Appendix P

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NUISANCE MANAGEMENT

1 General Standards

The purpose of this standard is to define the standards to be adopted to effectively manage construction activities to prevent adverse environmental nuisance impacts (i.e., noise, odour, dust, traffic, visual impact, vibration and light) upon sensitive environmental receptors (e.g., floral and fauna) and people as well as creating a positive relationship with potentially affected neighbours.

2 Bid and Tender

During completion of the Environmental Site Visit Checklist (HS&E-FRM-P04-01) the Operations Management Team should conduct an initial assessment as to whether construction activities are likely to have an adverse noise, odour, dust, traffic, visual, vibration or light impact upon:

- Local residents
- Local commerce
- Sensitive environmental receptors e.g., protected flora and / or fauna
- Protected and / or unprotected buildings e.g., Listed Buildings, Scheduled Ancient Monuments.

Where there is a potential for construction activities to have an adverse nuisance impact sensitive environmental receptors, people and / or buildings, the Operations Management Team should ensure that relevant commercial provisions are established during the identification of environmental risks and opportunities conducted during the bid / tender stages of the project.

3 Planning of Construction Site Activities

Where there is a potential for construction activities to have a significant adverse noise, odour, dust, traffic, visual, vibration or light impact upon sensitive environmental receptors, people and / or buildings, the Operations Management Team should:

- Establish baseline conditions (e.g., conduct pre-construction noise / dust monitoring, building, traffic or light surveys using competent person(s)) to allow for the:
  - Effective siting of plant and equipment
  - Effective routing of construction vehicles
  - Development of effective mitigation control measures, and to
  - Defend unsubstantiated complaints
- Obtain a Section 61 consent after consultation with the local authority.

Where risk assessments and consultations determine that there is a potential for construction activities to adversely impact sensitive environmental receptors, people and / or buildings from noise, odour, dust, traffic, visual, vibration or light impacts, the Operations Management Team should ensure that suitable, adequate and effective mitigation control measures are defined and documented (refer to HS&E-STD-E06) and thereafter implemented.

The Operations Management Team should consider the following in the development of appropriate nuisance mitigation control measures:

- ***Avoid***. Ensuring design and construction activities avoid creating an environmental nuisance e.g., using bored piles rather than driven piles.
- ***Reduce***. Undertaking specific actions to reduce adverse impacts on sensitive environmental receptors, people and / or buildings e.g., using low noise plant and equipment, routing construction traffic away from sensitive receptors such as schools, hospitals and Listed Buildings.
- ***Control***. Implementing mitigation actions to control any adverse impacts e.g., use of screening and acoustic enclosures.

Furthermore (as defined in HS&E-STD-C03; Communication and Consultation), the Operations Management Team should ensure that local residents and other potentially affected parties are contacted prior to the commencement of any construction work and kept updated, as necessary, throughout the project in order to build a positive working relationship and avoid any potential environmental nuisance related complaints.

4 Contractors and Suppliers

The Operations Management Team should ensure that the relevant requirements of this standard are communicated to all relevant contractor personnel and a record retained to demonstrate training has been received.

The actions arising from any surveys undertaken in relation to potential environmental nuisance impacts should be communicated to all relevant contractor personnel and records retained to demonstrate training has been received.

Method statements and risk assessments for contractors engaged in work activities that could have a significant adverse nuisance impact should be reviewed by the Operations Management Team with the assistance of the HS&E Advisor.

5 Work Practices

As soon as reasonably practicable after site mobilisation, the Operations Management Team should ensure that notice boards are erected at clearly visible location(s) that display the name of site representative and their telephone contact details to allow for the receipt of enquiries and environmental nuisance related complaints.

The Operations Management Team should consider registering with the Considerate Contractor Scheme (CCS) as a visible statement to local communities that the Company is taking all reasonable measures to manage instances of environmental nuisance.

Any unplanned disturbance to sensitive environmental receptors, people and / or buildings resulting in the receipt of a complaint must be recorded and reported by the Operations Management Team using the Environmental Incident Report Form (HS&E-FRM-A01-02). If the source of the nuisance complaint is determined to be unacceptable the activity resulting in the nuisance or disturbance should be stopped, as soon as reasonably practicable. If it cannot be stopped measures should be implemented to reduce the nuisance impact, as far as reasonably practicable.

5.1 Environmental Noise and Vibration

Where a Section 61 consent is in effect the Operations Management Team should ensure compliance with all consent requirements as well as ensuring that these requirements are communicated to all relevant site personnel and contractors.

In the event that a Section 60 notice is served, the Health, Safety and Environment Advisor should complete the Notification of Incident Report Form (HS&E-FRM-C03-01) and forward it to the Business Unit operations management and the HS&E Department, as soon as practically possible.

In the event that working hour restrictions, as defined within a Section 61 or planning consent, are likely to be breached as a result of planned construction activities, the Operations Management Team should ensure that the local authority and HS&E Advisor are notified in advance to avoid the potential for receipt of a Section 60 notice.

Where there is a potential for environmental noise to adversely impact sensitive environmental receptors, people and / or buildings, the Operations Management Team should ensure that suitable, adequate and effective mitigation control measures are implemented. Environmental noise mitigation control measures that should be considered, dependant upon site circumstances and in addition to those defined in BS 5228:2009, are provided in Appendix 1.

Where there is a potential for vibration to adversely impact sensitive environmental receptors, people and / or buildings, the Operations Management Team should ensure that suitable, adequate and effective mitigation control measures are implemented. Vibration mitigation control measures that should be considered, dependant upon site circumstances and in addition to those defined in BS 5228:2009 and BS 7385:1990, Part 1; and Part 2; are provided in Appendix 1.

5.2 Dust and Odour

Where there is a potential for dust or odour emissions to adversely impact sensitive environmental receptors, people and / or buildings, the Operations Management Team should ensure that suitable, adequate and effective mitigation control measures are implemented. Dust and odour mitigation control measures that should be considered, dependant upon site circumstances, are provided in Appendix 2.

5.3 Visual Impact and Light

Where there is a potential for site activities to cause an adverse visual impact or cause a light pollution impact, the Operations Management Team should ensure that suitable, adequate and effective mitigation control measures are implemented. Visual impact and light pollution mitigation control measures that should be considered, dependant upon site circumstances, are provided in Appendix 3.

Prior to attaching directional signage to street furniture, the Operations Management Team should ensure that the appropriate permission is obtained from the owner e.g., local authority or Local Highway Authority.

5.4 Traffic

As defined in HS&E-STD-T02; Traffic Management, a traffic management plan should be developed and implemented by a competent person commensurate with the level of risk associated with vehicle movements.

In addition to the development of a traffic management plan, the Operations Management Team should ensure that the following traffic related mitigation control measures, as a minimum, are applied:

On-road vehicles

- Company procured Heavy Goods Vehicles should meet the latest European particulate matter emission standards
- Contractor Heavy Goods Vehicles should be in good working order and hold a valid MOT certificate.

Non-Road Mobile Machinery (NRMM)

- NRMM should comply with standards and directives on emissions i.e., NRMM should carry an EC type approval number to indicate that it conforms to the levels given in the regulations for that type of machinery
- All NRMM should be well maintained. Should any emissions of white, blue or black smoke occur (except during start up) then the relevant machinery should be stopped and any problem rectified before being reused.

Additional plant and vehicle controls

- No vehicles or plant should be left unnecessarily idling
- Engines and exhaust systems should be regularly serviced according to manufacturer's recommendations and maintained to meet statutory emission limits
- All vehicles should hold current MOT certificates, when required
- Vehicle exhausts should be directed away from sensitive receptors
- Clearly define and display site and haul route speed limits
- Avoid the use of diesel or petrol powered generators in favour of mains electricity or battery powered equipment, where possible.

For further guidance advice should be sought from the REA / Framework Environmental Advisor.

5.5 Monitoring

The Operations Management Team should ensure that the REA / Framework Environmental Advisor is consulted to assist in the development and implementation of appropriate construction and / or post construction nuisance monitoring programme(s) (e.g., noise or traffic surveys), where:

- A significant risk exists for construction activities to adversely impact sensitive environmental receptors, people and / or buildings (e.g., Local Authority air quality management area or noise abatement zone) from noise, odour, dust, traffic, visual, vibration or light impacts, and / or
- Environmental nuisance related complaints have been received, and / or
- Pre-construction baseline nuisance monitoring has been undertaken.

Results from any nuisance monitoring programme should be recorded and retained within project files and include:

- Name of person undertaking the monitoring
- Date and time the monitoring was undertaken
- Weather conditions at the time of the monitoring
- Monitoring equipment used
- Date the last time the monitoring equipment was calibrated
- Location of where the result was taken
- Nature of construction activities being undertaken
- Results and / or observations
- Corrective / preventative action(s), if required.

Any persons engaged to conduct nuisance monitoring activities throughout construction and / or post construction activities should be competent and records retained to verify their competencies.

Additionally, the Operations Management Team should ensure that records are retained to verify that environmental monitoring equipment used by either Company personnel or contractor personnel to verify environmental legislative compliance has been subject to routine and regular calibration activities.

6 Associated Documentation / Guidance

- HS&E-FRM-P04-01: Environmental Site Visit Checklist
- HS&E-FRM-A01-02: Environmental Incident Report Form
- HS&E-FRM-C03-01: Notification of Incident Report Form
- HS&E-STD-C03: Communication and Consultation
- HS&E-STD-E06: Environmental Risk Assessment
- HS&E-STD-L03: Land Use Management
- HS&E-STD-T02: Traffic Management

Reference Documents

- BS 5228-1: 2009 Code of practice for noise and vibration control on construction and open sites: Noise
- BS 5228-2: 2009 Code of practice for noise and vibration control on construction and open sites. Vibration
- BS 7385:1990; Part 1; Evaluation and Measurement for Vibration in Buildings; Guide for measurement of vibrations and evaluation of their effects on buildings
- BS 7385:1990; Part 2; Evaluation and Measurement for Vibration in Buildings; Guide to damage levels from groundborne vibration
- BS 6472:1992; Evaluation of Human Exposure to Vibration in Buildings
- Process Guidance Note (PGN) 3/16 (04); Secretary of State's Guidance for Mobile Crushing & Screening
- Environmental Good Practice on site guide (third edition); CIRIA C692; 2010

7 Definitions

Company	Galliford Try Plc
EA	Environment Agency
NRW	Natural Resources Wales
REA	Regional Environmental Advisor
PPC	Pollution Prevention and Control
SEPA	Scottish Environment Protection Agency
Street Furniture	Structures erected on or near a public highway

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Appendix 1 Example Environmental Noise & Vibration Control Measures

AVOID	REDUCE	CONTROL
Adopting working hours to restrict noisy activities to less sensitive periods of the day	Using mufflers or silencers to reduce noise transmitted along pipes or ducts	Using noise control equipment e.g., jackets on pneumatic drills and silencers
Using plant and vehicles that comply with EU noise emission limits (consult with the REA / Framework Environmental Advisor)	Minimising drop heights into hoppers, lorries, skips or other plant	Erecting acoustic screens that should be: – Erected close to the source of noise – Built from solid materials with panels stiffened to prevent drumming – Fitted with fibrous material placed on the side facing the noise source – Sealed to prevent any gaps and openings
Using inherently quiet plant e.g., low noise generators and compressors	Ensuring Company and contractor vehicles and plant are not left unnecessarily running	Using fencing or hoarding that has a density of not less than 7kg/m^2 i.e., approximately 12mm thickness of plywood.
Maintaining site equipment that has the potential to create unacceptable noise emissions	Scheduling and routing deliveries to minimise disturbance to local residents	Enclosing noisy equipment, where practicable
Locating stationary plant and equipment, as far away as possible, from sensitive receptors and away from walls that reflect noise towards sensitive receptors	Lining vehicles, storage containers, chutes, skips with noise attenuating material	Using stockpiles / bunds to screen noise at source or at the receptor
Using high frequency vibration plant or equipment that causes less damage than low-frequency vibration plant or equipment	Relocating or isolating plant or equipment that could impact sensitive receptors Placing vibrating equipment or plant on a heavy base to reduce the amount of vibration Locating the vibrating equipment or plant, as far as possible, from sensitive receptors	Placing the vibrating equipment or plant on a base separate to that on which the sensitive receptor is located

For further guidance advice should be sought from your Framework or Regional Environmental Advisor.

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Appendix 2 Example Dust and Odour Control Measures

ACTIVITY	AVOID	REDUCE	CONTROL
Haul Routes	Select suitable haul routes away from sensitive receptors e.g., houses, schools and hospitals	Provide a length of paved road before the exit from the site	Use wet cleaning methods or mechanical road sweepers on all roads, road edges and pavements at least once a day during periods of dry weather or using fixed or mobile sprinkler systems.
	Hard surface or pave major site haul routes		Wash or dampen down haul routes both within and outside the site
Site Entrances and Exits	Provide a paved area after a wheel wash and before the public road	Provide a control zone around the site boundary to protect sensitive receptors (this could include an area of hardstanding)	Provide vehicle cleaning and specific wheel-washing facilities at the exits; with hose pipes, adequate water supply and pressure and mechanical wheel spinners or brushes
			Cover vehicles carrying dusty materials before leaving the site
Mobile Crushing Plant	Ensure that a valid PPC Permit is in place and adhere to the conditions therein at all times	Ensure adoption of appropriate control techniques as defined in the PPC Permit and Process Guidance Note PGN 3/16 (04) that defines best available techniques for controlling dust emissions	Retain a copy of the PPC Permit on-site at all times
Excavation and Earthworks	Avoid the removal and / or handling of excavated materials to prevent the generation of dust / odours	Minimise drop heights to control the fall of materials	Dampening down all dusty activities, especially during dry weather
	Avoid the long term storage of materials / wastes that have the potential to generate odours	Revegetate earthworks and other exposed areas to reduce windblown materials	Cover earthworks, if possible
		Ensure that all dust-generating materials transported to and from site are covered.	

Appendix 2 Example Dust and Odour Control Measures *(continued)*

ACTIVITY	AVOID	REDUCE	CONTROL
Stockpiles & Storage Mounds	Avoid the long-term use of stockpiles, wherever possible, unless they perform the function of visual or noise screening	Consider the predominant wind direction when siting stockpiles to reduce the likelihood of affecting sensitive receptors from dust and / or odour	Seed, revegetate or turf long term stockpiles to stabilise surfaces or use surface binding agents that have been approved by the EA / NRW / SEPA
	Locate stockpiles out of the wind to minimise the potential for dust and / or odour generation	Keep stockpiles or mounds away from the site boundary, sensitive receptors, watercourses and surface drains	Dampen down stockpiles, especially during dry weather, whilst managing any run-off
	Store fine or powdery material inside buildings or enclosures.	Keep stockpiles to the minimum practical height (refer to HS&E-STD-L03)	Erect fences or using windbreaks such as trees, hedges and earth-banks of similar height and size to the stockpile to act as wind barriers
Cutting / Grinding / Grouting / Packing / Sawing	Minimise cutting and grinding on site, where possible	Use a wet cutting saw or using vacuum extraction	Use equipment that has a water suppressant or suitable local exhaust ventilation system
		Service all fans and filters to ensure they are properly maintained.	Spray water during cutting of paving slabs to minimise dust
Chutes and Skips	Use enclosed chutes and skips to prevent the escape of dust	Minimise drop heights into hoppers, lorries, skips or other plant	Dampen down surfaces
Sand, Grit and Shot-Blasting	Consider the use of alternative techniques (e.g., chemical)	Consider timing to avoid dry conditions	Use rigid or flexible framing to contain dust emissions
			Use air or water impenetrable walls to contain dust emissions
			Use vacuum extraction control methods
			Use exhaust air filtration control methods
			Ensure joints in the containment system are fully sealed.

For further guidance advice should be sought from your Framework or Regional Environmental Advisor.

Appendix 3 Example Visual Impact and Light Control Measures

AVOID	REDUCE	CONTROL
Only use the necessary amount of site lighting	Site construction related accommodation, plant and equipment to minimise visual intrusion impacts where there are sensitive environmental receptors, people and / or buildings	Utilise local hedges, existing tree screens, shrubbery or the natural land form to screen site activities
	Choose and assemble site lighting in a manner to reduce the likelihood of creating a nuisance	Use earth mounding and / or stockpiles to screen site activities
	Position lighting properly and directing it downwards	Use fencing or hoarding to screen site activities
	Switch off site lighting or minimising its use during periods of site inactivity	

For further guidance advice should be sought from your Framework or Regional Environmental Advisor.