Our ref: TA 165 181
Your ref: PA/2023/422 / PA/2023/421

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FAO: Dean Watson

March 8 2023

Dear Dean,

National Highways has reviewed memorandum [memo] entitled 'National Highways Response 1' [16th February 2024] and we offer the following comments.

Distribution

We note that in the AM and PM peak hours 85 two-way trips are forecast to route to / from the M180 west of M180 Junction 4. The distance and journey time referred to in the memo does not necessarily preclude the junctions from assessment, for example, trips leaving a development within the peak period may still interact with distant junctions within the same peak hour period. Therefore, we consider it appropriate for the distribution study area to be extended to a point where the impact is considered not to be material.

Traffic Surveys

It is noted that traffic surveys will be undertaken at the M180 Junction 5, M180 Junction 4, and at the A160 / Eastfield Road Junction during *"late February outside of the school half term holidays"*. We note that paragraph 3.3.7 of TAG Unit M1.2 [May 2020] states that:

> *"Neutral periods are defined as Mondays to Thursdays from March through to November (excluding August), provided adequate lighting is available, and avoiding the weeks before/after Easter, the Thursday before and all of the week of a bank holiday, and the school holidays. Surveys may be carried out outside of these days / months, ensuring that the conditions being surveyed (e.g., traffic flow) are representative of the transport condition being analysed/modelled."*

Therefore, National Highways considers it appropriate that the traffic survey flows presented in any forthcoming documentation are supported by an analysis to demonstrate that the flows are representative.

Committed Development

In the Memo it is noted that *"further details regarding the committed development traffic to be included within the modelling will be provided".* This notwithstanding, we would recommend that the Applicant discusses committed development with North Lincolnshire Council and North East Lincolnshire Council.

Additional Comments

We reiterate the following comments from our previous response(s).

Traffic Management proposed on the SRN should be agreed with the relevant National Highways team and be designed in accordance with relevant policies and design guidance. Further, temporary signage should also be agreed with the relevant National Highways team and be designed in accordance with relevant policy.

The National Highways Abnormal Loads Team should be consulted (via ESDAL) regarding any Abnormal Indivisible Load [AIL] deliveries well in advance to ensure the suitability of the route(s).

Decommissioning

We would request that the following Condition be imposed on any planning consent, should the LPA be minded to approve:

> *"Unless otherwise agreed in writing by the Local Planning Authority in consultation with National Highways (or its successors) decommissioning of the development hereby approved shall not commence unless and until a Decommissioning Traffic Management Plan has been submitted to and approved in writing by the Local Planning Authority in consultation with National Highways (or its successors). Thereafter unless otherwise approved in writing decommissioning shall be undertaken in accordance with the approved plan."*

Summary

Given the need for further information, I want to leave the National Highways 'Non Determination' in place; this still has 2-months to run.

I trust this response is helpful, but should you require any further information please do not hesitate to contact me.

Yours sincerely

[redacted]

Simon GP Geoghegan
Planning and Development

DevHU0163 Phillips 66 and VPI

Prepared for:	Simon Geoghegan
Prepared by:	Joshua Bell
Date:	7th March 2024
Case Reference:	DevHU0163
Document Reference:	DevHU0163 003 TM
Reviewed/approved by:	Terry Dale

Introduction

In March 2023, Phillips 66 Limited submitted a planning application [ref. PA/2023/422] for:

> *"… the construction and operation of a post-combustion carbon capture plant, including carbon dioxide compression and metering, cooling equipment, stacks, substations, new and modified services, connections, internal roads, new access onto Eastfield Road, and maintenance and laydown areas (EIA development)".*

Further, in March 2023, VPI Immingham LLP submitted a planning application [ref. PA/2023/421] for:

> *"… the construction and operation of a post-combustion carbon capture plant, including carbon dioxide compressor and metering, cooling equipment, stacks, substations, internal roads, partial ditch realignment, new and modified services, connections, accesses, maintenance and laydown areas".*

We note that both proposals comprise the portions of the Humber Zero development. For context, the application sites are located respectively at Phillips 66 Ltd, Eastfield Road, South Killingholme, and VPI Power Station, Rosper Road, South Killingholme. The Local Planning Authority [LPA] and Local Highway Authority [LHA] is North Lincolnshire Council [NLC]. Further, the applicant's planning consultant is AECOM.

The Jacobs SYSTRA Joint Venture [JSJV] reviewed the planning applications on behalf of National Highways and identified that further information was required, as set out in the respective correspondence [AA.23.19.26 TM and AA.23.19.25 TM].

Subsequently, a meeting was held with AECOM, National Highways, and JSJV on 16th January 2024 to the discuss the responses.

In February 2024, AECOM submitted a memorandum [memo] entitled 'National Highways Response 1' [16th February 2024]; it is noted that the purpose of the document is to,

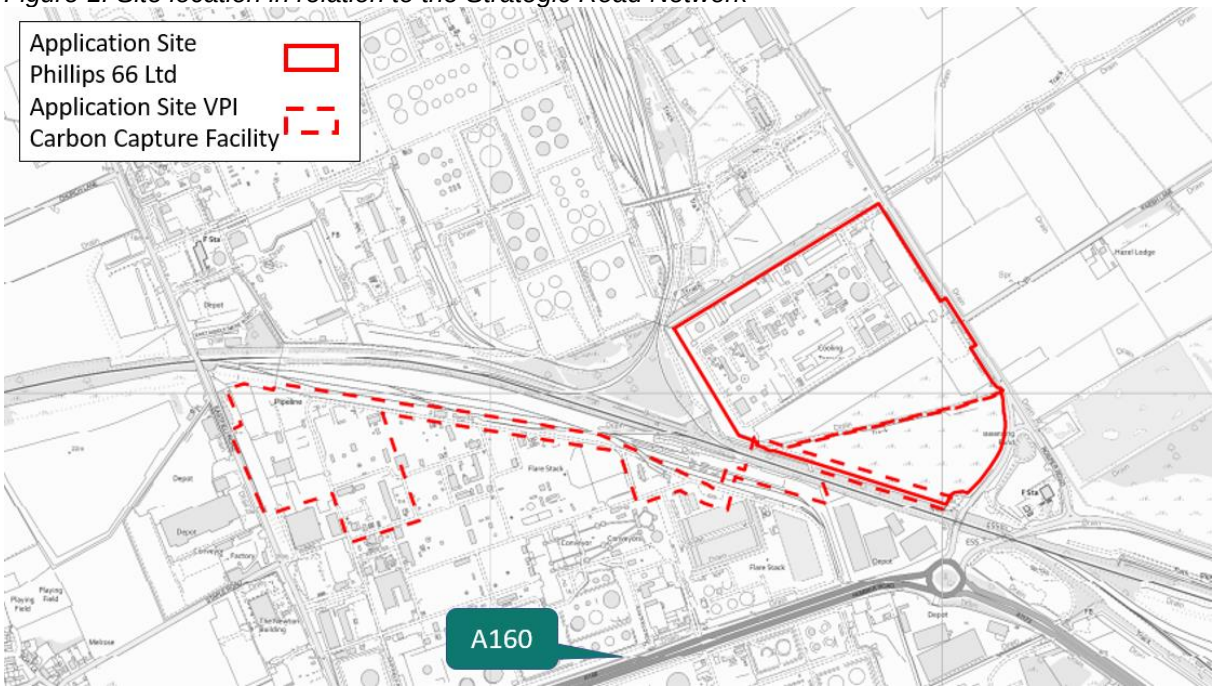
> *"… provide National Highways with further details and justification as requested as part of the comments".*

This Technical Memorandum [TM003] will set out the JSJV review of the information presented in support of both applications.

Existing Situation

The location of the application site is presented in **Figure 1**. As indicated, the application site is situated 500m to the north of the A160 / Eastfield Road Junction. At this location, the A160 forms a section of the SRN.

Figure 1. Site location in relation to the Strategic Road Network[1]



Technical Review

As noted, this TM will set out our review of the memo, which is noted to address the following points:

- *"Review of network peak hours – using WebTRIS / previous count data;*
- *Trip generation during network peak hours and distribution during network peak hours, including justification for the construction peak period trip generation daily profile assumptions;*
- *List of committed developments to be applied, including justification for use, trip generation and distribution, including flow diagrams;*
- *Agreement on future year to assess, including justification;*
- *Confirmation of peak hours and junctions for assessment, including justification;*
- *Daily profile of operational trip generation;*
- *Usage of traffic counts from Immingham Eastern Ro-Ro Terminal (IERRT) Transport Assessment (TA) (December 2023); and*
- *Committed development details."*

A response will be provided to each point in the remainder of this TM.

[1] Extract from 'Sites Location Plan', produced by AECOM. 7th February 2023.

Network Peak Hours

The memo notes that, in order to confirm the peak hours for assessment *"data from a number of ATCs carried out in February 2022 has been used"* and that *"where data was not available for other locations on the Strategic Road Network (SRN), WebTRIS data from 2023 has been used"*. JSJV has reviewed the information presented and notes that the peak hours have been identified as 07:00 – 08:00 and 16:00 – 17:00 for the AM and PM peaks, respectively.

For reference, the ATC and WebTRIS count locations are presented in Figure 2 and Figure 3 of the memo; JSJV considers the locations to be appropriate. Further, the memo presents tables, included here in **Figure 2** and **Figure 3**, for the ATC and WebTRIS data to highlight the peak hours. JSJV considers this to be appropriate.

Figure 2 – ATC Data Comparison[2]

Site	06:00-07:00	07:00-08:00	08:00-09:00	09:00-10:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00
ATC 3 - A160 (West of Eastfield Rd)	1,178	1,553	1,021	810	1,112	1,489	1,243	767
ATC 4 - A180 (West of A160 jct)	1,973	2,900	2,556	2,003	2,370	2,632	2,368	1,559
ATC 5 - A180 (near Immingham, between A160 and A1173 jcts)	673	1,056	967	735	1,077	1,223	1,076	723
ATC 7 - A160 (between Eastfield Rd and A1173 jct)	814	1,072	904	737	952	1,123	969	581

Figure 3 – WebTRIS Peak Hour Data Comparison[3]

Point	Site	06:00-07:00	07:00-08:00	08:00-09:00	09:00-10:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00
1	TMU Site 9958/1 on A160 eastbound between A1077 and A1173	298	405	357	296	333	343	307	207
	TMU Site 9959/1 on A160 westbound between A1173 and A1077	311	341	300	276	349	385	318	187
2	TMU Site 7072/1 on A160 eastbound between A180 and A1077	562	671	398	326	437	452	446	323
3	TMU Site 8751/2 on link A180 westbound exit for M180/A15	283	348	332	312	375	450	423	280
	TMU Site 8751/1 on link A180 eastbound access from M180/A15	288	468	398	300	343	375	368	268
4	TMU Site 8755/2 on link M180 eastbound J4	394	649	610	597	738	752	702	504
	TMU Site 8756/2 on link M180 westbound J4	469	655	631	653	753	748	648	435
5	MIDAS site at M180/1127A[1]	817	1374	1355	1204	1362	1437	1388	1023
	MIDAS site at M180/1127B[1]	903	1255	1211	1240	1514	1579	1363	915

[2] Extract from Memo – Table 1

[3] Extract from Memo – Figure 3

Trip Generation

The memo notes that the peak month of construction is month 23 of the programme, and a construction year of 2025 has been assumed for this assessment.

It is stated that:

> *"For clarification, within the Humber Zero TA, Section 8A.5 sets out the expected construction traffic volumes during the peak month for the individual sites (Tables 8A.14 and 8A.15), which occur in different years (VPI = 2027, Phillips 66 = 2025), then a combined total was provided in Table 8A.16 adding the two totals together."*

Further, it is stated that:

> *"… this combined total is an overestimate as peak traffic for each site will not occur at the same time. Overlap in construction of the Proposed Developments is however anticipated to occur and the highest number of vehicles combined is expected in Month 23 of construction. Consequently, the volumes to be used as part of this assessment are as shown in Table 3."*

Table 3 of the memo sets out that a daily total of 847 worker trips and 130 HGV trips are forecast in the peak month, of which the majority are generated by the Phillips 66 development. It is noted that NLC has requested that the sites operate a 12-hour working day, between 07:00 and 19:00, rather than the 24-hour working day presented in the Environmental Statement Transport Chapter, and the Transport Assessment previously reviewed.

An arrivals and departures profile for both construction sites is presented in the memo; with regard to the identified peak hours, 30% of inbound construction worker trips are forecast in the AM peak hour [07:00 – 08:00] with 0% outbound trips. In the PM peak hour [16:00 – 17:00], 0% of inbound trips and 30% of outbound trips are forecast.

The memo presents the resultant daily profile for construction workers in Table 5, however, in the interests of keeping TM003 concise, it has not been presented here. Nonetheless, 254 inbound workers are anticipated in the AM peak hour and 254 outbound workers are anticipated PM peak hour.

The Memo also notes that:

> *"As described within the Humber Zero TA (Section 8A.5), based on existing operation at both sites, car sharing will be expected, with a proposed proportion of 1.35 workers per vehicle. For the purposes of assessment, the proportion of workers per vehicle has therefore been set at 1.35. This will be controlled through the Construction Worker Travel Plans (CWTP)."*

This results in a forecast of 188 inbound trips in the AM peak hour and 188 outbound trips in the PM peak hour. This notwithstanding, the memo notes that *"in terms of construction HGVs, as described within the TA, construction HGVs arrivals / departures will be split equally across the 12-hour working day (07:00-19:00)"*.

The memo forecasts 22 two-way HGV movements in the AM and PM peak hours. As such, a daily profile for all vehicles is presented in Table 8 of the Memo and an extract is presented in **Figure 4** for reference. As can be seen, 199 inbound and 11 outbound trips are forecast in the AM peak hour, with 11 inbound and 199 outbound trips forecast in the PM peak hour.

Figure 4 – Peak Month Daily Totals[4]

Time Period	VPI All Vehicles		Phillips 66 All Vehicles		Total	
	In	Out	In	Out	In	Out
06:00-07:00	21	0	293	0	314	0
07:00-08:00	14	1	185	10	199	11
08:00-09:00	10	1	127	10	136	11
09:00-10:00	1	1	10	10	11	11
10:00-11:00	1	1	10	10	11	11
11:00-12:00	1	1	10	10	11	11
12:00-13:00	1	1	10	10	11	11
13:00-14:00	1	1	10	10	11	11
14:00-15:00	1	1	10	10	11	11
15:00-16:00	1	1	10	10	11	11
16:00-17:00	1	14	10	185	11	199
17:00-18:00	1	18	10	244	11	262
18:00-19:00	1	10	10	127	11	136
19:00-20:00	0	4	0	59	0	63
Total	57	57	700	700	758	758

Distribution

The memo presents the distribution for the proposed developments, consistent with that reviewed previously; however, it is noted that:

> *"The junctions on the M180 were not originally part of the study area, therefore distributions were not produced. However, for the purposes of this assessment, the proportion of Proposed Development construction traffic on the M180 has been derived by assuming that all traffic that leaves the western point of the study area (A180 / A15 junction) will travel along the M180."*

Assessment Years

It is noted that:

> *"Based on the proposed construction programmes, the largest combined traffic generation will be during Month 23 of the construction schedule. For the purposes of the assessment, a construction year of 2025 has been assumed, however it is possible that due to delays in the Government's cluster sequencing competition, the peak construction year may occur later. An additional forecast year of 2026 will therefore also be included as part of the assessment."*

JSJV is content with this approach.

Confirmation of Junctions for Assessments

JSJV notes that the Memo states that:

> *"A further test has been carried out to verify the junctions to be assessed on the SRN. For this assessment, the two-way peak hour Proposed Development construction traffic for both Phillips 66 and VPI has been combined and added*

[4] Extract from Memo – Table 8

> *to the base traffic at the ATC / WebTRIS locations. This has provided an overview of the percentage change generated by the combined construction traffic."*
>
> And
>
> *"As a secondary test, the combined construction traffic has also been added to other hours outside the AM and PM peak periods to provide confidence that even with the Proposed Development traffic added, the total traffic does not exceed the assumed base peak hours of 07:00-08:00 and 16:00-17:00. This provides further confirmation that only the 07:00-08:00 and 16:00-17:00 periods require assessment."*

It is noted however that *"the 09:00-10:00 and 15:00-16:00 periods have not been included as no worker trips are expected during these periods and the expected HGV trips are very low (11 two-way)".*

Again, in the interests of keeping TM003 concise, the analysis for each junction has not been presented. However, JSJV notes that AECOM propose to include the following junctions for capacity assessments:

- A160 / Eastfield Road Junction;
- A160 Habrough Roundabout;
- A160 / A180 Junction (Brocklesby Interchange);
- A160 / Humber Road / Manby Road Junction [Manby Roundabout];
- M180 Junction 4; and
- M180 Junction 5.

JSJV welcomes the inclusion of these junctions. It is noted, nonetheless, that some junctions are proposed to be excluded from capacity assessments.

The memo states that the A180 / A1173 Junction, and all junctions to the east, are to be excluded due to the forecast *"…low number of construction vehicles and low expected percentage increase expected through ATC 5".* JSJV notes that 24 two-way trips are forecast in the AM and PM peak hours.

This notwithstanding, we consider that, from a review of CrashMap and Google Maps traffic data, there appears to be no congestion or road safety issue at the A180 / A1173, or A180 / A1136 junctions that could be exacerbated by 24 two-way trips. As such, with consideration to the volume of trips forecast we would agree with the proposal to exclude the junctions from the capacity assessments.

The memo notes that:

> *"Whilst the number of vehicles potentially reaching the western extent of the M180 is relatively high, the overall percentage increase in traffic in the peak hours of 07:00-08:00 and 16:00-17:00 is very low (3%)."*
>
> *"Based on this low percentage increase in traffic and the significant distance / journey time (e.g. approximately 33 miles and a 35 minute drive time between the sites and M180 Junction 1), it is not considered that any junctions west of M180 Junction 5 require assessment."*

JSJV notes that in the AM and PM peak hours 85 two-way trips are forecast to route to / from the M180 west of M180 Junction 4. We would note that the distance and journey time referred to, does not necessarily preclude the junctions from assessment,

for example, trips leaving a development within the peak period may still interact with distant junctions within the same peak hour period. Therefore, we consider it appropriate for the distribution study area to be extended to a point where the impact is considered not to be material.

Operational

The memo notes that the proposed developments will be operational *"24/7"* and *"number of operational staff will be approximately 15 FTE for Phillips 66 and approximately 50 FTE for VPI"*. It forecasts 14 two-way trips in AM and PM peak hours. It is noted that:

> *"Based on the small, expected numbers of operational vehicles during the peak hours as shown, it is not considered necessary to carry out assessments for the additional operational scenarios."*

JSJV is in agreement with this point.

Junction Turning Counts

The Memo notes that:

> *"Junction turning counts were carried out in 2021 as part of the Immingham Eastern Ro-Ro Terminal (IERRT), Port of Immingham Transport Assessment (December 2023). Counts undertaken that are relevant to the Humber Zero study area include those at Manby Roundabout, Habrough Roundabout and Brocklesby Interchange.*
>
> *It is proposed that these counts are used for the purpose of modelling these junctions."*

JSJV notes that the Immingham Eastern Ro-Ro Terminal [DevHU0075] December 2023 review [JSJV task AA.23.19.15] stated that:

> *"… matters including the assessment study area, traffic survey data sources, assessment periods and background traffic growth have been agreed by National Highways to be representative, being the most accurate data available at the time of the DCO application".*

Further, the Memo notes that:

> *"A validation check has been carried out using the 2022 ATCs to compare the flows and determine the suitability of the counts."*

It is important to note that the junction turning counts for the Immingham Eastern Ro-Ro Terminal Transport Assessment are stated to comprise a higher volume of traffic than the ATC in the AM peak with a maximum variance of 4.5%.

The PM peak flows are noted to be a maximum of 2.4% lower in the Immingham Eastern Ro-Ro Terminal Transport Assessment than the ATC. As such, we would consider it appropriate to utilise these flows.

The memo states that:

> *"It was not possible to provide a comparison for the 2021 junction count at A180 / A160 (Brocklesby Interchange) as there was not an ATC from 2022 in a suitable location. However, since the flows at ATC 3 are comparable with those at Habrough Roundabout …, and the flows between Habrough Rbt and Brocklesby Interchange are comparable, it is considered that flows in 2021 at Brocklesby Interchange are valid for use within the modelling."*

JSJV would consider this appropriate in the absence of data for comparison.

The memo summarises that:

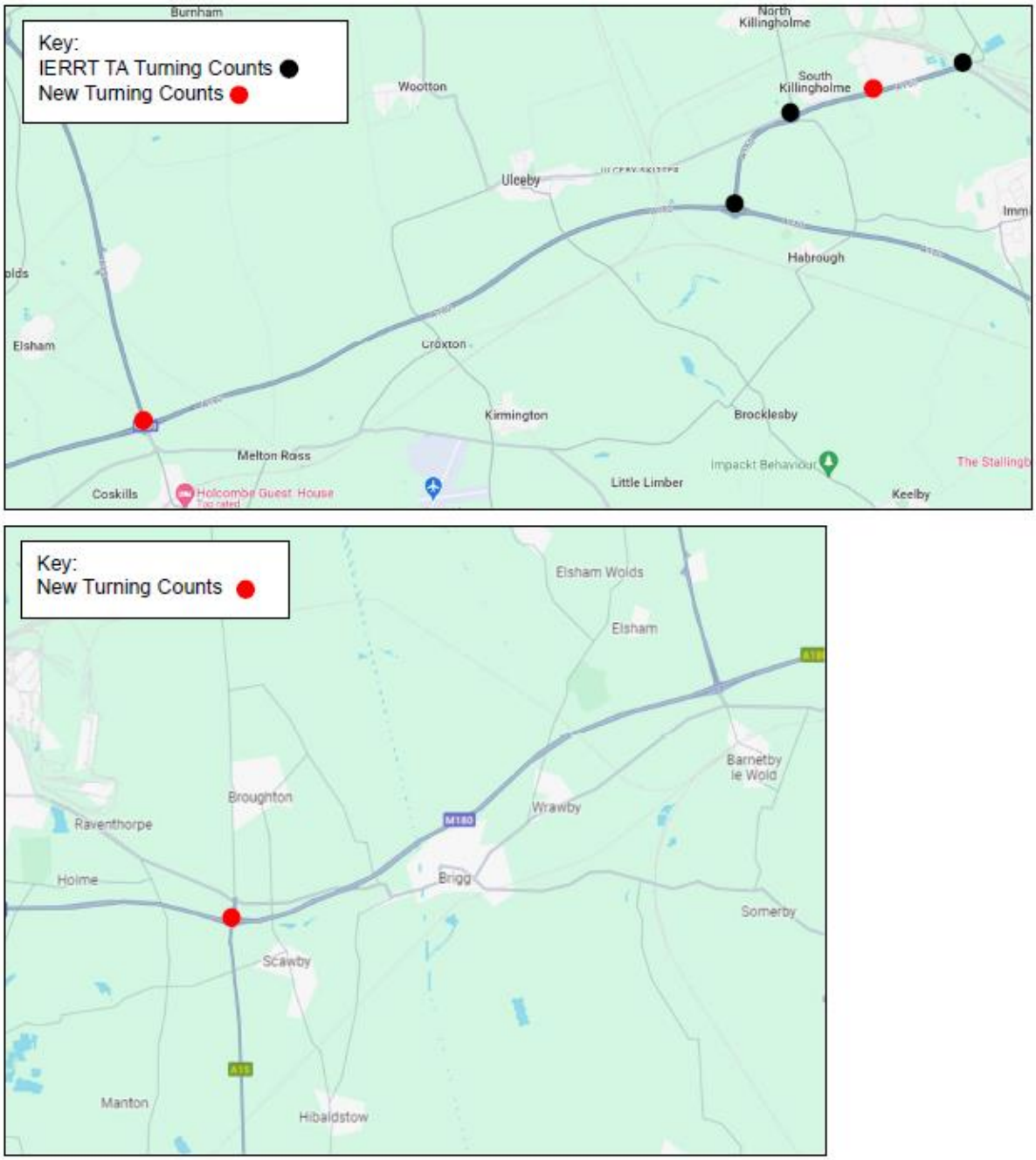
> *"… it is considered that the junction turning count data from the IERRT TA can be used for Manby Roundabout, Habrough Roundabout and Brocklesby Interchange.*
>
> *However, new junction turning counts will be carried out at the M180 / A15 junction (M180 J5), M180 J4 and at the A160 Eastfield Road junction, as this data was not available from other sources. These will take place during late February outside of the school half term holidays."*

JSJV notes that paragraph 3.3.7 of TAG Unit M1.2 [May 2020] states that:

> *"Neutral periods are defined as Mondays to Thursdays from March through to November (excluding August), provided adequate lighting is available, and avoiding the weeks before/after Easter, the Thursday before and all of the week of a bank holiday, and the school holidays. Surveys may be carried out outside of these days/months, ensuring that the conditions being surveyed (e.g., traffic flow) are representative of the transport condition being analysed/modelled."*

Therefore, JSJV considers it appropriate that the traffic survey flows presented in any forthcoming documentation are supported by an analysis to demonstrate that the flows are representative. Nonetheless, the survey locations are shown in **Figure 5** for reference.

Figure 4 – Junction Count Locations[5]



Committed Development

In our previous responses we noted that committed developments should be confirmed with the LPA. In the Memo it is noted that *"further details regarding the committed development traffic to be included within the modelling will be provided"*. It is noted, however, that the following developments have been considered *"to date"*:

- *"Viking CCS CO2 gathering network.*
  - *Development Consent Order (DCO) application currently at Pre-Examination stage*
- *Humber Low Carbon Pipelines CO2 gathering network.*

[5] Extract from Memo – Figure 7

  - *National Grid Ventures withdrew the DCO on 26th January 2024, therefore this will not be included in our assessment.*
- *Immingham Green Energy Terminal (IGET)*
  - *DCO application currently at Pre-Examination stage*
- *Immingham Eastern Ro-Ro Terminal (IERRT)*
  - *DCO application currently at Recommendation stage*
- *North Killingholme Power Project*
  - *DCO granted, but construction has not yet commenced".*

JSJV will withhold judgement on the committed developments until the Applicant has received confirmation from the relevant LPA. In this instance, we would recommend that the Applicant discusses committed development with North Lincolnshire Council and North East Lincolnshire Council.

Summary and Conclusions

The Jacobs SYSTRA Joint Venture [JSJV] has reviewed the information accompanying the planning application and, on the basis of our review, the recommendation to National Highways in relation to this development proposals is:

Holding Recommendation – further information required (as identified below)

This review has highlighted the need for further information as follows:

1) The distribution analysis study area should be extended to a point where the impact is not material;
2) The further traffic survey flows presented should be accompanied by an analysis to demonstrate that the flows are representative; and
3) The Applicant should discuss committed development with North Lincolnshire Council and North East Lincolnshire Council.

JSJV would also reiterate points from our previous reviews:

1) Traffic Management proposed on the SRN should be agreed with the relevant National Highways team and be designed in accordance with relevant policies and design guidance;
2) Temporary signage should be agreed with the relevant National Highways team and be designed in accordance with relevant policy; and
3) The National Highways Abnormal Loads Team should be consulted regarding any AIL deliveries well in advance to ensure the suitability of the route(s).

This notwithstanding, JSJV would also reiterate that the following Condition be imposed on any planning consent, should the LPA be minded to approve:

> *"Unless otherwise agreed in writing by the Local Planning Authority in consultation with National Highways (or its successors) decommissioning of the development hereby approved shall not commence unless and until a Decommissioning Traffic Management Plan has been submitted to and approved in writing by the Local Planning Authority in consultation with National Highways (or its successors). Thereafter unless otherwise approved in writing decommissioning shall be undertaken in accordance with the approved plan."*

The inclusion of the Condition ensures that any effects from the decommissioning phase are to be reviewed and agreed upon by National Highways immediately prior to decommissioning.