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AUSTRALASIAN
CEMETERIES & CREMATORIA
ASSOCIATION

ESTABLISHMENT OF NEW CREMATORIA

Developed in June 2001: Currently under review as at March 2004

Being aware that in Australia many people regard the practice of cremation as an alternative to burial, and that the majority of those who choose cremation require that the cremated remains be preserved in such a manner that they form the focal point for remembrance, the association has made the following policy.

The policy is designed to ensure that the public retains its confidence in cremation as an ethical and dignified practice; it is binding on all members of the association who own or operate cremation facilities, and no cremation authority which does not conform to this policy will be admitted to membership.

Further, the association also recognises the need for uniformity throughout Australia and to provide licensing authorities with guidelines as to the establishment of new crematoria. In addition, the Australasian Cemeteries & Crematoria Association offers to act as the national consultative and monitoring body for the implementation and maintenance of this policy.

1. The cremation authority shall adopt the code of practice and ethics of the Australasian Cemeteries & Crematoria Association.

2. The cremation authority shall respect traditional community values and, in particular:

   (i) Treat cremation as an alternative to burial observing similar conditions and assisting the bereaved to cope with their grief.

   (ii) Provide use of the facilities for the whole community without discrimination, subject to payment of prescribed fees.

   (iii) Demonstrate that the crematorium and land used for storage, burial and memorialisation of cremated remains has been permanently set aside for that purpose and the authority has adequately provided for continuing care of the entire area.

   Where tenure is applied to memorial gardens, or the memorial gardens are privately owned, adequate long-term provisions are still required to ensure permanent land use.

   (iv) Ensure that buildings, niche walls and gardens and other memorial facilities are designed and constructed to standards which,

   (a) Reflect the long term nature of the authority's obligation to the bereaved;
   (b) Assure efficiency of operations;
   (c) Feature dignity in terms of aesthetics, location and methods of operation;
   (d) Satisfy relevant environmental standards.

   (v) Facilities provided at a crematorium shall include:

   (a) A building where funeral, committal, or memorial services may be held in appropriate surroundings:
   (b) Purpose designed and constructed cremation chamber(s);

(c) Provision for the placement of cremated remains at memorials in the traditional or a publicly acceptable manner and for the dignified disposal of those not to be memorialised.

(vi) Allow community scrutiny of the facilities at all times, subject to respecting the rights of the bereaved throughout the actual cremation process.

(vii) The cremation authority shall demonstrate that all the cremated remains, memorialised or not, are treated with due respect and dignity. ACCA guidelines for the "Handling of Cremated Remains" and appropriate clauses of the "Rights of the Deceased and Bereaved" are to be followed.

3. The cremation authority shall demonstrate financial viability of the crematorium in respect of long-term obligations to the bereaved, established by tradition and outlined in this policy.

   Where control of the cemetery / cremation authority passes to another including private ownership, the long-term obligations and needs, and the financial obligations must be passed on in contract or similar form.

4. A crematorium shall conform with relevant health and building codes and environmental standards.

5. A crematorium may be established on or adjacent to any cemetery or at any other location consistent with local zoning regulations. The cremation authority shall provide satisfactory evidence of the long-term nature of zoning approvals.

6. The cremation equipment shall be in compliance with all local, state and federal environmental laws, rules and regulations for their site.

7. A cremation authority shall keep an accurate record of all cremations performed, including disposition of cremated remains permanently.

8. A cremation authority must demonstrate the ability to comply with all local, state and federal laws relating to the processes of cremation and disposition of cremated remains for each site they control.

9. Further Information

Cemetery and crematoria authorities, who are members of ACCA are able to provide further information on these guidelines and associated matters. Similarly, the Head office of ACCA is available to assist organisations and individuals seeking further detail or contacts.

The Guidelines for the Establishment of New Crematoria will be reviewed regularly, to reflect changes in practices and legislation. Please direct comments in relation to the Guideline to the Head office of ACCA.

Australasian Cemeteries and Crematoria Association
177 Barkly Street
Brunswick Vic 3056
Ph: +61 3 9381 4166
Fax: +61 3 9381 4677
E-mail: acca@ozemail.com.au

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AUSTRALASIAN
CEMETERIES & CREMATORIA
ASSOCIATION

GUIDELINES FOR THE ESTABLISHMENT OF A CEMETERY

May 2004

What is a cemetery?

A cemetery is a place set apart for burial or internment
A modern cemetery may include crematoria and memorial gardens

1 Introduction

This document is designed as a guide for those wishing to develop a new cemetery or extend an existing cemetery.

A cemetery is a place set apart for burial or internment
A modern cemetery may include crematoria and memorial gardens

Because of the many and varied legislation both state and local, full research for your locality needs to be completed before any commitments are made. There may be one or more possible sites to investigate in further detail. There is also a need to have completed a broad budget guided by a clear set of written goals.

Some professional help and guidance may be required for some or all project stages. It is important to commit to one stage at a time, with a project cancellation clause or condition included in clearly defined contracts.

2 Project Stages

2.1 Legal Requirements

There are three levels of government that may affect cemetery development. Liaison with government may be required at different levels and at different project stages. A good working relationship is essential. Preliminary clearances from authorities to proceed pending receipt of master plans, environmental impact studies and public submissions should all be made subject to clearances or approvals in all contracts.

Some of the types of government acts that may be applicable are as follows:-

<u>Federal Government</u>	Health Acts
	Privacy Acts
	Environmental Acts
	Land Acts (including vesting)

State Governments	Cemetery Act Cremation Act Health Act Privacy Act Financial & Audit Acts Environmental Acts Occupational Health & Safety Acts Record Keeping Acts Criminal Codes Land Vesting Acts
Local Governments	Zoning By-Laws Health By-Laws Environmental & Heritage By-Laws

3 Site Selection

Once the legal requirements have been cleared the physical aspects of the site needs to be investigated. There are many factors to consider when assessing whether the site is suitable in terms of meeting the set goals. Some of the factors listed below may be so negative that the project may be rejected in favour of another site.

Some of the physical aspects to consider are: -

3.1 Topography

Is the land flat, hilly, and full of gullies? Flat land can be subject to flooding so there is need to take note of river flood plains and drainage opportunities. Hilly land must not be too steep to develop at a reasonable cost. Gullies are also a sign of flood and erosion risks.

3.2 Water Table

If the water table is too high burials may not be possible. Swampy sections are not all deficient provided there is still plenty of burial ground. Swamps can be a source of irrigation water or turned into landscape features. Lack of ground water also has reticulation water supply factors to consider, as water may have to be purchased for lawn and gardens.

3.3 Soil Structure

Soil structure and soil types can be extremely important as grave digging and gardens revolve around this. If rocks such as granite or ironstone are

on the surface or within two meters of the surface over a large portion of the site, this could render the site unsuitable.

Soil types such as sand, loam or clay impacts on garden styles and mechanical requirements for the site. Soil type impacts on gardens through water usage, plant types, fertilisation needs and mulch costs over time. The poorer the soil, the greater the costs. Soil type also impacts on structural costs. Footings for buildings, reticulation installation, road building and monumental foundations are all affected by soil type and structure.

3.4 Climate

Climate is a physical variation factor that goes hand in hand with the above factors 1,2 & 3.
We have no control over climate; therefore we must assess and adapt our site to the climatic conditions.

A classic example would be in water tables. In a situation with a cool wet climate, with rain all year round, then sandy soil and no ground water would be much less of a problem. Yet in clay soil, the same climatic conditions would have greater ramifications to both gardening and grave digging.

Hot and dry climates need water access, wet climates have drainage impacts and windy areas can impact on many aspects also. The climate impacts on both public and operational buildings, garden styles, lawn types, drainage and road requirements, windbreaks, reticulation and water storage.

In a wet climate, a gully may be looked at as a drainage factor. In a dry climate, the same gully should send warning signals of flash flood potential. Clay soil in a wet climate has set rules in the needs of building foundations and road bases. The same clay soil in a dry climate has different rules, as clay is reactive i.e.: - it shrinks and expands due to wetting and drying. This can cause damage to structures when foundations move. Design costs associated with variations would need to be taken into consideration.

3.5 Size / area of the site

The size of the site in area must be sufficient to generate enough income to cover the set up costs of the cemetery and the operational costs for long term use.

3.6 Site access

Site access must be confirmed before commencing. The site must not be landlocked.

In some areas, access to sites is restricted due to watercourses, national reserves or parks, highways, freeways, and residential developments. Site access must be a guaranteed long-term proposition and able to cope with expected traffic flow.

3.7 Environmental impact

The environmental impact of the planned development is the first of four factors that are not fully physical in nature. The assessment of environmental impact should also take into account the effects caused to neighbouring properties as well as to the cemetery site. Will the development impact on air quality? Will the cemetery ground water use effect the neighbours? Will water above or below ground be polluted as it leaves the site? Does the site need clearance of native vegetation and will this cause erosion? Will any endangered species be affected? All these factors need to be assessed and clearances may need to be received before contractual commitments are made.

3.8 Visual impacts

These include situations where the development may interfere with a neighbour's vista. A cremator exhaust stack in the middle of their million-dollar view may not be well received. In turn, it may not be acceptable for mourners to look at a petro-chemical plant as a backdrop to cemetery activity. The proximity of residential areas, major roads or recreational areas may require suitable screening to improve visual impact.

3.9 Distance from market

The site selected needs to be an acceptable maximum distance from the target market. The current market distance, the future market potential (i.e.: - urban sprawl) and the location of competition must all be factored in when assessing this. It is not beneficial in the short term if the site is 20 kilometers from town and there is a competitor halfway between it and town. If urban sprawl brings the market towards the site, it may prove lucrative in the long term.

3.10 Future limitations

Urban sprawl, rural activity and nature preservation may all have limiting effects on future plans. They could all limit the ability to purchase surrounding land for future expansion.

Urban sprawl brings housing to cemetery boundaries and could also force the cemetery authority to develop buffer zones, which uses up valuable space.

Rural activity in some areas means that the land cannot be developed without agricultural department approval. National parks, forests and nature reserves all limit the possibility of purchasing extra land.

4 Master Plan

With the site selected and preliminary approvals in place, a master plan needs to be developed. The master plan would cover in detail all the steps of the physical development of the site taking special note of any factors identified during the site selection process.

The master plan on the physical side would look at not only layout, i.e.: - lawn burial, general cemetery areas, memorial gardens, buildings and infrastructure, it would also address styles and themes.

Building styles such as "Victorian" or "Colonial", materials in construction such as bricks or stone, roads in pavers or bitumen, gardens in native or exotic, and colour schemes.

All of those areas are planned at this stage so that the whole property ties together.

The master plan must also take into account and include the social impact planning, financial planning and administration. In the long term, the master plan would be the primary document from which planning, work schedules, guidelines, maps and training manuals will evolve.

The order in which plans are made varies from site to site and may vary between authorities due to the many factors that arise. The important thing is to set out steps through which progress will be made and clearances sought to continue the project. Work contracts should be subject to each of these steps being approved.

5 Social Impacts

Social impact studies involve the general public and potential cemetery users. These studies are essential prior to fixing the landscape plans. Cemetery users will tell you what they want, what they need and they will always tell you what they "object" to. The public will usually tell you what they will or will not "buy."

Funeral Directors, the cemetery's primary customers, will share with you their needs and cemeteries must cater for their vehicle and staff access requirements. Monument masons usually have large trucks, heavy loads and lifting equipment to be accommodated.

Other groups to be consulted may include religious groups, disabled groups, emergency services and children's services. Government agencies supplying or controlling power, water, gas, roads and communications must also be consulted.

Non cemetery users and neighbours also need to be involved early in the planning. The visual impact of the site needs to be addressed as well as the impact of traffic, stormwater release, noise and light emissions from the site.

A large portion of social impacts can be dealt with early in the planning process. Getting the public and cemetery users involved also usually means they feel a part of the development process and objections are less likely to arise later in the project.

During the site selection and assessment process much information will have been gathered which relates directly to social impacts. It is vital that this information is retained and included in the appropriate sections of the master plan.

6 Financial Planning

Financial planning for the project begins at the grass roots stage. When the project is first suggested the development of a "broad budget" is required. It must answer two questions – "How do we fund this project?" and "Will the end result be financially viable?" The site selection process would begin once this budget passes scrutiny.

Stage 2 of the financial planning begins once the site is selected and continues in conjunction with all stages forward. As different developers have differing levels of funding there are no set rules but good financial planning will always give better results.

Committing to one project stage at a time protects against huge financial losses. Cash flows and market demand can dictate development in some cases. This can be where there is a lack of capital for the entire project to be completed fully; or in contrast, where there is high demand for cemetery facilities, pre-need fundraising may be used.

The financial planning should reflect the results of the market and social impact studies, as each will provide information relating to the potential products demanded and the turnover volume.

Importantly, financial planning needs to be flexible and reviewed regularly as factors change.

7 Site development

Site development is taking the raw piece of land and creating a usable resource. By taking the results of the site selection process, social impact studies and financial planning and putting it all together on paper produces the development of a site plan or landscape plan. With these as a basis, concepts, visions and ideas are formed into the detailed plans covering a multitude of sections.

The following points should be considered with any landscape plan: -

7.1 Traffic flows

There are many areas where traffic flows must be fully dealt with. Firstly, vehicles coming into the cemetery require a simple and safe entry point. Traffic chaos on outside roads must be avoided. Once vehicles are inside then traffic should flow with limited opportunity for bottlenecks. Traffic flow should also allow for the needs of funeral corteges, monumental masons, delivery trucks, and staff maintenance vehicles.

Pedestrian traffic flows are also important. It is preferable for mourners attending funerals not to walk into the space of subsequent funerals. Pedestrians and vehicles "not involved in funerals" must also be factored in. Traffic to administration buildings or memorial visitations need to be guided away from chapel complexes. Traffic flow therefore, has a great impact on the location of buildings, roads and pathways in the layout of the property.

7.2 Buildings

Buildings represent a huge amount of capital investment and therefore putting them in the right spot, designing them to be attractive, effective and secure will consume an extensive part of the planning time. Buildings required may include many of the following: -

7.2.1 Administration Buildings

Administration buildings need to be easy to locate and access, but not interfere with funerals. The ideal administration building varies for each organization but some common requirements may include the following: -

- A welcoming reception area.
- Sales area with interview facility and product displays.
- Clerical and management offices.
- First aid station.
- Staff facilities such as lunchroom, bathroom and kitchen.
- Storeroom for secure record management to meet legislative requirements.

- Electronic infrastructure for computers, printers and property security.

There is also a need to allow room to expand into the future so that a building envelope should be big enough to allow for this.

7.2.2 Chapel

The Chapel or Chapels used for the funeral services are the focal point for the general public and can create the strongest impression in their minds of the quality of services provided.

Chapels not only need to be functional, they need to be comfortable and create a dignified feeling. Some design features should include a separate entrance and exit door for traffic flow purposes, a wide doorway or corridor to carry in the coffin and a committal facility.

Ventilation or air conditioning, audio-visual requirements and control rooms should also be included in the initial design.

The external design and construction materials should follow the style or theme set in the master plan. Often the chapel is designed first and all else follows that design or style.

7.2.3 Condolence Facilities

The condolence facility is a very important requirement and serves many purposes. The primary purpose is for the family and friends to offer condolences after the funeral service and before they leave the cemetery. This may be an emotional time, but it can also be a time when people catch up with friends and family they have not seen for a while.

Therefore it is essential that the facility is in the exit path for traffic flow purposes but more importantly noise created can be isolated from the chapel especially when there are funerals immediately following.

A condolence lounge is usually fully enclosed and can offer catering. Some can be quite plush and expensive but this is not essential. The condolence facility may be a simple courtyard offering basic sun or rain shelter.

Whatever the style or construction, condolence time, traffic flow and privacy are the key factors to include in the plan.

7.2.4 Crematorium

The crematorium houses the cremator, ashes processing room and ashes storage facilities. The crematorium often is built attached to the chapel, which offers a reduced number of separate buildings and no external transport of coffins. Each authority should determine the location that suits their property and designs.

With crematoriums, there is a whole range of guidelines imposed by health departments, occupational health and safety, hazardous materials and environmental department regulations that must be followed.

Again always allow for future expansion as even when burial space becomes limited, cremations can continue.

7.2.5 Public Facilities

The range of public facilities that may require to be offered can vary. The first is a shelter at the funeral gathering point. This usually involves protection from the sun and rain, and toilet facilities near this gathering point are also preferred. Toilets may also be required around the cemetery with the number being proportionate to the property size.

Gazebos and other similar sun and rain shelters placed in strategic positions are also of great benefit especially for the elderly who may struggle to cover distances without rests. Park benches, water drinking fountains and internal car parks also have to be planned early in the process to balance visitors needs. Easy access for the elderly and disabled persons must also be incorporated into the design.

7.2.6 Staff and Operations

The remaining group of buildings revolves around staff and operations. Staff buildings may include manager and supervisor's residences. Other staff facilities may include lunchrooms, toilets & showers, changerooms & lockers, first aid room and outdoor wash-down areas.

On the operations side, buildings for the storage of machinery, tools and equipment is essential as well as suitable workshop space. Most workshops require facilities for equipment maintenance and basic repair work.

Garden maintenance also requires separate storage space for pesticides, herbicides and fertilizers. Similarly, building maintenance requires much equipment and a variety of chemicals, paints and cleaners. Care must be taken to comply with hazardous materials regulations and occupational health and safety requirements in these areas.

These buildings and compounds are a source of noise, movement and some may house hazardous materials. Their location away from chapels is therefore advantageous. But access, security and discreet design should not be compromised.

7.3 Roads and paths

The location of roads and paths relates directly to traffic flows and cemetery layout. The design and construction is very important to make them safe and user friendly. Consideration to workers such as funeral staff, especially when carrying coffins and relevant occupational health and safety regulations is important.

Roads and paths should be of suitable width to cater for the expected traffic. Paths need to be wheelchair friendly and roads need to wide enough for the vehicles expected to use them. Extra care should be taken on corners and roundabouts for vehicles with long wheelbases.

All weather usage is preferred especially in wetter climates where soils become muddy. Roads and path maintenance are high in labour costs and so construction should take this into consideration along with the fact that roads are water catchments and their contours need to be planned in conjunction with the stormwater plans.

7.4 Security

Security is encompassed in all facets of the property. The initial design of the buildings should incorporate the ability to secure the building. The total property layout should also incorporate security needs.

Fencing the perimeter of the property is the first line of protection. Further fencing or walls around workshops to create compounds, or around "staff only" areas of buildings can reduce the risk of liability by preventing access to the general public.

Other physical security includes lighting, video surveillance, alarm systems and signage warning of possible risks or danger.

Vandal and theft strategies often need to be included in management plans. During construction, design is important as well as finish i.e.: - anti graffiti coatings and avoiding highly absorbent materials.

7.5 Stormwater

Stormwater impact and stormwater management potential was an essential component of the original site selection process. Some evaluation work would have been done taking into account factors such as climate, soil types, topography and on-site water needs.

During the landscape planning stage stormwater systems, management and maintenance are detailed for the entire property, as once they are installed and other developments are completed, going back and making changes can be a very costly exercise.

Factors that need to be considered when planning the stormwater plan may include the following: -

7.5.1 Stormwater Directed Off-Site

Will the Stormwater be directed off-site? This is often a safe option in flood prone areas, but approval from the authorities is nearly always required.

7.5.2 Stormwater Retained On-Site

Will some or all stormwater be retained on-site? Many sites can retain stormwater on-site for landscape and reticulation purposes. This has many obvious advantages but overflow planning is still essential.

7.5.3 Volume of Stormwater

Underestimating requirements or constructing to averaged requirements will almost certainly result in flood damage down the track. Installing an effective system in the initial construction period will save expensive restructuring in the future.

7.5.4 Maintenance of the System

Maintenance of the system includes clearing debris from grates, soakwells, pipes and roadside gutters. Generously sized infrastructure assists in this process, as does careful planning in other landscape areas. One such area is tree planting where the leaves, seeds and tree roots all can have a direct negative impact on maintenance levels.

7.5.5 Aesthetics of the System

The aesthetics of the system are also important. Collection grates taken off the road can not only look better, but reduces the risk to pedestrians.

Around buildings stormwater grates now are supplied in a multitude of styles and colours. Stormwater collection streams and dams can become landscape features.

Whatever the circumstance, this area of the plan is critical in both the initial development and the long-term stormwater management of the site.

7.6 Reticulation

When developing any type of garden landscape including lawns, reticulation is required. Manual reticulation i.e.: - attaching a sprinkler to the end of a hose and moving it every hour, is very labour intensive and creates access problems for the public. It also has to be managed around funerals and runs into problems when daytime sprinkler bans are in place during droughts.

Automated reticulation is generally preferred, but like stormwater systems, it needs to be planned and installed early in the construction process. The construction of the system depends on many factors including the horticultural plans and the volumes of water required. The following points may need to be considered: -

7.6.1 Source of Water

If the water is being brought in from off-site, volume available and cost are initial concerns.

7.6.2 Quality of Water

The quality of water from both off-site or on-site must be obtained for horticultural purposes. Horticulturally the water quality may dictate the plants that can be used.

In the maintenance side, mineral content and sediments will impact on filter requirements, sprinkler types and piping types that should or should not be used. Water sprayed on buildings and memorials also bears consideration.

7.6.3 Control Systems

Control systems for reticulation range from small dial controllers to large computer controlled and wireless systems. The controllers must be able to perform the range of options required by the site with a minimum of time and labour cost.

7.6.4 Network Design

The reticulation system should be designed with a series of main lines that match the property layout and will not have to be altered in the long-term. These main lines should have sufficient volume for projected long-term needs. Again, oversized mains may be a greater cost at construction, but upgrading in the future will have far greater costs and impacts.

Feeder lines into lawns and gardens will almost certainly change as monuments are installed, trees grow and landscape construction changes over time. As long as main lines, control cables and solenoids are sufficient, the future will be reasonably simple.

7.6.5 Maintenance

Maintenance is also an important factor in the planning of reticulation. Using good quality components and having "as constructed" plans can save much time and money. Cleaning filters regularly, keeping sprinklers clear, doing valve tests all year round, having pumps serviced annually all come into the maintenance planning of the system.

A good reticulation setup will save time, money and water.

7.7 Burial Grounds

Burial is one of the primary purposes to be considered during the site selection process.
Prior to the landscape plan, the social and market impact studies will have been completed, and this data along with the physical information from the site selection process, forms the basic requirements for putting burial grounds on the landscape plan.

Other planning factors such as traffic flow, site access, roads, paths, buildings, stormwater, reticulation and gardens have also impacted on the burial ground development.

The main points that need consideration include the following: -

7.7.1 Plot Size

The plot size i.e.: - 8' x 4' for single adult graves or smaller for children's areas relates to both the space allocated for each grave and the space between graves allowing for both grave digging access and public access to their grave.

7.7.2 Direction of the Graves

This encompasses physical direction such as East/West, straight lines, curved lines around hills, single rows or double rows head to head. Random placement in a wooded area or landscaped gardens may also be an option to be considered for meeting demands of those wanting something special.

7.7.3 Monumentation

The landscape plan should allocate various monumental styles to set areas. Social impact studies will have identified religious & ethnic preferences, and market demand. When combined with the visual impact & site studies, including topography and soil types, the cemetery authority can then determine the most effective monumentation for both the site and the cemetery consumer.

When designing and allocating these areas access to vehicles, including trucks and cranes required to erect bigger headstones, must be considered. Visitation to other cemeteries, especially those with similar site conditions, is recommended before final plans are put in place.

7.7.4 Other Construction

Other construction such as concrete footings for full monumentation, pre-cast vaults, concrete beams, stormwater and reticulation have been addressed in the landscape plan for burial areas.

Whatever the layout and construction factors, maintenance and administration of the area once completed and in use must be economical and effective. On the

maintenance side maximum effect at minimum cost is sought. Administration includes the ability to accurately map each grave and locate it in the field whether for sales, grave digging purposes or monumentation.

7.8 Memorial Gardens

Memorial gardens are most commonly associated with crematoriums. These gardens are primarily for the placement of cremated remains (ashes) and memorials thereon.

Memorials provide the tangible factor required by so many family and friends in their mourning process. Many regional and rural cemeteries without cremation facilities are now also providing gardens and walls to meet this demand.

Unlike burial grounds, memorial gardens can be compact, private and varied. There is little need for access by tractors, trucks and other large machinery. Reasonable access for the public, disabled persons and cemetery maintenance staff is all that is required. This said, there are still many factors to consider.

Some of these factors such as access via roads, paths and infrastructure including reticulation and stormwater have been previously covered under whole of property planning.

The following sub-sections need consideration when planning a memorial garden: -

7.8.1 Style / Theme

The master plan has set styles, themes, colour codes etc for the property. A garden can incorporate some or all of these with careful planning. Garden seating, lighting, fencing, signs, bins and handrails are all included in the style / theme plans.

It is very risky to set different styles or themes in the garden to the burial areas or other parts of the property.

7.8.2 Plant Selection & Garden Beds

We have seen in earlier sections covering social impact and financial planning, that people want to choose and purchase from a wide range of options and this in turn assists with the financial success of the cemetery.
Using a wide variety of plants in the garden gives customers a better choice. This can be done quite successfully if "garden rooms" are created, grouping similar plant types i.e.: - A rose garden in one, a native garden in another. These rooms can be defined by fences, hedges, or just strategically placed and planted beds. Garden rooms can be tied together using the property style or theme plan.

This may be done for example, with matching coloured archways leading from room to room via a path style as used throughout the property.

The style / theme is the "key" that allows this variety of plantings to be used together without clashing too much.

A spot in a particular garden bed is a product for sale to the public and a place that the public will visit from time to time. Cemetery staff must also maintain these gardens. Holes will be dug in the beds for ashes and plaque placements in some cases. These facts require planning the most effective garden beds so that space is not wasted, the public is not put at risk and the maintenance is kept at a minimum.

An example of effective garden bed planning is with rose gardens. A rose bed no more than 1.2 meters wide with a single row of roses down the middle allows positions to be sold on each side of the bed. If plaques are placed only on the edge then the mourners do not have to get past sharp thorns to place flowers beside their memorial plaque. This minimises public risk. The same setup also makes maintenance including pruning, weeding and spraying simpler and safer.

Having all garden beds the same would not appeal to most garden designers, but if plants are chosen carefully to suit the garden bed size and shape, with plants and flower colours creating the variety, then the principles may be quite easy to follow.

With plant selection we have touched on public safety, variety of colour and variety for public choice. In issues of public safety, we must be very aware. Roses would be all but impossible to eliminate in cemeteries, so with all plants of a thorny or spiny habit or otherwise risky plants, their placement and maintenance is critical. They must be kept out of the line of paths and roads and the public should never be encouraged to get through or past them.

Colour of plants and flowers is also very important. Colour variety affects the overall appearance of the garden and gives the public choice. Foliage colour can be as important as flower colour and should not be overlooked as many flowers can be short-term and foliage is visible all year round.

From a maintenance perspective, plant selection can have a great impact. Where possible, plants should be chosen on the ability to grow well in the preferred location taking into account climate, soil type and drainage.

Plants with unwanted problems should be eliminated. Problems may arise from invasive root systems that cause damage to everything from reticulation to sewerage pipes, roads, paths, fences and buildings. Some of these problem plants may include rubber trees, ficus, bamboo and flame trees.

Plant litter may present another problem. This may be from leaves, bark and fruit. Deciduous trees drop their leaves once per year and create a lot of work in a short period. On the upside, they can be clean for the other ten months and their leaves are usually good for compost. Other trees, such as eucalyptus and pine trees, drop their leaves and fruit (i.e.: nuts) all year round.

Physical maintenance of plants includes the pruning, and spraying for pests and diseases. Some plants such as roses can be very demanding in this area, whereas other plants such as healthy camellias can be the opposite.

Lawns should be included here also. Mowing, feeding and watering lawns can be expensive in time and money, and lawn grasses invading garden beds also creates huge amounts of work. The selection of the best lawn to suit soils and climate can save enormous maintenance costs and provide a great garden asset.

7.8.3 Sales

The aim of the memorial garden, as we have seen, is to provide memorial positions for sale. Under plant selection we can produce variety and therefore, choice. Further choice and sales opportunity can be provided by incorporating memorial walls, memorial seating, memorial boulders, memorial trees and memorial structures such as bridges, birdbaths, arbours and fountains.

With all these options and choices, there is a risk of garden overload. Too much of any one thing can cause a garden to loose balance and therefore appeal. This will bring about a negative result, both from the landscape and sales perspective.

Some simple rules to follow to reduce the risk of this negative outcome are: -

- Stick to the master plan for style & theme.
- Include a balanced amount of popular plants.
- Break up colour themes with contrast colours and foliage.
- Nominate plaque sizes and types for each bed and don't mix.
- Nominate similar plaque bases for each bed.
- Limit the number of extras such as boulders, birdbaths, benches etc.
- Keep access to memorial positions safe and simple.

If these rules are followed, the memorial garden then should have a good balanced feel. There is a place for most plants and trees in our gardens provided they are placed in the "right" position.

7.9 Other gardens

Other gardens built on the grounds as part of the site development can be for a number of reasons or effects

7.9.1 Screening and Shelter

Many sites require screening from roads or neighbours; and on the reverse side screening plants can be needed to hide utility areas or offsite structures such as industrial premises. Screening is also used to separate large burial areas into smaller sections.

Shelterbelts, very similar to screening, are used to protect from mostly natural elements such as winds, salt spray if close to the sea, and hot air due to either climate or urban buildup. Shelterbelts are used not only to protect gardens and buildings, but also to shade roads and paths for cemetery users.

7.9.2 For Effect

Gardens are also used purely for landscape effect. Beds around buildings soften the landscape, and gardens used in entry statements create a more inviting first impression to visitors. Other property structures and developments such as bridges, fountains, lakes, archways and access ways all benefit by using gardens to enhance the area.

Gardens including memorial gardens can be great places for mourners and other visitors to sit and reflect. These places can be strategically developed on most cemetery sites without great expense and in line with site styles and themes.

7.10 Maintenance

Maintenance is one factor that must be considered at every step and with every structure and development.

In the site selection process, maintenance factors must be kept in mind. For example, the terrain of a site has proven that steep hills are harder to develop. They are also harder to maintain due to limited machinery access.
Water table, soil structure and climate all have direct impacts on gardens, paths and buildings and therefore maintenance. The size of the site selected relates simply as "the greater the area the more to maintain."

Social impacts also arise with maintenance. Both cemetery users and near neighbours can be affected by the noise of machinery and the smell of garden sprays and fertilizers. Visually, maintenance cannot be carried out near funeral services and so time management can become critical.

Financial planning to establish the cemetery may focus on early development, but longer-term maintenance costs should be considered especially when looking at quality. If a little extra is spent on good quality materials during development then long-term maintenance costs will be reduced. Also, when product pricing is calculated, a maintenance portion for long-term maintenance reserves should be included.

Site development is the crucial time when maintenance considerations must be addressed. In traffic flows we aim to minimise blockages and chaos. Therefore, the ability to maintain these areas without major interference is important.

Buildings are heavy maintenance areas. There is constant and basic cleaning of dust and dirt, insect and spider problems, sanitary areas and litter left by the public, regular gutter cleaning, window washing and much more with the changing of light globes, maintaining painted surfaces, plumbing, electrical, communications and sound systems. This all takes time and money.

To reduce maintenance in buildings, design and material selection can help i.e.: - changing light globes in a 25-foot ceiling is a design problem. Using long life fluorescent bulbs is a materials choice. Colourbond or polished stainless steel has longer life and less maintenance than painted timber, especially outdoors.

Roads and paths made of all weather bitumen, concrete or paving stone are easier to maintain than sand or gravel roads. Lawn paths or paths of organic materials are also high maintenance.
We have already looked at stormwater and reticulation maintenance as well the impact of plant selection on maintenance. In summary, to save on maintenance use good quality materials; design to allow ease of access and plant lawns and gardens to a strict landscape plan.

7.10.1 Maintenance Machinery Requirements

Part of the maintenance and operations umbrella includes machinery, plant and equipment. The larger the cemetery and the greater the infrastructure, the more machinery and other equipment will be required.

Grave digging machinery and equipment is the first that comes to mind. This ranges from shovels and shoring to mechanical diggers. Mechanical diggers could be mini-excavators, modified bobcats or dedicated backhoes. The costs of these and need for them, revolves around soil types and the number of graves to be dug each year. In hard soils, where hand digging is not an option, the machine purchased must be financially viable or even multi-functional.

Other large machinery required may include trucks to transport grave spoil, mulches, grass clippings and garden waste, machinery, and staff. Tractors for slashing, ride-on mowers, multi-use 4 WD motor bikes and "mules" for towing are just some of the other expensive machinery to consider.

Garden and ground maintenance may require push mowers, brushcutters, blowers, power vacuums or sweepers, chainsaws, hedge trimmers, trailers, wheel barrows, fertiliser spreaders and cement mixers. Then there are all the hand tools such as pruners, shovels, rakes, crowbars, hoes, and many more.

A well-stocked workshop for building and machinery maintenance is also essential. Tools from spanners and screwdrivers to hammers and chisels will be required. Power tools such as drills, circular saws, grinders, sharpeners, welders, compressors and generators are to be considered essential if self-maintenance is to be effective.

Cleaning equipment such as vacuum cleaners, polishers and high-pressure spray units may be required if staff do the janitorial duties.

From very early in the site selection stage, through the master plan and site development stages, decisions must be made on machinery / equipment needs and in-house maintenance plans. Using internal staff means that you can easily spend $200,000 to equip properly and this is why much sub-contracting occurs in the industry. The investment in equipment and staff though, can have huge benefits in time management around services and staff pride in the presentation of "their cemetery".

8 Administration

As a general rule, management and control of a new cemetery would be carried out by an existing authority or corporation with previous involvement in the industry. The following guide is therefore broad in nature.

The legal requirements in some states / countries limits who can own a cemetery. Ownership by "*the public*" usually means that management is vested in a "*Board*" or "*Trust*" in a "*not for profit*" basis. Where private ownership is allowed corporate laws will also affect administration.

Administration, whether private or public, has several major sectors. Executive management, financial, sales, operational and clerical areas are in the main. All these areas have legislation specific to their operation whether they are private or public.

8.1 Executive Management

Executive management may include the "Board" or "Trust", private owners, the corporation, the local government authority and the executive officers they employ.

All responsibility ends with the executive management or the private owners and they must comply with the legislation applicable to their country, state and locality.

The executive management sets policies and guidelines, controls finances and ensures business plans and long-term plans are in place.

8.2 Financial Management

Financial management is guided by appropriate legislation whether it operates under public authority or ASIC and corporate legislation.

Each organisation should also have in place financial policies, which may include regularity of reporting, investment policy, security, auditing, budgeting and communications.

8.2.1 Reporting

Financial officers report to CEO and "Trust" etc on a regular basis.
Full Annual Reports are usually required.

8.2.2 Investment Policies

Each authority requires an investment policy covering the "Where and How To Invest." This is important with Pre-Need and maintenance reserves.

8.2.3 Security

Security covers both financial and physical.
Physical security of records, cash, cheques, invoices and receipts is important.
Financial security revolves around investment policy and where accounts are kept. High-risk investments should be avoided.

8.2.4 Audits

Ensure suitable audit trails are in place so both internal and external audits can be effective. Annual audits and reporting are just part of the system.

8.2.5 Budgeting

Regular budget production and review is essential, or else, the organisation may be forced to absorb inflation costs.

8.3 Communication

Communication between Trust, employees, financial and sales departments is essential to ensure effective pricing of products and services.

8.4 Sales Management

Sales management revolves around the products provided and the financial guidelines. Sales is the one section that has a direct effect on all the management sections. Sales and cash flow impacts the financials, sales creates work for clerical staff and operational sections must then provide the service and maintain the "Onsite" products sold by the sales staff.

Effective sales revolve around well-trained staff with good product knowledge. On site sales office, display areas, brochures, price schedules and quality service are all of great value.

Sales policies, which cover codes of conduct, pre-need sales, direct customer follow-ups and codes of ethics, are required.

Sales also has legislative guides including the "Plain Language Laws." If a separate sales department is operating for the cemetery site, communication lines with other departments must be open and effective in a two way process. In this way the public can not only get what they paid for, but also sales staff know what to expect when they walk around the next corner with their clients. Sales trends can be reported and this ensures that the products in demand are kept in supply.

8.5 Clerical / Office Management

These responsibilities and duties although often shared, have a distinct role. The reception, and communication duties for the entire operation, is usually here.

The processing of application forms for the various requests and services is the basis of their duties. Communicating information to operations is extremely important, especially funeral booking information.

Legislation covering record keeping and privacy are two of the most important for this section. Duties may include: -

8.5.1 Reception

Front office and telephone giving clients the first impression of the organisation.

8.5.2 Booking Clerk

Taking Burial & Cremation applications and communicating to appropriate staff.

8.5.3 Processing

Indexing, filing, recording hard copy and computer data entry, producing stickers, certificates and registering with authorities. Mapping and some sales follow-ups may be required.

8.5.4 Customer Service
Inquiries from the public including genealogy and other record requests.

8.5.5 Assistance to other sections
May include plaque ordering, stores processing, computer input and mapping burial and ashes memorial placements.

8.6 Operations Management
The operations department in larger organisations has generally the majority of staff and runs the physical aspects of the cemetery and crematorium. Although by-laws and legislation are very important, health & safety rules and codes of ethics and conduct are vital.

It is in the area of cemetery operations where the "*service*" meets the public. This could be during a burial or cremation service, viewing a cremation, placing ashes, visiting a memorial or even a casual Sunday stroll through the grounds.

Operations duties may include: -

8.6.1 Cremation	Chapel service, furnace control, ashes processing.
8.6.2 Burial	Grave location, grave digging and refill.
8.6.3 Grounds	Landscape and development Maintenance Mowing and fertilization Reticulation and mulching Tree surgery, pruning and weeding Sweeping and raking Painting
8.6.4 Buildings	Janitorial Repairs and maintenance
8.6.5 Roads	Repairs and maintenance
8.6.6 Reticulation	Install, repair and maintenance
8.6.7 Stormwater	Repair and maintenance
8.6.8 Rubbish collection and disposal	
8.6.9 Greenwaste recycling	

All these duties must be administered and coordinated in conjunction with the other administrative sections. Financial impacts are huge in this area especially. Sales and planning also have direct effects on operational activity.

8.7 Summary

The administration of a cemetery can be very complex especially in a larger organisation. It is therefore essential to have effective systems, communications and training guidelines.

9 Further Information

Cemetery and crematoria authorities, who are members of ACCA are able to provide further information on these guidelines and associated matters. Similarly, the Head office of ACCA is available to assist organisations and individuals seeking further detail or contacts.

The Guidelines for the Establishment of a Cemetery will be reviewed regularly, to reflect changes in practices and legislation. Please direct comments in relation to the Guideline to the Head office of ACCA.

Australasian Cemeteries and Crematoria Association
177 Barkly Street
Brunswick Vic 3056
Ph: +61 3 9381 4166
Fax: +61 3 9381 4677
E-mail: acca@ozemail.com.au

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