

# Asbestos in Grounds, Asbestos Management Plan, Bonnyrigg Heights High School, Bonnyrigg Heights, NSW

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NSW Public Works

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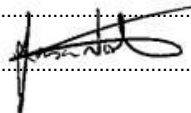
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# Contents

Page Number

<b>1. Introduction.....</b>	<b>1</b>
1.1 Document Review	1
1.2 Background	1
1.3 Asbestos removal/clean-up works	2
<b>2. Asbestos materials.....</b>	<b>3</b>
2.1 Asbestos zone locations	3
2.2 Risk management	3
<b>3. Asbestos register (Grounds).....</b>	<b>4</b>
<b>4. Asbestos zone routine management .....</b>	<b>7</b>
4.1 Inspections	7
4.2 Maintenance	7
4.3 Checklist	7
<b>5. Asbestos zone maintenance works management.....</b>	<b>8</b>
5.1 General	8
5.2 Sub-soil areas within school grounds	8
<b>6. Permit for work.....</b>	<b>9</b>
<b>7. Legislative requirements .....</b>	<b>10</b>
<b>8. Safe work procedures for asbestos work.....</b>	<b>11</b>

## List of Tables

Table 3-1 Asbestos Register – Asbestos zones only for Bonnyrigg Heights Public School	4
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## List of Figures

Site layout plan

## Appendices

Appendix A	Grounds management checklist
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# 1. Introduction

## 1.1 Document Review

No Activity and/or no Re-occurrence of ACM in grounds on this site since December 2013, as such the following is recommended:

This document is to be reviewed and updated

- when works occur on site
- when works occur on site which may cause grounds disturbance
- when any ACM in grounds is reported
- every second year, if no activity.
- until ten years of inactivity, when document review and update will occur every five years

## 1.2 Background

In July 2007, areas of possible asbestos impacted fill material and exposed fill material were identified to the play field adjacent Block A at Bonnyrigg Heights Public School, Wilson Rd, Bonnyrigg Heights NSW 2177.

An investigation was undertaken in December 2013 after the identification of asbestos contaminated fill in the football field at the school. The field was completely remediated, and a clearance report was issued by Parsons Brinckerhoff of the area on the 16<sup>th</sup> of January 2014.

During remediation works, various other locations were noted around the school as containing asbestos cement debris. These are:

- **Area A:** Stockpile at the southern section of the school to the boundary fence
- **Area B:** Eastern section of building F, including fenced off work area and shaded grassy area
- **Area C:** Grassy area between the southern school boundary fence and demountable D13679
- **Area D:** Area between building M and demountable D13679
- **Area E:** Stairs between buildings F and H, leading up towards the demountables
- **Area F:** Inaccessible (fenced off) area north of building G, to bus bay
- **Area G:** Dirt patches on either side of the entry to building H, opposite building F

In order to manage the risk of exposure to asbestos, any fibrous cement fragments found are to be removed from the ground surfaces (Refer to Section 1.3). The areas where

fibrous cement fragments have been identified within the fill material (and further in-situ asbestos fragments may be present) have been designated as “asbestos zones”.

This report outlines the plan for management of the identified asbestos impacted areas (zones), and should be read in conjunction with the existing Department of Education and Communities (DEC) Asbestos Management Plan for all other identified asbestos materials within the school.

### **1.3 Asbestos removal/clean-up works**

The asbestos removal/ clean up works completed in July 2007 comprised:

- the removal, clean-up and disposal of the visible fragments of fibrous cement on the ground surface. Removal was limited to the accessible surface areas only.

The asbestos removal/ clean up works completed in December 2013 comprised:

- the removal, clean-up and disposal of the visible fragments of fibrous cement on the ground surface in areas A - G. Removal was limited to the accessible surface areas only.
- the removal of the contaminated stockpile listed as Area A.
- the complete remediation of the football field including removal of contaminated material and replacement of soil and turf.

The remediated areas are shown in Figure 1.

## **2. Asbestos materials**

### **2.1 Asbestos zone locations**

Asbestos cement fragments may be present as a component of buried fill within the asbestos zone areas. Refer to Figure 1 site plan.

Based on guidelines provided by WorkCover NSW 'Managing Asbestos in and on Soil 2014', as well as DEC's 'Asbestos Management Plan for Schools and Colleges 2014', a licenced asbestos assessor should be engaged to determine whether the asbestos within the Asbestos Zones is considered non-friable or friable.

### **2.2 Risk management**

The in-situ asbestos within the asbestos zones can be classified as low risk provided that the following measures are undertaken:

- The control measures installed are fully maintained.
- The in-situ asbestos remains undisturbed.
- An asbestos management plan remains in effect.
- Any works undertaken on or near the asbestos zones are to be under the control of a permit to work where the contractor has acknowledged the presence of asbestos and has prepared a safe work method statement(s) to ensure that asbestos is not disturbed and therefore airborne asbestos fibres are not generated.

### 3. Asbestos register (Grounds)

Table 3-1 outlines the findings of the inspection of the grounds indicating the areas requiring management.

**Table 3-1 Asbestos Register – Asbestos zones only for Bonnyrigg Heights Public School**

Event	Location	Description of Material	Extent	Condition	Risk Status	Control Priority	Control Recommendation/Comments
<i>School Grounds*</i>							
A 2007	Playing field adjacent Block A	Possible buried asbestos cement fragments	Throughout – below ground surface	Unknown	Low	Low	No further fibrous cement fragments have been identified since the clearance was undertaken. The area should be inspected on an annual basis for fibrous cement fragments.
A 2013	Stockpile at the southern section of the school to the boundary fence	Possible buried asbestos cement fragments	Throughout – below ground surface	Unknown	Low	Low	The stockpiled material has been removed as of 16/01/2014 and a clearance was provided (see 2171479A Bonnyrigg HS_Clearance) for the area. It is expected, based on other areas throughout the school, that the site where material is stockpiled to Elizabeth Drive contains building fill and possibly asbestos fragments. Consideration should be given to repairing the area using appropriate material such as turf, mulch, or fake grass
B 2013	Eastern section of building F, including fenced off work area and shaded grassy area	Possible buried asbestos cement fragments	Throughout – below ground surface	Unknown	Low	Low	The area should be regularly monitored for any fragments and a record kept of how many are found and at what frequency. Fragments should be collected and disposed of as asbestos waste. Consideration should be given to the prevention of erosion through encapsulation using geo-fabric, covered by an appropriate material such as turf, mulch, or fake grass. The fake grass option would be more suited to this area as it is predominantly in the shade

Event	Location	Description of Material	Extent	Condition	Risk Status	Control Priority	Control Recommendation/Comments
C 2013	Grassy area between the southern school boundary fence and demountable D13679	Possible buried asbestos cement fragments	Throughout – below ground surface	Unknown	Low	Low	The area should be regularly monitored for any fragments and a record kept of how many are found and at what frequency. Fragments should be collected and disposed of as asbestos waste. Consideration should be given to repairing the area using appropriate material such as turf, mulch, or fake grass
D 2013	Area between building M and demountable D13679	Possible buried asbestos cement fragments	Throughout – below ground surface	Unknown	Low	Low	The area should be regularly monitored for any fragments and a record kept of how many are found and at what frequency. Fragments should be collected and disposed of as asbestos waste. Consideration should be given to repairing the area using appropriate material such as turf, mulch, or fake grass
E 2013	Stairs between buildings F and H, leading up towards the demountables	Possible buried asbestos cement fragments	Throughout – below ground surface	Unknown	Low	Low	The area should be regularly monitored for any fragments and a record kept of how many are found and at what frequency. Fragments should be collected and disposed of as asbestos waste. Consideration should be given to repairing the area using appropriate material such as turf, mulch, or fake grass
F 2013	Inaccessible (fenced off) area north of building G, to bus bay	Possible buried asbestos cement fragments	Throughout – below ground surface	Unknown	Low	Low	The area should be regularly monitored for any fragments and a record kept of how many are found and at what frequency. Fragments should be collected and disposed of as asbestos waste. Consideration should be given to the prevention of erosion through encapsulation using geo-fabric, covered by an appropriate material such as turf, mulch, or fake grass. The fake grass option would be more suited to the north-eastern corner of the school, which is predominantly in the shade



Event	Location	Description of Material	Extent	Condition	Risk Status	Control Priority	Control Recommendation/Comments
G 2013	Dirt patches on either side of the entry to building H, opposite building F	Possible buried asbestos cement fragments	Throughout – below ground surface	Unknown	Low	Low	The area should be regularly monitored for any fragments and a record kept of how many are found and at what frequency. Fragments should be collected and disposed of as asbestos waste. Consideration should be given to repairing the area using appropriate material such as turf, mulch, or fake grass. This may require the construction of a small retaining barrier to prevent soil erosion and foot traffic

\*Refer to Figure 1 for detail of area locations

**Risk assessment factors**

Low risk: Asbestos materials that pose a low health risk to personnel, employees and the general public provided they remain undisturbed.

Medium risk: Asbestos materials that pose a moderate risk to people in the area – there is a medium potential for the material to release asbestos fibres, if disturbed.

High risk: Asbestos materials that pose a high health risk to personnel or the public in the area of the material – there is a high potential for the material to release asbestos fibres, if disturbed.

## **4. Asbestos zone routine management**

### **4.1 Inspections**

In order to monitor the effectiveness of the on-site asbestos zone management, it is essential that the affected areas are regularly inspected. Visual inspections of the asbestos remedial measures should be carried out to ensure that they are maintained adequately. Such inspections should occur on the following occasions:

- at three monthly intervals (e.g. a walkover of remediated areas to ensure that applications of mulch and turf, etc. have been maintained)
- after a period of prolonged heavy rain (e.g. a walkover of remediated areas to ensure that applications of mulch and turf, etc. have not been disturbed by heavy rain)
- whenever damage or disturbance has been reported (e.g. a walkover of remediated areas to ensure that applications of mulch and turf, etc. have not been disturbed by events such as vehicle movements).
- whenever works are about to commence that may cause grounds disturbance

Should areas of exposed soil or geofabric be identified where containment has occurred, or where encapsulating measures appear to be damaged or are no longer effective, these areas should be re-covered immediately. Some remedial measures such as layers like mulch and top soil will require ongoing maintenance to ensure that a sufficient barrier layer is in place.

### **4.2 Maintenance**

All remediation measures carried out in the affected areas must be maintained as per their original application. In particular:

- All surface cover/treatments within the asbestos zones must be fully maintained at all times. For example, mulch levels should remain as per their original application, turf should be maintained to ensure full coverage and any other measures should be maintained in a good condition.
- All hard standing surfaces must be maintained and re-instated should any works that disturb them be carried out.
- If any portion of an affected area is found to be damaged (i.e. the surface cover has been damaged so that it has resulted or may result in the soil becoming exposed), the DEC local Asset Management Unit (AMU) should be contacted immediately.

### **4.3 Checklist**

A checklist of site management requirements is presented in Appendix A of this document. This checklist should be used whenever walkover inspections are carried out and where maintenance issues have been raised. The checklist is specific to the requirements of the grounds at Bonnyrigg Heights Public School and sets out the frequency of inspections required. It is recommended that a hard copy of the check-list retained by the school and field copies are taken on-site when required.

## 5. Asbestos zone maintenance works management

### 5.1 General

An Asbestos Management Plan (AMP) has been implemented for all NSW state schools and educational facilities. The plan includes procedures for managing friable asbestos and working on asbestos. A generic permit to work template will also be included in the management plan which will be able to be used where any work is required that may disturb asbestos materials within an asbestos zone.

### 5.2 Sub-soil areas within school grounds

- Any contractor, maintenance person, Department of Commerce, Department of Education & Communities must acknowledge the presence of buried asbestos cement materials within these areas. A copy of the asbestos register must be made available to any such person prior to commencing work.
- Any contractor, maintenance person, Department of Commerce, Department of Education & Communities or other authorised person who may potentially disturb the soil surface must complete a permit to work or similar form that ensures that any work will not disturb the buried asbestos.
- If work is to be carried out in grounds that will disturb or potentially disturb the buried asbestos, the contractor, maintenance person, Department of Commerce, Department of Education & Communities or other authorised person must engage a licensed asbestos removal contractor with a friable asbestos licence to undertake the work. The licensed contractor should prepare a safe work method statement detailing procedures that ensure that personnel working in the asbestos zones and any other persons within the school will not be exposed to asbestos fibres. The work area must be completely enclosed and work undertaken out of school hours.
- Work in progress asbestos air monitoring should be carried out during any work that disturbs or could potentially disturb the buried asbestos and/or the soil surface. Air-monitoring should be in accordance with the National Occupational Health & Safety Commission's *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2<sup>nd</sup> Edition [NOHSC: 3003 (2005)]* and be conducted by National Association of testing Authorities (NATA) accredited personnel operating from a NATA registered laboratory.
- All asbestos management measures originally installed must be re-instated at the completion of work and prior to the removal of the work area enclosure.

## 6. Permit for work

Any contractor who proposes to work in any of the asbestos zones where asbestos may be disturbed or the ground surface may be broken must complete a permit to work form.

Before a permit to work is issued, individuals will be required to read and understand the AMP, as well as copies of the relevant asbestos registers. Individuals must be aware of their legal obligations in relation to health and safety as specified in the Work Health and Safety Act 2011 and the Work Health and Safety Regulation 2011.

Permits to work are designed to ensure appropriate work practices are employed in the vicinity of asbestos-containing materials/products. The permit to work will document what asbestos is to be removed, encapsulated or otherwise protected, prior to the contracted maintenance or building works proceeding. The permit to work will also indicate whether other requirements, such as the use of personal protective equipment (PPE), the installation of barricading and/or airborne fibre monitoring, are necessary.

When the work is completed, or the permit to work expires (whichever occurs first), the permit shall be signed and returned to the DEC Facility Manager for cancellation after that Manager has checked a safe situation exists.

The DEC local AMU shall be advised immediately of any incidents of non-compliance with the AMP.

Based on guidelines provided by WorkCover NSW 'Managing Asbestos in and on Soil 2014', as well as DEC's 'Asbestos Management Plan for Schools and Colleges 2014', a licenced asbestos assessor should be engaged to determine whether the buried asbestos is considered *non-friable* or *friable*. Therefore, any fibrous cement materials or other suspected asbestos-containing materials excavated should be inspected by a licenced asbestos assessor to determine if it's friable. This means that any such asbestos should be worked on only by contractors with an appropriate asbestos licence and a project specific permit issued by WorkCover NSW (in addition to the permit to work, mentioned above).

## 7. Legislative requirements

The following legislative requirements will apply to asbestos zone maintenance works:

- All asbestos removal and disposal work shall be carried out in accordance with the requirements of the WorkCover NSW Guidelines for Licensed Asbestos Removal Contractors
- The asbestos contractor shall notify WorkCover NSW of the proposed work at least 5 days prior to the commencement of any work in accordance with NSW Occupational Health and Safety Regulation 2011. However this time period may be waived in the case for DEC properties
- All work shall be carried out in strict accordance with the NSW Work Health and Safety Act 2011, the NSW Work Health and Safety Regulation 2011, How to Safely Remove Asbestos – Code of Practice 2011, and the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres, 2nd Edition [NOHSC 3003 (2005)].

## 8. Safe work procedures for asbestos work

The following safe work procedures will apply for asbestos work:

- The removal contractor must develop a site-specific asbestos removal plan before commencing the asbestos work. Such a plan must be prepared in accordance with Section 3 of the Work Safe Australia- How to safely remove asbestos: Code of Practice 2011.
- Only personnel who have been trained in work procedures for the safe removal of asbestos shall work on asbestos.
- A trained, experienced operator must remain on duty outside the removal area and/or enclosure (if installed) at all times that asbestos removal is in progress. Curricula vitae for all persons undertaking asbestos removal works must be submitted to the Principal prior to the commencement of work on the sites.
- Removal of asbestos must generally be carried out by wet removal techniques. That is, as the asbestos material becomes accessible during the removal process, it shall be thoroughly wetted down. Care must be exercised to prevent excessive use of water. The contractor will be held responsible for any water damage
- Decontamination facilities and procedures shall be undertaken to the complete satisfaction of a hygienist
- Any signage existing prior to removal must be re-affixed to any new or existing assembly
- The contractor must ensure that persons in the work area(s) are not exposed to fibre levels greater than those stated in the National Exposure Standard for the type of asbestos being removed.

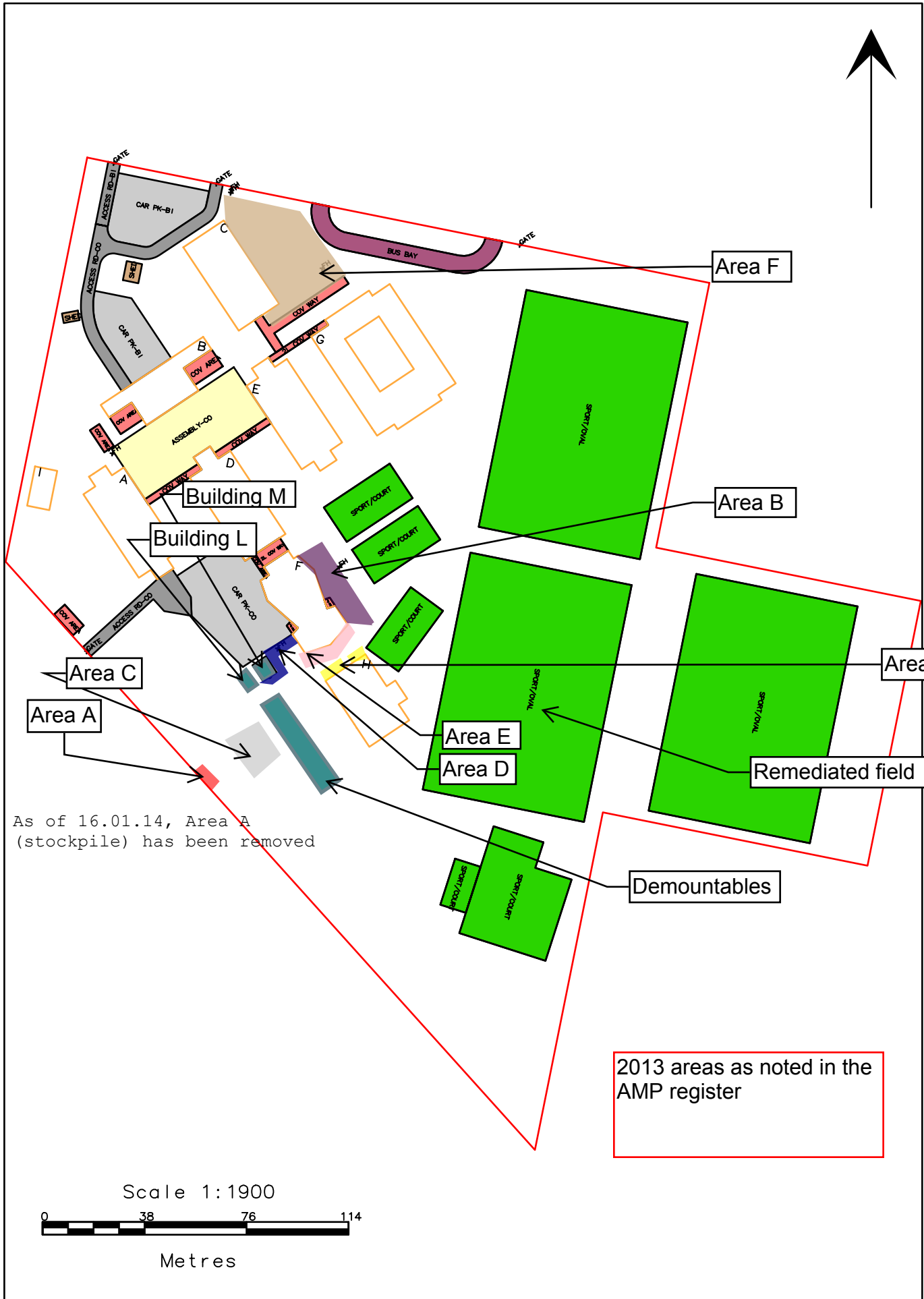
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**Figure**

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Site layout plan

# 8260 – Bonnyrigg High School Site Plan (11555)





## **Appendix A**

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Grounds management checklist

## Bonnyrigg Heights Public School grounds asbestos management checklist – Routine three monthly inspections

**Table 1 Routine monthly inspection checklist**

Area	Location description	Three monthly inspections	Initial inspection	Subsequent three-monthly inspections			
			Date:	Date:	Date:	Date:	Date:
A 2007	Playing field adjacent Block A	Surface cover adequate (Y/N)					
		Suspected asbestos materials visible (Y/N)					
A 2013	Stockpile at the southern section of the school to the boundary fence	Surface cover adequate (Y/N)					
		Suspected asbestos materials visible (Y/N)					
B 2013	Eastern section of building F, including fenced off work area and shaded grassy area	Surface cover adequate (Y/N)					
		Suspected asbestos materials visible (Y/N)					
C 2013	Grassy area between the southern school boundary fence and demountable D13679	Surface cover adequate (Y/N)					
		Suspected asbestos materials visible (Y/N)					

Area	Location description	Three monthly inspections	Initial inspection	Subsequent three-monthly inspections		
			Date:	Date:	Date:	Date:
D 2013	Area between building M and demountable D13679	Surface cover adequate (Y/N)  Suspected asbestos materials visible (Y/N)				
E 2013	Stairs between buildings F and H, leading up towards the demountables	Surface cover adequate (Y/N)  Suspected asbestos materials visible (Y/N)				
F 2013	Inaccessible (fenced off) area north of building G, to bus bay	Surface cover adequate (Y/N)  Suspected asbestos materials visible (Y/N)				
G 2013	Dirt patches on either side of the entry to building H, opposite building F	Surface cover adequate (Y/N)  Suspected asbestos materials visible (Y/N)				

## Bonnyrigg Heights Public School grounds asbestos management checklist – Incident inspections (e.g. after heavy rain or disturbance)

**Table 2 Incident inspection checklist**

Area	Location description		Date of inspection				
			Date:	Date:	Date:	Date:	Date:
A 2007	Playing field adjacent Block A	Surface cover adequate (Y/N)					
		Suspected asbestos materials visible (Y/N)					
A 2013	Stockpile at the southern section of the school to the boundary fence	Surface cover adequate (Y/N)					
		Suspected asbestos materials visible (Y/N)					
B 2013	Eastern section of building F, including fenced off work area and shaded grassy area	Surface cover adequate (Y/N)					
		Suspected asbestos materials visible (Y/N)					
C 2013	Grassy area between the southern school boundary fence and demountable D13679	Surface cover adequate (Y/N)					
		Suspected asbestos materials visible (Y/N)					

Area	Location description	Date of inspection				
		Date:	Date:	Date:	Date:	Date:
D 2013	Area between building M and demountable D13679	Surface cover adequate (Y/N)				
		Suspected asbestos materials visible (Y/N)				
E 2013	Stairs between buildings F and H, leading up towards the demountables	Surface cover adequate (Y/N)				
		Suspected asbestos materials visible (Y/N)				
F 2013	Inaccessible (fenced off) area north of building G, to bus bay	Surface cover adequate (Y/N)				
		Suspected asbestos materials visible (Y/N)				
G 2013	Dirt patches on either side of the entry to building H, opposite building F	Surface cover adequate (Y/N)				
		Suspected asbestos materials visible (Y/N)				