept' this report as it was not ready.

The 2021 HRA even has a summary and contents list based on Purbeck and Litchfield documents.

5.4 HRA rubberstamping as much as informing Local Plan

There is a relationship of two-way reliance between the Local Plan and the HRA with the 2021 HRA relying on wording within the Local Plan rather than informing the Local Plan.

E.g., 2021 HRA summary & 4.22

“Policy wording therefore ensures that urban effects are addressed at the detailed design stage and that measures are possible that can be secured at project level to eliminate adverse effects on integrity. The protective wording ensures adverse effects on integrity to the Severn Estuary SAC/SPA/Ramsar from urban effects can be eliminated and as the risks are so small (due to development being set back and barriers put in place between the European site and housing), the adverse effects on integrity can be ruled out alone or in-combination.”

What type of barriers are these and where? There is no clarification in the HRA or mention in the Local Plan.

The evidence points to the HRA having been made to approve the Local Plan and the selection of PS36 being a foregone conclusion regardless of habitat assessments.

6. HRA & Severn Estuary - Ramsar Site, SAC, SPA & SSSI

6.1 The 400m zone & proximity PS36 to the Severn

The latest Local Plan does now say that houses will be 400m away. That does not take into account the recreational and allotment area - to be designed to actually 'attract' people and be an everyday part of the urban area all year round. It also does not take into account the distance from the mitigation area/nature reserve or functionally linked land, or the potential need to manage retreat of the sea defences.

The official guidance is that the 400m zone should be redrawn from the boundary of any mitigation zone. The Local Plan fails to satisfy this. Not just the nature reserve but also the SANG area could be crucial in mitigation of lost supporting habitat.

Due to fluvial flooding, increasing storms, rising sea levels and loss of salt marsh, the mitigation zone/nature reserve is likely to need to extend further inland in future, with the possible need for other supporting habitats further inland still. This need for flexibility to adapt to coastal change should be taken into account.

Please see the 2021 HRA at 2.29, 2.30 & 5.6 for expansion of the above paragraph.

Regarding functionally linked land, the HRA summary also states:

“Recognising that in the long-term such areas could play a more important role (as a result of climate change), there is some uncertainty as to the degree of risk.”

The HRA says the 400m distance has been chosen as a 'pragmatic choice'. Pragmatic implies a compromise rather than based on firm evidence or certainty. With nature under such threat from loss of space and climate change, convention is not enough to rely on 400m in order to brush away all concerns about urban impacts. Furthermore, urban impacts will also come from the adjacent SANG which will be for constant everyday use and an extension of the urban area.

Consider light pollution. The migratory birds regularly fly at dusk or at night and take a line some way inland when travelling back and forth, often travelling at dusk or in the dark. E.g. last winter for a while I daily heard geese flying over Berkeley each direction, travelling parallel to the Severn but not over it - maybe the weather or aerodynamics, or just a straight line between Littleton and Slimbridge? It is likely such birds would want to fly over PS36!

The survival of the bird and fish species depends on both the quality and quantity of the food chain and habitats. Each weak link threatens their survival i.e., one disturbance when feeding or one occasion without a safe roost can spell the end for a bird.

The 1km zone highlighting how remarkably close the development is to the Severn is now ignored by the Local Plan. The map of the 400m, 1km and 7.7km zones which is on page 30 of the 2019 HRA is not even included in the latest HRA.

6.2 Mitigation strategies

The 2019 HRA referred only vaguely to mitigation strategies but did suggest a nature reserve and a warden. Now the mitigation strategies for PS36 in the Local Plan are a) a flood prone nature reserve for high tide roosts near the Pill; b) suddenly relocating the Severn Way and banishing the public from being by the shoreline (or within sight of it as it is not visible from the very low lying SANG area); and talk of unspecified barriers.

Everything else is pushed down the line to a later stage. There is a built-in assumption that everything and anything can and will be successfully mitigated but there is a lack of clarification and evidence.

This is even more risky in the light of government proposals to allow developments within a local plan to no longer need detailed planning permission. Anything left in doubt or uncertain will certainly put the Severn habitats and wildlife at risk.

***** Please see Images 1 & 2 of my Photo Evidence. *****

There are not adequate PS36 mitigation strategies for Urban and Recreation impacts relating to:

Drones - drones are being increasingly used by the public.

Noise pollution

- e.g., voices socialising, machinery, music, development - including creation and maintenance of the reserve and SANG which would be adjacent (not 400m away) - creating the 'all season' SANG may involve substantial landscaping work.

Litter & plastic

- this is already an extensive problem and during lockdown we saw how very much worse it gets with an increase in visitors. I attach photographic evidence of litter - especially drinks bottles - floating in amongst drift. This is typical and occurs for miles on end along the Severn. The litter goes up and down the Severn with the tides, sometimes washed up then washed away again. If it does eventually go out to sea, that may take many months. **Please see Image 2 of my Photo Evidence.**

Fly tipping, strimming,

- it is true that as the HRA says people see green space as an extension of their gardens - the Pill in Berkeley suffers from noisy verge/bank strimming in addition to fly tipping even where the houses are across a road. Fly tipping is recognised as a growing problem likely to impact the nature reserve and any other supporting habitats as well as the Severn (especially from near the picnic site where there is close road access, or several places around the docks). PS36 is a 20-mile round trip to the nearest tip and the council wants PS36 residents to give up cars.

Light pollution

- home exterior lights can be incredibly bright, as can other building exterior and outdoor lights. The migratory birds do fly in the dark and regularly pass inland nearer Berkeley when travelling back and forth.

Water & ground pollution

- e.g., garden chemicals - a lot of ground water drains directly into the estuary rather than via brooks/rivers. The same water goes back and forth with each tide and research has found that it takes the better part of a year for Severn estuary water to mix with the sea. The water quality impacts the birds' and fishes' whole food chain plus plants and other wildlife. The 2021 HRA 7.12 points out that Natural England's Site Improvement Plan for the estuary identifies water pollution as a current threat and as a future pressure on the site.

Cats

- I have seen cats can roam a long way especially to where there are birds). It is not as if I am there much of the time or looking out for cats. **Please see Image 1 of my Photo Evidence** including a going into a high roost area at a fair lick.

Dogs

- dogs run off and escape homes and the more homes/dogs in the area the more this will happen - some love bad winter weather the most.

Foxes & rates

- foxes and rats are attracted into human areas for food and will increase in numbers - I have seen a fox on the salt marsh.

Human behaviour, vandalism, foraging, even just sight of.

- very tricky to mitigate against, expensive sea aster is abundant areas of the salt marsh. **Please see Image 2 of my Photo Evidence.**

Building/Development

- as well as noise which will also occur during creation of the nature reserve, large scale rubbish may have an impact. Large amounts of all sorts of rubbish - some quite large - blew away from the Canonbury Rise development.

6.3 Impacts on other areas of the Severn

The sheer size of PS36 will create a large increase in visitors to the Severn beyond PS36's immediate stretch. To the north this includes the stretch around the docks and the canal area. To the south this includes the Severn Way on the other side of the Power Station area where there is convenient parking, and Shepperdine where there is also road access.

A senior officer of the council planning department told me that impacts on the Severn near the Power Station area were already a concern on which they need to keep a close eye. Since then, that relatively quiet part of the Severn Way south of the whole Power Station area has already become better known due to people exploring locally during lockdown.

The area below the cliff between the new and old docks was identified early on as an important roosting area but has since been ignored by the Local Plan. In the area from the marina towards Purton, the salt marsh and reed beds between the canal and the Severn are very vulnerable to human disturbance, noise and litter/rubbish thrown over the wall/sea defence. **Please see Images 5 & 2 of my Photo Evidence.** These areas will also be under threat from PS34.

The HRA has not considered the impacts on all parts of the Severn which are likely to be frequently visited by PS36. It has looked at visitors coming to the PS36 area from within 7.7km locally but has failed to consider the impact on elsewhere of visiting PS36 residents.

6.4 Knock-on effect on other Severn areas

If the Severn Way by PS36 is no longer by the Severn or is busy, this will have a knock-on effect of pushing people (whether from PS36, Berkeley, Sharpness or further afield) to visit other Severn areas instead. Some are already under duress e.g., Purton has already experienced visitor increase problems during lockdown.

Is the council eventually going to resort to banishing the public from other parts of the Severn too?

7. The SANG, the Nature Reserve & Rerouting the Severn Way

***** Please See Images 6 & 7 plus 4 & 8 of my Photo Evidence. *****

7.1 The SANG & allotments area

The area of PS36 to be given over to a Sustainable Alternative Natural Greenspace (SANG), allotments and a nature reserve is at high risk of flooding. In the Stroud District Landscape Assessment 2000 it is described as 'grazing marsh' and is exceptionally low lying and wet. The ground very quickly turns to mud when walked and does not dry out for months.

The Local Plan has now recognised this by stating that there will be paths that are not just wooden narrow walkways - but an alternative is not clarified and the HRA contradicts the Local Plan's statement. The green space will not have the benefits of a park but nor will it be like a walk in the countryside or in character with the estuary setting.

This terrain is simply not suitable as a SANG adjacent to a town or for allotments.

7.2 Mitigation & original vision

The Local Plan now relies on the SANG plus a nature reserve closed to the public and diverting the Severn Way for all its mitigation of recreation and urban impacts. However, this is a seriously flawed concept.

The rerouting of the Severn Way and banishing people from the shoreline has appeared only in the latest version of the Local Plan as it has become apparent that PS36 cannot be justified and that this is the wrong location for a new town. 'Barriers' are also relied upon in the 2021 HRA. The solutions proposed are a bad botch on a flawed concept.

The original vision for the new town was an eco-garden settlement promoted as having an attractive waterside location. Now it is proposed that the waterside will be nearly all out of bounds and have barriers - the Severn will also be out of sight from the SANG. Almost all the allocated greenspace space in PS36 is extremely low lying and badly drained land which is so at risk of flooding that it could not be developed anyway.

7.3 Flooding of the SANG & Nature Reserve

Please look at Images 4 and 7 of my Photo Evidence.

Appendix P of the Stroud Level 2 Strategic Flood Risk Assessment states:

Page 75 The south-western portion of the site is also at risk of fluvial flooding from the Little Avon during a 1 in 5 flood event and greater return periods. Flooding initially occurs around the branched watercourse network at the south of the site, and then extends north westwards during a 1 in 50 event, ponding against the raised defences here, in the defended scenario.

Some watercourses have not yet been included in the modelling for PS36.

Appendix P of the Stroud Level 2 Strategic Flood Risk Assessment states:

Page 74 There are some watercourses that potentially affect the sites that have not been included in the modelling and so further detail is required to understand the extent of Flood Zones and actual flood risk

The short April 2021 HRA Update also refers to PS36 flood modelling still awaited.

Development of PS36 is likely to make the flooding in the SANG and nature reserve areas even worse, in addition to the burden from climate change.

The Stroud Level 2 Strategic Flood Risk Assessment suggests that the PS36 SANG area could be needed as a water catchment area for flood management.

7.4 The Nature Reserve

***** Please look at Images 4 and 7 of my Photo Evidence. *****

The nature reserve is to be in the Severn and Pill area by the mouth of Berkeley Pill where there is a sluice gate and tidal lock is an issue. The area of the nature reserve is exposed to flooding and with climate change this will get worse. Reliance on the nature reserve here overlooks the need for safe higher ground roosts, supporting habitats and functionally linked land. The HRA makes clear the birds' use of the current inland farmland as supporting habitat and that it is likely to have an increasingly important role. Reliance on the nature reserve - a relatively small pocket of land in a changing environment - creates another weak link in the birds' survival chances.

The short 4-page HRA update of April 2021 at 1.11 and 1.12 states that more flood modelling needs to be done regarding the viability of the nature reserve.

1.11 For Sharpness, these issues have been discussed and reviewed in detail, involving Natural England and the Environment Agency. Requirements for a nature reserve that will provide safe feeding and roosting sites for SPA birds are included in the Plan and these should resolve concerns for loss of farmland habitat. Flood risk modelling will be necessary for the HRA to ensure that the Nature Reserve can provide sufficient lasting mitigation and the results are still awaited from the project proposers. Risks to Eels (a qualifying feature of the Severn Estuary SAC) have also been addressed, with survey work highlighting occurrence at particular ponds that can be protected and further checks undertaken at project level HRA, accompanying any planning application.

1.12 We are anticipating further responses from Natural England and the Environment Agency regarding the above issues and these views will be informed by the flood-risk modelling that is still to be made available.

I have looked for and cannot find this modelling. The council vote could not have been informed by it. The reliability of the nature reserve is in doubt.

7.5 SANG is not realistic alternative to the estuary & lacks Severn views

***** Please look at Images 4, 6 & 7 of my Photo Evidence. *****

The 2021 HRA states:

6.46 "In order to function effectively the SANG has to work as an alternative to the estuary and it must therefore be attractive and easy to access. It must provide a realistic alternative and be able to provide the recreation experience that people might seek from the estuary. Expansive views and a sense of openness, with views of the estuary should be effective. SANGs have been provided as mitigation for recreation impacts at other estuary SPA sites in England, for example Dawlish Countryside Park is a SANG for the Exe Estuary SPA/Ramsar and is close to the estuary with good views."

Due to its very low-lying nature, the SANG will not satisfy the above. In fact, there will NOT be good estuary views and the Severn cannot even be seen from the fields nearest the Severn, just the raised embankment. **Please see Image 7 of my Photo Evidence, and for contrast please also look at Image 6.**

One of the experiences of the Severn is hearing and seeing the rushing tidal water and this cannot be experienced at all from a distance. Another is enjoying the different textures and

colours of the salt marsh habitats and plants and watching the tides move back and forth as well as watching birds - none of those can be experienced away from the shoreline. The distance of the Severn water very much depends on whether the tide is in or out - but the sand and mudflats add interest (especially for bird watchers) and are attractive too, especially at sunset.

What about the barriers mentioned as a key part of the mitigation strategy within the HRA summary?

The sun setting over the Severn estuary and across the river can be enjoyed any time of year from the current Severn Way embankment - in mid-winter, the sun sets down river behind the bridges, and in mid-summer it sets across the water behind the Forest of Dean. These sunsets are popular and stunning whether the tide is in or out. People really love these sunsets and seeing the sunset from the SANG area is in no way comparable.

The SANG will be exposed to flooding - the spring tides already reach the top of the defences without any storm/tidal surge necessary. This area is officially undefended from fluvial and tidal flooding.

If the sea defences are raised, there will be no views of the Severn from even further inland. If the sea defences are raised, they may still be breached.

Once the SANG area is flooded, it may take many months to drain away due to the low-lying land and being trapped by the sea defence (and new raised walkways).

7.6 Contradictions between the HRA & the Local Plan

***** Please look at Images 4 and 7 of my Photo Evidence. *****

The 2021 HRA states:

6.48 The effectiveness of the SANG will depend on the quality, which will need to be finalised at the design stage. Principal concerns would relate to the direct proximity of the housing and the degree of water-logging. With the proposed SANG being directly adjacent to the housing it will be important that the design creates an open countryside feel rather than that of urban greenspace. Planting, screening and site design will be important to ensure the housing is screened by vegetation and landscape features. Parts of the SANG are clearly low-lying and will be at risk of flooding, and the ground may well be frequently water-logged and muddy. Design details for the SANG have been set out in a proposed recreation avoidance strategy for the site³³ and this shows indicative sections across the SANG with raised walkways, boardwalks and vantage points. While raised walkways might work to reduce any risks of the SANGs effectiveness being compromised by water logging, they will mean footfall is concentrated along linear routes. Such routes may not work so well where there are dog walkers, joggers, family groups and perhaps even cyclists.

The above paragraph is a contradiction with the Local Plan which on page 16 of The Berkeley Cluster says:

“The aim of the SANG will be to provide open and attractive space for recreation, particularly dog walking, for local residents. As such it will provide for a range of routes of at least 2.5km

where dogs can be off lead. SANG will be separate from the housing so that the visitor experience is of visiting open countryside. SANG will need to be easily accessible year-round, and in particular designed so that waterlogging and flooding will not restrict access or mean access is limited to narrow raised walkways or boardwalks."

The Local Plan does not specify what design might satisfy that requirement. I cannot imagine one and obviously neither could the authors of the HRA. Their own suggestion of raised boardwalks and viewing platforms will not preserve the character of the landscape setting.

7.7 An unacceptable mitigation solution for a wrong choice of location

The Local Plan on the same page (page 16) also says: *"Carefully planned construction to ensure no disturbance to birds on functionally linked land including the nature reserve."*

It is not clear what 'carefully planned construction' looks like. Will there be fences? Considering that the SANG may be used as functionally linked land, it is impossible to see how there will be no disturbance to birds from dogs, cats or foxes.

Although fences may keep most humans out, the birds will not necessarily feel safe and will still be disturbed by humans visible or audible despite barriers.

The Stroud Level 2 Strategic Flood Risk Assessment does mention that raised walkways can make flooding and risk worse due to interference with drainage. This is likely to be the case with any raised walkways running parallel to the Severn.

A greenspace with raised walkways and boardwalks is a constricted experience that has its place in the right scenario (e.g., tourist attraction or wetland reserve open to the public). It does not convey walking in open countryside and is not suitable as a community green space for a town. It would also be very irritating when busy. The SANG is presented on maps as a two-dimensional green space of so many hectares but as a linear route it offers none of the implied freedom or the space of a park. And when flooded it will be even more unfit for purpose and be left a mess.

7.8 Tree screens & viewing platforms inappropriate

Trees to obscure buildings take a long time to grow and would need to be very tall. As the town and especially the employment area will be on higher ground, it will be hard to hide them with trees. This would be even more so should houses be built raised for flood protection or higher density. To serve the purpose described, the SANG needs to be functional from very early on.

The Stroud Land Assessment 2000 states that screen planting is inappropriate in this landscape. It categorises the SANG and allotment areas as 'Severn Vale Grazing Marshes' and gives an informative and true to life description on pages 72 to 75. On page 75 it states: *The flat nature of the marshes makes them sensitive to change due to their inability to absorb visually intrusive development, and screen planting here would be inappropriate.*

Viewing platforms will attract crowds/groups and create excitement and noise which will be seen and heard for some distance. That will further remove any countryside feel and somewhat defeats the object of keeping disturbance away from the Severn and managed within the SANG.

7.9 Rerouting the Severn Way - a National Trail & local amenity

The 2019 HRA has the following important paragraph which has been excluded from the 2021 HRA:

6. Recreation impact concerns

6.3 The issues are not however straightforward. It is now increasingly recognised that access to the countryside is crucial to the long term success of nature conservation projects and has wider benefits such as increasing public awareness of the natural world, as well as health benefits (Alessa, Bennett & Kliskey 2003; Pretty et al. 2005; Moss 2012) and economic benefits (e.g. Bennett, Tranter & Blaney 2003; Downward & Lumsdon 2004). Nature conservation bodies are trying to encourage people to spend more time outside and government policy (for example through extending coastal paths) is promoting access. Furthermore, access to many sites is a legal right, with an extensive Public Rights of Way network and open access to many sites through the Countryside and Rights of Way Act (2000). Therefore, a difficult balancing act is required to resolve impacts associated with recreation, complying with legislation without compromising the ability of people to be outside enjoying sites for recreation.

The NPPF states:

Section 8 - Promoting healthy and safe communities

98. Planning policies and decisions should protect and enhance public rights of way and access, including taking opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails.

Section 15 - Conserving and enhancing the natural environment

170 (c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

180 (b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason;

The 2019 HRA states:

10.13 Current visitor pressure is thought to be relatively low... ..in an area that currently has few houses.

The Severn Way from Sharpness picnic site to Pill sluice gate goes along the top of the sea defence which is an earth embankment. It is thus raised and offers an excellent view of the Severn and the countryside inland, including the Cotswold Edge to the east. The fields very

low-lying and flat. There are also footpaths across the fields but these are little walked even in summer as they are relatively boring: eye level is below the sea defence embankment and the Severn is NOT visible! Nor are the Cotswold Hills. **Please see Images 6 and 7 of my Photo Evidence.**

The Severn Way in the region of the mouth of Berkeley Pill and along the Severn there is the best part of the Severn Way for miles around. It has a wild and remote feel, a closeness to nature away from traffic and background noise. The Stroud District Land Assessment 2000 page 75 uses the description "*tranquil and remote qualities*".

This area has an important local recreational and amenity value and is prized by those who need this type of place. It provides not just outdoor exercise but also peace, quiet and escape for mental health benefits. **Please look at image 6 of my Photo Evidence.**

Stroud District overall has been rated as having a lack of open wild spaces for mental health despite Stroud itself being lucky to have all its commons. In the Berkeley area, this part of the Severn Way provides a unique and important function even though it is relatively quiet at present - walkers are not causing disturbance there. Few dog walkers from the picnic site go that far and the area is quite a walk from Berkeley or the Power Station.

If I had not regularly walked this part of the Severn Way, it is unlikely I would have developed an active interest in the Severn estuary and salt marshes. As a result, in the last two consultations, I have played an active and informed role in sticking up for the Severn habitats and wildlife. Close off public access and where will the next generation come from?

7.10 Degradation of the Severn Way

Close to Sharpness picnic site, the Severn Way has already been devalued in recent years by the addition of large warehouses with another even bigger one on the way. The sewage works are sometimes smelly.

From the Pill, the Severn way going south takes a long tour inland and then around the whole Power Station area. It is several miles without sight of the Severn at all.

From Sharpness picnic site, the Severn Way going north takes a long roadside detour through Newtown before crossing the High Level Bridge (where there are superb views, but the local plan wishes to turn that narrow bridge into a main access road for PS34). There is currently an alternative route which is not a right of way but used by locals. This goes over the lock gates and through pleasant brownfield sites gone to meadows and scrub. With an increase in visitors during lockdown, the docks had problems with people straying and I saw threats of closing the route as a result. This seems likely to happen with the numbers from PS36 and visitors to PS34.

If PS36 is built, the Severn Way in the Berkeley area will not have sight of the Severn for many miles. It will be a dull, tedious walk unworthy of its name and a National Trail. It also goes against the spirit of the creation of a national coastal trail.

The 2021 HRA summary refers to "barriers put in place between the European site and housing". What type of barriers are these and where? There is no clarification in the HRA or

mention in the Local Plan. They sound either unacceptable (visually and otherwise) or not effective. They may also interfere with the movement of birds but will not necessarily make the birds feel safe from noise and sight of mammals.

7.11 Sharpness Picnic Site & parking

The Sharpness picnic site by the Severn is a small waterfront area for the size of the PS36 and PS34 developments and is likely to become overwhelmed.

The adjacent rows of terraced homes may suffer disturbance from increased use of the picnic site. Some frontages open directly onto part of the site and the Severn Way goes past them.

There is also the issue of the Sharpness Picnic Site being a local community amenity with only a small car park. Newtown and Sharpness villages are walkable but set some distance away. Obviously, this car park could not cope with PS36 or PS34. There are no toilets there. The car park is locked at dark. There is no mention in the Local Plan of how this would be handled with such a step change in visitors. If parking charges were introduced, for some that would be a loss of a particularly important local recreational amenity of value.

People come to the Picnic Site and Severn Way to see the sunsets all year round. The sun setting on the Severn estuary/river will not be visible from the SANG area.

8. Shoreline Management Plan, Hold The Line & Salt Marsh

8.1 What the Shoreline Management Plan says

The Shoreline Management Plan for the Severn between Sharpness and the Power Station states:

SMP Approach: The short, medium and long term policy is hold the line. The existing defences are expected to last 20 - 50 years, but may require extensive works in the short term

Planning Considerations: Maintenance and replacement of defences. Planning to consider interactions with other local authority areas and use development controls and conditions to help manage the risk to businesses and residents.

The spring high tides already reach the top the embankment without a storm surge. **Please see Image 4 in my Photo Evidence.**

The SMP clearly puts an onus for risk management back onto Stroud's Planning.

8.2 Contradiction between HRA & SFRA over meaning of Hold The Line:

The Strategic Flood Risk Assessment states that Hold The Line "*may or may not include upgrades to counter climate change and sea level rise*".

The HRA 2021 extract below makes an assumption that HTL means "*therefore not currently intended as an area where the sea defences might be allowed to breach.*"

There is a contradiction between the two above statements. Can it be securely assumed that the sea defences will not be allowed to breach? Or will not breach even if that is not the intention?

The HRA has got this wrong. The SFRA elsewhere and in its defence maps (Appendix H) acknowledges that the area between the Pill and Sharpness is currently undefended).

8.3 What the Flood Risk Assessment says:

The Stroud Level 2 Strategic Flood Risk Assessment states that Berkeley is undefended despite the presence of embankments.

4.8 Flood Defences in Stroud

The areas defined by the Environment Agency as benefitting from defences are classified on the assumption of the defences providing protection during a 0.5% AEP event.

Consequently, there are areas along the estuary which appear undefended despite the presence of embankments. Areas which are defenced include Upper Framilode, Saul, Frampton on Severn, New Grounds, and parts of Oakhunger and Bevington. However, the areas which are shown to be undefended include Elmore Back, Epney, Arlingham, Berkeley and several other villages. These areas may have defences along the associated stretch of coastline, however the standard of protection (SoP) is not sufficient to protect against a 200-year (0.5% AEP) event.

8.4 Challenge to HRA regarding shielding by SMP and HTL

Given the above points, I challenge the correctness of the two paragraphs below.

From April 2021 4-page HRA update:

1.9 Natural England have advised that there is no requirement to undertake an assessment of saltmarsh or other intertidal habitat loss within the Severn Estuary SPA/SAC/Ramsar as part of the local plan HRA as there are no physical defences being built or maintained.

From 2021 HRA:

5.7 For the avoidance of doubt, at Sharpness, the existing Shoreline Management Plan (SMP) identifies the need to Hold the Line (HTL) and the area is therefore not currently intended as an area where the sea defences might be allowed to breach. Any loss of intertidal habitat (such as saltmarsh) within the SAC/SPA/Ramsar is therefore addressed through the SMP (which is subject to its own HRA). This HRA for the Local Plan Review is therefore in a sense 'shielded' by the SMP process and the HTL intention. The Local Plan includes no requirement build or maintain physical defences and therefore the issues with respect to supporting habitat/functionally-linked land in the vicinity of Sharpness will relate to issues such as habitat loss (of land used by relevant qualifying features but outside the European site boundary) and associated issues of disturbance, deterioration etc.

Salt marsh qualifies as an Irreplaceable Habitat.

8.5 Cannot have it both ways – no replacement means overtopping

The Local Plan may not explicitly specify a requirement to build or maintain physical defences but either it creates an onus to ensure PS36 is defended, or it accepts the nature reserve and SANG will be at risk of tidal flooding.

It cannot have it both ways. In reality, a combination of both scenarios is the most likely scenario, and both should be taken into account by the Local Plan.

Until the sea defences are improved or raised, there should be no assumptions made about this happening or to what extent.

9. Other Wildlife & Habitats

9.1 Water voles

There are water voles living in the Berkeley Pill and Little Avon River including the area where PS36 meets Lynch Road. They are impacted by an increase in human presence and urban effects. I have come across one on the footpath suffering from a head injury caused by discarded rubbish. I have not been able to find anything in the evidence regarding the protection of endangered water voles.

9.2 Wood and wildlife corridor

In the area of the PS36 SANG/allotments near Hook Street (Berkeley) there is a right of way lined with ditches and hedgerows and running past a small wood. This is an important wildlife area and corridor in a landscape which is short of trees. It is a magical place and noticeably quiet and peaceful except for bird song - although the path is still a mud bath all winter. The Local Plan makes no mention of this wildlife area or how it will be preserved and integrated into PS36.

9.3 Hemlock water dropwort

Hemlock water dropwort is prevalent in the area along the rights of way from the end of Hook Street towards the Severn. This will be within the allotments or SANG area. Hemlock water dropwort is highly valuable to wildlife but deadly to humans and pets if eaten. It can be mistaken for parsnips, or dug up and eaten by dogs. It spreads easily and will inevitably become a dominant plant within the proposed SANG and allotment areas (and even into gardens). Due to its wildlife benefits (including an important food source for water voles which have evolved to be able to eat), it should not be removed or eradicated (probably impossible anyway) from the area. I have found no assessment of the issue within the evidence.

10. Heritage & Survival of Berkeley Town Centre

The Heritage Report for Berkeley & Sharpness - to find this content buried away one has open and check 4 documents to find Newtown & Sharpness in the contents of the 2017 one (no mention of Berkeley in any contents), then scroll through a 132-page document (no hyperlinks or page number in the contents) to stop at page 76.... finally found it again: this report states that:

“This is the rural hinterland of historic Berkeley – an agricultural landscape, populated by scattered farmsteads and small hamlets. The site effectively spans the entire gap between Berkeley and the separate maritime settlement of Newtown/Sharpness. The site’s sensitivity

relates not only to the numerous designated and undesignated assets within and directly adjoining it, but also to the sense of Berkeley's place in the landscape, as well as to that of Sharpness, and to the sense that they are different and distinct from each other."

"There is very limited scope for development that would have any positive heritage benefits. Development might potentially enable the local 'heritage railway' project - however, it is debatable that any such benefit would outweigh or offset the more likely harm to the area's varied features of heritage interest. If developed in its entirety, even with significant 'buffers' and retained open space, the impact of such extensive development on the heritage assets in the area, on their collective setting and their individual significances, could be very damaging."

This is at odds with the Local Plans claims that *"Established communities will have the chance to help shape their neighbourhoods, maintaining their distinct identities and protecting and improving those aspects of the area that make it a pleasant place to live."*

PS36 will not only be damaging to the heritage assets in its immediate area, and to the separation between Berkeley and Sharpness, it will also be damaging to Berkeley's historic town centre.

There will be more traffic down Berkeley's narrow but historic High Street.

There will be an increase in through traffic to the Power Station area but the only option of a road to the power station bypassing Berkeley will be forever lost to PS36. (The south side of Berkeley is not a viable option due to the conservation area and regular flooding).

There are many listed buildings in Berkeley's historic town centre, not just down the High Street but along both sides of the through route much of which is also included in the conservation area (including Canonbury Street, Market Place, Salter Street, and the start of Lynch Road).

Due to the unsolvable problem of parking in Berkeley and walking distance from much of PS36, new custom will not be drawn into Berkeley town centre but existing custom will be drawn away to new retail in PS36.

It is impossible to see how a building site and the huge modern housing development of PS36 will attract visitors from outside the area to the tourist attractions. In fact, the urbanisation of Berkeley Vale will make it less attractive - most visitors are currently cyclists, ramblers, bird watchers or interested in heritage. More residents as occasional visitors to the castle and museum can hardly be a justification for building the inappropriate PS36. PS36 will take away some of the best rambles and create more traffic on the country back lanes including the national cycling trail.

11. Ammonium Nitrate & Tsunami/1607 floods

There are two potential risks which may well be argued as being very small. However, they would have such devastating consequences that they should be taken seriously.

The dock area is used to store Ammonium Nitrate in quantities larger than that involved in the Beirut explosion. I understand that a report is on the way with new rules regarding development within range of such storage. It would have been prudent for the council to await this.

The Bristol Channel floods of 1607 happened regardless of whether one favours the tsunami theory or the storms surge theory. Such a flood could happen again.

12. Spatial Strategy & Site Selection

The site selection has been based on a limited number of sites put forward by developers in conjunction with landowners wishing to cash in. In 2019 the council asked if there were more landowners wishing to come forward with sites to be considered.

Given the permanent and huge impact that the location of a new town will have on the district's economy, emissions, society, health, wellbeing, the environment, and the people present and future, it is not acceptable that the location for a new town is selected in such a way.

The council should have been more proactive and considered the whole district, looking for the places offering the best outcomes. The NPPF says:

Section 11 - Making effective use of land

119. Local planning authorities, and other plan-making bodies, should take a proactive role in identifying and helping to bring forward land that may be suitable for meeting development needs, including suitable sites on brownfield registers or held in public ownership, using the full range of powers available to them. This should include identifying opportunities to facilitate land assembly, supported where necessary by compulsory purchase powers, where this can help to bring more land forward for meeting development needs and/or secure better development outcomes.

13. Process

The consultation exhibitions held by the council had only displays produced by the promoter/developer and so were marketing and PR exercises for them rather than consultations. At the consultations, the developer was very dismissive despite showing a worrying lack of much knowledge about the area. Issues raised by many residents have not been addressed or taken into account by the council.

The evidence has been unwieldy to navigate and find with much of it buried away. The council could have taken some little steps to make the evidence much easier to find and quicker to access. For example, on the website each heritage document could be presented with a list of which sites are included. Publication dates could be included by each document. There could have been an evidence index for each site/allocation. The HRA documents and flood appendices could be organised by area. Many documents are exceedingly long and do not have hyperlinked contents and require lengthy scrolling. E.g.,

the 336-page Stroud District Employment Land Review 2021 which has only a bare skeleton contents page.

During the 2018 consultation I asked the council if they could present an indication of the relevant site or area by each response document so that one did not have to open and read every single one for the whole district (an impractical task). The council responded that they could not do that due to data protection rules. That does not make any sense as it would not be publishing any more information.

The timing on the vote and the short Reg 19 consultation length (initially only 6 weeks, extended to 8 weeks part way through) was unacceptable considering the pandemic and covid restrictions. There was no information on how to fill in the response form or, for example, how to present photos. The document on how to respond and offering more flexibility regarding having to do the response form was added with just 3 weeks to the deadline - this guide is biased and unbalanced as it includes ticks by all the questions.

Please also see my 'Not legally Compliant' section below.

14. PS36 is Not Legally Compliant

Stroud District Council's Regulation 19 Pre-submission Local Plan published in 2021 is not legally compliant with regards to the inclusion of PS36.

This is because:

- a) The 2021 The HRA was published on 23 May 2021, after Stroud District Council voted to accept the Local Plan and its supporting evidence on 30 April 2021.
- b) The Stroud Level 2 Strategic Flood Risk Assessment was issued on 20 May 2021, after Stroud District Council voted to accept the Local Plan and its supporting evidence on 30 April 2021.
- c) The Stroud Level Strategic Flood Risk Assessment issued in May 2021 states in 3.1.3 that updated guidance for flood-risk modelling is due to be released in 2021 and should be incorporated. Meanwhile it has used 2016 guidance.
- d) There has been a lack of sufficient oversight of the maps published in the various Flood Risk Appendices. This is evident from the screenshots including the department's chat messages.
- e) In the circumstances, it was an abuse of powers, unreasonable and disproportionate for the council to hold the vote when they did because: i) The council elections were long overdue due to the pandemic restrictions and the local elections were shortly coming up on 6 May 2021 (some councillors who voted were not re-elected). ii) Due to covid restrictions since the last consultation, residents did not have the opportunity to campaign. They were not even informed the vote was happening, not even those who had registered email addresses to be kept informed. It took people by surprise. iii) There was no urgent need to proceed so soon, the Local Plan will have major, far reaching and permanent consequences for people and the environment and makes allocations (PS36 phase 2) up to 2050 (further than necessary). iv) The HRA evidence base was awaiting key documents which were still in the pipeline and would

be subsequently published for consultation. v) The Stroud Level Strategic Flood Risk Assessment issued in May 2021 states in 3.1.3 that updated guidance for flood-risk modelling is due to be released in 2021 and should be incorporated. vi) Due to continuing covid restrictions there has not been the opportunity for the public to make full use of the consultation period. vii) The Local Plan is being rushed through before government changes to planning policy which may rule out PS36 upfront or require more detailed and enforceable mitigation at the local plan stage due to the removal of scrutiny at later stages, and before the impact on the Local Plan of the Beirut explosion is known.

The late publication of the HRA is highly relevant to PS36 because:

- a) The HRA is extremely relevant to PS36 regarding the Severn SSSI, SPA, SAC & Ramsar site.
- b) It is a new 147-page document with new content.
- c) The mitigation strategy regarding the Severn and PS36 depends very heavily on the SANG. There are significant and serious contradictions between the May 2021 HRA and the Local Plan regarding what outcome is possible for the SANG as a recreation area.

The late publication of the Stroud Level 2 Strategic Flood Assessment is highly relevant because:

- a) Flooding is extremely pertinent to PS36 in many ways.
- b) The mitigation strategy regarding the Severn and PS36 depends heavily on the nature reserve. The short 4-page HRA update of April 2021 at 1.11 and 1.12 states that flood modelling needs to be done regarding the viability of the nature reserve and is yet to be received.
- c) There is no earlier version of the Flood Assessment published in the evidence.
- d) The issued document is still incomplete i.e., *“Draft Final Report – Issue for consultation. Dialogue continuing with Environment Agency on SFRA outputs”*

15. Suggested Changes to Local Plan

PS36 should be removed from the Local Plan. The location is totally wrong for a new town on many levels, including sustainability, employment, transport, heritage, services, and facilities but most of all flooding, the Severn, and the environment/nature.

In Berkeley, Canonbury Rise is currently being built and a significant addition to the Berkeley/Sharpness area. The planning permission application for PS33 is already at an advanced stage and will bring another significant addition within a relatively short time and add further burden to the brook below PS33 and the Berkeley Pill.

The council should revisit the spatial strategy, make more realistic sustainability assessments, and use up-to-date flood risk data. The council should consider impacts on the Severn upfront, and do more thorough HRA assessments before going so far down the line with proposals.

Better locations for new settlements came forward in 2019 and the council should reconsider those and check for other suitable locations. The council should also consider a different strategy of combining a) urban growth points with higher density housing with b) dispersal to support smaller settlements and housing needs throughout the district.

THE END

