



Practice Note No 11

MANAGING THE HERITAGE VALUE OF CEMETERIES

This Practice Note provides advice on managing the heritage value of cemeteries. The advice supports the Tasmanian Heritage Council's Works Guidelines, which provides guidance on seeking approval from the Heritage Council for works to a place entered in the Tasmanian Heritage Register.

Introduction

PREAMBLE

Cemeteries are an important part of Tasmania's heritage. This Practice Note explains these values and prescribes how works are to occur.

Part 2 describes the various ways cemeteries may have historic cultural heritage significance;

Part 3 addresses works requirements including issues related to gravesites and burials; and

Part 4 provides basic principles for monument conservation.

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1. INTRODUCTION

These notes are not intended as providing definitive advice on the conservation of all cemeteries. Just as with buildings and other structures, each cemetery will be unique in its heritage values and conservation issues. Therefore, to best conserve the significant elements of a cemetery, it is important to consider it in its context. All elements of a cemetery potentially have significance, and no works should occur without appropriate identification and assessment of its values and potential impacts. Works to a place entered on the Tasmanian Heritage Register require the approval of the Heritage Council. This approval may be in the form of a certificate of exemption, or a discretionary permit. The Heritage Council can be contacted for free on-site conservation advice.

1.1 Application and definitions

This Practice Note has been designed for cemeteries entered in the Tasmanian Heritage Register, although the principles should also be applicable to all cemeteries. The *Historic Cultural Heritage Act 1995* draws no distinction between a cemetery and any other place which may be eligible for entry in the Heritage Register.

The definition of 'conservation' used in this Practice Note is taken from the Heritage Act. It is, "the retention of the historic cultural heritage significance of the place; and any maintenance, preservation, restoration, reconstruction or adaptation of the place".

In these notes, the word 'cemetery' is used to define a place of burial, which may include a single grave, known but unmarked graves, and collective burial areas, including those of cremated remains. This definition may also include the designed cultural landscape. This may be either regular or irregular arrangement of paths and drives, monuments, buildings, grave surrounds or fences and plantings. The term 'monument' is used to describe those items associated with burial, to include such things as headstones, footstones, kerbing, other tomb types, and grave surrounds. Ephemeral cemetery items such as statues, vases or *immortelles* (everlasting ceramic wreaths) or other grave goods associated with a grave, whether deposited at the time of burial or

later, may also contribute to the significance of a grave or cemetery.

The 'grave' refers to the hole in the ground dug for the body or coffin, and includes the soil used to fill the hole. The 'burial' is the body or coffin placed in the grave. Graves may also contain burial artefacts. 'Burial artefacts' are those non-human remains buried in a grave, including the remains of the coffin, shroud and other items buried with the dead.



1.2 Actions that may be eligible for a Certificate of Exemption

The Heritage Council recognises that certain actions are essential for the ongoing maintenance and operation of cemeteries. Actions that do not have an adverse impact on the historic cultural heritage values of a cemetery may be eligible for a Certificate of Exemption from the Heritage Council. These actions include:

- continuing the practice of interments and construction of monuments;
- normal professionally carried out tree and garden maintenance;
- the introduction of seating or other furniture;
- the maintenance of pedestrian paths.

Actions that may have an adverse impact will require a discretionary permit application to be made to the local council.



2. THE SIGNIFICANCE OF CEMETERIES

For a place to be entered in the Heritage Register it must have historic cultural heritage significance where the Heritage Council is satisfied that it meets one of the eight registration criteria.

Historic cultural heritage significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Cemeteries potentially have significance in one or more of the following areas:

21. Historic significance

Cemeteries may be important in demonstrating the course or pattern of Tasmania's history. They may be associated with a particular era or area in the development of Tasmanian society, or be related to a specific historic event such as a catastrophe or epidemic.

Cemeteries are historical records of Tasmanian society, providing physical evidence of past attitudes towards death, commemoration and the developing cultural landscapes. This allows us to examine and interpret important aspects of the social and economic development of Tasmania.

Monuments and plantings become records of past burial practices and shifts in these preferences. Cemeteries are valuable records in their ability to demonstrate the customs, tastes and traditions of earlier times. In particular, cemeteries are repositories of specific cultural material created for the commemoration of the dead. Monuments and inscriptions are generally the most easily accessible evidence, usually in their original locations and contexts, providing primary information about Tasmania's historical development.

Cemeteries are documents of the lives of individuals, families and communities, and unlike other historical texts, they may provide direct historical links to the lives of all: the rich and the poor, the famous and the infamous. The inscriptions on monuments are a valuable resource for the research of genealogies, with nearly all monuments providing some biographical note. When a monument is viewed in the context of its neighbours, it may also indicate family and community connections.

As an example, the Saltwater River Cemetery has historical significance. This cemetery is the resting-place of Scottish immigrants who contracted typhus on their voyage to the colony and were turned away from Hobart.



2.2 Rarity

Cemeteries may possess uncommon or rare aspects of Tasmania's history, by indicating a distinctive way of life, custom, process or design no longer practiced or in danger of being lost. This may be the case where there were few examples of this particular type of place, or element of a cemetery, or where a cemetery was created for a particular group within society.

Examples of cemetery elements that may have cultural or technical rarity value include the Chinese incense burner at the Moorina cemetery, or the use of Huon Pine monuments on the West Coast. A practice that was formerly widespread but is poorly represented by present evidence may demonstrate historic cultural heritage significance for rarity values. For example, unmarked burial grounds for convicts and prisoners were common during the first half of the nineteenth-century, but few are known to have survived to the present compared with marked free burials.

2.3 Research potential

Cemeteries may have the potential to yield information that will contribute to an understanding of Tasmania's history. This information may be embodied in the monuments, the layout, the plantings, the inscriptions, the burials or other archaeological deposits, or simply the positioning of the cemetery in the landscape. It may contribute to our understanding of past mourning practices, lifestyles and demography, and how these may have changed over time.

Archaeology is the study of material culture to reveal new knowledge about the past. Cemeteries may contribute archaeological information because they are often highly intact places, containing physical evidence that demonstrates important aspects of our past. This may also apply where there is no, or little above ground evidence of the cemetery.

The burials themselves have the potential to yield information about Tasmania's history through an analysis of burial patterns, skeletal remains or associated burial artefacts. Subsurface material may enable the profiling of past individuals and groups, addressing issues such as class, ethnicity and religious affiliations.

Burials may also yield information on health, diet and disease, congenital anomalies, life expectancy, physical appearance, growth rates, origins and relationships, trauma and occupational stress.

Specific historic events such as disasters, diseases and epidemics may also be revealed in cemeteries and the material they contain. See Part B (Works within heritage registered cemeteries) and Appendix 2 for further details on archaeology.

The Collinsvale Cemetery is an example of a cemetery with research potential. This is the resting-place of many of the early settlers of Collinsvale, a settlement of predominantly German and Danish immigrants. This cemetery is an index to the community's ethnic history, and may reveal information on burial practices, religious affiliations, geographic origins, economic and population statistics and changes in health and lifestyle.



2.4 Representative significance

A place will satisfy this criterion where it is important in representing the principal characteristics of a class of place. Cemeteries, and the material they contain, may demonstrate the principal characteristics of funerary custom, land use, design or technique.

Cemeteries, as with all cultural places, have evolved in their design since European settlement and reflect the contemporary developments in architectural and landscape style. Early colonial cemeteries will often be arranged on a utilitarian axial layout, while later nineteenth-century preferences utilised gardenesque curvilinear cemetery designs, with emphasis placed on garden-like open spaces, paths and plantings. Monuments and built structures in cemeteries will frequently demonstrate architectural styles, from the colonial to modern period. Cemeteries that comprise good examples of broadly evident trends may be considered representative places. As an example, St Davids Park contains several architecturally impressive monuments, demonstrating the evolution in funerary art, from the classical, to high Gothic.

2.5 Creative or technical significance

Cemeteries may be important in demonstrating a high degree of creative or technical achievement. The creative or technical significance of a cemetery includes the artistic merit or technical achievements embodied within the place and items, and their relationship with contemporary theories of planning and design.

Variations in style, design, symbolism and iconography tend to follow other changes in cultural values, beliefs or philosophies. Cemeteries also demonstrate the technical skills of local crafts people such as in carvings of monuments and decorations, and blacksmithing, as found in iron surrounds. Cemeteries may satisfy this criterion where they demonstrate particular novel or unique artistic, design, or aesthetic principles or applications.

The design of cemeteries also shows developments in landscape, garden design and town planning. This is especially evident in larger Victorian and Edwardian cemeteries.

Landscape design includes the location of burial areas, the arrangement of drives and paths, and other features such as shelters, sculptures and plantings. How the cemetery fits into the wider landscape can be an important facet of its aesthetic qualities. This relationship may include the built, modified or natural environment. The context of a cemetery or individual monument may enhance the setting for a church or act as a landmark within a town.

Cemeteries may also be significant for their historic plantings. Plantings are often important in making cemeteries a more attractive place to visit. Trees and other large plants often frame and delineate the spaces within a cemetery, either to enclose or frame one aspect, or conversely, to screen another. In older cemeteries, mature plantings will often provide the dominant structural elements. In the nineteenth-century, various plants were given allegorical meaning. This made cemetery plantings both decorative features and symbolic of contemporary views on death. This interaction between various objects, elements and materials may be one of the ways that aesthetic values may have creative or technical significance. The degree of significance of a cemetery landscape may vary, depending on the design and its level of integrity.

Cornelian Bay is an example of a cemetery with creative significance. This place demonstrates the characteristics of a Victorian gardenesque cemetery with an arrangement of curvilinear paths, burial areas, plantings and other structures, consistent with nineteenth-century views on death and burial.



2.6 Community significance

Cemeteries may have strong or special association with a particular community or cultural group for social or spiritual reasons.

Although attitudes and rituals towards death have greatly changed since European settlement, a strong tradition of respect for the dead and cemeteries continues to exist within contemporary society. Cemeteries will often be seen as important personal, spiritual, holy and sacrosanct places which should be respected and not disturbed. This respect relates to the community significance of the cemetery where the social, cultural or spiritual associations have strong or special meaning for a group or community.

To meet this criterion a cemetery, or elements within it, must be identified by a particular group or community as being important to them.

The Original Ross Burial Ground has community significance for the Ross community and descendants of those buried there, as it represents a commemorative landscape inscribed with layers of meanings and memories, individual and collective, private and public.

2.7 Associative significance

Cemeteries may have a special association with the life or works of a person or group of persons of importance in Tasmania's history.

This may be especially so where they contain the work, or are the resting-place, of individuals, groups or organisations that are important in Tasmania's history. This may include the arts, sciences, politics, public life and many other areas of the life of the State and its history; for example, Christ Church cemetery at Illawarra where famous artist Tom Roberts is buried.

2.8 Aesthetics significance

Cemeteries may exhibit particular aesthetic characteristic.



3. WORKS WITHIN HERITAGE REGISTERED CEMETERIES

This section outlines the processes and basic principles that will apply when works are planned in heritage registered cemeteries. The principles should also be applicable to all cemeteries.

The *Historic Cultural Heritage Act* defines works as:

- Any development;
- Any physical intervention, excavation or action which may result in a change to the nature or appearance of the fabric of a place;
- Any change to the natural or existing condition or topography of land; and
- Any removal of vegetation or topsoil.

The heritage registration of a cemetery means that if 'works' are planned, approval from the Heritage Council is required. This may be in the form of a certificate of exemption (where there is no impact on significance), or in the form of a discretionary permit application to the local council prior to any work commencing. Heritage Tasmania should be contacted prior to the lodging of any development application for a heritage-registered cemetery.

3.1 Actions that the Heritage Council

The Heritage Council recognises that certain actions are essential for the ongoing maintenance and operation of cemeteries. Actions that do not have an adverse impact on the historic cultural heritage values of a cemetery will be eligible for a certificate of exemption. These actions include:

- Continuing the practice of interments and construction of monuments.
- Normal professionally carried out tree and garden maintenance.
- The introduction of seating or other furniture.
- The maintenance of pedestrian paths.

Actions that may have an adverse impact will require a discretionary permit application to be made to the local council.

3.2 Conservation process

The process for determining the significance and managing the historic cultural heritage values of cemeteries outlined in this document are consistent with the approach outlined in the *Burra Charter*.

3.3 Understand the cemetery

In order to assess whether proposed works will affect the significant values of a cemetery, the Heritage Council will need to know what the detailed heritage values of the cemetery are, and what impact the proposed works may have on these values. Appropriate professionals should conduct this research. The following steps outline this process.

- a. Document the cemetery**

The significance of the cemetery can be investigated by compiling all known details about the place; researching the history; interviewing owners, users and relevant community groups; understanding the context; and recording and analysing the fabric.
- b. Assess the significance of the cemetery**

The entry of the cemetery in the Heritage Register will provide a summary assessment of these values, however other, more detailed aspects of significance may exist. Once a place has been

investigated and documented, it is important to assess, or make a determination of how important the place and its various components are. Ways of assessing this significance include considering comparative examples, and re-evaluating the revised understanding of the place against the criteria for entry in the Heritage Register.

Special attention should be given to the community values of the cemetery, which are often an important aspect of a cemetery's significance.

c. Manage the significance

Understanding how a cemetery is significant should govern its future management. A workable management approach requires consideration of various factors such as the site condition and client requirements, and the development of strategies to conserve significance. Such strategies include alternatives to disturbing historic cultural heritage values and mitigation methods where impacts on these heritage values are absolutely unavoidable.

Heritage Tasmania should be contacted for further advice about this process.

3.4 Basic principle for works in cemeteries

All elements of a cemetery potentially have historic cultural heritage significance and none should be removed with the general aim of 'tidying up' the cemetery. Like all historic places, the various elements of a cemetery will demonstrate various layers of history. Where the significant elements of a cemetery have been damaged or destroyed to such an extent that it would prevent their restoration or reconstruction, this material should still be retained within the cemetery.

The preferred option for the conservation of any place of significance is to have respect for the existing fabric, use, associations and meanings. It requires a cautious approach of *changing as much as necessary but as little as possible*. The applicant may have to alter their plans so that the cemetery can remain undisturbed.

Where a cemetery is of high historic cultural heritage significance and the impact of

proposed works is extensive or routine, the Heritage Council may determine that a Conservation Management Plan should be prepared. This should occur prior to submitting a development application to the local council. If you are in doubt about the necessity for a Conservation Management Plan, you should contact Heritage Tasmania in the early stages for advice. The Conservation Management Plan should be prepared by appropriate heritage professionals and investigate and assess the significance of the cemetery, and make recommendations for the ongoing management and conservation of this significance. Specific issues to be addressed in the Conservation Management Plan are the same issues dealt with in this Practice Note.

a. Community consultation

Although attitudes to death and associated rituals and practices have greatly changed since European settlement, a strong tradition of respect for the dead and cemeteries continues to exist within contemporary society. These traditions reflect the community significance of cemeteries.

Where certain works are proposed in a cemetery, community consultation to identify any social, cultural or spiritual values may be required prior to lodging an application. For example, impacts on gravesites and burials, overall layout or design, and significant monuments may require community consultation.

Where community values must be assessed, an appropriate heritage practitioner familiar with community values research should conduct the consultation, and provide detailed analysis of the community significance of the cemetery.

Consultation should target relevant groups. Communities of interest may include descendants, religious authorities and parishioners, local residents, the Tasmanian Aboriginal Land Council (if Aboriginal heritage issues exist), the local council, local schools, local historical or community groups, and the National Trust. Descendants must be given the opportunity to comment and provide input into decision making. The results of

the consultation should be factored into the management of the cemetery.

Where archaeological excavations are proposed, the consultation process should include details of these works.

Information should be provided on the methodology and any proposed analysis of burial remains or artefacts, such as DNA testing. Research involving human tissue analysis shall comply with the relevant legislation and the National Health and Medical Research Council ethics and principles.

b. Landscape and design

The landscape of a cemetery can be a very important aspect of its historic cultural heritage significance that should be preserved. Please note that for works on significant plantings within heritage registered cemeteries, approval must be sought from the Heritage Council prior to works commencing. Relevant sections of the Heritage Council's Works Guidelines should be used to guide the conservation of landscape and design elements.

It is highly desirable to retain traditional plantings, and when replacement is required, to do so with the same species. Where there is an apparent landscape design, new plantings should follow this design.

c. Making records

Where proposed works will involve the loss or alteration of heritage fabric, the Heritage Council may require that the Practice Note 3 *Procedure for Extant Recording of a Heritage Place* be complied with. A copy of the Extant Recording must be lodged with the Heritage Council before works commence.

d. Applications for the disturbance of gravesites and burials

Where a cemetery is entered in the Heritage Register, this registration also includes the subsurface material including gravesites and burials.

Because excavation and removal of burial material may impact on the significance of the place, it is the policy of the Heritage Council that it would normally only approve such works if it is essential for the conservation of

the historic cultural heritage significance of the place.

Where mitigation is required, the Heritage Council may firstly require an archaeological assessment in accordance with the Heritage Council Practice Note 2. See Appendix 2 for further details about archaeological assessments.

4. PRINCIPLES OF MONUMENT CONSERVATION

This Part has been designed for heritage registered cemeteries as a basis for monument conservation. These principles may also be of use in the conservation of unregistered cemeteries.

Sometimes it will be necessary to consult with an appropriate heritage conservation specialist for advice on the repair of monuments. The following information is not intended as the solution for all conservation problems because each cemetery has its own unique context of heritage values and conservation concerns. Please see Appendix 1: Technical Aspects of Monument Conservation, for further information, or contact Heritage Tasmania for free advice, including on-site meetings.

4.1 General maintenance

All elements of a monument potentially have historic cultural heritage significance and none should be removed from the cemetery with the general aim of 'tidying up' the cemetery. Like all historic structures, the elements of a cemetery will demonstrate various layers of history. This patina is often part of the heritage value and the aim should not be to create an 'as new' appearance.

It is recommended that significant material be retained *in situ*. In cases where monuments have been damaged or obscured to such an extent that it would prevent their restoration *in situ*, this material should still be retained within the cemetery. Written and photographic documentation should be made prior to the removal of monument fragments from their original location.

4.2 Relocating monuments

Monuments should not be relocated or rearranged in-groups or placed in walls. This can cause further damage to the monument and removes it from its original context. Moving monuments to regularise the appearance of the cemetery or to facilitate maintenance, such as lawn mowing, destroys the original ordering and meaning of the cemetery layout, obscuring important details about design and use and reducing its historic cultural heritage significance. What may appear at first to be a chaotic arrangement of monuments may be one of the distinguishing aspects of the cemetery.

4.3 Repairing monuments

The repair or sensitive restoration of monuments is encouraged, provided that appropriate expertise guides the work. Although amateur restoration may result from good intentions, this can actually cause more damage to the monument. Please contact Heritage Tasmania for free advice on the repair of monuments.

4.4 .The use of chemicals

Some successes have been achieved with chemical consolidants or resins to stabilise monument degradation. However, a high level of expertise is required to carefully control the treatment because such methods are irreversible and improper use can alter the appearance and characteristics of the stone. A professional skilled in the use of consolidants on heritage structures should be consulted.

4.5 Reinscription of monuments by cutting into stone

The reinscription of monuments by cutting into stone, especially sandstone, is not a method recommended by the Heritage Council because of the nature of the stone. Cutting through the harder exterior of aged stone exposes a softer interior, and accelerates the degradation process.

APPENDIX I: TECHNICAL ASPECTS OF MONUMENT CONSERVATION

The following information is not intended as the solution for all conservation problems because each element in a cemetery has its own set of heritage values and conservation concerns. Sometimes it will be necessary to consult with an appropriate heritage conservation specialist for advice on the repair of cemetery elements. Please contact Heritage Tasmania for free advice and specific conservation advice including meeting on site.

Conservation works should be in accordance with the *Burra Charter*. The *Burra Charter* provides guidance for the conservation and management of places of cultural significance. The *Burra Charter* establishes six basic ideas for working with places of cultural significance. These are:

- The place is important
- Understand the significance of the place
- Significance should guide decisions
- Do as much as necessary, as little as possible
- Keep records
- Do everything in a logical order

Copies of the *Burra Charter* are available from Heritage Tasmania or the Australia ICOMOS website at <http://www.icomos.org/australia>

PROBLEM	DUE TO	SOLUTIONS
I Leaning and fallen monuments NOTE: a slight lean is not a problem unless the cemetery is subject to vandalism, in which case the lean may attract the attention of vandals, or unless the lean is causing some other problem such as promoting distortion etc.	Failure of footings and or foundations because:	
	<ul style="list-style-type: none"> • Vault distortion or collapse 	Seek structural engineering advice. The engineer will determine firstly if stabilisation is possible and if not how reconstruction shall occur.
	<ul style="list-style-type: none"> • Water erosion 	Correct drainage problem.
	<ul style="list-style-type: none"> • Rabbit burrows 	Fill holes with compacted earth.

	<ul style="list-style-type: none"> • Tree roots raising one side 	Chop off offending root or seek professional advice on the significance of the planting.
	<ul style="list-style-type: none"> • Differential settlement, eg, one side on rock other on fill, or one side dry and the other side wet due to broken drain or hollow in ground 	Consult with a plumber to check the drainage, improve if necessary and re-bed the monument in sand.
	<ul style="list-style-type: none"> • Soil creep on hillside 	Generally an intractable problem, however avoid the removal of local bushes and trees. It is sometimes caused by poor subsurface drainage, in which case an agricultural drain on the uphill side may help.
	<ul style="list-style-type: none"> • Soil slump, ie, localised movements of land usually after heavy rain: 	
	i.) on river banks and gullies	Consult an engineer to advise on erosion control measures.
	ii.) slate and shale areas	uphill drainage
2 Monuments disassembled but not broken	Vandalism or temporary removal to permit essential work	Check the top of the plinth to ensure that it is level, re-bed if necessary. Reassemble, avoiding cement and plaster of Paris. For tall structures vulnerable to vandalism consider introduction of non-ferrous dowels (eg bronze) or marine grade stainless steel.
3 Broken monuments: i.) breaks in sturdy stone monuments	Accident – vandals and livestock; often involving heavy falls on masonry or iron surrounds or uneven ground.	<p>General Principles:</p> <p>In the repair of monuments, two basic principals are essential. Firstly, cement or plaster of Paris should never be used to join stone. This is because cement and plaster have a different porosity to stone. This can result in an accelerated deterioration of the monument. Cement can also spoil the finish of some granites. Pointing made from lime putty will provide adequate bonding strength but with the desired porosity. It will also be free of soluble salts which can discolour the monument or exacerbate fretting.</p> <p>Secondly, iron or mild steel dowels and clamps should not be used in repair work even if galvanised as they will inevitably rust and expand, causing severe cracking. If a stone is cracked, it is best to repair it with</p>

		<p>bronze or stainless steel dowels set in lead or mason's putty. A resin cement may be used for sealing the crack however this must be of a special waterproof grade, otherwise it will deteriorate over time. Resins if improperly used can cause problems in stone work as it prevents moisture migration within the stone. It should therefore not be used where the stone is subject to rising damp or salination. Professionals should certainly be consulted in the use of armatures or supportive braces to support repaired headstones so that the monument can be retained at its original grave location.</p> <p>In general, employ an experienced monumental mason to reset stone on plinth and dowel parts together using only specialist epoxies applied by an experienced conservator. It is important to avoid cement.</p>
<p>ii.) multiple breaks in relatively thin slabs</p>		<p>If re-erected they will be vulnerable to vandalism. The alternatives are:</p> <ul style="list-style-type: none"> • leave lying on ground • erect a solid slab, and pin the pieces to slab with bronze dowels. • Pin pieces to horizontal slab (so that water will not lie on upper surface), eg, granites can be horizontal but limestone should have water thrown off. • Prepare a replica for erection and remove original to museum. • Leave pieces on site, reproduce inscription on small stainless steel plate and erect inconspicuously on site
<p>4 Mechanical damage to wooden monuments and wooden elements</p>	<p>Vandalism, the operation of grave digging equipment and mowers etc</p>	<p>Mechanical damage is largely dependent on the degree of supervision possible which in most instances would be virtually negligible. Some timbers which might be chosen for durability against weathering and decay (eg. Californian redwood, western red cedar) could be very soft and easily damaged.</p>
<p>5 Weathering damage to wooden monuments and wooden elements</p>	<p>Exposure to elements</p>	<p>Wood is by nature absorbent of moisture and the surface layers readily take up dew and rain, with consequent expansion. A multitude of fine surface cracks will often form and assist the erosion of the surface, a process speeded up by the softening of those surface layers by fungal organisms encouraged to develop by continuing dampness.</p> <p>End grain is more susceptible to breakdown than side grain because of its</p>

		much greater absorbency so the provision of some inhibitor of water entry (eg metal caps on the top of posts, coating of bitumen or paint on other end grain) can be helpful.
6 Decay of wooden monuments and wooden elements	Exposure to elements	<p>Decay is the breakdown of the constituents of wood by when the moisture content of the wood is favourable to fungal growth. Wood kept reasonably dry (below 20% moisture content) or when saturated with water, is usually safe from attack.</p> <p>The wood of the tree's stem may be subdivided into sapwood and heartwood. The sapwood exists just under the bark and is the conductor of the life processes of the tree, containing a lot of sugars and starches, which enhance its attractiveness to the decay organisms.</p> <p>Heartwood is non-living tissue. When it is converted from sapwood, the connection between cells becomes blocked with materials with varying degrees of toxicity to fungi. The blocking of the cells also makes the heartwood much less absorbent to moisture.</p> <p>Preventative treatments that protect wood from excessive moisture can be effective, such as improving drainage and preventing ponding; re-bedding wooden elements in free-draining gravel mixes; and removing sap wood components from contact with the ground.</p> <p>Simple approaches should always be considered before using wood preservatives, as applying preservatives to aged timber <i>in situ</i> can be highly problematic. Although sapwood is more receptive to preservatives, it is very difficult to obtain penetration of preservatives into the heartwood of most species except under very specialised and costly conditions. Specialist advice should be sought on the use of preservatives.</p>
7 Monuments with cracked or broken mortice in the plinth	Fall	<p>Where mortice is damaged the options are:</p> <ul style="list-style-type: none"> • Replace plinth with a facsimile • set stone in similar plinth with mortice, in the same way as the original
8 Masonry cracking	Pressure from expansion of ferrous metal elements (eg. dowels, fences)	<ul style="list-style-type: none"> • Where iron clamps or dowels within the masonry have expanded replace with bronze clamps, and repair masonry • Where wrought iron rails posts and bars have expanded and cracked

		<p>masonry:</p> <ol style="list-style-type: none"> a) remove iron from masonry if further damage is likely to occur. b) scrape away loose rust c) treat as set out in 9 d) apply protective paint e) repair masonry f) lead-in prepared hole in masonry insuring that no part of iron is in contact with stone g) stop joints in masonry to make watertight and ensure that water is diverted from area.
9 Spalling, fretting and delamination of monuments	Rising damp (particularly near the base of the stone)	Improve drainage at the base of the stone.
	Salt accumulation (particularly under mouldings) Note that resetting stone monuments improperly in concrete will accelerate this deterioration and should be avoided	
	Ponding of rainwater (particularly on shoulders and carving of monument)	<p>Remove any concrete or cement from the base of the monument and replace in porous masonry and lime mortar.</p> <p>Stones should be reset vertically if they are leaning in such a way that the inscription or decorative side is inclined to the ground.</p> <p>Repair pointing to prevent entry of water if it is a compound monument. Ensure that water is thrown off the monument.</p>
10 Inscriptions fretting on monuments	See 6 also abrasion by vegetation in a	Treat cause as in 6 above, but first record as much of inscription as possible and take photographic records. Lodge copies of records with the Heritage Council.

	wind	<p>In normal circumstances monuments should not be reinscribed, especially sandstone monuments. Sandstone consists of sand-sized particles held together with natural mineral cements. When stone is first cut from the quarry there is an even distribution of these sand particles and mineral cements. As the stone seasons, this mineral cement is transported to the surfaces. Evaporation of the water deposits this natural cement, forming a harder exposed surface. This process is known as 'case hardening'. However because this mineral cement is concentrated near the surfaces of seasoned stones, the interior of the stone has less mineral binders and is therefore more vulnerable.</p> <p>Cutting through the case hardened surface to reinscribe exposes the internal, 'softer' stone to accelerated weathering and will eventually cause greater damage. This is especially evident with monuments where the depth of stone is usually quite thin, which therefore means that the natural protection given by the case hardened surface is shallow. It can also be argued that reinscription destroys the authenticity of the monument with the loss of evidence of the original craftsman's art and skill. This issue however, is one that needs to be considered in the context of each monument or cemetery as circumstances and needs vary according to the nature of the monument.</p> <p>When it is the text or words which are of importance, a less intrusive and cheaper method to reinscription is the recording of monument details on signs or plaques. This is appropriate where the detail of the monument has deteriorated to such an extent that the inscription is becoming illegible. Great care must be taken in choosing the design and location of the signs so as to avoid compromising the significance of the cemetery. Generally, these signs should not be placed on the headstone.</p> <p>In exceptional cases where the character of the inscription and detailing of the monument is of such significance that it must be preserved, it should be carefully removed to a prepared location in a local museum and a replica monument erected in its place.</p>
	Damage from lawn mower debris	<p>Care should be taken in the use of lawn mowers as they can cause damage to monuments through collisions, flicking stones and debris, and vibrations. One easy precaution is to ensure that lawn mower throws the debris away</p>

		from the monument.
I1 Rusting of cast iron memorials and loss of inscriptions	Exposure to elements	Rusting of cast iron is superficial and presents no structural problems. However as the inscriptions are generally painted on, these are rapidly lost and careful repainting may be appropriate.
I2 Fading or flaking painted stone monuments or painted inscriptions	Exposure to elements	<p>No paint should be applied to a stone monument unless there is clear evidence that the monument has previously been painted. Many monuments were originally painted, especially sandstone altar tombs often painted white or whitewashed to give a marble-like effect. To allow for moisture movement, traditional lime-washes or flat water-based paints are acceptable. Loose or flaky paint should be carefully removed by hand with nylon brushes. Well-adhered paint should be left.</p> <p>Lettering on whitewashed sandstone was usually picked out in black, and occasionally unpainted sandstone was similarly treated (often in black or gold). Unless leaded, granite monuments were generally painted within the inscribed lettering. Great care should be taken in painting inscriptions. Special attention should be given to the form and style of the inscription.</p>
I3 Fading or flaking painted wooden monuments		<p>No paint should be applied to a wooden monument unless there is clear evidence that the monument has previously been painted. A good quality heavy-bodied paint to give good protection against weathering should be used. Oil paints offer good protection.</p> <p>Loose or flaky paint should be carefully removed by hand with nylon brushes. Well-adhered paint should be left. The surface should be dry and free of rot. Wood primer should be used on bare patches of wood. External cracks should be filled with a paintable acrylic (not silicone) sealant. Sealants should be applied over the primer, and not directly on the wood.</p>
I4 Rusting of wrought iron memorials and surrounds	Exposure to elements	Rusting surfaces on most wrought iron is not seriously damaging unless it is flaking heavily. However where treatment is necessary, the iron work should be dismantled, the rust removed with gentle brushing and a rust inhibitor applied. Alternatively the iron can be galvanised and painted.
I5 Iron monuments broken in parts	Vandalism	Parts can be joined if necessary by a pin or splint. Brazing and welding can sometimes be undertaken.

<p>16 Wooden monuments or elements broken</p>	<p>Vandalism</p>	<p>In cases of severe damage where the structure involves interlocking components, it may be necessary to dismantle the structure and rebuild. Joints between old and new sections should replicate the original joints and structural details, strengthened with adhesives, inert plates, pins or straps if necessary. New wooden elements should be identified as new, for example with discrete stamps or carvings.</p> <p>Only those elements no longer functioning should be replaced with new timbers. It is often possible to replace only parts of damaged elements. Replacement timber should be with timber of similar properties and level of performance. A good carpenter or builder should be able to identify suitable materials. Appropriately seasoned timbers should be used.</p> <p>Where wooden monuments have been broken, great care should be taken in their repair. In some cases decayed sections can be consolidated with synthetic resins rather than replaced. This may be appropriate where a timber member is of particular importance, for example it has an inscription or carving. Additional strengthening can be achieved via insertion of inert plates and rods. Wood consolidation is a specialised area and should be carried out by a conservator.</p> <p>Ferrous metal elements should be avoided in wooden elements as they corrode rapidly and can cause staining and splitting of timbers. For delicate repairs, the use of brass, bronze or stainless steel fittings should be considered. In normal circumstances, hot dipped galvanised elements are appropriate, with extra protection by painting the structure, however corrosion can still occur.</p>
<p>17 Monuments astray from their original location</p>	<p>Vandalism</p>	<p>Attempt to ascertain from documentary (surveys and registers) and oral sources (family) the correct location and reinstate.</p>
<p>18 Odd alignment of monuments</p>	<p>Irregularities in cemetery planning</p>	<p>This is not a problem; such stones are usually early and date from a period before the cemetery was surveyed. As such they and their alignment are significant and should be preserved.</p>
<p>19 Deterioration of leaded lettering on marble monuments</p>	<p>Oxidisation of marble adjacent to letters</p>	<p>Can be releaded but only by a monumental mason.</p>
<p>20 Red staining on white marble from</p>	<p>Chemical attack on lead, mainly in</p>	<p>Partial removal by gentle scrubbing with water</p>

lead lettering	industrial areas	
21 Growth of mosses, lichens and fungus on monuments	Moisture and type of stone used, eg marble is liable to Black Mould and sandstone to lichen	These growths offer some physical protection to the stone and at the same time do some slight damage. On balance they may be left unless they are unsightly or obscure the lettering, or have etched into the stone. In such cases diluted organic poison should be applied and the growth allowed to dry and fall off over a period of time. Chemicals used to kill such growths can severely damage the monument if incompatible with the stone. Organic poisons containing soluble salts should be avoided. A hydrophobic chemical of a more benign formulation will kill the growth by cutting off moisture. Scraping off growth should be avoided as it can damage the monument.
22 Growth of disruptive vegetation on masonry	Lack of maintenance	Where sturdy shrub or tree seedlings take root on monuments and surrounds they should be poisoned with direct application to the vegetation rather than sprayed. The vegetation should then be sawn off and allowed to decay and not be pulled out where it will damage the masonry.
23 Damage by livestock to monuments	Inadequate fencing and gates	Ensure the cemetery is fenced to prevent access by livestock. Much damage can be done by livestock leaning on monuments to scratch themselves. Sheep and goats if tethered and supervised can make useful lawn mowers provided that edible plants important to the cemetery landscape are not accessible.
24 Monuments: soiled, blackened from soot	Pollution	Care should be taken when cleaning monuments to avoid causing damage. The first principle is to avoid harsh abrasives such as wire brushes, metal instruments, abrasive pads and high pressure water, air or grit. Using materials that are harder than the stone risks scratching the face of the monument and causing more damage. The same applies to chemical cleaners. Because stones are composed of minerals and salts, using chemicals can often cause reactions that will hasten the rate of erosion. The preferred method for cleaning sandstone, marble or limestone monuments is water and soft bristle brushes. This will clean most environmental soiling and lichens from stones. The stone should be kept wet during the process and flushed with gently flowing water when

		completed. The water should be able to drain away freely from the base of the monument. The monument should be cleaned from the top down to avoid streaking and further staining.
25 ISSUE: the taking of records	Where proposed works will involve the loss or alteration of heritage fabric	<p>The Heritage Council Practice Note 3 <i>Procedure for Extant Recording of a Heritage Place</i> should be complied with.</p> <p>The recording of heritage cemeteries involves both written descriptions and photographic evidence of the affected areas. Written records are to note the details of affected monuments and the various aesthetic, historic, scientific and architectural values of the cemetery. Such records are important as they assist in understanding the history of a cemetery for present and future generations. In some cases these may be the only records available regarding a particular individual or family. This work can be carried out by volunteers with adequate training and supervision.</p> <p>These photos should firstly provide detail of each affected monument including any inscription or carvings, grave surrounds, footstones and other grave material. Photos should also be taken of the relationship of the affected grave with its surrounds. Photos depicting site layouts, plantings, buildings and structures are also required. A scale should be included in every photograph.</p> <p>The layout, design and planting of a cemetery should be recorded by annotated plans, and if available, copies of the original plan of the cemetery should be included in the documentation. Because the photographic database held by the Heritage Council is in a digital format, it is of assistance, though not essential if cemetery photos are also in a digital format.</p>

APPENDIX 2: ARCHAEOLOGICAL ASSESSMENTS IN CEMETERIES

1. Introduction

The following points address issues applicants must consider when working in places where gravesites and burials exist. It should be considered in conjunction with the preceding sections and the Heritage Council Practice Note 2 *Managing Historical Archaeological Significance*. Because of the complexities involved when undertaking works where gravesites and burials are present, the applicant should contact Heritage Tasmania for advice, well in advance of lodging a development application with the local council.

1.1 Application and Definitions

Excavation refers to the removal of deposits, artefacts and/or human remains involving the use of archaeological techniques and recording methods and completed by professional archaeologists and physical anthropologists to the approval of the Heritage Council.

This section addresses requirements for the disturbance of gravesites and burials under the *Historic Cultural Heritage Act*. Other procedures and approvals may also be required under the *Burial and Cremation Act 2002*, the *Aboriginal Relics Act 1975*, *Aboriginal and Torres Strait Islander Protection Act 1984 (Cth)*, *Coroners Act 1995*, *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, requirements of the Director of Public Health, and any other relevant Act or regulation.

1.2 Archaeological Research Design

Requirements for archaeological mitigation of proposed works must be in accordance with the Heritage Council Practice Note 2 *Managing Historical Archaeological Significance*. The specific research questions for the long-term management of the cemetery will be developed from the details of the history and the assessment of significance. When significant burials are disturbed, appropriate resources should be allocated for thorough analysis, documentation and reporting of results. Where destructive sampling, such as DNA analysis is proposed, the analysis shall comply with the relevant legislation and the National Health and Medical Research

Council ethics and principles for research involving human tissue.

1.3 Requirements During Archaeological Works

Where approved archaeological works occur, applicants should provide sufficient planning, resources and time to ensure that disturbance of graves and human remains occurs in a dignified and respectful manner. The Heritage Council may require the applicant to address broad questions covering excavation justification, consultation and access, and management outcomes for the site and any excavated material. For example, issues to be addressed include but are not limited to:

- Management, access and security for the site.
- Addressing differing religious or ethnic groups' specific cultural requirements or sensitivities in a respectful manner.
- Short term, or permanent curation of burial material.
- On site interpretation proposals.
- Reinterment and commemoration protocols.
- Data collection and reporting requirements.

1.4 Reinterment and Commemoration

Once the analysis of the gravesites and burial material has been completed, reinterment and commemoration are possible ways to mitigate the impact of the works on the social, cultural and spiritual values of the cemetery. Reinterment of burial material should be included in the Archaeological Research Design and should occur within a period approved by the Heritage Council. Care should be taken in re-interring burial material to help ensure that the material is not exposed to conditions that will further exacerbate the degradation process. The community consultation stage should provide and assess reinterment and commemoration options. Descendants should have the opportunity to comment on the nature of the reinterment, ceremony and the way in which the burials are commemorated.

Issues to be considered include:

- Reburial in a mass grave or in individual coffins or shrouds.

- Burials to be orientated in the same direction as they were originally found.
- Burials to be placed in the same spatial relationship to each other as they were excavated.
- The reinterment site should be chosen carefully. The wishes of descendants should be considered. The reburial site and commemorative monument should not detract from the significance of the new location.
- It may be appropriate to observe cultural, including religious protocols during the reinterment, for example a commemorative ecumenical ceremony, involving groups such as descendants, church representatives, local council and community representatives and the site archaeologists and other professionals.

Physical commemoration or interpretation of the burial site should also be carried out. This will include both the original and the subsequent burial site, if remains have been moved. Options might include a plaque, memorial garden, or some other monument. Where known, the names of the deceased should be included on the memorial.

2 Excavation of Gravesites and Burials for Research

Archaeological excavations for research purposes are also 'works' that require the prior approval of the Heritage Council and must be in accordance with the requirements of this Practice Note, that

is, to facilitate best practice conservation outcomes.

In addition to the requirements outlined in 1.2 and 1.3, some specific issues must also be addressed for this particular form of works. One of the potential impacts of research archaeology in cemeteries is on the community significance of the place. The community consultation requirements as outlined in this Practice Note must be applied. The applicant will be required to demonstrate that an appropriate heritage practitioner has assessed the community value of the place and that the proposed works are clearly outlined to the community. Where disturbance is for research purposes, the applicant must demonstrate that the research is reasonably acceptable to the community. Quantifiable evidence of this community acceptance must be provided to the Heritage Council as part of the development application.

Applicants must also demonstrate to the Heritage Council that the proposed research questions are valid and profoundly important, and will contribute to the understanding of the significance of the place. The development application must indicate why the information being sought cannot reasonably be obtained through other sources or non-invasive techniques, and why the research is important to the field of study and the general public.

The applicant will be required to demonstrate compliance with relevant Acts and ethical standards for research involving archaeological human tissue. Professional references will be required in support of this work.

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