Parkgate Farm Landfills

Environmental Statement

for Variation of Planning Conditions to extend the period to complete the development.

Chapter 6

24 08 2023

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Document Control

Version	Date	Author / Checked by	Change Description
0.1	12 12 2021	LL	Document created/checked
1.1	03 02 2022	PMG	Chapter 6 created
2.1	08 03 2022	PMG	Chapter 6 amended
3.1	06 07 2022	PMG	Chapter 6 amended
4.1	13 07 2023	PMG	Updated surveys & development
4.2	14 07 2023	PMG	Reviewed following LMM input
5.1	20 07 2023	PMG	Update to reflect new IEMA guidance
6.1	25 08 2023	PMG	Reviewed baseline HGV traffic

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1 Introduction

Statement of Experience

1.1 This chapter has been prepared a director of IMA Transport Planning, established in Bath in 2001, with over 30 years' experience in traffic and transportation planning in public and private sectors, and manages schemes across the UK including mineral extraction, waste management, retail, residential, office, commercial and mixed-use regeneration projects, from initial feasibility advice through Transport Assessments, Travel Plans and Environmental Statements for planning applications, section 106 and 278 agreements, to expert witness evidence at planning appeals.

Legislation & Guidance

1.2 This section considers national and local planning policy as it relates to the site and the proposals in terms of transport.

1.3 National Policy is drawn from the National Planning Policy Framework, while local policy is summarised from the Wiltshire & Swindon Waste Core Strategy Development Control Policies DPDs, the Wiltshire Core Strategy and the third Local Transport Plan for Wiltshire.

1.4 Guidance on the environmental assessment of road traffic is from the Institute of Environmental Management and Assessment (IEMA) guidance note on the Environmental Assessment of Traffic and Movement (July 2023).

National Planning Policy Framework (July 2021)

1.5 The National Planning Policy Framework (NPPF), revised in July 2021, sets out the Government's planning policies for England and how these should be applied. It states that achieving sustainable development involves meeting economic, social and environmental objectives.

1.6 NPPF emphasises that the objectives are not criteria against which every decision can or should be judged but should be delivered through development plans and the application of policies in the Framework, taking local circumstances into account to reflect the character, needs and opportunities of each area.

1.7 A presumption in favour of sustainable development lies at the core of the framework, which in terms of decision making, means approving development that accords with an up-to-date development plan without delay. Where relevant development plan policies are absent or out of date, permissions should be granted unless NPPF policies provide a clear reason for refusal, or adverse impact would significantly and demonstrably outweigh the benefits.

1.8 The NPPF states that transport issues should be considered from the earliest stages of development to address impacts on transport networks; realise opportunities from existing or proposed transport infrastructure; pursue opportunities to promote non-car transport; assess the environmental impacts of traffic and transport infrastructure, including net gains from mitigation; and to ensure that movement patterns and other transport considerations are integral to the scheme design.

1.9 Significant development should be located where it will be or could be made sustainable, by limiting the need to travel and ensuring a genuine choice of modes but recognising the different opportunities available in urban and rural areas.

1.10 NPPF explains that if setting local parking standards for residential and non-residential development, they should consider: the accessibility of the development; the development type, mix and use of development; public transport availability/opportunities; local car ownership; and provision for charging plug-in and other ultra-low emission vehicles.

1.11 In assessing development sites, NPPF requires:

- appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
- safe and suitable access to the site can be achieved for all users; and
- any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

1.12 Paragraph 109 sets out a key consideration for determining planning applications:

- Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

1.13 A range of more detailed criteria are then set out, followed by a requirement that all development that generates significant movement demand should be required to provide a Travel Plan and a Transport Statement or Transport Assessment to examine the likely impacts.

Wiltshire & Swindon Waste Core Strategy DPD (July 2009)

1.14 Paragraph 4 discusses environmental considerations of the Waste Strategy, noting that to balance the need for new facilities while protecting and enhancing the local environment, the councils are committed to reducing the impacts associated with the management and movement of waste.

1.15 Sustainable transport of waste and minimising cross-boundary transport are considered essential to that objective, as is a framework of waste management facilities across the area that will use the most sustainable, realistic and appropriate transport modes and routes to minimise 'waste mileage'.

1.16 Strategic Objective 3 – The Environment states '…options for sustainable transportation should be encouraged in order to reduce the impacts of transporting waste through Wiltshire and Swindon…'

1.17 Paragraph 5.12 emphasises the importance of locating waste management facilities as close as possible to the specific growth areas that will be the main source of additional waste arisings.

Wiltshire & Swindon Waste Development Control Policies DPD (September 2009)

1.18 Section 5 of this document deals with the transportation of waste, headlined by Strategic Objective 3 from the Waste Strategy quoted above.

1.19 The DPD recognises that waste management facilities often generate HGV traffic with adverse environmental impacts and notes that locating waste management facilities close to the Wiltshire HGV Route Network will minimise the adverse impacts of waste management transportation, so sites with direct access or good links with the HGV route network or the Primary Route Network (PRN) will be supported.

1.20 Daily HGV movements will be an important consideration and planning applications will need a comprehensive Transport Assessment (TA) where significant transport impacts might arise, identifying measures to mitigate impact and improve accessibility and safety. A simplified Transport Statement can be produced where transport implications are limited. Scope should be established through pre-application discussion.

1.21 Developers will be encouraged to consider routeing restrictions to minimise the potential transport impacts of new waste management development or legal agreements for appropriate improvements to road networks that are not adequate for the level of HGV use.

1.22 Policy WDC11: Sustainable Transport of Waste sets out requirements to make waste management acceptable, which include:

- Minimising transport distances
- Minimising carbon emissions
- Ensuring direct access to appropriate roads
- Mitigating adverse impacts on safety, capacity and use of the highway
- Providing Transport Assessment where necessary, considering highway network, cross-boundary and cumulative impacts and identifying necessary mitigation

Wiltshire Core Strategy (Adopted January 2015)

1.23 Several Core Policies relate to transport and the proposed development.

1.24 Core Policy 60 deals with sustainable transport and commits to reducing the need to travel and encouraging the sustainable, safe and efficient movement of goods in the county by measures including planning development in accessible locations, promoting sustainable alternatives to private cars, maintaining and improving the transport network, promoting demand management, influencing freight routes and assessing and mitigating development impact.

1.25 Core Policy 61 deals specifically with transport and development, specifying that development is located to reduce travel and encourage sustainable alternatives, with Transport Assessments that demonstrate consideration of the needs of all transport users, with safe highway access adequate servicing and, where appropriate, contributions to sustainable transport improvements and Travel Plans to encourage sustainable travel and freight movement.

1.26 Core Policy 62 considers transport impact from development, requiring mitigation to offset adverse impact during construction and operation and discouraging direct access onto national primary routes outside built-up areas.

1.27 Core Policy 65 deals with freight movement, seeking a sustainable distribution system making efficient use of existing networks. Development generating large volumes of freight and bulk materials should be make use of rail or water where practical but where that is not realistic, HGVs should use the advisory freight network to minimise impacts, with freight management to avoid use of inappropriate routes.

Wiltshire Local Transport Plan (2011-2026)

1.28 The Wiltshire Local Transport Plan Freight Strategy (March 2011) sets out objectives that include reducing HGV movements on inappropriate routes, minimising HGV impact on communities and the environment and enhancing road safety.

1.29 To assist with those objectives, a network of advisory freight routes is identified, which identifies the A419 as a Strategic Lorry Route.

IEMA Environmental Assessment of Traffic and Movement (July 2023)

1.30 This guidance note, newly issued at the time of writing, is used as the basis of the analysis in this chapter. The scope of the updated guidelines explains they provide the basis for systematic, consistent and comprehensive coverage for the assessment of traffic and movement impacts for a wide range of development projects.

1.31 The guidelines are intended to complement professional judgement and the experience of trained and competent assessors, noting that environmental impact of traffic and movement varies case-by-case basis, so the experience and expertise of the assessor will remain of primary importance, along with adequate consultation.

2 Assessment Methodology & Study Area

2.1 This section describes the assessment methodology, study area and also defines the significance criteria used.

Overall Methodology

2.2 The assessment methodology is based on guidance from the Institute of Environmental Management and Assessment (IEMA) set out in their document on the Environmental Assessment of Traffic and Movement (July 2023).

2.3 The IEMA guidance notes that environmental assessment practitioners should consider:

- The forecast changes to baseline (magnitude of change/ impact);
- The relative value/sensitivity/importance of the affected asset/receptor; and
- The scale, nature and significance of the effect (consequence).

2.4 The IEMA guidance notes that EIA Regulations require consideration of whether the anticipated effect is short-term, medium-term or long-term and whether it is permanent or temporary.

2.5 In the context of affected parties and receptors, the IEMA guidance recommends early identification of population groups that may be sensitive to changes in traffic, which should consider:

- Non-motorised users
- Public right of way users
- Motorists and freight vehicles
- Public transport
- Emergency services

2.6 The guidance goes on to list the following special interests to be considered when defining sensitive receptor locations:

- People at home
- People at work
- Sensitive and/or vulnerable groups (including young age; older age; income; health status; social disadvantage; and access and geographic factors)
- Locations with concentrations of vulnerable users (e.g. hospitals, places of worship, schools)

- Retail areas
- Recreational areas
- Tourist attractions
- Collision clusters and routes with road safety concerns
- Junctions and highway links at (or over) capacity

2.7 Sensitive receptors should be assigned to the nearest highway link and consideration in context given to the sensitivity of those receptors to change, citing the example that pedestrians are less sensitive to changes in traffic if there are adequate footways and crossing facilities.

2.8 The guidance discusses a mitigation hierarchy, which ranges from improving the environment as a first design goal, through avoidance of environmental and social impacts to seeking to reduce, mitigate or compensate any adverse impacts. It states the critical importance of providing the necessary details of any primary, secondary and/or tertiary mitigation relied upon in the assessment of significant environmental effects at each stage of the EIA process.

2.9 The IEMA guidance notes that impact of traffic and movement is dependent on a wide range of factors that include:

- Current state traffic and movement environment
- Volume of development traffic
- Traffic speeds and network operational characteristics
- Traffic composition (e.g. percentage of Heavy Goods Vehicles (HGVs))
- Future cumulative development traffic

2.10 The guidance also notes that the perception, experience and health effects of changes in traffic and impact on ecological systems will vary with factors such as:

- Existing traffic levels
- The location of traffic movements
- The time of day
- Temporal and seasonal variation of traffic
- Design and layout of the road and pavement
- Crossing points
- Landscape/townscape character, designated status, land use and activities adjacent to the route
- Ambient conditions of adjacent land uses

2.11 The IEMA guidance advises that environmental assessment should estimate the traffic associated with the development and project traffic volumes along key links to the development site, with estimates of HGV movements provided separately.

2.12 Surveys should typically be carried out during a 'neutral', or representative, month avoiding main and local holiday periods, local school holidays and half terms, and other abnormal traffic periods, other than where seasonal peaks may be important to the assessment process.

Study Area

2.13 The guidance notes the importance of determining the Study Area to define the geographical boundaries of the environmental assessment, using judgements based on experience and assumptions that should be made explicit in the EIA report.

2.14 The Study Area considered in this EIS Chapter is based around the main highway links connecting the site to main roads used to import and export material from the site. The presence of a 7.5 tonne weight limit immediately south of the site forms the southern boundary to the Study Area.

2.15 To the north, the Study Area extends to the A419 strategic route via the B4553 and the sensitive receptor of Cricklade town centre, including the High Street and Calcutt Street.

2.16 To the east, the Study Area extends to Packhorse Lane, which runs to the A4198 in the northern area of Swindon.

2.17 To the west, the Study Area extends to the B4696 Braydon Road which forms the route to the south and south west around the weight limit to the south of the site.

2.18 The highway links considered in the Study Area are as follows,

- Calcutt Street, Cricklade
- High Street, Cricklade
- B4696 Braydon Road (South of Malmesbury Rd)
- B4553 (North of Packhorse Lane)
- Packhorse Lane
- Cricklade Road (South of Packhorse Lane)

2.19 The section on baseline transport data summarises traffic recorded over 7 days on those roads. The main receptors identified for each link are summarised as follows.

Table 6.1: Study Area & Key Receptors

Key Receptors	Calcutt Street, Cricklade	High Street, Cricklade	B4696 Braydon Road	B4553	Packhorse Lane	Cricklade Road
Non-motorised users	•	•	•	•	•	•
Public right of way users						
Motorists and freight vehicles	•	•	•	•	•	•
Public transport	•	•		•		•
Emergency services	•	•	•	•	•	•
People at home	•	•	•	•	•	•
People at work	•	•				
Sensitive and/or vulnerable groups	•	•				
Concentrations of vulnerable users	•	•				
Retail areas	•	•				
Recreational areas	•	•				
Tourist attractions	•	•				
Collision clusters and road safety concerns						
Junctions and highway links at (or over) capacity						

Scale & Extent of Assessment

2.20 With the study area defined, the IEMA guidance recommends application of two broad rules of thumb as criteria to assist in delimiting the scale and extent of the environmental assessment:

Rule 1: **Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%)**

Rule 2: **Include highway links of high sensitivity where traffic flows have increased by 10% or more**

2.21 The guidance notes that the two rules of thumb may not be appropriate for impacts relating to air quality, noise, road safety and driver delay, which may require a separate study area.

2.22 The guidance elaborates on Rule 1, recognising that traffic forecasting accuracies greater than 10% are generally acknowledged as not achievable and that daily variation of +/-10% on a particular road is frequent, such that projected traffic changes of less than 10% create no discernible environmental impact.

2.23 The guidance notes that the cumulative effect of numerous developments attracting less than 10% of additional traffic may need to be assessed at a broader strategic or policy level.

2.24 The guidance refers to noise, severance, pedestrian delay and intimidation as the most discernible impacts of traffic, with traffic increases of around 30% doubling the delay of pedestrians crossing a road where existing flows are low, noting that the absolute significance of that type of scenario will require further assessment.

2.25 The guidance notes that severance and intimidation are more sensitive to traffic flow and states that the Department for Transport, historically, has assumed that 30%, 60% and 90% changes in traffic levels should be considered as ‘slight’, ‘moderate’ and ‘substantial’ impacts respectively.

2.26 The guidance therefore concludes that a 30% change in traffic flow represents a reasonable threshold for including a highway link within an environmental assessment, but where there are major changes in the composition of the traffic flow, say a much greater flow of HGVs, a lower threshold may be appropriate.

2.27 The guidance also elaborates on Rule 2, recommending that any other links or locations should be included where specific environmental or population sensitivities may occur, based around the list of potentially affected groups and special interests. Consideration of links with changes

in traffic below 10% is not appropriate unless there are significant changes in the composition of traffic, such as a large increase in HGVs.

Assessment Years

2.28 Regarding the years of assessment to be considered in an EIA, the guidance notes that where development passes through stages with different traffic types, volumes and impacts, such as construction, operation and decommissioning, each should be considered separately.

2.29 Traffic forecasts should make use of available datasets that include Local Plan Traffic Models, the Department for Transport Trip End Model Presentation Program (TEMPro) and the National Traffic Model), which assumptions on other existing and/or approved projects that affect traffic flows over the time period.

2.30 The guidance notes that Transport Assessments mainly evaluate future year traffic flows at their highest, including increases due to natural traffic growth, which will generally have the effect of diluting the environmental impact of a project. The greatest environmental change will generally be when the project traffic is at the largest proportion of the total flow, so the IEMA guidance recommends EIA is undertaken at:

- The construction/decommissioning phase
- The year of opening of the project or the first full year of its operation.

2.31 Where development is phased, it may be necessary to consider the first year of each phase.

2.32 The guidance emphasises that future baseline traffic flows involving traffic growth should not be confused with cumulative assessment flows that consider discrete projects within the Study Area, and double counting of projected traffic should be avoided where traffic growth may already allow for specific projects.

2.33 Existing operations at the site, described later in this chapter, were permitted for 18 years in 2006 so are due to cease in 2024. The development proposed would extend the operational period from the current 2024 cessation until 2036, adding 12 operational years.

2.34 The development effects to be considered therefore relates to the level of traffic relative to a baseline with complete cessation.

2.35 In the context of the IEMA guidance on assessment years, the impact should be considered in the year of construction, the first year of operation (when baseline network flows are at their lowest) and in the first year of decommissioning.

2.36 There will be no construction phase associated with this development, which would be a continuation of existing operations. There will be no HGV movements associated with the decommissioning or restoration phase in 2037, so this EIA chapter considers the traffic and movement effects in the first year of operation only, 2024.

Traffic & Movement Assessment Methodology

2.37 The IEMA guidance refers to EIA Regulations requiring the identification and description of the direct and indirect significant effects on factors including population and human health; biodiversity; land, soil, water, air and climate; material assets, cultural heritage and the landscape; and the interaction between those factors.

2.38 In that context and the environmental impacts from changes in traffic and movement, the guidance identifies impacts to be considered as follows, among other considerations that may be project-specific:

- Severance of communities
- Road vehicle driver and passenger delay
- Non-motorised user delay
- Non-motorised amenity
- Fear and intimidation on and by road users
- Road user and pedestrian safety
- Hazardous/large loads

2.39 The guidance notes that EIA Regulations do not explicitly require a traffic and movement chapter in every ES/EIA, as it may be an issue that is scoped out of an EIA, but where that is the case, the guidance recommends that a transport technical note or Transport Assessment provides supplementary information on all movement-related forecasting relating to other chapters.

2.40 With receptors identified and the Study area defined, the assessment quantifies the magnitude of impacts and identifies the scale and nature of effects arising, to determine level of significance. This involves determining baseline conditions, changes in traffic for each relevant stage of the development in the appropriate year and estimates of the number of people affected by the changes and their relative sensitivity.

2.41 Determining factors will vary for each type of impact and should be described at the initial stages of the assessment.

2.42 Developments generally increase traffic flows so inherently tend towards negative impacts requiring mitigation, but where beneficial effects may accrue through mitigation strategies, they should be identified.

2.43 The guidance notes that impacts such as noise are readily quantified by established and reliable techniques, but other impacts such as severance are more subjective, so impact assessment may depend more on description and judgement, with the choice of method explained.

2.44 The IEMA guidance notes that determining the significance of an effect is critical to environmental assessment, with various ways to interpret whether an outcome is significant, in the absence of any definition of a 'significant effect' in EIA Regulations or simple rules or formula to define thresholds for many effects. Significance therefore requires individual interpretation and judgement, backed up by data or quantified information wherever possible.

2.45 IEMA guidance on individual effects is summarised under the following headings.

Severance

2.46 Severance arising from traffic is a perceived division that within a community separated by major transport infrastructure, covering a complex series of factors that separate people from places and other people, arising from difficulty crossing a heavily trafficked road or a physical barrier created by infrastructure.

2.47 Measuring and predicting severance is extremely difficult, with no predicative formulae or simple relationships between traffic factors and levels of severance. Factors to consider include road width, traffic flow, composition and speeds, the demand for crossing and availability of crossing facilities. Some receptor groups will be more sensitive to severance than others.

2.48 Severance assessment should estimate the current severance associated with traffic and the extent to which additional traffic will exacerbate severance. Where more detailed investigation is required, recommended assessment involves:

(a) Defining the facilities to which access is potentially impaired
(b) Defining facility catchment areas from which users may be drawn
(c) Estimating the populations within those areas, both in total and in vulnerable groups

2.49 Historically, Department for Transport indicators for determining the significance of severance refer to changes in traffic flow of 30%, 60% and 90% as producing 'slight', 'moderate' and 'substantial' changes in severance respectively and while those thresholds do not appear in current guidance, they have not been superseded and are established through planning case law so may be applied.

2.50 Caution is advised when applying percentage thresholds to very low baseline flows, which are unlikely to experience severance impacts even with high percentage changes in traffic.

Driver Delay

2.51 The guidance notes that delays to non-development traffic can occur at several points on the network surrounding a development site, from the site access to roads passing the development and links and intersections further afield, but delays are only likely to be significant where elements are already at or nearing capacity.

2.52 Changes to driver delay can be quantified by proprietary modelling software at the level of individual junctions or wider networks, depending on the study area, and will normally be covered by a Transport Assessment where that level of analysis is required.

Pedestrian & Non-Motorised User Delay

2.53 Pedestrian delay assessment serves as a proxy for delay to other non-motorised users and may be grouped with the closely related effects of severance. Increased traffic volume, composition or speed may increase crossing times, depending on pedestrian activity, visibility and physical conditions.

2.54 A delay prediction methodology from the Transport and Road Research Laboratory Supplementary Report 356 (J Goldschmidt, 1977) is referred to as a useful approximation for determining pedestrian delay at different traffic levels.

2.55 It is suggested that pedestrian delay may have a lesser impact in an urban environment than a rural setting, so definitive thresholds are not set, the methodology favouring professional judgement to determine whether pedestrian delay constitutes a significant effect, with references to useful Department for Transport resources to assist that judgement.

Non-motorised User Amenity

2.56 The relative pleasantness of a journey is affected by traffic flow, composition and pavement width/separation from traffic and includes pedestrian fear and intimidation, as well as exposure to noise and air pollution.

2.57 The guidance references Transport for London's 'Guide to the Healthy Streets Indicators: Delivering the healthy streets approach' as a resource to be considered in the traffic and movement assessment.

2.58 Reference is also made to historic guidance suggesting that significant changes to pedestrian amenity arise where traffic flow or the HGV component is halved or doubled, noting that while those thresholds do not appear in current Department for Transport guidance, they have not been superseded and are established through planning case law.

2.59 Thresholds should be considered as a starting point for amenity assessment, which should pay full regard to specific local conditions.

Fear and intimidation

2.60 Fear and intimidation created by traffic associated with development is an environmental effect to be considered in the context of all travel modes and is dependent on traffic volume, HGV content, speeds, proximity and any protection from verges etc.

2.61 In the absence of commonly agreed thresholds, the guidance refers to historical work that suggests hazard scores based on 18-hour vehicle flows and speeds, but recognises the need for judgement to determine the degree of fear and intimidation, with special consideration given where site-specific problems may arise.

Road safety

2.62 The guidance refers to simple statistical assessment through the calculation of road collision rates as a relevant approach to scaling road safety assessment but suggests that a 'collision cluster' assessment is more relevant, identifying potential impacts at a more detailed level.

2.63 Analysis of police collision records (STATS19 data) is used to identify clusters in a baseline review to determine the road safety sensitivity of discrete areas of the highway network, based on any emerging patterns or factors that could be exacerbated by development traffic or movement.

2.64 The guidance notes that the World Health Organisation promotes a 'Safe System' approach as international best practice to road safety appraisal, which involves modelling software to predict future changes, but also acknowledges that the traditional approach to road safety appraisal using recent data still serves to address collision rates and cluster sites to good effect.

Hazardous Loads/Large Loads

2.65 Where development may involve the transportation of dangerous or hazardous loads by road it should be recognised within the EIA, whether it be specialist loads in the construction or decommissioning phases, or movements associated operational traffic.

2.66 Reference is made to The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (as amended) and further advice from the Health and Safety Executive website.

2.67 The traffic and movement assessment needs to quantify the estimated number and

2.68 composition of hazardous or large loads and where the number is significant, the assessment should include a risk or catastrophe analysis, reflecting the nature of the load being transported.

2.69 Large (abnormal) loads are regulated by National Highways and will be subject to separate agreement with the relevant highway authorities and police through the Electronic Service Delivery for Abnormal Loads (ESDAL) system.

2.70 Appropriate routes for abnormal loads must be considered, with a mitigation strategy to secure safe passage and consideration of other traffic impacts such as fear and intimidation, driver delay, etc, where regular movements are expected.

Significance Criteria

2.71 The approach in this ES chapter is to define the level of the effect and then to determine whether that is significant or not significant.

2.72 The level of the transport effects is determined by reference to the changes in traffic arising from the continuation of landfill/extraction activity relative to the levels currently accepted from that activity on this site.

2.73 The significance of any effects on transport considers the interaction between the sensitivity of the receptor and magnitude of the predicted change, using national guidance, accepted practice and professional judgement. The categories of significance are set out in the following table.

Table 6.2: Significance Criteria

Significance Criteria	Description of Criteria
Substantial Beneficial	Substantial beneficial effects are likely to be highly noticeable and would lead to material improvement of conditions.
Moderate Beneficial	Moderate beneficial effects would result in a material, noticeable improvement of conditions.
Minor Beneficial	Minor beneficial effects would improve conditions, but not materially so, and the improvement would be difficult to notice 'on the ground'.
Negligible	Negligible effects would have an imperceptible effect on existing highway conditions.
Minor Adverse	Minor adverse effects would worsen conditions, but not materially so, and the worsening would be difficult to notice 'on the ground'.
Moderate Adverse	Moderate adverse effects would result in a material, noticeable worsening of conditions 'on the ground'.
Substantial Adverse	Substantial adverse effects are likely to be highly noticeable, material and result in a position that would be unacceptable.

2.74 This chapter of the ES considers the effects of the proposed extension of landfill/extraction activity in terms of the above magnitudes of impact, based on changes in daily traffic.

3 Baseline

Site Location & Description

3.1 The landfill sites lie west of Purton Industrial Estate, which is 1km north of the village of Purton, some 7km west of Swindon in Wiltshire.

3.2 The site is bounded by a railway line to the northeast, a composting facility to the southwest and farmland on the other boundaries.

3.3 The industrial area is well established with a variety of industrial buildings and open yards mostly operating under B1, B2, B8 and sui generis uses, with ancillary offices.

3.4 Hills Waste Solutions operate a waste management centre and workshop at the Industrial Estate, with a Household Recycling Centre and a waste collection and skip/container hire depot. The site is an important regional facility for composting and waste disposal.

3.5 The landfill operations are on the western side of the industrial area on the south western side of a railway line. Planning application PL/2021/10405 for a solar farm on land between the active landfill and the industrial area was approved in April 2023.

3.6 The non-hazardous aspect of the landfill disposes of asbestos containing wastes. The hazardous waste aspect accepts materials that cannot be recycled or recovered and are unsuitable for a non-hazardous landfill. Wastes that are explosive, corrosive, oxidising, highly flammable or infectious are not permitted to be landfilled under any circumstances.

3.7 A significant proportion of the hazardous waste is made up of contaminated soils arising from re-development of brownfield sites, which relative to inert waste may contain increased levels of contaminants such as chemicals, metals or hydrocarbons.

3.8 The sites are permitted to extract and export 40,000 cubic metres of clay each year and import 150,000 tonnes of waste annually, 50,000 tonnes categorised as hazardous, the remainder being non-hazardous.

Existing Vehicular Access

3.9 The site and the industrial estate are accessed via Mopes Lane, a private industrial access road owned by the applicant. The single two-way carriageway connecting the industrial estate to the public highway is of concrete construction with traffic calming and a 20mph speed restriction.

3.10 The landfills sites are to the west of the industrial estate on the opposite side of a railway line. A link road runs between the two, mostly as a single-track road with regular passing places and a bridge over the railway, with a weighbridge at the industrial estate end.

3.11 Mopes Lane connects to the highway at Cricklade Road via a simple priority junction. Cricklade Road is a derestricted two-lane single carriageway road with 7.5 tonne weight restriction immediately south of Mopes Lane.

3.12 A visibility splay of 2.4 x 160m can be achieved at the egress from Mopes Lane, adequate for 50mph 85th percentile speeds recorded by a survey carried out in December 2014 in association with planning permission 14/10939/FUL for B2/B8 use at the industrial estate.

3.13 To the south, Cricklade Road runs to the village of Purton, where links run to the western side of Swindon and Junction 16 of the M4 via Lydiard Millicent. To the north, Cricklade Road becomes the B4553 and links to the A419 trunk road via Cricklade town centre.

3.14 A 7.5 tonne weight limit commences immediately south of the site, so larger vehicles from destinations to the south west, such as Chippenham, access the industrial estate via the B4696 Braydon Road, which links to the B4040 Malmesbury Road, then to the B4553 Cricklade Road via a link passing the Chelworth Industrial Estate, which was granted planning permission to expand the commercial floorspace in February 2023 (PL/2022/00541).

Baseline Transport Data

3.15 Traffic surveys have been carried out over the Study Area identified earlier in this chapter by an independent specialist using Automatic Traffic Counters (ATCs), recording data over the week Wednesday 21st June to Tuesday 27th June 2023.

3.16 The average weekday figures for all traffic and for HGVs is summarised in the following table. Full details of the traffic surveys will be provided to the LHA on request.

Table 6.3: Average Weekday Daily Traffic Surveyed in 2023

Survey Location	All Vehicles	HGVs	%age HGVs
Calcutt Street, Cricklade	9,684	432	4%
High Street, Cricklade	12,090	422	4%
Braydon Road (South of Malmesbury Rd)	5,419	148	3%
B4553 (North of Packhorse Lane)	7,538	173	2%
Packhorse Lane	8,253	113	1%
Cricklade Road (South of Packhorse Lane)	5,687	156	3%

3.17 The surveys recorded higher HGV flows in Cricklade than on the approach to the Purton Industrial Estate, with 422 HGV movements on the High Street within the town, compared to 156 on Cricklade Road south of Packhorse Lane near the application site, indicating over 63% of the HGV traffic through Cricklade was from sources other than the Purton Industrial Estate.

3.18 The ATC surveys include the existing landfill traffic, which therefore needs to be removed to provide a baseline against which continuation of operations can be compared.

3.19 The landfill operator's weighbridge logs listed 93 loads of hazardous/non-hazardous fill imported over the week of the ATC surveys (21st to 27th June 2023), plus 4 tanker loads exporting leachate. There were no clay exports during the week of the ATC surveys.

3.20 On average there were 19.4 loads per weekday at the landfill facility, equating to 40 weekday HGV movements (one arrival and one departure per load) when rounded. HGV numbers during the surveys were well below the maximum level of 82 daily HGV movements set out later in this chapter (Table 6.7), but both clay extraction and landfill import activity is variable.

3.21 The distribution of landfill traffic is explained in the following section, in brief, landfill origins vary continually but mostly arrive via the strategic highway network, so a 50/50 split has been applied between HGV traffic arriving and departing via the M4 and A419 to give the estimated distribution of existing landfill HGV traffic during the week of the ATC survey.

Table 6.4: Weekday Landfill HGV Traffic during ATC Survey

Link	Existing Landfill HGVs during ATC Surveys	
	%age	HGVs
Calcutt Street & High Street, Cricklade	50%	**-20**
Braydon Road (South of Malmesbury Rd)	50%	**-20**
B4553 (North of Packhorse Lane)	100%	**-40**
Packhorse Lane	0%	**0**
Cricklade Road (South of Packhorse Lane)	100%	**-40**

3.22 Traffic growth to the baseline year of 2024 when the existing permissions cease, that being the first year of operations (explained in paragraph 2.36), has been derived from the Department for Transport software TEMPRO 7.2 based on the following parameters.

Table 6.5: TEMPRO7.2 Inputs/Outputs

Study Area:	**Wilts 003 (E2006646) - Purton MSOA**
Base Year:	2018
Result Type:	Trip Ends by Time Period
Trip Purpose:	All Purposes
Transport Mode:	Car Driver only
Trip End Type:	Origin/Destination
Dataset:	RTF 2018
Road Type:	Minor
2024 Average Weekday Factor:	**1.0087**

3.23 The traffic growth has been applied to the 2023 surveyed traffic from Table 6.3, less the existing landfill HGV traffic from Table 6.4, to provide 2024 baseline year figures as follows:

Table 6.6: 2024 Baseline Average Weekday Daily Traffic (ATC Surveys - Existing Landfill + Growth)

Location	Growth to 2024	
	All Vehicles	HGVs
Calcutt Street, Cricklade	9,748	416
High Street, Cricklade	12,175	405
Braydon Road (South of Malmesbury Rd)	5,446	129
B4553 (North of Packhorse Lane)	7,563	134
Packhorse Lane	8,325	114
Cricklade Road (South of Packhorse Lane)	5,696	117

3.24 The following section considers the development traffic relative to the operational traffic and movement baseline year.

4 Development & Assessment of Impacts

Development Description & Associated Traffic

4.1 This section describes the development in a transport context, a full description is included in Chapter 3.

4.2 The planning application on behalf of Hills Waste Solutions Ltd proposes to extend the period of the existing planning consents from 2024 over 12 operational years (plus a year to complete restoration), and to reduce the footprint of the non-hazardous landfill, with associated change to the phasing and restored landform.

4.3 It is proposed that the current maximum input level of waste and outputs of clay are retained.

4.4 The sites are permitted to import 150,000 tonnes of waste annually combined, with continuation of the export of up to 40,000m^3 (circa 80,000 tonnes) of clay each year from the existing landfill sites.

4.5 The site has not operated at the import capacities, which has enabled the life of the facilities to be extended. The planning application would extend operations to 2036 with the maximum import and export rates previously permitted, which represent the site working to capacity. This report therefore considers the highest level of HGVs possible, actual daily levels may be lower than that maximum.

4.6 The permitted infill rates operating 278 days/year (5 ½ day/week less 8 public holidays) at 20 tonne loads equate to 27 loads of imported material per day (54 daily HGV movements), with extraction adding up to 14 loads daily (28 HGV movements), so the existing permissions could generate up to 82 HGV trips per day.

4.7 The following table shows the breakdown of daily loads and vehicle movements currently permitted at the site, which would be extended to 2036. Average payloads of 20 tonnes are assumed but larger loads are commonly used to reduce the number of vehicle movements, so the figures in the table represents a worst case.

Table 6.7: Maximum Weekday Landfill HGV Movements

	Infill Material	Extracted Clay	Totals
Annual Bulk Import (Tonnes)	150,000	80,000	190,000
Average Payload (Tonnes)	20	20	-
Annual Loads	7,500	4,000	9,500
Daily Loads (278 Days/Year)	27	14	34
Daily HGV Movements (2 per Load)	54	28	82

4.8 In addition to the HGV movements there are up to 6 daily commuting movements by light vehicles associated with 3 staff typically employed on the site.

Assessment of Transport Impacts

Incorporated Mitigation

4.9 The existing planning permissions for the hazardous (N/05/07021) and non-hazardous (N/05/07022) landfill activity include the following planning conditions for reasons of highway safety:

- The input of hazardous waste into the site shall not exceed a level of 150,000 tonnes per annum (100,000 tonnes per annum of non-hazardous and 50,000 tonnes per annum of hazardous waste).
- No commercial vehicles shall enter the public highway unless their wheels and chassis have been cleaned to prevent material being deposited on the highway.
- All vehicles involved in the transport of either clay from the site or waste to the site shall use Mopes Lane.

4.10 Similar conditions will be proposed for any new consent for the proposed extension of the landfill/extraction activities and can therefore be considered as incorporated mitigation.

4.11 The existing weight limit to the south of the Purton industrial area may also be considered as incorporated mitigation, as it prevents HGVs associated with the site from passing through the village of Purton.

Development Impact Assessment

4.12 The effect of extending the operating period to 2036 is unlikely to change HGV movements but it would prolong the duration of movements already allowed to take place, with the mitigating planning conditions described under paragraph 4.9 continued.

4.13 This section therefore considers the landfill traffic as a proportion of highway network traffic at the commencement of the proposed time extension in 2024, in accordance with IEMA guidance described earlier in this chapter.

4.14 Hills Waste Solutions has explained that most of the landfill waste is transported via the M4 and A419. Origins vary continually but mostly arrive via the strategic highway network, so for the purpose of this assessment a 50/50 split has been assumed between HGV traffic arriving and departing via the M4 and A419.

4.15 HGV arrivals from Junction 16 of the M4 will route via the A3102 north of Royal Wootton Bassett, the B4042 over the M4 and then north on the B4696 Lydiard Plain and Braydon Road to the B4040 Malmesbury Road, past the Chelworth Industrial Estate to head south to the site on the B4553. HGV traffic from the A419 will route via Cricklade, where the town centre has been identified as a sensitive receptor.

4.16 The destinations of extracted clay exports vary continuously but are likely to centre on Swindon. However, to provide a robust appraisal of impacts, it has been assumed that clay export destinations are split equally between Braydon Road (M4 west and A350 south), Packhorse Lane (Swindon) and Cricklade (destinations to the north).

4.17 The following table summarises the assumed distribution of HGV movements for infill and extraction and applies it to the maximum daily HGV traffic as currently permitted at the site and as proposed to continue under the extension application.

Table 6.8: Maximum Weekday Daily HGV Traffic associated with Parkgate Farm Landfill

Link	Incoming Waste		Exported Clay		All HGVs	
	%age	HGVs	%age	HGVs	%age	HGVs
Calcutt Street & High Street, Cricklade	50%	27	33%	9	38%	36
Braydon Road (South of Malmesbury Rd)	50%	27	33%	9	38%	36
B4553 (North of Packhorse Lane)	100%	54	67%	19	75%	73
Packhorse Lane	0%	0	33%	9	25%	9
Cricklade Road (South of Packhorse Lane)	100%	54	100%	28	100%	82

4.18 The Parkgate Farm landfill traffic on each main link serving the site as a proportion of traffic on the wider highway network in 2024 is summarised in the following table. The landfill traffic of up to 82 additional HGV movements daily is a worst-case based on maximum levels of extraction and infill currently permitted, higher than the existing levels during the ATC surveys.

Table 6.9: Additional Landfill Traffic as a Proportion of Highway Network Traffic in 2024

Link	2024 Baseline Highway Network Traffic		Parkgate Farm Landfill Traffic		%age	
	All Vehicles	HGVs	All Vehicles	HGVs	All Vehicles	HGVs
Calcutt Street, Cricklade	9,748	416	+36	+36	0.4%	9%
High Street, Cricklade	12,175	405	+36	+36	0.3%	9%
Braydon Road (South of Malmesbury Rd)	5,446	129	+36	+36	0.7%	28%
B4553 (North of Packhorse Lane)	7,563	134	+73	+73	1.0%	54%
Packhorse Lane	8,325	114	+9	+9	0.1%	8%
Cricklade Road (South of Packhorse Lane)	5,696	117	+82	+82	1.4%	70%

4.19 The all-vehicle traffic associated with extending the landfill/extraction operations from 2024 to 2036 equates to 1.0 to 1.4% of all vehicle movements recorded on Cricklade Road and the B4553 where landfill traffic is focussed near the site and 0.1 to 0.7% elsewhere on the local highway network, including through the sensitive receptor of Cricklade.

4.20 The changes in total traffic (all vehicle types) on each link are all far below the 30% thresholds for assessment set by the IEMA Rule 1, and far below the 10% Rule 2 threshold for specifically sensitive areas.

4.21 IEMA Rule 1 also suggests a threshold of 30% in the context of HGV traffic. The above table show that landfill traffic represents 54% of all HGV traffic on the B4553 north of Packhorse Lane in 2024 and 70% of traffic on Cricklade Road south of Packhorse Lane, above the IEMA threshold.

4.22 Landfill traffic will be a significant percentage of all HGV traffic on Cricklade Road and the B4553 due to the weight restriction south of Purton industrial estate. Relative to cessation of landfill activity at Parkgate Farm, continuation of landfill at operating capacity would increase HGV levels on roads closest to the site, although the actual effect would be a continuation of existing HGV activity if existing extraction and infill tonnages are maintained.

4.23 Packhorse Lane and Cricklade Road between Packhorse Lane and the site access are considered low-sensitivity receptors, as both serve an established industrial area with very little frontage development and no footways where pedestrians would experience adverse impacts.

4.24 Landfill HGV traffic on Braydon Road is predicted to represent 28% of 2024 baseline HGV traffic, just below the IEMA Rule 1 threshold of 30% in the context of HGV traffic. Braydon Road, as a B-classified road with very little frontage development and no pedestrian activity, is also considered a low-sensitivity receptor where there would be little adverse impact.

4.25 Elsewhere on the highway network the changes in HGV traffic through continuation of landfill activity relative to its cessation would be below 10% and therefore not perceptible against day to day variation in traffic as defined by the IEMA guidelines, with no actual change relative to levels from activity currently permitted.

4.26 To contextualise the HGV traffic from landfill continuation relative to cessation, the following table shows the hourly profile of average weekday HGV movements recorded on Cricklade Road near the site during site working hours, indicative of the hourly distribution of landfill HGV movements. The table converts the hourly profile to percentage terms and applies it to the total landfill development HGV movements on Cricklade Road and on the B4553.

Table 6.10: Landfill Traffic Profile on Links Closest to Site

Hour Starting	All HGVs on Cricklade Road	HGV Hourly Profile	Landfill HGVs on Cricklade Road (South of Packhorse Lane)	Landfill HGVs on B4553 (North of Packhorse Lane)
07:00	7	5%	4	4
08:00	**19**	**14%**	**11**	**10**
09:00	11	8%	7	6
10:00	11	8%	7	6
11:00	14	10%	8	7
12:00	15	11%	9	8
13:00	17	12%	10	9
14:00	15	11%	9	8
15:00	**18**	**13%**	**11**	**10**
16:00	7	5%	4	4
17:00	4	3%	2	2
Total	**138**	**100%**	**82**	**73**

4.27 The change in HGV movements on the roads closest to the site, relative to cessation, is likely to peak at 10-11 landfill HGV movements in an hour on roads serving an established industrial area, carrying other HGV traffic, with little frontage development and no significant pedestrian activity. That level of HGV traffic is not considered significant, so in terms of the significance criteria set out in Table 6.2, the impact on those low-sensitivity receptors is considered to be in the range of **Negligible** to a **Minor Adverse** impact.

4.28 The following table repeats the hourly profile exercise for roads within Cricklade, distributing the changes in HGV traffic from continuation of landfill relative to cessation in proportion to recorded HGV movements.

Table 6.11: Landfill Traffic Profile on Links in Cricklade

Hour Starting	Landfill HGV Hourly Profile	Landfill HGVs on High Street, Cricklade	Landfill HGVs on Calcutt Street, Cricklade
07:00	5%	2	2
08:00	**14%**	**5**	**5**
09:00	8%	3	3
10:00	8%	3	3
11:00	10%	4	4
12:00	11%	4	4
13:00	12%	4	4
14:00	11%	4	4
15:00	**13%**	**5**	**5**
16:00	5%	2	2
17:00	3%	1	1
Total	**100%**	**36**	**36**

4.29 The change in HGV movements on the roads within Cricklade, relative to cessation, is likely to peak at around 5 HGV movements in an hour on roads that carry higher levels of HGV traffic to the A419 trunk road from established industrial areas, including Parkgate Farm and the Chelworth Industrial Estate. Cricklade is considered as a high sensitivity receptor, but in terms of the significance criteria set out in Table 6.2, the impact from such low increases in HGV activity relative to existing traffic is categorised as **Negligible**.

4.30 The next table repeats the hourly profile exercise for roads elsewhere on the network, Packhorse Lane and Braydon Road, distributing the changes in HGV traffic from continuation of landfill relative to cessation in proportion to recorded HGV movements.

Table 6.12: Landfill Traffic Profile on Packhorse Lane and Braydon Road

Hour Starting	Landfill HGV Hourly Profile	Landfill HGVs on Packhorse Lane	Landfill HGVs on Braydon Road
07:00	5%	0	2
08:00	**14%**	**1**	**5**
09:00	8%	1	3
10:00	8%	1	3
11:00	10%	1	4
12:00	11%	1	4
13:00	12%	1	4
14:00	11%	1	4
15:00	**13%**	**1**	**5**
16:00	5%	0	2
17:00	3%	0	1
Total	**100%**	**9**	**36**

4.31 Packhorse Lane and Braydon Road are both considered to be low-sensitivity receptors as they have little frontage development, no significant pedestrian activity and carry significant levels of through traffic and HGVs. The change in HGV traffic relative to cessation is likely to peak at 1 to 5 HGV movements an hour on roads that carry higher levels of HGV traffic. In terms of the significance criteria set out in Table 6.2, the impact is categorised as **Negligible**.

Mitigation

4.32 The changes in movements by all vehicle types arising from the extension of landfill/extraction activity, relative to cessation, would be well below IEMA thresholds for detailed analysis.

4.33 Considering HGV movements only, the changes on each link have been examined in more detail through hourly profiles and impacts have been established as follows:

Table 6.13: Summary of HGV Impacts by Link

Hour Starting	Landfill HGVs on Link (Daily)	Landfill HGVs on Link (Peak Hour)	Significance
Cricklade Road (South of Packhorse Lane)	82	11	**Negligible to Minor Adverse**
B4553 (North of Packhorse Lane)	73	10	**Negligible to Minor Adverse**
High Street, Cricklade	36	**5**	**Negligible**
Calcutt Street, Cricklade	36	5	**Negligible**
Braydon Road (South of Malmesbury Rd)	36	5	**Negligible**
Packhorse Lane	9	1	**Negligible**

4.34 With impacts classified as **Negligible** or **Negligible to Minor Adverse**, the latter being on roads with little frontage development, no significant pedestrian activity and directly serving an established industrial area, no mitigation is considered necessary beyond the planning conditions listed under Incorporated Mitigation in paragraph 4.9 and the weight limit that exists south of the site, which have already been accepted as suitable mitigation for the level of traffic considered in this report.

4.35 The previous commitments to restricting annual tonnage, which translates directly to the level of HGV movements considered acceptable on local roads, and to ensuring that vehicles are cleaned before entering the highway and routed via an appropriate access, are therefore considered entirely adequate to mitigate the insignificant impacts identified in this chapter.

Residual Effects & Conclusions

4.36 The proposed development would have the same patterns of travel and HGV movements as the existing landfill/extraction operations running from the site. While the distribution of traffic on local roads will vary depending on the origins of waste and the destinations for extracted clay, those variations would also have occurred under the existing permissions.

4.37 Even on the worst-case distribution basis considered, no perceptible residual transport effects are anticipated to arise from this development, either relative to the extant permissions or to complete cessation, and the mitigation measures agreed as suitable for those permissions remain entirely applicable and adequate for the proposed development.