

Before the Selwyn District Council

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*under:* the Resource Management Act 1991

*in the matter of:* Proposed Private Plan Change 80 to the Operative District Plan

*and:* **Two Chain Road Limited**  
*Applicant*

Evidence of Mark Lewthwaite (noise)

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Dated: 5 October 2022

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## **EVIDENCE OF MARK LEWTHWAITE**

### **INTRODUCTION**

- 1 My full name is Mark Douglas Lewthwaite.
- 2 I am an acoustic consultant with 15 years of experience. I lead the Powell Fenwick acoustic team.
- 3 I am a Chartered Professional Engineer and Associate Member of the Acoustical Society of New Zealand.
- 4 Within the field of environmental noise assessment, my expertise relevant to this Plan Change application includes noise monitoring, prediction of noise from rural and infrastructural activities, and acoustic insulation of dwellings from road noise, along with the implementation of the above in the context of rules within district plans.
- 5 I am familiar with private Plan Change 80 (*PC80*). I prepared the noise assessment that accompanied the application.

### **CODE OF CONDUCT**

- 6 Although this is not an Environment Court hearing, I note that in preparing my evidence I have reviewed the Code of Conduct for Expert Witnesses contained in Part 7 of the Environment Court Practice Note 2014. I have complied with it in preparing my evidence. I confirm that the issues addressed in this statement of evidence are within my area of expertise, except where relying on the opinion or evidence of other witnesses. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

### **SCOPE OF EVIDENCE**

- 7 My evidence relates to the proposed rezoning of approximately 98 Ha of rural Inner Plains zoned land to Business 2A zoning in Selwyn District, as per PC80, subject to the operative Selwyn District Plan (*SDP*).
- 8 In preparing my evidence, I primarily refer to:
  - 8.1 Powell Fenwick Design Advice Memo A01, dated 24 Sep 2021, which was my earlier design advice that accompanied the application (the *Noise Report*).
- 9 I have also reviewed:

- 9.1 The Section 42A Report by Ms Liz White dated 28 Sep 2022 (the *Officer's Report*).
- 9.2 The noise peer review titled Plan Change 80, Selwyn District – Review of noise assessment, dated 16 Sep 2022, by Mr William Reeves of Acoustic Engineering Services (the *Peer Review*).
- 9.3 Submissions, as noted in response section below.

### **SUMMARY**

- 10 Powell Fenwick was engaged by Two Chain Road Ltd to provide assessment of the noise implications of PC80 relating to 7-183 Two Chain Rd. Presently the site is rural in nature with a number of farm buildings and dwellings.
- 11 The rezoning request is under the SDP. The site is Inner Plains zoned in the SDP. Two Chain Rd Ltd propose the zoning is changed to Business 2A.
- 12 This evidence focuses primarily on the noise provisions of the Proposed District Plan (PDP), which I agree are more appropriate and which are likely to have legal effect by the time activities establish on the site (should it be rezoned).
- 13 The PDP rules do not offer any protection from reverse sensitivity that might be experienced on the site, which is not uncommon within industrial zoning, and as the likely activities on the site would not be sensitive to all but the loudest sources of noise, I do not consider noise generated in the nearby Inner Plains or Living zones will have a significant effect.
- 14 Infrastructure noise from the Main South and Midland Railway Lines (MSL, MDL) and State Highway 1 (SH1) have been assessed.
- 15 The MSL along this section is subject to typically sixteen train movements per day. I anticipate noise levels of 79-89 dBA at the south boundary of the site during a train pass by. This is a tolerable noise level for short periods. The MDL at the eastern end of the site would have similar effects though only over a small area of the site.
- 16 SH1 would generate noise in the order of 65 dB  $L_{Aeq(24h)}$  at the south boundary of the site. This is a tolerable continuous noise level for undertaking work related tasks outside and where there are offices near the south boundary, standard construction methods can reduce the noise level to achieve acceptable internal noise outcomes.
- 17 There are therefore no reverse sensitivity concerns with the establishment of Business 2A zoning on the site.

- 18 Sensitive activities in rural areas to the north and areas of Rolleston Prison have protection from noise generation in the Operative SDP and PDP. PDP Rule NOISE-REQ1 requires noise from a General Industrial Zone received in a General Rural Zone to be no greater than 55 dB  $L_{Aeq}$  during the daytime (0700-2200 h) and 45 dB  $L_{Aeq}$ , 70 dB  $L_{Amax}$  at night-time (2200-0700 h).
- 19 Most industrial activities, if operating overnight, would take place at reduced levels. Those fronting Two Chain Rd or Walkers Rd may need to control noise output in order meet the 45 dB  $L_{Aeq}$  / 70 dB  $L_{Amax}$  PDP noise limits applicable within the General Rural Zone, although the Two Chain Road corridor width of 40.23 m (two chains) and setbacks to notional boundaries does provide a useful buffer.
- 20 But generally, I consider the industrial activities will comply with these noise limits.
- 21 The industrial zone to the east is of the same zoning/nature therefore there is no particular sensitivity identified.
- 22 Living/residential zones to the south have protection from noise generation in the SDP and PDP. PDP Rule NOISE-REQ1 requires noise from a General Industrial Zone received in a General Residential Zone to be no greater than 50 dB  $L_{Aeq}$  during the daytime (0700-2200 h) and 40 dB  $L_{Aeq}$ , 70 dB  $L_{Amax}$  at night-time (2200-0700 h).
- 23 Similar to the interface with the General Rural Zone activities, activities at the southern boundary, if operating overnight, may need to control noise output in order meet the 40 dB  $L_{Aeq}$  / 70 dB  $L_{Amax}$  noise limits applicable within the General Residential Zone, although the rail and road corridor does provide a useful buffer. Rail and road noise effects are notable existing components of the noise environment in the living/residential zone.
- 24 In terms of business activities that would be permitted to take place on the site, a range of business activities could be expected to be carried out, including general warehouse style activities, with consideration of noise mitigation if required.
- 25 Emphasis should be placed on locating, enclosing and/or screening of the louder activities, particularly if any of the activities may be carried out during the night-time assessment period. The site has sufficient width to provide flexibility when considering the location of a range of tenant activities.
- 26 Overall, I consider the PC80 site industrial activities will comply with the relevant noise limits in the PDP.

- 27 Assessment has been included of the marginal increase of road traffic noise due to the PC80 site, compared to predicted future levels resulting from highway changes. Due to the PC80 traffic generation and using traffic noise prediction methods, the noise level would be expected to increase by 1-2 dB at the eastern end of Two Chain Rd and the southern end of Walkers Rd. I would not expect such an increase to be readily discernible.
- 28 Night-time road traffic generation from the PC80 site is uncertain but I understand there is potential doubling of traffic volumes overnight along the east section of Two Chain Rd and the south section of Walkers Rd. These added movements are not expected to increase the maximum event noise, rather further increase the regularity, or “density” of vehicle noise.
- 29 I am unaware of any plan or commitment to establish rail sidings to the site (though sidings may in due course be proposed as shown in the ODP). Given this uncertainty, a site-specific assessment could not be carried out at this point in time due to a lack of detail as to the design, layout, and activities proposed to occur at these rail sidings. However, I understand the ODP now prevents rail sidings from extending north of the primary road which I consider would assist in minimising the potential for rail noise to affect Two Chain Road residents.
- 30 Noise from train movements within the rail corridor, including from shunting of wagons from sidings where within the rail corridor, is permitted in PDP rule Noise-R1.3 as follows: “Traffic and rail noise generated within a land transport corridor. This does not apply to the testing (when stationary), maintenance, loading or unloading of trains.”
- 31 Loading and unloading of wagons would typically take place on a private siding within private land and therefore I expect would be subject to the PDP noise limits.
- 32 The noise generated on private land from periodic collection of wagons on sidings, and from loading and unloading of these, I would expect could readily meet the PDP day-time noise limits. More intensive activities, or activities carried out at night may also meet the noise limits, subject to appropriate noise assessment and where necessary mitigation.

## **EVIDENCE**

### **Introduction**

- 33 Powell Fenwick was engaged by Two Chain Road Ltd to provide assessment of the noise implications of PC80 in the Selwyn District.

- 34 The Noise Report documented my initial assessment in accordance with the SDP and accompanied the application. I also provided evidence as part of a submission to rezone this site under the PDP.
- 35 I agree with the Officer's Report that the appropriateness of the current SDP noise limits to the site are not a matter to be specifically addressed through this plan change, but rather through the PDP process. Mr Reeves has some concerns over the SDP daytime limit being higher than would normally be considered to provide adequate amenity protection. This evidence therefore focuses primarily on the noise provisions of the PDP, which I agree are more appropriate and which are likely to have legal effect by the time activities establish on the site (should it be rezoned).
- 36 When compared to the Noise Report this evidence:
- 36.1 Treats Rolleston Prison as a noise sensitive activity as the cell blocks have been confirmed to be on the east side of the Prison site, facing Walkers Rd;
  - 36.2 Updates my predictions of noise from the Main South Line (MSL) and SH1 on the Living zones to the south and the Inner Plains zone to the north (of the PC80 site) based on recent measured data, though not consequentially to conclusions;
  - 36.3 Adds an assessment of the effects of PC80 on public road traffic noise, and includes comment on potential additional rail noise, as requested in the Officer's Report and the Peer Review.

#### **The request**

- 37 The site, 7-183 Two Chain Rd, is between Walkers Rd to the west, Two Chain Rd to the north, and SH1 and the MSL railway to the south. Presently the site is rural in nature with a number of farm buildings and dwellings.
- 38 The rezoning request is under the Operative SDP and proposes the presently Inner Plains zoned land is rezoned as Business 2A. The site has been notified as General Rural Zone in the PDP. Under the PDP, the applicant has also sought the zoning be changed to General Industrial Zone through the PDP process.
- 39 Small rural lots to the north and north-west across Two Chain Rd are zoned Rural (currently Inner Plains). To the West is Rolleston Prison, which is also zoned Rural (Outer Plains), but is subject to a designation MC1, which I understand is a designation by the Department of Corrections. To the south across SH1 and the MSL are residential lots which are zoned living/residential. To the east are commercial and industrial activities which are currently zoned Business 2 and 2A.

- 40 A wide range of activities are permitted in Business 2A Zone, including industrial, small scale food and beverage, trade suppliers, service stations and ancillary offices. Noise sensitive activities such as dwellings and visitor accommodation are not permitted.
- 41 The SDP definition states that industrial activity: *"means any activity involving the manufacturing, production, processing, assembly, disassembly, packaging, servicing, testing, repair and/or warehousing of any materials, goods, products, machinery or vehicles, but excludes Service Stations, Garages and Workshops."*

### **Reverse Sensitivity**

- 42 Development on any site might be protected from off-site noise by District Plan rules for noise generation received on the site, and rules relating to acoustic insulation of noise sensitive activities near to infrastructure. Both the PDP and the SDP define "noise sensitive activities" as only including residential, education, accommodation and healthcare type activities which are not expected to establish within the development.
- 43 Therefore, when considering potential reverse sensitivity effects for the site, the relative levels of neighbouring noise generation and the target site noise insensitivity need to be considered. In this case the likely activities on the site would not be sensitive to all but the loudest sources of noise, and I do not consider noise generated in the nearby rural or residential zones will have a significant effect.
- 44 Infrastructure noise from the MSL, Midland Line (MDL), and SH1 have been assessed.
- 45 The MSL along this section is subject to typically sixteen train movements per day. Based on recent train pass-by measurements in the Rolleston area and with the distance of 10 m to the railway track I anticipate noise levels of 79-89 dBA at the south boundary of the site during a train pass by. This is a tolerable noise level for short periods.
- 46 The MDL at the eastern end of the site has similar train movements but only has a short section of adjacency, so effects will be similar to those of the MSL over only a small area of the site.
- 47 SH1 at approximately 40 m away, based on calculations considering vehicle movements of more than 20,000 per day, the chip seal road surface, 100 km/h rated speed, reflections from the bund and fence on the southside of SH1, and with reference to recent measurements in the Rolleston area, would generate noise in the order of 65 dB  $L_{Aeq(24h)}$  at the south boundary of the site (the dB  $L_{Aeq(24h)}$  measure is a time-average level, over 24 hours). This is a tolerable continuous noise level for undertaking work related tasks outside and where there are offices near the south boundary,

standard construction methods can reduce the noise level to < 40 dB  $L_{Aeq}$  for acceptable internal noise outcomes.

- 48 As noted above, both the SDP and PDP definitions of “noise sensitive activities” do not include the expected activities within the development therefore acoustic treatments adjacent to the MSL or MDL, or SH1 is not required.
- 49 There are therefore no reverse sensitivity concerns with the establishment of Business 2A zoning on the site. The industrial activities will be less sensitive than the rural activities that presently exist. With regards to the railways and SH1 noise, acoustic screening using fences or bunds would not be necessary.

### **Noise Generation**

- 50 When considering noise generation effects on neighbouring activities, the relative levels of site noise generation and the neighbouring site noise sensitivity need to be considered.
- 51 The Inner Plains zone to the north, and current accommodation areas of Rolleston Prison to the west are some of the more sensitive receiving environments in proximity to the site, followed by the residential areas across the MSL and SH1 which are subject to more elevated rail and road noise.
- 52 Rural zones (such as the Inner Plains Zone) have protection from noise generation within industrial zones in both the SDP and PDP. PDP Rule NOISE-REQ1 requires noise from a General Industrial Zone received in a General Rural Zone to be no greater than 55 dB  $L_{Aeq}$  during the daytime (0700-2200 h) and 45 dB  $L_{Aeq}$ , 70 dB  $L_{Amax}$  at night-time (2200-0700 h), when measured and assessed in accordance with NZS 6801:2008 and NZS 6802:2008 respectively. These levels closely reflect NZS 6802:2008 guidance, and are comparable to other District Plan limits for protecting residential amenity. NOISE-REQ1 requires this assessment to be undertaken *“At the notional boundary of any noise sensitive activity within any site receiving noise.”* With ‘notional boundary’ being defined as *“a line 20 metres from any side of a residential unit or other building used for a noise sensitive activity, or the legal boundary where this is closer to such a building”* (as consistent with the National Planning Standards).
- 53 The PDP noise limits have been altered from those in the SDP Rule 22.4.1.5 which dictates limits within rural sites from Business 2A Zone activities. The comparison is complex because the time periods have all shifted and the “average” noise exposure is now a time-average (dB  $L_{Aeq}$ ) not a centile (dB  $L_{A10}$ ) level. But broadly the differences are:



- 53.1 the evening is now part of the day-time period, not the night-time period, so the evening time-average limit is 10 dB more lenient and is not subject to a maximum noise event limit;
  - 53.2 the day-time time-average limit is proposed to be 5 dB more stringent and is not subject to a maximum noise event limit; and
  - 53.3 the night-time time-average limit is proposed to be 5 dB more lenient.
- 54 Maximum compliant noise generation from the site, at the PDP day-time compliance limits when received *outside* rural dwellings, would be at the World Health Organisation Guidelines for Community Noise 1999 (WHO) outdoor living area guidance for onset of serious annoyance of 55 dB  $L_{Aeq(16h)}$ , and in the order of or less than guidance for *indoor* speech intelligibility and onset of moderate annoyance of 35 dB  $L_{Amax}$ . This internal level assumes windows are closed and are well maintained. With windows open, indoor levels would be in the order of 5 dB above the guidance of 35 dB  $L_{Aeq(8h)}$ . This would be less than the exceedance expected from regular road traffic following the highway changes.
- 55 Most industrial activities, if operating overnight, would take place at reduced levels. Those fronting Two Chain Rd may need to control noise output in order meet the 45 dB  $L_{Aeq}$  / 70 dB  $L_{Amax}$  noise limits applicable within the adjacent Rural Zone, although the road corridor width of 40.23 m (two chains) and setbacks to notional boundaries does provide a useful buffer.
- 56 Maximum compliant noise generation from the site, at the PDP night-time compliance limits when received *within* dwellings, would be below the WHO internal design noise level guidance for bedrooms of 30 dB  $L_{Aeq(8h)}$ , and in the order of or less than 45 dB  $L_{Amax}$  maximum noise event guidance. This assumes windows are closed and are well maintained. With windows open, levels would be in the order of the internal design noise level guidance of 30 dB  $L_{Aeq(8h)}$ , and approximately 10 dB above the 45 dB  $L_{Amax}$  maximum noise event guidance. These are thresholds relevant to avoidance of sleep disturbance events. Meeting the maximum noise event guidance can be challenging in different environments and would commonly not be met during vehicle passings where dwellings are near to roads.
- 57 Under the SDP there are existing Business 2A zones (proposed to become General Industrial Zone in the PDP) established adjacent Inner Plains areas (typically proposed to become General Rural Zone in the PDP), that include inland port activities. These are north of Rolleston town centre, and north-east of this site (e.g. Izone and IPort Business Parks).

- 58 Council has therefore previously accepted that activities permitted within the Business 2A zone can operate effectively where adjacent to the Rural Inner Plains zone. The PDP noise limits should also represent the current Council position on appropriate noise levels around rural dwellings from Industrial Zone activities given there has now been a period with the Business 2A zone in operation.
- 59 Other relevant neighbouring areas are briefly commented on as follows:
- 59.1 The Business 2A Zone to the east is of the same zoning/nature therefore there is no particular sensitivity identified.
- 59.2 The Living Zones to the south will be subject to elevated noise levels from State Highway 1 traffic, in the order of 65 dB  $L_{Aeq}$  during the day-time and 55-60 dB  $L_{Aeq}$  during the night-time, accounting for a reduction due to the existing noise screening fence/bund. Comparing this to potential Industrial Zone activity noise at the allowable limits of 50 dB  $L_{Aeq}$  and 40 dB  $L_{Aeq}$  at any point within the site it is apparent that business activity noise, even if operating continuously up to the Living Zone limits, would still be a secondary contributor to the noise environment at the residential dwellings.
- 60 In terms of business activities that would be permitted to take place, a range of business activities could be expected to be carried out, including general warehouse style activities, with consideration of noise mitigation if required.
- 61 Casual inspection of activities currently taking place in the Business 2A Zone to the east indicated consistency with the above range of permitted activities and these were generally modest in noise scale. Examples of higher noise activities included containerised processing equipment positioned street side related to a printing facility, and nutrition and fertiliser processing noise from a facility with large open doors.
- 62 Emphasis should be placed on locating, enclosing and/or screening of the louder activities, particularly if any of the activities may be carried out during the night-time assessment period. Night time activities would be more limited, including with regards to activities undertaken outside if near to boundaries. The site has sufficient width to provide flexibility when considering the location of a range of tenant activities.
- 63 Any noisy activity should have a noise assessment carried out at initial planning stages to mitigate noise effects and compare noise outcomes to compliance limits.

## **RESPONSE TO OFFICER'S REPORT AND PEER REVIEW**

- 64 As requested in the Officer's Report and Peer Review and noting that noise from public roads is not controlled in the ODP or PDP, I have considered noise from changes in public road traffic on Two Chain and Walkers Roads.
- 65 The following comments on changes in public road noise is based on indicative forecast traffic information from Mr Nick Fuller of Novo Group.
- 66 Two Chain Rd is currently an arterial road and is expected to become significantly busier due to changes to the SH1 corridor proposed by Waka Kotahi, NZ Transport Agency. These changes will make Two Chain Rd a more important access link to / from the industrial areas of Rolleston as there will be reduced accessibility at Hoskyns Road. Walkers Rd is an arterial Rd, and similarly will become busier.
- 67 Without PC80 traffic generation the traffic volume on Two Chain Rd, is estimated to be 8,100 vehicles per day (vpd) of which 15% would be heavy vehicles. The traffic volume on Walkers Rd is estimated to be 9,500 vehicles per day (vpd) of which 15% would be heavy vehicles. The time averaged noise levels over a 24 period we predict would be 59 dB  $L_{Aeq(24h)}$  at an example 35 m from the road edge to a dwelling alongside Two Chain Rd, and 60 dB  $L_{Aeq(24h)}$  from the road edge to a cell block alongside Walkers Rd.
- 68 PC80 generated traffic, linking with SH1, is expected to be split evenly between eastern Two Chain Rd and southern Walkers Rd entrances.
- 69 With PC80 traffic generation, the traffic volume at the eastern end of Two Chain Rd is estimated to be 11,800 vpd, including 18% HV. The traffic volume at the southern end of Walkers Rd is estimated to be 13,250 vpd, including 18% HV.
- 70 Due to the PC80 traffic generation and using traffic noise prediction methods, the noise level would be expected to increase by 1-2 dB at the eastern end of Two Chain Rd and the southern end of Walkers Rd. This prediction does not factor in additional noise from accelerating and decelerating vehicles, but equally does not consider the likely lower speed of those vehicles. Individual louder vehicle movements to / from the site will be distinguishable but at a similar level to louder vehicle movements passing on the road.
- 71 The western section of Two Chain Rd and the northern section of Walkers Rd is predicted to remain largely unchanged in traffic volume and therefore noise level.

- 72 Regarding night-time awakenings it is foreseeable that heavy vehicle passings could cause maximum noise events from louder exhausts, tyre noise or rattles up to and in the order of 70 dB  $L_{Amax}$  at a rural dwelling say 35 m from Two Chain Rd (which would be representative of some of the closer dwellings, though not the closest). The highway changes will increase the regularity of such events and possibly the typical level if the heavy vehicles increase in scale.
- 73 Night-time traffic generation from the PC80 site is uncertain but I understand there is potential doubling of traffic volumes overnight along the east section of Two Chain Rd and the south section of Walkers Rd. These added movements are not expected to increase the maximum event noise, rather further increase the regularity, or "density" of vehicle noise.
- 74 These maximum events could result in internal levels above the WHO recommended maximum event criteria inside a bedroom of 45 dB  $L_{Amax}$ . Road vehicle noise is to some degree less sensitising than some noise sources, where reasonably continuous in nature reduces the suddenness of louder events, and due to the prevalence of road corridors is mostly tolerated out of necessity. In the case of rural dwellings along the west section of Two Chain Rd, and the Rolleston Prison cell blocks alongside Walkers Rd, with the majority of additional movements remote from those areas, there is not expected to be a readily observable change.
- 75 Requested in the Officer's Report and Peer Review is an assessment of noise from increased rail activities. I am unaware of any plan or commitment to establish rail sidings to the site (though sidings may in due course be proposed as indicated in the ODP), meaning a site-specific assessment cannot be carried out at this point in time due to a lack of detail as to the design, layout, and activities that might produce noise from these rail sidings.
- 76 Noise from train movements within the rail corridor, including from shunting of wagons from sidings where within the rail corridor, is permitted in PDP rule Noise-R1.3 as follows: "Traffic and rail noise generated within a land transport corridor. This does not apply to the testing (when stationary), maintenance, loading or unloading of trains."
- 77 Loading and unloading of wagons would typically take place on a private siding within private land and therefore I expect would be subject to the PDP noise limits.
- 78 The noise generated on private land from periodic collection of wagons on sidings, and from loading and unloading of these, I would expect could readily meet the PDP day-time noise limits. More intensive activities, or activities carried out at night may also meet

the noise limits, subject to appropriate noise assessment and where necessary mitigation. I also note that the proposed ODP (included in Ms Seaton's evidence) now includes a restriction on the extent of any rail sidings, ensuring sidings cannot be located in close proximity to the Two Chain Road frontage unless a resource consent is obtained.

## **RESPONSE TO SUBMISSIONS**

- 79 The following submitters identified matters related to noise and I respond to those submissions below.
- 80 Jason Lemmon (136b Brookside Rd):
- 80.1 Mr Lemon considered the assessment in the Noise Report was not comprehensive enough, and favoured the PDP noise limits over the SDP limits. He wants Council to require the PDP noise rules to be enforced.
- 80.2 As set out above, this evidence focusses on the PDP noise rules.
- 81 Ara Poutama Aotearoa the Department of Corrections (Rolleston Prison)
- 81.1 Corrections is concerned about significant generation of noise. Outside of their submission Corrections have clarified the location of the cell blocks as being on the Walkers Rd side of Rolleston Prison, and have expressed concern that the inability of inmates to leave their environment may sensitise them to a greater extent than non-custodial residents, to noise from industrial activities.
- 81.2 This assessment of noise in this evidence now includes the Prison activities as sensitive to noise, equivalent to those living in rural or living zones.
- 81.3 I am not aware of objective standards or guidance that would direct a lower noise limit is appropriate for premises such as prisons. People living in urban areas may during the course of their day/week experience similar levels of outside noise across multiple environments e.g. home, commute and work, as those in prisons.
- 81.4 Notwithstanding the above, I acknowledge that some prisoners (per recent Corrections' advice) can be located in their cells up to 23 hours a day, and therefore would not gain the same respite from noise that a typical resident would. I understand Two Chain Rd Ltd have agreed to the following concessions, which would assist in reducing the potential for

noise to be intrusive and cause nuisance to those prisoners unable to otherwise leave their cells (refer to Ms Seaton's evidence for full wording):

- (a) Amendments to Chapter C13 Status Activities, providing for a range of heavy industrial activities to be discretionary or non-complying activities within 500m of the Rolleston Prison Walkers Road boundary;
- (b) Amendments to Rules 17.2.1.2, 17.2.3.6 and 17.3.1.8 so that no direct access is permitted to Walkers Road north of the PC80 primary road intersection; and
- (c) A new rule 22.9.x, restricting the hours of operation for any businesses operating within 150m of Rolleston Prison to day time only (0700 – 2200 h).

82 Oranga Tamariki, Ministry for Children (Te Puna Wai o Tuhinapo – Runners Rd):

- 82.1 Oranga Tamariki are concerned about the potential for the development to give rise to adverse effects relating to noise on a youth facility located approx. 900 m away on Runners Rd, West of Rolleston Prison.
- 82.2 Given the proposed noise limits would apply at the notional boundary of Corrections cell blocks the noise received at the youth facility (being further away) would be well below those limits and not expected to cause nuisance.

83 Donald and Hayley Fraser (156 Two Chain Rd):

- 83.1 Matters raised include noise generated within the site and on Two-Chain Rd by heavy vehicles.
- 83.2 The submitters support noise being measured at the zone boundary, and an earth bund and fence being installed along a section of Two Chain Rd.
- 83.3 The development when operational is expected to be subject to the PDP noise rules which support a notional boundary assessment position, however at a lower day time noise level. A brief summary of the differences are included earlier in this Evidence.
- 83.4 I understand a 2.5 m earth bund is to be required along the Two Chain Rd site boundary, as specified in the revised ODP attached to Ms Seaton's evidence.

84 David Middleton et al (multiple Two Chain Rd properties):

- 84.1 This joint submission mentions concern regarding the following: Noise generation from construction, from rail movements involving shunting, from industrial processes, noise and vibration from heavy vehicles and increased freight train movements.
- 84.2 Construction noise is typically louder than operational noise sources and can cause nuisance although the width of Two Chain Rd and the setback to dwellings means noise effects should be less than the same construction taking place in a more intensified area, such as a Living Zone.
- 84.3 Refer earlier comments in this Evidence regarding rail siding noise. Noise and vibration from main line freight movements is unlikely to differ significantly given there are already typically 16 train movements per day, however I have no information from which to estimate a potential increase in noise from rail traffic.
- 84.4 The noise environment at properties on the north side of Two Chain Rd will be identifiably more traffic dominant following the increased traffic volumes related to state highway changes. Incremental increase in road traffic noise is expected at the east end of Two Chain Rd due to operation of the PC80 site and there is the likelihood that industrial activity generated noise will be audible, though this is unlikely to dominate the road traffic noise. The PDP noise limits reflect the levels recommended in the New Zealand Standard (6802:2008).

## **CONCLUSION**

- 85 The applicant requests the rezoning of the PC80 site at 7-183 Two Chain Rd from Inner Plains zone to Business 2A zone.
- 86 Industrial activities are expected to be insensitive to foreseeable adjacent activities. Brief elevated MSL noise at the south boundary will be unpleasant but not prohibitive to outdoor activities. Related office activities can be established nearby with façade enhancements where necessary to reduce SH1 and MSL noise. Reverse sensitivity effects are therefore expected to be minimal.

- 87 Regarding noise generation within the site and off-site effects, the PDP does include noise limits in rule NOISE-REQ1 applicable to the surrounding rural, and residential zoning. These limits can be met by industrial activities, with attention given to locating, enclosing and screening of louder activities. While there will likely be an observable change in the noise environment the noise limits proposed are consistent with NZS 6802:2008 which is broadly applied in the New Zealand setting.
- 88 Noise generation from additional traffic on public roads will incrementally increase the noise exposure of rural dwellings adjacent to the east section of Two Chain Rd.
- 89 The scale of additional rail activities within the rail corridor or on new sidings within private PC80 land is not known but is expected to be able to be managed to meet noise limits.

Dated: 5 October 2022



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Mark Lewthwaite