
Burbank School



Contents

| | | |
|---|---------------------|----|
| 1 | Shade Audit Summary | 2 |
| 2 | Site Analysis | 3 |
| 3 | Findings | 5 |
| 4 | Risk Analysis | 9 |
| 5 | Shade Projections | 10 |
| 6 | ShadeCalendar | 12 |

Prepared for

The School Directorate

by

Archicentre



(This Shade Audit is an example only)

ShadeAudit

This Shade Audit has
been prepared using
WebShade software.



1 Shade Audit Summary

The Shade Audit is a step-by-step process to:

- evaluate how existing shade is used at a site and
- assess the need for additional shade and UVR protection.

This Shade Audit was developed using the WebShade ShadeAudit process and software. For more information about shade planning and solar protection visit www.webshade.com.au

| | |
|--|--|
| Site name | Burbank School |
| Address | 32 Hillside Drive Burbank |
| Complies with SunSmart Shade Guidelines for schools? | NO |
| Recommended action | <ul style="list-style-type: none">• Re-locate unshaded play equipment• Construct shaded lunch shelter• Re-locate sandpit• Construct mini forests• Locate seats in shaded areas• Replace translucent roof sheeting |
| Site use | School |
| Number of primary users | 165 |
| Age of primary users | 5 - 10 years |
| Other users | Nil |
| Public use | No Public Use |
| Days per week used | 5 |
| Hours site used | 8.00am - 4.00pm |
| Seasons site used | All |
| Outside areas used between 11 am - 3 pm? | YES |
| ShadeAudit conducted by | Peter Vernon |
| Site inspected on | 22 May, 2008 |
| Interviews with | Jim Wilson, School Principal |
| Existing site plan used | NO |
| True north identified | YES |

I declare that the information provided in this Shade Audit has been compiled using onsite observations, public source electronic records and records of a meeting with the School Principal.

Signature

Name and date **John Greenwood**
16 June, 2008

2 Site Analysis



The Burbank School is situated in Upper Hutt on a relatively flat, northeast facing site.

Students engage in a variety of interesting opportunities outside the classroom with a lunchtime programme of physical education, arts and games. The school management is strongly committed to the development of a safe physical environment for students. It has embarked on an exciting initiative to create a number of mini-forests which are being planned by the students.

A number of mature deciduous shade trees provide good shade in summer and allow sunlight for warmth in winter. A shade structure over the sandpit has been damaged and replacement is being considered. The existing play structure is not shaded in summer but it is noted that the structure comprises several raised and/or enclosed platforms, resulting in considerable areas of shade. The school has recognised the need for better shade at lunch time and is considering the construction of a shade structure for this purpose.

Views of the site

The photographs for this report were taken at approx 10.00am on 22 May, 2008.

A clever and economical idea to provide shade and encourage students to use it.

The timber fence on north side of this seating provides summer shade at noon and protection from the wind. If spaces are comfortable, students will use them.



Sandpit and posts that support the shade structure in summer.

The fabric sails are damaged and the location is poorly shaded without the structure.



Mature deciduous trees near the playing fields cast good summer shade and areas around them are comfortable for use throughout the year.



This presently un-used area is the location for the planned mini forest.

Adjacent to the playing fields it will allow shaded spectator and rest areas associated with games and sports, as well as a shaded adventure and learning space.



The play equipment is poorly shade in summer.

This is the location of a proposed shaded space for students to eat lunch and participate in play and educational activities.

The area beyond will be extensively planted to create a shaded forest play area.



The existing play structure is not shaded in summer.

Whilst this is not ideal, it is noted that the structure comprises several raised and/or enclosed platforms, resulting in considerable areas of shade.



3 Findings

- 1 Most outdoor activities are rated MODERATE to EXTREME risk in summer.
- 2 Play equipment is not shaded in summer.
- 3 Translucent roof sheeting does not properly protect from UV radiation.
- 4 Sand pit shade structure is not effective.
- 5 Mini forest offers significant shade benefits.
- 6 Make better use of existing shade.



1. Most outdoor activities are rated MODERATE to EXTREME risk in summer.

At present, the school lacks adequate shade and does not comply with SunSmart guidelines.

Most outdoor activities are rated MODERATE to EXTREME risk in summer and students are likely to experience over-exposure to UV radiation.

There is a strong awareness of the issue within the school management and some successful initiatives have been commenced at the school.

Despite this, the lack of funding has hindered the creation of adequate protective shade.

| Activity | Risk |
|--------------------------------|-----------|
| Courtyard | Very High |
| Basketball | Very High |
| Playground 2 | Extreme |
| Play equipment | High |
| Sand pit | Moderate |
| Play structure | High |
| Playground 1 | High |
| Quiet play | Low |

RECOMMENDATION

The school should continue to pursue the provision of shade within the school grounds and implement as many of the following recommendations as they can manage – some, such as 4 + 6, do not involve significant capital expenditure.

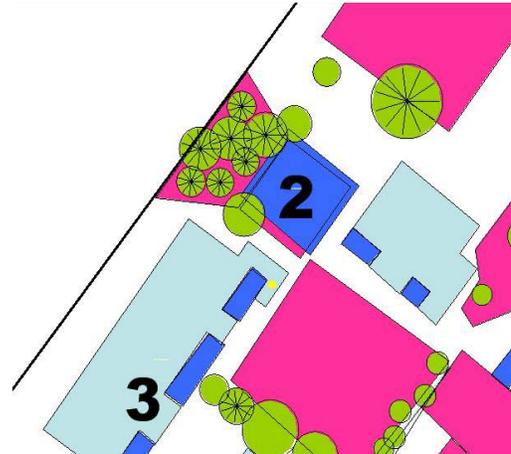
However, additional funding will be required to allow the school to undertake some of the more substantial projects to make their grounds sun safe.

2. Play equipment is not shaded in summer.

The school has a play equipment area which is unshaded. Play equipment is a strong focus for outdoor play and it is strongly recommended that it be shaded in summer in accordance with the SunSmart guidelines.

The school has recognised the need for better shade at lunch time and is considering removing the play equipment and constructing a shaded area in this location. This structure would allow students to eat lunch and participate in play and learning activities in the shade.

The area adjacent will be heavily planted to create a mini forest.



RECOMMENDATION

The proposal is sound and should be supported.

The roof sheeting of proposed structure should be polycarbonate as it will allow warmth in winter while blocking 99% of UV radiation and providing shelter from rain.

If the play equipment is to be re-used it should be located in an area that is shaded in summer.

3. Translucent roof sheeting does not properly protect from UV radiation.

Each existing classroom has a verandah constructed with translucent plastic roof sheeting that appears to be PVC.

If this is so, these roofs fail to provide 94% protection from UV radiation, as recommended by SunSmart. Accordingly, the shade created is inadequate for protection from summer sun.



RECOMMENDATION

All existing translucent roof sheeting should be replaced with polycarbonate, when needing to be replaced during maintenance. Until it is replaced, caution should be exercised when undertaking activities in these areas.

4. Sand pit shade structure does not provide effective shade.

A shade structure over the sandpit has been damaged and no longer provides effective protection from UV radiation.

The location of the sandpit is very exposed to sun in summer and requires shading.

Replacement of the shade sail is being considered.



RECOMMENDATION

Damage to the shade sail structure could recur due to wind or vandalism. It would be more economical to re-locate the sandpit to a location that is shaded in summer.

5. Mini forest offers significant shade benefits.

An area to the north east of the playing fields is presently un-used and it is proposed that it be extensively planted to create a mini forest.

This mini forest will provide well shaded adventure, relaxation and learning spaces and the opportunity to be involved in the planning will provide students with authentic learning experiences.

Adjacent to the playing fields it will also allow shaded spectator and rest areas associated with games and sports.



RECOMMENDATION

This is a great initiative and a credit to the school.

Trees and shrubs selected should comprise mostly deciduous species, as this will ensure summer shade and warmth from sunlight in winter.

6. Make better use of existing shade.

Optimising the use of existing shade is a sound strategy and providing additional seating is effective, economical and able to be promptly implemented with little effort.

Seating can encourage people to utilise areas on the site that have good summer shade.

Shaded areas adjacent to active play areas are important as they provide protection from UV radiation and compensate for the lack of shade in the actual play area.

The school is fortunate to have substantial shade areas that could be utilized.



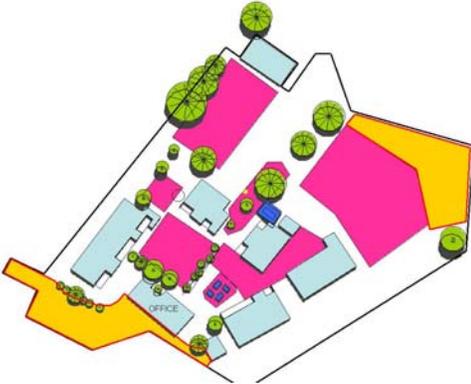
RECOMMENDATION

Provide seating in existing well shaded spaces, for example under the existing deciduous trees and on the south sides of buildings.

Staff could encourage students to identify shade opportunities in locations around the school where seats might be well located.

4 Risk Analysis

The following shade projections and risk profiles were produced by the WebShade software.

| CURRENT SITUATION | REVISED SITUATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|------|---------------------------|-----------|----------------------------|-----------|------------------------------|---------|--------------------------------|------|--------------------------|----------|--------------------------------|------|------------------------------|------|----------------------------|-----|---|----------|------|---------------------------|-----|----------------------------|------|------------------------------|------|--------------------------------|-----|--------------------------|-----|--------------------------------|-----|------------------------------|------|----------------------------|-----|-----------------------------|-----|---|-----|
| <p>Summer shade 1.00pm</p>  | <ul style="list-style-type: none"> • Unshaded play equipment removed • Shaded lunch shelter constructed • Sandpit relocated • Mini forests constructed • Shaded sports watching areas created <p>Summer shade 1.00pm</p>  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Current Risk Profile</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Risk</th> </tr> </thead> <tbody> <tr> <td>Courtyard</td> <td>Very High</td> </tr> <tr> <td>Basketball</td> <td>Very High</td> </tr> <tr> <td>Playground 2</td> <td>Extreme</td> </tr> <tr> <td>Play equipment</td> <td>High</td> </tr> <tr> <td>Sand pit</td> <td>Moderate</td> </tr> <tr> <td>Play structure</td> <td>High</td> </tr> <tr> <td>Playground 1</td> <td>High</td> </tr> <tr> <td>Quiet play</td> <td>Low</td> </tr> </tbody> </table> | Activity | Risk | Courtyard | Very High | Basketball | Very High | Playground 2 | Extreme | Play equipment | High | Sand pit | Moderate | Play structure | High | Playground 1 | High | Quiet play | Low | <p>Revised Risk Profile</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Risk</th> </tr> </thead> <tbody> <tr> <td>Courtyard</td> <td>Low</td> </tr> <tr> <td>Basketball</td> <td>High</td> </tr> <tr> <td>Playground 2</td> <td>High</td> </tr> <tr> <td>Play equipment</td> <td>Low</td> </tr> <tr> <td>Sand pit</td> <td>Low</td> </tr> <tr> <td>Play structure</td> <td>Low</td> </tr> <tr> <td>Playground 1</td> <td>High</td> </tr> <tr> <td>Quiet play</td> <td>Low</td> </tr> <tr> <td>Forest play</td> <td>Low</td> </tr> <tr> <td>Forest play/sports watching</td> <td>Low</td> </tr> </tbody> </table> | Activity | Risk | Courtyard | Low | Basketball | High | Playground 2 | High | Play equipment | Low | Sand pit | Low | Play structure | Low | Playground 1 | High | Quiet play | Low | Forest play | Low | Forest play/sports watching | Low |
| Activity | Risk | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Courtyard | Very High | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basketball | Very High | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Playground 2 | Extreme | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Play equipment | High | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sand pit | Moderate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Play structure | High | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Playground 1 | High | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Quiet play | Low | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity | Risk | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Courtyard | Low | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basketball | High | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Playground 2 | High | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Play equipment | Low | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sand pit | Low | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Play structure | Low | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Playground 1 | High | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Quiet play | Low | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Forest play | Low | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Forest play/sports watching | Low | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

5 Shade Projections

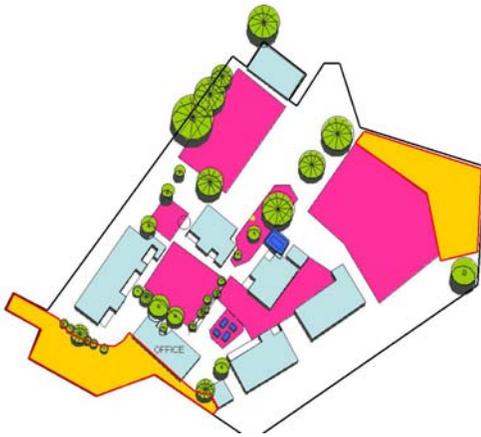
The following shade projections were produced by the WebShade software.

CURRENT SITUATION

REVISED SITUATION

- Unshaded play equipment removed
- Shaded lunch shelter constructed
- Sandpit relocated
- Mini forests constructed
- Shaded sports watching areas created

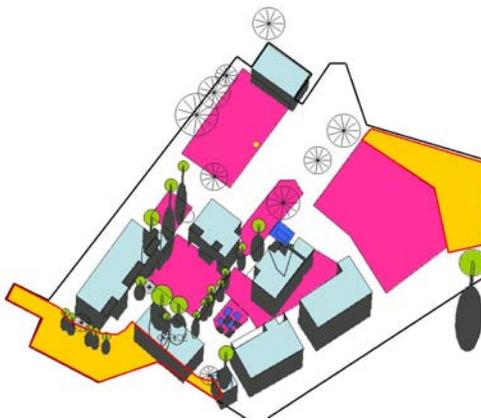
Summer shade 1.00pm



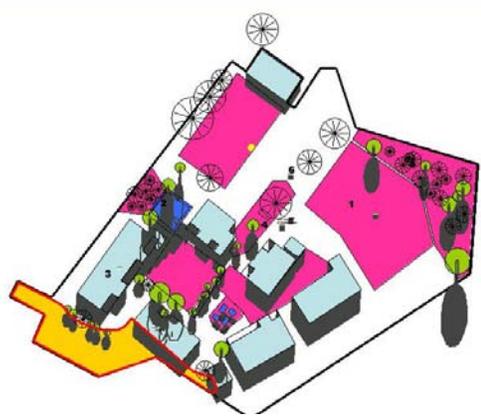
Summer shade 1.00pm



Winter shade 12 noon



Winter shade 12 noon



REVISED SITUATION – Summer shade projections

Summer 11.00 am 22 December



Summer 12 noon 22 December



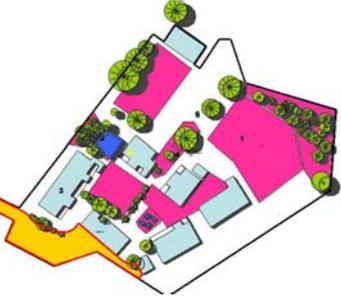
Summer 1.00 pm 22 December



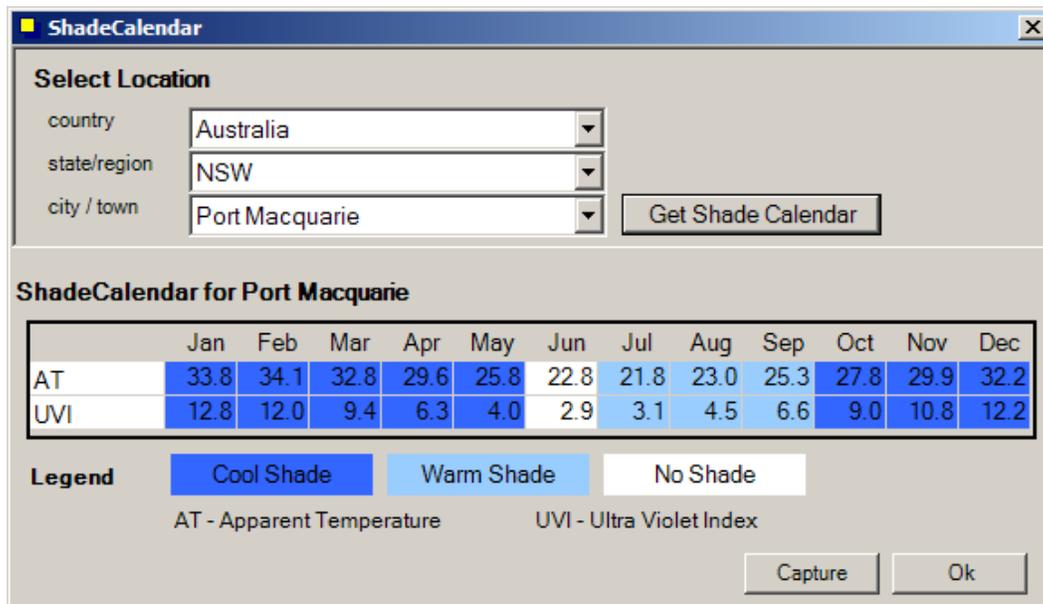
Summer 2.00 pm 22 December



Summer 3.00 pm 22 December



6 ShadeCalendar



ShadeCalendar shows the requirement for protection against UV radiation for your location throughout the year. It also indicates whether people are seeking cooling or warmth when they are outdoors.

Getting the type of shade correct is an important aspect of shade design and will effect how people use spaces. At some times of the year, you may need to provide solar protection while people are seeking outdoor warmth.

Make sure you are using the most appropriate type of shade by referring to the ShadeCalendar graph above and following this guide:

| | | |
|------------|--|--|
| Cool shade | Suitable when temperature + UV radiation levels are high | Block both sunlight + UV radiation |
| Warm shade | When temperature is low but UV radiation levels high | Allow sunlight but block UV radiation |
| No shade | When temperature and UV radiation levels are low | Allow both sunlight + low UV radiation |

For further information about ShadeCalendar, or to find out about creating cool and warm shade, go to <http://www.webshade.com.au/ShadeInfo/ShadeDesign/shadeCalendar.html>