

Noise and Vibration – Non-Technical Summary

Measurements of existing noise levels have been carried out in the area. Calculations were then been undertaken to assess the noise arising from the EfW CHP facility, the traffic servicing it, and the construction works, in order to assess the effects.

The construction contractor will follow best practicable means to minimise construction noise impacts upon the local community, including adherence to Plymouth City Council's (PCC) Code of Practice and applicable British Standards.

PCC's Code of Practice includes acceptable hours of work¹ which are:

- Monday – Friday: 08:00 to 18:00
- Saturday: 08:30 to 13:00

The Code of Practice also provides acceptable noise limits (reproduced in Table 14.1 of ES Chapter 14)

Construction noise levels have been calculated at a representative set of residential properties (full details of the results of the construction noise assessment and the assumptions used can be found in ES Appendix 14.3). The assessment has shown that for the major part of the construction works, noise levels at surrounding properties will be below the proposed limits. However, for some construction activities, specifically the laying of foundations and the installation of steelwork and external cladding to the workshop, when working close to properties on Talbot Gardens, the noise limits will be exceeded for short durations. This will be mitigated by the use of temporary noise barriers around noisy activities. Overall the significance of construction noise effects is assessed as negligible / low. It must be noted that the predicted levels are worst-case predictions and noise levels will be lower for the majority of the time. Where noise levels are high, these will only occur for short periods of time.

Ground borne vibration levels have been calculated at the receptor locations for piling works at the closest approach. The significance of ground borne vibration with respect to both nuisance and building damage is assessed as negligible.

Construction traffic noise levels have been calculated and, apart from the link between the on-site roundabout and the junction of Wolseley Road and Weston Mill Drive, the increases in noise level are all below 1 decibel (dB)(A) and are assessed as negligible.

The increase on the link between the on-site roundabout and the junction of Wolseley Road and Weston Mill Drive is 1 dB(A). However, there are no sensitive residential receptors adjacent to this link. The nearest residential properties front on to Wolseley Road and Weston Mill Drive and the noise climate at these properties is dominated by road traffic on these two links. Weston Mill Community Primary School is located on the eastern side of the Wolseley Road / Weston Mill Drive junction, but again the existing noise climate here is dominated by road traffic noise. Hence, the resultant increases in noise levels due to construction traffic will be less than 1 dB(A) and the significance of these noise increases is assessed as negligible.

The EfW CHP facility has been designed to minimise operational noise levels as far as is practicable, through the selection of low noise plant items and the selection of wall cladding, roof cladding and ventilation openings to minimise noise breakout from the plant buildings. In addition a 3 m high acoustic fence will be installed along the access road. Operational noise levels have been calculated at a representative set of residential properties, employing a complex computer model of the proposed EfW CHP facility and the surrounding landform and buildings.

¹ It should be noted that work may be permitted outside of these hours in exceptional circumstances and only by prior agreement with the Council and will be conditional on the contractor informing local residents in advance of proposed activity.

Both the day-time period (when HGVs will be accessing and leaving the site) and the night-time period (no HGV traffic) have been assessed. For the daytime period the worst weekday hour, with the maximum HGV arrivals and departures, has been assessed. For the night-time period two scenarios have been considered one with and one without workshop activity.

For the day-time period a +5 dB(A) correction has been applied to derive the Rating Level to account for irregularities in the noise from the facility due to HGV operations.

It is proposed that no +5 dB(A) correction need be applied for the night-time period to derive the Rating Level, since there is no HGV traffic and the emitted noise is steady and broadband. However, for comparison, the assessment presents the results with and without the +5 dB(A) correction.

The assessment shows that for both day-time and night-time operation of the plant, the Rating Level at all receptors will be no more than 5 dB(A) above the minimum background noise level (assuming the + 5 dB(A) correction to the night-time Rating Level is not applied) and overall effects would be low to negligible.

There are no sources of significant ground borne vibration in the complement of plant items. Taking this into account, and the distances from the plant to surrounding sensitive receptors, the significance of operational vibration is assessed as negligible.

Operational traffic noise levels have been calculated and, apart from the link between the on-site roundabout and the junction of Wolseley Road and Weston Mill Drive, the increases in noise level are all below 1 dB(A), and are assessed as negligible.

The increase on the link between the on-site roundabout and the junction of Wolseley Road and Weston Mill Drive is 1.6 dB(A). For the same reasons described above for construction noise, the significance of these noise increases is assessed as negligible.

Considering the negligible increases in road traffic noise levels to residential receptors along Weston Mill Drive and Wolseley Road (the increases will be imperceptible to residents) resulting from both construction and operation of the EfW CHP facility, it is concluded that noise mitigation is not required to reduce the impacts of the EfW CHP facility traffic. This does not negate the fact that noise levels to properties along these road links are currently high, as identified in the Defra noise mapping.