Transport Statement

Northfleet Green Hydrogen Facility

Ref	05135-6055120

Revision History

Issue	Date	Name	Latest changes
01	11.08.23	Daniel Cole	First Created
02	21.08.23	Daniel Cole	Update to Planning Boundary Area

Contents

1 Introduction

1.1 Purpose

This Transport Statement has been prepared to support the development of the Northfleet Green Hydrogen Electrolyser Facility. The principal objective of this report is to provide details of the proposed transport management arrangements during the construction of the project and to provide details of transport movements during construction and operation of the project.

1.2 Site location and existing site description

The proposed development site is located within the north of the Kimberly Clark Northfleet Paper Mill, which lies in the Kent borough of Gravesend on the southern bank of the Thames Estuary.

The planning boundary measures approximately 2.2 hectares.

Refer to drawing 05135-RES-MAP-DR-XX-001 included in Appendix A for the site location.

1.3 Proposed development

The proposed scheme comprises containerised hydrogen electrolysers. In addition, the project will incorporate hydrogen storage tanks necessary to store the hydrogen gas, a substation compound, substation buildings, and ancillary plant and infrastructure.

During the construction phase, temporary construction facilities will include a site office, welfare areas, parking and storage areas for plant and materials.

2 Transport route

2.1 Description of the route to site

The A2 passes approx. 2.2m to the south of the Kimberly Clark paper mill. The below routes shall be taken by all construction traffic and equipment deliveries to reach site from the A2.

In the event of any road closures on the delivery route, all vehicles will follow the designated diversion route.

The site is also located adjacent to an operational wharf on the river Thames owned and operated by Kimberly Clark. Where feasible (subject to assessment and necessary permits) delivery of large equipment will be implemented via the wharf to reduce construction road traffic outlined in subsequent section.

2.1.1 If approaching along the A2 from the west:

1. Exit the A2 for the A2260 towards Northfleet Gravesend (W) and Ebbsfleet Int'l
2. At the roundabout, take the third exit to turn right and continue alongside the A2
3. Follow the road for approx. 800m as it turns to the left and joins the B262 Hall Road heading north
4. At the roundabout, take the second exit to continue northwards along the B262 Springhead Road
5. Continue along the B262 Springhead Road for approx. 800m until the next roundabout
6. At the roundabout, take the third exit to turn right on to the A226 Thames Way heading east
7. Continue along the A226 Thames Way for approx. 1km until the next roundabout
8. At the roundabout, take the second exit to continue straight ahead on Rosherville Way
9. Continue along Rosherville Way, passing underneath the B2175, until reaching the T Junction with Crete Hall Road
10. At the T Junction with Crete Hall Road, turn left along Crete Hall Road
11. Continue along Crete Hall Road until the Kimberly Clark entrance roundabout

2.1.2 If approaching along the A2 from the east:

1. Exit the A2 for Pepperhill B262 and Longfield (B260)
2. Follow the slip road round to the left and then to the right until reaching a roundabout
3. At the roundabout, take the third exit onto the B262 Hall Road heading north
4. Continue along Hall Road for 400m, crossing over the A2, until the next roundabout
5. Remaining route is as per step 4 and onwards in Section 2.1.1

2.1.3 If vehicle weighs more than 7.5 tonnes (travelling from either direction):

1. Exit the A2 for the A2260 towards Northfleet Gravesend (W) or Ebbsfleet Int'l
2. Take the third exit (if approaching along the A2 from the west) or the second exit (if approaching along A2 from the east) at the roundabout to continue onto the A2260, reaching a second roundabout after a short distance
3. At the roundabout, take the exit for the A2260 heading north, and continue for approx. 300m until reaching another roundabout
4. At the roundabout, take the third exit to turn right continuing on the A2260 (Ebbsfleet Gateway) heading northeast
5. Continue along the A2260 Ebbsfleet Gateway for approx. 850m until reaching a junction with Thames Way
6. At the A2260 / Thames Way junction, turn right to head southeast along Thames Way
7. Continue along Thames Way for approx. 700m until reaching a roundabout
8. At the roundabout, take the second exit to continue straight ahead on Thames Way
9. Remaining route is as per step 7 and onwards in Section 2.1.1.

2.2 Strategic road network assessment

2.2.1 A2

The A2 is a major road through the south-east of England. The road runs from Borough in London to the Dover Docks by the English Channel, varying from having between one to four lanes throughout the route.

The A2 connects to the M25 in Dartford approx. 6.5km west of the proposed exit to Kimberly Clark papermill. From the M25 to the proposed exit, the A2 is 3-4 lanes wide with a speed limit of 60 mph throughout.

2.2.2 B262 (Hall Road / Springhead Road)

The B262 is a semi-rural B-road in north Kent. From the A2 to the first roundabout, the B262 is called Hall Road and is dual carriageway with a 30mph speed limit. Northwards beyond this roundabout, the B262 continues under the name Springhead Road, and is single carriageway with a speed limit of 30mph. Springhead Road has a weight restriction of 7.5t.

2.2.3 A226 (Thames Way)

The A226 is a west-east direction road that runs between southeast London and north Kent. Between the Thames Way / A2260 junction and the roundabout with Rosherville Way (along proposed routes to site), the road is single carriageway with a speed limit of 40 mph.

A short distance south of the roundabout connecting the A226 and Rosherville Way, the A226 (Thames Way) passes underneath a railway line and the B261. There is no signage pertaining to height restrictions for either of these crossings; as such, the crossings have a vertical clearance from the carriageway of at least 5.03m.

2.2.4 A2260

The A2260 is a link road between the A226 and the A2. The A2260 has a speed limit of 50 mph. Between the A2 and the roundabout serving Ebbsfleet International, the A2260 is a dual carriageway road; beyond this roundabout to the east the road is single carriageway.

2.2.5 Rosherville Way

Rosherville Way is a single carriageway road based in Northfleet that connects the A226 and Crete Hall Road, with a speed limit of 30 mph.

Approximately midway along its length, Rosherville Way passes underneath the B2175. There is no signage pertaining to height restrictions for this crossing; as such, the crossing has a vertical clearance from the carriageway of at least 5.03m.

2.2.6 Crete Hall Road

Crete Hall Road is single carriageway road that runs close to the Thames Estuary in Northfleet. To the east of its junction with Rosherville Way, Crete Hall Road serves a new-build residential development; to the west, the road serves a small number of industrial operations.

Crete Hall Road passes through the Kimberly Clark papermill site, separating it into a northern and southern site. Access to both the northern and southern sites is achieved off Crete Hall Road via a centrally located roundabout. At the western edge of the papermill site, Crete Hall Road turns northwards and transitions to Granby Road.

3 Construction traffic

3.1 Delivery vehicles

3.1.1 Civil engineering construction

Equipment foundations shall be of concrete construction. Any new on-site hardstanding or tracks shall be constructed using concrete and / or stone. The majority of deliveries at this stage will use tipper lorries, concrete trucks and flatbed trucks. Plant required for the works will also be delivered on low loaders or other suitable transportation vehicles.

3.1.2 Large component deliveries

These components shall be delivered using articulated lorries. Associated goods such as smaller components, tools and other equipment will be delivered on flatbed trucks and low loaders. The majority of deliveries will fall under the UK Standard Vehicle Regulations.

Abnormal load vehicles under the Special Types General Order (STGO) may also be required for delivery of larger components. Should the need for a STGO vehicle(s) be identified during the development of the final delivery solution, the route will be fully assessed, and suitable measures implemented e.g., the use of escort vehicles, as required by law.

Deliveries of large components via the River Thames will also be considered during detailed design to reduce road traffic.

3.1.3 Miscellaneous equipment

Electrical and communications cables, fencing panels, drainage materials and other such miscellaneous materials will be delivered to site on flatbed trucks or low loaders. Occasional deliveries of small packages will also take place with vans and other light goods vehicles.

Site offices, welfare facilities and equipment storage containers will be delivered on flatbeds and low loaders and the facilities will be maintained on an ad-hoc basis.

Where applicable, regular deliveries of fuel and water for the site plant will be made using a mini tanker and removal of chemical toilet waste will be made using a mini tanker.

3.1.4 Staff/Workforce

The daily commute of workers in cars, vans and small trucks will form a large proportion of the site traffic. However, the chosen Contractor will encourage all sub-contractors, labourers and tradespeople to car/van share for their journeys to and from the site to reduce the number of vehicle movements involved.

3.2 Vehicle movements

Throughout the construction phase there will be a combination of HGVs (for the component and material deliveries) and cars/vans (for construction staff), on site. HGV movements are expected to be most intense throughout the first few weeks of construction whilst car/van movements are expected to be constant

throughout. The table below shows the estimated number of deliveries and movements for the main infrastructure.

Vehicle movement	Estimate total return trips over a twelve-month construction period	Indicative spread of vehicle movements during the construction phase	Maximum daily return trips
Site welfare setup	10	Month 1	5
Site clearance	10	Month 1	5
Temporary fencing delivery	5	Month 1	5
Drainage component / materials delivery	10	Months 2 - 3	3
Tipper truck (stone delivery)	300	Months 1 - 3	17
Concrete delivery	25	Months 3 - 6	8
Cable / cable bedding delivery	6	Months 6 - 9	3
Duct / cable ladder delivery	6	Months 5 - 6	3
Grid compliance equipment delivery	3	Months 5 - 6	2
Hydrogen electrolyser delivery.	9	Months 6 - 8	3
Hydrogen storage container / plant delivery	4	Months 6 - 8	4
Hydrogen pipework delivery	6	Months 7 - 9	3
Nitrogen store delivery	2	Months 6 - 8	2
Compressor delivery	4	Months 6 - 8	2
Spares container / office delivery	1	Months 6 - 8	1
Ancillary equipment delivery (UPS, pressure let down tanks, etc)	10	Months 6 -8	2
Permanent fencing delivery	5	Month 7	5
Prefabricated substations building delivery	2	Months 5 - 6	2
Vehicle barrier delivery	3	Month 7	3
CCTV and lighting columns delivery	1	Month 8	1
Construction personnel	4000	Months 1 - 15	25
Site welfare removal	10	Month 15	5

Table 1 - Guideline Vehicle Movement Numbers and Timing

Vehicle movements can vary depending on site conditions, programming, weather restrictions, etc., and therefore these numbers should be treated as a guideline only.

The expected HGV volumes are based on best estimates of trips generated for similar sized renewable energy schemes (in terms of hardstand area / quantity of equipment) and will be subject to amendments based on

local conditions, working practices and timing of works. At worst, during short intense periods of work, peak daily movements of HGVs are unlikely to exceed 45.

It is proposed that temporary signage would be used to highlight the entrance to the site and to direct construction traffic to the site via the local and regional roads.

3.3 Timing Restrictions

It is anticipated that all traffic movements will be carried out between 08.00 to 18.00 on Monday to Friday and 08.00 to 13.00 on Saturdays and at no time on Sundays or Bank or National Holidays unless otherwise agreed in advance with Gravesham Borough Council.

3.4 Programme of Works

The programme of works is anticipated to take place over a 15-month period. An initial indication of the programme of works is provided below.

Task /Activity	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15
Setup site welfare & temporary fencing															
Site clearance															
Construct site access (if required)															
Groundworks (Repairs and modifcations to existing Hardstand)															
Drainage works															
Install supply,foul, and surface water connections															
Construct substation compounds															
Substations & Grid compliance installation															
Construct hydogen plant foundations															
Construct pipework foundations															
Install Hydrogen plant															
Install Hydrogen supply pipeline															
Onsite pipework connections															
Onsite AC cable works															
Barriers and permanent fencing															
Substation commissioning and testing															
Energisation (Grid)															
Energisation (Plant)															
Cold Commissioning															
Hot Commissioning															
Testing															
Hand over															

4 Construction impacts and mitigation

4.1 Site access and entrance works

Drawing 05135-RES-ACC-DR-PT-001 in Appendix A shows proposed site access during the pre-construction, construction and operational phases of the proposed development.

It is proposed as much as practicable to access the development site via Granby Road, segregating traffic relating to the development from traffic relating to the Kimberly Clark papermill. Access off Granby Road will either be achieved through:

- Use of an existing gate into the papermill site. The gate is currently unused and blocked by a concrete barrier which will be removed as part of enabling works if this access is opted for.
- Construction of a new gated access directly into the proposed development site area off Granby Road. The gated access would be constructed at a point along the wall abutting the east of Granby Road.

4.2 Construction working areas

During construction, a temporary construction working area will be set up for construction works and temporary facilities. The temporary facilities will include site offices, welfare areas, parking, a turning area for vehicles, and storage areas for plant and materials. The construction working area will be located within the site boundary. Once construction of the site is completed, all portacabins, machinery and equipment will be removed from site.

Vehicles will drive into the site forwards, turn around on site and exit forwards. Measures will be in place to manage the timing of the delivery of material and plant to the site; if the site has insufficient space to accommodate a delivery (e.g., due to an ongoing delivery or obstructive site works), the delivery vehicle will be instructed to wait in a safe location, remote from site if necessary, until suitable space is available.

4.3 Mud prevention measures

During the works, measures shall be in place to ensure that mud and debris is not spread onto the adjacent public highway. The public highway will be regularly inspected, and any deposited debris or mud will be dealt with immediately by means of a road sweeper.

4.4 Control of pollution and dust

Best practice measures will be implemented to minimise pollution and dust generated due to construction. These measures will be detailed in a Construction Environmental Management Plan (CEMP) which will be produced prior to construction starting on site.

4.5 Emergency services

The Police, Fire and Ambulance service will be given written notice of the construction works and invited to site for an additional briefing.

4.6 Local services

During the works, measures shall be in place to ensure that there is no disruption to local services e.g., bin collections and school buses.

5 Operational Activity

5.1 Routine operational phase traffic

Once operational, the facility will be remotely monitored and controlled and as such will be unmanned. There will however be a visit to the site approximately once a month by a car, van or light goods vehicle, to carry out regular inspections and route maintenance. Parking for these visits will be accommodated on site.

Periodic visits to site to top up consumables such as Nitrogen bottles may also be required subject to solutions employed during the detailed design phase. Where required, we estimate supply from a trailer or similar once every 2 months.

5.2 Non-routine operational phase traffic

It is possible that one or more medium or large components may require replacement during the operational life of the facility. The nature of the traffic associated with such works will be similar to that used in the construction phase of the project but will be present for a much shorter duration. Should the scale of the works be such that traffic management measures would be required to manage vehicle movements to and from the site, the necessary permissions shall be sought from the local authority in line with due process.

Appendix A Drawings

A.1 Location Plan (05135-RES-MAP-DR-XX-001)

A.2 Site Access Routes (05135-RES-ACC-DR-PT-001)