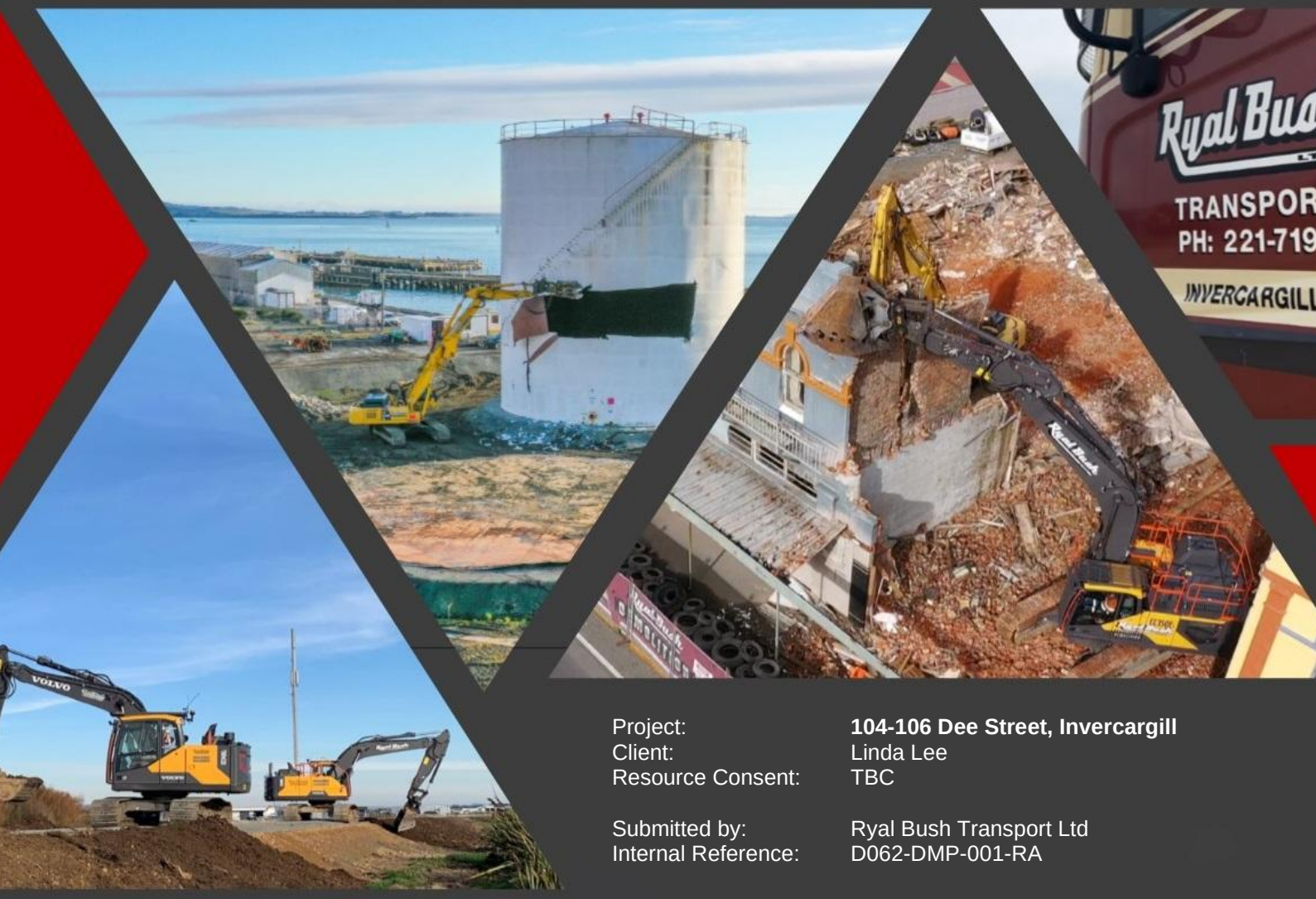
DEMOLITION
MANAGEMENT PLAN



Project:	**104-106 Dee Street, Invercargill**
Client:	Linda Lee
Resource Consent:	TBC
Submitted by:	Ryal Bush Transport Ltd
Internal Reference:	D062-DMP-001-RA

Ryal Bush
EXCAVATION • DEMOLITION • GRAVEL SUPPLIES • TRANSPORT

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1. 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 former “Briscoes” Building at 104-106 Dee St, Invercargill.

2. The Site

Location
Located on the Western side of Dee St (State Highway 6) the Briscoes Building is clearly visible due to the ongoing closure of the adjacent footpath resulting from concern about the stability of the building following a fire in 2023.

Existing Buildings
There is approximately 725m2 of footprint area on the site comprised of 1 historic building. This building is predominantly 2 stories high with a large roof structure. The building has deteriorated significantly over the timeframe since the fire, currently it is deemed unsafe for access by demolition personnel and therefore works proposed shall be undertaken by machine. If access is required, this shall be assessed on a case-by-case basis with strict safety protocols in place.

Affected Neighbours
There are buildings directly to the West & South of The Briscoes Building, we will undertake assessments of separation (if any) from these buildings and this detail will help determine the exact methodology for dealing with these buildings. Assessments will be made on both buildings prior to demolition to clarify any issues the demolition will pose on adjacent buildings. The separation will be planned in conjunction with Kensington Consulting. The detail around this is may be delt with in a building consent exemption if required.

3. Proposed Project

Demolition of the buildings due to Structural Risk

The project is to demolish the existing building (The Briscoes Building) due to the earthquake risk and because of the deteriorated nature of the building, it has been deemed by OTHERS that this is the most suitable option of dealing with the building.

The scope of works for Ryal Bush is yet to be fully determined but currently includes demolition of the building including capping any services by an approved contractor but does not currently include and backfilling or removal of soil.

4. De-construction; Planning and Sequence

Planning Activities			
	Description	**Context**	**Status**
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. Ryal Bush will be required to produce a Site-Specific Safety Plan which will be reviewed and approved by the client.	Recognising the obligations and responsibilities in relation to safe working.	
Planning/Project Management			
1	A site survey to establish and mark the location of existing services will be undertaken and termination requirements identified.	The purpose is to identify all underground and above ground services to assess the impact on infrastructure and neighbours.	
2	A desktop 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 has been completed to establish the presence of ACM. Materials identified have been removed.	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.	Compliance & 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 & Regulatory Authorities	

Safety in Design			
	Description	**Context**	**Status**
1	Safety in design looks at every stage of a building life cycle and workplace safety requirements require an examination of safety at key points in a building's life cycle: • Safety in relation to site selection • Safety in relation to constructing the building • Safety in relation to occupancy and occupants • Safety in relation to maintenance requirements	This project is an end-of-life deconstruction. It requires the demolition of the building on this site to establish a clean site. The age and construction methods and materials will determine the deconstruction methodology, and an experienced demolition contractor will be utilised.	

	• Safety in relation to future adaption or extension • Safety in relation to deconstruction		
2	The building to be demolished will be removing structural elements and engineering advice around the safe sequence may be required.	Avoiding spontaneous collapse of a weakened structure.	
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	
Sequence (methodology)			
1	Asbestos survey undertaken (see section 5)	For Note Only Asbestos removal has been completed. This will be reviewed again prior to Demolition	
2	Site services disconnected or terminated	Method description	
3	Fencing erected, site secured	Safety for Public and Site Personnel	
4	Prepare site, mobilise equipment and plant as necessary	Method description	
5	Undertake identified pre demo works	Method description	
6	Buildings demolished as per agreed demolition plan	Method description	
7	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 building these may change during the actual demolition works and will be managed by Ryal Bush during this time.

5. De-construction; Planning and Sequence

Mobilisation & Site Setup

Mobilisation & site set up are the foundations of a successful project, being a local contractor, we have the ability to mobilise our plant and equipment in a staged approach and if additional resources are required, they are close at hand.

We will place one of our containers onsite; this will provide secure storage for tools and accessories. We have built these specifically for projects like this and they are well equipped to service our projects.

As site fencing and facilities are already installed the mobilisation on this project will be simple and quick, plant will de mobilised to allow for the staged demolition approach and we will ensure adequate resourcing at all times.

All safety documentation will be completed premobilisation and provided to the CLIENT for review. The building will be inspected thoroughly prior to any works starting, this will ensure we understand the exact make up and removes many assumptions that cannot be 100% clarified from the plans provided.

It will be at this stage all services will be decommissioned form the building and checked to ensure they are all isolated. No works will proceed until this has been 100% confirmed.

Asbestos & hazardous substances removal
Asbestos removal will be completed prior to demolition. All records will be reviewed to ensure we comply with all current regulations.

Soft Strip of internal features
Note – No soft strip is proposed due to the condition of the building.

Disconnection of Services
All services shall be disconnected prior to demolition if practical. Where this is not practical this will be outlined in the onsite planning document and be undertaken as soon as reasonably practicable.

All service disconnections will be recorded and where required information provided to asset owners.

Demolition of the Building
The building will be deconstructed from the street using excavators with various attachments. The works will be undertaken from the top down as works progress along the length of each side.

A specific task procedure will be written for how works against neighbouring buildings will be undertaken. Currently the exact makeup of walls in these areas is not exactly known. This will be fully determined prior to hard demolition.

The makeup of the original buildings means that the majority of the structural components are concrete and brick, considerations in this stage will be dust and the potential for structural failure. Immediately prior to demolition the structure will be assessed as there is potential additional works will be required from the North & East to remove weight from the façade.

The structure will be reviewed consistently throughout the demolition and progress decisions will be made according to how the structure reacts, we believe the progressive sorting as described below will ensure there will be no material will leave the site boundaries.

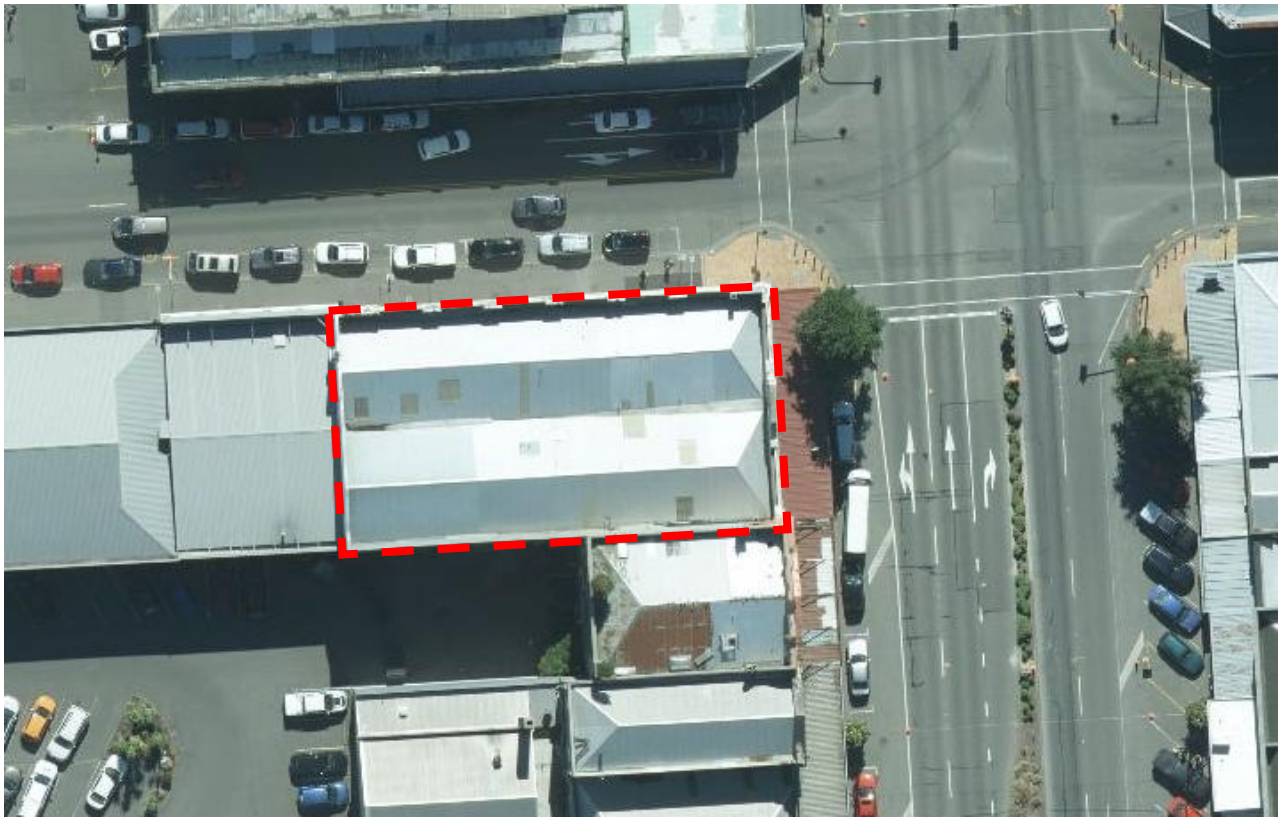

Figure 1: Building to be demolished.

Sorting of Waste & Loadout

An initial waste separation will take place during demolition, material will predominantly be separated at this stage. Given the makeup of the original buildings the majority of rubble will consist of concrete, brick & demolition waste wherever possible this will be loaded out directly and progressively from the demolition site and loaded onto hook bins and carted to the disposal location. Where additional sorted of material is required, this shall be side cast and undertaken at arm's reach from the demolition works. Any light items that have potential to become wind borne will be loaded directly into our 35m3 hook bins that will be located onsite. The hook bins have attached cover systems that can be manually put in place in the event of any high winds impacting the site. Causes for additional sorting may include timbers that are stuck to insitu poured concrete and areas that were uneconomic or not accessible for stripping previously. This step allows for additional segregation of material. The existing car park area behind the building will be used for this activity and will assist in mitigating environmental issues caused by demolition activities. Concrete will be processed to remove reinforcing, clean timber segregated for other waste. The remaining waste can be reviewed and if any additional material can be salvaged it will be removed as a product with future use.

Figure 2: Ryal Bush High Cube Unit

With considerable cartage resources Ryal Bush proposed to cart the waste material to suitable facilities for reuse or repurposing wherever possible. Trucks suitable for each application will be utilised. By using our modern fleet truck noise from trucking movements will be minimal on neighbouring residents. There are considerable hardstand areas within the project boundary available that will be utilised for these activities. Using the car park is beneficial as it minimises the amount of soil that is disturbed and means reduced potential for water run off issues and trucks will not cart any soil on to roadways.

Ancillary Tidy up & Demobilisation

As the site will be progressively demolished and waste removed the site will remain tidy and final clean-up will be minimised. Any foundation removal directed (Note this is TBA) will be completed in a final retreat across site and any heritage requirements for below ground works will be delt with at this time (Providing they are not directed at an earlier stage. The site will be inspected with the CLIENT to ensure all works are being completed the specified standard. Once all works are completed any remaining waste will be removed prior to plant on site being demobilised.

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

6. Historic Heritage Considerations

No salvage of historical building materials is planned at the time of this DMP. The building is under a Dangerous Building notice there is no access to the inside of the building and no specific items have been listed for recovery. All care will be taken to identify items of historic significance during the demolition and these will be separated by machine during the demolition.

Figure 3: Recovery of stained-glass window by machine

Heritage Communication
Ryal Bush will comply with any heritage considerations and all subcontracts on site will be included under our DMP.

Storage of Heritage Items
Any salvaged historic features and materials to be considered prior to the commencement of works.

7. Equipment

45T - 20T Excavators
Machines used shall range in size from 45t to 20t to undertake demolition activities including loading out and sorting waste on site.

Hydraulic crushing jaws, hydraulic hammer, demolition grab bucket, pick and digging buckets are utilised with these machines to demolish and load out waste material as required by the situation.

A range of tip trucks and waste bins
Ryal Bush has access to a range of tip trucks and waste bins to remove waste from site. Access and size of sites determine this and we believe the is a large turning circle, we will use truck and trailer combination capable of carrying loads of up to 27T.

Ancillary Equipment
In addition to the large plant there will be a substantial quantity of smaller ancillary plant used on this project, Items such as dust suppression units, concrete cutters and hand tools will be available to the team on site to ensure the best tools for each task are used at all times.

8. Safety Measures

General Safety Measures			
	Description	**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. For stages of the demolition State Highway 6 will be closed with a detour in place, discussions on this have been held with the contractors that undertake works on state highways and feedback is positive.	

3	Site barriers/fences.	The site will require 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. For	
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	
5	Evidence of Training and Competency records will form part of the SSSP.	Experienced and competent personnel are 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	General Site Inspections/Audits	Ryal Bush Management and Safety will undertake regular site inspections/audits during demolition to ensure the DMP is being complied with. These will be available on request.	
7	Inspection on adjacent Buildings	A daily visual inspection on adjacent buildings will be undertaken by the demolition supervisor to ensure no damage is occurring from demolition activities. Should any issues be observed works will be suspended and relevant advice gained from applicable support personnel. (eg: Builders, Engineers)	
8	MSDS sheets will be held on site.	A part of managing hazardous substances, information available in the SSSP and site offices.	
9	Fuel storage.	Only in a safe container, as outlined in hazard management documentation for hazardous substances.	

9. Timeframes

Off-site planning – 6 weeks (following final approval)
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 undertaken following all approvals being finished.

Demolition activities – ~ 8 weeks
Following planning demolition activities can commence. There is an estimated 8 weeks of demolition/sorting & material removal work dependant on what unknowns are uncovered during the demolition activities (further asbestos, historical or environmental issues).

Some works may be undertaken concurrently.

10. Environmental Effects

Dust
Dust will be controlled on site using water hoses 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. If required a dust suppression unit may be used in addition to manual activities.

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

Noise
Noise will be controlled by restricting work to the following:

Working hours Quiet set up will start from 6.30am	Day	Machinery work hours	Truck movement hours
	Monday	7.00am – 6.00pm	7.30am – 6.00pm
	Tuesday	7.00am – 6.00pm	7.30am – 6.00pm
	Wednesday	7.00am – 6.00pm	7.30am – 6.00pm
	Thursday	7.00am – 6.00pm	7.30am – 6.00pm
	Friday	7.00am – 6.00pm	7.30am – 6.00pm
	Saturday	7.00am – 6.00pm	7.30am – 6.00pm
	Sunday*	No work permitted	No work permitted
	Public holidays*	No work permitted	No work permitted

*Operational necessity will be required for work on these days.

Typical Noise Levels (Demolition equipment)			
Compressors	82dB	Mitigation measure • Acoustically dampen metal casing (silencer) • Use electrically powered compressor	 72dB 62dB
Pneumatic Concrete Breaker	85dB	Mitigation measure • Fit suitably designed muffler or sound reduction equipment • Use hydraulic or electric tools	 82dB 82dB
Excavator	72-85dB	Mitigation measure • Fit exhaust sound reduction equipment	 67-82dB
Truck	72-85dB	Mitigation measure • Fit exhaust sound reduction equipment	 67-82dB

Stormwater
There will be minimal disturbance of soils during demolition. Any exposed ground will be contoured to ensure this does not flow directly into stormwater drains, but areas will act as silt traps before the drains. Filter cloth will be placed as a last protection to ensure silt and contaminates are not entering the stormwater system.

All drains at road level will have filter fabric placed in storm grates and grilles to prevent silt entering the storm drain system.

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

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.

No heavy revving caused by low gear steep incline movements is envisaged. The site has a sealed access road which permits clean wheel travel and eradicates silt issues encountered on other construction sites.

All movements of material on and/or off site shall be recorded in Ryal Bush's dispatch system "FROST" this will be available to the CLIENT on request.

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 Ryal Bush's demolition activities.

Recycling of waste concrete and hard fill into reusable material is proposed, metal products are separated and recycled, and timber waste streams are currently being processed for use as furnace fuel. The condition of building plays a major part in what can be recycled.

These areas are important in reducing Ryal Bush's environmental footprint.

11. Interfaces with The Public

The site being located on the State Highway 6 in the Invercargill CBD will have direct public interaction. Traffic Management will be the main control of this but information about the demolition will be communicated to the Public prior to demolition.

The site will be fenced and locked to prevent unauthorised entry.

Traffic Management
All vehicular movements will be marshalled and supervised by the onsite team and will be in line with the approved site TMP. All loads will be checked and dampened if required to prevent loose debris from falling from trucks.

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

12. Communication Plan

Information for the General Public

Prior to the commencement of work the Ryal Bush Project Manager will undertake a prestart meeting with directly affected stakeholders.

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 Ryal Bush 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.

13. Complaints Procedure

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

1. All complaints will be directed in the first instance to the Ryal Bush designated Site representative.
2. This person will be the Ryal Bush 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 Ryal Bush Project/Site management and Southport 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		
Description	*Information*	*Notes*
Date of complaint		
Complainants name		
Details of complaint		
Site manager investigation		
Steps Taken to Address Complaint		
Reported back to complainant		
Close out date		