

Your Ref: CAS-17227-P0L3

Our Ref: 2016/00305/RG3

5th August 2016

Lindy Barratt
Development Planning Advisor
Natural Resources Wales

Dear Ms Barratt

Subject: Planning Ref. CAS-17227-P0L3 On line improvements to the existing A4226 between Waycock Cross roundabout in Barry and the lay by to the north of the Welsh Hawking Centre and an off line new road provision to the east of the existing A4226 which will reconnect with the existing A4226 just to the south of Blackland Farm at land adjacent A4226, Five Mile Lane, Barry: Further information in relation to Air Quality:

Thank you for your letter in relation to the above planning application. Please find our response to each of your queries:

- 1. The designated feature of the Barry Woodland SSSI is semi-natural woodland. The other habitats that have been identified in Table 6.8 are not designated features of the SSSI but are found within the site boundary. Table 6.8 and section 6.5.23 of the Environmental Statement (ES) incorrectly states that the appropriate nitrogen critical load for this feature is 5 – 10kgN/ha/yr. The appropriate nitrogen critical load for this feature is 10 – 20kgN/ha/yr.**

Therefore, as a lower nitrogen critical load has been applied, [NRW] advised that the assessment should be revised. The results should be assessed against a nitrogen critical load of 10kgN/ha/yr.

Response: The assessment has been reviewed with amended criteria for the critical load. It should be noted that the critical load recommended by NRW is less stringent than the assessed critical load. The revision had no impact on modelled concentrations within the SSSI and no material impact on the outcome of the assessment. The change in deposition (expressed as a percentage of the critical load) reduced with the new critical load, and, as a result, the descriptor of the magnitude of the change, and the description of the severity of the impact changed at some distance from the roadside. This had the effect of decreasing the distance from the road at which impacts are considered negligible.

Table 6.16 in the ES has been updated, as shown below. Where adverse impacts were noted previously, these impacts are reduced in severity.

Table Error! No text of specified style in document..1 (updated): Summary of Nitrogen Deposition at Ecological Receptors (minimum critical load = 10kgN/ha/yr for all sites)

Ecological Receptor	Impact At Nearest Point to Road							Comment
	Baseline 2013 kgN/ha/yr	2017 DM kgN/ha/yr	2017 DS kgN/ha/yr	Change in deposition kgN/ha/yr	% Change in Deposition	Magnitude of Change	Significance	
2017								
Barry Woodlands SSSI (Middleton Plantation, East of A4226)	30.18	29.90	31.64	1.74	17.4%	Large	Large Adverse	Slight adverse impacts at >26m from roadside
Barry Woodlands SSSI (Middleton Plantation, West of A4226)	28.80	28.66	30.31	1.65	16.5%	Large	Large Adverse	Slight adverse impacts at >15m from roadside
Barry Woodlands SSSI (Lidmore Wood)	27.35	27.32	27.45	0.13	1.3%	Small	Slight Adverse	Slight adverse impacts falling to negligible at distances > 230m from road
Barry Woodlands SSSI (Pencoetre Wood, South of A4050)	34.52	33.64	32.45	-1.19	-11.9%	Large	Large Beneficial	Slight beneficial impacts at >16m from roadside
Barry Woodlands SSSI (Pencoetre Wood, East of A4231)	32.32	30.95	30.90	-0.05	-0.5%	Imperceptible	Negligible	Negligible impact everywhere
Cwm Talwg LNR (South of A4050)	28.14	27.97	27.81	-0.16	-1.6%	Small	Slight Beneficial	Slight beneficial everywhere
2032								
Barry Woodlands SSSI (Middleton Plantation, East of A4226)	30.18	28.77	29.64	0.87	8.7%	Medium	Moderate Adverse	Slight adverse impacts at >12m from roadside
Barry Woodlands SSSI (Middleton Plantation, West of A4226)	28.80	28.03	28.89	0.86	8.6%	Medium	Moderate Adverse	Slight adverse impacts at >10m from roadside
Barry Woodlands SSSI (Lidmore Wood)	27.35	27.26	27.32	0.06	0.6%	Imperceptible	Negligible	Negligible impact everywhere
Barry Woodlands SSSI (Pencoetre Wood, South of A4050)	34.52	31.09	30.37	-0.72	-7.2%	Medium	Moderate Beneficial	Slight beneficial impacts at >9m from roadside

Table Error! No text of specified style in document..1 (updated): Summary of Nitrogen Deposition at Ecological Receptors (minimum critical load = 10kgN/ha/yr for all sites)

Ecological Receptor	Impact At Nearest Point to Road							Comment
	Baseline 2013 kgN/ha/yr	2017 DM kgN/ha/yr	2017 DS kgN/ha/yr	Change in deposition kgN/ha/yr	% Change in Deposition	Magnitude of Change	Significance	
Barry Woodlands SSSI (Pencoetre Wood, East of A4231)	32.32	29.16	29.11	-0.05	-0.5%	Imperceptible	Negligible	Negligible significance at distances >9m from roadside
Cwm Talwg LNR (South of A4050)	28.14	27.65	27.55	-0.10	-1.0%	Small	Slight Beneficial	Impact becomes negligible at 65m from roadside

- 2. Subsequent to the preparation of the ES, [NRW] notified the Fferm Walters/Walters Farm SSSI (on 5th November 2015). Therefore the revision should also take into account this designated site's species rich neutral grassland. A nutrient nitrogen critical load of 20 – 30kgN/ha/yr should be applied to the Fferm Walters/Walters Farm SSSI.**

Response: A modelled assessment of the impacts of the scheme was carried out on the additional SSSI, following the same methodology outlined within the ES. As within the ES, transects were set up in the SSSI, at 5m increments from the roadside, in order to assess the impacts of the scheme. There are two affected links in the vicinity of the boundary of the SSSI - the A4226, to the South of the SSSI boundary, and Waycock Road, to the West. The additional assessment sets out the impacts at the closest point of the SSSI boundary to each of these links.

The results of this assessment are included in Tables 1 to 3 below which supplement Tables 6.14, 6.15 and 6.16 within the ES.

Table 1: Summary of Ambient NOx Concentrations at Walter's Farm SSSI for 2017

Ecological Receptor	Impact At Nearest Point to Road							Comment
	Baseline 2013 ($\mu\text{g}/\text{m}^3$)	2017 DM ($\mu\text{g}/\text{m}^3$)	2017 DS ($\mu\text{g}/\text{m}^3$)	Change in Concentration ($\mu\text{g}/\text{m}^3$)	% Change in Concentration	Magnitude of Change	Significance	
Walters Farm SSSI (East of Waycock Road)	36.6	32.1	45.1	13.0	43.2%	Large	Substantial Adverse	Substantial adverse impacts with exceedence of objective to 15m from roadside with scheme and 5m without. Impacts are negligible more than 50m from roadside.
Walters Farm SSSI (North of A4226)	47.9	40.0	34.7	-5.3	-17.7%	Large	Substantial Beneficial	Substantial beneficial impacts with exceedence of objective to 5m from roadside with scheme and 10m without. Impacts are negligible more than 25m from roadside.

Table 2: Summary of ambient NO_x concentrations at Walter's Farm SSSI for 2032

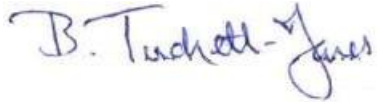
Ecological Receptor	Impact At Nearest Point to Road							Comment
	Baseline 2013 (µg/m ³)	2032 DM (µg/m ³)	2032 DS (µg/m ³)	Change in concentration (µg/m ³)	% Change in concentration	Magnitude of Change	Significance	
Walters Farm SSSI (East of Waycock Road)	36.6	21.8	28.4	6.7	22.2%	Large	Moderate Adverse	Moderate adverse impacts at worst but no exceedence of objective; Impacts fall to negligible significance at 10m and greater from roadside
Walters Farm SSSI (North of A4226)	47.9	27.4	23.8	-3.6	-12.2%	Large	Slight Beneficial	Slight beneficial impacts at roadside with no exceedence of objective; Impacts fall to negligible significance at 5m and greater from roadside

Table 3: Summary of Nitrogen Deposition at Walter's Farm SSSI (minimum critical load = 20kgN/ha/yr)

Ecological Receptor	Impact At Nearest Point to Road							Comment
	Baseline 2013 kgN/ha/yr	2017 DM kgN/ha/yr	2017 DS kgN/ha/yr	Change in deposition kgN/ha/yr	% Change in Deposition	Magnitude of Change	Significance	
2017								
Walters Farm SSSI (East of Waycock Road)	29.77	29.5	31.5	1.94	9.7%	Medium	Moderate Adverse	Slight adverse impacts at >10m from roadside, falling to negligible at <75m.
Walters Farm SSSI (North of A4226)	31.42	30.7	29.9	-0.80	-4.0%	Small	Slight Beneficial	Negligible impacts at >30m.
2032								
Walters Farm SSSI (East of Waycock Road)	29.77	28.55	29.54	0.99	4.9%	Small	Slight Adverse	Negligible impacts at >30m.
Walters Farm SSSI (North of A4226)	31.42	29.40	28.86	-0.54	-2.7%	Small	Slight Beneficial	Negligible impacts at >20m.

I trust this information is satisfactory. However, should you wish to discuss any of the items further then please do not hesitate to contact me.

Yours sincerely,



Dr. Bethan Tuckett-Jones
Technical Director, Air Quality