

Environmental effects of selected
Port rebuild & development plans

SIGHTS & SOUNDS



Punctuated by dramatic, rocky outcrops and landforms made of solidified lava flows, Whakaraupō/Lyttelton Harbour offers the viewer a stunning caldera (volcanic crater) landscape – with the busy Lyttelton Port of Christchurch (LPC) taking a prominent role.

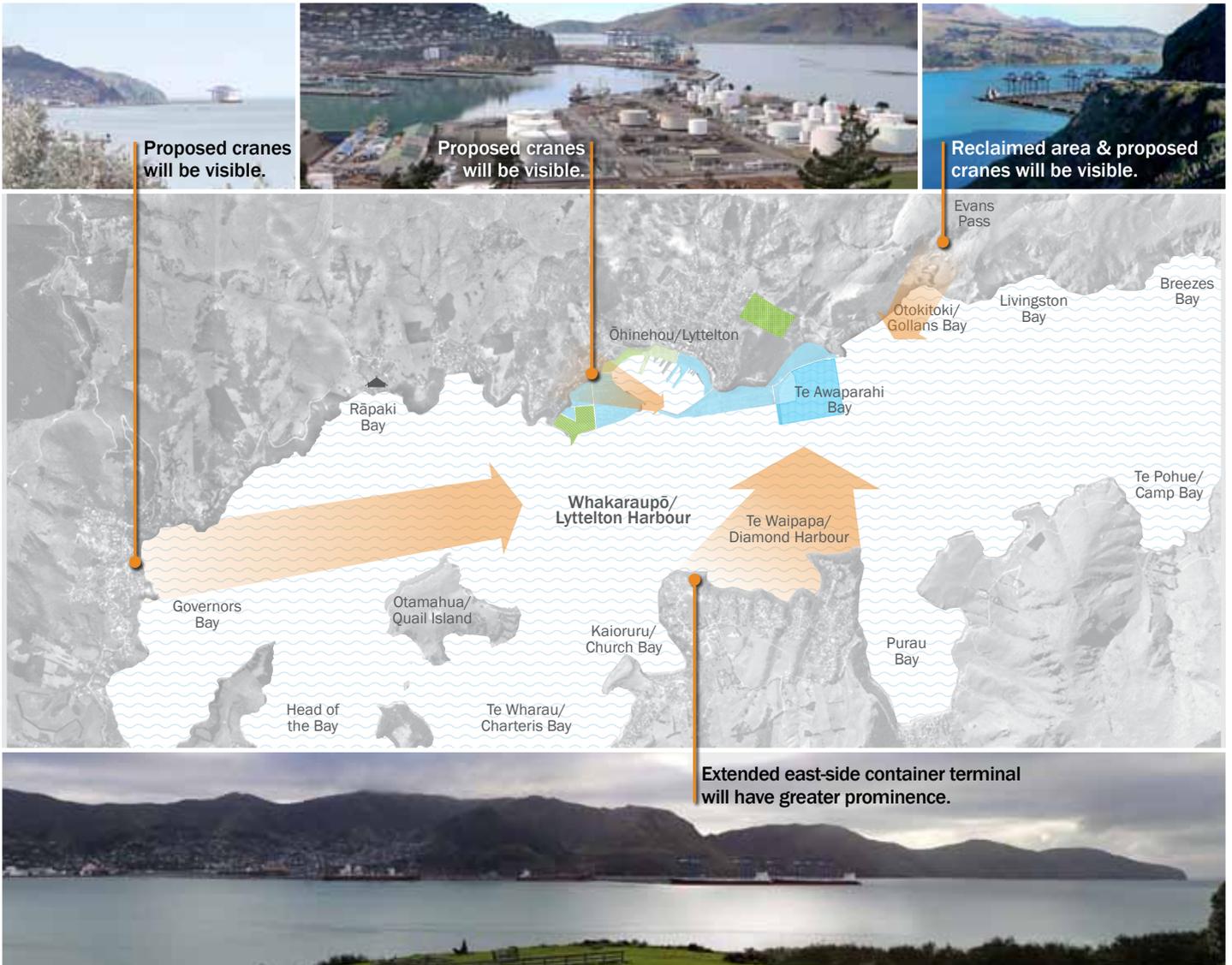
LPC has commissioned extensive assessments into the potential effects of the Port Lyttelton Plan (PLP). The results of some of these assessments focused on the visual and sound character of the Harbour have been summarised in this brochure.





THE VIEW

Whakaraupō/Lyttelton Harbour is a well-defined landscape that is appreciated for its scenic, lifestyle, cultural, historical, ecological and economic values. The Port is an important part of the Harbour landscape contributing to the visual character of the area. We have provided some snapshots of how the views may change in different locations in the Harbour as a result of the Port Lyttelton Plan (PLP).




LIGHTING

The Port currently operates 24-hours a day, 7-days a week. For safe working conditions good lighting is required at night.

Until now the Port has used conventional lighting (including high pressure sodium (HPS) discharge lamps which give the distinctive orange glow) on tall light towers, with high lamps set at an angle to achieve the lighting levels required.

It's recommended that future Port developments in the Inner Harbour,

and at the expanded container terminal at Te Awaparahi Bay, use new technology LED luminaires where practicable.

District Plan lighting rules mitigate potential effects from Port lighting. LPC already complies with these limits, and the transition to LED lighting at the new Port facilities will

help even more, with the overall result being:

- less light spill and less glare from new facilities
- better directional control of light available to the Port
- more flexibility in controlling light levels for different areas.

SOUND LEVELS

From the rumbling of trucks and trains to the sounds of heavy cargo being handled – the Port has been an area of ambient sound for decades. Noise coming from the Port is expected to remain similar to current levels over the up-coming ten years of recovery. After that, as the Port moves east, changes will be noticeable.

So what effect will the PLP have on the operational and construction sound levels generated by the Port over the next few years?

Operational sounds

As the operations of the Port migrate east, operational noise is generally likely to decrease in Lyttelton township. Although Port noise will be heard in Diamond Harbour it will be below the level which would have broader, negative effects on residents (55 dBA Ldn). The development at Dampier Bay will be subject to the Standards New Zealand noise limits set at the boundary of residential zones nation-wide (NZS 6803:1999).

Construction sounds

Somewhat harder to predict than operational sounds, the sounds associated with future construction at the Port are likely to vary depending

on individual projects, the locations and the equipment and methods being used.

- Detailed noise modelling by acoustic engineers at URS New Zealand Ltd has shown that construction noise associated with the PLP is likely to be of a similar level and character to existing Port noise.
- Specific activities, such as pile driving and demolition work, are likely to cause the most noticeable change in local sounds. This will be carefully managed via project-specific Construction Noise Management Plans (see next page for more information).
- Additional traffic noise generated by development and recovery projects is predicted to be minimal in comparison to existing freight traffic.
- Due to the long-term but intermittent nature of the construction period, LPC will regularly inform the wider Lyttelton and Harbour communities of specific construction-related noise.



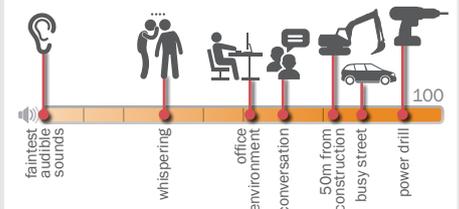
Recommended upper sound limits for residential areas

These volume bars show the recommended upper sound limits (over time period) for residential areas nationwide as set by Standards New Zealand.

These are shown in dBA = a continuous, steady sound measure that does not include the occasional intermittent bang.



COMMON SOUND COMPARISONS



Effects on sound levels

Traffic sounds are predicted to increase as Port volumes expand – but predicted to reach no more than 50% of New Zealand Standard, Acoustics – Road Traffic Noise.

Moving Port operations east will decrease sound levels in Lyttelton township.



A cruise berth at either Naval Point or Gladstone Quay is unlikely to cause change in sound levels on the west-side of Lyttelton.

New container terminal at Te Awaparahi Bay is likely to increase sound levels slightly at Diamond Harbour.

Construction noise management & construction noise mitigation plans

LPC will be required to develop a Port-wide Construction Noise Management Plan which will be prepared in consultation with the existing Port Liaison Committee (made up of local residents, Environment Canterbury, Christchurch City Council, Port users and LPC).

All contractors will have to implement project specific plans that detail noise management practices for each project.

Where construction noise exceeds the Port Noise Contour*, mitigation measures must be put in place.

Households located within the noise limits of the Port Noise Contour are to be offered appropriate mitigation, which could include:

* For detailed information on the Port Noise Contour please see the full reports, Appendices 25 & 26 at www.portlytteltonplan.co.nz.



Scheduling noisier activities for daytimes – i.e., piling will generally only be carried out between 7:30am and 6:00pm, Monday–Saturday.



Appropriate use and selection of equipment and methodologies to minimise noise disruption.



The potential use of temporary acoustic shielding barriers where practicable and appropriate.



For residences subject to a certain level of noise within the Port noise contour, methods may include the offer of temporary accommodation or soundproofing designed by an acoustics specialist.



Good communication with residents so they know what to expect in their local area which may affect them.



Daytime average construction sound levels

These volume controls show the expected average sustained minimum and maximum daytime decibel range expected at various locations during the various Port recovery construction projects.

= NZS upper limit for daytime Mon–Sat (7:30am–6:00pm)

Godley Quay



Brittan Terrace



Norwich Quay



Reserve Terrace



Diamond Harbour



MORE DETAIL

The content of this document has been summarised from a number of comprehensive studies commissioned by LPC. For detailed data you are encouraged to access the complete reports at www.portlytteltonplan.co.nz.

The following reports are relevant to Sights & Sounds:

APPENDIX 10 – LANDSCAPE CHARACTER & VISUAL EFFECTS, Boffa Miskell Ltd

APPENDIX 24 – LIGHTING EFFECTS, Pedersen Read Consulting Electrical Engineers

APPENDIX 25 – OPERATIONAL NOISE EFFECTS, Environmental & Industrial Noise Control Engineering

APPENDIX 26 – CONSTRUCTION NOISE EFFECTS, URS New Zealand Ltd



Port Talk

If you want to have a chat with us, we are at Port Talk on the corner of Oxford and London Streets every Friday, 11am–1pm, or you can email us at communications@lpc.co.nz.



Website www.portlytteltonplan.co.nz

We have established a website that has lots of information and answers to common questions about our plans, and their effects on the local community and environment.



Other communication

Updates will be available in our quarterly newsletter in hardcopy or digital form. Pick up a hardcopy at Port Talk, or go to www.lpc.co.nz to download a pdf.