



Reference: Proposed Aldi development – Abbey Road, Neath

Project No: 1918927

Technical note

Proposed Aldi store Neath

Introduction

- This technical note is provided in response to the comments received from the Environmental Health Officer at Neath Port Talbot County Borough Council, in an email from the planning officer, dated 11th February 2020, in relation to the Sharps Redmore (SR) noise assessment report (reference R1 1918927, dated 24th June 2019), that accompanied the planning application.
- The EHO makes a series of comments in relation to the design of the layout of the site. The principles of good acoustic design could include, for example, as the EHO suggests, maximising separation distances between noise sources and noise sensitive receptors. However, site layout will be dependent on a multitude of factors such as pedestrian safety, vehicle tracking, and an active frontage. Therefore when considered as a whole, maximising separation distances may not be possible on a constrained site, hence good acoustic design also includes the provision of other mitigation measures such as screening, and the selection of low noise fixed plant equipment.
- Attached to this technical note is a delivery noise management plan (Figure 1: Quiet Delivery Scheme); it is suggested that this is secured by imposition of a suitably worded planning condition.

Response to queries raised

- 1 Steven Jenkins [SJ] (Senior Planning Officer) wrote:

“Our Noise officer has advised that the methodologies applied are applicable and appropriate, however as with many noise standards and guidelines, there are some shortfalls and they do not always provide definitive answers. He appreciates that the calculations may suggest that the noise from deliveries will be acceptable when considered as noise levels, but he is more concerned about the nature of the noises and the impact on the amenity of the nearby properties. Welsh Government ‘Noise and Soundscape action plan’ places emphasis on the concept of soundscape, which I he (sic) does not feel is covered in the noise report. The concept of soundscape considers noise in a wider context rather than simply levels, and considers how noise is perceived or experienced by a person or people.”

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Keith Metcalfe [KM] response:

The SR noise report explains that the noise survey was extensively unattended, with the sound level meter set up to automatically log noise level readings every 15 minutes throughout the survey. However the site was visited during the morning, afternoon, evening and night time periods to understand the nature of the existing noise climate (soundscape).

Throughout the 24 hours period of the noise survey the existing noise climate was found to be largely dominated by road traffic sources. During the morning, afternoon and evening period's steady road traffic was observed on Neath Abbey Road, during the evening and in the nighttime period local road traffic on Neath Abbey Road was significantly reduced, such that more distant road traffic sources were noticeable.

Other noticeable noise sources during the daytime were 'industrial' type sources from the LBS Builders Merchants site to the west of the site, with ventilation plant noise sources clearly perceptible along with vehicle movements and tonal reversing alarms (such as those that may be associated with forklift movements).

Natural sound from bird song was also noticeable during the daytime.

In terms of noise levels, the ambient noise climate ($L_{Aeq\ T}$) was typically at or just above the WHO guideline associated with significant annoyance (55 dB $L_{Aeq\ T}$). During the nighttime the noise climate was typically at or just below the WHO night time guideline value of 45 dB $L_{Aeq\ T}$. The site could not reasonably be described as quiet due to the proximity of existing noise sources.

The introduction of the proposed Aldi development to this site could be expected to change the character of the noise climate during store operating hours, from a site largely exposed to steady continuous road traffic sources during the daytime to more intermittent, impulsive type sounds associated with customer car parking and delivery activity. Our experience of noise from Aldi fixed plant equipment is that this source is typically bland in character (with no tones) and should blend into the existing noise climate to not be generally noticeable at adjacent residential receptors.

It is understood that Welsh Government advice on noise is in the process of being updated from the existing Technical Advice Note (TAN) 11 Noise, which was published in 1997. TAN 11 when published, was aligned with the planning noise guidance in England at the time contained PPG 24. It could reasonably be considered, therefore, that the new TAN on noise may also broadly align with current planning noise policy guidance in England. For example with the guidance contained in Noise Policy Statement for England (NPSE) and reinforced within the Planning Policy Guidance (PPG) on Noise (<https://www.gov.uk/guidance/noise--2>).

The PPG on noise introduces the concept of a noise exposure hierarchy based on likely average response. The guidance contained in the PPG is summarised in the table below:

TABLE 1: Noise Exposure Hierarchy

Response	Examples of outcomes	Increasing effect level	Action
No Observed Effect Level			
Not present	No Effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

Current planning policy in England requires the avoidance of significant adverse impacts (or the Significant Observed Adverse Effect Level - SOAEL) as explained in the Noise Exposure Hierarchy table. Where a noise impact is identified as falling between the Lowest Observed Adverse Effect Level – LOAEL) and the SOAEL then the requirement is to mitigate and reduce the impact to a minimum. The No Observed Adverse Effect Level (NOAEL) is the level at which there is no observed adverse effect.

It is clear that when considering the impact of noise that the fact can be heard and causes impact, is not reason to refusal an application as consideration should also be given to the significance of the impact and the mitigation measures available.

The SR noise assessment, dated 24th June 2019, objectively demonstrates that predicted noise from delivery activity, with appropriate mitigation in place, by means of noise barrier, or control of the times that activity may occur, avoids significant adverse impact.

In terms of soundscape, delivery activity noise during the daytime at the closest residential receptor at Glyn Hir, could be expected to be heard, and that delivery noise may change the character of the area when a delivery is made. In the context of the numerical assessment presented it is considered that daytime delivery activity would fall somewhere between the NOAEL and the LOAEL, thus avoiding significant adverse impact, which is generally accepted to the planning test.

2 SJ wrote:

“Unattended noise survey was undertaken, and the site was periodically visited to make observations as to the current sources of noise. The report does not contain any description of the current soundscape in the area, and no description of how the noise of plant and deliveries will be different to the current noise environment”.

KM response:

A description of the existing soundscape and commentary on the character of future noise sources associated with the development is presented previously in this note,

3 SJ wrote:

“Weather details were obtained using the BBC weather forecast. This would not be site specific”.

KM response:

The noise report states *“Weather details were obtained using the BBC weather forecast, and (my emphasis) on observations made during the survey”*. This statement confirms that onsite weather condition observations were made. The use of online weather resource information is common practice to confirm on site weather conditions during noise measurements.

4 SJ wrote:

“Details of the fixed plant equipment have not been finalised. I agree it is likely a noise condition will be required, however I would suggest that the plant/machinery should be designed to a noise level below background”.

KM response:

The noise assessment report sets plant rating noise limits based on matching the existing typical background noise climate, in accordance with the guidance in BS 4142:2014. The guidance in BS 4142:2014 states *“The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context”.*

I note that the EHO is suggesting that plant rating noise level limits should set at a level below the existing typical background noise climate. No suggestion is given as to how far below the background noise climate the plant noise limits should be set.

At this site, given that the existing daytime background noise climate is reasonably high (53 dB L_{A90}), it would not be unreasonable to set a daytime plant noise limit 10 dB below this level (at 43 dB).

With regard to plant noise limits at night, the scope to the previous 1997 version of BS 4142 explained that *“... rating levels below about 35 dB are considered to be very low”.* Although this version of the Standard has now been replaced, it is considered, given the EHOs comments, that a night time rating level limit of 35 dB (i.e. 3 dB below the existing night time typical background noise level) would be reasonable.

To put the above suggested plant noise levels limits into context, BS 4142:2014+A1:2019 states that *“Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night”.* In terms of the plant noise level limits explained above, both these external plant noise limit values would give rise to associated internal noise levels (assuming partially open windows) well within the WHO/BS8233:2014 guideline noise values.

5 SJ wrote:

“In relation to delivery noise, the concerns remain in relation to the nature of the noise. Although BS4142 is appropriate and considers the nature of the noise to a certain degree, I do not think it always gives a true picture. Soundscape must be considered”.

KM response:

Soundscape is considered earlier in this technical note. BS 4142:2014+A1:2019 and the WHO guidelines are the appropriate assessment methodologies/criteria to be considered. The rating level penalty applied within the calculation at Appendix C3 is entirely reasonable to take into account the impulsive nature of delivery unloading noise.

6 SJ wrote:

"It is noted that some barrier attenuation calculations have been included, with the source height set at 1m and the receiver height 1.5m. Would this be representative of onsite conditions? (i.e. the receiver could be on first floor of their property, the source could be a lorry which I assume would be higher than 1m)".

KM response:

The barrier calculations were based on the site layout plan, assuming that the site and surrounding residential properties were at similar topographical levels. The screening calculation at Appendix C2.2 of the SR report indicates a screening reduction of 11.5 dB from unloading activity, provided by the proposed 2.5 metre high acoustic grade fence.

Kendal Kingscott Architects (KKA) Site Boundary Sections drawing 190487-1504-P1 (reproduced at Figure 2 to this note) indicates the surveyed topographical levels. Section AA shows the relative heights adjacent to the loading bay area. Due to the loading bay sloping down towards the loading dock, the source height of pallets being moved from a delivery vehicle is set down beneath the ground level of the garden at Glyn Hir. This has the effect of increasing the predicted level of screening attenuation by 2 dB, and reducing the resultant predicted delivery activity noise levels at Appendix C1 to 43 dB $L_{Aeq\ 1\ hour}$ (and 49 dB $L_{Ar\ 1\ hour}$). In turn, this has the effect of altering the outcome of the BS 4142 assessment at Appendix C3 whereby the difference between the rating level and background noise level is between -6 and -1 dB (indicative of low impact).

The closest part of the receptor at Glyn Hir to the proposed Aldi loading bay is the garden (and swimming pool area), hence for daytime noise (the period in which deliveries would be received) it is entirely appropriate to consider a ground floor receptor height. A receiver height of 1.5 metres above ground is typical of standing head height, and would be robust for a person in a seating position.

With regard to the source heights, typically, engine noise from a delivery vehicle occurs no more than a metre or so above the ground, and unloading activity noise is at a height of the 1.5 metres above the ground. At this site the unloading source height is nominally at 0 metres above ground on the basis that the floor level of the loading bay slopes down to be 1.5 metres below local ground level (and the height of the rear of the delivery trailer is 1.5 metre above ground level, i.e. $-1.5 + 1.5 = 0$ metres)

7 SJ wrote:

“More information is required on the deliveries (this should include details of the loading bay and how the delivery lorry docks)

Sections through the loading bay showing the boundaries that are proposed (it would appear there is a 2.5m boundary on the edge of the site, but the site plan also shows a bin store and what appears to be a wall, more info on this is required)”.

KM response:

The KKS drawings as reproduced at Figure 2 to this technical note indicates the detail of the dock loading bay

8 SJ wrote:

“Specification of the acoustic barriers proposed”.

KM response:

Aldi noise barrier details are shown at Figure 3 to this technical note. The noise barrier should be solid, with no gaps between panels or where the barrier meets the ground, and should have a minimum density of 10 kg/m².

Keith Metcalfe BSc(Hons), MIOA

Director

20th February 2020

FIGURE 1: Delivery noise management plan

Aldi Stores Ltd

Neath Abbey Road, Neath
Quiet Delivery Scheme

Preamble

This document will set out specific measures to ensure that the above stated Aldi store deliveries and refuse collections will be carried out in a quiet manner, and does not result in any detriment to public amenity, with particular regard to residential sites.

The delivery and collection standards or measures will be separated into the following sections:

- General,
- Arrival,
- Unloading/loading, and
- Departure.

Each section will provide actions to be undertaken by all HGV and delivery drivers, transport managers, and Aldi staff on site during deliveries and collections.

Delivery and Collection Standards

General

- Deliveries and refuse collection will be carried out within the hours specified by the planning conditions.
- All deliveries to the store shall be carried out by vehicles controlled by the Aldi logistics team, with the exception of milk deliveries which are carried out by a contractor.
- Delivery unloading on average will take 45-60 minutes and refuse collections take around 15 minutes..
- All drivers, transport managers and Aldi staff will be made aware of this Quiet Delivery Scheme.

Arrival

- Prior to the arrival, Aldi store staff will ensure that the loading bay area is clear of obstructions so vehicles can move easily.
- Vehicles are to travel directly from the main road to the service yard. No vehicles will wait within close proximity to the site if they arrive outside of the delivery hour restrictions.

- Drivers will arrive on site without excessive engine breaking noise, with the throttle and break only being used when necessary.
- Drivers will switch the engine off immediately after manoeuvring. However, Aldi utilise the latest delivery vehicles that minimise engine noise and gear change noise when vehicles are in use.
- Refrigeration equipment will be switched off once the vehicle is stationary.
- The vehicle radio will be switched off before opening the vehicle doors.
- The Aldi delivery bay is located 1.2m above the service yard floor level with only steps and a pedestrian door to link the warehouse and service yard.
- The driver is responsible for docking the vehicle with the building, and unloading the vehicle.
- The reversing alarm will always be switched off outside store opening hours.

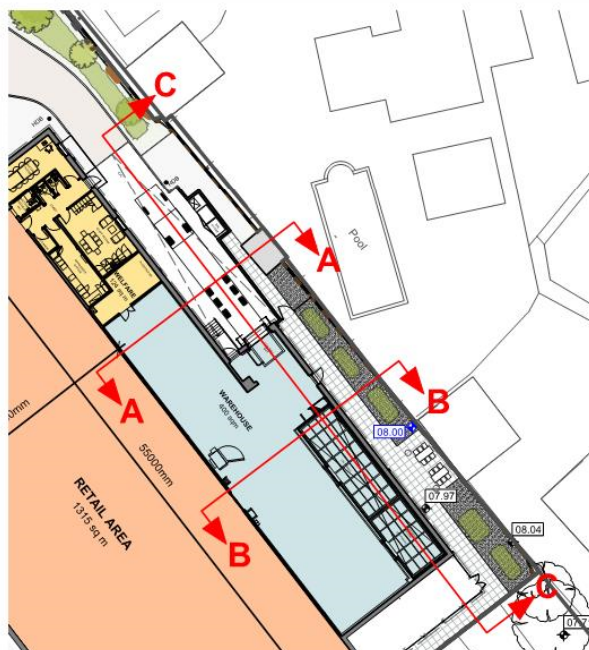
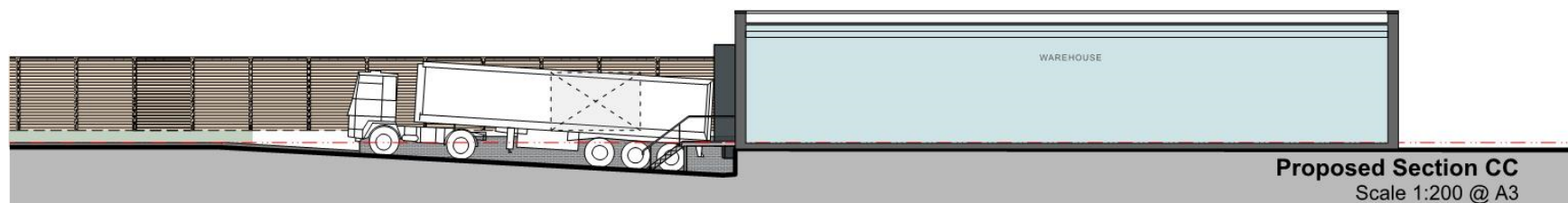
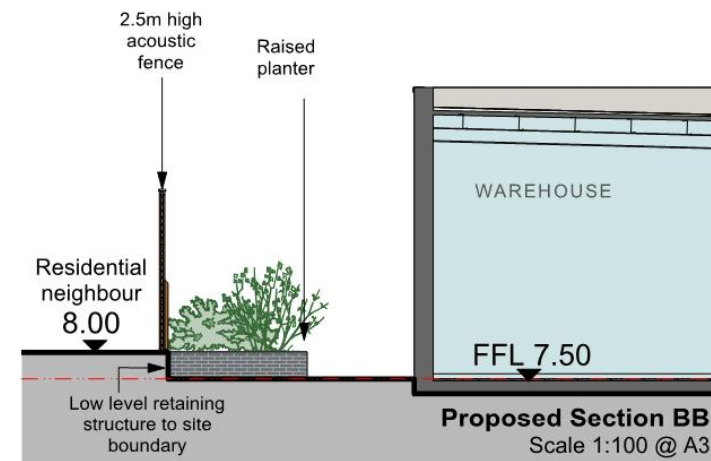
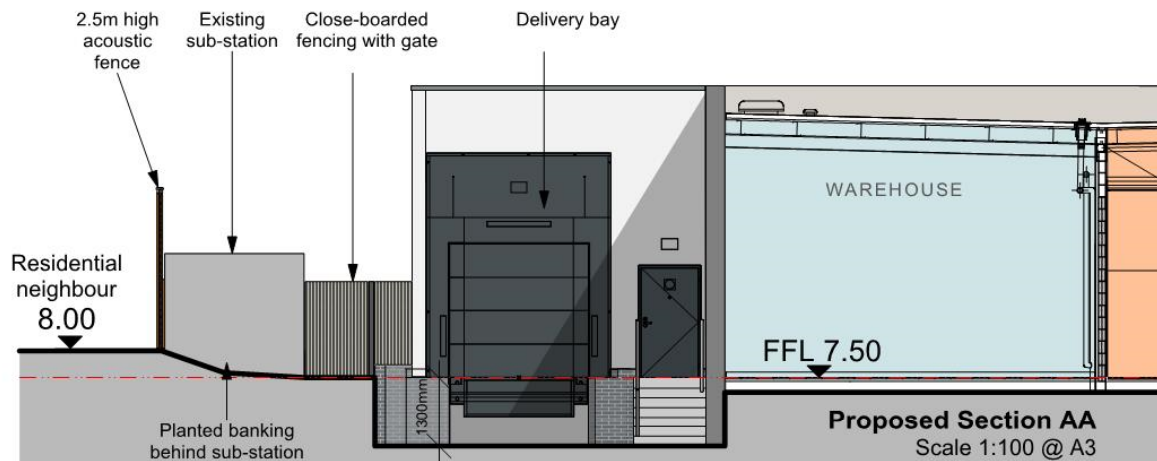
Unloading and Loading

- The delivery vehicle docks with the building, the trailer floor is adjusted to be level with the warehouse floor, and goods are transferred from the trailer to the warehouse without travelling outside. This contains noise within the building and trailer.
- Delivery bays are low maintenance, and the noise curtain will be checked to ensure that it still performs in accordance with the necessary requirements.
- During the delivery/collection, all building doors will remain closed unless being used for access.
- Aldi vehicles are not fitted with a tail lift, therefore no goods can be moved outside of the noise containing dock system.
- As deliveries are undertaken between the trailer and the warehouse, no pedestrians will be in the yard, and no discussions would occur outside of the building.
- Door shutting will be kept to a minimum during unloading and loading of vehicles.

Departure

- Drivers will show the same consideration regarding the effect of noise on residents when leaving the site as shown on entry.
- Drivers will avoid over revving and seek to accelerate gently until the vehicle is a reasonable distance from the store, minimising excessive air brake noise.
- Where possible, drivers will refrain from starting up vehicle refrigeration units until the vehicle is away from the store and residential properties.
- The reversing alarm will always be switched off outside store opening hours.

FIGURE 2: KKA Site Boundary Sections drawing



EXTRACT KEY PLAN
Scale 1:500 @ A3



Chartered Architects
Chartered Building Surveyors
Interior Designers
CDM Services

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Project
**Neath,
Neath Abbey Road**
Client
Aldi Stores Ltd.

Scale Paper Size Filename
Varies A3 190487.vwx
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P2 19/02/2020 NR HB Plan updated
Rev Date By Ap Note

Drawing Title
Site Boundary Sections

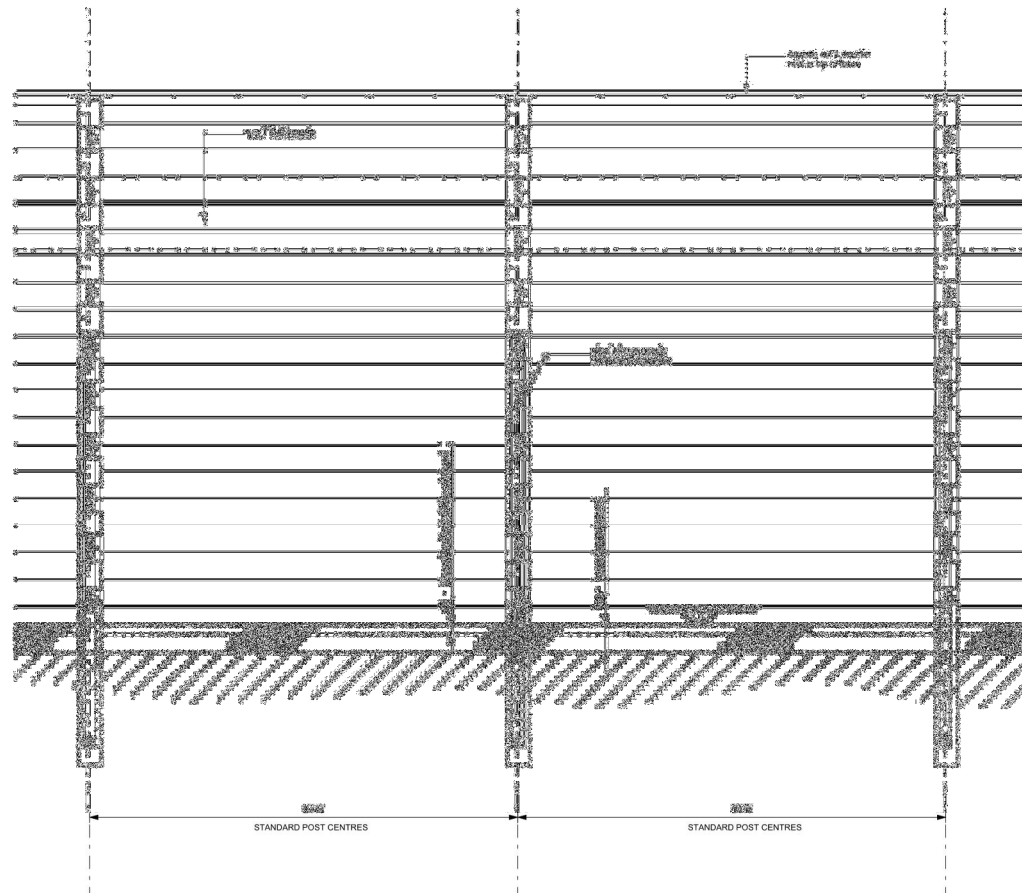
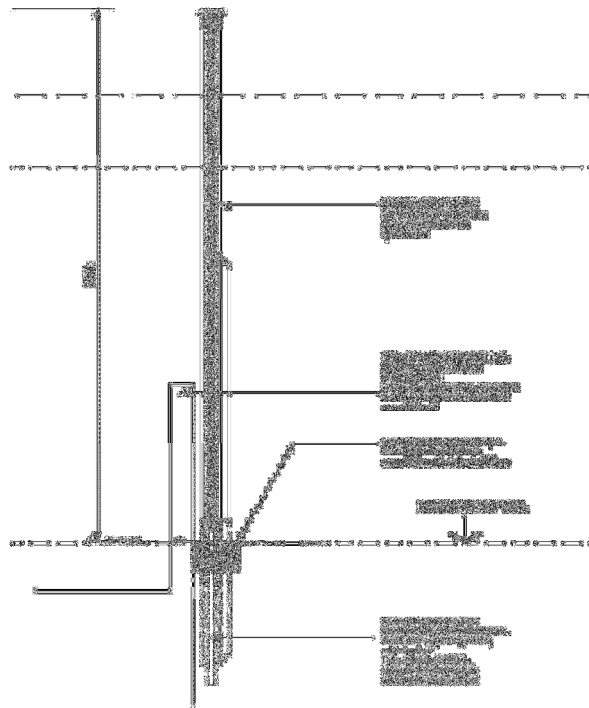
Project Number Drawing Number Revision
190487-1504- P2

Date Drawn Checked Status
11/10/19 HB NR PLANNING

Check all dimensions and levels on site

Only to be used on the site for which designed. The electronic transmission of designs/information contained in this drawing is carried out entirely at the User's risk and Kendall Kingscott Ltd. will have no liability for any errors or inaccuracies arising therefrom. The reproduction of amended or updated information from the said designs/information by the User is entirely the responsibility of the User and Kendall Kingscott Ltd. shall have no responsibility in respect thereof whatsoever.

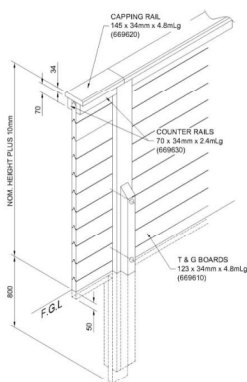
FIGURE 3: Aldi noise barrier details



Note: This drawing is an illustration of the construction of a noise barrier. The proposed noise barrier at Aldi Neath would be 2.5 metres high (not the 3 metre barrier shown here).

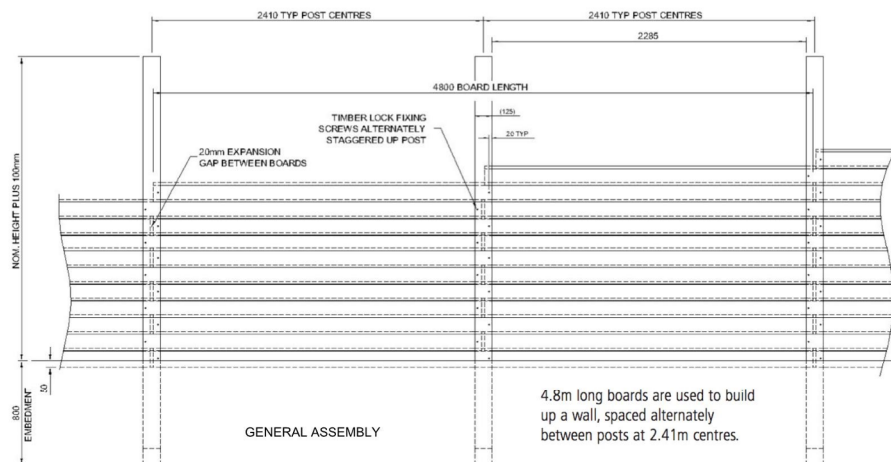
FOR LOCATION & EXTENT OF ACOUSTIC BARRIER FENCE SEE DRAWING 160442 P(0)02

ALL INSTALLED AS MANUFACTURER RECOMMENDS



GENERAL ASSEMBLY

1. Posts are made with 'solid' bottom sections for below ground, with the top sections remaining 'open' for clamping the boards.
2. Posts are designed to be sunk into the ground to a depth of 800mm. The centre section of the post is 750mm long. This allows the bottom fence board to act as a gravel board to a depth of 50mm into the ground.
3. The bottom of the side boards will not go to the full depth of the post hole.
4. The post sides extend 125mm above the nominal height of the fence (for standard heights). Once the fence is erected they are trimmed to the same level as the top board. This arrangement facilitates any variations in board dimensions caused by moisture content; the fence erector needs to apply cut and treat to cut post tops.
5. Fence systems above 2.0m high will have a steel spur post fitted to the post shown. They are designed to support the fence up to a height of 1.2 - 1.4m below the finished level of the fence. These spur posts are sent separately, for fixing to the timber post during installation on site.
6. The screws should be used to secure completed rows of boards as the height of the fence is gradually built up, in order to maintain its strength during the build. Do not assemble the full height 'loop' as there is a risk of collapse, especially in windy conditions.



GENERAL ASSEMBLY

4.8m long boards are used to build up a wall, spaced alternately between posts at 2.41m centres.

ACOUSTIC BARRIER FENCE :
Type : Jakoustic System
Height : 3000mm above ground level

System comprises :
- Unique timber 'tuning fork' design posts
- 125mm boards featuring an interlocking 'vee' tongue and groove
- Fence is finished with a capping and counter rail
- Vee T&G profile has been carefully developed to locate the boards in such a way that eliminates gaps that sound will easily travel through, even when boards shrink and expand with changes in the weather.
- All timber used is Jakure pressure treated and covered by 25-year guarantee, giving lasting protection above and below ground against all wood-boring pests and all forms of wet and dry rot.

Laboratory sound reduction 28 dB
Mass 12kg/m2

Manufacturer :
Jacksons Fencing
Stowling Common
Ashford Kent TN26 6BN
+44 (0) 1233 750393
web - www.jacksons-fencing.co.uk
email - acoustic@jacksons-fencing.co.uk

AN EQUIVALENT PERFORMING SYSTEM WILL BE CONSIDERED SUBJECT TO APPROVAL



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Project
Aldi Stores

Client
Aldi Stores Ltd

Drawing Title
ACOUSTIC FENCE

160442 P(0)10

Scale	Paper Size	Filename
1:n/a	A1	Acoustic Barrier Fence
Date	Drawn	Checked
May 2016	NR	GS
		FOR COMMENT