

Havant Thicket Reservoir

Noise and Vibration Management Plan

Main Reservoir Works

27/02/2024 | Rev 5.0

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Revision history

Rev	Date	Updates	Originator	Checker	Reviewer	Approver
01	01/08/2023	Addressed PW comments, new document no, extended hrs noise modelling	TB	AH	EM	GL
02	18/08/2023	Addressed extended working hours, updates to plant list and noise modelling	TB	AH	EM	GL
03	16/10/2023	Comments from PW addressed (1st set of comments dated 10 Oct 23).	TB	AH	EM	GL
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05	27/02/2024	Updates to construction phasing for main embankment works. Updates following PW comments received 22 Jan 24.	NH/TB	AH	EM	GL

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1.0 Introduction

This Noise & Vibration Management Plan has been prepared in support of the Main Reservoir Works (MRW) phase for the proposed Havant Thicket Reservoir project (herein referred to as the Scheme). This Management Plan sets out the systems and controls that will be adopted during the construction phase of the Scheme.

This document outlines the measures to be taken to reduce the generation of noise and vibration at Havant Thicket Reservoir during the MRW. 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 works currently within the MRW scope are planned to start in Q1 2024 and be completed by Q3 2029. The works currently within the MRW scope are summarised below:

- Construction of the Northern Access Route (NAR) (part of phase 1 works) – initially for use by construction traffic and then for use by visiting traffic when the reservoir is operational;
- Establishment of site compounds (part of the enabling works) - stripping of topsoil and excavating sub-soil. Below ground ducts for services and drainage. Hard surfacing provided for the main compound car park, access roads and unloading areas, temporary residential caravans for construction workers;
- Construction of temporary drainage system, access track & haul roads (part of enabling works) - stripping of topsoil and subsoil, excavation of temporary drainage ditches, creation of on-site lagoon, settlement ponds and diversion of existing watercourses;
- Construction of the reservoir earth embankment - borrow pit excavation, materials haulage, placement and compaction of clay, etc;
- Construction of the reservoir culvert – deliveries of concrete by drum mixer lorries. Reinforced concrete structures cast on-site using formwork;
- Construction of wetlands earth embankments and control structures - stripping of topsoil and subsoil, excavation of clay from borrow pits, materials haulage, clay compaction using vibrating rollers. Installation of control structures within the embankment to maintain the required water levels;
- Construction of the valve tower - deliveries of concrete by drum mixer lorries. Reinforced concrete structures cast on-site using formwork;
- Construction of the Southern Access Road – stripping of ground to formation level, placing and compaction of sub-base and drainage, final surface dressing;
- Construction of the control house and bi-directional pipe - deliveries of concrete by drum mixer lorries. Reinforced concrete structures cast on-site using formwork. Installation of ground structures and pipework;
- Construction of the spillway - deliveries of concrete by drum mixer lorries. Reinforced concrete structures cast on-site using formwork;
- Hard and soft landscaping - soft landscaping and aftercare. Hard landscaping comprising fencing, walling and the Avenue staircase;

- Raising of FE CAT A Track & installation of new culverts – installation of silt control measures downstream of the work site. Installation of new watercourse pipes and new headwalls. Raising of track level using site won material from borrow pits;
- Installation of Mechanical, Electrical, Instrumentation, Control and Automation (MEICA) and associated fit out of culvert - draw off, filling pipework and installation of associated systems within the embankment culvert and tower. Installation of security fencing, gates, doors and barriers on control structures.

This Noise & Vibration Management Plan covers the management of potential noise & vibration impacts as a result of construction activities involved with the MRW. The control measures identified in this plan will need to be considered when preparing each work activity.

The planning conditions attached to Decision Notice 51680/001 and APP/20/00990 require that this noise and vibration management plan is to be submitted to and approved by the Local Planning Authority (LPA) before the construction works commence. 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 Noise & Vibration Management Plan includes:

- Legislation, guidance and planning conditions
- Potentially affected receptor sites
- Noise & vibration mitigation measures
- Noise and vibration threshold levels
- Noise monitoring
- Location of noise & vibration receptor sites
- Liaison arrangements with regulators and local residents

2.0 Legislation, guidance and planning conditions

2.1 Legislation

The Control of Pollution Act 1974 (CoPA) provides the LPAs 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 61 provides a method by which a contractor can apply for 'prior consent' for construction activities before commencement of works. The 'prior consent' is agreed between the Local Authority and the contractor and may contain a range of agreed working conditions, noise and/or vibration limits and control measures. Once prior consent has been agreed under Section 61, a Section 60 notice cannot be served provided the site is compliant with the requirements of the Section 61 consent.

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. Demonstrating the use of BPM is an accepted defence against a Section 60 notice. 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

Havant Borough Council and East Hampshire District Council, as Local Planning Authorities, granted Planning Permission in October 2021 for the Scheme in accordance with the Town and Country Planning Act 1990 (as amended) and subject to compliance with several noise and vibration planning conditions, including:

Planning condition 8 Hours of working

No construction on the reservoir site shall take place outside the hours of 07:30-18:00 Monday to Friday, 07:30-13:00 on Saturday and no Sunday working, with the exception of specific works that shall have been agreed in writing with the Local Planning Authority in advance and shall include details of the task, the date and duration of works. No works shall take place on Bank or Public Holidays.

Reason: In the interests of the amenities of local residents.

Planning condition 9 Construction noise and vibration

No phase of the development approved under Condition 4 shall commence until a construction noise and vibration management plan, including a targeted scheme wide construction noise and vibration monitoring and reporting programme, has been submitted to, and approved in writing by, the Local Planning Authority. The development shall be carried out in accordance with the approved details.

Reason: To ensure that construction noise and vibration is managed effectively so that levels do not regularly exceed the threshold for significant impacts.

Planning condition 10 Construction noise and vibration

No phase of the development approved under Condition 4 shall commence until a revised and updated assessment of potential noise and vibration arising during construction shall be prepared in accordance with BS 5228-1:2009+A1:2014. The assessments shall include likely eligibility for noise insulation or temporary re housing and shall be submitted to and approved in writing by the Local Planning Authority and construction carried out in accordance with the agreed recommendations.

Planning condition 11 Construction noise and vibration

Subject to Condition 10 [ABOVE], no night time working shall take place, unless otherwise in accordance with a scheme submitted to and approved in writing by the Local Planning Authority. Night-time works to be carried out strictly in accordance with the approved scheme.

Reason: To minimise potential noise impacts on nearby sensitive receptors.

(Havant BC permission ref APP/20/00990 and East Hampshire District Council permission ref 51680/001)

The planning permissions were granted on the basis of a number of environmental actions and commitments made in the Environmental Statement which accompanied the planning applications. The Record of Environmental Actions and Commitments (REAC)¹ captures these actions which are required to be adhered to, at the pre-construction, construction and operation stages. Table 1 below details those REAC commitments that are required to be adhered to during construction and which are set out within this document.

Table 1 REAC Commitments

Extracts from OEMP, Table 3-1 - Record of Environmental Actions and Commitments (REAC): Reservoir Site			
Ref	Objective	Actions/commitments (including specific location and any monitoring required)	Where addressed
NV1	To limit and control noise emissions during construction to avoid direct and indirect impacts on community and ecological receptors.	Works will be carried out in accordance with the Best Practicable Means, as defined in Section 72 of the Control of Pollution Act 1974 and Section 79 of the Environment Protection Act 1990, and noise control measures, as suggested by BS 5228 Part 1 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 to be fitted with effective exhaust silencers and maintained in good and efficient working order; All compressors and generators should be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools should be fitted with mufflers or suppressers of the type recommended by the manufacturers and should be kept in a good state of repair; Machines in intermittent use should be shut down in the intervening periods between work, or where this is impracticable, throttled down to a minimum;	Section 4.0 of this plan (NB REAC reference to pipeline and train line does not apply to this Main Reservoir Works contract) Noise and vibration impacts on ecological receptors are considered within the Construction Environmental Management Plan (doc no. HTR-RHD-P2-RE-PL-Z-0018).

Extracts from OEMP, Table 3-1 - Record of Environmental Actions and Commitments (REAC):
Reservoir Site

Ref	Objective	Actions/commitments (including specific location and any monitoring required)	Where addressed
		<i>Where practicable, plant with directional noise characteristics should be positioned so as to minimise noise at adjacent properties;</i> <i>The works covered by this application will be planned so as to ensure that as much work as practicable (taking into account the needs to minimise disruption to trains when the pipeline crosses the rail line and ensuring the safety of the public and workforce) takes place during normal daytime working hours;</i> <i>Ensuring that all staff and operatives are briefed on the requirement to minimise nuisance from site activities, via tool box talks etc.;</i> <i>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;</i> <i>Avoid any reversing on site as far as reasonably practicable – if reversing is required, utilise broadband low impact reversing alarms or banksmen.</i>	
NV2	<i>To limit and control noise emissions during construction to avoid direct and indirect impacts on Community and ecological receptors.</i>	<i>Use of temporary noise screens or partial enclosures around particularly noisy activities, for example pneumatic breakers used in close proximity to dwellings.</i> <i>Based on REAC assumption that 'Current assessment shows potential for significant night time impacts at receptors on Swanmore Road.'</i>	<i>Section 4.0 of this plan</i> <i>Activities within scope of this plan are not anticipated to have potential for significant impacts on receptors.</i>
NV3	<i>Avoid night-time impacts</i>	<i>Avoid night-time works where possible, particularly in proximity to receptors on Swanmore Road.</i> <i>Where night-time works cannot be avoided, acoustic screens will be erected to block line-of-sight between the plant and receptor to minimise impacts</i> <i>Based on REAC assumption that 'Current assessment shows potential for significant night time impacts at receptors on Swanmore Road.'</i>	<i>Section 7.0 of this Plan clarifies that night-time works are not proposed.</i>

Extracts from OEMP, Table 3-1 - Record of Environmental Actions and Commitments (REAC): Reservoir Site			
Ref	Objective	Actions/commitments (including specific location and any monitoring required)	Where addressed
NV4	Reassess Noise and Vibration Impacts	Reassess noise and vibration impacts once method of working, plant and programme have been agreed.	Noise Impact Assessment (doc no. HTR-RHD-P2-RE-EN-Z-009) has been submitted to discharge planning condition 10.
NV5	Noise and vibration monitoring	Undertake targeted monitoring of noise and vibration levels when works are in close proximity to sensitive receptors. Frequency and locations to be agreed with local authority	Section 6.0 of this plan
NV6	To limit and control noise emissions during construction to avoid direct and indirect impacts on community and ecological receptors.	Agree thresholds for noise levels and durations of works with the local authority above which noise insulation or temporary rehousing will be offered to affected residents Based on REAC assumption that 'Current assessment shows potential for significant night time impacts at receptors on Swanmore Road.'	Section 5.1 of this plan

3.0 Potentially affected receptor sites

The receptor sites for both noise and vibration nuisance are summarised in the **Table 1A** and shown in the plan in Appendix 1.

Table 1A – Noise receptors

Primary potential receptor	Receptor Sites	Location of Works	Works Activity	Noise, Vibration or Both?	Local Authority
RS1	Residential properties facing Swanmore Road, incl upper floors overlooking site. C60m W of embankment toe, 75m W of embankment crest	Main embankment, western arm near Swanmore Road	Transport of materials, placing and compacting	Noise and Vibration	Havant Borough
RS2	Residential properties W of junction, incl upper floors overlooking site. C140m E of embankment toe, 160m E of embankment crest	Main embankment, eastern arm nearest to B2149 Redhill Road junction	Transport of materials, placing and compacting	Noise and Vibration	East Hampshire District
RS3	Residential properties on Winterslow Drive, incl upper floors overlooking site. C250m S of Control House (nearest approach to nearest property)	Culvert (S edge of embankment)	Culvert and Control House works	Noise and Vibration	Havant Borough

Primary potential receptor	Receptor Sites	Location of Works	Works Activity	Noise, Vibration or Both?	Local Authority
RS3	Residential properties on Winterslow Drive, incl upper floors overlooking site. C500m S of Valve shaft (nearest property)	Towards SW corner of new reservoir	Valve shaft	Noise and Vibration	Havant Borough
RS3	Residential properties on Winterslow Drive, incl upper floors overlooking site. C250m S of Spillway (nearest approach to nearest property)	Spillway (S edge of embankment)	Excavation and installation of spillway pipe	Noise and Vibration	Havant Borough
RS3	Residential properties on Winterslow Drive, incl upper floors overlooking site. C150m S of embankment toe, 300m S of embankment crest (nearest property)	Main embankment, southern section nearest to northern edge of Winterslow Drive	Transport of materials, placing and compacting	Noise and Vibration	Havant Borough

4.0 Noise & vibration mitigation measures

As per commitment NV1 in the REAC (Table 1 of this document), all works will comply with the recommendations of BS5228-1 and BS5228-2: Code of Practice for Noise and Vibration Control on Construction and Open Sites.

Best practical means 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

suppressers 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;
- Haul roads to be kept as smooth as possible and carefully maintained to reduce vibration impacts caused by heavy plant;
- 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 Traffic Management Plan;
- Work to improve the Northern Access and its junction with the B2149 will be completed in advance of the main works, so that all materials delivery, workforce and visitor vehicles will then use this access to and from the public road network; and
- A code of conduct is recommended for residents of the proposed workers' residential site in order to minimise noise.

5.0 Noise & vibration threshold levels

5.1 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 Environmental Statement (ES) for the Havant Thicket Reservoir Project. 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 "all receptors are considered to be in BS 5228 Part 1 Category A for daytime works and Category B for night time works". On this basis, the thresholds for the potential construction noise impacts are defined in **Table 2**.

Table 2 Construction noise threshold levels

Period	Construction noise threshold level L_{Aeq} (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} , rather than the category B limit of 50 dB L_{Aeq} determined in the ES.		

Where any prediction/monitoring exercises indicate exceedances of the threshold levels, additional mitigation measures will be considered, including:

- Consideration of alternative construction methods or quieter plant
- Additional physical measures such as screening
- Reduction of plant on-time

Where all reasonable measures cannot reduce levels to below the threshold values, further mitigation can always be provided, such as restrictions on working which prevent exceedances of the relevant temporal criteria and/or enactment of the noise insulation and temporary re-housing policy (see **Table 3**). However, construction noise levels which exceed the thresholds by up to 10 dB would not meet the criteria in **Table 3**. Implementing working restrictions to eliminate these exceedances could significantly extend the works duration; thereby increasing the overall disturbance of nearby residents. In this scenario, applications will be prepared and submitted for local authority consent under Section 61 of the Control of Pollution Act at the earliest opportunity to agree the preferred approach to managing these effects. The central mechanism for controlling construction noise and vibration under the Control of Pollution Act (CoPA) 1974 relies on the demonstration that Best Practicable Means (BPM) is being employed at all times to minimise noise and vibration effects. It is therefore not considered appropriate to apply the threshold values in **Table 2** as hard limits, as this can allow for works to be planned to generate noise levels up to those limits, which may not be in accordance with BPM. As such, the imposition of limits introduces legal uncertainty and is considered incompatible with BPM. Furthermore, planning works to meet limits does not allow for flexibility in working which may be advantageous to nearby occupants of nearby sensitive properties. For example, generating high noise levels but for only short periods of time with some periods of respite might be considered BPM and may reduce overall disturbance to neighbouring occupants. These periods of respite might not be available if hard limits are imposed.

Noise level predictions have been undertaken, as reported in the Noise and Vibration Impact Assessment (doc no. HTR-RHD-P2-RE-EN-Z-009) submitted to discharge condition 10 of the planning consent for the Scheme. These indicate that the noise level thresholds in **Table 2** will not be exceeded.

It is possible that, in exceptional situations, there may be a requirement for work that is significantly above these threshold values. If this is the case, the project team will discuss these with the relevant Environmental Health Officer(s) to agree appropriate mitigation measures. Local residents shall be given a minimum of 14 days' notice of such exceptional situations via letter drop/meeting.

As required by planning condition 10, noise level thresholds for the eligibility of noise insulation and temporary re-housing have also been defined. Noise insulation and temporary re-housing arrangements apply to dwellings and other buildings lawfully used for residential purposes. For a dwelling to be eligible for noise insulation, the predicted construction noise level from the Scheme at the dwelling must exceed either of the relevant trigger levels in **Table 3**, or the existing baseline ambient sound level for the corresponding times of the day, whichever is the higher, for:

- a period of 10 or more days of working in any 15 consecutive days; or
- a total of 40 days or more in any 6 consecutive months

Table 3 Construction noise insulation trigger levels

Day	Time (hh:mm)	Averaging period, T	Noise Insulation Trigger Value LAeq,T (dB)
Monday to Friday	07:00 to 08:00	1 hr	70
	08:00 to 18:00	10 hr	75
	18:00 to 19:00	1 hr	70
	19:00 to 23:00	4 hr	65
	23:00 to 07:00	1 hr	55
Saturday	07:00 to 08:00	1 hr	70
	08:00 to 13:00	5 hr	75
	13:00 to 14:00	1 hr	70
	14:00 to 23:00	1 hr	65
	23:00 to 07:00	1 hr	55
Sunday and Public Holidays	07:00 to 23:00	1 hr	65
	23:00 to 07:00	1 hr	55

For a property to be eligible for temporary rehousing, the predicted construction noise level from the Scheme at the dwelling must exceed a level of 10 dB higher than any of the relevant trigger levels in **Table 3**, or the existing baseline ambient sound level for the corresponding times of the day, whichever is the higher, for:

- a period of 10 or more days of working in any 15 consecutive days; or
- a total of 40 days or more in any 6 consecutive months.

The criteria for eligibility for noise insulation and temporary re-housing presented in **Table 3** are higher than those identified in **Table 2**. As the predicted construction noise levels do not exceed the noise level thresholds in **Table 2**, it follows that no properties are anticipated to be eligible for noise insulation or temporary re-housing.

5.2 Vibration thresholds

The Environmental Statement (ES) (Vol 2 Chapter 12 (Noise and vibration)) for the Scheme assessed likely vibration from vibratory rollers during earth compaction works, as this operation is the most likely to produce ground-borne vibration. In relation to vibration impacts, the ES Noise and Vibration chapter produced by Atkins finds that (para. 12.91) from the main reservoir site, vibrations would not be significant at sensitive receptors, as no works are proposed within 20 m of these receptors.” The toe of the embankment will be 60m from receptors on Swanmore Road at its closest point.

Havant Borough Council (HBC) and East Hampshire District Council (EHDC) have been consulted and agreed that, based on the above, vibration monitoring is not required.

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.

6.0 Noise monitoring

Consultation has been undertaken with HBC and EHDC to agree the following methodology.

During the works, noise monitoring will be undertaken by a suitably qualified practitioner at the three identified closest representative noise sensitive receptors. Results will be compared with the noise level thresholds identified in **Section 5.1** and any exceedances identified.

The results will be used to refine the predicted noise that would arise during the main works activities, and to identify if any further requirements for noise mitigation in line with best practicable means. The monitoring plan and results will be kept in the document control system.

Noise monitoring at receptor sites will be undertaken using calibrated equipment at the monitoring points in **Table 5**, as agreed with both relevant LPA and marked on the plan in Appendix 1.

Survey frequency will be four times within the annual construction period (March to October). Each survey will comprise of total of one day of measurements, measurements will be undertaken at the likely worst-affected receptor(s), which will depend on the location and type of the works being undertaken at the time. Additionally, monitoring might be undertaken following a complaint or as required

Table 5 Proposed noise monitoring locations

Receptor	Location of monitoring point	Local authority	Indicative distance from works
RS1		Havant Borough Council	c60m W of embankment toe, 75m W of embankment crest

RS2	Representative of most potentially affected residential facade.	East Hampshire District	c140m E of embankment toe, 160m E of embankment crest
RS3		Havant Borough Council	c250m S of Control House

The results of the noise monitoring will be issued to the local authorities in accordance with planning condition 9 and in commitment NV5 of the REAC.

To ensure the noise prevention mitigation measures are effective regular site inspections will be carried out. The monitoring process is outlined in the CEMP submitted to discharge planning condition 5 for the Scheme.

All incidents relating to noise and vibration, including complaints from members of the public, must be reported to the HSE Team. The incident reporting procedure outlined in the CEMP must be followed.

7.0 Working hours

7.1 Core hours

In accordance with planning condition 8 (Hours of working) the core working hours for the main works construction activities are:

07.30– 18.00 hours (Monday to Friday), 08.00– 13.00 (Saturday).

7.2 Extended working hours

Condition 8 allows for works to be undertaken outside of the core hours subject to local authority approval.

Future Water have agreed with East Hampshire District Council and Havant Borough Council that the following activities will be undertaken over extended works hours as follows:

Table 6 Agreed extended works hours

Activity	Working hours	Timeline
Earthworks embankment and wetlands	07.00 – 19.00 hours (Monday to Friday), 07.30– 13.00 (Saturday).	1 March 2024 – 30th September 2026

These times fall within the definition of daytime in BS5228-1 (Table E.1), as applicable to the assessment of potential construction noise impact.

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

7.3 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 pumps being kept on overnight or on weekends whereby an agreed rate of pumping at the borrow pits continues throughout, and generators at the satellite compound working overnight or through weekends on particularly wet days to enable drying rooms to dry PPE, or to power security huts.

These are exceptional circumstances, as in most cases plant should not be left running overnight or over weekends.

Noise and vibration control measures must be put in place to ensure that nuisance to receptors is minimised.

Wherever feasible, items of plant selected for such out of hours tasks should have minimal noise and vibration impacts on the environment (e.g. selection of a super-silent pump).

On this project, it may be essential under exceptional circumstances for the plant identified in **Table 7** to be left running Out of Hours:

Table 7: Out of hours running of plant

Plant name	Reason for Out of Hours Running of Plant	Location of Plant On Site	Sensitive receptors and their distance from plant	Noise or vibration mitigation measures proposed
Water pumps	Dewatering borrow pits and surface water management	Adjacent to borrow pits	Houses on Swanmore Road located min. 170m from overnight pumping operation	Super silent pump; earth bund / acoustic sound barriers if needed. Manage pumping to minimise out of hours requirement
Generator	Power for site accommodation and security	M	Remote from residential property (750m N of Winterslow Drive, 850m E of Swanmore Road, 1km W of B2149)	Hybrid system – maximise use of battery power at night. Locate generator within compound so cabins provide screening.

8.0 Stakeholders engagement

8.1 Liaison with local planning authority

This Noise and Vibration Management Plan will be issued to Havant Borough Council and East Hampshire District Council as part of discharging planning condition 9.

8.2 Liaison with local community

Letter drops providing appropriate information will be completed by Portsmouth Water with assistance in compiling these provided by Future Water. Proactive communications will also be undertaken via Portsmouth Water social media channels (such as Facebook, Twitter etc.) and information/photography to prepare these will be provided by Future Water where requested.

All works will be programmed through Portsmouth Water. Local people will be given at least 14 days' notice before the commencement of the main reservoir 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;
- Anticipated duration of works (no. of days, with start and end dates);
- Actions and methods which will be adopted to reduce disruption;

- Helpline number for enquiries, complaints and compliments.

The MRW project team will work closely with the Portsmouth Water to address any concerns or issues raised by the local community. The outcome of these will be communicated to PW to enable responses to enquiries where necessary. Future Water will attend community meetings to review the work to date, discuss the results of noise & vibration monitoring, provide a look-ahead of activities prior to the next meeting and to report how the complaints/compliments received were dealt with.



Appendices

APPENDIX 1 – PLAN OF SENSITIVE NOISE RECEPTORS

