

MEMORANDUM

To:	Abraham Ejim	Organisation:	Environment Agency
cc:	Ralph Keeble	Organisation:	Gent Fairhead
From:	James Sturman	Our Ref:	S1552-0710-0110JRS
Date:	31 March 2017	No. of Pages:	3
Subject:	Air Quality Clarification		

Abraham,

As requested please find below a table presenting the results of the 99.79 percentile of 1-hour nitrogen dioxide impacts at sensitive receptors. This analysis assumes the IWFM continually operates at the half-hourly ELV, and therefore is considered to be conservative.

As shown even with this conservative assumption the process contribution can be screened out as *'insignificant'* as the process contribution is less than 10% of the AQAL. We have presented the predicted environmental contribution for completeness.

99.79%ile of 1-hour Nitrogen Dioxide Impact at Sensitive Receptors				
Receptor	Process Contribution		Predicted Environmental Concentration	
	$\mu\text{g}/\text{m}^3$	As % of AQAL	$\mu\text{g}/\text{m}^3$	As % of AQAL
Sheepcotes Farm (Hanger No.1)	10.91	5.5%	48.11	24.1%
Wayfarers Site	4.30	2.1%	41.50	20.7%
Allshot's Farm (Scrap Yard)	10.77	5.4%	47.97	24.0%
Haywards	10.26	5.1%	47.46	23.7%
Hérons Farm	10.82	5.4%	48.02	24.0%
Gosling's Farm	7.66	3.8%	44.86	22.4%
Curd Hall Farm	7.42	3.7%	44.62	22.3%
Church (adjacent to Bradwell Hall)	5.94	3.0%	43.14	21.6%
Bradwell Hall	5.38	2.7%	42.58	21.3%
Rolphs Farmhouse	5.93	3.0%	43.13	21.6%
Silver End / Bower Hall / Fossil Hall	8.02	4.0%	45.22	22.6%
Rivenhall Pl/Hall	7.41	3.7%	44.61	22.3%
Parkgate Farm / Watchpall Cottages	8.73	4.4%	45.93	23.0%
Ford Farm / Rivenhall Cottage	5.82	2.9%	43.02	21.5%
Porter's Farm	7.12	3.6%	44.32	22.2%
Unknown Building 1	9.14	4.6%	46.34	23.2%
Bumby Hall / The Lodge / Polish Site (Light Industry)	12.16	6.1%	49.36	24.7%
Footpath 8, Receptor 1 (East of Site)	11.90	6.0%	49.10	24.6%

99.79%ile of 1-hour Nitrogen Dioxide Impact at Sensitive Receptors				
Receptor	Process Contribution		Predicted Environmental Concentration	
	µg/m ³	As % of AQAL	µg/m ³	As % of AQAL
Footpath 8, Receptor 2 (East of Site)	4.81	2.4%	42.01	21.0%
Footpath 8, Receptor 3 (East of Site)	1.55	0.8%	38.75	19.4%
Footpath 8, Receptor 4 (East of Site)	1.03	0.5%	38.23	19.1%
Footpath 8, Receptor 5 (East of Site)	0.24	0.1%	37.44	18.7%
Footpath 8, Receptor 6 (East of Site)	8.88	4.4%	46.08	23.0%
Footpath 8, Receptor 7 (East of Site)	12.23	6.1%	49.43	24.7%
Footpath 35, Receptor 1 (North of Site)	12.20	6.1%	49.40	24.7%
Footpath 35, Receptor 2 (North of Site)	11.57	5.8%	48.77	24.4%
Footpath 35, Receptor 3 (North of Site)	10.86	5.4%	48.06	24.0%
Footpath 31, Receptor 1 (North west of Site)	11.25	5.6%	48.45	24.2%
Footpath 31, Receptor 2 (North west of Site)	11.25	5.6%	48.45	24.2%
Footpath 31, Receptor 3 (North west of Site)	9.74	4.9%	46.94	23.5%
Footpath 7, Receptor 1 (South east of Site)	5.56	2.8%	42.76	21.4%
Footpath 7, Receptor 2 (South east of Site)	10.96	5.5%	48.16	24.1%
Footpath 7, Receptor 3 (South east of Site)	12.22	6.1%	49.42	24.7%
Footpath 7, Receptor 4 (South east of Site)	12.34	6.2%	49.54	24.8%
Footpath 7, Receptor 5 (South east of Site)	11.22	5.6%	48.42	24.2%
Elephant House (Street Sweepings)	2.69	1.3%	39.89	19.9%
Green Pastures Bungalow	7.86	3.9%	45.06	22.5%
Deeks Cottage	11.31	5.7%	48.51	24.3%
Woodhouse Farm	2.24	1.1%	39.44	19.7%
Gosling Cottage / Barn	8.29	4.1%	45.49	22.7%
Felix Hall / The Clock House / Park Farm	4.73	2.4%	41.93	21.0%
Glazenwood House	3.69	1.8%	40.89	20.4%
Bradwell Hall	3.50	1.8%	40.70	20.4%
Perry Green Farm	4.78	2.4%	41.98	21.0%
The Granary / Porter Farm / Rook Hall	4.79	2.4%	41.99	21.0%
Grange Farm	3.86	1.9%	41.06	20.5%
Coggeshall	3.52	1.8%	40.72	20.4%

NOTES:
 Assumes 100% operation of all items of plant at the half-hourly ELVs.
 Assumes 35% conversion of Nox to NO2.
 PEC is calculated based on process contribution plus two times the background concentration.

We trust that this the information presented in this memo is acceptable to you. If you require any additional information please advise.

Yours sincerely
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