

Assessment task 1 – Evaluation of Demolition for Residential Low-Rise Construction

CPCCB4010B

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Introduction

Purpose of assessment

To analyse and evaluate the proposal to demolish an existing residential low-rise building, which is typical for your local area. This Assessment accounts for 20% of total assessment.

Assessment task

Choose an actual residential low-rise building, which is typical for your local area and analyse the procedures and stages required to carry out the demolition process.

The evaluation should include the following:

- ☐ A procedural manual for demolition that conforms to legislative & planning & safe work practices.
- ☐ Explanation of the structural principles that form part of the demolition process of your chosen residential low-rise construction and why these principles apply
- ☐ Identify the structural components of your project (E.g.: columns, slabs etc.) and explain their effects on the demolition of the structure
- ☐ Identifying areas of potential hazard due to hazardous materials e.g. asbestos cement in roofing, linings, underlay, etc.
- ☐ Disconnection of services, power, water gas in accordance with appropriate standards.
- ☐ Identification of materials for recovery and recycling
- ☐ Use of a consultant (structural engineer) to assess the demolition sequence

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Demolition procedure for 22 Trevor court, Mount Waverley

1. Demolition Preparation:

1.1 Legislative apply:

The precautions and procedures to be taken before and during the demolitions works shall be in accordance with AS 2601-2001 Demolition of Structures and the following additional requirements:

In addition to complying with the above mentioned Australian Standard the demolition works will also comply with the Building Regulations applicable to the state of Victoria and the following Australian Standards and Codes of Practice:

- a) AS 2436 - 1981 Guide to Noise Control
- b) O.H & S. - Code of Practice for Demolition – (1991 No 14)
- c) O.H & S. - Code of Practice for Building and Construction Workplaces - (1990 No 13)
- d) O.H & S. - (Asbestos) Regulations – 2003

1.2 Work permit required:

A demolition permit must be granted before demolition can commence

1.3 Work method requirement:

The following need to be considered before demolition commences to decide which of these are necessary depending on the nature of the demolition:

- ☐ Details of the demolisher and appropriate licence
- Method of demolition – either manual or mechanised---22 trevor court, we use mechanised.
- ☐ Extent of temporary fencing and hoardings
- ☐ Protection of adjoining properties, existing buildings and infrastructure.

- ☐ Disconnection notices for the service authorities, electricity, water, gas and telecommunications
- ☐ The order in which the structural systems will be removed (the sequence of operations)
- ☐ Details of any hazardous materials and notification of these to relevant authorities
- ☐ On-site amenities such as toilet, first aid, fire services.
- ☐ Control measures for dust, noise and vibration
- ☐ Vermin control for rats and mice
- ☐ Traffic control on and off the site
- ☐ Truck wash bays
- ☐ Environmental considerations such as recycling.

1.4 Checklist before demolition:

- ☐ Identify materials, e.g. primary, structural and secondary lining materials.
- ☐ Locate hazardous materials and notify authorities as required by OHS legislation.
- ☐ Identify any special structural systems, e.g. post tensioning, bracing systems, elements resisting vertical loads, elements resisting horizontal loads.
- ☐ Locate and identify services and supply mains, e.g. water, electricity, gas and extent of wires and pipes.
- ☐ Locate and establish the extent of other service such as sewerage and drainage.
- ☐ Locate depths of adjoining property footings where the building being demolished is closed to the boundary or is likely to have an effect on the adjoining property by structural engineer.
- ☐ Notify the building surveyor of any form of protection of the adjoining property is required.
- ☐ Examine and record the condition of adjoining buildings particularly where they are close to the property boundary.
- ☐ Locate and identify any common support structure for the adjoining property.
 - 1) **Columns:** Columns are vertical support members subjected to compressive loads. They are also referred to as pillars, posts, stanchions and struts. The most efficient shape for a column is the circular hollow section
 - 2) **Concrete slabs:** Concrete slabs are similar to beams in the way they span horizontally between supports and may be simply supported, continuously supported or cantilevered.
- ☐ Determine suitable site entry points for personnel, plant and equipment and access to and from the site for vehicles.
- ☐ Determine crossing and infrastructure protection by hoarding or crossover boarding.

1.5 Pre-demolition job

- Disconnect all services, power, water, gas etc.
- Locate stormwater and sewer drains and seal at points of discharge.
- Protect adjoining property as required by the building surveyor.
- Provide temporary wall bracing and shoring where required.

A photo of a run-down building need to be shown.

2. Demolition procedures

- Remove loose or attached fittings and built-in fixtures, internally and externally.
- Remove external wall cladding, attached chimneys, outbuildings and lean-to structures.
- Remove internal linings.

A photo of a building with a demolished roof need to be shown.

Step 1

- Make sure the building is adequately braced during the removal of cladding.
- Remove plumbing and electrical wires and pipes.
- Remove roof covering and restraining and loose materials to avoid possibility of materials being airborne.

A half-demolished building with a fence around the site need to be shown.

Step 2

- Remove roof structure and provide temporary bracing and shoring as required.
- Remove wall panel or framing and provide temporary bracing and shoring as required.
- Remove floor structure.
- Remove footings.

A photo of a truck and crane removing rubbish from a site need to be shown.

3. Complete and after demolition

- Clean up the site.
- Fill in excavations.
- Check for any hazards.
- Clean site entry points and infrastructure where necessary.

A photo of a cleared site with a fence around need to be shown.

4. Dos and don't

Note the following points:

- The demolition must always be supervised by the demolisher.
 - The site must be fenced or suitably barricaded to prevent public access during the demolition process.
 - No part of any external wall on or within 6,000 mm of the street alignment is to be pulled down except during times as specified by the building surveyor.
 - Where asbestos or materials containing asbestos are involved in the demolition works, compliance with WorkCover or WorkSafe legislation must be maintained at all times.
- ☐ materials for recovery and recycling:
- 1) Dimensional lumber
 - 2) Drywall
 - 3) Masonry and tile
 - 4) Manufactured lumber
 - 5) Cardboard
 - 6) Asphalt
 - 7) Metal
 - 8) Plastic

Conclusion

In conclusion, this assessment demonstrates the analyses and evaluate the proposal to demolish an existing residential low-rise building, which is typical for the local area.

Reference:

- CPCCBC4010B Apply structural principles to residential low-rise constructions learner resource
- https://www.whylla.sa.gov.au/webdata/resources/ppFiles/Demolition____Building_Work_Procedure.pdf
- <http://www.contigroup.com.au/forms/Demolition%20Procedure.pdf>
- www.umich.edu/~nppcpub/resources/compendia/.../ARCHr&rB.pdf