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1 INTRODUCTION

1. This Chapter outlines the general submission requirements and controls for the demolition of buildings or structures.
2. The Chapter also provides guidelines to assist in protecting the health and safety of property owners and site workers when carrying out demolition and building works involving hazardous building materials.

2 OBJECTIVES

1. The objectives of this Chapter of the DCP are to:
 - a) Ensure that demolition is undertaken in a manner that minimises waste generation and adverse amenity impacts.
 - b) Protect the health and safety of persons involved in or situated in close proximity to demolition works particularly those involving hazardous building materials; and
 - c) Ensure hazardous building materials are removed in accordance with relevant NSW WorkCover Authority requirements and relevant Australian Standards.

3 DEFINITIONS

“**Asbestos**” means the fibrous form of those mineral silicates that belong to the serpentine or amphibole groups of rock forming minerals, including actinolite, amosite (brown asbestos), anthophyllite, chrysotile (white asbestos), crocidolite (blue asbestos) and tremolite. (OHS Regulations 2001).

“**Asbestos removal work**” means any work, in which bonded or friable asbestos material is removed, repaired or disturbed. (OHS Regulation 2001).

“Contaminated Dust” means dusts accumulated in a building structure that are contaminated with substances that are considered hazardous (i.e. lead and other heavy metals, pesticides and asbestos).

“Hazardous Building Materials” means building materials that are considered to cause adverse health impacts such as cancer, neurological issues and mesothelioma. Common hazardous building materials include (but not limited to) asbestos, lead paint, PCBs and contaminated dusts.

“Lead Paint” is described in the Australian Standards (AS 4361.2-1998) as paint or paint films that contain more than 1% lead by weight of the total volume.

“PCBs” means Polychlorinated biphenyls, a group of synthetic, chlorinated organic compounds often found in electrical equipment that pre dates 1975.

4 RELEVANT LEGISLATION

4.1 Environmental Planning and Assessment Act 1979 and Wollongong Local Environmental Plan 2009

1. The demolition of a building or works is considered a form of development, under the *Environmental Planning and Assessment Act 1979*.

2. Under Schedule 2 of *Wollongong Local Environmental Plan 2009* (WLEP 2009), certain minor demolition work may be classified as exempt development where it is in compliance with the following requirements:
 - (a) Must be demolition of a structure, the erection of which would be exempt development under WLEP 2009.
 - (b) Activity must be carried out within the property boundary.
 - (c) Must be demolition of an entire structure, not part of a structure.
 - (d) Must be carried out in accordance with AS 2601—2001, *Demolition of structures* and any relevant WorkCover guidelines.
 - (e) If a structure is likely to have been treated with pesticides, must avoid contact with the top 10–20mm of soil.
3. Under Schedule 3 of WLEP 2009, the demolition of single storey dwelling houses and outbuildings may be classified as complying development where it is in compliance with the following requirements:
 - (a) Must be demolition of a building or structure, the demolition of which is necessary to enable the erection of a dwelling house under Schedule 3 of WLEP 2009.
 - (b) Must not involve the demolition of a building or structure that has more than one storey.
 - (c) Must be undertaken in accordance with AS 2601—2001, *Demolition of structures*.
4. In order for demolition to qualify as either exempt or complying development it must also comply with clause 3.1 or 3.2 of WLEP 2009. Development consent is required for all other demolition works.

4.2 Workplace Health and Safety Regulation 2011

1. The main legislation regarding the removal and handling of hazardous materials (including asbestos) is the *Workplace Health and Safety Regulation 2011*.
2. Under the above regulation, a licence authorised by the NSW WorkCover Authority is required for all friable asbestos work and bonded asbestos work where the asbestos has a surface area of more than 10 square metres.
4. Under the above regulation, a person undertaking 'lead risk' work must notify WorkCover NSW.
3. The main legislation dealing with the disposal of asbestos material is governed by the *NSW EPA Waste Classification Guidelines (2014)*.

4.3 Protection of the Environment Operations Act 1997

1. Under the above legislation it is an offence to pollute the environment in any way and a pollution event may be considered a punishable offence within the Act.

5 DEMOLITION OF BUILDINGS

1. The demolition of any building or structure (i.e. subject to appropriate consent being issued) must be carried out in accordance with Australian Standard AS 2601 -2001 – *Demolition of Structures*.

5.1 Demolition work plan

1. Any Development Application lodged for the demolition of a building or structure must include a Demolition Work Plan. The Demolition Work Plan shall include the following information:
2. Site location plan showing the building or structure which is proposed to be demolished.
3. The name, address and contact telephone numbers and license number of the demolition contractor and the asbestos removal contractor (i.e. where asbestos material is required to be removed from the building or structure);
4. Details as to the qualifications and experience of the demolition contractor.
5. Details as to the height of the building or structure above ground level and the distance of the building or structure from all boundaries.
6. Details of the type of building including footing, structural steel and concrete components, wall roof information.
7. A detailed list of any hazardous material (including asbestos) that might be within the building and procedures to be utilised for storage, transport and disposal of these hazardous materials.
8. Details of the methods of demolition proposed, including all equipment to be utilised onsite. Information concerning the noise rating of any jackhammers or other mechanical plant shall be submitted, including details of the noise level above the ambient at the property boundary.
9. Proposed method(s) of demolition and proposed removal of any hazardous material including any asbestos material;
10. Written documentation as to the proposed demolition measures being carried out in accordance with Australian Standard *AS 2601 – 2001 – Demolition of Structures*.
11. A time sequence of the demolition, including the staging of the work, hours of operation and in addition the anticipated number of days involved in each component of the work.

In this regard demolition works shall be generally limited by Council to the following hours:

- a. Monday to Friday: 7am to 5pm
 - b. Saturday: 8am to 4pm
 - c. Sundays and Public Holidays: No demolition work permitted
12. Details of any hoardings or fences, including overhead protection and scaffolding when necessary. Note: Refer to the provisions contained within the Hoardings Chapter of this DCP.
 13. Details of any safety precautions necessary for persons carrying out the demolition or persons living within the vicinity or using facilities within the vicinity.
 14. Proposed measures and processes to be implemented to ensure the health and safety of workers and community;
 15. Proposed measures to be implemented to minimise any airborne asbestos and dust emissions (subject to compliance with the requirements of the NSW WorkCover Authority); and
 16. Proposed methods and location of disposal of any asbestos or other hazardous materials (subject to compliance with the requirements of the NSW WorkCover Authority).

5.2 Other information requirements for demolition works

1. A Site Waste Minimisation and Management Plan (SWMMP) shall also be prepared in accordance with the requirements contained within the Waste Management Chapter in Part E of this DCP, with particular regard to the controls relating specifically to demolition.

2. A Dilapidation Report is also required for any demolition works situated within the zone of influence of any other building or structure. The Dilapidation Report must include photographic evidence of all building or structures within the zone of influence.
3. A Hazardous Building Materials Assessment (HBM) shall be prepared prior to commencement of demolition works. The report must be prepared so to achieve compliance with relevant guidance documentation including (but not limited to), regulations, codes of practice, and Australian standards.

6 HAZAROUS BUILDING MATERIALS MANAGEMENT

6.1 Types of asbestos and health impacts

1. According to relevant Australian Government publications (Safe Work Australia, NSW WorkCover) the main types of asbestos are:
 - Chrysotile (white asbestos);
 - Amosite (brown asbestos); and
 - Crocidolite (blue asbestos).
2. These types of asbestos are considered to range from hazardous to highly hazardous, especially where they are in a poor or deteriorated condition or disturbed during activities that produce dust containing asbestos fibres.
3. Chrysotile (white asbestos) is the only form of asbestos that was commercially used from the serpentine group of silicates. Chrysotile was previously used in the manufacture of:
 - Asbestos cloth, tapes, ropes and gaskets for packing and in thermal and chemical insulation;
 - Asbestos cement sheets and pipes for construction, casing for water and electrical / telecommunication services;
 - Fire rated doors, equipment and structural beams of buildings;
 - Rubber, plastics, thermosetting resins, adhesives, paints, coatings, caulking compounds and sealants for thermal, electrical and insulation applications;
 - Filters; and
 - Packing and friction material such as gaskets, brake and clutch linings.
4. Amosite (brown asbestos) and crocidolite (blue asbestos) were used in a range of products until the mid 1980's. These products were mainly:
 - Asbestos cement sheets and pipes for construction, casing for water and electrical / telecommunication services; and
 - Thermal and chemical insulation i.e. fire rated doors, limpet spray, lagging and gaskets.
5. **Non-friable asbestos** means material containing asbestos that is not friable asbestos, including material containing asbestos fibres reinforced with a bonding compound (Safe Work Australia: How to Safely Remove Asbestos 2011).
6. **Friable asbestos** means material that is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry, and contains asbestos (Safe Work Australia: How to Safely Remove Asbestos 2011).



Figure 1: Bonded Asbestos (Fibro)



Figure 2: Bonded Asbestos Tiles



Figure 3: Friable Asbestos – Pipe Lagging

Source: NSW WorkCover Authority (2008) *Working with Asbestos Guide 2008*

7. Asbestos fibres are made up of many very fine fibres so that as asbestos is further processed or disturbed, the airborne fibres become progressively finer and more hazardous. The most dangerous fibres are the smallest ones which are invisible to the naked eye, but which penetrate the deepest part of the lungs.
8. Breathing in the fibres of asbestos can bring the risk of asbestosis, lung cancer and mesothelioma. However, asbestos related diseases have a long delay or lag period in the order of 20 – 40 years between first exposure and the onset of symptoms and / or detection of the disease.
9. **Asbestosis** is the scarring of lung tissue that can result from the inhalation over a period of years of substantial amounts of asbestos. This results in breathlessness which may lead to disability and in some cases early death.
10. **Lung cancer** is related to the amount of fibre that is breathed in and the risk of lung cancer is greatly increased in those who also smoke tobacco.
11. **Mesothelioma** is a cancer of the pleura (outer lung lining) or of the peritoneum (the lining of the abdominal cavity). The risk of mesothelioma is less with chrysotile (white asbestos) than with other types of asbestos. Both pleural and peritoneal mesothelioma can result from exposure to amosite (brown asbestos) and crocidolite (blue asbestos).

6.2 Procedures for handling asbestos material

1. Handling, management and disposal of asbestos shall comply with NSW WorkCover and NSW EPA requirements. The NSW WorkCover Authority's (prepared by Safe Work Australia): *How to Safely Remove Asbestos, Code of Practice* (2011) recommends a range of work procedures for dealing with bonded asbestos material including asbestos cement. Further advice can be obtained from the enHealth Publication: *Asbestos, A guide for householders and the general public* (2013)
2. As at 1 January 2008, individuals are limited to handling a maximum area of 10 square metres of bonded asbestos material. Otherwise an appropriately licensed person must carry out the removal and disposal of the bonded asbestos material.

6.3 Lead Work

1. All lead removal works must comply with the relevant Workplace Health and safety regulations. In the event that works are not carried out by an appropriately licensed and insured contractor council recommends that DIY renovators review available resources regarding safe and acceptable removal processes.

7 REFERENCES

NSW WorkCover Authority. 2008.. *Working with Asbestos Guide 2008*

NSW WorkCover Authority's (prepared by Safe Work Australia): *How to Safely Remove Asbestos, Code of Practice* (2011)

enHealth Publication: *Asbestos, A guide for householders and the general public* (2013)

Workplace Health and Safety Regulation 2011.

NSW EPA Waste Classification Guidelines (2014).

AS 2601—2001, Demolition of structures

Wollongong City Council: *Asbestos Policy (October 2014)*