



Havant Thicket Reservoir

Noise and Vibration Management Plan

Main Pipeline Works – Phase 1 (Bedhampton)

20th August 2026 | Rev P04

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1 Introduction

The Havant Thicket Reservoir Scheme was granted outline planning permission by Havant Borough Council and East Hampshire District Council in October 2021 (refs. APP/20/00990 and 51680/001 respectively). The applications were supported by an Environmental Statement (ES) (Havant Thicket Reservoir Project, Atkins, 2020) which reported the findings of the Scheme's Environmental Impact Assessment (EIA).

Subsequently, in September 2025, a new hybrid planning permission (ref. APP/24/00405) was granted by Havant Borough Council (HBC) for the development of new pipelines to transfer water between Bedhampton Springs and Havant Thicket Reservoir, a new plant at Bedhampton Pumping Station, modifications to the Bedhampton 2 operational building and permanent diversion of Footpath 34 at Bedhampton Pumping Station. This new planning permission was needed due to changes in the approach, pipeline route and design, and as a result a revised ES (Havant Thicket Reservoir Project, Atkins, 2024) was submitted which considered these changes.

To enable discharge of conditions against this 2025 planning permission, the work areas have been split into 10 phases, as per the Main Pipeline Works Phasing Plan (ref. HTR-WAB-PI-ZZ-PL-W-0006) submitted under APP/25/00796. This document relates to Phase 1, which is the Bedhampton Pumping Station site (hereafter referred to as 'the Site').

1.1 Purpose of this document

This Noise and Vibration Management Plan has been prepared in support of proposed construction works at the Site as part of the Havant Thicket Reservoir project.

This Plan sets out the systems and controls that will be adopted during the proposed construction works at the Site. If not adequately controlled, noise and vibration from the works may affect local amenity. This could have a detrimental effect on people's health, including the workforce and the local community.

The construction works which will be undertaken by Future Water MMJV Ltd (FW) include improvements to the existing pumping station buildings and the diversion of Public Right of Way no. 34, together with the construction of a new footbridge. The control measures identified in this Plan will need to be considered when preparing each work activity.

All staff and sub-contractors will be required to follow the control measures outlined in this Plan. It will be reinforced during the site induction and briefed to site operatives in the form of toolbox talks.

The Plan includes:

- Legislation, guidance and planning conditions;
- Potential sensitive receptors;
- Noise and vibration mitigation measures;
- Noise and vibration threshold levels;
- Noise monitoring;
- Location of noise and vibration receptor sites; and
- Liaison arrangements with regulators and local residents.

2 Legislation, guidance and planning conditions

2.1 Legislation

The Control of Pollution Act 1974 (CoPA) provides the Local Planning Authority (LP) with a mechanism outside of the planning process to control construction noise and vibration. Section 60 of CoPA provides powers to Local Authority Officers to serve an abatement notice in respect of noise and/or vibration nuisance from construction works until specific reduction measures have been adopted.

Section 72 of CoPA defines Best Practicable Means (BPM), which essentially refers to the selection of the quietest techniques and equipment, in addition to considering factors such as timing, duration, location and opportunities for mitigation, to ensure that impacts are controlled as far as reasonably practicable. Under section 71 of CoPA, the noise and vibration control measures in British Standard 5228:2009+A1:2014 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' Part 1: Noise and Part 2: Vibration have been adopted as codes of practice which constitute BPM.

2.2 Guidance

BS 5228:2009+A1:2014 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' – Part 1: Noise and Part 2: Vibration provide recommendations for basic methods of noise and vibration control relating to construction and open sites. They also provide guidance on methods of predicting and measuring noise and vibration, and assessing impacts on those exposed.

2.3 Planning requirements

This Plan will be submitted to the Local Planning Authority (HBC), as per Condition 27 of planning permission APP/24/00405. Condition 27 of planning permission APP/24/00405 states:

Planning condition 27 Noise and Vibration Monitoring

(1) Prior to the commencement of any noise and vibration intensive construction activities, including but not limited to shaft construction works, piling, compaction, tunnelling, open cut/trench works and heavy machinery operation, a noise and vibration monitoring regime shall be submitted to and approved in writing by the Local Planning Authority

(2) The approved noise and vibration monitoring regime shall be implemented prior to and during all noise and vibration intensive activities, the regime shall include:

Noise Monitoring

i. Continuous real-time monitoring of construction noise levels (LAeq,T and LAFmax) at agreed receptor locations.

ii. Noise alert thresholds set at agreed site noise limits, with instant notifications to the site manager for prompt decision making.

iii. Implementation of appropriate mitigation actions in the event of any exceedances (e.g. dynamic adjustments to working methods)

iv. Should the exceedance be of the red level threshold, Havant Borough Council would be notified in writing within 24 hours with details of the exceedance and any remedial actions taken.

v. Weekly reporting to the Local Planning Authority summarising noise levels at each monitoring location, times and causes of any exceedance, construction activities happening at the time and the mitigation actions implemented and taken.

Vibration Monitoring

i. Continuous real-time tri-axial vibration monitoring with remote data storage, analysis, and transmission capabilities at sensor locations agreed in writing with the LPA.

ii. Peak Particle Velocity (PPV) vibration alert levels will be set in line with the limits agreed with the LPA, with instant notifications sent to the site manager to enable prompt decision-making.

iii. Implementation of appropriate mitigation actions in the event of any exceedances

iv. Should the exceedance be of the red level threshold, Havant Borough Council would be notified in writing within 24 hours with detail of the exceedance and any remedial actions taken.

v. Weekly reporting to the Local Planning Authority summarising vibration levels recorded at each sensor location, times and causes of any exceedance, construction activities happening at the time and the mitigation actions taken and implemented.

The noise and vibration monitoring regime shall be maintained for the duration of all noise- and vibration-intensive construction activities.

Reason: To protect the amenity of neighbouring occupiers and to ensure prompt mitigation of potential adverse impacts from noise and vibration emissions. To accord with policies DM10 & CS15 (Havant Borough Local Plan (Core Strategy) 2011), and the National Planning Policy Framework (2024)

Planning condition 35 Hours of Construction

No construction shall take place outside the hours of 08:00-18:00 Monday to Friday or 08:00-13:00 on Saturday and no Sunday or Public Holiday working, with the following exceptions of:

- Specific works agreed in writing with the Local Planning Authority in advance, including details of the task, dates, and duration of works, and the noise and vibration control measures to be implemented, including any nighttime or 24hr working including locations and duration.*
- The P1 Under Track Crossing (UTX) works beneath the railway, which are permitted to operate on a 24-hour basis as assessed within the Environmental Statement and agreed with Environmental Health.*
- Such works may be undertaken only where they have been agreed in writing in advance with the Local Planning Authority (LPA).*

Reason: In the interest of residential amenity, air quality and appearance and character of the area. To accord with policies DM10 & CS15 (Havant

Borough Local Plan (Core Strategy) 2011), and the National Planning Policy Framework (2024)

(Havant BC permission ref APP/24/00405)

Future Water has not been able to locate a defined 'red level threshold' within the project's Environmental Statement, supporting application documents, or consultee responses. Accordingly, for the purposes of managing noise and vibration on the Project, it is proposed that the ES threshold for determining a significant effect is adopted as the equivalent threshold.

Further details of the Site and proposed work are provided within the following documents, prepared to discharge separate conditions, these are as follows:

Condition 20	Pollution Management & Mitigation Plan	HTR-RHD-PS-BD-RP-Z-0001
Condition 32	Dust Control Method Statement	HTR-RHD-PS-BP-MS-Z-0001
Condition 33	Details of Works Areas/Compounds	HTR-FUW-ZZ-BP-PL-T-1586

3 Scope of works

New facilities will be required at the Bedhampton Site to accommodate the new pipelines.

The works taking place within the Future Water works area at Bedhampton Pumping Station will be as follows:

Bedhampton 1 Building (BH1)

- Installation of an MCC (Motor Control Centre) kiosk, a new temporary generator set down area (to provide emergency power backup and improve the road/drainage for the existing BH1 water pumps), and a temporary bunded fuel tank.
- Installation of a Powdered Activated Carbon (PAC) dosing unit (housed within a shipping container) and a storage silo.

Bedhampton 2 Building (BH2)

- Construction of a valve slab required to control the flows being pumped to, and received from, the reservoir.
- Installation of a new transformer to provide a new power supply for the new pumping station housed in Bedhampton 2.
- Installation of a surge vessel and compressor kiosk to provide surge protection to the pipelines.
- Other minor, non-invasive changes to the external appearance of the Bedhampton 2 building, including addition of a roller shutter door, replacement of a window,

replacement of a single door with a double door, and an extension to the building's roof.

- Installation of above-ground pipework with a surrounding fenced enclosure attached to the east and west of the Bedhampton 2 building.

Public Right of Way (PRoW) Diversion

- Permanent diversion of public footpath 34.
- Installation of a PRoW bridge.

Future Water's construction works at the Bedhampton Pumping Station site are expected to commence in summer 2026, with a two-year programme of works anticipated, followed by a year of commissioning.

The indicative construction programme for Future Water's works is presented in **Table 1** below.

Table 1 Indicative Construction Programme

Timeline	Construction Activities
2026	Site establishment (inc. FW compound) PRoW works and bridge installation Works to Bedhampton 2 Building (BH2) PRoW diversion
2027	Works to Bedhampton 1 Building (BH1) Valve slab installation
2028	Installation of water quality instrumentation BH2 access road improvements Shrub and tree planting Dry Commissioning
2029	Dry Commissioning

3.1 Potential sensitive receptors

The Site is located approximately 1km from Havant and close to Bedhampton Railway Station which lies to the north. Various buildings, roadways and solar energy panels are located within the Site (refer to **Figure 1**).

The Site is partly surrounded by residential housing to the north which includes properties on King's Croft Lane and Chadswell Meadow. These properties also lie close to the existing Portsmouth Direct Railway Line and West Coastway Railway Line which run along the northern boundary of the Site and operates rail services between Portsmouth and London rail stations.

Properties are also located along and adjacent to Meyrick Road, on Abrams Way and on Doyle Close to the east. An industrial estate is located to the south-east of the Site. **Appendix A** shows the locations of the sensitive receptors around the Site. The approximate distances

between the site boundary and the nearest identified sensitive receptors are given in **Table 2** below.

Table 2 Distance between site boundary and nearest NSRs

Receptor	X Coordinate	Y Coordinate	Distance from site boundary (m)
Keepers House	470496	106383	18
10 Chadswell Meadows	470530	106411	18
Bridge House	470293	106333	110
7 Doyle House	470772	106292	162
Old Mill House	470333	106085	170

Public Right of Way no. 34 crosses the site adjacent to Portsmouth Water's operational Bedhampton building no. 2. PRow 34 will be diverted and made available prior to construction works commencing.



Figure 1 Bedhampton Pumping Station - Site Location

4 Noise & vibration threshold levels

4.1 Noise level thresholds

Annex E of BS 5228-1 contains several example methodologies for identifying significant construction/demolition noise effects based on fixed thresholds or noise level changes. The

‘ABC’ method (Table E.1, BS 5228-1) was used in the noise and vibration assessment reported in the ES Vol 2 Chapter 12 Noise and Vibration (HTR-ATK-ZZ-ZZ-RP-Z-0112 dated 14/05/24).

This approach is based on setting the threshold for the onset of potentially significant adverse effects depending on the existing ambient noise level. Receptors with low existing ambient noise levels (Category A) have a lower threshold than those with high existing ambient noise levels (Category C). Higher thresholds are set for normal daytime construction working hours, compared to the more sensitive evening/weekend and night-time periods.

The ES Chapter found that, for the pipeline corridor, which includes the Bedhampton works, “all receptors are considered to be in BS 5228 Part 1 Category A for daytime works and Category C for night time works” (para 12.111). On this basis, the thresholds for the potential construction noise impacts are defined in **Table 3**.

Table 3 Construction noise threshold levels

Period	Construction noise threshold level $L_{Aeq,T}$ (dB)	Duration of works for potential impacts
Monday to Friday 07:00 to 19.00 Saturday 07:00 to 13:00	65	40 days in a 6 month period or 10 days in a 15 day period
Monday to Friday 19:00 to 23.00 Saturday 13:00 to 23:00 Sundays 07:00 to 23:00	55	
Night-time 23:00 to 07:00	45*	
* To ensure potential worst-case impacts are captured and mitigated appropriately, the project has elected to use a lower (i.e., more conservative) night-time threshold value of 45 dB $L_{Aeq,T}$ rather than the category C limit of 55 dB $L_{Aeq,T}$ determined in the ES.		

4.2 Vibration thresholds

The nearest sensitive receptors to the works are Keepers House on King’s Croft Lane and 10 Chadswell Meadows, which are situated at approximately 18m from the site boundary and 30m at the closest point of the proposed works.

Vibration threshold levels, as per the ES chapter, are provided in **Table 4**.

Table 4 Construction vibration threshold levels

Magnitude	Level of Protection	Period
3.0 mms ⁻¹ PPV	Nuisance grounds	All times.

5 Noise & vibration Best Practical Means (BPM)

All works will comply with the recommendations of BS 5228-1 and BS 5228-2: Code of Practice for Noise and Vibration Control on Construction and Open Sites.

BPM, as listed below, will be implemented to minimise noise & vibration nuisance by:

- Minimising noise nuisance by considering low construction noise alternatives;
- Minimising vibration nuisance by considering low vibration construction alternatives;
- Only plant which complies with the relevant EU/UK noise limits applicable to that equipment or is in no way noisier than would be expected from the noise levels quoted in BS 5228: 2009+A1:2014 Part 1 will be used. This would include all vehicles and mechanical plant used for the purpose of the works being fitted with effective exhaust silencers and maintained in good and efficient working order;
- Machines in intermittent use should be shut down in the intervening periods between work, or where this is impracticable, throttled down to a minimum;
- Where practicable, plant with directional noise characteristics should be positioned so as to minimise noise at adjacent properties;
- Regular plant maintenance; all plant and equipment should be examined daily, for defects prior to the start of works and under no circumstances should defective plant be used;
- Avoid any reversing on site as far as reasonably practicable – if reversing is required, utilise broadband low impact reversing alarms or banksmen.
- All compressors and generators being 'sound reduced' models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools will be fitted with mufflers or suppressors of the type recommended by the manufacturers and will be kept in a good state of repair;
- Locating activities and plant to use natural features and buildings as screening to minimise noise levels at receptors where possible;
- Ensuring that all staff and operatives are briefed on the requirement to minimise nuisance from site activities, via tool box talks etc.
- Reducing impact noise as far as reasonably practicable by careful handling of materials, minimising drop heights when loading, avoiding body and tailgate slap when tipping;
- Closing engine compartments when equipment is in use and when undertaking inspections/maintenance activities etc;
- Large plant shall be tracked slowly over uneven ground when close to properties;
- Fitting anti-vibration mountings to rotating / impacting equipment where practicable;
- Undertaking vibration causing activities as far away from sensitive receptors as practicable;
- Access roads to be kept as smooth as possible and carefully maintained to reduce vibration impacts caused by heavy plant; and
- All vehicles delivering materials and components will use the agreed access routes as defined in the Planning conditions. All delivery drivers will be provided with a plan to indicate the access routes they must use. This will be taken from the Construction Traffic Management Plan.

Further mitigation measures, beyond BPM are discussed in Section 6 below.

6 Noise level predictions

The construction activities and proposed plant equipment are given in **Appendix B**. Construction noise levels at receptors have been predicted based on the proposed activities and compound layout in drawing HTR-FUW-ZZ-BP-DR-T-3173 using SoundPLAN v9.1 noise modelling software, which was set to utilise the prediction method in BS5228-1. **Appendix B** shows the locations of the nearest noise sensitive receptors.

Only the noisiest activities in close proximity to the receptors (i.e. worst case) and those that last more than 40 days in a 6 month period or 10 days in a 15 day period (as per **Table 3**) have been considered in the noise predictions. This takes into consideration cumulative activities.

Based on the currently proposed construction programme, there are two scenarios where concurrent activities may take place. These include:

Scenario 1:

- Bedhampton Building 2 Modifications
- Public Right of Way works (including Pedestrian Bridge)

Scenario 2:

- Farlington Connection Point
- Above Ground Pipelines
- Valve Slab Works

The predicted daytime noise levels at the nearest noise sensitive receptors from Scenario 1 activities are below the 65dB $L_{Aeq,T}$ daytime noise threshold by 1-10dB.

Without any mitigation in place, the predicted noise levels from Scenario 2 exceed the 65dB $L_{Aeq,T}$ daytime noise threshold by up to 6dB at the closest receptors (10 Chadswell Meadows and Keepers House).

The noise modelling results do not consider the mitigation benefits provided by BPM. For example, plant noise emissions are based on worst case data for the plant type in BS 5228-1. In accordance with the mitigation measures identified in section 5, it is expected that the plant used will be more modern (and therefore quieter) than assumed.

To reduce noise levels as far as practicable, temporary construction noise barriers will be installed around construction activities (including but not limited to the activities in Scenario 2) in close proximity to sensitive receptors along the northern border of the site (10 Chadswell Meadows, Keepers House and properties along Brunswick Gardens) to reduce construction noise levels by 5 to 10dB.

With the proposed temporary construction noise barriers in place, and the mitigation benefits provided by BPM, the actual reduction in noise levels is anticipated to be 10dB.

The results of the noise modelling predictions, with the noise reduction provided by temporary noise barriers and BPM, for each scenario are shown in **Table 5**.

Table 5 Predicted noise levels at the nearest noise sensitive receptors

Scenario	Noise Sensitive Receptor	Floor Level	Predicted noise level $L_{Aeq,T}$ (dB) with mitigation	Daytime construction noise threshold level $L_{Aeq,T}$ (dB)
1	7 Doyle House	Ground Floor	42	65
		First Floor	43	

Scenario	Noise Sensitive Receptor	Floor Level	Predicted noise level $L_{Aeq,T}$ (dB) with mitigation	Daytime construction noise threshold level $L_{Aeq,T}$ (dB)
	10 Chadswell Meadows	Ground Floor	46	
		First Floor	47	
	Bridge House	Ground Floor	46	
		First Floor	47	
	Keepers House	Ground Floor	50	
		First Floor	52	
	Old Mill House	Ground Floor	53	
		First Floor	55	
2	7 Doyle House	Ground Floor	46	
		First Floor	47	
	10 Chadswell Meadows	Ground Floor	56	
		First Floor	61	
	Bridge House	Ground Floor	45	
		First Floor	45	
	Keepers House	Ground Floor	47	
		First Floor	48	
	Old Mill House	Ground Floor	58	
		First Floor	60	

With the proposed mitigation in place, the daytime threshold of 65dB $L_{Aeq,T}$ is predicted to not be exceeded.

No construction works are proposed outside of the construction working hours given in Planning Condition 35, i.e. 08:00-18:00 hours Monday to Friday or 08:00-13:00 hours on Saturday, therefore there are no predicted exceedances of the evening, night-time or Sunday thresholds given in **Table 3**.

7 Monitoring

7.1 Noise monitoring

As above, since noise levels have been mitigated to below the identified threshold, continuous real-time monitoring is not considered to be required.

If noise-related complaints are received as a result of the construction activities, HBC will be notified and an agreement to undertake attended monitoring visits and/or unattended monitoring will be discussed, as appropriate.

7.1.1 Targeted monitoring at receptor sites

Weekly Inspections

Weekly environmental inspections of the works will take place by the Site Environmental Representative. The findings of these inspections and any associated actions will be appropriately documented on the weekly site environmental checklist, using the FW form 'Bedhampton Weekly Inspection'.

Copies of the environmental inspection reports will be kept with the FW project records team.

Daily Inspections

In addition to the weekly environmental inspections, dust and noise site monitoring will be undertaken to measure the effectiveness of environmental controls and implementation.

A Pambry Handheld noise monitor will be used to check daily off-site noise levels at the closest residential receptors. The daily off-site noise checks will be recorded using the FW form 'Bedhampton Off-site Dust and Noise Monitoring'.

7.2 Vibration monitoring

ES Vol 2 Chapter 12 Noise and Vibration (HTR-ATK-ZZ-ZZ-RP-Z-0112 dated 14/05/24), which includes the pipeline works, assessed likely ground-borne vibration impacts. The chapter (para. 12.138) finds that for the pipeline corridor, the vibration threshold would be exceeded at sensitive receptors within 18m of vibratory works. For the Site, all sensitive receptors are situated beyond 18m from activities that are likely to emit ground-borne vibration, with works expected to be conducted approximately 30m from the nearest sensitive receptor.

Construction vibration levels rapidly decrease with distance due to geometric spreading and material damping, and is typically characterised by a reduction in PPV with increasing distance from the source. Accordingly, receptors located at 30m will experience lower vibration levels than those at 18m.

Given that the identified zone of potential exceedance is limited to within 18m, the increase in separation distance to approximately 30m would result in a reduction in PPV, such that vibration levels at the nearest sensitive receptors are not expected to exceed the threshold given in **Table 4**¹, at which point vibration levels would be circa 50% lower.

On this basis, significant vibration effects are not anticipated and vibration monitoring is not proposed at the Site.

In the event that vibration-related complaints are received during construction, HBC will be notified and appropriate measures, including but not limited to attended or unattended vibration monitoring, will be implemented as agreed.

¹ Vibration levels at 30m would be circa 50% lower than those at 18m, on the basis that vibration levels would attenuate at a rate of $1/r^{1.3}$.

8 Working hours

8.1 Core hours

In accordance with planning condition 35 (Hours of Construction) the core working hours for construction activities are:

- 08:00 - 18.00 hours (Monday to Friday).
- 08.00 - 13.00 (Saturday).

No Sunday or Public Holiday working.

8.2 Extended working hours

Condition 35 allows for works to be undertaken outside of the core hours subject to local authority approval. The following exceptions to the core construction hours are:

- Specific works agreed in writing with the Local Planning Authority in advance, including details of the task, dates, and duration of works, and the noise and vibration control measures to be implemented, including any nighttime or 24hr working including locations and duration.

Any requirement for working outside these hours will be agreed in advance with HBC.

8.3 Out of hours running of plant

In certain cases, specific items of plant may be required to be left running overnight or over weekends, outside of core working hours. Examples of such cases include generators at the welfare compounds working overnight or through weekends on particularly wet days to enable drying rooms to dry PPE, and generators to power security huts.

For the Site, FW has committed to no plant being left running overnight.

9 Stakeholder engagement

9.1 Liaison with local planning authority

This Noise and Vibration Management Plan will be issued to HBC part of discharging planning condition 27. If the noise levels within the NVMP have been identified as being breached as part of the targeted monitoring on site, the Environmental Health Officer will be formally notified via email.

9.2 Liaison with local community

Letter drops providing appropriate information will be prepared and sent to residents/business owners in advance of works. Proactive communications will also be undertaken via Portsmouth Water social media channels (such as Facebook, Twitter etc.), at least 14 days' notice before the commencement of the works.

The information provided, within the notification correspondence, will include the following details:

- Type of work to be undertaken;
- Working hours;
- Reason for the works.

In light of noise levels being predicted to be lower than the identified threshold levels (see section 7.1) with the proposed mitigation measures in place, weekly reporting to HBC is not deemed to be necessary.

If noise-related complaints are received as a result of the construction activities, HBC will be notified and an agreement to undertake attended monitoring visits and/or unattended monitoring will be discussed, as appropriate.

Appendix A

Figure 2 Noise sensitive receptor locations



Appendix B

Table 6 Phase 1 (Bedhampton) construction activities and plant

Task	Equipment	No.	% on time	Duration
Generator Slab	<u>Civils Construction</u>			10 days
	Excavator 13t	1	50	
	Concrete Pump (Static)	1	50	
	Concrete Mixer Lorry (Delivery)	1	30	
	Air Compressor	2	50	
BH1 Building Modifications	<u>Internal Fit Out</u>			80 days
	Small non-powered tools	N/A	N/A	
BH2 Building Modifications	<u>Civils and Demolition</u>			100 days
	Excavator 20t with breaker attachment	1	85	
	Hand Held Pneumatic breakers - SL22	1	50	
	Small non-powered tools	N/A	N/A	
BH2 Building Modifications - to Accommodate the Water Quality Monitoring equipment	<u>Civils and Building Works</u>			40 days
	Small non-powered tools	N/A	N/A	
Welfare				2 years
	Aggreko Stage V 300 kVA diesel generator	1	100 (24/7)	

Task	Equipment	No.	% on time	Duration
	Lighting Tower	2	100 (24/7)	
Mobilisation				2 weeks
	Hiab - accommodation lift	1	20	
Demobilisation				2 weeks
	Hiab - accommodation lift	1	20	
Farlington Connection Point DN600 Bedhampton to Farlington	<u>Civils Construction</u>			6 weeks
	Excavator 13t	1	80	
	Concrete Pump (Static)	1	50	
	Concrete Mixer Lorry (Delivery)	1	20	
	Air Compressor	2	50	
Ward & Burke Connection Point DN1000 Inlet/Fill DN1200 Outlet/Return	<u>Civils Construction</u>			6 weeks
	Excavator 13t	1	50	
	Concrete Pump (Static)	1	50	
	Concrete Mixer Lorry (Delivery)	1	20	
	Air Compressor - 2 Tool	2	50	
Above Ground Pipelines	<u>Civils Construction</u>			80 days
	Excavator 13t	1	50	
	Concrete Mixer Lorry (Delivery)	1	20	
	Air Compressor	2	50	

Task	Equipment	No.	% on time	Duration
	Small non-powered tools	N/A	N/A	
Valve Slab	<u>Civils Construction</u>			60 days
	Excavator 13t	1	50	
	Concrete Mixer Lorry (Delivery)	1	20	
	Air Compressor	2	50	
	Small non-powered tools	N/A	N/A	
	70t City Crane LTM1070	1	10	
Access Road	<u>Civils Construction</u>			30 days
	Excavator 13t	1	20	
	Bomag roller 120	1	20	
	6t Dumper	1	20	
	Small non-powered tools	N/A	N/A	
Public Right of Way, including Pedestrian Bridge	<u>Civils Construction</u>			80 days
	Excavator 13t	1	50	
	Bomag roller 80	1	80	
	Petrol Plate Compactor	1	50	
	6t Dumper	1	80	
	Small non-powered tools	N/A	N/A	
	70t City Crane LTM1070	1	20	

Task	Equipment	No.	% on time	Duration
Flowmeter on existing suction manifold	<u>Civils Construction</u>			20 days
	Excavator 13t	1	50	
	Petrol Plate Compactor	1	50	
	6t Dumper	1	50	
PRoW - Tree Clearance works by Subcontractor (EIS)				10 days
	Chain Saws	2	50	
	Chippers	1	50	
Temp Works - Crane Slab	<u>Civils Construction</u>			5 days
	Excavator 13t	1	50	
	Bomag roller 120	1	50	
	6t Dumper	1	50	
	Small non-powered tools	N/A	N/A	

Table 7 Concurrent proposed construction activities and sound power levels (with reference to BS5228-1)

Scenario	Task	Equipment	N.o	% on time	Lw	Corrected Lw for on time	BS5228 ref	Total Lw
1	BH2 Building Modifications	<u>Civils and Demolition</u>						
		Excavator 20t with beaker attachment	1	85	118.3	117.6	C1.9	
		Hand Held Pneumatic breakers - SL22	1	50	111.5	108.5	C1.6	118.1

Scenario	Task	Equipment	N.o	% on time	Lw	Corrected Lw for on time	BS5228 ref	Total Lw
		Small non-powered tools	N/A	N/A	0	0	N/A	
	Public Right of Way, including Pedestrian Bridge	Civils Construction						
		Excavator 13t	1	50	111.1	108.1	C1.17	112.4
		Bomag roller 80	1	80	101.6	100.6	C2.38	
		Petrol Plate Compactor	1	50	110.5	107.5	C5.29	
		6t Dumper	1	80	106.7	105.7	C4.6	
		70t City Crane LTM1070	1	20	103.7	96.7	C5.37	
	Small non-powered tools	N/A	N/A	0	0.0	N/A		
2	Farlington Connection Point DN600 Bedhampton to Farlington	Civils Construction						
		Excavator 13t	1	80	111.1	110.1	C1.17	111.1
		Concrete Pump (Static)	1	50	102.9	99.9	C3.26	
		Concrete Mixer Lorry (Delivery)	1	20	108	101.0	C4.20	
		Air Compressor	2	50	96.5	93.5	C5.5	
	Above Ground Pipelines	Civils Construction						
		Excavator 13t	1	50	111.1	108.1	C1.17	109
		Concrete Mixer Lorry (Delivery)	1	20	108	101.0	C4.20	
		Air Compressor	2	50	96.5	93.5	C5.5	
		Small non-powered tools	N/A	N/A	0	0.0	N/A	
	Valve Slab	Civils Construction						
		Excavator 13t	1	50	111.1	108.1	C1.17	109.1
		Concrete Mixer Lorry (Delivery)	1	20	108	101.0	C4.20	
		Air Compressor	2	50	96.5	93.5	C5.5	

Scenario	Task	Equipment	N.o	% on time	Lw	Corrected Lw for on time	BS5228 ref	Total Lw
		70t City Crane LTM1070	1	10	103.7	93.7	C5.37	
		Small non-powered tools	N/A	N/A	0	0.0	N/A	
N/A	Welfare							
		Aggreko Stage V 300 kVA diesel generator	1	100	93.5	93.5	C4.78	93.5