

Lynne Aspery

From: Planning Admin
Subject: FW: DCO Scoping Response - R/2023/0300/DCO - H2 Teesside Project
Attachments: DevTV0162 TM001 - Final.pdf

From: Christopher Bell (NO, North East) <chris.bell2@nationalhighways.co.uk>
Sent: 28 April 2023 11:15
To: Adrian Miller <Adrian.Miller@redcar-cleveland.gov.uk>
Cc: Subject: FW: DCO Scoping Response - R/2023/0300/DCO - H2 Teesside Project

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Adrian,

Please find a technical note from JSJV, National Highways consultants, to advise at this pre-application / scoping stage on this proposed development in order to assist the developer in defining an appropriate assessment of the Strategic Road Network.

Regards



Chris Bell, Planning Manager

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H2 Teesside Project – DCO Scoping

Prepared for:	Chris Bell
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Date:	28 th April 2023
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Reviewed/approved by:	Gavin Nicholson

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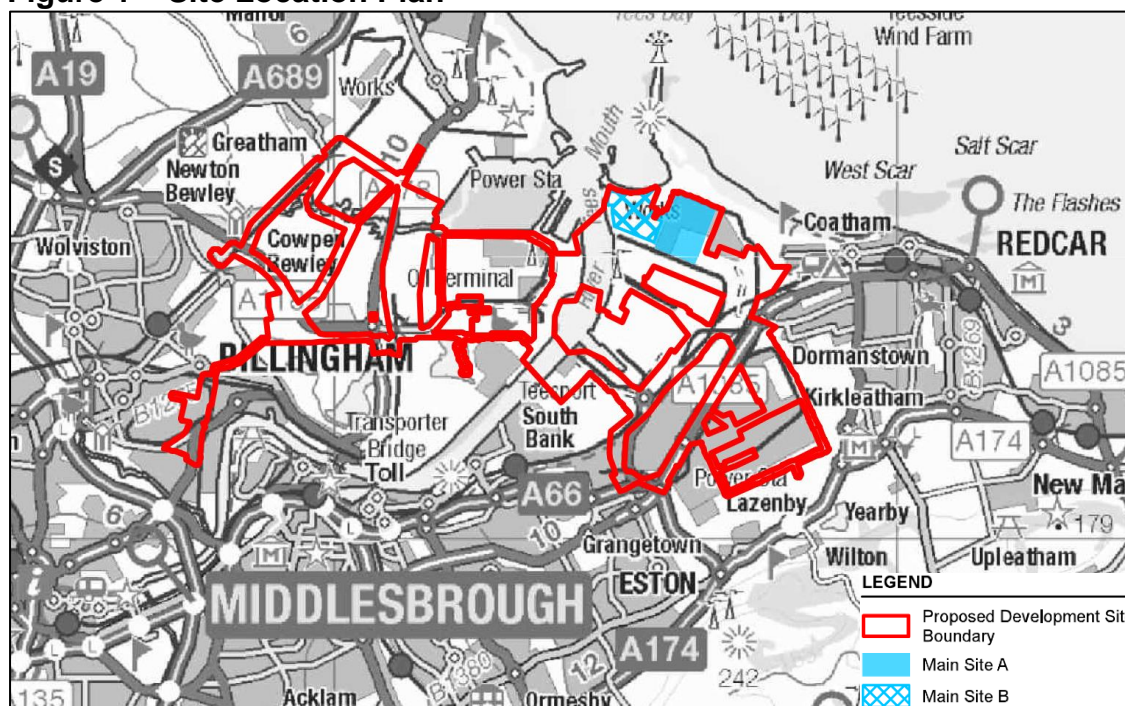
Overview

Jacobs Systra Joint Venture [JSJV] (on behalf of National Highways) has undertaken a review of an Environmental Impact Assessment [EIA] Scoping document (dated April 2023) submitted by H2 Teesside Limited [the Applicant] in reference to the proposed H2 Teesside Project at the former Redcar Steelworks site, Teesside. The H2 Teesside Project application has been classified as a Development Consent Order [DCO] (ref: R/2023/0300/DCO) due to the development being recognised by the Planning Inspectorate as a Nationally Significant Infrastructure Project.

This JSJV Technical Memorandum [TM] comments on the suitability of the EIA Scoping document with discussion provided in relation to whether the document suitably considers the impact of the development proposals upon the Strategic Road Network [SRN] across both the operational and construction phases of the development.

Site Location

The development site, located at the former Redcar Steelworks site, is composed of two proposed main sites, sites A and B, as detailed on Figure 1 below.

Figure 1 – Site Location Plan

(Source: EIA Scoping Submission Drawing – ‘Figure 1’)

Description of Existing Development

Proposed Development Site

The proposed development site is located primarily within the administrative boundaries of Redcar and Cleveland Borough Council [RCBC] and Stockton on Tees Borough Council [STBC]. The hydrogen pipeline corridor extends further north-west to include land within the administrative boundary of Hartlepool Borough Council [HBC] also. The proposed development site is split into distinct areas as summarised below:

- The Main Site (whether Site A or Site B) will be the location of the Production Facility together with the associated carbon capture and compression facilities and ancillary infrastructure.
- CO₂ Export Corridor: CO₂ captured from the process will be compressed at the Main Site and exported off shore for geological storage in the Southern North Sea.
- Hydrogen Pipeline Corridor: The pipeline network will connect to potential off-takers at various industrial installations across the Tees Valley.
- Natural Gases Connection Corridor: Pipelines required for the transportation of compressed gas from local sources for use in the hydrogen production process.
- Electrical Connection Corridor: To provide electrical power for the Production Facility via a connection to the National Grid Network.
- Water Connections Corridor: Required for water supply and discharge to / from the Production Facility.

Proposed Development

The proposed development comprises the construction, operation and maintenance of a 1.2 GWth Lower Heating Valve Carbon Capture and Storage [CSS] enabled Hydrogen Production Facility located in the Teesside industrial cluster area.

The Production Facility and associated infrastructure which form part of the proposed development will be located on the 'Main Site'. There are currently two Main Site options – Main Sites A and B. Main Site A would be located within land owned by Teesworks known as 'The Foundry'. Main Site B would be located to the west of Main Site A within land owned by Redcar Bulk Terminal, known as 'RBT'. Both Main Sites are located within the Redcar and Cleveland Borough, with the connection corridors extending further into Stockton-on-Tees and Hartlepool, all within Teesside.

At this stage in the design of the proposed development, there are still options being considered for various components. The design of the proposed development incorporates a necessary degree of flexibility to allow for the future selection of the preferred layout at the Main Site, as well as routing of the hydrogen pipeline and other connections.

Development Access

Access to the Main Sites during the construction phase for HGV construction traffic is likely to be via the existing access road from the A1085 (local highway network) via the former Redcar Steelworks entrance. This route will also be used during operation for staff and other site traffic. This applies to both Main Site A and Main Site B options.

Construction access routes for the hydrogen pipeline and connection corridors are yet to be defined by the Applicant. However, it is proposed that laydown areas will likely be identified at suitable locations along the pipeline routes located north of the River Tees to reduce potential disturbance. Moving forward, JSJV note that the location of both the construction laydown areas and the routing of HGV construction routes will need to be confirmed with National Highways, however, it is acknowledged that the proposed A1085 access point is unlikely to directly interact with the operation of the SRN.

Abnormal Indivisible Loads

Options for transportation of Abnormal Indivisible Loads [AIL]s during construction using the local ports are still being considered by the Applicant. The nearest commercial port to the proposed development site is Teesport which could be used for the import of containerised equipment or modular plant. The use of the existing wharf at RBT for transportation of abnormal loads is also proposed to be considered for modular plant. Consideration is also to be given to the appropriate port and any required AIL routes during the design process.

JSJV understands that the standard procedure for [AIL]s will be followed by the Applicant, however, it is noted that potential carriageway width, height and weight restrictions for the movement of such vehicles will need to be discussed and agreed with National Highways.

As such, JSJV would advise that the Applicant directly discusses any matters pertaining to AIL movements with the National Highways Abnormal Indivisible Loads team (AbnormalIndivisibleLoadsTeam@highwaysengland.co.uk).

Construction Programme & Management

As the development advances through the planning process, a detailed Environmental Statement [ES] will be submitted alongside a detailed Construction Environmental Management Plan [CEMP], which will describe the specific mitigation measures to be followed to reduce impacts from construction related activities.

The Construction of Phase 1 is likely to last approximately two years. Phase 2 works would commence thereafter (approximately late 2027/ early 2028) and last a further two to three years, with overall construction expected to be completed by late 2029 or early 2030. The potential impact of the construction of the proposed development at the SRN will also be discussed subsequently within this JSJV TM.

Staffing

Based on an initial estimate, it is proposed that the construction workforce peak numbers will be approximately 3,100 people per day across two distinct development phases. This includes workers associated with both the Main Site and pipeline connections.

Operational workforce peak numbers are proposed to be a maximum of 85 persons, working dedicated shifts over 24 hour periods. Typical staff numbers are expected to be 40 to 50 during the week, however, during 28 day maintenance periods (occurring every four years), around 400 staff may be on site.

With regards to on-site operational and construction staff, National Highways will require the expected two-way daily arrival / departure profile of staff trips to be confirmed by the Applicant. This is to ensure that the impact of the site at the SRN during the operational and construction phase can be assessed, quantified and managed if necessary.

With regards to the 28 day maintenance periods highlighted by the Applicant, JSJV recognise that these specific periods may likely incur an impact at the SRN as a result of greatly increased staff numbers. Consequently, JSJV would advise that a suitable control mechanism is agreed with National Highways through a form of Operational Traffic Management Plan [OTMP] for implementation during these periods to ensure staff trip generation can be managed and mitigated.

HGV Movements & Traffic

While the volume of construction vehicles associated with the delivery of plant and the labour force has not been fully determined at this stage, it is proposed that approximately 2,660 two-way vehicle movements will be generated per day during the peak construction period, based on an average car occupancy for workers of 2.33.

In terms of construction HGV and LGV movements, approximately 15,320 deliveries are expected to the Main Site over the full period of construction. In addition, there are also approximately 4,330 HGV movements expected to be associated with the construction of the development pipelines throughout the construction period, which equates to around 50 two-way movements per day during the peak month of construction.

National Highways will require confirmation of the expected 'peak' arrival / departure profile of construction vehicles, including construction staff, deliveries and associated movements during an identified 'peak' construction period, and how long this period may continue for, opposed to the generation of average movements or total daily / monthly movements. This is to ensure that any potential trip generation impact at the

SRN can be accurately quantified as the development advances through the construction phase.

Further detail will also need to be provided by the Applicant in relation to how it will be ensured that an average car occupancy rate of 2.33 will be achieved. This detail and the associated control mechanisms that will be required to control and mitigate the impact of the construction traffic at the SRN will need to be detailed in the Final Construction Traffic Management Plan [CTMP] submitted in support of the DCO.

In addition, the Applicant will need to confirm and evidence the anticipated routings and proportions that construction vehicles (including construction staff trips) will take to / from the site. Confirmation of the distribution of these trips is required by National Highways in order to understand which specific SRN junctions may be materially impacted by construction traffic.

Planning Policy

While not identified by the Applicant within the scoping document, National Highways will require any planning assessment to engage with and adhere to guidance contained within DfT Circular 01/2022: The Strategic Road Network and the Delivery of Sustainable Development. Circular 01/2022 sets out the way in which National Highways will engage with the development industry, public bodies and communities to assist the delivery of sustainable development. The circular is applicable to the whole of the SRN, comprising the trunk motorways and all-purpose trunk roads in England, including those roads managed by the design, build, finance and operate companies.

Environmental Impact Assessment Process

Traffic & Transportation

The scoping document identifies that in order to fully address the impacts of the construction phase on the highway network, a Transport Assessment [TA] will be produced by the Applicant following the confirmation of the specific number of construction movements associated with the proposed development. The scoping note identifies that appropriate liaison with the necessary local authorities and National Highways will be undertaken prior to TA submission.

The scope of the TA is proposed to cover the following areas:

- Review of appropriate transport policy.
- Description of baseline and future baseline conditions, including link and junction flows, a review of highway safety issues and consideration of accessibility by all modes.
- Calculation of construction traffic flows.
- Distribution and assignment of construction traffic flows to the highway network, including the identification of any AIL routes.
- Highway network impact analysis, with the identification of key junctions that may require detailed capacity analysis.
- Consideration of local PRow network and the potential impact of the site on existing routes.

- Where the construction of the development may directly interact with existing road and / or rail links.
- The formulation of mitigation measures through both a Construction Worker Travel Plan [CWTP] and CTMP.

With reference to the preparation of the development TA, JSJV note that:

- The impact of the proposed development at the SRN over both the operational and construction phase must be understood in terms of absolute two-way flows over both morning / evening network peak hours. This is opposed to either total daily flows or proportional flows (percentage increase) in relation to baseline flows at any specific junction.
- National Highways will need to understand the trip distribution of site vehicles at the SRN associated with both the construction and operational phases of the proposed development. The study area should extend to any SRN junction where a potential impact needs to be considered (to aid discussions we suggest 30 two-way trips being a starting point for consideration).
- JSJV acknowledge that where the development (construction and / or operation) is evidenced to potentially incur a material impact at an SRN junction, appropriate collision analysis may be required.
- Where the development (construction and / or operation) is evidenced to potentially incur a material impact at an SRN junction, an appropriate consideration of operational impacts and, if required, mitigation strategy, will need to be agreed with National Highways.
- National Highways will require confirmation as to where any sections of pipeline construction may interact with the SRN, i.e., where tunnelling or infrastructure works are undertaken either underneath or adjacent to the SRN. Further discussions will then be required with National Highways as to how such construction can be safely undertaken without compromising the operation or structural integrity of the SRN.
- While the production of a CWTP is welcomed by National Highways, JSJV note that a Travel Plan [TP] will also need to be prepared in relation to the operational aspect of the proposed development. Both CWTP and operational TP must outline a package of measures that will be utilised to promote and incentivise sustainable travel to / from the site, while committing to vehicle trip generation targets and a trip monitoring strategy. Detail should also be provided as to what remedial measures will be implemented should vehicular trip targets not be achieved.

In supplement, JSJV also note that the following measures will need to be taken into account by the Applicant in relation to the preparation of a CTMP for the proposed development:

- Identification of the approved haul routes to site and identification of measures to prevent the use of any unauthorised routes.
- Identification of the site access strategy.
- Identification of the proposed works programme by construction task.
- Identification of workforce numbers for the site and details of workforce travel arrangements (specifically with a view to achieving the 2.33 average car occupancy for workers that has been assumed within the initial provision of information).

- Details of site working hours and details of any exceptions (concrete pours etc).
- Measures to minimise wherever possible the use of public roads at peak periods whenever practicable (Morning and Evening Peak Hours and school start / finish times).
- Details of measures to reduce the number of delivery trips to site such as a combination of consolidated ordering, rationalising suppliers and consolidated deliveries.
- Details of measures to reduce on-site waste such as recycling and re-use of materials to minimise the number of collections from site.
- Vehicles carrying soil and other dusty materials to be fully sheeted when travelling to or leaving site.
- Use of on approved mechanical road sweeper to clean the surrounding road network of any mud or debris deposited by site vehicles. The road sweeper should be available whenever needed.
- Measures to safely manage pedestrians.
- Details for any temporary traffic management and warning signs.
- Details of a site liaison officer who will act as point of contact for the CTMP.
- Details regarding the monitoring the success of the CTMP and remedial measures which may be implemented should the CTMP not be achieving stated outcomes.

Relationship with other Planning Applications

Finally, JSJV recommends that National Highways should seek to ensure that the consideration, and subsequent delivery, of the proposals (if the DCO application is successful) is done so in a manner that is aligned with the approaches adopted and outcomes envisaged when other significant applications in the area have been considered. Clearly the aspirations outlined could have cumulative implications during both the construction and operational stages with other approved development proposals.

With a view to this, the following information is provided in relation to those permissions that are directly relatable to the proposals for this site:

- **R/2020/0821/ESM - Foundry Outline Application**

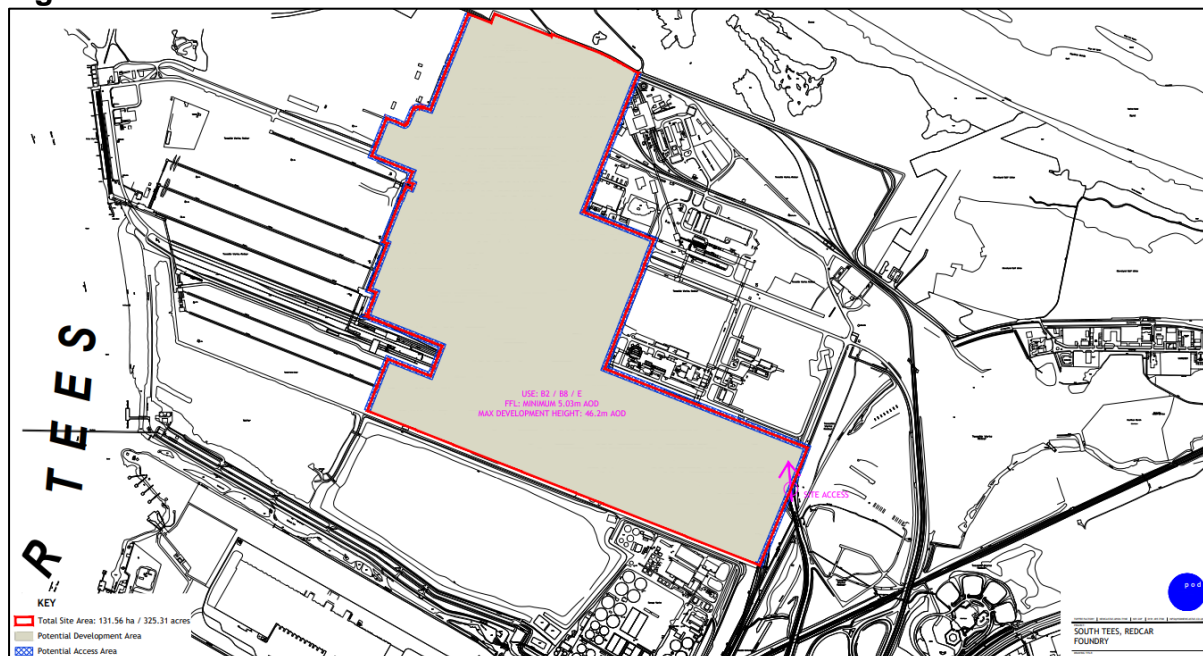
Alongside four other significant applications made by the South Tees Development Corporation [STDC], this application has been granted with some requirements for SRN assessment and mitigation measures being the subject of a set of planning conditions.

With a view to the site parameters plan for the Foundry application, which can be seen in Figure 2 below, it can be seen that the development boundaries contain areas that are subject to this DCO application (mainly related to the Main Site A component). National Highways would therefore request that information be provided that clarifies the relationship of the applications and developments proposed.

Furthermore, with a view to the approach that has been established for the Foundry Outline permission (as controlled by the associated planning conditions), discussions should take place to confirm how the planning outcomes contained within the planning conditions associated with that Foundry Outline permission can

be achieved with regard to this proposal. It is recommended that discussions are held with the DCO applicant, the Local Planning Authority and STDC (as necessary - as the applicant to the outline Foundry permission) to understand the relationship between the development proposals and with a view to ensuring a holistic and consistent consideration of their outcomes.

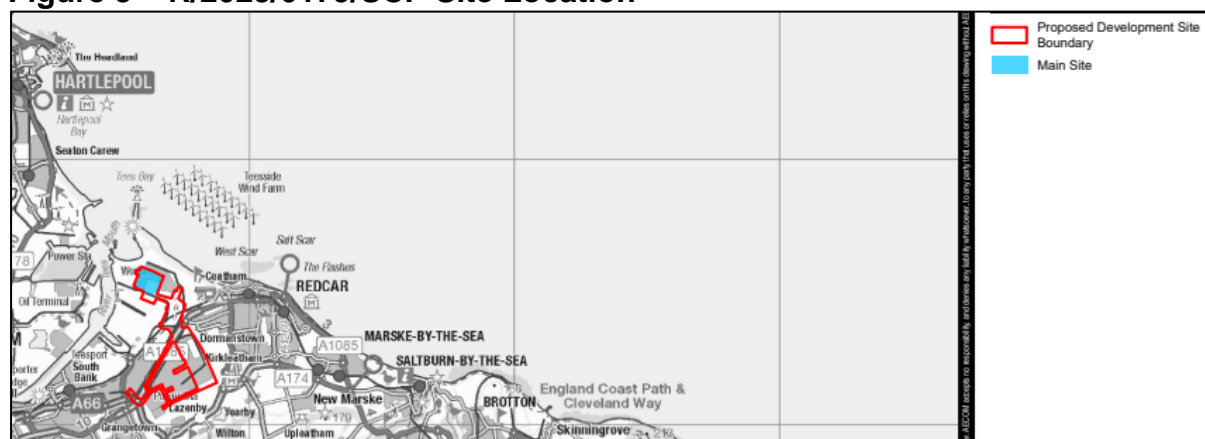
Figure 2 – R/2020/0821/ESM – Site Parameters Plan



(Source: Planning Application R/2020/0821/ESM – Site Parameters Plan)

- **R/2023/0179/SCP – Hygreen Hydrogen Project**

National Highways were consulted on the scoping opinion for the Hygreen Hydrogen Project to which initial headline comments were provided in early March 2023 (available on the Redcar and Cleveland Planning Portal for this application). With a view to the proposals form and boundary which can be seen in Figure 3 below, it can be seen that there are similarities in terms of the main site location and components of the development site boundary and that of the development being proposed in the DCO application (for the southern elements of the site boundary specifically). National Highways would therefore request that information be provided that clarifies the relationship of the applications and developments proposed.

Figure 3 – R/2023/0179/SCP Site Location

(Source: Planning Application R/2023/0179/SCP – Site Location Plan (AECOM))

Summary and Conclusions

On the basis of this review, the recommendation to National Highways in relation to this development proposals is:

Pre-application / Scoping Response – comments are made on the pre-application / scoping in order to assist defining an appropriate assessment of the Strategic Road Network.

This review has highlighted the following:

- 1) JSJV would advise that the Applicant directly discusses any matters pertaining to AIL movements with the National Highways Abnormal Indivisible Loads team (AbnormalIndivisibleLoadsTeam@highwaysengland.co.uk).
- 2) National Highways will require any planning assessment to engage with and adhere to guidance contained within DfT Circular 01/2022: The Strategic Road Network and the Delivery of Sustainable Development.
- 3) JSJV would advise that a suitable control mechanism is agreed with National Highways through a form of Operational Traffic Management Plan [OTMP] for implementation during the 28 day maintenance periods to ensure staff trip generation can be managed and mitigated.
- 4) National Highways will require confirmation of the expected 'peak' arrival / departure profile of construction vehicles, including construction staff, deliveries and associated movements during an identified 'peak' construction period, and how long this period may continue for, opposed to the generation of average movements or total daily / monthly movements.
- 5) The Applicant will need to confirm how it will be ensured that an average car occupancy rate of 2.33 will be achieved with regards to construction staff.
- 6) The Applicant will need to confirm and evidence the anticipated routings and proportions that construction vehicles (including construction staff trips) will take to / from the site. Confirmation of the distribution of these trips is required by National Highways in order to understand which specific SRN junctions may be materially impacted by construction traffic.

7) With reference to the preparation of the development TA, JSJV note that:

- a) The impact of the proposed development at the SRN over both the operational and construction phase must be understood in terms of absolute two-way flows over both morning / evening network peak hours. This is opposed to either total daily flows or proportional flows (percentage increase) in relation to baseline flows at any specific junction.
- b) National Highways will need to understand the trip distribution of site vehicles at the SRN associated with both the construction and operational phases of the proposed development. The study area should extend to any SRN junction where a potential impact needs to be considered (to aid discussions we suggest 30 two-way trips being a starting point for consideration).
- c) JSJV acknowledge that where the development (construction and / or operation) is evidenced to potentially incur a material impact at an SRN junction, appropriate collision analysis may be required.
- d) Where the development (construction and / operation) is evidenced to potentially incur a material impact at an SRN junction, an appropriate consideration of operational impacts and, if required, mitigation strategy, will need to be agreed with National Highways.
- e) National Highways will require confirmation as to where any sections of pipeline construction may interact with the SRN, i.e., where tunnelling or infrastructure works are undertaken either underneath or adjacent to the SRN. Further discussions will then be required with National Highways as to how such construction can be safely undertaken without compromising the operation or structural integrity of the SRN.
- f) While the production of a CWTP is welcomed by National Highways, JSJV note that a Travel Plan [TP] will also need to be prepared in relation to the operational aspect of the proposed development. Both CWTP and operational TP must outline a package of measures that will be utilised to promote and incentivise sustainable travel to / from the site, while committing to vehicle trip generation targets and a trip monitoring strategy. Detail should also be provided as to what remedial measures will be implemented should vehicular trip targets not be achieved.

8) The following measures will need to be taken into account by the Applicant in relation to the preparation of a CTMP for the proposed development:

- a) Identification of the approved haul routes to site and identification of measures to prevent the use of any unauthorised routes.
- b) Identification of the site access strategy.
- c) Identification of the proposed works programme by construction task.
- d) Identification of workforce numbers for the site and details of workforce travel arrangements (specifically with a view to achieving the 2.33 average car occupancy for workers that has been assumed within the initial provision of information).
- e) Details of site working hours and details of any exceptions (concrete pours etc).

- f) Measures to minimise wherever possible the use of public roads at peak periods whenever practicable (Morning and Evening Peak Hours and school start / finish times).
 - g) Details of measures to reduce the number of delivery trips to site such as a combination of consolidated ordering, rationalising suppliers and consolidated deliveries.
 - h) Details of measures to reduce on-site waste such as recycling and re-use of materials to minimise the number of collections from site.
 - i) Vehicles carrying soil and other dusty materials to be fully sheeted when travelling to or leaving site.
 - j) Use of an approved mechanical road sweeper to clean the surrounding road network of any mud or debris deposited by site vehicles. The road sweeper should be available whenever needed.
 - k) Measures to safely manage pedestrians.
 - l) Details for any temporary traffic management and warning signs.
 - m) Details of a site liaison officer who will act as point of contact for the CTMP.
 - n) Details regarding the monitoring the success of the CTMP and remedial measures which may be implemented should the CTMP not be achieving stated outcomes.
- 9) JSJV recommends that National Highways should seek to ensure that the consideration, and subsequent delivery, of the proposals (if the DCO application is successful) is done so in a manner that is aligned with the approaches adopted and outcomes envisaged when other significant applications in the area have been considered. Clearly the aspirations outlined could have cumulative implications during both the construction and operational stages with a view to the following approved development proposals:
- a. R/2020/0821/ESM – Foundry Outline Application.
 - b. R/2023/0179/SCP – Hygreen Hydrogen Project.