

# **Demolition Management Plan**

# **HWCP SITE**

# Invercargill CBD, Dee-Tay-Kelvin-Esk Streets, Invercargill



Client: HWCP

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DMP No. RBT028 – Revision 4

# Site Specific Demolition Management Plan

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# **Table of Contents**

Section		Page
1.0	Purpose of DMP	3
2.0	The Site	3
	2.1 Location	3
	2.2 Buildings	3
	2.3 Pedestrian footpath/traffic management	7
	2.4 Affected Neighbours	21
3.0	Proposed Project	22
	3.1 Demolition of buildings for new HWCP CBD site	22
4.0	De-Construction; Planning and Sequence	23
	4.1 Health and safety	23
	4.2 Planning/project management	23
	4.3 Safety in design	24
	4.4 Methods to be utilised	24
	4.5 Equipment to be utilised	25
5.0	Safety Measures	25
	5.1 Asbestos removal	25
	5.2 Site specific safety management	26
6.0	Timeframes	
	6.1 Off-site planning	27
	6.2 Asbestos removal	
	6.3 Demolition activities	
7.0	Environmental Effects	27
	7.1 Dust	27
	7.2 Noise	28
	7.3 Stormwater	28
	7.4 Lighting	28
	7.5 Tip truck traffic	28
	7.6 Reduce, reuse and recycle	29
8.0	Interfaces with the Public	
	8.1 Traffic management	29
	8.2 Pedestrian management	
9.0	Communication Plan	
	9.1 Information for neighbours	30
	9.2 Information for the general public	
10.0	Complaints Procedure	20
	10.1 Understanding and closing out concerns	30
11.0	Appendices	32
A1	Appendix 1: Site location and Traffic Management Plan	33
A2	Appendix 2: Demolition Noise Management Plan	34



# 1.0 Purpose of DMP

The Demolition Management Plan (DMP) outlines the typical deconstruction process proposed for this site, including:

- Brief details of demolition methodology
- Expected demolition programme durations
- The proposed environmental effects and safety measures
- The project communication plan
- Procedures to be followed if complaints are received

The information contained in this DMP relates to the proposed demolition of the buildings in the block bordered by Dee/Tay/Kelvin/Esk Streets, Invercargill to create a building site for the HWCP CBD development.

# 2.0 The site

# 2.1 Location

The HWCP CBD Site comprises one complete city block in the Invercargill CBD. It is bounded by Esk Street to the north, Kelvin Street to the east, Tay Street (SH1) to the south and Dee Street (SH6) to the west.

The site covers approximately 22800m<sup>2</sup> and is surrounded by mixed retail and commercial businesses.

# 2.2 Existing Buildings

There are approximately 14700m<sup>2</sup> of existing commercial buildings and 4500m2 of concrete/asphalt carparking areas to be removed from the 22800m<sup>2</sup> site. There are thirty buildings on the HWCP site to be demolished.

There are three buildings to be retained on the site. The three to be retained are the Reading Cinemas building on Dee Street, the former Bank of NSW building on the corner of Tay and Dee Streets and the ILTs Kelvin Hotel on the corner of Esk and Kelvin Streets.

There are four facades to be retained currently at 2 and 18 Kelvin Sts, 67 Esk St (Southland Times) and 31-33 Esk St. Any final engineering reports and recommendations by others are still to be completed regarding these retentions and this will be part of separate reports and recommendations.

A demolition staging plan has been developed and the following buildings are contained within each demolition stage as listed below. Please see Appendix 1 for the staging plan.



## Stage 1 – Caroline Block

There is one building in the Caroline Block to be demolished.

**54 Tay St**, is constructed in two parts, the front is a reinforced concrete (RC) frame, mid floor and slab with URM walls and the rear is constructed of precast concrete panels over a steel frame with a timber floor.

#### Stage 2 – Cecil Block

There are two buildings in the Cecil Block to be demolished, and two facades to be retained.

**2-16 Kelvin Street**, is constructed of unreinforced masonry (URM), a timber floor and concrete parapet. There is a façade of the former Woosh store to be retained on the Tay St frontage of this building.

**18 Kelvin St**, is constructed of URM, timber floors and a concrete parapet. The façade is to be retained for this building. It is next to the Kelvin Hotel that is staying, but has separate walls.

## Stage 3 – Southland Times Block

There is one building to be demolished in the Southland Times Block, and one façade to be retained.

**67 Esk Street**, the former Southland Times building is one building with three distinct parts. The original part of the building and the façade to be retained is constructed of brick/concrete and timber. There are two extensions to the building completed in the 80's which are constructed of RC panels and brick infill, RC floors and slab. There has been a separate engineering report prepared for this building and this should be read to gain an understanding of the construction and deficiencies of this building.

## Stage 4 – Cambridge Block

There are 8 buildings to be demolished in the Cambridge Block.

**50 Tay St**, the Zookeepers building is constructed of URM with wooden floors and a concrete parapet.

**48A Tay St**, the Macpac building is constructed of URM and timber internals/floors.

**48B Tay St,** the rear building behind Macpac and adjoining the Southland Times rear is constructed of URM and is in very poor condition.

**42 Tay St,** the former Farmers building, and current Art Fun Wear store is constructed in two parts. The two-story part is constructed of URM with steel supporting beams throughout. The three-story part adjoining the Cambridge Arcade is constructed of RC frame and floors on the 1<sup>st</sup> and 2<sup>nd</sup> levels. The third floor is a timber construction. There is a concrete parapet frontage.

42 Tay St rear, RC frame with URM infill.



**40 Tay St (1-26 Cambridge Arcade),** each end building is constructed of URM with a concrete frame, wooden floors and a concrete parapet. The arcade buildings are constructed of URM with some concrete walls and steel bracing throughout.

**ASB Esk St,** RC frame with URM infill.

**ASB Esk St rear,** RC frame with URM infill.

#### Stage 5 – Govt Life Block

There are four buildings to demolish in the Govt Life Block and one façade to be retained.

**Cnr Dee and Esk St, Govt Life and Brown Owl Building**, constructed in two parts. The Govt Life building is a concrete and URM structure. The Brown Owl Building that adjoins to the east is of URM construction. There have been full engineering reports conducted on this building and these should be read to gain an in-depth understanding of the construction and deficiencies of this building.

**31-33 Esk St,** constructed of URM and timber floors. The façade of this building is currently listed to be retained.

**37 Esk St,** constructed of URM with a concrete parapet.

**41 Esk St**, URM walls, timber framed with some recent steel added to provide stabilisation.

**31 Dee St,** the former Frog and Firkin bar is constructed of URM, has some steel framing and a concrete parapet. It shares a basement with the Govt Life building.

#### Stage 6 – Snap Fitness Block

There are four buildings to be demolished in the Snap Fitness Block.

**22 Tay St,** the Snap Fitness building is of URM construction with timber floors for the front part, a recent rear addition is of timber frame.

26 Tay St, URM with timber floor and concrete parapet.

**30 Tay St,** URM with timber/concrete floor and concrete parapet.

**36 Tay St**, a two-part construction. The older part is of URM with timber floors. The newer part is RC walls and floors.



## <u>Stage 7 – Hannahs Block</u>

There are two buildings to be demolished in the Hannahs Block.

8-14 Tay St, concrete block walls with some red brick wall infills and timber floors.

**16 Tay St**, the Hannahs building is constructed of concrete block walls supported by concrete piers and steel beams.

## Stage 8 – JJ's Block

There is one building to be demolished in the JJ's Block

49 Esk St, URM with a steel frame and timber floors.

## <u>Stage 9 – Max Block</u>

There are two buildings to be demolished in the Max Block.

**53** Esk St, constructed of URM, timber floors and with a concrete parapet and some concrete supporting piers/columns.

**55 Esk St,** is a concrete framed building with some URM infill.

## <u>Stage 10 – Thai Dee Block</u>

There are three buildings to be demolished in the Thai Dee Block.

**5 Dee St,** is a RC frame with URM walls and a timber floor. It is next to, but not adjoining the Bank of NSW.

**7 Dee St,** is a URM building with a timber floor and a concrete parapet.

**9 Dee St,** has a RC frame, URM infill and a timber floor. It is adjoining the Reading Cinema Complex but has separate walls.

## <u>Stage 11 – Carpark Block</u>

There is one building to be demolished in the Carpark Block.

**4 Tay St,** the former ANZ bank has been cleared internally and all that remains is the concrete walls and mezzanine floor.



# 2.3 Pedestrian Footpaths and Traffic Management

#### Pedestrian footpaths

There are pedestrian footpaths on all four sides of the site. All footpath traffic will be directed around the security fenced site of the current block being demolished to a designated pedestrian footpath area (containerised walkways) during initial demolition as required, and the process for this will be outlined in the Traffic Management Plan (TMP). Pedestrians during the façade demolition of all the buildings will be either moved further out into the road way, directed across the road to the opposite side of the street or restricted from access the area altogether. This will depend on the building condition and methodology required to safely demolish these facades.

#### **Traffic Management**

The site is bound by four streets, Esk St to the north, Kelvin St to the east, Tay St (SH1) to the south and Dee St (SH6) to the west. Tay St being SH1 and Dee St (SH6) fall under the jurisdiction of NZTA, the other streets are controlled by the ICC. There will be a specific Traffic Management Plan (TMP) developed for each stage of the demolition works which will outline the changes and control methods required for the safety of the public traffic and pedestrians, and involve maintaining traffic and pedestrian flows around the roading network.

Please see below diagrams for a basic outline of our traffic management requirements. These will still need to be approved and agreed by the respective agencies.





#### **Caroline Block**

#### Initial demolition



#### Façade demolition



\*\*traffic reduced to one lane on Tay St during façade demolition



#### Cecil Block.

#### Initial demolition



**Façade demolition** 



\*\*one-way southbound traffic only on Kelvin St during façade demolition



#### Southland Times Block

#### Initial demolition



**Façade demolition** 

The façade of the Southland Times is to be retained. No changes to TMP during these works unless for safety reasons. There may be times that Esk St is closed during the works for the façade retention (TBC).



#### **Cambridge Block**

#### Initial demolition



Façade demolition



\*\*no traffic on Esk St during façade demolition on Esk St side of this building. Traffic reduced to one lane on Tay St during Tay St façade demolition.



#### Govt Life Block.

Initial demolition

\*\* 31 – 41 Esk St and 31 Dee St.



\*\* traffic on Esk St will be closed during demolition of facades at 37 and 41 Esk St and TBC for retention works at 31-33 Esk St. Dee St southbound reduced to one lane during façade demolition of 33 Dee St.



#### **Govt Life demolition**

\*\* demolition of top four floors



\*\* No traffic on Esk St or southbound on Dee St during initial stages of Govt Life demolition. Traffic diverted to north lane making west side of Dee St two way (TBC). Delivery vehicles only entering from the east end of Esk St.



#### **Govt Life demolition**

\*\* demolition of ground floor and basement



\*\* Esk St and Dee St may be restricted during removal of basements and foundations for this building (TBC).



#### **Snap Fitness Block**

Initial demolition



#### Façade demolition



\*\* One lane of traffic on Tay St blocked for pedestrians during façade demolition.



#### Hannahs Block

#### Initial demolition



#### Façade demolition



\*\* One lane of traffic on Tay St blocked for pedestrians during façade demolition.



#### <u>JJ's Block</u>

#### Initial demolition



#### Façade demolition



\*\* no traffic on Esk St during façade demolition.



#### Max Block

#### Initial demolition



Façade demolition



\*\* no traffic on Esk St during façade demolition.



#### <u>Thai Dee Block</u>

#### Initial demolition



#### Façade demolition



\*\* one lane southbound on Dee St during façade demolition.



#### **Carpark Block**

## Initial demolition



Façade demolition



\*\* one lane on Tay St restricted during façade demolition of the Carpark Block.



# **2.4 Affected Neighbours**

There are two immediately affected and occupied neighbours adjoining the demolition sites.

On the north-east side of the site, the Kelvin Hotel is situated on the corner of Esk and Kelvin Sts. Works on Blocks 1, 2 and 3 will impact their business. An acoustic noise assessment will be completed to understand the impact of the demolition works and assist with any controls required to reduce our impact on this business. We will be liaising with the ILT on a regular basis to keep them informed of our works and to provide a point of contact in case of any issues.

On the west side of the site is the Reading Cinemas. Work on Blocks 5 and 10 will impact their business. During work on Block 5 (Govt Life Building) due to the poor condition of the building, we will either need to protect their building well from falling debris, or possibly even close their business for a period. Further engineering studies will need to be undertaken to provide guidance on this issue. An acoustic noise assessment will be completed to understand the impact of the demolition works and assist with any controls required to reduce our impact on this business. We will be liaising with the Reading Cinemas on a regular basis to keep them informed of our works and to provide a point of contact in case of any issues.

There are regular business activities occurring at these locations and other operating businesses throughout the whole block and there will be major parking disruptions, disruptions to goods deliveries and pedestrian traffic flows through out these works. Traffic Management Planning for all the locations, good communications and access for delivery vehicles will play an important part in reducing the effects of the demolition works for this entire block.

The businesses on the north side of Esk St will be impacted throughout the demolition of buildings that front Esk Street. During façade demolition, Esk St will be closed for periods to all traffic and goods deliveries will be restricted. Street furniture removal, parking restrictions and reduced traffic flows will all occur in this area. Pedestrians will be moved to the north side of the street for most of the works. Some buildings on the north side of Esk St will require additional protection during demolition activities, especially the office building at the corner of Esk and Dee Sts with a large glass frontage. These buildings will be identified and protected with the minimum of business disruptions and allowing access for customers throughout the works.

Businesses on the south side of Tay St, east side of Kelvin St and the west side of Dee St will have minimal effects to their business except for some parking restrictions for the west side of Dee St during changed traffic flows during the Govt Life demolition. An acoustic assessment will be completed to identify any additional controls required.

During transportation of the demolition waste from site, we will be utilising Tay Street and will require Traffic Management to maintain safe access to and from our site. After the demolition of the Caroline Block (for which we will initially utilise the Esk St access) we will utilise this cleared area as our access for trucks during demolition of Blocks 1, 3, and 4. During the demolition of the other blocks on site, we will utilise the existing access points to the Tay St carpark for transport and site access.

Truck movements will be restricted as outlined in Sections 7 and 8 of this DMP.



# **3.0 Proposed project**

# **3.1** Demolition of the buildings for a new Invercargill Central Mall site.

The project is to demolish all the existing buildings in the Invercargill CBD block bounded by Dee, Esk, Kelvin and Tay Streets, Invercargill to establish a site for the construction of a new Invercargill Central Mall by HWCP.

The site is marked out in stages and will be worked through stage by stage as required by the client for the reconstruction plan which is currently being developed.

There are four facades to be retained under current plans and these will require an engineered supporting structure to be built to retain these portions until they can be incorporated into the new buildings. Details of these retention plans will be provided separately when completed.

All the buildings on site have been assessed for structural elements and a majority are in poor condition (under 33% NBS). Except for the Govt Life building which presents some serious safety concerns due to its height/location/structural integrity, the remaining buildings to be removed will be relatively straight forward demolitions and no special methodologies are anticipated.

A general methodology for all the building demolitions will be to start from the rear of the building and work our way forward, demolishing the front façade last. This will cause the least disruption to traffic and pedestrian use of the surrounding areas. Due to information still to come regarding staging, engineering requirements for façade retention, historical requirements, asbestos removal requirements and the overall poor condition of the buildings, some decisions around methodology will not be made until closer to the actual demolition time.

There will be an asbestos survey completed on all the buildings prior to demolition and all areas of asbestos containing materials (ACM) will be removed prior to demolition beginning.

There will be historical and possible contaminated areas throughout site and these will be managed in accordance with the applicable standards for work of this nature.



# 4.0 De-construction; Planning and sequence.

Planning Activities			
	Descriptor	Context	Status
4.1	Health and Safety		
1	The Health and Safety strategy for this project will be developed by Ryal Bush to ensure compliance with the Health and Safety at Work Act 2015 and any other applicable Regulations.	Recognising the obligations and responsibilities in relation to safe working.	
	Ryal Bush will be required to produce a Site-Specific Safety Plan for each Block which will be reviewed and approved by the client (HCWP).		
4.2	Planning/Project Management		
1	A site survey to establish and mark the location of existing services will be undertaken and termination requirements identified.	and above ground services to assess the impact on infrastructure and neighbours.	
2	A desk top and onsite review of the building structure to be undertaken to assess the structural system of the buildings.	Safety in design, end of life deconstruction.	
3	A demolition survey will be undertaken by the demolition contractor to assess the salvageable scope of the existing materials.	Reduce, reuse and recycle are key principals in waste management strategies.	
4	An asbestos survey is to be completed to establish the presence of ACM.	Management of Asbestos contaminated material (ACM) as per current regulations.	
5	A plant, equipment and manpower schedule will be drawn up together with an assessment of tip truck requirements.	Sourcing equipment, plant and manpower suitable for these demolition works.	
6	Identification and confirmation of dumping sites for waste including ACM.	Impact on cost and truck turnaround times.	
7	Communication Strategy with affected parties developed and implemented.	Communication is a key to success.	
8	De-construction plan written up and agreed.	Refer safety in design below.	
9	Building/resource consent obtained.	Mandatory requirement.	
10	Instruction/approvals to proceed.	From client.	



4.3 Safety in Design			
	Descriptor	Context	Status
1	Safety in design looks at every stage of	This project is an end of life deconstruction.	
	a building life cycle and workplace	It requires the demolition of multiple	
	safety requirements require an	buildings on this site to establish a clean	
	examination of safety at key points in	building site.	
	a buildings life cycle:	The age and construction methods and	
	<ul> <li>Safety in relation to site</li> </ul>	materials will determine the deconstruction	
	selection	methodology and an experienced demolition	
	<ul> <li>Safety in relation to</li> </ul>	contractor should be utilised.	
	constructing the building		
	<ul> <li>Safety in relation to</li> </ul>		
	occupancy and occupants		
	<ul> <li>Safety in relation to</li> </ul>		
	maintenance requirements		
	• Safety in relation to future		
	adaption or extension		
	<ul> <li>Safety in relation to</li> </ul>		
	deconstruction		
2	The buildings to be demolished will be	Avoiding spontaneous collapse of a	
	removing structural elements and	weakened structure.	
	engineering advice around the safe		
	sequence may be required.		
3	Live services presenting hazards	The purpose of the site survey is to identify	
		the existing services and arrange to cap,	
		divert and disconnect as required.	
4	Hazardous waste	Managing contaminated and dangerous	
		waste to ensure safety and legislative	
_		requirements are met.	
5	Environmental mitigation measures	Discussed in Section 7	
4.4 S	equence (Methodology)		
1	Site services disconnected or	ivietnoa description	
2	Achastas survey undertaken (ass	Mothod description	
2	ASDESTOS SURVEY UNDERTAKEN (SEE	iviethod description	
3	Eancing arected, site secured	Method description	
<u>л</u>	Ashestos removed (see section 5)	Method description	
4 5	Prenare site mobilise equipment and	Method description	
5	nlant as necessary		
6	Undertake identified pre-demo works	Method description	
7	Buildings demolished as ner agreed	Method description	
,	demolition plan		
8	Sort waste and clear site	Method description	

**Note:** The sequence/methodology is an ongoing planning issue during demolition. Whilst all outcomes are considered, due to the age and condition of the buildings these may change during the actual demolition works and will be managed by RBT during this time.



## 4.5 Equipment.

#### 45T High Reach/Standard Reach Excavator.

RBT utilise a 45T High Reach Excavator for work at heights. This machine also converts to a normal digging boom excavator and will be utilised for the remaining demolition activities on site.

Hydraulic crushing jaws, hydraulic hammer, clam/grab bucket, pick and digging buckets are utilised with this machine to demolish and load out waste material as required by the situation.

#### <u>30T Excavator / 20T Excavator.</u>

A standard 30T or 20T excavator will be utilised to assist with demolition activities and for loading out and sorting waste on site.

Hydraulic crushing jaws, hydraulic hammer, clam/grab bucket, pick and digging buckets are utilised with this machine to demolish and load out waste material as required by the situation.

#### A Range of Tip Trucks and Waste Bins.

RBT has access to a range of tip trucks and waste bins to remove waste from site. Depending on the access and size of turning circle, we will normally utilise a truck and trailer combination capable of carrying loads of up to 27T.

# 5.0 Safety Measures.

5.1 Existing Hazards (Removal of Asbestos)			
	Descriptor	Context	Status
1	Undertake a full hazard assessment	Asbestos particles/dust are hazardous to	
	survey of the building including	health and are to be removed prior to	
	sample testing for asbestos	general demolition.	
2	Procure WorkSafe registered	Only a certified/licensed operator is	
	Asbestos Removal Specialists	permitted to remove asbestos materials.	
3	Develop an Asbestos Removal Plan	A requirement under the Asbestos	
	(ARP).	Regulations	
4	Inform WorkSafe and complete	Asbestos removal is notifiable work.	
	notifiable work notification.		
5	Confirm training and competence and	Only certified workers may work in the	
	certification of removal personnel.	asbestos removal zone.	
6	Set up asbestos removal zone work	Mandatory work practice.	
	areas.		
7	Remove asbestos by approved	In accordance with the NZ Good Practice	
	methods	Guidelines	
8	Independent assessor to test areas	An independent verification that no asbestos	
	and confirm removal complete and air	remains.	
	test negative for asbestos dust.		
9	Handover to demolition contractor	Communication and conformation of	
		completed works.	



5.2 0	General Safety Measures		
	Descriptor	Context	Status
1	Site Specific Safety Plan (SSSP).	The SSSP details hazards presented by the	
		works and highlights how the hazard will be	
		managed utilising the hierarchy of controls.	
2	Traffic Management Plan (TMP).	The TMP details the site-specific controls to	
		be introduced in relation to vehicle	
		movements in and out of site, control of	
		entry and exit movements and protection	
		measures designed to keep the public safe	
		from harm.	
3	Site barriers/fences.	The site will require fencing and pedestrian	
		fencing to establish a safe area of work.	
		Fencing will be erected and modified as	
		required to suit the demolition works and	
		encroachment on roads and footpaths will be	
		outlined in the TMP.	
4	Personal protective equipment (PPE).	PPE will be required to be worn at all times.	
		All personnel as a minimum will wear:	
		Hard hat	
		Hi visibility clothing	
		Safety boots	
		Safety Glasses	
5	Evidence of Training and Competency	Experienced and competent personnel are	
	records will form part of the SSSP.	required to undertake work on this site.	
		Where non-experienced staff are employed,	
		they will work under the supervision of a	
		competent foreman who will be responsible	
		for their safety and awareness of potentially	
-		hazardous work.	
6	MSDS sheets will be held on site.	A part of managing hazardous substances,	
		information available in the SSSP and site	
-		OTTICES.	
/	Fuel storage.	Uniy in a safe container, as outlined in hazard	
		management documentation for hazardous	
		substances.	



# 6.0 Timeframes

#### 6.1 Off-site Planning – ongoing (TBC when staging has been completed).

The planning phase scopes the task, determines the resources and external inputs required and allows for consultation over safe method of working including any structural engineering considerations. This will be an ongoing task throughout the demolition as we progress from block to block.

#### 6.2 Asbestos Removal – ongoing (TBC when surveys have been completed).

There will be asbestos removal for this task. An internal demolition/management survey of the buildings will be completed and there will be some areas of ACM to be removed. ACM monitoring will continue throughout the demolition works and any additional identified material will be removed by a qualified operator.

# 6.3 Demolition Activities – TBC when staging, asbestos, retained facades, historic, environmental, engineering and traffic management plans and reports have been completed.

Once the buildings are free of asbestos material, demolition activities can commence. There is an estimated 104 weeks of demolition work dependant on what unknowns are uncovered during the demolition activities (further asbestos, engineering, historical or environmental issues).

There always remains the potential for engineering, historical and contamination issues to arise which may influence demolition timeframes. Works on site will be subject to conditions and possible recommendations by engineers, Environmental Southland, Historic Places Trust, Invercargill City Council and Transit NZ so the timeframes may be extended during the demolition works.

# 7.0 Environmental Effects

#### 7.1 Dust

Dust will be controlled on site using water sprayed directly onto working faces as required during demolition activities. This will include the hose down of trucks leaving site to control dust during transit as necessary. Wheel washing to reduce dust and dirt dragged onto roads will be undertaken.

High winds or unsuitable environmental conditions may also cause delays in demolition activities if dust levels or waste material cannot be controlled safely.



#### 7.2 Noise

An acoustic noise assessment will be completed to understand the impact of the demolition works and assist with any controls required to reduce our impact. The ICC District Plans and New Zealand Standard for Acoustics – Construction Noise NZS6803:1999 set out standards and requirements which will be adhered to during the demolition phase. Control of working hours as outlined in NZS6803:1999 will be one of the noise pollution controls. A Construction Noise and Vibration Management Plan will be developed to manage noise pollution throughout the demolition and construction phases.

Typical noise levels (Demolition equipment).			
Compressors	82dB	Mitigation measure	
		<ul> <li>Acoustically dampen metal casing (silencer)</li> </ul>	72dB
		Use electrically powered compressor	62dB
Pneumatic	102dB	Mitigation measure	
Concrete Breaker		• Fit suitably designed muffler or sound	87dB
		reduction equipment	
		Use hydraulic or electric tools	82dB
Excavator	72-92dB	Mitigation measure	
		Fit exhaust sound reduction equipment	67-87dB
Truck	72-92dB	Mitigation measure	
		<ul> <li>Fit exhaust sound reduction equipment</li> </ul>	67-87dB

#### 7.3 Stormwater

There will be little disturbance of soils during demolition outside of the established site. There should be none to a small amount of exposed ground that may run off into existing stormwater drains.

All drains at street level will have silt bunds or filter socks placed around storm grates and grilles to prevent silt entering the storm drain system.

#### 7.4 Lighting

There are no plans to work the site outside of daylight hours and consequently no floodlighting is envisaged.

#### 7.5 Tip Truck Traffic

The load out transportation will be in well maintained trucks that operate within legal limits for exhaust emissions and comply with all requirements related to heavy transport. Avoiding peak hour traffic congestion, tip trucks will not arrive or depart the site during peak traffic times as defined in the approved TMP from the ICC.



No heavy revving caused by low gear steep incline movements is envisaged. The site will retain a sealed access road for the majority of the demolition activities which permits clean wheel travel and eradicates silt issues encountered on other construction sites.

#### 7.6 Reduce, Reuse and Recycle

A commitment to reducing the amount of waste, reusing waste products and recycling waste products from demolition activities has a strong focus in RBT's demolition activities.

Recycling of waste concrete and hard fill into reusable material is already underway, metal products are separated and recycled, and timber waste streams are currently being investigated for further reuse.

These areas are important in reducing RBT's environmental footprint.

# 8.0 Interfaces with the Public

The site is in the Invercargill CBD and is on a major route (SH6/SH1) through Invercargill.

Pedestrian traffic is heavy at peak times and remains steady throughout the day.

Vehicular traffic is heavier at peak times and truck movements will be restricted to avoid peak times.

The site will be fenced and locked to prevent unauthorised entry. Demolition works are not expected to impact greatly on pedestrians or the general public in vehicles outside of peak times.

#### 8.1 Traffic Management

All vehicular movements will be marshalled and supervised by the onsite team and will be in line with the approved TMP. If assistance is required from a dedicated Safety Traffic Management Supervisor (STMS) to stop traffic for safe access and egress to site by demolition vehicles, then this will be provided. All loads will be checked and dampened if required to prevent loose debris from falling from trucks.

#### 8.2 Pedestrian Management

Pedestrian management processes will be outlined in the approved TMP and observation by the onsite team.



# 9.0 Communication Plan

#### 9.1 Information for Neighbours

Prior to the commencement of work the RBT Project Manager will circulate an information package relating to the demolition works to the neighbouring businesses.

This will include:

- A description of the work
- An hours of work statement
- A programme outlining the sequence of work
- A description of the traffic management changes to the area
- A contact email and phone number for RBT should further contact be required
- A complaints procedure in the event of an incident or issue

The Site Foreman (and 24/7 contact details) will be displayed on the site noticeboard.

#### 9.2 Information for the General Public

No statements relating to the work or work progression will be provided by RBT during this demolition. All requests for further information will be directed towards the client.

# **10.0 Complaints Procedure**

#### **10.1 Understanding and Closing out Concerns**

A process involving RBT's Project Manager and Site Foreman will be implemented as follows:

- 1. All complaints will be directed in the first instance to the RBT designated Site representative.
- 2. This person will be the RBT Project Manager.
- 3. This person will have responsibility to ensure that the complaints procedure is enacted.
- 4. The site will have prominently displayed the works signboard with the 24-hour contact number of the demolition contractor on site manager.
- 5. The contractor will maintain an onsite complaint register and log of actions taken.
- 6. The register will include:
  - a. A standard complaint pro forma
  - b. Date of complaint
  - c. Complainant name



- d. Actions taken
- e. Report back to complainant
- f. Close out
- 7. The management of complaints during the delivery phase will receive high level attention from the RBT Project/Site management and HWCP management team as required for resolution.
- 8. Ensuring that complaints are noted, acted upon and closed out will be a KPI adjudging the successful completion of these works.

Complaints log sheet		
Descriptor	Information	Notes
Date of complaint		
Complainants name		
Details of complaint		
Site manager investigation		
Actions taken/implemented		
Reported back to complainant		
Close out date		



# **11.0** Appendices

- A1 Appendix 1: Site Location and current staging plan.
- A2 Appendix 2: Demolition Noise Management Plan.



# A1 Appendix 1: Site location and Traffic Management Plan

1 ESK STREET FREE 8 3 Southlan DEE STREET (SH6) DR KELVIN STREET 00 10 4 1 Caroline Block 6 11 Carpark Block Block 803 10 T S S S S S 10 10 10 1 000000 m G JAC-79. 10

View of Invercargill with the location and block staging indicated.

\*\*A detailed Traffic Management Plan created by a STMS and approved by the Invercargill City Council Roading Department and the NZTA will be supplied when the job has a confirmed start date.



# A2 Appendix 2: Demolition Noise Management Plan.

<b>Demolition Noise</b>	Management Plan (DNMP)
Purpose	This Demolition Noise Management Plan (DNMP) outlines the measures that will
	be taken to mitigate noise nuisance that arises from the work and impacts on
	other parties.
	This DNMP outlines the deconstruction process envisaged for this project and the
	effects of that process on neighbours and the environment in general.
	The methodology referred to in the plan has been developed over recent years to
	mitigate the high noise impacts usually associated with demolition sites.
	The typical noise limit on a construction site is 75dB during standard construction
	hours.
	The demolition methodology proposed for this project is expected to comply with
	that limit albeit that for a short period the most immediate neighbours may
	experience a slight increase in that level due to the close proximity of the
	properties concerned.
Applicable NZ	The New Zealand Standard for Acoustics – Construction Noise NZS6803:1999 sets
Standards	out the procedures for the measurement and assessment of holse for existing and
	The Standard recommends noise limits for construction noise and provides
	guidance concerning methods of predicting and managing construction noise (the
	Standard should be read in conjunction with NZS 6801:1999 Acoustics –
	Measurement of environmental sound)
Demolition	Buildings will be demolished as per agreed demolition plan using equipment
methodology	specified previously. The plan for demolition is flexible due to the uncertain
	nature of the buildings and their structural integrity.
Noisiest work	The work requires the use of the following equipment:
	<ul> <li>Moving trucks (external noise)</li> </ul>
	<ul> <li>20/30T excavators (external noise)</li> </ul>
	• 45T excavator (external noise)
	<ul> <li>Crusher/rock breaker attachments (external noise)</li> </ul>
	Chainsaws (external noise)
	Cut off saws (external noise)
Neighbouring	Kelvin Hotel, Kelvin Street
inhabited	0.0m building to building
properties	0.0m to boundary
	Reading Cinemas, Dee Street
	0.0m building to building
	0.0m to boundary
Noise mitigation	The use of rock breakers is known to be the source of most noise complaints and
measures	the intention is to minimise the effect by undertaking most breakout through
	hydraulic jaw/crusher including any uplifting of ground slabs.
	The nibbler attachments will only be used where stubborn concrete needs to be
	weakened before breaking into truckable sizes.
	Truck engines will not be left idling when not in use.

Rual Buah DEMOLITION

	All mechanical plant and transport will be fitted with approved muffler devices and all plant and equipment will be well maintained and working in accordance with the manufacturer's specifications.
	Noise mitigation screening methods as outlined in N7S6803-1999 will be
	employed around compressed air breaker activities
	The use of distance will be a managed mitigation method and heavy noise related
	to breakers will be reduced by moving rubble away from boundary areas to at
	least 25m distance before further breaking is permitted.
Working hours	Monday to Friday
Working hours	6.30am – 7.30am quiet set up
	7 30am – 6 00nm normal work activities
	Saturday
	7 30am – 6 00nm normal work activities
	No work permitted Supdays or Public Helidays (uplace operationally personal)
Sita Suparvisian	The Site will be supervised at all times by a compotent site superviser trained and
Site Supervision	The site will be supervised at all times by a competent site supervisor trained and
	experienced in demonstron site management.
	At all times the site during working hours will have present the site supervisor of
	a delegated stand-in site supervisor competent to deal with project site issues.
Site Operatives	Iraining and proof of competency records will be held on site for all machine
Training	operators.
	All other site operatives will be required to hold a Site Safe Passport or alternative
	Safety Training Record (may be in house training record).
Complaints	Please refer to Section 10 of this DMP on Page 30.
Procedure	
Communication	The Principal will consult with effected neighbours prior to the start of the
with neighbours	demolition works.
	The concerns raised will be a feature of the induction process for the site and
	included in the SSSP for the job.
	Notification of the proposed works will be provided in line with the
	Communication Plan outlined in Section 9 on page 30 of this DMP.
	Neighbours on the adjacent boundaries will be consulted with in respect of
	protection measures proposed at the boundary.
	During demolition activities each effected neighbours will be visited prior to any
	work commencing to discuss any H&S or nuisance concerns.
Site Contact	The site will have a Hazard Board and Site Signboard erected at the entry point to
Details	site (initially on Don St).
	The sign board will contain 24/7 contact details for the Site Manager.

End.