Appendix A

Royal HaskoningDHV

Cropping year

2016/2017

Client	**R.G. Aves & Partners**
Address	**ACORN LODGE, KENNINGHALL ROAD, BRESSINGHAM, DISS IP22 2HG**

Cropping 2017

This report includes the following documents:

Cropping map

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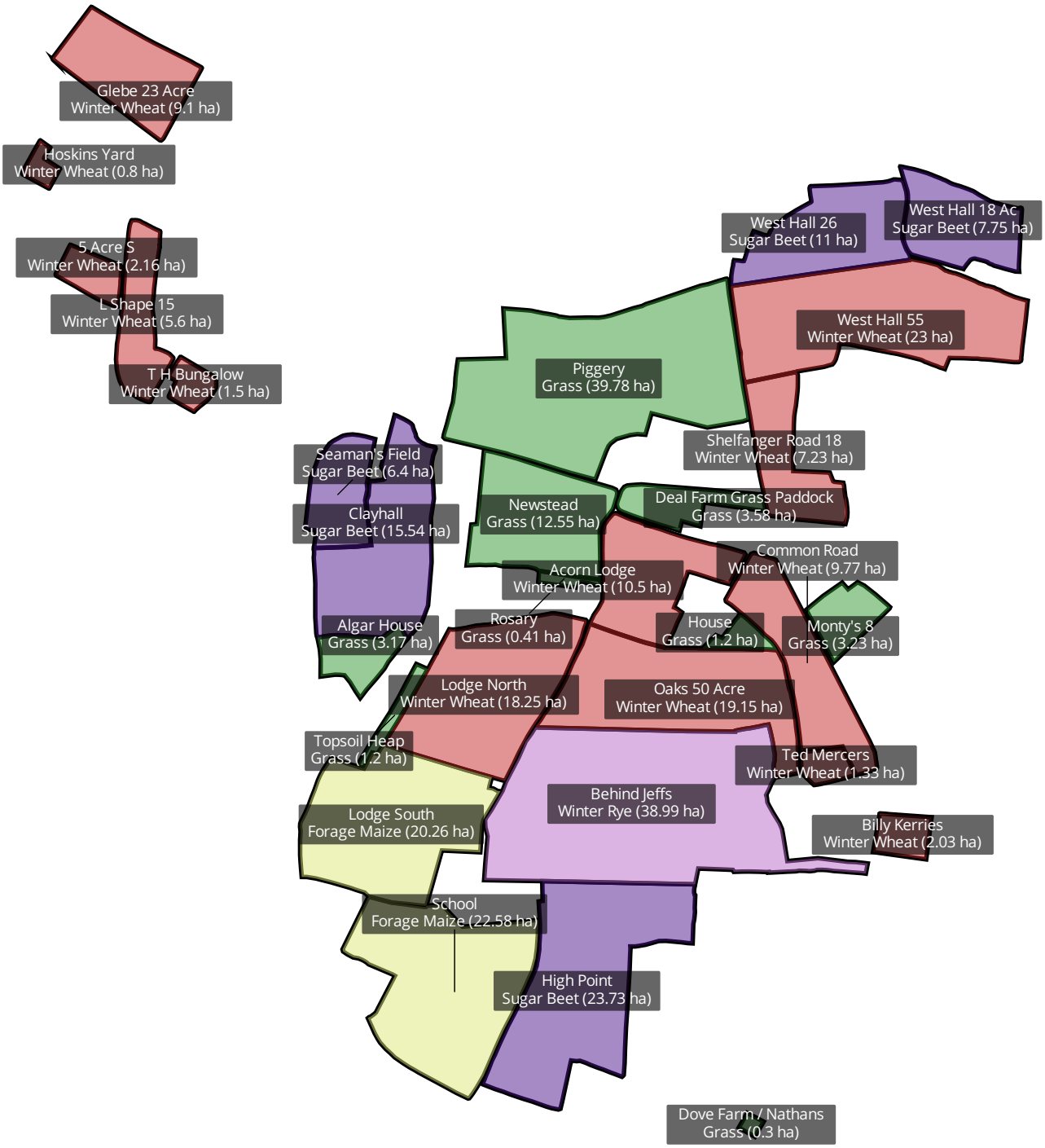
R.G. Aves & Partners

Cropping map – The Oaks & Deal Farm

Cropping year 2016 / 2017



Winter Wheat	Grass	Sugar Beet	Forage Maize	Winter Rye
(110.4 ha, 34%)	(65.4 ha, 20%)	(64.4 ha, 20%)	(42.8 ha, 13%)	(39 ha, 12%)

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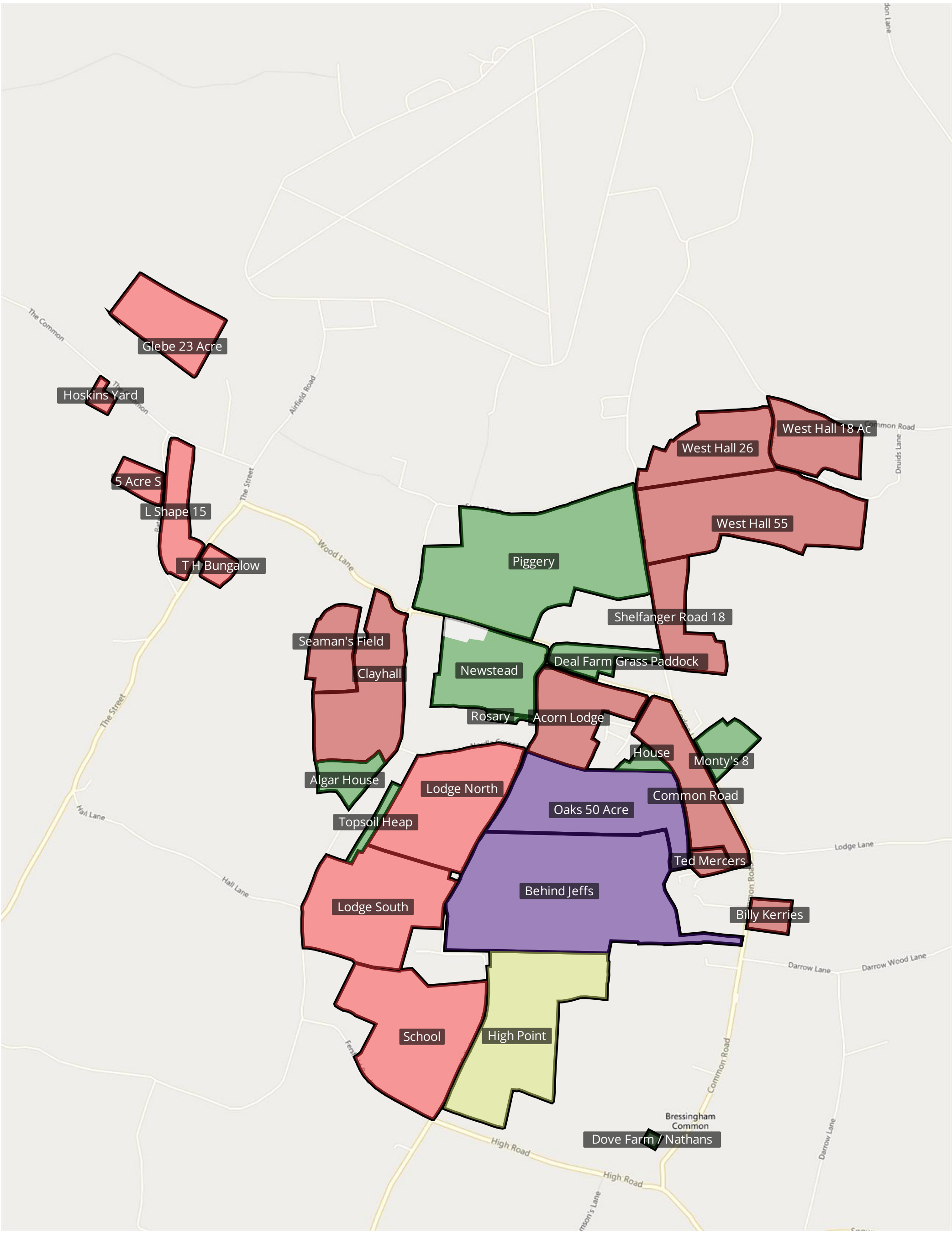
Map imagery © 2023 Microsoft Corporation. Bing

R.G. Aves & Partners
Advisor: Neville Styles
FACTS: FE 0719

Cropping map – The Oaks & Deal Farm

Cropping year 2017 / 2018



Winter Wheat	Spring Rye	Grass	Sugar Beet	Forage Maize	Uncropped
(94.4 ha, 29%)	(80.2 ha, 25%)	(64.4 ha, 20%)	(58.1 ha, 18%)	(23.7 ha, 7%)	(1.2 ha, 0%)

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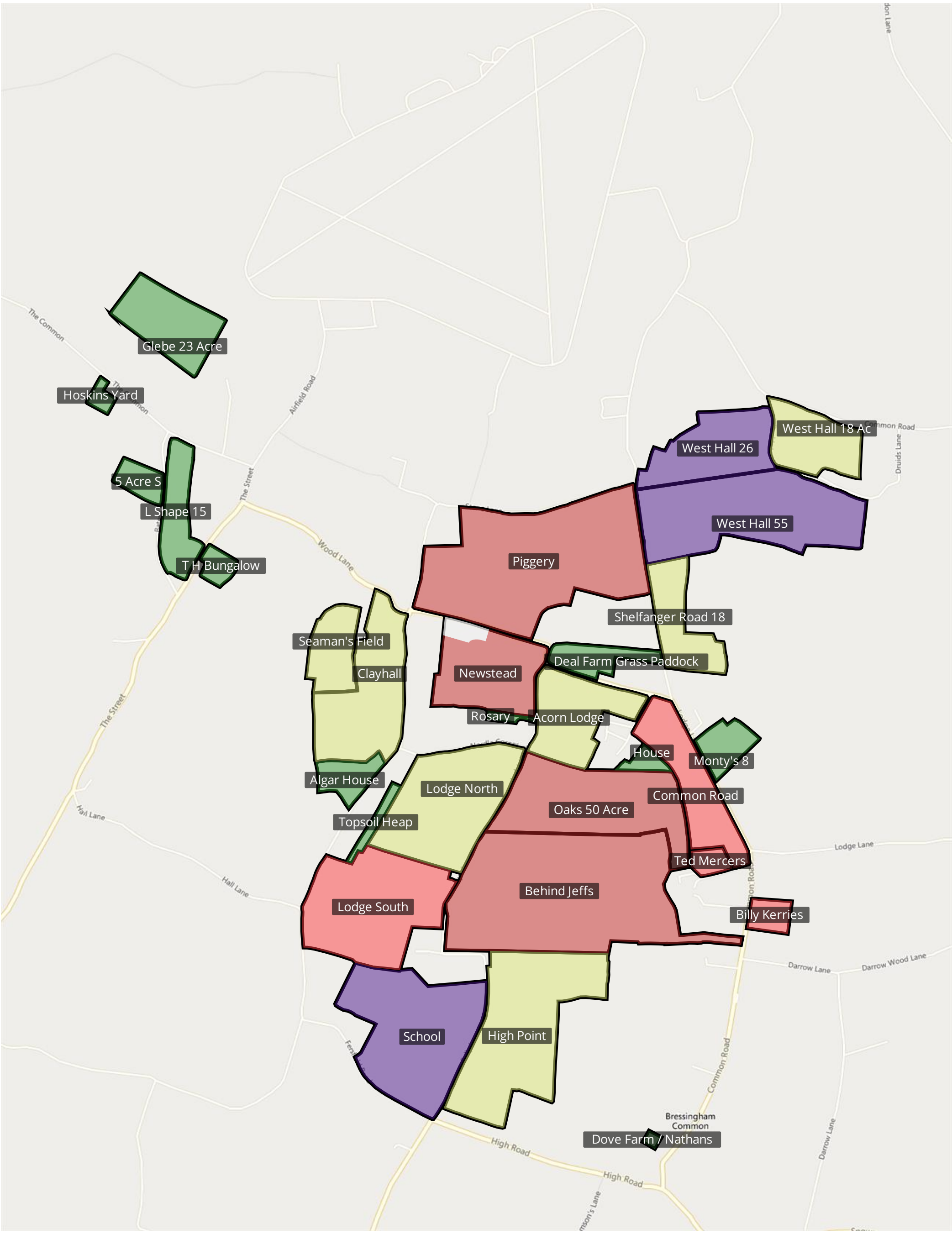
Advisor: Neville Styles
FACTS: FE 0719

Cropping map – The Oaks & Deal Farm

Cropping year 2018 / 2019



Winter Wheat	Forage Maize	Sugar Beet	Spring Rye	Grass	Uncropped
(109.3 ha, 34%)	(89.5 ha, 28%)	(56.6 ha, 18%)	(33.4 ha, 10%)	(32.4 ha, 10%)	(1.2 ha, 0%)

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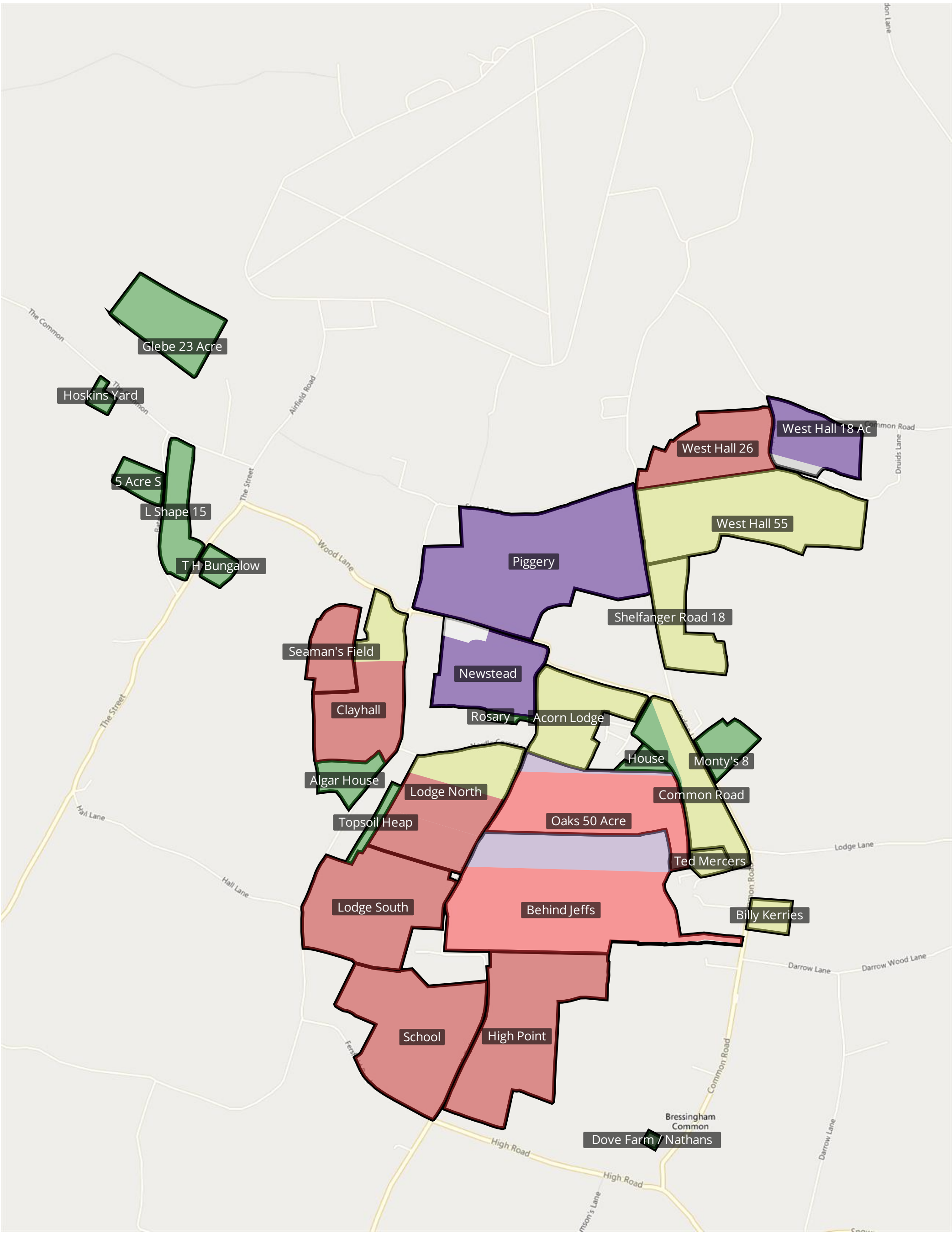
Advisor: Neville Styles
FACTS: FE 0719

Cropping map – The Oaks & Deal Farm

Cropping year 2019 / 2020



Winter Wheat	Forage Maize	Sugar Beet	Spring Rye	Grass	Forage Triticale	Uncropped	Game Cover
(110.6 ha, 35%)	(61.3 ha, 19%)	(57.7 ha, 18%)	(45.8 ha, 14%)	(30.8 ha, 10%)	(12.3 ha, 4%)	(1.2 ha, 0%)	(0.8 ha, 0%)

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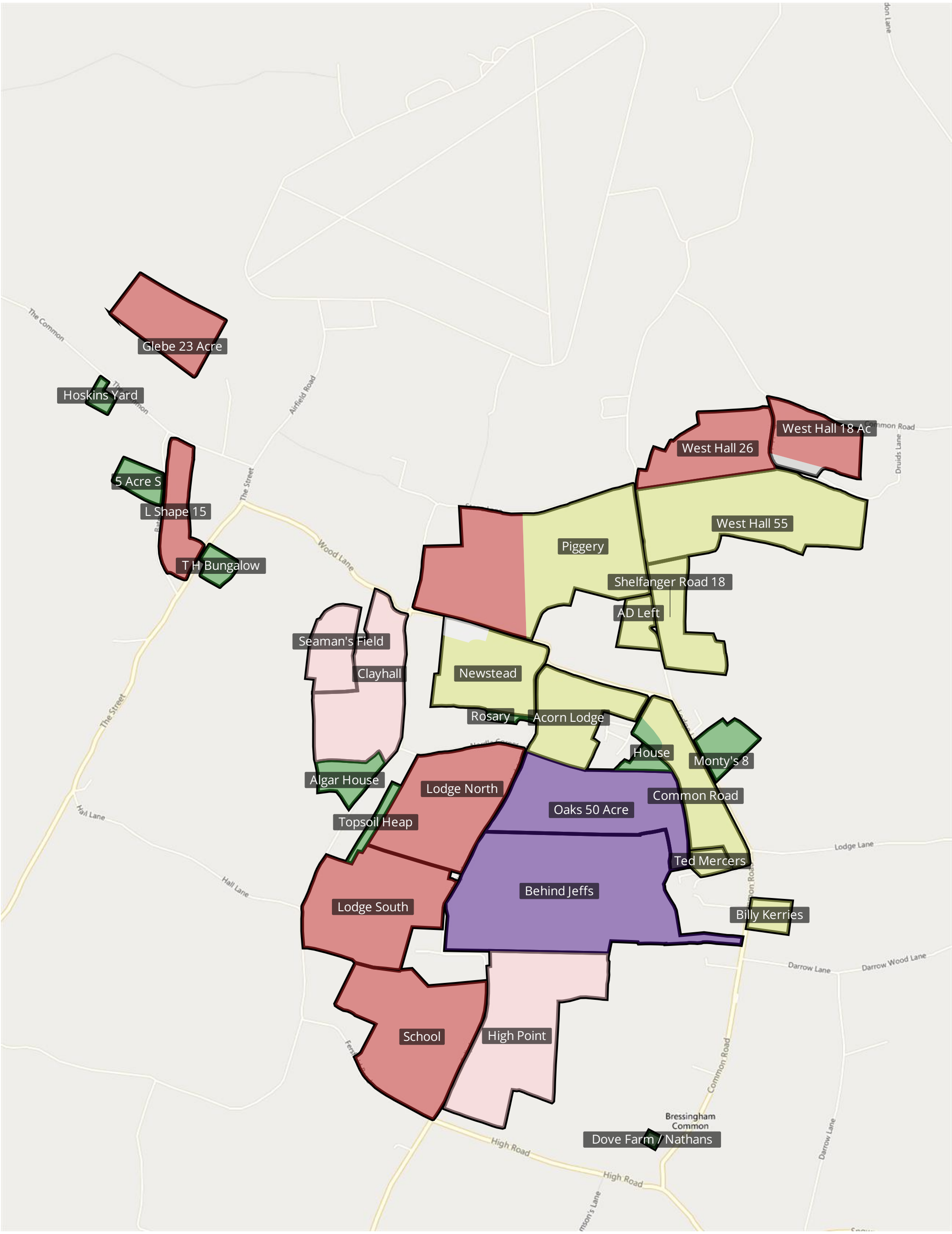
R.G. Aves & Partners
Advisor: Neville Styles
FACTS: FE 0719

Cropping map – The Oaks & Deal Farm

Cropping year 2020 / 2021



Winter Wheat	Forage Maize	Sugar Beet	Spring Wheat	Grass	Uncropped	Game Cover
(109.6 ha, 35%)	(86.3 ha, 27%)	(58.1 ha, 18%)	(44.8 ha, 14%)	(14.9 ha, 5%)	(1.2 ha, 0%)	(0.8 ha, 0%)

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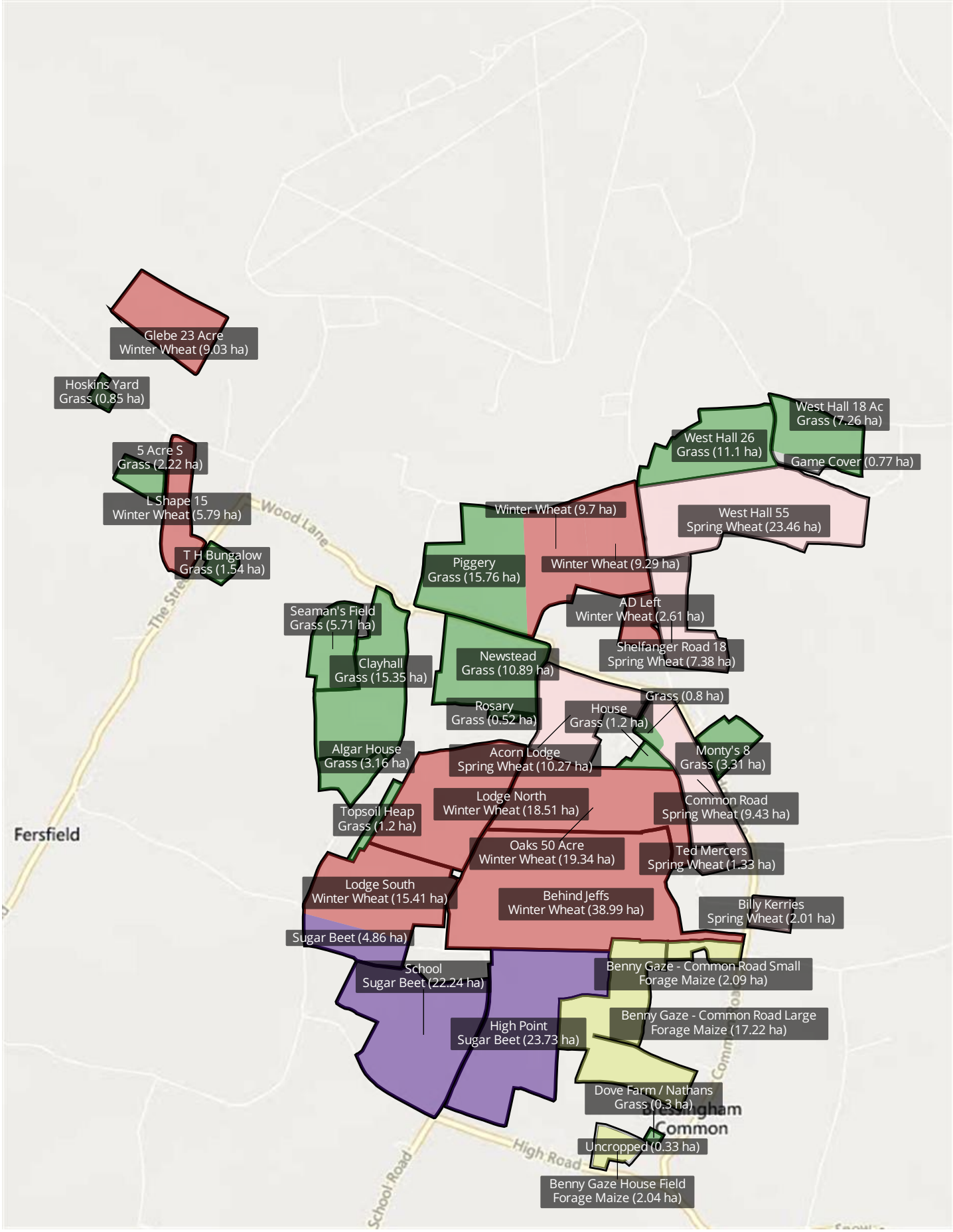
Advisor: Neville Styles
FACTS: FE 0719

Cropping map – The Oaks & Deal Farm

Cropping year 2021 / 2022

Omnia Digital Farming



Winter Wheat	Grass	Spring Wheat	Sugar Beet	Forage Maize	Game Cover	Uncropped
(128.7 ha, 38%)	(81.2 ha, 24%)	(53.9 ha, 16%)	(50.8 ha, 15%)	(21.4 ha, 6%)	(0.8 ha, 0%)	(0.3 ha, 0%)

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R.G. Aves & Partners
Advisor: Neville Styles
FACTS: FE 0719

Cropping map – Gressingham

Cropping year 2021 / 2022

Grass (13.9 ha, 66%)

Forage Maize (7 ha, 34%)

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Appendix B

Royal HaskoningDHV

R.G. Aves - Pig & Poultry Manure Produced 2018 -2022

	Pigs		Poultry	
Year	Monthly Manure (tonnes)	Annual Manure Produced (tonnes)	Monthly Manure (tonnes)	Annual Manure Produced (tonnes)
2022	371	4,452	40	480
2021	418	5,016	40	480
2020	386	4,632	40	480
2019	349	4,188	40	480
2018	315	3,780	40	480
5 Year Average Total Manure Produced (tonnes)		**4,414**		**480**

Livestock

Pigs

Livestock type	Number of places	Occupancy	Total N produced by 1 animal	Total N produced by all animals	Volume of excreta per animal	Percentage of excreta as slurry	Volume of slurry produced	Percentage of excreta as solid manure	Weight of solid manure produced
		(%)	*(kg/year)*	*(kg/year)*	*(m^3/month)*	*(%)*	*(m^3/month)*	*(%)*	*(tonnes/month)*
Finisher place 66kg and over (dry fed)	2,000	63%	10.6	15,505.58	0.13	0%	0	100%	219

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Number of places	2022	1702	1528	473	1734	1569	753	1625	1373	226	1705	1252	1165

Grower place from 31 to 66 kg (dry fed)	2,000	29%	7.7	5,092.5	0.1	0%	0	100%	76

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Number of places	2022	0	0	1736	0	417	1232	0	0	1709	0	1024	859

Weaner place from 13 to 31kg	2,000	31%	4.2	3,185.85	0.05	0%	0	100%	44

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Number of places	2022	0	1759	0	381	1205	0	0	1887	254	1066	904	0

Weaner place from 7 to 13 kg	2,000	33%	1	935.21	0.03	0%	0	100%	32

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Number of places	2022	1677	0	422	1253	0	0	1901	832	1054	819	0	0

				24,719.14		**0**	**371**

Poultry

Livestock type	Number of places	Occupancy	Total N produced by 1 animal	Total N produced by all animals	Weight of solid manure produced
		(%)	*(kg/year)*	*(kg/year)*	*(tonnes/month)*
Broiler places	29,000	78%	0.33	8,781.88	40
				8,781.88	**40**

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Livestock

Pigs

Livestock type	Number of places	Occupancy	Total N produced by 1 animal	Total N produced by all animals	Volume of excreta per animal	Percentage of excreta as slurry	Volume of slurry produced	Percentage of excreta as solid manure	Weight of solid manure produced
		(%)	*(kg/year)*	*(kg/year)*	*(m^3/month)*	*(%)*	*(m^3/month)*	*(%)*	*(tonnes/month)*
Finisher place 66kg and over (dry fed)	2,000	64%	10.6	15,752.09	0.13	0%	0	100%	222

Number of places	2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		386	1880	1564	1381	1835	648	1025	1509	457	1756	1706	1191

Grower place from 31 to 66 kg (dry fed)	2,000	39%	7.7	6,825	0.1	0%	0	100%	102

Number of places	2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1976	0	1141	846	0	1237	694	0	1724	57	460	1219

Weaner place from 13 to 31kg	2,000	39%	4.2	4,015.61	0.05	0%	0	100%	55

Number of places	2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		0	1772	1124	0	1834	1104	0	1736	60	503	1266	0

Weaner place from 7 to 13 kg	2,000	40%	1	1,121.13	0.03	0%	0	100%	39

Number of places	2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1905	1548	0	1802	1157	0	1436	58	457	1183	0	0

				27,713.83			**0**		**418**

Poultry

Livestock type	Number of places	Occupancy	Total N produced by 1 animal	Total N produced by all animals	Weight of solid manure produced
		(%)	*(kg/year)*	*(kg/year)*	*(tonnes/month)*
Broiler places	29,000	78%	0.33	8,781.88	40
				8,781.88	**40**

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Livestock

Pigs

Livestock type	Number of places	Occupancy	Total N produced by 1 animal	Total N produced by all animals	Volume of excreta per animal	Percentage of excreta as slurry	Volume of slurry produced	Percentage of excreta as solid manure	Weight of solid manure produced
		(%)	(kg/year)	(kg/year)	(m^3/month)	(%)	(m^3/month)	(%)	(tonnes/month)
Finisher place 66kg and over (dry fed)	2,000	61%	10.6	15,111.16	0.13	0%	0	100%	213

Number of places	2020	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		784	1067	1773	736	1125	1511	495	2000	1585	464	1864	1304

Grower place from 31 to 66 kg (dry fed)	2,000	33%	7.7	5,775	0.1	0%	0	100%	86

Number of places	2020	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1090	839	0	1103	714	0	1995	0	0	1893	0	277

Weaner place from 13 to 31kg	3,000	26%	4.2	4,010.49	0.05	0%	0	100%	55

Number of places	2020	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		791	0	1137	737	0	2002	0	0	1936	0	192	2600

Weaner place from 7 to 13 kg	3,000	22%	1	933.8	0.03	0%	0	100%	32

Number of places	2020	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		0	1097	723	0	1433	0	0	1878	0	200	2619	0

				25,830.45			**0**		**386**

Poultry

Livestock type	Number of places	Occupancy	Total N produced by 1 animal	Total N produced by all animals	Weight of solid manure produced
		(%)	(kg/year)	(kg/year)	(tonnes/month)
Broiler places	29,000	78%	0.33	8,781.88	40
				8,781.88	**40**

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Livestock

Cattle

Livestock type	Number of animals	Total N produced by 1 animal	Total N produced by all animals	Housing period	Volume of excreta per animal	Percentage of excreta as slurry	Volume of slurry produced	Percentage of excreta as solid manure	Weight of solid manure produced
	(months)	*(kg/year)*	*(kg/year)*	*(months)*	*(m^3/month)*	*(%)*	*(m^3/month)*	*(%)*	*(tonnes/month)*
Beef cow or steer from 12 months to 24 months	9	50	450	7	0.78	0%	0	100%	8
Bull for breeding from 2 to 24 months	2	50	100	7	0.78	0%	0	100%	2
Calf up to 2 months	5	1.4	7	7	0.21	0%	0	100%	1
			557				**0**		**11**

Pigs

Livestock type	Number of places	Occupancy	Total N produced by 1 animal	Total N produced by all animals	Volume of excreta per animal	Percentage of excreta as slurry	Volume of slurry produced	Percentage of excreta as solid manure	Weight of solid manure produced
		(%)	*(kg/year)*	*(kg/year)*	*(m^3/month)*	*(%)*	*(m^3/month)*	*(%)*	*(tonnes/month)*
Finisher place 66kg and over (dry fed)	2,000	53%	10.6	12,941.86	0.13	0%	0	100%	183
Grower place from 31 to 66 kg (dry fed)	2,000	34%	7.7	5,950	0.1	0%	0	100%	89
Weaner place from 13 to 31kg	2,000	33%	4.2	3,329.27	0.05	0%	0	100%	46
Weaner place from 7 to 13 kg	2,000	32%	1	912.68	0.03	0%	0	100%	31
				23,133.81			**0**		**349**

Sheep

Livestock type	Number of animals	Total N produced by 1 animal	Total N produced by all animals	Housing period	Volume of excreta per animal	Weight of solid manure produced
	(months)	*(kg/year)*	*(kg/year)*	*(months)*	*(m^3/month)*	*(tonnes/month)*
Lamb 6 to 9 months	40	0.5	20	0	0.05	2
Sheep less than 60kg	40	7.6	304	0	0.1	5
Sheep over 60 kg	184	11.9	2,189.6	1	0.15	32
			2,513.6			**39**

Poultry

Livestock type	Number of places	Occupancy	Total N produced by 1 animal	Total N produced by all animals	Weight of solid manure produced
		(%)	*(kg/year)*	*(kg/year)*	*(tonnes/month)*
Broiler places	29,000	78%	0.33	8,781	40
				8,781	**40**

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Livestock

Pigs

Livestock type	Number of places	Occupancy	Total N produced by 1 animal	Total N produced by all animals	Volume of excreta per animal	Percentage of excreta as slurry	Volume of slurry produced	Percentage of excreta as solid manure	Weight of solid manure produced
		(%)	*(kg/year)*	*(kg/year)*	*(m^3/month)*	*(%)*	*(m^3/month)*	*(%)*	*(tonnes/month)*
Finisher place 66kg and over (dry fed)	2,000	48%	10.6	11,807.91	0.13	0%	0	100%	167
Grower place from 31 to 66 kg (dry fed)	2,000	26%	7.7	4,515	0.1	0%	0	100%	67
Weaner place from 13 to 31kg	2,500	29%	4.2	3,751.83	0.05	0%	0	100%	51
Weaner place from 7 to 13 kg	3,000	21%	1	874.65	0.03	0%	0	100%	30
				20,949.39			**0**		**315**

Poultry

Livestock type	Number of places	Occupancy	Total N produced by 1 animal	Total N produced by all animals	Weight of solid manure produced
		(%)	*(kg/year)*	*(kg/year)*	*(tonnes/month)*
Broiler places	29,000	78%	0.33	8,781	40
				8,781	**40**

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Appendix C

Royal HaskoningDHV

RG Aves standing straw purchases (bales per year)

Year	Number of Bales
2023	9,812
2022	6,036
2021	7,608
2020	9,561
2019	10,120
2018	7,636

Appendix D

Royal HaskoningDHV

AD Plant Operations

Feedstocks (Existing Agricultural Movements)

Proposed Feedstock	Throughput (t)	Average Payload (t)	Potential Vehicle Movements*
Maize	3500	10.8	324
Grass	5000	10.8	463
Straw	6450	12.6	512
Chicken manure	500	10.8	46
Pig manure	5500	10.8	509
Cattle/duck manure	3000	10.8	278

* These are potential vehicle movements for illustrative purposes only but ultimately movements will fluctuate given the agricultural use. The principle is that all of these uses are existing and agricultural in nature.

Process Additives and Materials Exported (New Movements Highlighted)

	T	Payload (t)	Two Way Trips	
CO2	3285	20	329	Payload data from Biocarbonics, and CO2 t from Storengy
Propane	170	10	34	Propane requirements from Storengy, small tanker size confirmed by Storengy
Solid digestate	20075	12	4015	t digestate from Thoni mass balance. Spread using muck spreaders per existing farming operations on RG Aves landholdings.
Liquid digestate	14235	0	0	t digestate from Thoni mass balance. All can be umbilical fed to RG Aves landholdings - see WRM data.

Staff and Visitors (Comprising All New Movements)

Staffing patterns will comprise:

Monday – Friday 1 person 0700 – 1600hrs
Monday - Friday 1 person 0900 – 1800hrs
Saturday 1 person 0900 – 1300hrs
Sunday 1 person 0900 – 1300hrs

Movement	Number of Arrivals	Vehicle Type
Staff	2 per day	Car or small van
Out of working hours call outs	Unknown	Car or small van
AD Regular Maintenance visit	1 per 2 weeks	Small van
BUU regular maintenance visit	1 per 4 weeks	Small van
GEU regular maintenance	1 per 2 weeks	Small van
CHP regular maintenance visit	1 per week	Small van
JCB/ loader regular maintenance	1 per month	Small van
H&S Audit	1 per 6 months	Car
EA annual inspection	2 per annum	Car
Skip collection	1 per month	HGV
Insurer inspection/ visit	1 per annum	Car
General visitors (management)	2 per week	Car
Cadent 6 month visit and audit	2 per 6 months	Small van
Unexpected maintenance works	Unknown but rare	Transit van or HGV
General Site Fabric maintenance	Unknown but rare	Transit van or HGV
Training	1 per quarter	Car
Consumables deliveries	1 per working day	Transit van
Large parts and consumables	1 per week	HGV
Pest control	1 per quarter	Small van
Biological/ Feedstock sample collection	1 per week	Small van
Annual HV transformer inspection	1 per annum	Small van
Annual fixed electrical inspection	1 per annum	Small van

Total New Trips

Propane deliver and CO2 export = 395 per annum

Staff and visitors = 3,018 per annum

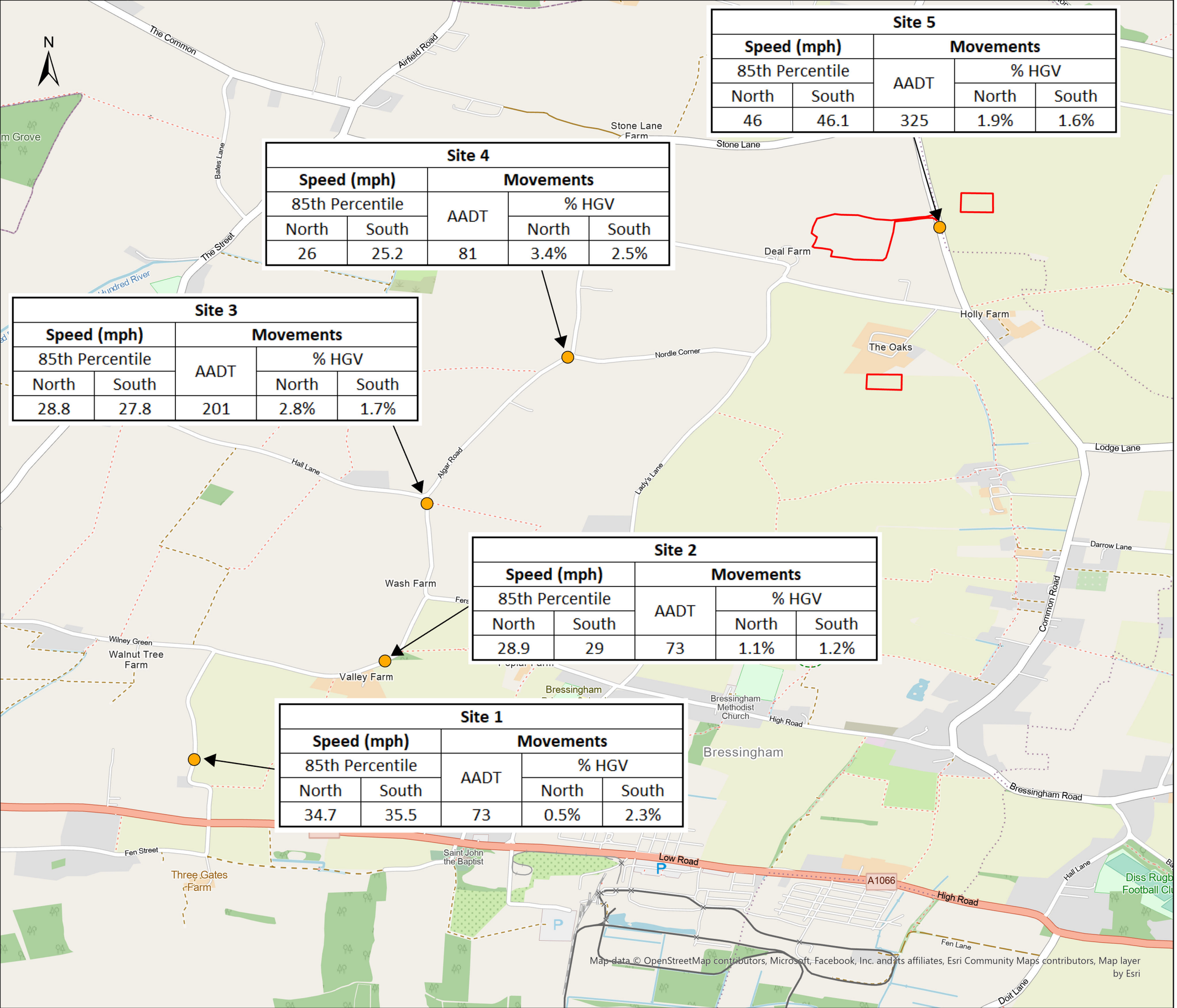
Total annual new trips = 3,413

Average daily trips (assumed 260 days per annum for the purpose of estimation) = 13

Of which HCV = 2

Appendix E

Royal HaskoningDHV



Site 5				
Speed (mph)		Movements		
85th Percentile		AADT	% HGV	
North	South		North	South
46	46.1	325	1.9%	1.6%

Site 4				
Speed (mph)		Movements		
85th Percentile		AADT	% HGV	
North	South		North	South
26	25.2	81	3.4%	2.5%

Site 3				
Speed (mph)		Movements		
85th Percentile		AADT	% HGV	
North	South		North	South
28.8	27.8	201	2.8%	1.7%

Site 2				
Speed (mph)		Movements		
85th Percentile		AADT	% HGV	
North	South		North	South
28.9	29	73	1.1%	1.2%

Site 1				
Speed (mph)		Movements		
85th Percentile		AADT	% HGV	
North	South		North	South
34.7	35.5	73	0.5%	2.3%

Notes:
1) AADT based on 7 day average of surveyed two-way traffic flows

KEY

- ATC Site Locations
- Indicative Red Line Boundary

Title
ATC Survey Results

Project
Deal Farm, Bressingham

Client
Storengy UK

Date	*Scale*
20/12/2023	NTS

Figure
PC5403-RHD-ZZ-ZZ-DR-D-0017

Drawn By	*Approved by*	*Revision*
KP	ST	P01

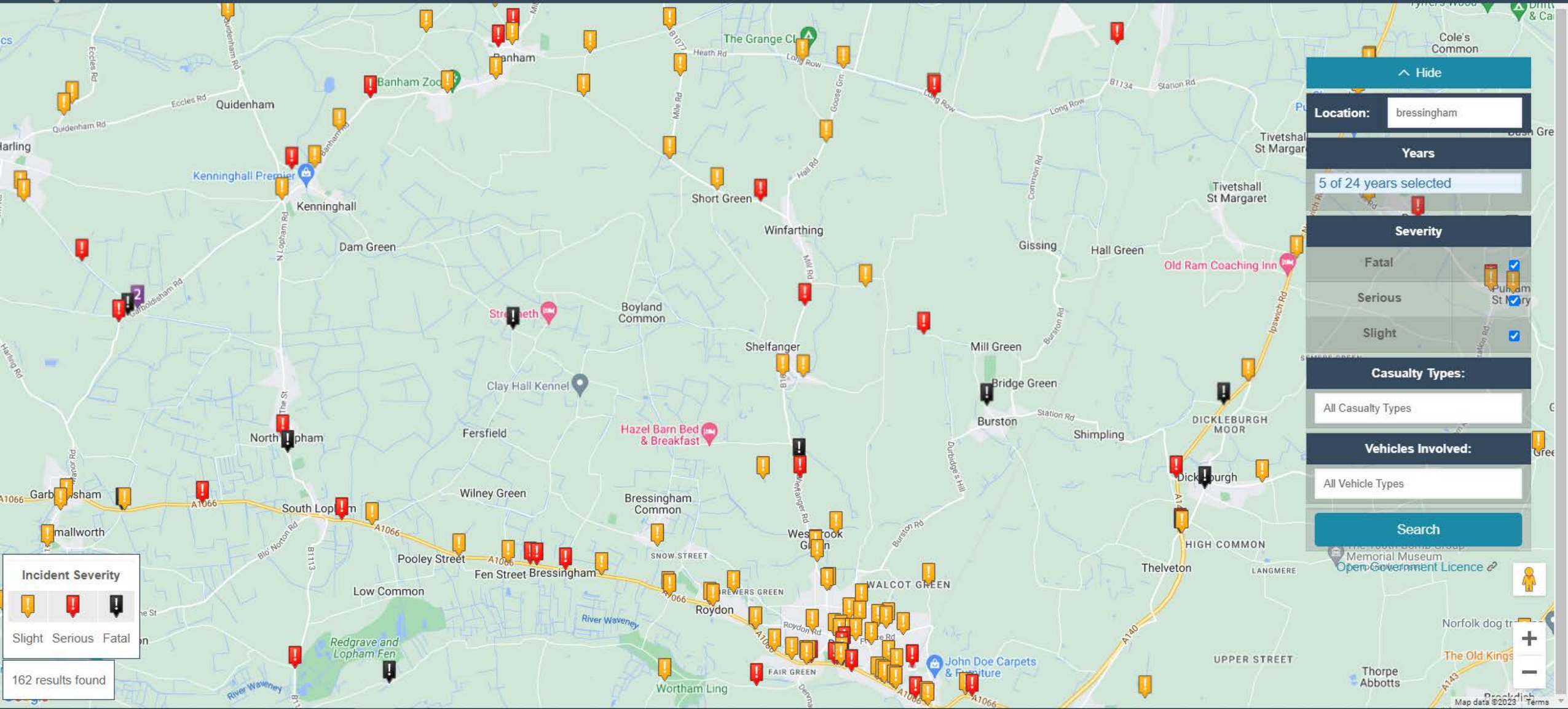
Royal HaskoningDHV
Enhancing Society Together

Path: C:\Users\924521\Royal HaskoningDHV\Project-PC5403-Deal-Farm-Appeal - Team\WP\Transport WP\ATC\3_Results\ATC Results.aprx

Appendix F

Royal HaskoningDHV

crashmap.co.uk

CrashMap Data: Great Britain 1999 - 2022 (verified)

Home | CrashMap Pro | FAQ | Contact us | Log In