



NZ TRANSPORT AGENCY
WAKA KOTAHI

Roads of national significance



Completing the

Western Ring Route

Waterview Connection Tunnels

Briefing on underground property purchase for the
SH20 tunnels

August 2010

Project Overview

SH20 extended from Mt Roskill to join SH16 at Waterview includes 2.5km of 2x3-lane tunnels.

Capacity improvements of SH16 in both directions and at interchanges.

SH16 causeway raised to prevent tidal inundation.

Provides a 48km motorway alternative to SH1.

Improves intra regional connectivity, especially between the south and west.



How it will be completed

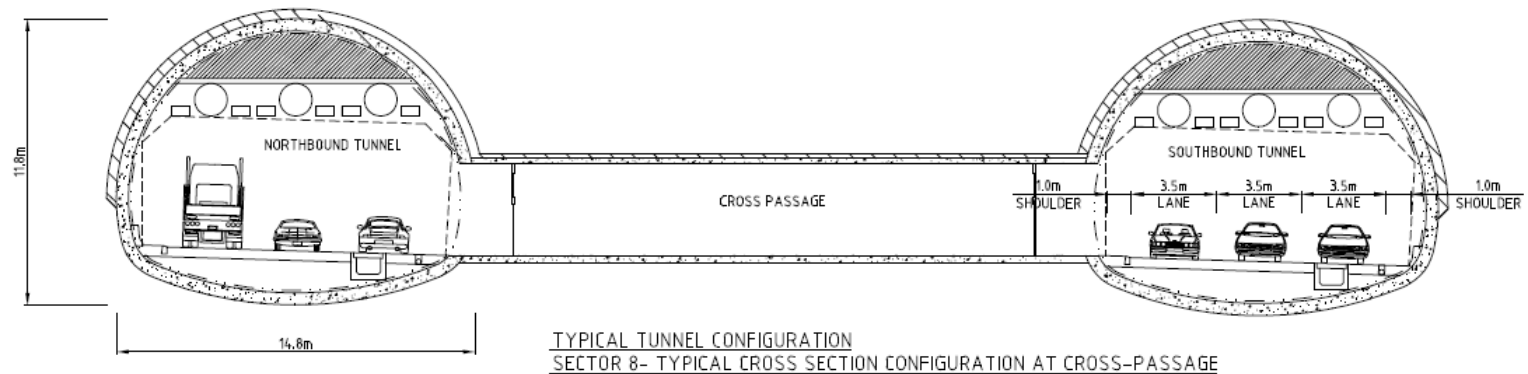


SH20 tunnel alignment



- Tunnel section**
- Great North Road
 - Waterview Downs
 - Phyllis Street Reserve
 - Powell Street
 - Cradock Street
 - New North Road
 - Ennismore Road
 - Hendon Avenue

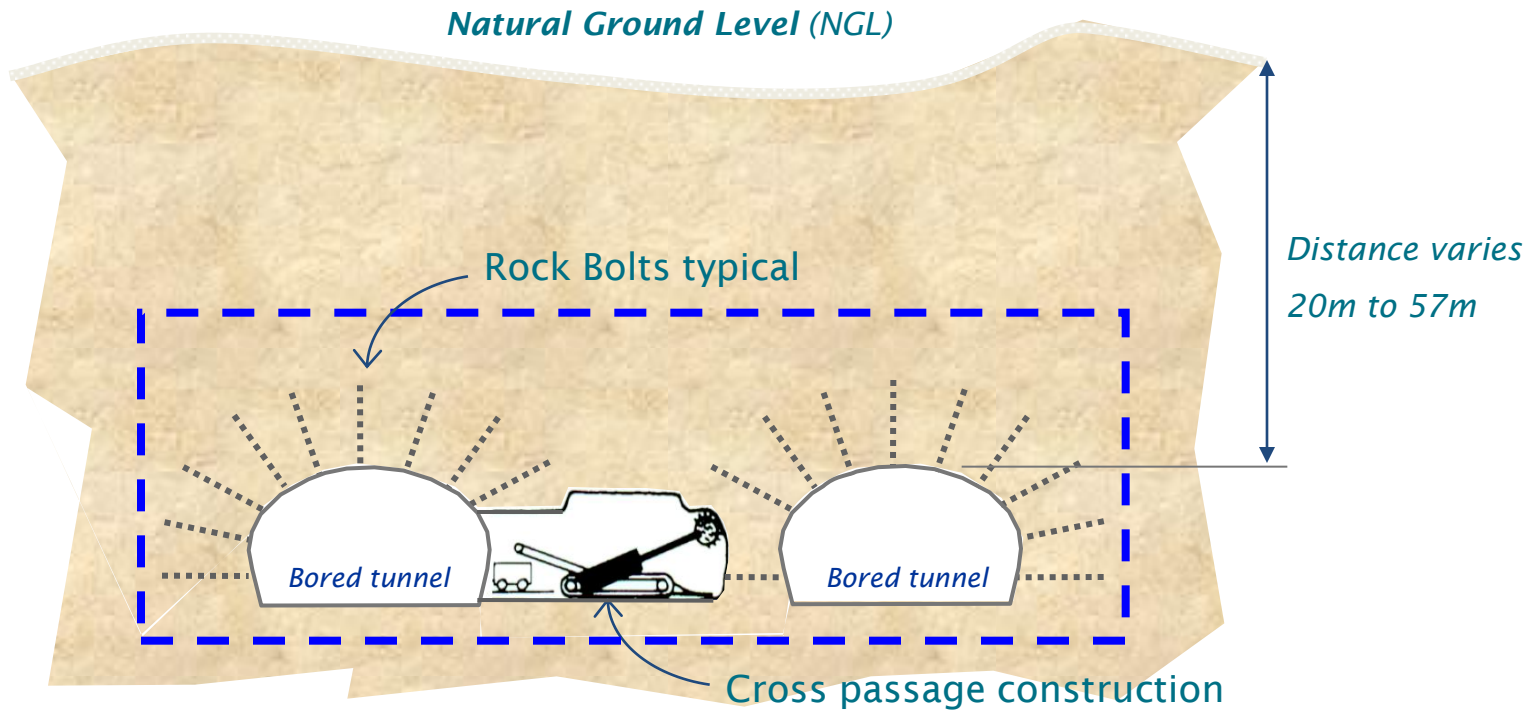
Underground land requirements



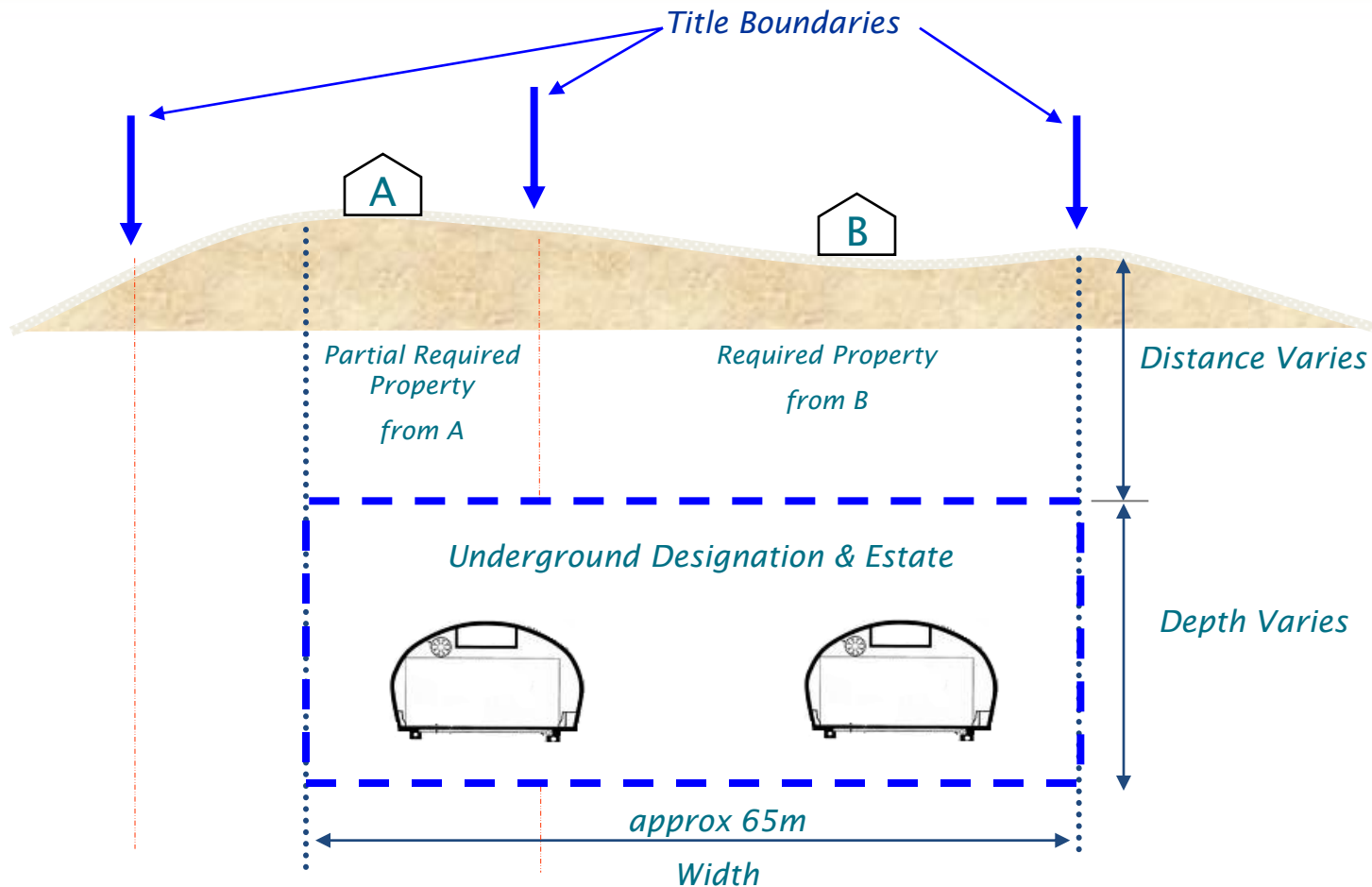
Tunnel features:

- Twin 3-lane bored tunnels
- Tunnel separation distance
- Cross passages
- Horizontal and vertical build tolerance
- Temporary ground support during construction

Temporary ground support beyond the tunnel



What land is required?



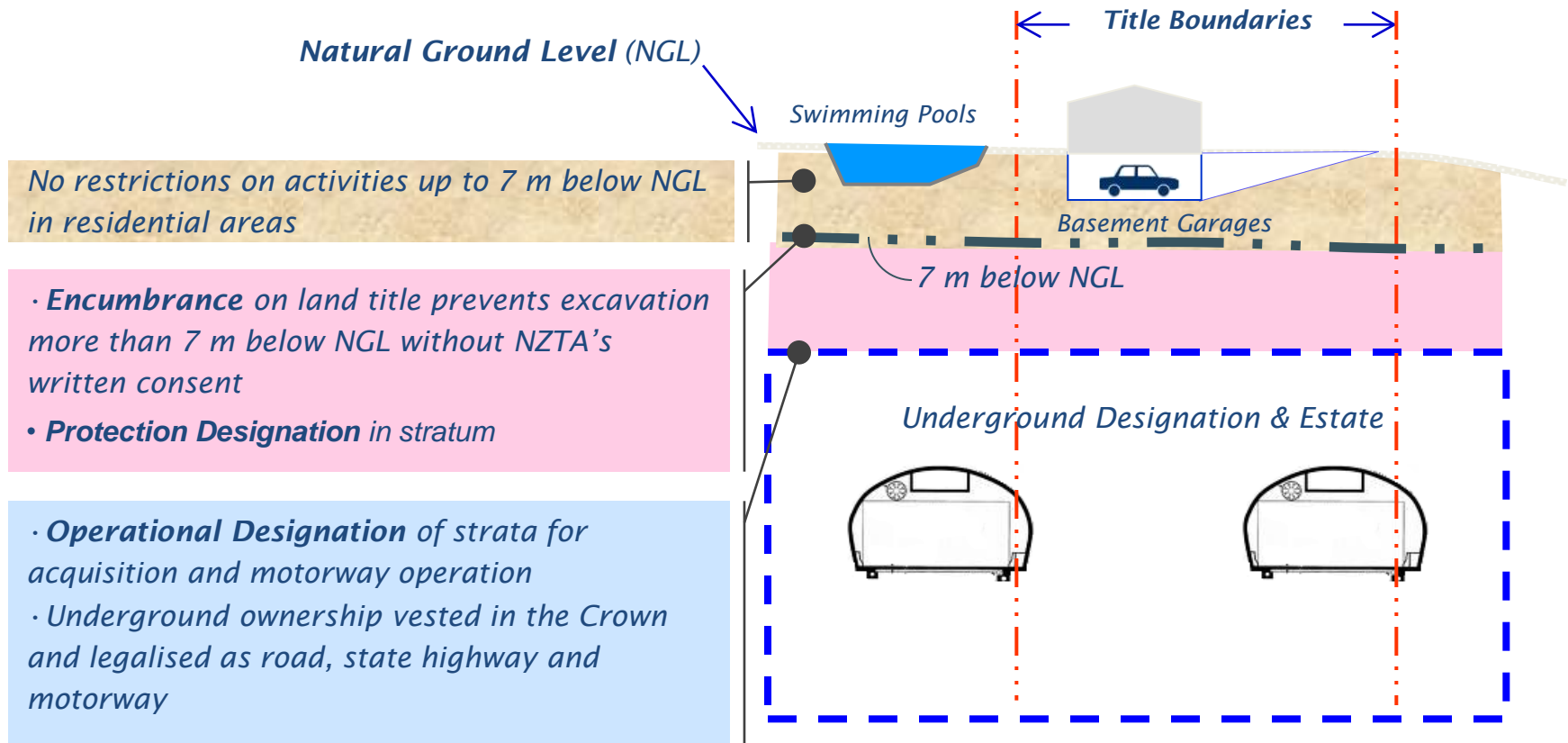
Planning and property controls

NZTA plans to incorporate a combination of planning controls and contractual restrictions on the land around the tunnel:

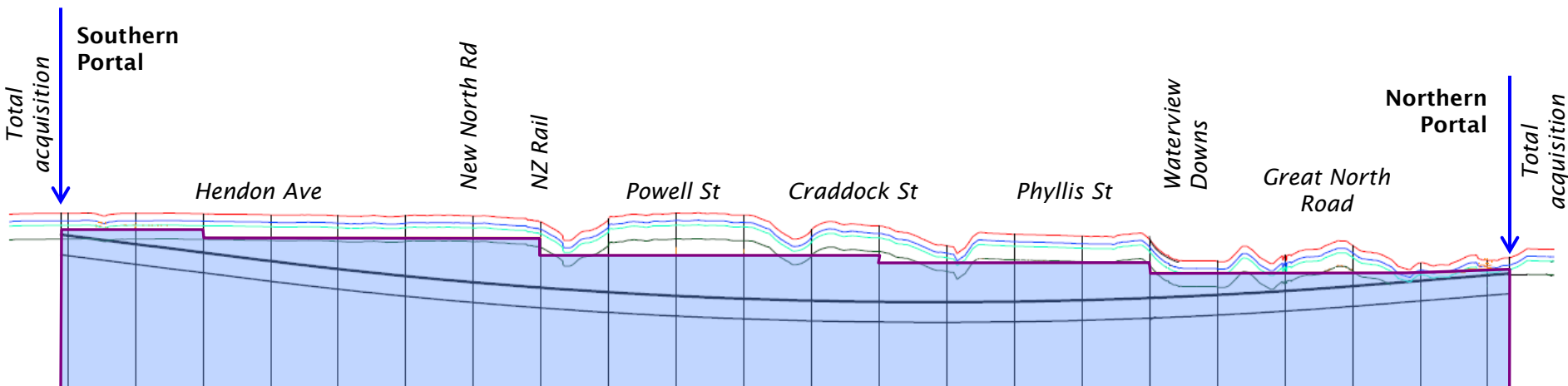
- 1. Planning Controls** – a Protection Designation in the District Plan, which in conjunction with the Resource Management Act protects the tunnel.
- 2. Statutory Restrictions** – Public Works Act and the Government Rounding Powers Act prevent excavations, pipes, cables and other works above or in the immediate vicinity of the tunnel.
- 3. Contractual Restrictions** – an Encumbrance registered on the property title restricting excavations under the property of more than 7 metres below natural ground level.



How this is applied



SH20 tunnel long section



HORIZONTAL SCALE
 A3 SCALE 1:5000
 A1 SCALE 1:2500
 0 100 200 300 (m)

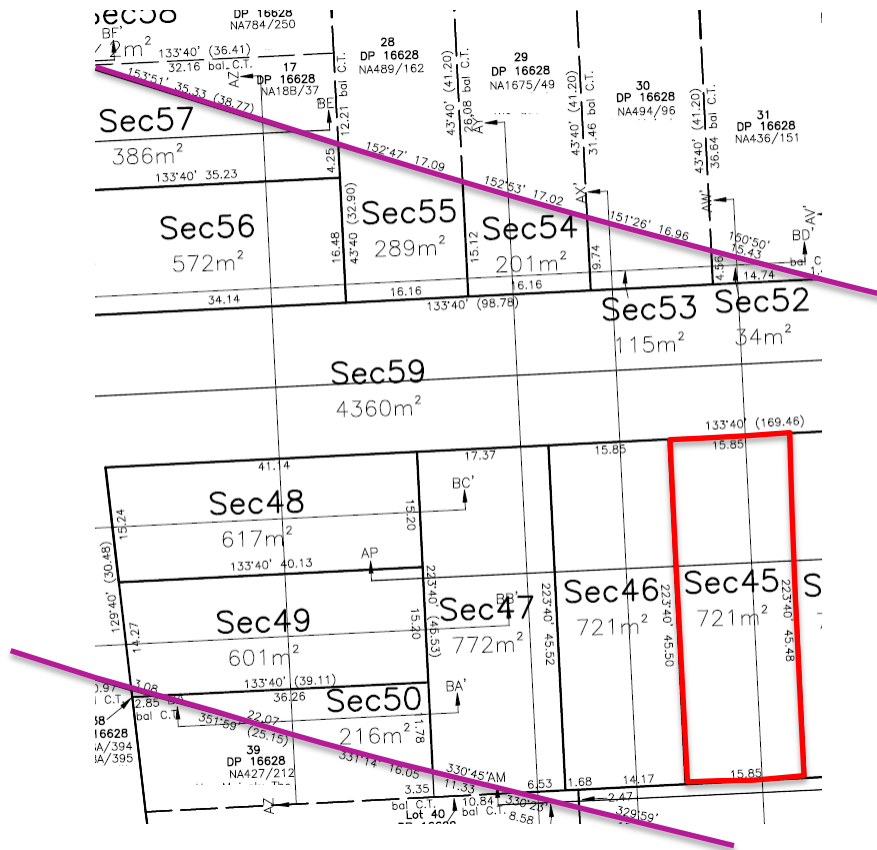
VERTICAL SCALE
 A3 SCALE 1:2000
 A1 SCALE 1:1000
 0 10 20 30 40 50 60 80 100 (m)

LONG SECTION AT 'CENTRAL' DESIGNATION LINE
 1:2500 HORIZONTAL
 1:1000 VERTICAL

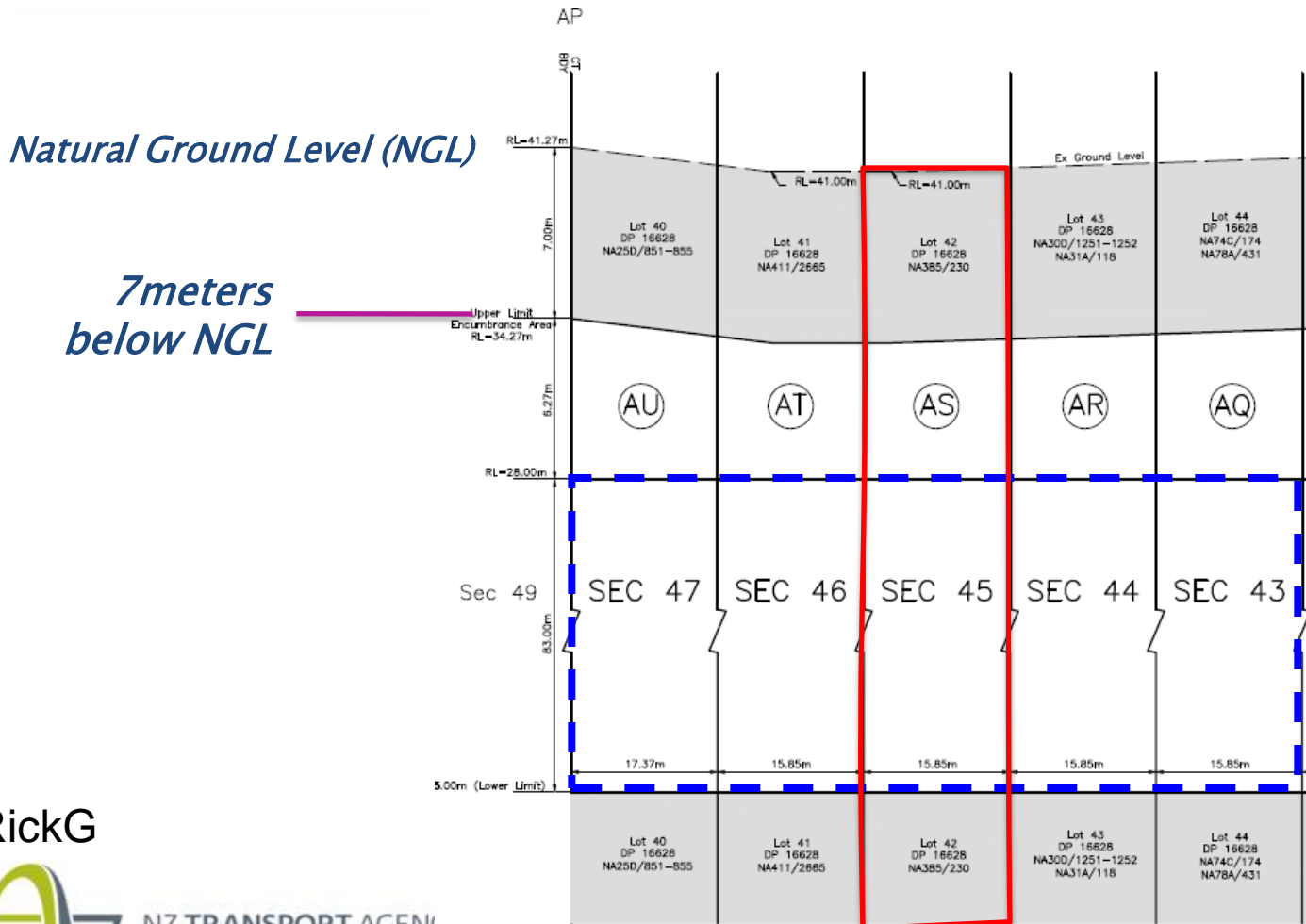
PRELIM. DRAFT
 28/07/2010

- *Natural Ground Level (NGL)*
- *4 meters below NGL* *Encumbrance at Reserves and Road*
- *7 meters below NGL* *Encumbrance at all other property*

How your property title will be amended – plan view



How your property title will be amended – section view



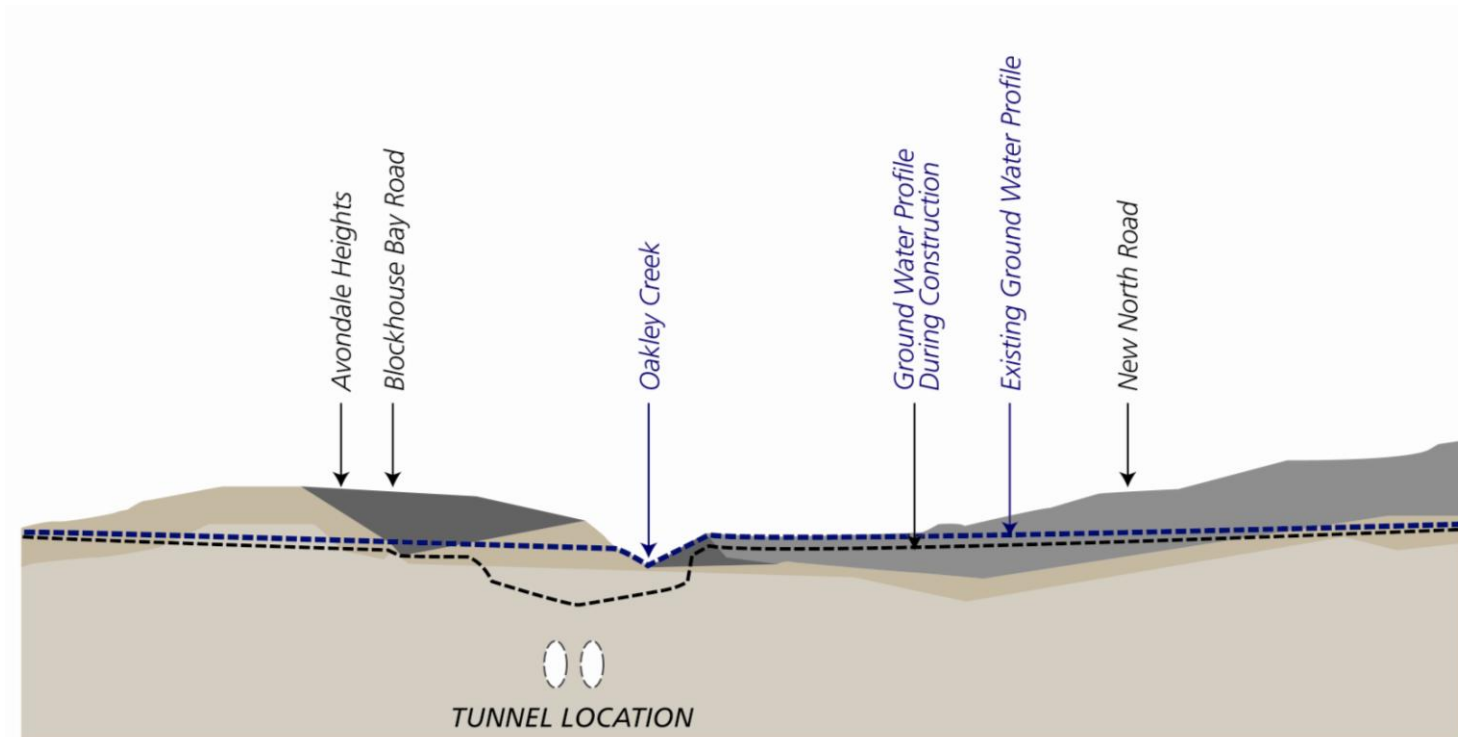
Landowner rights

Any property required for the project will be bought by NZTA under the Public Works Act (PWA) on the basis of current market value as determined by independent valuers.

- A LINZ accredited agent is assigned to each property negotiation
- Under the PWA you are entitled to a lawyer and a registered valuer to advise you. Reasonable costs reimbursed by the Crown
- For underground purchase the before and after value of the land is assessed by a registered valuer to determine compensation.
- You can obtain an electronic copy of land owner rights information from us or LINZ – www.linz.govt.nz



Settlement from ground water changes

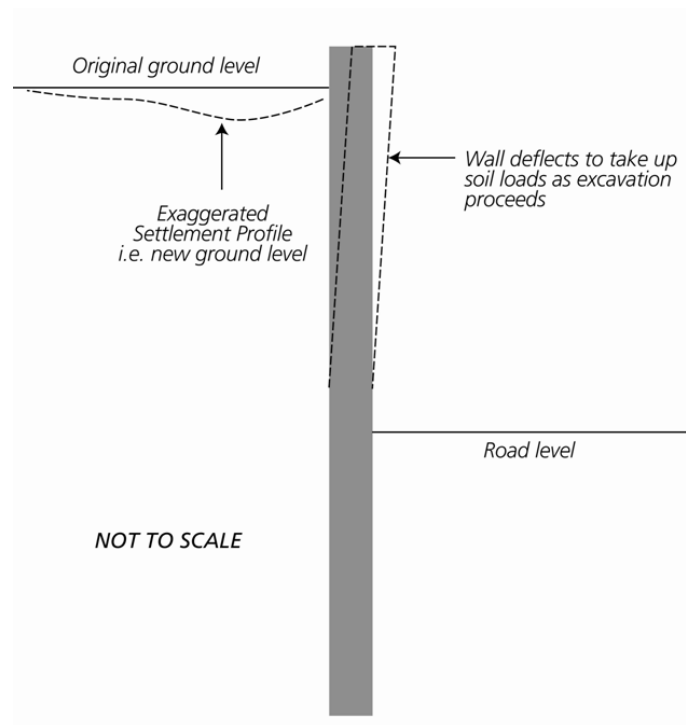
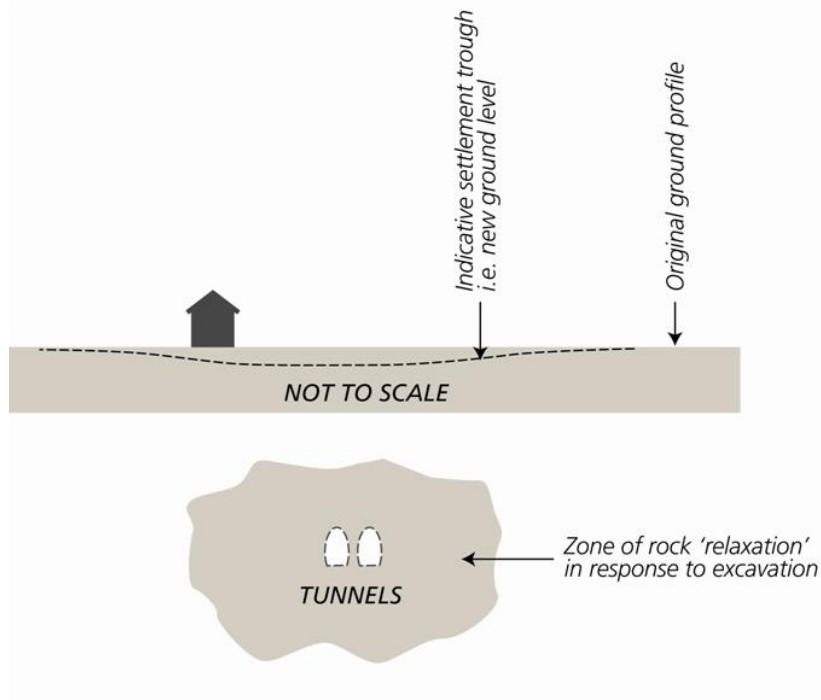


Approx. CH2750
Looking North

NOT TO SCALE
(Approx. 2 x vertical exaggeration)



Settlement from excavation

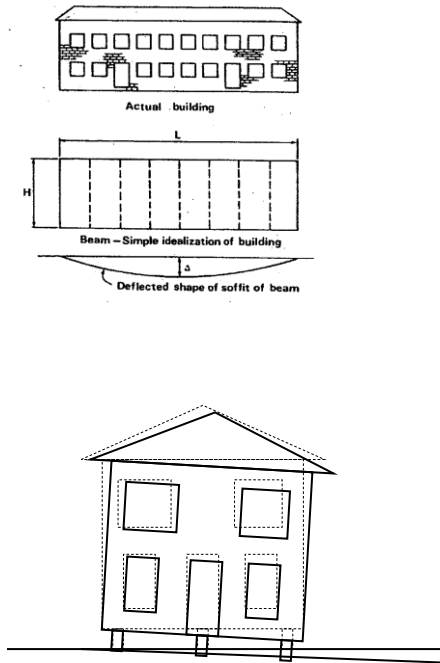


Settlement and Monitoring

The pattern of settlement beneath a particular area is of greater significance than the total amount:

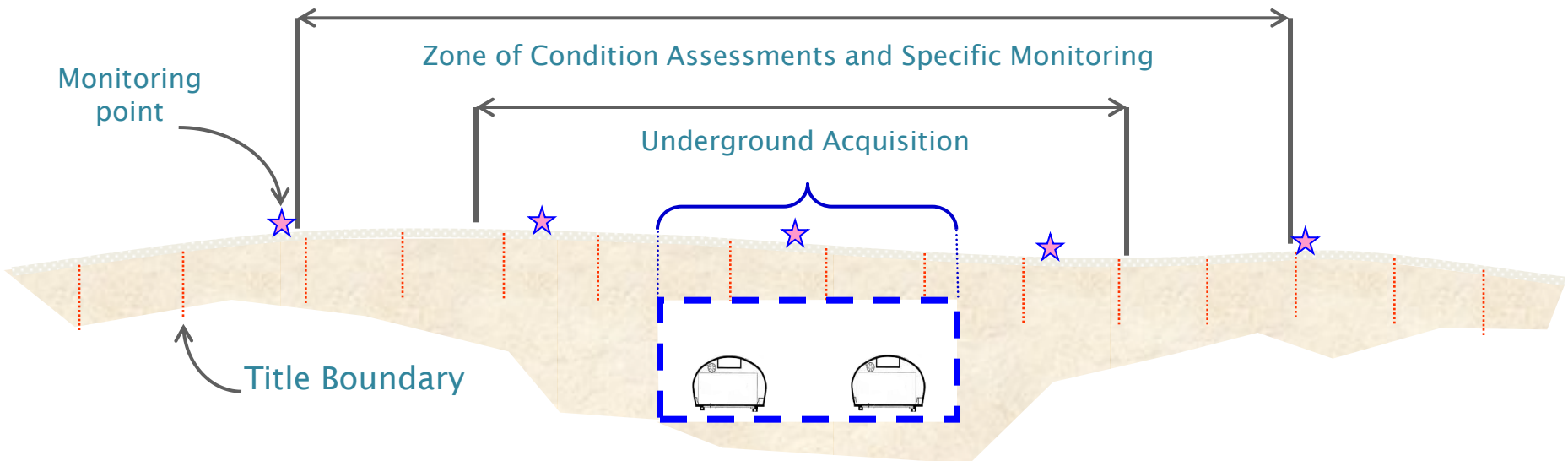
- The effects assessment methodology is based on UK masonry buildings (conservative for NZ houses)
- Current results show vast majority of houses are in the negligible damage category
- Monitoring will be used to confirm damage estimates assessment
- Settlement and monitoring is a key element of the consenting and construction process

The NZTA will repair settlement damage caused by the project.



Potential zones of settlement

Zone of Monitoring Surveys = Estimated settlement of 5mm+



There are three zones that will vary in width along the tunnel alignment:

- Underground acquisition under the Public Works Act
- A zone of pre tunnelling condition surveys and specific monitoring
- Wider monitoring of potentially affected area

Project timeline

2010	2011	2011 to 2015	2015 to 2016
<ul style="list-style-type: none">• Finalise investigations• Expert reports• Lodge application• Commence underground property purchase• Begin tender process for SH20 Waterview Connection tunnels	<ul style="list-style-type: none">• Board of Inquiry decision• Award contract for construction• Preconstruction activity• Surveys and monitoring	<ul style="list-style-type: none">• SH20 construction works	<ul style="list-style-type: none">• Tunnel operational



Summary

- NZTA will need to buy an underground area of land (in fee simple) for the tunnel section.
- Current surface ownership remains the same.
- There is no restriction on property development to seven metres below natural ground level.
- Compensation for the underground purchase is determined by registered valuers under the Public Works Act which is administered by Land Information New Zealand.
- Settlement evaluations, surveys and claims will be managed.

