

COTSWOLD
TRANSPORT
PLANNING

Low Carbon Farming 2 Ltd

Proposed Commercial Glasshouse and Packing
Facility, Five Fords, Wrexham

Technical Note

September 2020



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CTP-20-537

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1. Introduction

- 1.1 Cotswold Transport Planning Ltd (CTP) has been instructed by Low Carbon Farming 2 Ltd to prepare a Technical Note (TN) in response to issues raised by Wrexham County Borough Council (WCBC) concerning the Transport Statement (TS) supporting the proposed development of a Commercial Glasshouse and Packing Facility (CGPF) in Marchwiel, Wrexham.
- 1.2 The comments provided by WCBC in relation to the previously submitted TS are provided in **Appendix A** of this TN.
- 1.3 This TN seeks to provide additional information with regards to the following highway and transportation issues:
 - Forecast trip attraction and associated impact on the local highway network;
 - Personal Injury Collisions within the vicinity of the application site on the local highway network; and
 - Site access arrangements / a Construction Traffic Management Plan
- 1.4 This TN concludes that the site can be suitably accessed and may be accommodated without detriment to the operational safety or capacity of the local highway network. It is therefore concluded that there are no valid highway or transportation reasons, which should prevent the proposed development of the site.



2. Forecast Trip Attraction and Impact on the Local Highway Network

2.1 The forecast trip attraction detailed in the previously submitted TS supporting this application was based on a worst-case scenario and was produced via a first principles approach. The trip attraction in the TS was based on daily trips, whilst it should be noted that no trips are likely to occur during the network peak hours, due to the operational times of the development. On this basis, there will be no significant or severe impact on the highway network during the network peak hours, which is the key consideration in terms of junction and highway capacity.

2.2 A summary of the revised forecast trip attraction concerning HGV trips and staff / visitor trips is provided below.

HGVs

2.3 As per the previously submitted TS, the maximum total of HGV trips which may occur during peak season (i.e. June, July, and August) is estimated to be 90 daily two-way trips. However, the applicant shall implement a Traffic Management Strategy (TMS), which will prevent HGVs from arriving / departing the application site during the weekday AM peak hour of 08:00 and 09:00.

2.4 As a result of the HGV movement restrictions, the average number of HGV trips arriving / departing the CGPF during peak season will equate to approximately 11 two-way trips each hour (i.e. 90 trips across 8 operational hours). This will therefore result in one additional HGV trip arriving / departing the CGPF every five minutes between the hours of 06:00 and 15:00 (discounting 08:00 to 09:00) from Monday to Saturday during peak season.

2.5 As per the previously submitted TS, the *average* total of HGV trips which may occur throughout the year will be 60 daily two-way trips. However, the implementation of the TMS will result in a total of approximately eight two-way trips each hour (i.e. 60 trips across 8 operational hours). This will therefore result in one additional HGV trip arriving / departing the CGPF every eight minutes between the hours of 06:00 and 15:00 (discounting 08:00 to 09:00) from Monday to Saturday during peak season.

2.6 Considering the TMS measure detailed above, it is considered that this will serve to reduce the associated impact of HGV traffic on the local highway network during the AM peak period (i.e. 08:00 to 09:00). Due to the operating times of the development, no HGV trips will occur during the network PM peak hour.



Staff / Visitor Travel

- 2.7 As per the previously submitted TS, the maximum forecast number of staff private car journeys which may occur during peak season was estimated to be a total of 286 two-way trips, whilst the average number of staff private car journeys was estimated to be a total of 238 two-way trips.
- 2.8 However, in order to reduce the number of private car journeys travelling to / from the CGPF, the applicant shall implement a staff minibus transport scheme. Although, in order to be robust, it is envisaged that a total of 20 members of staff (senior / managerial staff) shall continue to arrive / depart the site via private car. Therefore, during peak season, a total of 123 staff shall travel via minibus, whilst an average of 99 shall do so throughout the year.
- 2.9 Considering the capacity of a minibus to be ten passengers, it is estimated that a total of approximately 26 two-way minibus trips shall occur during peak season, whilst a total of approximately 20 shall occur on average throughout the year.
- 2.10 With reference to the number of anticipated off-site staff trips throughout a typical working day (i.e. during lunchtime) previously detailed in the TS, a reduction of five been applied (i.e. ten two-way trips) due to substantially less staff are forecast to drive as a result of the staff minibus travel scheme detailed above. However, as per the previously detailed TS, a total of five visitors (i.e. ten two-way trips) are still anticipated to take place on a daily basis.
- 2.11 A summary of the revised forecast trip attraction for staff / visitor travel to / from the CGPF is provided below in **Table 2.1**.

Trip Type	Peak Season (Two-Way Trips)	Average Day (Two-Way Trips)
Staff Minibus	26	20
Staff Private car	40	40
Staff Private Car Off-Site Trip	10	10
Visitor Private Car	10	10
Total	86	80

Table 2.1: Revised staff / visitor forecast trip attraction.



- 2.12 Considering the revised staff / visitor forecast trip attraction detailed in **Table 2.1**, a total of 86 two-way trips (i.e. 43 arrivals and departures) are anticipated to take place throughout a typical day during peak season, whilst a total of 80 two-way trips (i.e. 40 arrivals and departures) are anticipated to take place on average throughout the year.
- 2.13 Considering the previously detailed staff / visitor travel trip attraction, the revised calculations based on the staff minibus travel scheme represent a reduction of approximately 200 two-way vehicle trips during peak season, and a reduction of approximately 158 two-way trips on average throughout the remainder of the year.

Total Forecast Trip Attraction

- 2.14 In order to understand the total number of vehicle trips associated with the revised forecast trip attraction of the development proposal, **Table 2.2** provides a summary of all vehicle movements anticipated to be associated with the CGPF.

Trip Type	Peak Season (Two-Way Trips)	Average Day (Two-Way Trips)
HGV	90	60
Staff Minibus	26	20
Staff Private car	40	40
Staff Private Car Off-Site Trip	10	10
Visitor Private Car	10	10
Total	176	140

Table 2.2: Total revised forecast trip attraction of CGPF considering HGV / staff travel measures implemented by the applicant.

- 2.15 Considering the total revised forecast trip attraction detailed in **Table 2.2**, a total of 176 two-way trips (i.e. 88 arrivals and departures) are anticipated to take place throughout a typical day during peak season, whilst a total of 140 two-way trips (i.e. 70 arrivals and departures) are anticipated to take place on average throughout the year.



- 2.16 Considering the previously detailed total forecast trip attraction, the revised calculations based on the applicant's proposed measures indicate a reduction of 200 two-way vehicle trips during peak season, and a reduction of approximately 158 two-way trips on average throughout the remainder of the year. In addition, no HGVs shall arrive / depart the CGPF during the AM network peak period (08:00 to 09:00). Due to the operating times of the development, no mini bus or car trips will occur during the network PM peak hour.

Impact on Local Highway Network

- 2.17 Considering the revised forecast trip attraction of the CGPF detailed above, CTP does anticipate that this will have a detrimental impact on the operation of the local highway network, and thus does not require further analysis in the form of a junction capacity assessment(s). A justification for this viewpoint is provided below:
- The HGV TMS proposed to be implemented by the applicant shall serve to reduce the number of HGVs associated with the CGPF on the local highway network during the AM peak network period (i.e. 08:00 to 09:00);
 - The staff minibus travel scheme shall serve to substantially reduce the number of private car journeys on the local highway network during the morning and afternoon. Although, it should be noted that what private car journeys which may occur will most likely all be out of the AM network peak period (08:00 to 09:00);
 - Furthermore, it should be noted that for one of the months during peak season (i.e. August), there shall be no school traffic due to the school summer holidays. Therefore, it is envisaged that there shall be further capacity on the surrounding network during this period than the other two months of peak operations (i.e. June and July);
 - It should be reiterated that the forecast staff numbers for the CGPF are estimated on the basis of the CGPF producing and cultivating the most labour-intensive crops possible. The applicant has stated that this will most likely not be the case, and therefore such staff numbers during peak season shall most likely not equate to those detailed within this report;
 - Due to the operational periods of the development, no trips will take place on the highway network during the network PM peak hour; and



- Finally, in addition to the above, the applicant is willing to produce an Employee Travel Plan to reinforce more sustainable travel to / from the CGPF. In the event that WCBC agree that this is a suitable strategy, the Travel Plan could be dealt with in the form of a planning condition. A suggested condition for this is provided below:

Prior to beneficial occupation of the proposed development, a Green Travel Plan shall be submitted to, and approved by the local planning authority. The Green Travel Plan shall investigate measures to reduce private car travel, including:

- *The provision of a mini bus;*
- *A local car share scheme;*
- *Cycle parking facilities;*
- *Shower and locker facilities; and*
- *A Travel Information Pack to be provided to all employees.*

The approved Green Travel Plan shall be implemented in all respects and maintained thereafter for the duration of the development, unless otherwise agreed in writing by the local planning authority.

3. Personal Injury Collision Analysis

Introduction

- 3.1 In addition to the previously submitted TS, an extended area / period of analysis has been produced on the surrounding highway network in order to determine any inherent highway safety issues.
- 3.2 Due to WCBC not being able to provide detailed Personal Injury Collision (PIC) data for the most recently available five-year period, CTP has been advised to undertake a local highway safety assessment via interrogating the CrashMap database.
- 3.3 A review and analysis of the CrashMap data is provided below and extracts from the CrashMap database are provided in **Appendix B**.



Review of PICs

Cefn Road

- 3.4 The first PIC (ref: 201560S039316) took place at 06:03 on Saturday the 15th March 2015 on Cefn Road in the vicinity of its junction with the FFWTW Access Road during daylight on a wet / damp road surface. The incident involved one vehicle (a car) and only resulted in one casualty who sustained slight injuries. The detailed incident report does not suggest there were any mitigating factors linked to the geometry, design or nature of the local highway network and therefore it may be attributed to road user error.
- 3.5 The second PIC (ref: 201560S05784) took place at 14:15 on Thursday the 23rd April 2015 on Cefn Road to the west of its junction with the FFWTW Access Road during daylight on a dry road surface. The incident involved six vehicle (four cars, one van or goods vehicle and one bus or coach) and occurred when a car and bus or coach collided, which resulted in a total of four casualties – one slight, one serious and two fatal. The detailed incident report does not suggest there were any mitigating factors linked to the geometry, design or nature of the local highway network and therefore it may be attributed to road user error.
- 3.6 The third PIC (ref: 201660U074389) took place at 14:09 on Tuesday the 24th May 2016 on Cefn Road in the vicinity of its junction with Redwither Lane to the northwest of the application site. The incident involved three vehicles (one agricultural vehicle, one car and one motorcycle (over 500cc)) and occurred when the car collided with the motorcycle, which resulted in one casualty as the motorcyclist sustained slight injuries. The detailed incident report does not suggest there were any mitigating factors linked to the geometry, design or nature of the local highway network and therefore it may be attributed to road user error.

Clywedog Road South

- 3.7 The first PIC (ref: 201660U24022) took place at 15:10 on Thursday 18th February 2016 on Clywedog Road South. The incident involved two vehicles and occurred during fine weather on a dry road surface. The incident resulted in one casualty. The PIC was classified as severe. The detailed incident report does not suggest there were any mitigating factors linked to the geometry, design or nature of the local highway network and therefore it may be attributed to road user error.



- 3.8 The second PIC (ref: 201960X088129) took place at 13:30 on Tuesday 25th June 2019 on Clywedog Road South. The incident involved two vehicles and occurred during fine weather on a dry road surface. The incident resulted in two casualties. The PIC was classified as slight. The detailed incident report does not suggest there were any mitigating factors linked to the geometry, design or nature of the local highway network and therefore it may be attributed to road user error.

Clywedog Road South / Bridge Road South Roundabout Junction

- 3.9 The PIC (ref: 201760V080595) took place at 18:00 on Friday 2nd June 2017 at the Clywedog Road South / Bridge Road South Roundabout Junction. The incident involved one vehicle and occurred whilst raining on a damp / wet road surface. The incident resulted in one casualty. The PIC was classified as slight. The detailed incident report does not suggest there were any mitigating factors linked to the geometry, design or nature of the local highway network and therefore it may be attributed to road user error.

A525 / B5130 Junction

- 3.10 The PIC (ref: 201860W047897) took place at 13:20 on Sunday 15th April 2018 at the A525 / B5130 cross junction, during daylight on a dry road surface. The incident involved two cars colliding head on as one travelled along the carriageway and another was turning right. The collision resulted in slight injuries to a passenger of the first car. The PIC was classified as slight. The detailed incident report does not suggest there were any mitigating factors linked to the geometry, design or nature of the local highway network and therefore it may be attributed to road user error

A525

- 3.11 The first PIC (ref: 201560S105905) took place at 02:45 on Friday 17th July 2015 on the A525, in the vicinity of the Red Lion pub, during night-time on a dry road surface. The incident involved a car colliding with two parked cars whilst travelling along the road, the collision resulted in slight injuries to the driver. The PIC was classified as slight. The detailed incident report does not suggest there were any mitigating factors linked to the geometry, design or nature of the local highway network and therefore it may be attributed to road user error.



- 3.12 The second PIC (ref: 201860W127095) took place at 06:30 on Wednesday 5th September 2015 on the A525, north-west of the junction with the B5130, during daylight on a dry road surface. The incident involved one vehicle (a car) and only resulted in one casualty who sustained slight injuries. The PIC was classified as serious. The detailed incident report does not suggest there were any mitigating factors linked to the geometry, design or nature of the local highway network and therefore it may be attributed to road user error.

A528

- 3.13 The PIC (ref: 201760V031172) took place at 14:25 on Sunday 5th March 2017 on the A528, just south of the junction with the A525, during daylight on a dry road surface. The incident occurred when a car waiting to turn left onto the A525 was rear ended by an approaching vehicle, resulting in slight injuries to the driver and passenger of the first car. The PIC was classified as slight. The detailed incident report does not suggest there were any mitigating factors linked to the geometry, design or nature of the local highway network and therefore it may be attributed to road user error.
- 3.14 The PIC (ref: 201760V140571) took place at 18:30 on Thursday 14th September 2017 on the A528, just south of the junction with the A525, during daylight on a wet / damp road surface. The incident occurred when a car slowing, in anticipation of the approaching junction, was rear ended by a second car, resulting in slight injuries to the drivers of each car. The PIC was classified as slight. The detailed incident report does not suggest there were any mitigating factors linked to the geometry, design or nature of the local highway network and therefore it may be attributed to road user error.

Analysis of PICs

- 3.15 Examination of the data confirms that only 11 incidents have occurred within the study area during the most recent five-year period available (i.e. 2015 to 2019), of which only two were classified as severe and another resulted in a fatality. However, none of the PICs recorded during this period occurred within the vicinity of the application site access junction. Moreover, the detailed incident reports obtained from the CrashMap database, which do not suggest there is an existing safety issue in relation to the geometry, design or nature of the local highway network and that all PICs reviewed above likely occurred due to road user error(s).



Conclusion

- 3.16 Considering the extent of the study area, the likely traffic volumes, and the number of junctions assessed, a total of 11 incidents during a five-year period equates to an average of two PICs each year. This does not indicate that there is an inherent highway safety issue present on the local highway network, which would be exacerbated by the forecast trip attraction detailed within this TN.

4. Additional Information- Site Access Arrangements & Construction Traffic Management Plan

Main Site Access

- 4.1 More detailed access arrangement drawings shall be provided during the detailed design phase of this application. However, it is considered that there is scope to construct a suitable access arrangement in order to ensure all vehicles associated with the CGPF can safely access / egress the site.

Gated Secondary Accesses

- 4.2 It should be noted that these gated access points located at the eastern boundary of the site shall not be used for construction or daily operational purposes. The applicant has confirmed that these shall only be reserved for emergencies only.

Construction Management Plan

- 4.3 As part of the construction process, a Construction Traffic Management Plan shall be provided in order to mitigate against the temporary impact of construction traffic associated with the development on the local highway network. As per the previously detailed Employee Travel Plan, this may be dealt with in the form of a planning condition.

5. Summary & Conclusion

Summary

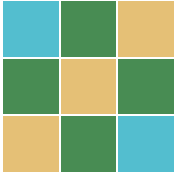
- 5.1 CTP has been instructed by Low Carbon Farming 2 Ltd to prepare a TN in response to issues raised by Wrexham County Borough Council (WCBC) concerning the TS supporting the proposed development of a CGPF in Marchwiell, Wrexham.



- 5.2 This TN has provided additional information with regards to the following highway and transportation issues:
- Forecast trip attraction and associated impact on the local highway network;
 - Personal Injury Collisions within the vicinity of the application site on the local highway network; and
 - Site access arrangements / a Construction Traffic Management Plan

Conclusion

- 5.3 CTP concludes that the additional provided within this TN should satisfy the concerns raised by WCBC and does not foresee how the proposed development shall result in a severe impact on the operational safety or capacity of the local highway network. It is therefore concluded that there are no valid highway or transportation reasons, which should prevent the proposed development of the site.



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Appendix A

WCBC Highway Comments

MEMORANDUM



From:	Chief Officer, Environment & Technical	To:	Chief Officer Planning & Regulatory
Our Ref:		FAO:	Mared Rees-Jones
		Your Ref:	P/2020/0363
Date:	20 th August 2020		

**Land west of Sesswick Way, Marchwiell, Wrexham.
Proposed glasshouse with packing facility and offices, energy centre, recovery plant and reservoirs**

Further to your consultation dated 03/08/2020 in respect of the above, I comment as follows:-

Trip Generation

The expected number of trips generated by both cars and HGVs have been calculated from first principles based on knowledge of other comparable sites. A robust estimate has been obtained of the likely development trip numbers. In peak period, up to 90 HGV trips and approximately 300+ car trips are expected at the site.

Traffic Assessment

ATC surveys were undertaken on Cefn Road and Sesswick Way in May 2020. Due to the national lockdown during the coronavirus pandemic, these traffic counts will be substantially lower than typical traffic and this is acknowledged in the TA. No baseline traffic flows or capacity assessments of the key junctions have been provided.

In the current circumstances new meaningful traffic count data cannot be obtained at this time, but without the data and assessments it is not possible to confirm that the development can be supported by the surrounding highway network. It may be possible to use data collected in previous years for transport assessments undertaken for nearby sites.

It is recommended that the Developer is advised to contact Consultants working on the Wrexham KS2 scheme (Mott MacDonald – claudia.currie@mottmac.com) and the North Wales Traffic Model (Jacobs -Daniel.Cornelius@jacobs.com)

Site Access

The development will use the existing access on to Cefn Road, which is shared with Welsh Water which is already used regularly by HGVs. The visibility splays at the Cefn Road and Sesswick Way access junctions have been shown to be within the Design Manual for Street requirements for a highway with speeds over 40mph. There remains concern that the swept path diagrams, shown on the OS map base, for the existing entrance to the site show HGV's driving on land not currently used as highway but as this land is included in the Redline Boundary this can be resolved through an appropriate S278 agreement.

There could be a future issued with the additional minor gated accesses if they are used at a later date to access/egress the site on a regular basis.

Accident Analysis

The Crashmap website provides an acceptable indication of the accident record in the close vicinity of the site. However, the screen shot from Crashmap used by the Developer shows no accidents for the three year period shown on Cefn Road and Sesswick Way adjacent to the site, nor on the site access junction or the Cefn Road/Bridge Road/Bedwell Road/Sesswick Way junction.

If the study area is widened slightly and five years of data are displayed, there appears to be a cluster of accidents on Cefn Road within 500m to the west of the site access junction. This includes

one fatal and one serious accident which is a concern as this route is likely to be used by staff and visitors coming from Wrexham. In addition, for Clewedog Road, on the route north towards the A534 been a number of serious accidents. This route would be used by both HGV and car traffic to the site.

It is therefore inappropriate to conclude that there are no relevant highway safety issues near the proposed site access and along the routes that the development traffic would use. Further investigation of the collision history is required on Cefn Road and Clewedog Road.

Car Parking

Parking requirements have been estimated based on the proportion of workers driving to work in this MSOA according to 2011 Travel to Work census data. It is estimated that 143 of the 180 staff are likely to drive to work. A small number of visitors to the site are also expected, producing a total parking requirement of 145 spaces at peak times.

Sustainable Transport Options

Sustainable transport options to the site are available to staff as the site is accessible by bus via the bus stop in Pentre Maelor, approximately 15 minutes walk from the site. The proposal will provide an additional bus stop closer to the site which will encourage sustainable travel option to the site.

The provision of cycle parking on site will encourage the use of Active Travel via a shared use path linking the site to Wrexham, although in places this is narrow and would benefit by improvement. There are local amenities available in Marchwiel and Wrexham which is within a reasonable cycling distance.

Bus Stop Provision

It is noted that the applicant's proposal is to provide east and westbound bus stops on Cefn Road, for bus routes that already pass the site and agree this would improve the options for employees to travel sustainably. The proposed bus stop locations appear appropriate and should be secured through Section 106 or 278 Agreements.

Internal Site Layout

A site layout plan and swept path analysis has been provided, showing that the expected HGV movements can be accommodated within the proposed site layout, with sufficient space for vehicles to wait on site if loading bays are not vacant.

Conclusion

The Transport Statement does not yet demonstrate that the development can be accommodated by the highway network in terms of safety or capacity.

Due to the effects of the coronavirus pandemic the collection of base traffic data in order to undertake capacity assessments has been disrupted. We would suggest the following be advised to the Developer:

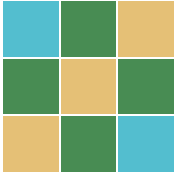
It is recommended that the Developer is advised to contact Consultants working on the Wrexham KS2 scheme (Mott MacDonald – claudia.currie@mottmac.com) and the North Wales Traffic Model (Jacobs - Daniel.Cornelius@jacobs.com)

It is recommended that a wider assessment of accidents is undertaken, particularly looking at routes to the A534 and west into Wrexham.

It should be noted that the developer has offered to contribute to the provision of the bus stops via a financial contribution or through a section 278 agreement and this agreement could also be used to secure appropriate highway access improvements to the site entrance to enable HGV's to pass more easily.

In addition, a Construction Traffic Management Plan is required for approval before any construction can take place on this site, paying particular attention to the proposed usage of all the access/egress points to the site.



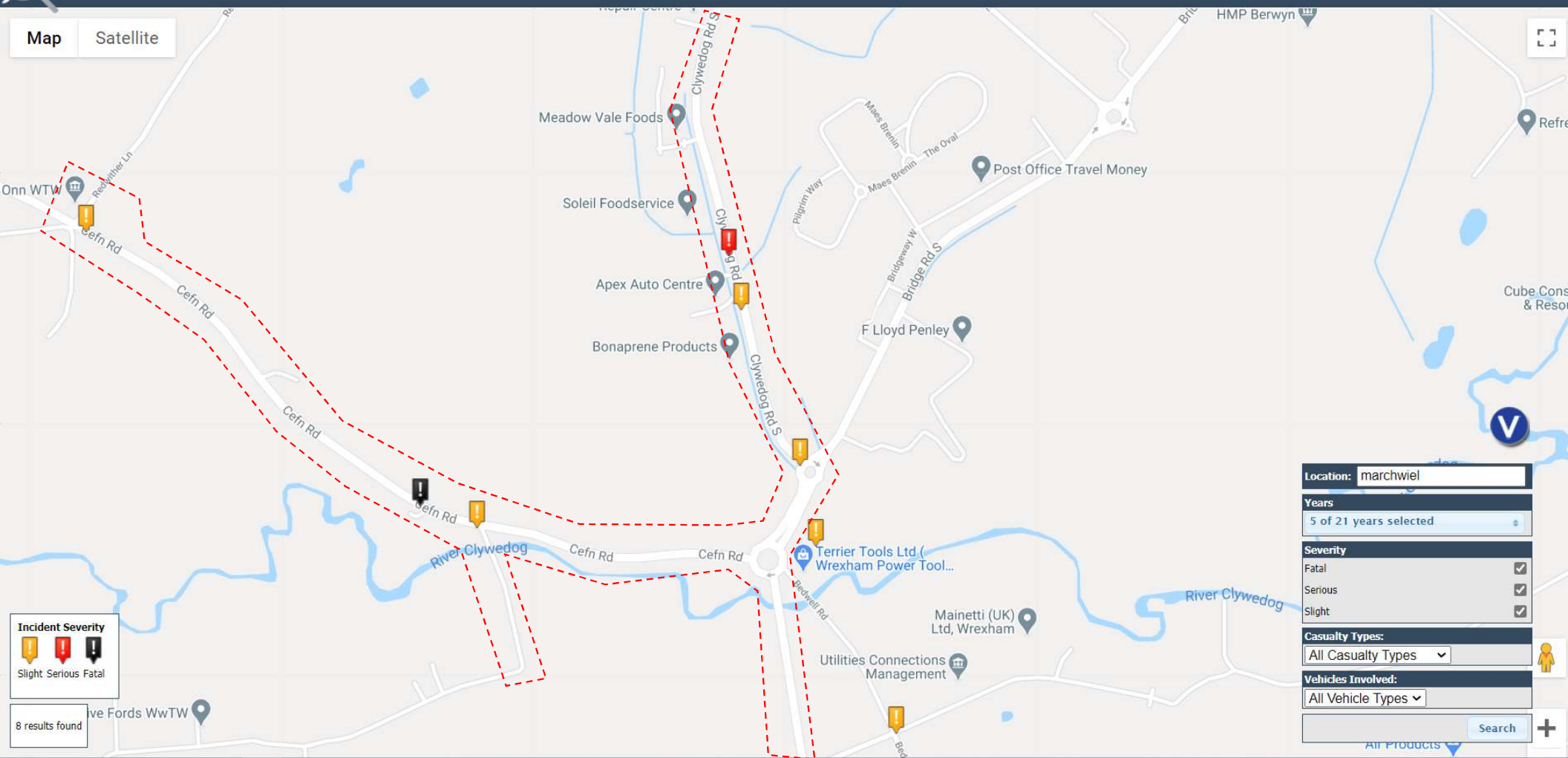


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Appendix B

CrashMap Data Extracts

Map Satellite



Incident Severity

Slight Serious Fatal

8 results found

Location:

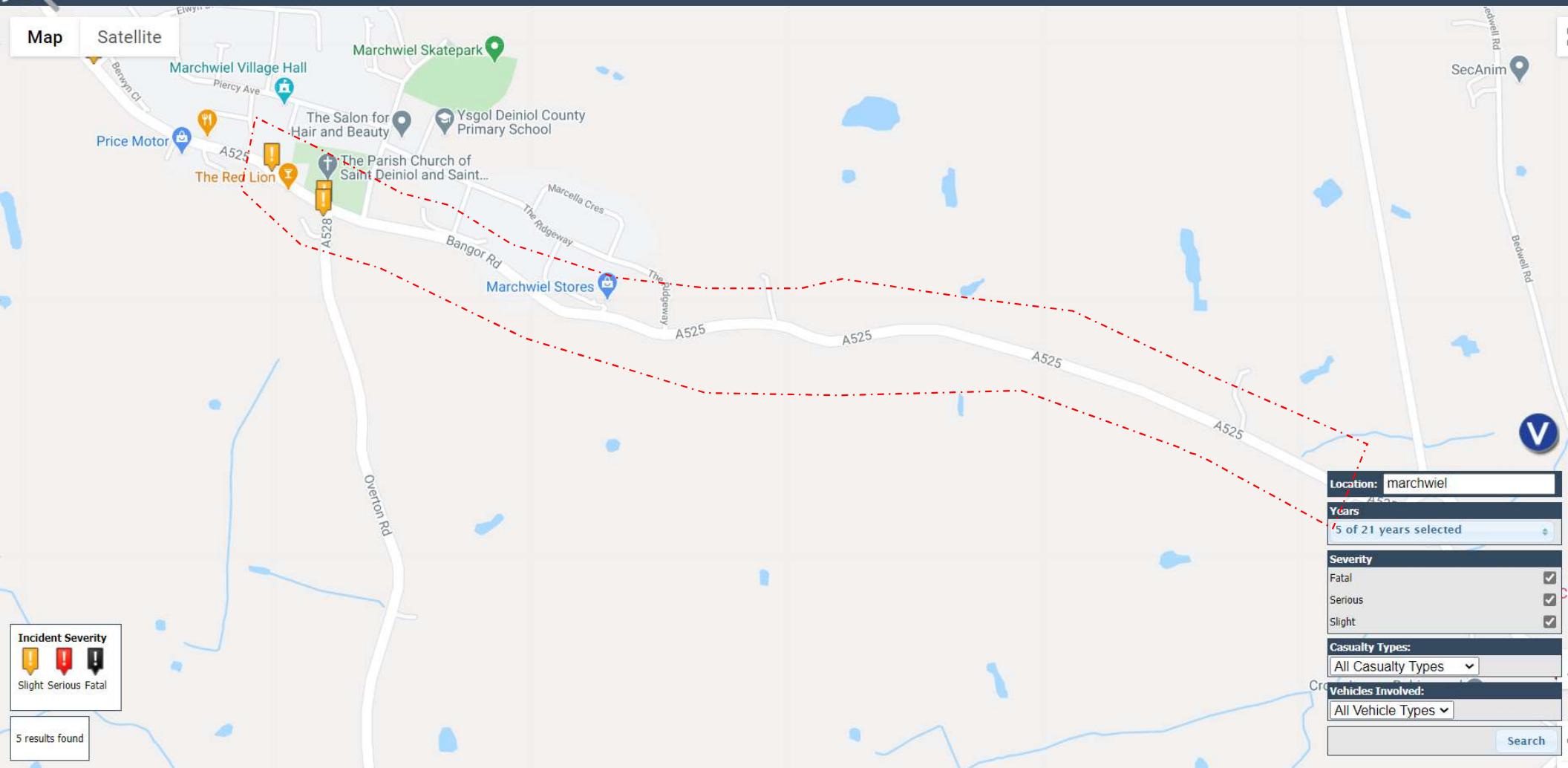
Years
5 of 21 years selected

Severity
Fatal ☒
Serious ☒
Slight ☒

Casualty Types:
All Casualty Types

Vehicles Involved:
All Vehicle Types

Map Satellite



Incident Severity

Slight Serious Fatal

5 results found

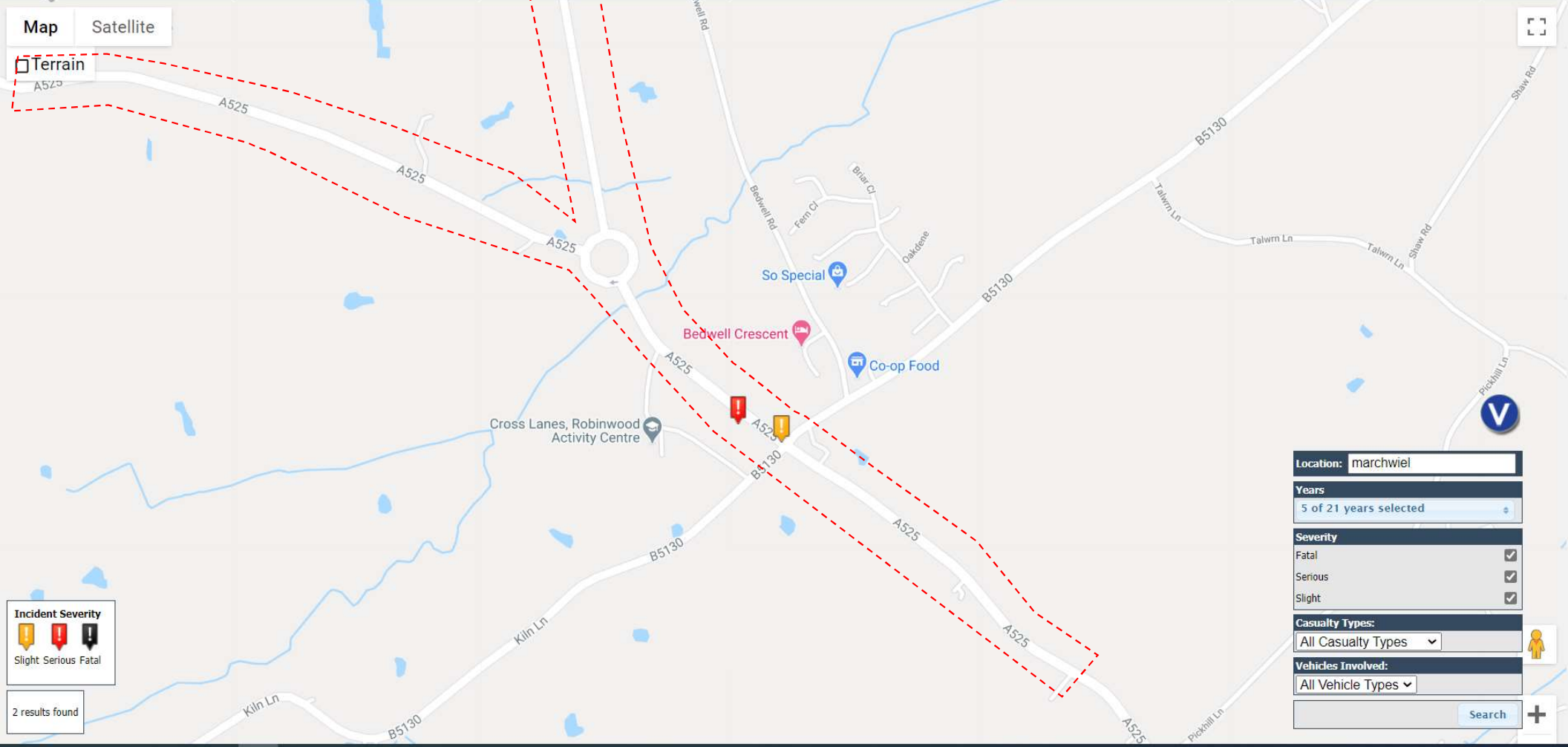
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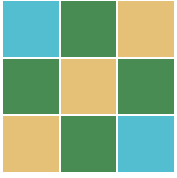
Years
5 of 21 years selected

Severity
☒ Fatal
☒ Serious
☒ Slight

Casualty Types:

Vehicles Involved:





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