



MOUNTAIN VIEW

CEMETERY SERVICES PLAN

MUNICIPALITY OF NORTH COWICHAN
JULY 2024



PREPARED FOR:



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PROJECT SUMMARY

The Mountain View Cemetery (MVC) is an important community asset that provides an essential community service for the community of North Cowichan. Located in a rural residential area of North Cowichan at 6493 Somenos Road, it plays a vital role in public infrastructure, offering indispensable services for spiritual practice, mourning, a quiet place to walk for reflection, and memorializing loved ones. The property is 5.8 hectares (14.43 acres), of which 3.6 hectares are developed and 2.2 hectares remain undeveloped. The municipality currently offers various cemetery interment services, including full burial plots, cremation plots, and columbaria niches.

In late 2021, the Municipality of North Cowichan hired consultants to prepare a Cemetery Services Plan for Mountain View Cemetery. The project's goals were to guide the development, use, and provision of a comprehensive cemetery services plan for the existing cemetery area and the available space for expansion, ensuring fiscal and environmental sustainability over the next 25 years. Since the existing cemetery area was nearly full, with interments occurring in the last remaining northern section of the cemetery, immediate expansion was assumed to be necessary. Therefore, a major project component within the RFP was to develop a conceptual plan for expanding the cemetery and introducing new burial options, such as green burials and scattering in the adjacent wood-lot parcel.


A draft concept plan detailing the cemetery expansion design and offering various burial options was developed. During the summer and fall of 2022, the planning process involved engaging North Cowichan staff, community interested members, neighbours, and the public to ensure the expansion plans aligned with community objectives and interests. An in-person open house attracted 35 attendees, and 168 surveys were completed. Key points heard from the community were:

- › Strong interest in memorial tree service at 84%
- › Strong interest in cremation burials at 67%
- › Interest in green burials and scattering at 57% each

In early 2023, the cemetery interment needs analysis was updated with municipal data on interments through the end of 2022. This review assessed annual interment needs based on population projections and the current and projected market capture at MVC. The analysis indicated that the existing burial services and some infill development within the current cemetery would suffice to meet the community's needs for several years. Consequently, cemetery expansion would not be necessary until around 2035, giving North Cowichan more time than initially planned.

In the spring of 2024, North Cowichan staff reviewed the draft concept plan and determined that although the design solution was beautiful and representative of the community feedback, the capital costs for development exceeded resources.

Therefore, two new cemetery concept plans were prepared based on the initial concept. The goal was to provide solutions that sought to keep the capital costs of the expansion to a minimum while still achieving high-quality public space and burial service options. Both concept plans



provide green burials, scattering gardens, and differing types of columbaria structures. Each idea includes an attractive expansion area and improves the experience and functioning of the existing cemetery. Concept one is simpler, modeled from the existing cemetery's layout, form, and character. Concept two provides a design solution offering curvilinear driveways, walkways, and burial areas that respond to the site's natural features..

The following conceptual study provides a detailed overview of the planning process undertaken during the public engagement, cemetery trends, and practices, the market capture and demand analysis, the existing cemetery conditions assessment, two concept plans, and capital cost for each concept, and finally, recommendations divided into short-, medium-, and long-term priorities.

NOTE:

A separate report, called Cemetery Financial Background Study (July 2024) for North Cowichan staff, contains a detailed financial analysis, including fee scenarios and recommendations for the cemetery's financial success. Once a conceptual design is selected, staff will present funding recommendations as part of the 2025 business planning process and conduct further operational cost analysis.

KEY SHORT TERM **RECOMMENDATIONS**



IMPLEMENT INFILL IMPROVEMENTS TO THE EXISTING CEMETERY. REMOVE SOME ROADS AND ADD COLUMBARIA AND CREMATION PLOTS.



SELECT AND ADVANCE AN EXPANSION AREA CONCEPT.



SET UP A CAPITAL IMPROVEMENTS RESERVE FUND FOR THE EXPANSION OF THE CEMETERY.



PROVIDE PUBLIC COMMUNICATIONS AT THE CEMETERY AND OUTREACH FOR RULES AND ENFORCEMENT OF ADORNMENT.

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1.0 INTRODUCTION

PROJECT OVERVIEW

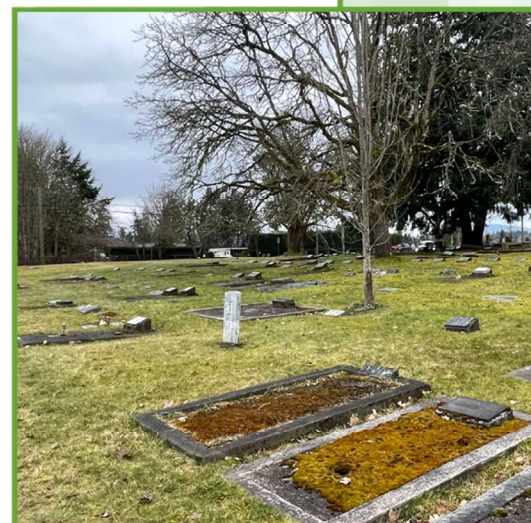
Mountain View Cemetery is located in a rural residential area of North Cowichan at 6493 Somenos Road. With views of Mount Prevost, the gently sloped landscape descends to the north and provides opportunities for quiet walking in a meaningful rural setting. The total area of the property is 5.83 hectares (14.43 acres).

Founded in 1878 by the Methodist Church, the cemetery was transferred to the United Church in 1926, before it finally became the property of the Municipality of North Cowichan in 1962. A monument commemorating this history is located within the cemetery near the corner of Somenos and Drinkwater Roads. The age of the pedestrian gate with an arbour is unknown; however, it was likely constructed when the cemetery was operated by the United Church.

The existing, built-out portion of the cemetery covers 3.6 hectares (8.9 acres). It includes blocks of plots, with the oldest sections near the corner of Drinkwater and Somenos Roads. There is a dedicated veterans' section, with grave markers, a historic gate, and groupings of mature trees. The cemetery has three service roads; two of these entries are along Somenos Road and one is off Drinkwater Road. The main entry, from Somenos Road, provides direct access to the maintenance shed, a public washroom, and small parking lot.

The unbuilt portion of the cemetery is 2.35 hectares (5.82 acres) and located in the far northeast corner of the property. Near the maintenance building, there is an approximate 0.75-acre flat area of piled fill materials that was the storage area when graves were excavated. It is approximately two to three metres above existing grade.

Beyond the fill area, the rest of the property includes a forest with second-growth balsam fir, western redcedar, and bigleaf maple trees. Toward the southeast portion of the tree stand, there is a striking bigleaf maple tree with a grouping of smaller maples encircling it. The forest floor includes salal, mahonia, and western sword fern. In the disturbed areas, holly, Himalayan blackberry, and English ivy are present. Further study of the environmental features will be required through an environmental assessment report, which was not part of the scope of this project.



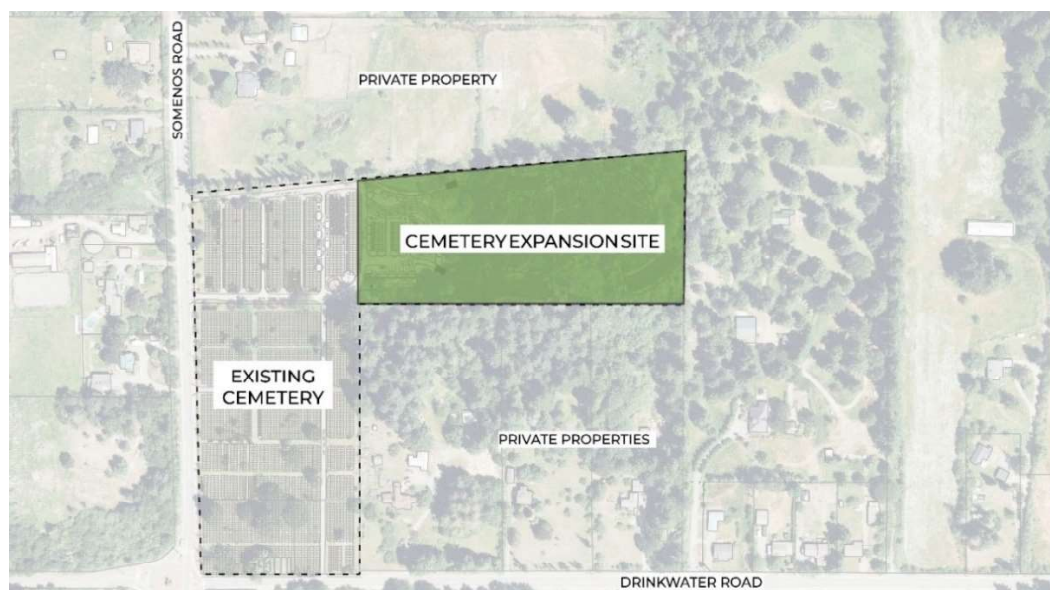
Within the existing cemetery, the Municipality has full burials (full earth interment) with flat and pillow top memorial markers, cremation interments in dedicated plots and within full burial plots, columbaria with secure niches that can accommodate one to two cremated remains, memorial benches, memorial trees with plaques, and if requested, the Municipality will provide exhumations. North Cowichan currently requires that full burials include a fiberglass liner due to concerns of waterlogged soils.

For new burials, flat memorial tablets are the only allowed grave marker in the cemetery to maintain the cemetery as an open expanse of lawn and for reduced maintenance efforts. Offerings such as real and artificial flowers are allowed to be placed on graves during certain times of the year. Personal mementos, vases, candles, glass, and vegetation are not permitted in the bylaws. It is recommended that North Cowichan update their bylaws that strictly enforce the lot adornment rules. It is currently noted on the cemetery webpage only. New interments within the veterans' section of the cemetery are managed by the Royal Canadian Legion. Within the older sections of the cemetery, there is a dedicated area for the Asian/Japanese community that is honoured and maintained.

The community of North Cowichan is set in a stunning natural environment with forests, rivers, lakes, rural farmland, and a beautiful coastline. As per most communities on Vancouver Island, North Cowichan is growing. According to census data (2021), the population of North Cowichan has grown from a population of 29,696 in 2016 to 31,990 in 2021 representing a growth of 7.7% over five years, or annual average growth rate of 1.5%. North Cowichan has a higher median age than the provincial average and the population is expected to skew older in the future. With these considerations, the Municipality of North Cowichan recognizes the importance of providing cemetery lands and services now and in the future.

The purpose of the cemetery services plan for Mountain View Cemetery is to guide the development, use, and provision of a full range of cemetery services in a fiscally and environmentally sustainable manner over the next 25 years. The plan includes an evaluation of the current inventory and service trends, the cemetery market, and site opportunities and challenges.

Figure 1.1 Mountain View Cemetery Site Context Map



THE IMPORTANCE OF MUNICIPAL CEMETERIES

Municipal cemeteries are essential public infrastructure because they provide dignified resting places for residents, preserve local heritage, and offer green spaces that contribute to urban biodiversity. These spaces serve as sites for quiet walking, contribute to tree canopy coverage, aid in stormwater absorption, and function as crucial public open spaces. They ensure equitable access to burial services for all community members, supporting well-being and continuity by offering cost stability and affordable options, particularly through reduced resident fees. Municipal ownership assures residents that their loved ones will have perpetual resting places. While acquiring new cemetery land is challenging due to scarcity, North Cowichan is fortunate to have a large undeveloped parcel available for cemetery expansion.



2.0 PLANNING PROCESS

MUNICIPAL MEETINGS & PROJECT DIRECTION

The Municipality of North Cowichan staff and a public engagement process guided the cemetery services plan. Department meetings and interviews with Parks Planning, Operations, and Finance managers took place from the summer of 2022 to the winter of 2023. These meetings included a detailed review of the current operations practices, financial portfolio, planning considerations, and staffing services. Refer to Section 7.0 for recommendations based on these meetings.

PARTICIPATION SESSION

Funeral service providers, faith organizations, and others with ties to the cemetery were invited to meet in July 2022 to discuss their interests and input for the cemetery plan. Two funeral service providers, one member of the Royal Canadian Legion, and a representative with an interest in the Asian section of the cemetery attended.

WE HEARD THE FOLLOWING KEY POINTS:

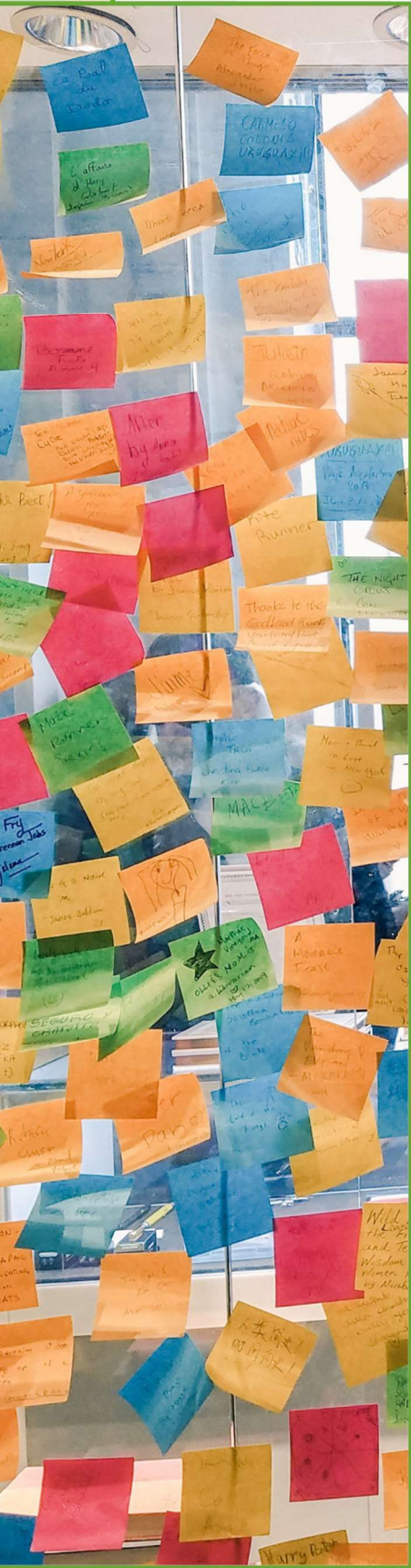
- › There is high support for green burials and scattering gardens.
- › Service providers suggest parking and circulation is sufficient during funerals.
- › Consider a shade/weather protection structure on wheels.
- › Consider ways to speed the process for memorial monuments to be sold and installed. Sometimes people are waiting for several months before these are installed.
- › Consider a dedicated burial area for children.

PUBLIC OPEN HOUSE & SURVEY

North Cowichan residents and neighbours were invited to an open house at the cemetery in September 2022 to provide input on a draft expansion area concept plan, precedent images, and potential new service offerings such as green burials and scattering gardens. A total of 35 people attended the open house. The information was also posted for input on the Connect North Cowichan webpage. There were 168 completed surveys from the open house and webpage visitors. See Appendix A for cemetery services drawings.

A 'What We Heard' summary report of the public engagement process is included in **Appendix C**.

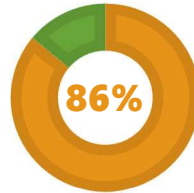




WHAT WE HEARD

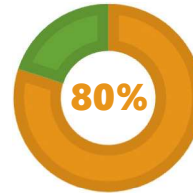
EXISTING CEMETERY USE PATTERNS

LOCAL RESIDENTS



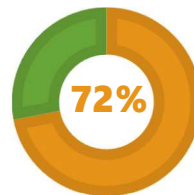
of participants in the online survey live in the Municipality of North Cowichan

CEMETERY FAMILIARITY



of the respondents are familiar with the Mountain View Cemetery through frequent and occasional visits

VISITORS

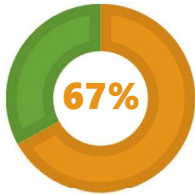


visit to either pay respects to a loved one interred there or to attend a funeral service.

Other reasons to visit the cemetery included the ability to go for a walk in a quiet place and to visit for heritage and historical interests.

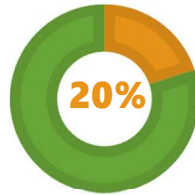
BURIAL PREFERENCES

CREMATION



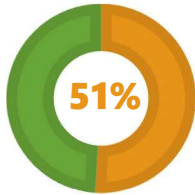
of respondents suggested their remains would be cremated.

BURIAL



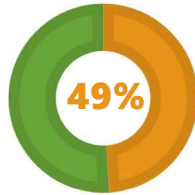
indicated they would be buried (including green burial).

INTERRED

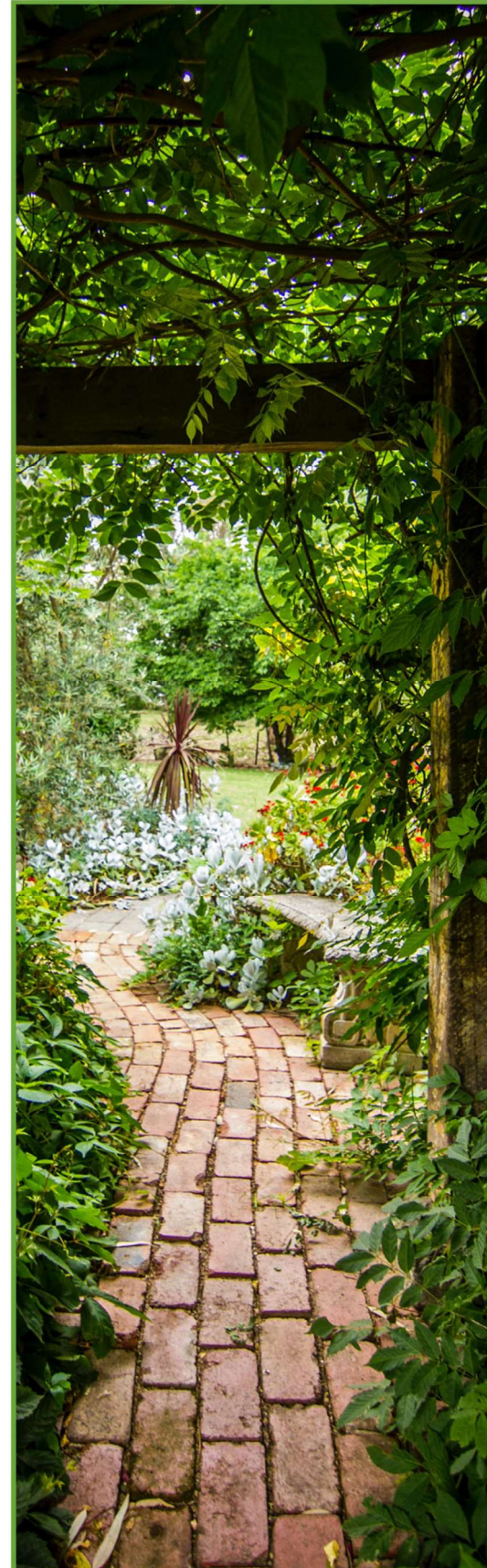


suggested they are certain, or it is likely, that their remains will be interred at Mountain View Cemetery.

UNSURE



suggested they were either unsure or it was not likely that they would be interred at the cemetery.

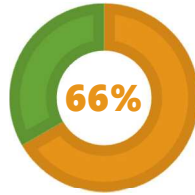




EXISTING CEMETERY SERVICES

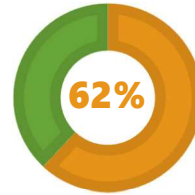
Participants were asked to select their level of interest in existing cemetery services. Level of interest was identified on a scale of “very interested” to “not interested at all”. The rated results for each service were:

TRIBUTE TREE



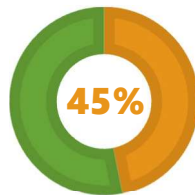
are very or somewhat interested in a tribute tree.

CREMATION



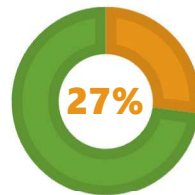
are very or somewhat interested in cremation.

COLUMBARIA



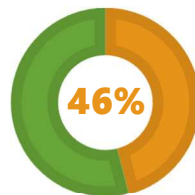
are very or somewhat interested in columbaria.

TRADITIONAL BURIAL



are very or somewhat interested in full traditional burials.

TRIBUTE BENCH

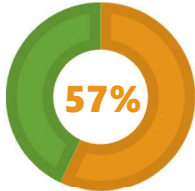


are very or somewhat interested in a tribute bench.

NEW CEMETERY SERVICES

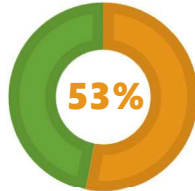
Participants were asked to select their level of interest in five proposed cemetery services. Level of interest was identified on a scale of "very interested" to "not interested at all". The rated results for each category were:

SCATTERING



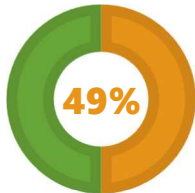
said they are very or somewhat interested in scattering with a communal monument.

GREEN BURIAL - MARKED



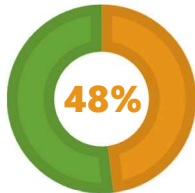
said they are very or somewhat interested in green burials with individual markers.

GREEN BURIAL - NO MARK



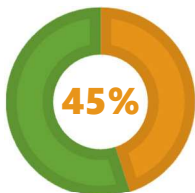
said they are very or somewhat interested in green burials without a marker.

COLUMBARIA

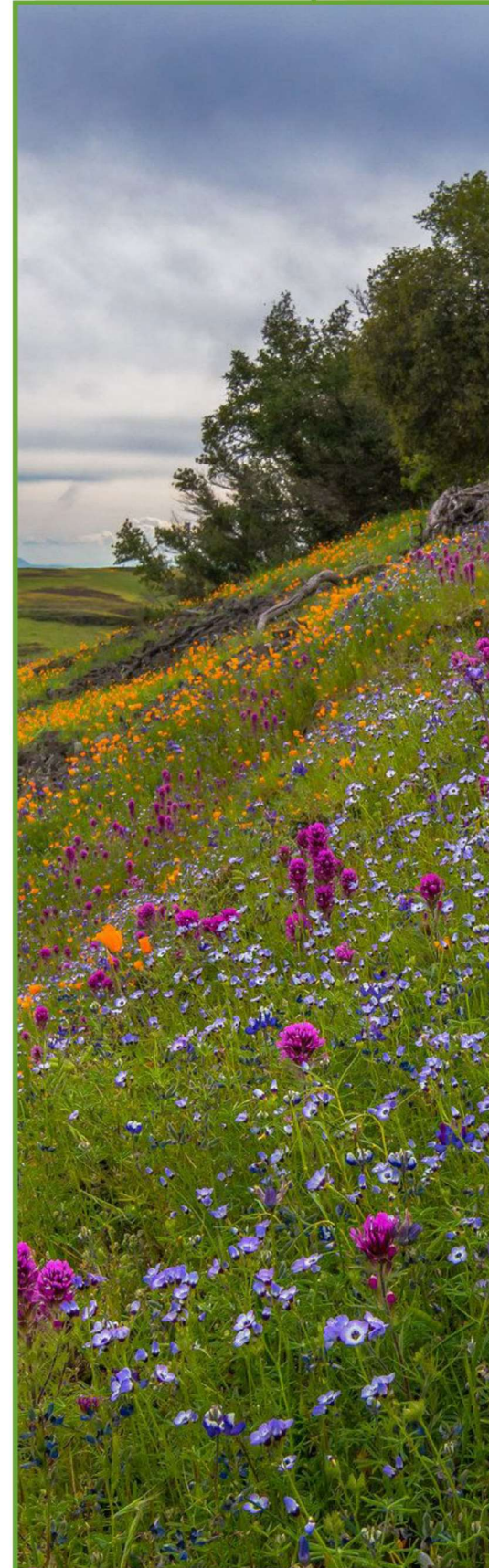


said they are very or somewhat interested in columbaria..

FAMILY COLUMBARIA



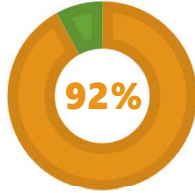
said they are very or somewhat interested in family columbaria .



DESIGN FEATURES

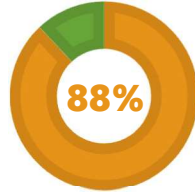
Participants were asked to select their level of interest in seven design features that could be included in the expansion area. Level of interest was identified on a scale of “very interested” to “not interested at all”. The rated results for each category were:

EXISTING TREES



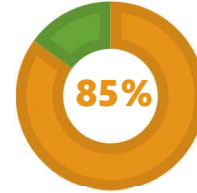
are very or somewhat interested in existing trees.

NEW TREES



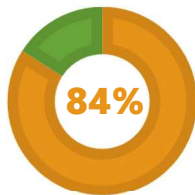
are very or somewhat interested in planted new trees.

WALKING PATHS



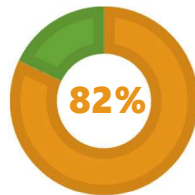
are very or somewhat interested in walking paths.

MEMORIAL TREES



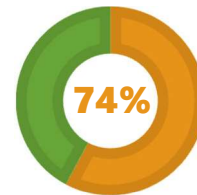
are very or somewhat interested in dedicated memorial trees.

MEMORIAL BENCHES



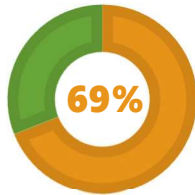
are very or somewhat interested in memorial benches.

OUTDOOR GATHER SPACE



are very or somewhat interested in outdoor gathering spaces.

WATER FEATURES



are very or somewhat interested in water features..

ENGAGEMENT BY NUMBERS



35+ OPEN HOUSE ATTENDEES



18,000 POSTCARDS MAILED TO RESIDENTS



538 WEBPAGE VISITS



168 TOTAL SURVEYS COMPLETED



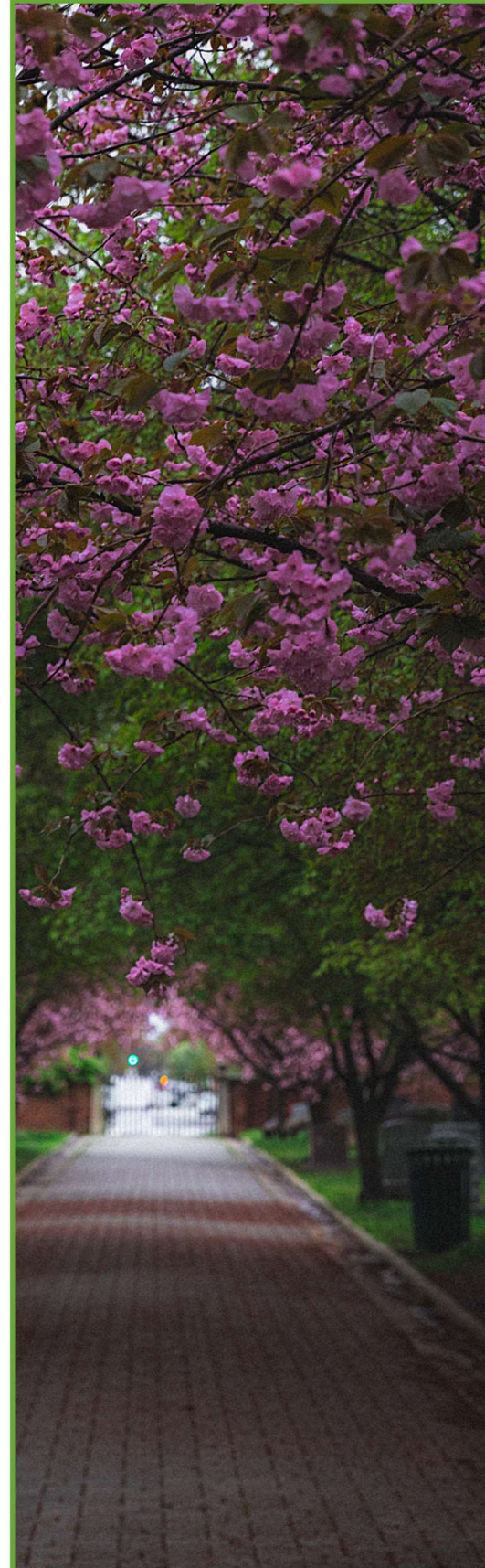
3.0 CEMETERY TRENDS

Interment practices are constantly evolving in response to economic, environmental, and social considerations. Understanding these trends is needed to accurately assess future cemetery needs for the community of North Cowichan. This section examines the trends occurring nationally and provincially.

The first service in community cemeteries was basic burial with a casket in the ground. As urban cemeteries became more concerned about maintaining smooth grass lawns and reducing maintenance associated with plot subsidence, concrete vaults, and fiberglass liners were introduced. Some cemeteries also use concrete runners as a base for monuments to reduce maintenance.

As cremation became popular, the next services offered were burial plots for cremated remains and allowing cremated remains above a full burial. With increasing rates of cremation and concerns about space, columbaria was the next interment service introduced. Recent trends include family columbaria, green burial, scattering gardens, and memorials. Cemeteries are finding that a broader range of services can enable them to meet more diverse needs and to provide some affordable options.

As the costs of traditional burial plots increase and land becomes scarce, people are looking for more cost-effective alternatives. The popularity of cremation is expected to continue though this may change once more sustainable options are readily available. Interest in green burial is growing rapidly in British Columbia with more cemeteries providing this service. The next upcoming trend, not yet legal in Canada but legal and practiced in six states in the US, is human composting, also known as 'terramation' or recomposing. This trend's growth is partly due to the emissions and air pollution concerns related to cremation. Another alternative that is legal in 28 states is 'aquamation', where a body is turned into liquid and then powder.



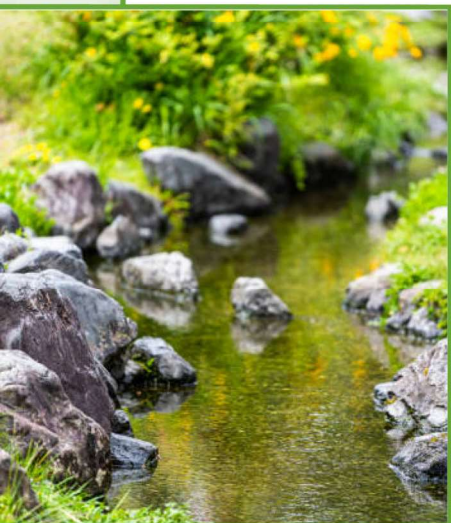


CREMATION

Across Canada, the cremation rate has been increasing steadily for many years. According to the Cremation Association of North America (CANA), it was 74.8% in 2021. By 2025, it is expected to increase to 82% in Canada, and in British Columbia, it is expected to reach 87%.

There are several factors that have led to the popularity of cremation:

- › Reduced costs compared to traditional burials.
- › Perception of less environmental impact and land consumption
- › Transportation of remains easier and less expensive
- › Increase of transient culture, including the high level of immigration to Canada
- › Range of interment options and memorialization



The evolution of burial practices within religions has influenced the cemetery services offered in Canada. The allowance of cremations by the Catholic Church in 1963 has led to a continual increase in the number of Catholic cremations. There has also been a gradual increase in the number of Jewish cremations, a practice that is contrary to Jewish traditions. Changing religious norms and the acceptance and convenience of cremation are factors in the increase of cremation as the most popular method of disposition in BC.

Along with the increase in cremations, the death service profession has responded by expanding options within cemeteries. Interment of cremated remains, such as a burial plot, columbaria niche, or scattering area in a cemetery, enables families to visit the remains of their loved ones in a permanent, protected, and contemplative location. Cemeteries and memorial gardens also include memorial plaques for honouring loved ones who may be interred elsewhere. This is attractive to families who have relocated or for loved ones who lived in multiple locations.



GREEN OR NATURAL BURIAL

Green or natural burial is a trend that is gaining more traction among Western nations, including Canada. In May 2021, the Green Burial Council released a study suggesting that more than 91% of respondents are interested in more environmentally friendly funerals and burials, with 84% saying they would choose natural burial if it were available. Green burial involves returning a body as naturally as possible to the earth. The body being interred is not embalmed or cremated; it is placed in a simple biodegradable shroud or casket and buried without a liner or vault. Vegetation is planted (often native trees, shrubs, and/or meadow plants) and allowed to naturalize, and the names of those interred in an area are typically inscribed on a communal marker or plaque.

This method is a low-impact alternative to traditional full burial, which introduces toxic chemicals into the environment from the embalming process and typically involves large quantities of metal, hardwood, fiberglass, and/or concrete used for caskets, crypts, and/or liners. Green burial also has less environmental impact than cremation, which uses large amounts of energy and materials to cremate a body. The emissions of greenhouse gases and toxic metals are high with cremation.

BC currently has several cemeteries offering this option, the most active one being the Woodlands at Royal Oak Burial Park in Saanich. It was Canada's first urban green burial site opened in 2008. The City of Parksville has been offering green burials since 2018, and the Salt Spring Island Natural Cemetery was opened in 2020.

Full burials with green burial principles are quite common, e.g., placement of un-embalmed remains in a biodegradable covering within a traditional full burial plot with no liner or vault or green burials with individual markers rather than group markers. Smaller communities are also becoming interested, e.g., Denman Island has a new green burial ground and Whitehorse plans to include natural burial options in their municipal cemetery. Mountain View Cemetery in Vancouver has recently adopted triple-depth consecutive (those interred in one plot do not know each other) green burial as an option, which increases affordability. The "greenest" expressions involve additional measures such as not using machinery or motor vehicles as part of the burial process. Grave reuse within a family after 40 years is also a legal practice in BC. Adopted as an option by Mountain View Cemetery in Vancouver, it only works if there are no vaults or liners.

There are two primary methods of planning green burial plots. One is to allow customers to purchase rights to a specific plot. This can enable couples to be interred together; however, it delays opportunities for planting until all interments in an area are complete. The other approach is to inter sequentially. This allows for immediate planting, with the condition being that the deceased are not necessarily buried close to their family members. Other conditions of green burial include rapid interment after death, which can be prolonged somewhat with refrigeration, and prohibition of exhumation.



SCATTERING GARDENS

Scattering refers to the practice of distributing cremated remains into land, water, or the air, usually without an urn. Scattering gardens in a cemetery are spaces specially created for this purpose. They enable people to scatter the cremated remains of their loved ones very economically without having to purchase a plot or niche. Provincial regulations do not prohibit the scattering of cremated remains on land, sea, or by air as long as the property owner provides permission. Cemeteries offer memorialization with plaques, monuments, or engraved boulders.

Some cemeteries require biodegradable urns, and other cemeteries inter cremated remains into a garden below the soil or mulch. When cremated remains are interred, a neutralizing material is sometimes added to the soil to reduce the pH. The pH of cremated remains is very high, so the additive works to neutralize this and improve the health of the soil and plants.



FULL BURIAL PRACTICES

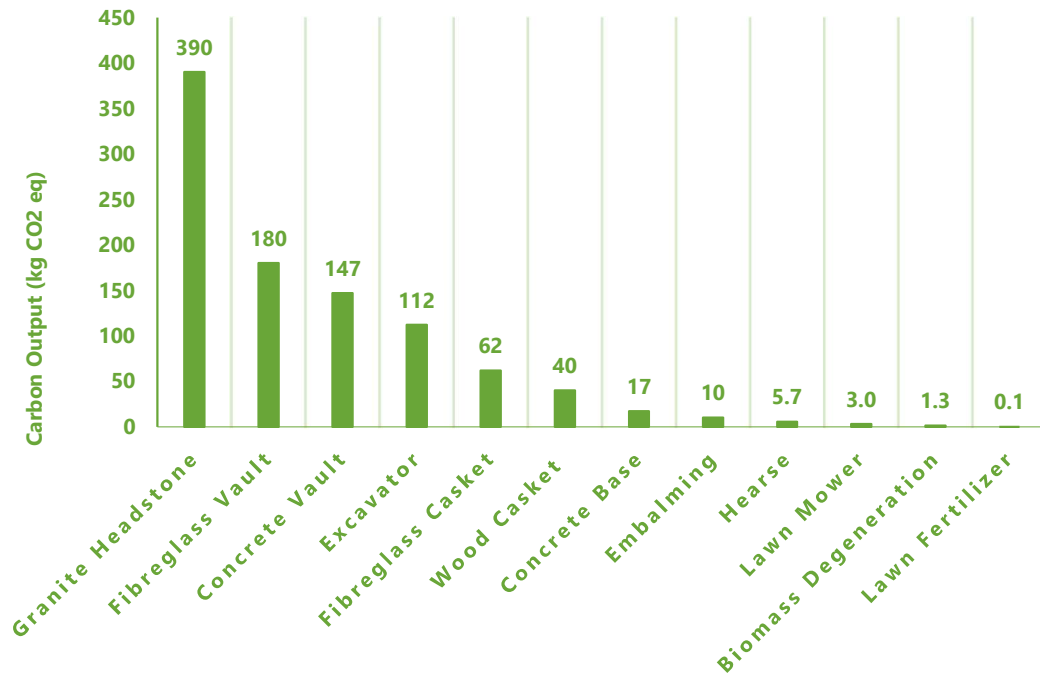
GRAVE LINERS

North Cowichan has added the requirement for fiberglass grave liners to a relatively recent bylaw and fee table. When the cemetery expansion occurred north of Mount Prevost Lane, the Operations department observed the consistent presence of waterlogged soils, which tended to slough when a grave was dug, leading to complications during burial. The grave liners are installed in advance of the burial and enable easier installation of the casket. Grave liners also help to prevent the settling and sinking of the surface materials, reducing the need for maintenance and operations to provide fill materials to provide an even surface.

While this practice has led to efficiencies during the burial process and supports some level of maintenance, it has unintended consequences. These include impacts on the environment through greenhouse gas emissions associated with the production of liners, contamination of soils with non-biodegradable materials and toxins, higher customer costs, and preclusion of future grave reuse. **Figure 3.1** shows a high-level comparison of the CO₂ emission outputs of full burial processes and the role of liners.



Figure 3.1 CO2 Emission Outputs



Source: Urban Systems compiled from various GHG calculation tools

Further, public perceptions of burial practices are shifting, including the desire for burials and practices that are less impactful to the environment and cost less.

Shoring Devices

Shoring devices are typically utilized during the burial process to help prevent slumping of materials between the time the grave is dug and the funeral and interment is complete. Shoring devices on the market are typically aluminum. Shoring devices made of wood are often constructed in-house to meet the cemetery's specific needs and equipment, e.g. City of Edmonton has specifications of their in-house model.



4.0 MARKET AND DEMAND ANALYSIS

The demand for cemetery services is calculated through the following steps:

- › Calculating population projections
- › Identifying and projecting mortality rates
- › Determining the “disposition” (burial or cremation) of projected deaths
- › Projecting how many of the interments (burial or cremation) are expected to be directed to Mountain View Cemetery (MVC)
- › Projecting demand for specific interment options at MVC and the spaces required to meet the demands

POPULATION PROJECTION

APPROACH

This analysis uses an independent population forecast for the Municipality of North Cowichan (North Cowichan) prepared by Urban Systems, using Province of British Columbia’s BC Stats (BC Stats) regional population forecasts as a starting point. The process for preparing the forecast was as follows:

- › Reviewed the BC Stats P.E.O.P.L.E. 2021 forecast, by age cohort, for the Cowichan Valley Regional District (CVRD), to 2041 (current forecast horizon)
- › Extended the age-specific CVRD forecasts from 2042 to 2047 using a ‘simple exponential smoothing’ forecast function in Excel (ETS)¹
- › Projected Municipality of North Cowichan population based on age-specific ratios of ‘Municipality-to-CVRD’ population over time:
 - Historical ratios, by age cohort, were calculated using BC Stats and Statistics Canada data back to 2006.
 - Age-specific trends in these ratios were calculated for 2006, 2011, 2016, 2021, and projected forward to 2047 using the exponential smoothing forecast function (ETS)
 - Projected ratios were applied to the CVRD population forecast to arrive at a baseline Municipality of North Cowichan forecast, by age cohort.

This baseline forecast shows North Cowichan’s total population growing by 7,639 between 2022 and 2047.

Population growth was analyzed in June 2022 and projected for the next 25 years using the most current information available. North Cowichan should update the population projections as new information becomes available.

¹ Exponential smoothing predicts future values (population by cohort) using a weighted sum of past values. It uses an exponentially decreasing weight for past observations.

RESULTS

The resident population for North Cowichan is projected to grow from an estimated 32,821 in 2022 to 40,460 by 2047, for an average annual growth rate of 0.85%.

Figures 4.1 and 4.2 show the forecasts to 2047 in consolidated age groupings.

Figure 4.1 Municipality of North Cowichan Population Forecast to 2047

| AGE GROUP | 2022 | 2032 | 2042 | 2047 |
|--------------|---------------|---------------|---------------|---------------|
| <25 | 7,562 | 7,782 | 7,710 | 7,837 |
| 25-44 | 7,125 | 8,200 | 9,682 | 10,185 |
| 45-64 | 8,814 | 8,145 | 8,718 | 8,602 |
| 65+ | 9,319 | 12,331 | 12,952 | 13,837 |
| TOTAL | 32,821 | 36,458 | 39,061 | 40,460 |

Figure 4.2 Municipality of North Cowichan Population Forecast to 2047 by Consolidated Age Grouping

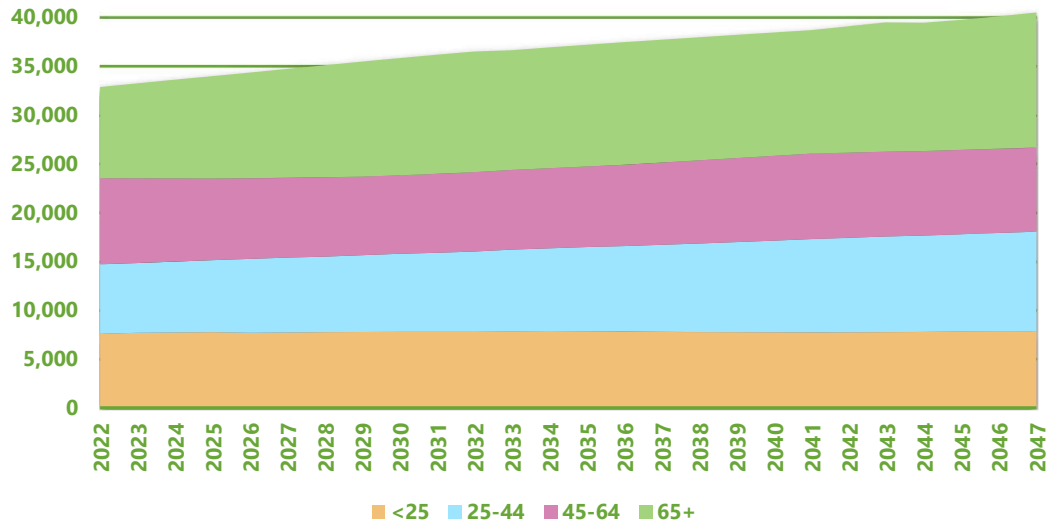
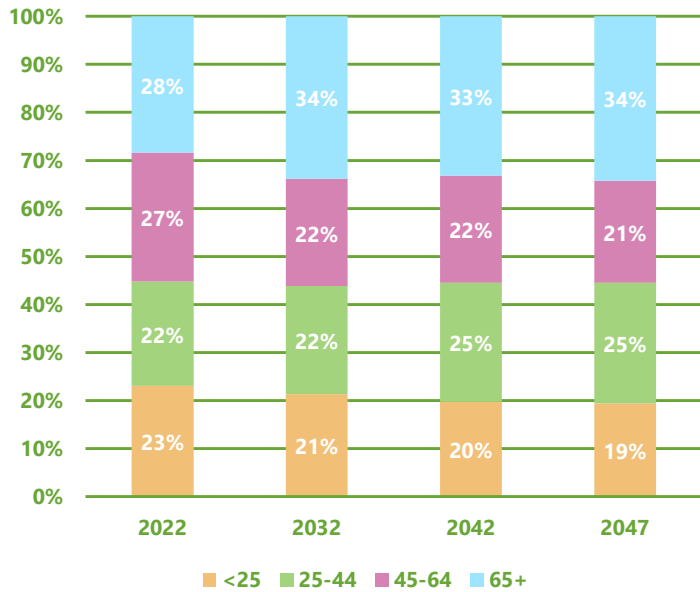


Figure 4.3 shows the projected breakdown of North Cowichan's projected population by consolidated age grouping as proportions of the total. The age profile is expected to skew older over time. The 65+ population accounts for approximately 28% of the total population in 2022 and is projected to increase to 34% by 2047.

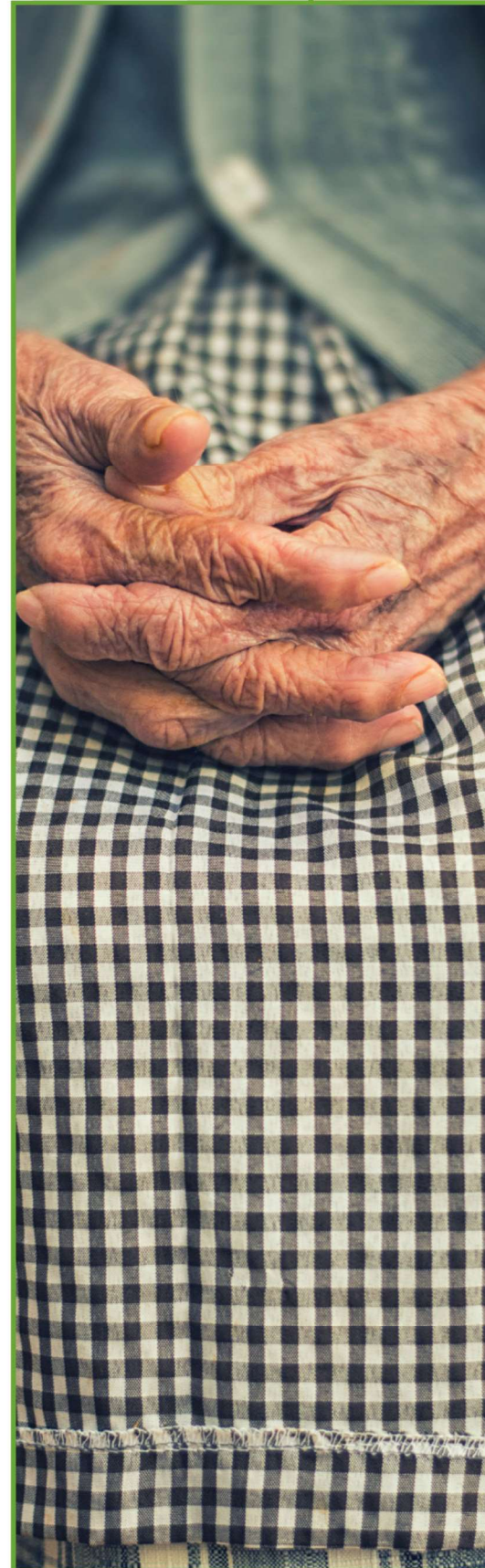
Figure 4.3 Municipality of North Cowichan Population Proportions by Consolidated Age Group to 2047



MORTALITY RATES

Historical mortality rates by age cohort were calculated for the CVRD using death and population data from 2001 to 2021.² Rates of year-over-year age-specific mortality change were calculated using this time series, and then applied to project future age-specific mortality rates to 2047. These projected rates were then applied to the population projections to calculate mortality rates by age cohort for North Cowichan.

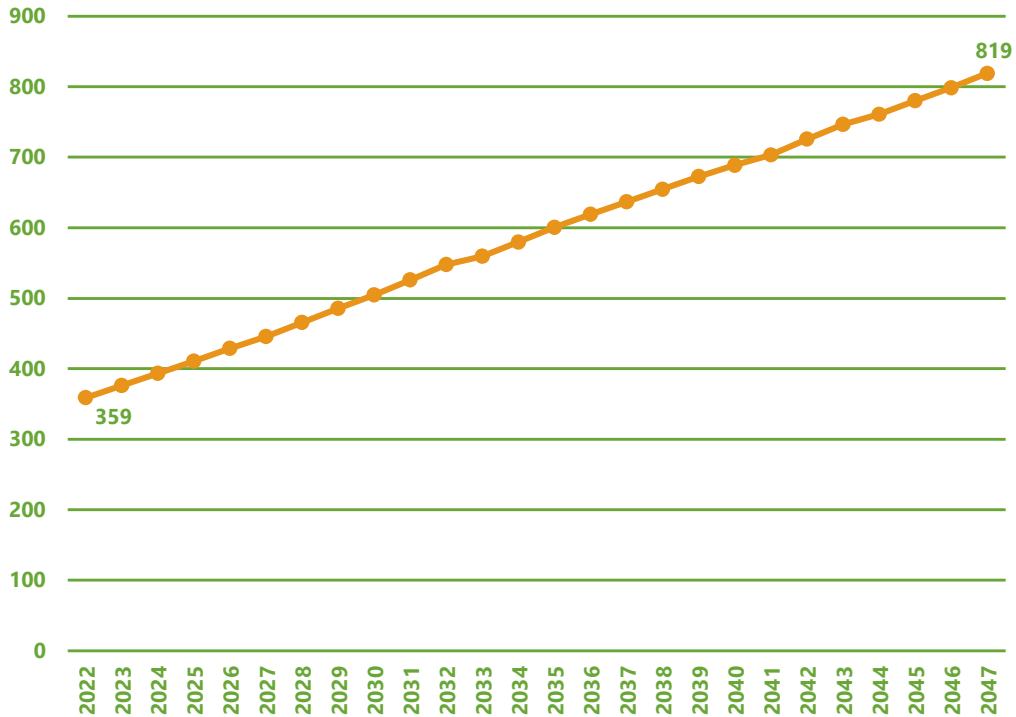
² Statistics Canada Table 17-10-0085-01 (death data); BC Stats Demographic Analysis Section (population data).



NORTH COWICHAN RESIDENT DEATHS

Figure 4.4 shows the forecast of mortality for North Cowichan residents based on applying mortality rates by age to the projected population change in the Municipality:

Figure 4.4 Municipality of North Cowichan Mortality Forecast to 2047 (number of mortalities per year)



Between 2022 and 2047, there are projected to be 15,290 deaths of North Cowichan residents. As the population ages, the number of deaths per 1,000 residents will increase annually – from 10.94/1,000 in 2022 to 20.25/1,000 by 2047 resulting in an increase from 359 deaths 2022 to 819 deaths in 2047. On average, the number of deaths among residents is projected to increase by 2.3% per year.

DISPOSITIONS FOR NORTH COWICHAN MUNICIPALITY

Methods of disposition (burial versus cremation) for North Cowichan deaths are projected by first identifying the ratio of historical dispositions observed in the region to the projected deaths within the Municipality. Since disposition ratios for all residents are not available at the municipal or regional district levels, disposition data for the Cowichan Valley Local Health Area (LHA) is used as proxy as it is expected that regional choices are indicative of North Cowichan resident choices. **Figure 4.5** shows the disposition data from 2004-2011, the most recent data set available.

Figure 4.5 Cowichan Valley Local Health Area Methods of Disposition, 2004 to 2011

| | BURIAL | | CREMATION | |
|-------------|--------|-------|-----------|-------|
| | # | % | # | % |
| 2004 | 68 | 14.3% | 405 | 85.4% |
| 2005 | 68 | 15.4% | 373 | 84.6% |
| 2006 | 74 | 16.8% | 365 | 83.0% |
| 2007 | 73 | 15.5% | 398 | 84.5% |
| 2008 | 79 | 15.7% | 424 | 84.1% |
| 2009 | 54 | 12.3% | 384 | 87.5% |
| 2010 | 70 | 15.2% | 391 | 84.8% |
| 2011 | 66 | 13.9% | 409 | 85.9% |

Based on the rate of change for full burial and cremated remains interments during the eight-year period (showing cremation increasing slightly and full burial decreasing slightly), a trend-based projection was prepared for 2012 to 2047. Cremation as a means of disposition is capped at 90% of total from 2033 onward to reflect the anticipated ongoing demand for some full burial.

Projected deaths by disposition for North Cowichan residents are determined by applying the projected disposition rates to projected municipal deaths. This results in a total of 1,499 full burials and 12,972 cremations as shown in **Figure 4.6**.

Figure 4.6 Municipality of North Cowichan Deaths and Projected Method of Disposition, 2022 to 2046

| PROJECTED DEATHS BY METHOD OF DISPOSITION | | | |
|--|---------------|---------------|------------------|
| YEAR | DEATHS | BURIAL | CREMATION |
| 2022 | 359 | 43 | 316 |
| 2023 | 376 | 45 | 331 |
| 2024 | 394 | 46 | 348 |
| 2025 | 410 | 47 | 363 |
| 2026 | 429 | 49 | 380 |
| 2027 | 446 | 50 | 396 |
| 2028 | 466 | 51 | 415 |
| 2029 | 486 | 52 | 433 |
| 2030 | 505 | 53 | 451 |
| 2031 | 526 | 55 | 472 |
| 2032 | 548 | 56 | 492 |
| 2033 | 559 | 56 | 504 |
| 2034 | 580 | 58 | 522 |
| 2035 | 601 | 60 | 541 |
| 2036 | 619 | 62 | 557 |
| 2037 | 637 | 64 | 573 |
| 2038 | 655 | 65 | 589 |
| 2039 | 673 | 67 | 605 |
| 2040 | 689 | 69 | 620 |
| 2041 | 703 | 70 | 633 |
| 2042 | 726 | 73 | 653 |
| 2043 | 747 | 75 | 672 |
| 2044 | 761 | 76 | 685 |
| 2045 | 780 | 78 | 702 |
| 2046 | 799 | 80 | 719 |
| TOTAL | 14,470 | 1,499 | 12,972 |

RESIDENT INTERMENT DEMAND IN MOUNTAIN VIEW CEMETERY

Projected deaths of North Cowichan residents were further analyzed to determine the anticipated market capture of interments at Mountain View Cemetery (MVC) since some North Cowichan residents will choose to be interred elsewhere. Market capture is determined by comparing total estimated historical deaths and disposition types to historical interments by type at MVC to determine the historical market capture, or the number of burial and cremation interments that are being conducted at MVC for North Cowichan residents compared to total resident deaths.

The same method described in Section 4 to project future deaths and methods of disposition was used to create a historical back-cast of estimated historical resident deaths and methods of disposition for those deaths, regardless of whether remains were interred at MVC or elsewhere. Historical interment data was provided by Municipal staff. Based on the calculated historical back-cast and historical interment data from MVC, historical market capture for the cemetery (the proportion of residents interred in the cemetery compared to total estimated resident deaths) for the last 10 years by disposition type is calculated (Figure 4.7).

Figure 4.7 Historical Resident Deaths by Disposition Type and Mountain View Cemetery Interments, 2011 to 2022

| YEAR | NORTH COWICHAN RESIDENTS | | | MOUNTAIN VIEW CEMETERY | | | | |
|------|--------------------------|----------------------|---------------------------|------------------------|------------------------|-----------------------------------|---------------------------|--|
| | HISTORICAL BACK-CAST | | | HISTORICAL INTERMENTS | | | HISTORICAL MARKET CAPTURE | |
| | ESTIMATED BURIALS | ESTIMATED CREMATIONS | ESTIMATED RESIDENT DEATHS | TOTAL FULL BURIAL | TOTAL CREMATED REMAINS | TOTAL BURIAL AND CREMATED REMAINS | BURIAL AS % OF ALL BURIAL | CREMATION INTERMENTS AS % OF ALL CREMATION |
| 2011 | 36 | 222 | 258 | 25 | 57 | 82 | 70% | 26% |
| 2012 | 37 | 227 | 264 | 15 | 43 | 58 | 41% | 19% |
| 2013 | 37 | 231 | 268 | 23 | 36 | 59 | 63% | 16% |
| 2014 | 39 | 248 | 287 | 25 | 51 | 76 | 64% | 21% |
| 2015 | 38 | 245 | 283 | 13 | 39 | 52 | 34% | 16% |
| 2016 | 41 | 270 | 311 | 20 | 36 | 56 | 49% | 13% |
| 2017 | 41 | 273 | 314 | 17 | 48 | 65 | 42% | 18% |
| 2018 | 41 | 277 | 318 | 13 | 35 | 48 | 32% | 13% |
| 2019 | 41 | 285 | 326 | 14 | 59 | 73 | 34% | 21% |
| 2020 | 42 | 293 | 335 | 21 | 47 | 68 | 50% | 16% |
| 2021 | 43 | 305 | 347 | 19 | 42 | 61 | 45% | 14% |
| | | | | | | AVG | 48% | 17% |



During the 10-year period 2011-2021, demand for full burials at MVC averaged 48% of total estimated burials, while cremated remains interments at MVC averaged 17% of total estimated cremations in the Municipality.

Based on the historical market capture rates at MVC, the following assumptions were applied to determine projected market capture rates:

- › Full burial—50% of projected full burials will be interred in MVC. While slightly higher than the historical average, this is a conservative assumption that allows MVC to plan adequate space for full burials and acknowledges that the introduction of green burial may increase burial numbers.
- › Cremated Remains—Twenty percent of projected cremation dispositions will be interred in MVC. While slightly higher than the historical average, MVC plans to add scattering as an interment option, which is expected to result in a larger market capture of cremation interments than previously.

As discussed in the following section, new service offerings are being proposed as part of expansion plans for MVC. While expected interments in MVC are based on historical information, a new attractive space and the addition of new services, specifically green burial, may attract additional interment demand. For the purposes of calculated market capture, we have assumed that in most cases, residents will choose a new service offering like green burial rather than full burial or cremated remains interment, which results in no new additional market capture, just a change in service type. Since there is no information available about potential increases in market share resulting from new service offerings, the projections remain conservative and have not been increased significantly to account for this possibility.

Projected market capture rates for MVC were applied to projected North Cowichan resident deaths to determine the estimated interment demand of North Cowichan residents at MVC. This resulted in an estimated 749 burials and 2,594 cremation interments, for a total of 3,343 interments over 25 years (**Figure 4.8**).

IMPORTANT NOTE:

North Cowichan should continue to track interments and if demand for interments increases significantly more than expected, capital improvements may be needed earlier than anticipated.

Figure 4.8 Municipality of North Cowichan Deaths, Methods of Disposition and MVC Interment Demand, 2022 to 2046

| YEAR | PROJECTED DEATHS BY INTERMENT TYPE | | | EXPECTED INTERMENTS IN MOUNTAIN VIEW CEMETERY | |
|--------------|------------------------------------|--------------|---------------|---|--------------|
| | DEATHS | BURIAL | CREMATION | BURIAL | CREMATION |
| 2022 | 359 | 43 | 316 | 22 | 63 |
| 2023 | 376 | 45 | 331 | 22 | 66 |
| 2024 | 394 | 46 | 348 | 23 | 70 |
| 2025 | 410 | 47 | 363 | 24 | 73 |
| 2026 | 429 | 49 | 380 | 24 | 76 |
| 2027 | 446 | 50 | 396 | 25 | 79 |
| 2028 | 466 | 51 | 415 | 25 | 83 |
| 2029 | 486 | 52 | 433 | 26 | 87 |
| 2030 | 505 | 53 | 451 | 27 | 90 |
| 2031 | 526 | 55 | 472 | 27 | 94 |
| 2032 | 548 | 56 | 492 | 28 | 98 |
| 2033 | 559 | 56 | 504 | 28 | 101 |
| 2034 | 580 | 58 | 522 | 29 | 104 |
| 2035 | 601 | 60 | 541 | 30 | 108 |
| 2036 | 619 | 62 | 557 | 31 | 111 |
| 2037 | 637 | 64 | 573 | 32 | 115 |
| 2038 | 655 | 65 | 589 | 33 | 118 |
| 2039 | 673 | 67 | 605 | 34 | 121 |
| 2040 | 689 | 69 | 620 | 34 | 124 |
| 2041 | 703 | 70 | 633 | 35 | 127 |
| 2042 | 726 | 73 | 653 | 36 | 131 |
| 2043 | 747 | 75 | 672 | 37 | 134 |
| 2044 | 761 | 76 | 685 | 38 | 137 |
| 2045 | 780 | 78 | 702 | 39 | 140 |
| 2046 | 799 | 80 | 719 | 40 | 144 |
| TOTAL | 14,470 | 1,499 | 12,972 | 749 | 2,594 |

Note: Population projections and interment demand were calculated in 2022 with site planning and financial projections following in 2023. As such, the 25-year time horizon was shifted from 2022-2047 to 2023-2048, assuming the same projections and demand values.

PROJECTED DEMAND BY SERVICE TYPE

Historical Interments by Type

The Municipality currently offers full burial plots, cremation plots, and columbaria niches at Mountain View Cemetery. As part of the cemetery improvements, double-depth burials, green burials, scattering, and additional niche and cremation options are proposed.

Based on historical interments by service type from 2011-2021, in-ground cremation interments represent an average of 79% of total cremation interments, while niche interments represent an average of 21% of total cremation interments (**Figure 4.9**).

Figure 4.9 Historical Interments at Mountain View Cemetery, 2011-2021

| YEAR | FULL BURIAL | INFANT BURIAL | CREMATION PLOT | NICHE | TOTAL FULL BURIAL | TOTAL CREMATIONS | TOTAL ALL | IN GROUND AS % OF CREMATIONS | NICHE AS % OF CREMATIONS |
|------|-------------|---------------|----------------|-------|-------------------|------------------|------------|------------------------------|--------------------------|
| 2011 | 25 | 0 | 52 | 5 | 25 | 57 | 139 | 91% | 9% |
| 2012 | 15 | 0 | 33 | 10 | 15 | 43 | 101 | 77% | 23% |
| 2013 | 23 | 0 | 26 | 10 | 23 | 36 | 95 | 72% | 28% |
| 2014 | 25 | 0 | 37 | 14 | 25 | 51 | 127 | 73% | 27% |
| 2015 | 13 | 0 | 32 | 7 | 13 | 39 | 91 | 82% | 18% |
| 2016 | 19 | 1 | 32 | 4 | 20 | 36 | 92 | 89% | 11% |
| 2017 | 16 | 1 | 37 | 11 | 17 | 48 | 113 | 77% | 23% |
| 2018 | 13 | 0 | 29 | 6 | 13 | 35 | 83 | 83% | 17% |
| 2019 | 14 | 0 | 48 | 11 | 14 | 59 | 132 | 81% | 19% |
| 2020 | 21 | 0 | 33 | 14 | 21 | 47 | 115 | 70% | 30% |
| 2021 | 19 | 0 | 32 | 10 | 19 | 42 | 103 | 76% | 24% |
| | | | | | | | AVG | 79% | 21% |

Source: North Cowichan - No. of Burials File 2022-05. Analysis by Urban Systems.

PROJECTED SPACE REQUIREMENTS BY PRODUCT TYPE

Interment demand projections show the total projected interments at MVC; however, some plots and niches are expected to accommodate more than one set of remains. To determine the number and type of spaces needed to accommodate the projected interments, occupancy assumptions are determined based on trends at MVC and trends in other cemeteries we have studied.

BURIAL INTERMENTS

Space needs for burials are projected based on the following assumptions:

- › 75% of full burials will be interred in a single-depth plot, while the remaining 25% will be interred in a double-depth plot
- › Higher rates of double-depth interments will occur beyond 10 years as a higher number of double-depth plots will have already been purchased and used for the first interment.
 - In years 1-10, 50% of plots will have two full interments
 - In years 11 – 25, 75% of plots will accommodate two interments
- › Green burial in the existing developed portion of the cemetery is assumed to be available starting in 2023 and is expected to increase in demand over time, drawing from full burial and cremation interments from an initial capture rate of 5% to reach a 15% share of total interments
- › Each green burial plot will accommodate one interment – it may be possible to provide some double-depth plots pending soil condition; however, since this is unconfirmed, only single-depth plots are assumed at this time.

Cremation Interments

Space needs for cremation interments are projected based on the following assumptions:

- › 46% of cremation burials will be interred in a cremation plot.
 - 60% of these interments will require a new cremation plot.
 - 40% of these interments will be the second set interred on occupied cremation plots resulting in no new space requirements.
- › 30% of cremation burials will be interred on occupied full burial plots resulting in no new space requirements.
- › 66% of columbaria niches will accommodate two sets of cremated remains.
- › 33% of columbaria niches will accommodate one set of cremated remains.
- › 5% of cremated remains will be scattered.

Figure 4.10 shows the estimated interments by type based on the population projections, anticipated market capture at MVC, and the demand by interment service.

Figure 4.10 Mountain View Cemetery Projected Interment Demand, 2023 to 2047

| INTERMENT SERVICE | 2023-2027 | 2028-2032 | 2033-2037 | 2038-2042 | 2043-2047 | 25-YEAR TOTAL |
|-------------------------------------|------------------|------------------|------------------|------------------|------------------|----------------------|
| FULL BURIALS - SINGLE DEPTH | 74 | 72 | 79 | 90 | 103 | 418 |
| FULL BURIALS - DOUBLE DEPTH | 25 | 24 | 26 | 30 | 34 | 139 |
| GREEN BURIALS - SINGLE DEPTH | 38 | 87 | 102 | 118 | 133 | 478 |
| TOTAL BURIALS | 137 | 183 | 207 | 238 | 270 | 1,035 |
| CREMATION PLOT | 150 | 175 | 211 | 244 | 277 | 1,057 |
| CREMATION ON BURIAL PLOT | 99 | 115 | 141 | 163 | 185 | 703 |
| CREMATION IN NICHE | 62 | 72 | 89 | 101 | 116 | 440 |
| SCATTERING | 15 | 20 | 23 | 26 | 30 | 114 |
| TOTAL CREMATIONS | 326 | 382 | 464 | 534 | 608 | 2,314 |
| TOTAL | 463 | 565 | 671 | 772 | 878 | 3,349 |

Figure 4.11 shows the space requirements to accommodate the interment demand over the next 25 years. The figure does not include interments that will not require space (e.g., a second set of cremated remains interred in a cremation plot).

Figure 4.11 Mountain View Cemetery Projected Space Needs, 2023 to 2047

| INTERMENT SERVICE | 2023-2027 | 2028-2032 | 2033-2037 | 2038-2042 | 2043-2047 | 25-YEAR TOTAL |
|-------------------------------------|------------------|------------------|------------------|------------------|------------------|----------------------|
| FULL BURIALS - SINGLE DEPTH | 74 | 72 | 79 | 90 | 103 | 418 |
| FULL BURIALS - DOUBLE DEPTH | 17 | 16 | 15 | 17 | 20 | 84 |
| GREEN BURIALS - SINGLE DEPTH | 38 | 87 | 102 | 118 | 133 | 478 |
| TOTAL BURIALS | 129 | 175 | 196 | 225 | 255 | 980 |
| CREMATION PLOT | 90 | 105 | 127 | 147 | 166 | 635 |
| COLUMBARIA NICHE | 40 | 48 | 60 | 68 | 78 | 294 |
| SCATTERING GARDEN | 15 | 20 | 23 | 26 | 30 | 114 |
| TOTAL CREMATIONS | 145 | 173 | 210 | 241 | 274 | 1,043 |
| TOTAL | 274 | 348 | 406 | 466 | 529 | 2,023 |

CEMETERY CAPACITY

Figures 4.11 show the cemetery's current capacity (as of 2022) before upgrades and the anticipated capacity that will be provided by either Concept 1 or Concept 2. Figure 4.12 and Figure 4.13 details the cemetery plot offerings by type of burial to accommodate projected interment demand.

Figure 4.11 Mountain View Cemetery Interment Capacity (end of 2022)

| INTERMENT TYPE | CAPACITY BEFORE UPGRADES | CAPACITY AFTER UPGRADES |
|-------------------------------------|--------------------------|-------------------------|
| Full Burials - Single Depth | 14 Years | 25+ Years |
| Full Burials - Double Depth | 0 Years | 25+ Years |
| Green Burials - Single Depth | 2 Years | 25+ Years |
| Cremation Plot | 20 Years | 25+ Years |
| Columbaria Niche | 2 Years | 25+ Years |
| Scattering Garden | 0 Years | 25+ Years |

Figure 4.12 Mountain View Cemetery Option 1 Cemetery Plot Offerings

| OPTION 1 INTERMENT OFFERINGS | Full Burial Single Depth | Full Burial Double Depth | Green Burials | Cremation Plots | Columbarium (48 niche) | Memorial Monuments | Scattering Opportunities | Total offerings per phase |
|---|--------------------------|--------------------------|---------------|-----------------|------------------------|--------------------|--------------------------|---------------------------|
| Phase 1 - Anticipated Construction in +/- 2035 | 160 | 192 | 201 | 420 | 96 | 1 | 35 | 1105 |
| Phase 2 - Anticipated Construction in +/- 2043 | 164 | 0 | 168 | 360 | 96 | 1 | 79 | 868 |
| Phase 3 - Anticipated Construction in +/- 2057 | 176 | 0 | 172 | 720 | 0 | 1 | 0 | 1069 |
| TOTAL | 500 | 192 | 541 | 1500 | 192 | 3 | 114 | 3042 |

Figure 4.13 Mountain View Cemetery Plot Offerings Concept 2

| OPTION 2 INTERMENT OFFERINGS | Full Burial Single Depth | Full Burial Double Depth | Green Burials | Cremation Plots | Columbarium (48 niche) | Memorial Monument s | Scattering Opportunities | Total offerings per phase |
|---|---|---|--------------------------|----------------------------|-----------------------------------|------------------------------------|-------------------------------------|--|
| Phase 1 - Anticipated Construction in +/- 2035 | 188 | 192 | 142 | 630 | 96 | 1 | 35 | 1284 |
| Phase 2 - Anticipated Construction in +/- 2043 | 180 | 0 | 239 | 540 | 192 | 1 | 79 | 1231 |
| Phase 3 - Anticipated Construction in +/- 2057 | 170 | 0 | 125 | 126 | 0 | 1 | 0 | 422 |
| TOTAL | 538 | 192 | 506 | 1296 | 288 | 3 | 114 | 2937 |

REGIONAL FEE COMPARISON

A regional fee comparison of comparable municipal cemeteries with similar service offerings was conducted to inform proposed fees. We reviewed cemetery fees in Qualicum Beach, Courtenay, Nanaimo, Royal Oak Burial Park, and Cedar Valley Memorial Garden. Royal Oak Burial Park accommodates a significant number of green burials, a service North Cowichan anticipates providing more of in the future. Though not included in the original fee comparison study, Yates Memorial provides green burial in their Parksville location.

Private cemeteries are for-profit and usually have significantly higher fees than municipal cemeteries. This is true for most private cemeteries owned by larger corporations. Yates Memorial is an exception, as it is a smaller, local company. Municipal cemetery operations are typically subsidized to some degree. While it is important to understand what other options are available nearby for residents, municipalities generally find the most value in comparing existing and proposed fees to nearby municipalities rather than private cemeteries.

A comparison of the regional fees is provided in **Appendix D**.

Based on this review, MVC fees are comparable and slightly higher than those of other regional municipal cemeteries. Fees at non-municipal cemeteries (Royal Oak Burial Park and Cedar Valley Memorial Garden) are significantly higher than all comparable municipal cemeteries in the region and fees are approximately 40-60% higher than those at MVC. The MVC fee structure is generally aligned with other municipal cemeteries in the region, so no changes to the fee structure (e.g., costs for a full burial plot compared to costs for a cremated remains plot) are proposed.



5.0

5.0 SUSTAINABILITY OF OPERATIONS

SERVICE DELIVERY & CEMETERY MANAGEMENT

Responsibilities for planning, managing, and operating the cemetery are currently spread across several departments and roles:

- › Director of Parks and Recreation oversees and supports the management of the cemetery, including capital and operational budgets.
- › Manager of Parks updates the cemetery bylaws, fees, and charges. The manager initiates capital improvements, oversees operations, and if required attends to cemetery operational emergencies and customer complaints.
- › Cemetery Clerk provides services to the public including sales, coordination with funeral homes and family for funerals and memorialization, record keeping, and overseeing the cemetery map updates. This position is working well, though it is challenging when this person is away. Efforts are being made to train another person to provide backup support.
- › One Seasonal Park Operation Person (Parks 2 Position) conducts maintenance, oversees third-party contractor for grave excavation, digs graves for cremation plots, provides on-ground support for interment services to families for burials from March to October, and provides maintenance. On-call services are provided as needed during winter months. When required, additional support from other seasonal operations staff is provided during busy times, such as Mother's Day and Remembrance Day.
- › Finance Department tracks revenue and expenses, wages, and the perpetual care fund.
- › GIS and Engineering departments plan long-range improvements and update the publicly accessible cemetery map.
- › Third-party Contractor provides grave excavation. A new contractor has been hired recently as it was challenging to rely on the previous contractor when needed. Contract fees have increased significantly with the new contractor. Hiring a contractor for excavation is still a good choice as North Cowichan would likely need to hire additional staff and purchase or increase equipment allocations to conduct burials in-house.

Because many people and different departments manage various aspects of the cemetery, communications and operations have been prone to errors. See recommendations for further information on service delivery.

ASSESSMENT OF CEMETERY CLERK POSITION

The duties of a cemetery clerk are defined as someone who primarily provides customer service including:

- › Responds to all customer service requests.
- › Meets with families to provide options and arrange services.
- › Completes all contract requirements in the software program.
- › Manages memorial program.
- › Upkeep of Website including bylaws and messaging to public.
- › Coordinates services with operations staff.
- › Consults with Cemetery Association.
- › Conducts record keeping and inventory management including cemetery plot locations and map updates.

KNOWLEDGE/ABILITIES:

- › Cemetery knowledge/understanding.
- › Advanced computer skills.
- › Demonstrates empathy and compassion.
- › Able to diffuse challenging situations.

SERVICE LEVELS

The Municipality estimates 12 to 15 hours per week is generally required, though it can swell to 20+ hours per week.

For comparison, the following is a list of cemetery clerk service levels that are applied at other cemeteries:

- › The largest cemeteries have an office and a full-time cemetery clerk at the cemetery site.
- › For medium sized cemeteries, there is usually one full time cemetery clerk position that performs their role from City Hall. This person usually has an office that cemetery customers can enter to make interment arrangements. This position is usually someone that works in Parks, Public Works, or Administration.
- › The smallest cemeteries have a part time person that performs the duties of a cemetery clerk.

A study was conducted to understand in more detail how this staff position and associated demands compares to other medium size cemeteries.

We asked the following questions;

1. What are the number of annual interments in recent years including full burial and cremation.
2. What are the average number of hours per week expected for the cemetery clerk.
3. Is the time allocation appropriate.
4. What software are you currently using to record and track sales, cemetery plots, and manage operations.

City of North Vancouver

In 2022, the City of North Vancouver cemetery clerk provided services for 80 full burial plots and 81 cremations. The cemetery clerk is a dedicated full-time position. During busy periods, the cemetery clerk is supported by an auxiliary position. The City of North Vancouver is aware that the aging population in their community continues to rise, and they anticipate that their level of service will increase. As such, they are considering a permanent part-time position to support the cemetery clerk. The City of North Vancouver currently uses Stone Orchard to manage the cemetery.

Strathcona County

In Strathcona County (south of Edmonton), a cemetery specialist, Crystabelle Fobler, provided an assessment of a full-service cemetery scenario that is anticipated to provide up to 45 full burial interments per year. The report indicated that to provide this service, a full-time permanent cemetery clerk position should be provided with support by an auxiliary or part time position.

Squamish

In 2019, Squamish was averaging 6 full interments and 19 cremation interments annually. One person dedicated approximately 20% of their time to cemetery work.

RESULTS

In general, we found that the results vary and are dependent on factors including operations staffing, amount of paperwork, role of municipal staff vs the local funeral homes, and processes to provide service to customers.

The Municipality of North Cowichan is a medium size cemetery with approximately 70 interments currently. The interment modelling predicts that these numbers are anticipated to increase to 100 interments within the next ten years. We therefore recommend that the Municipality consider a full-time position cemetery clerk position. See recommendations below.

TECHNOLOGY AND SYSTEMS

The following outlines North Cowichan's software, management processes, and gaps.

Paper Map

A printed copy of the overall cemetery is used by the cemetery manager when a plot is purchased.

The paper map is preferred by the cemetery administrator to track when plots are sold. It is then transferred into VADIM-ICITY™.

AutoCAD Drawings

AutoCAD files are used by Planning and Engineering for recording plots. There are two different AutoCAD files that are inconsistent with each other:

- › **AutoCAD, Original File:** This file contains the entire cemetery, including the plots and roadways in the oldest section of the cemetery. The AutoCAD file was generated by importing an older paper version. The file is not georeferenced and is not spatially correct.
- › **AutoCAD, North Cemetery:** This file is relatively new. The north portion of the cemetery was surveyed and georeferenced. It includes information such as utility services, plot layouts, roads, and existing tree locations.

VADIM-ICITY™

The Finance team and cemetery administrator use VADIM-ICITY™ to collect and track sales, services, and other costs. When plots are sold, the data is collected as a site ID and is then transferred on a weekly basis into the ArcGIS web map. The inventory map within Vadim is not always up to date and there are some inconsistencies.

The operations crew often make changes in the field due to site conditions. Bedrock, presence of water, tree roots, and other factors result in the need to relocate a grave plot to a different location than the one purchased. Crews usually try to select a plot that is as close to the original location as possible. Operations crew use a printed copy of the AutoCAD file to mark up the new location and then submit it back to the Cemetery Administrator who reviews and then forwards to the GIS team. This process often results in errors because there may be a delay getting this information from Operations and/or a delay in adjusting the data in VADIM and/or the ArcGIS map.

ARC GIS Web Map (Internal and External)

The ArcGIS web map is public facing and includes the cemetery layout with individual plots that include the plot number, site ID, and the cemetery record that shows the name, date the individual died, and the interment date.

The internal ArcGIS map contains more information related to sales that must be kept private.

TECHNOLOGY CONSIDERATIONS

Municipal staff indicated that the various software and management systems for the cemetery have led to inefficiencies for staff and created additional effort required of the customer to complete the various forms and contracts for burials at the cemetery.

North Cowichan has a few options for their technology systems:

1. **Improve Existing Systems.** Maintain the existing technology systems as opposed to changing or adding new technologies to track and store the cemetery data. North Cowichan can work to simplify the systems, digitize wherever possible all the necessary forms and paperwork, and work with existing technology providers to simplify process. There are multiple options for improving existing systems:
 - a. **Digital Detailed Mapping.** Build a comprehensive database and retain all maps in one application. The one with the most potential is ArcGIS, which can be set up with a field component through which staff can enter data from a mobile device on site.
 - b. **Improved Operations Management.** This could include digital work order assignments, automatically tracking progress in the field, and uploading photos to document work so that the cemetery clerk can make changes and service customers more efficiently.
 - c. **Digitize contracts and forms.** All forms including those for Consumer Protection could be digitized and available for internal and external use, including tracking for follow-up tasks and appointments with families.
 - d. **Payment processing software.** Adjustments could potentially be made to VADIM so it can be integrated with ArcGIS.
2. **Purchase Cemetery Management Software.** There are software applications on the market that could benefit North Cowichan. Opportunities include acquisition of one package designed to integrate all aspects of cemetery operations, including GIS, operations, contracts, forms, and sales. Challenges include the cost, integration with other municipal software, the learning curve, and ensuring that the software will meet all the Municipality's needs.



6.0 EXISTING CEMETERY AND CONDITIONS ASSESSMENT

NORTH CEMETERY & EXPANSION AREA

The following is a summary of the site analysis of the north portion of the cemetery and the expansion area, which is illustrated in **Figure 5.1**.

OPPORTUNITIES & CONSTRAINTS

- › Sheet drainage and overland flow from the Somenos Road tends to pool and collect in the northern section of cemetery. This is a relatively newer area of the cemetery and has caused problems during excavation of graves. Sometimes municipal staff require water pumps for excavation and burials.
- › The drainage swale along the north property line presents opportunities for a natural creek feeding into a drainage collection space in the expansion area.
- › Fill materials east of the Arbutus block were placed approximately 2 to 3 metres above the original grade.
- › To the east of the fill area, water has pooled and collected at the bottom of the slope to the south, east, and north. The recently dredged drainage swale on the north property line captures some of this water that drains toward the east, though there is still an abundance of water in the area.
- › The small stream that cascades into a small waterfall at the northeast corner of the property is an opportunity to create a quiet reflection area and viewpoint towards the rural and agricultural rolling hills.
- › There is a hedgerow of large 18-metre-tall dead poplar trees located on the neighbouring property. On the cemetery property, right next to the poplar trees, there is a hedgerow of declining Western Redcedar trees and overgrown Himalayan Blackberry.
- › The main vehicular access on Mount Prevost Lane has no defining features to signify the entry. The lane is also in direct view of the maintenance shed, creating an undesirable view/aesthetic upon entering the cemetery.
- › A heritage Bigleaf Maple and a ring of smaller maple trees around it should be preserved and protected. They are located near the south property line of the expansion area within the forest.
- › The material storage areas near the maintenance area are not fenced or screened to block views for cemetery visitors.
- › Within the northern portion of the Oak block, shallow bedrock is present. This area was originally meant to include full burials but is now planned for cremation plots.
- › The flowering plum trees, mostly located along Mount Prevost Lane, have started to die. Operations staff are starting to replace them.
- › There is existing wayfinding signage including a large overall map placed near the maintenance shed as well as several smaller wayfinding maps throughout the cemetery.

SITE ANALYSIS EXISTING CEMETERY SOUTH

The following is a summary of the site analysis of the south portion of the cemetery, which is illustrated in **Figure 5.2**.

Opportunities & Constraints

- › Within the older portion of the cemetery, there are five columbaria structures, memorial trees, and a concrete pathway. There is one section of the walkway where the concrete ends abruptly near a tree. This is an accessibility issue, especially for visitors with wheelchairs.
- › Within the oldest sections of the cemetery, many of the headstones, concrete barriers, and rings around existing trees have shifted, sunk, or are broken, and in some instances, present safety hazards.
- › There is an aging irrigation system, including a pumphouse within the south portion of the cemetery.

7.0 INVESTING IN THE FUTURE

CEMETERY CONCEPT GUIDING PRINCIPLES

Two cemetery concept plans were prepared with direction from the Municipality of North Cowichan staff and through consultation with the community of North Cowichan.

The following guiding principles are based on retaining and enhancing the positive aspects of the cemetery, building on the existing features to attract more use, providing a better experience for those interring or visiting their loved ones, and expanding the cemetery:

- › Improve the main entry experience so the cemetery feels more welcoming.
- › Retain and plant more trees to keep the natural character.
- › Retain and frame the views, including those of Mount Prevost and the rural farmland areas.
- › Expand the range of interment services.
- › Retain as many of the existing trees as possible.
- › Preserve and provide more natural and native spaces that support biodiversity.
- › Green burials and other more natural approaches should be provided in the expansion area.
- › Include site features that allow for wildlife movements and habitat.
- › Provide circulation, including roadways, parking pullouts, and pathways that support funeral services and day-to-day use.
- › Provide infrastructure to support alternative forms of transportation (e.g., bike racks).
- › Provide rest areas and sheltered areas (e.g., benches, covered structures, arbours).

NEW INTERMENT SERVICES

The following are proposed new interment services:

- › Scattering areas with memorial monuments.
- › Columbaria are placed in areas throughout the cemetery with seating and viewing areas.
- › Hybrid green burial plots with individual markers within the existing cemetery.
- › Dedicated green burial sections of the cemetery are planned to be wildflower meadow areas.

CONCEPT PLAN OPTIONS

Two concept plans were generated through consultation with staff and community input. They show the proposed plot layout to address and exceed the needs within three phases over the next 33 years. See **Appendix A** for the Cemetery Services Drawings.

Figure 6.1 Option 1 Concept Plan

CONCEPT OPTION 1

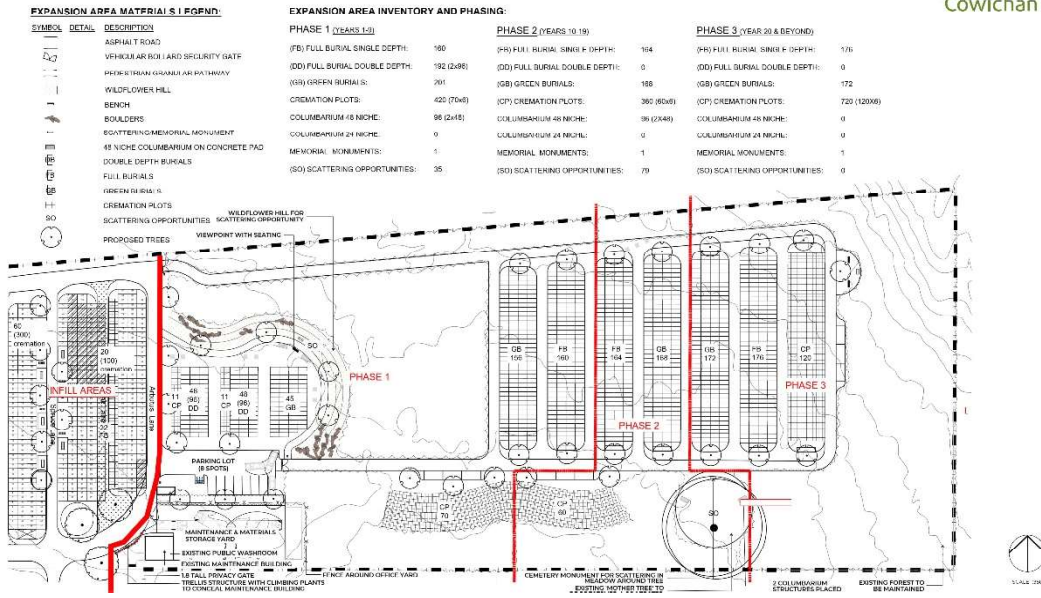
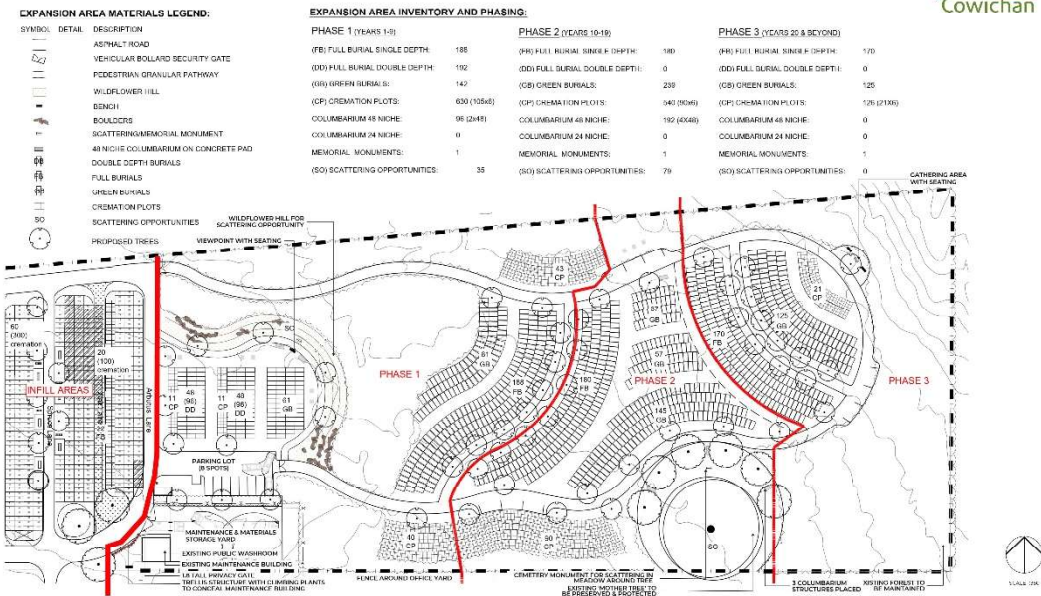


Figure 6.2 Option 2 Concept Plan

CONCEPT OPTION 2



The main differences between concepts options 1 and 2 are:

- Road configuration: Option 1 features a rectilinear approach that mimics the layout used on the existing cemetery sections. Option 2 features a curvilinear road that can provide more visual interest and respond to existing natural features such as the large trees and stream. Option 2 features a larger pedestrian gathering area by the big leaf maple tree, the “Mother Tree.”
- The options differ slightly in the amount of burial interment plots available in all categories.

SITE FEATURES

| FEATURE | DESCRIPTION |
|---|---|
| Road System | Looped one-way 3-metre-wide roadway. |
| Parking | 3 pull-out areas for cars to pull off the roadway to park |
| Maintenance Yard | Fenced enclosure area for maintenance equipment, vehicles and storage |
| Pedestrian Pathways | Pedestrian pathway with seating area at the top of the wildflower hill near the scattering area |
| Protection of Mature Maple Tree dubbed the ‘Mother Tree’ | Preservation of the large Bigleaf Maple Tree ‘Mother Tree’ with seating and memorial monuments near it |
| Seating and Gathering Areas | Seating and gathering spaces, including lookout points and rest areas |
| Vegetation Buffer | Vegetation buffer through the preservation of trees, including central area and along the edges of the cemetery |
| Lighting | Potential lighting, maybe solar, to be activated until 9 pm |
| Irrigation | Provide high-efficient automatic irrigation system |

PHASING STRATEGY AND COST ESTIMATE

The phasing strategy for both Concept Option 1 and Concept Option 2 shows the proposed cemetery interment services, including plot layouts and site features in three phases within the cemetery expansion area. The Infill strategy within the existing cemetery is proposed to occur every five years. Details are included below. The phases are planned to minimize the cost of new construction and the area requiring maintenance. **Appendix B** provides the full cost estimate.

INFILL EXISTING CEMETERY

Construction in this area focuses on upgrading and infilling the existing northern portion of the existing cemetery, including the following:

- › Removal of existing paved lanes including Cedar Lane, Cypress Lane, Maple Lane, Pine Lane, and Oak Lane. Once the paved surface areas are removed, these spaces are planned as grass lawn areas for additional plots. Most of the areas are planned for in-ground cremation plots and some for full burial or hybrid green plots.
- › Retain and repair Fir Lane and Spruce Lane as necessary.
- › Convert full burial plot areas as shown on the plans in the Spruce Block and Oak Block into areas for 48 niche columbaria with seating, memorial trees, and grass areas.
- › Due to shallow bedrock and waterlogged soils, convert full burial plot areas as shown on the plans into cremation plots (five per plot).
- › Remove existing concrete around the five columbaria structures in the south portion of the cemetery. Infill all pedestrian areas around them with compacted crushed gravel for safe access.
- › Place memorial benches and trees³ at the terminus of the laneways.

Sub-Phasing over Twenty-Five Years

The capital improvements for the infill areas are to be implemented in five-year increments, as additional interment space is required. The following outlines the costs for each 5-year increment. These costs include base-level capital improvements, 30% contingency, and compound inflation.

Figure 6.3 Infill Capital Costs

| | CAPITAL COST BEFORE ESCALATION | CAPITAL COST AFTER ESCALATION | COMPOUNDED ESCALATION (%) |
|----------------------|--------------------------------|-------------------------------|---------------------------|
| Infill [2024] | \$71,405 | \$71,405 | 0% |
| Infill [2029] | \$71,405 | \$101,561 | 142% |
| Infill [2034] | \$71,405 | \$144,453 | 202% |
| Infill [2039] | \$71,405 | \$205,459 | 288% |
| Infill [2044] | \$71,405 | \$292,229 | 409% |

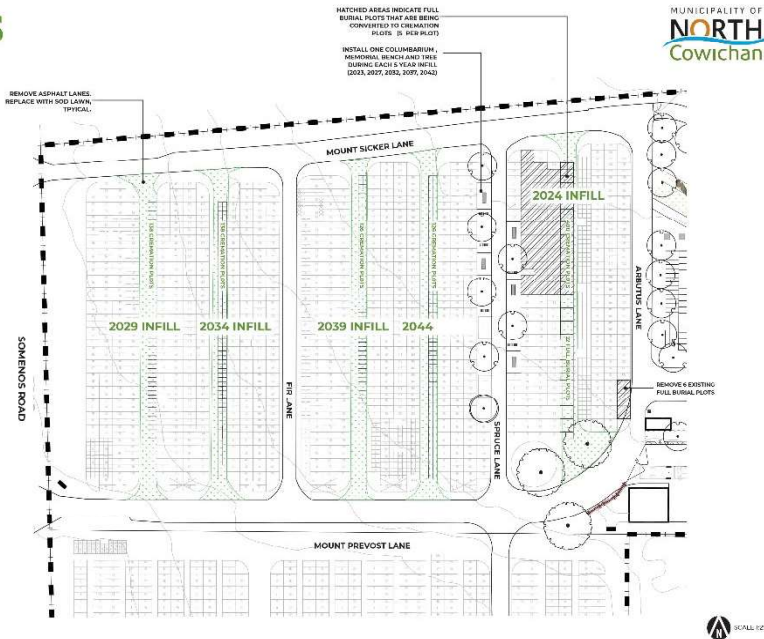
³ Municipality of North Cowichan Operations department is slowly removing the declining Plum Trees along Mount Prevost Lane. This together with the removal of the north-south laneways will enable the opportunity to install many additional trees along this roadway.

Figure 6.4 Existing Cemetery Infill

INFILL AREAS

INFILL IN EXISTING CEMETERY (INFILL TO OCCUR EVERY FIVE YEARS)

| | |
|--------------------------------|---------------|
| INFILL 2023: | |
| FULL BURIAL SINGLE DEPTH | 16 |
| CREMATION PLOTS | 400 |
| COLUMBARIUM 48 NICHE | 1 |
| INFILL 2027: | |
| CREMATION PLOTS | 138 |
| COLUMBARIUM 48 NICHE | 1 |
| INFILL 2032: | |
| CREMATION PLOTS | 138 |
| COLUMBARIUM 48 NICHE | 1 |
| INFILL 2037: | |
| CREMATION PLOTS | 126 |
| COLUMBARIUM 48 NICHE | 1 |
| INFILL 2042: | |
| CREMATION PLOTS | 126 |
| COLUMBARIUM 48 NICHE | 1 |
| TOTALS FOR INFILL AREA: | |
| FULL BURIAL SINGLE DEPTH | 16 |
| FULL BURIAL DOUBLE DEPTH | 0 |
| GREEN BURIALS | 0 |
| CREMATION PLOTS | 906 |
| COLUMBARIUM 48 NICHE | 5 (240 NICHE) |
| COLUMBARIUM 24 NICHE | 0 |
| SCATTERING OPPORTUNITIES | 0 |



PHASE 1 EXPANSION AREA

In both Concept Option 1 and Concept Option 2, Phase 1 extends beyond the existing north portion of the cemetery to the east. It includes the largest amount of construction and associated costs, largely due to the clearing, grading, and site circulation/roadway work required. The following lists the proposed improvements:

- Provide existing vegetation management along the north property line including removal of invasive plant material (blackberry). Replace with native plant material. Work with neighbour to remove dead poplar trees.
- A defined maintenance yard with a perimeter fence and double swing gate, space for equipment bay (for trucks, backhoe or similar) and storage area for materials. At the front of the maintenance building, provide new landscaped planting areas including a new trellis to screen views and provide a beautiful focal point when observed from the main entry on Somenos Road.
- Relocation of the existing sanitary field.
- One-way 3-metre-wide paved roadway system.
- Centralized paved parking lot area with 90-degree parking stalls for eight vehicles. The parking lot is surrounded by planting and trees on both sides.
- Scattering wildflower meadow hill.
- A lookout point at the edge of the scattering hill that includes benches, columbaria structures, and memorial monuments.
- Existing tree clearing and grubbing.
- New trees along the edges of the roadway.

Construction is anticipated to commence in 2035 with improvements and interment inventory available in 2036. The approximate cost for each concept option shown below includes 30% contingency and 217% compound escalation:

Approximate Cost for Concept Option 1: \$1,840,472

Approximate Cost for Concept Option 2: \$1,897,484

PHASE 2 EXPANSION AREA

In both Concept Option 1 and Concept Option 2, Phase 2 extends further to the east and includes the following:

- › Extension of the looping one-way roadway system including pull out parking spaces.
- › Open spaces, largely for the green burial wildflower meadow areas, bordered by traditional full burial, cremation plots, and trees.
- › A new scattering meadow near the Bigleaf maple 'Mother Tree' with memorial monuments.
- › Existing tree vegetation buffers on the north and south edges of the property.

Construction is anticipated to be needed by 2043 with improvements and interment inventory available in 2044. The approximate cost for each concept option shown below includes 30% contingency and 381% compound escalation:

Approximate Cost for Concept Option 1: \$1,261,918

Approximate Cost for Concept Option 2: \$2,757,542

PHASE 3 EXPANSION AREA

Phase 3 extends into the last portion of the cemetery property to the east. It includes the following:

- › Last and final extension of the looping one-way roadway system, including one pull-out parking area.
- › Existing tree clearing and grubbing for burial areas.
- › Open spaces, largely for green burial wildflower meadow areas, areas designated for traditional full burials, and cremation plot areas.
- › Existing tree vegetation buffers on all sides of the property line.
- › One memorial monument and seating area.

Construction is anticipated to commence in 2057, with improvements and interment inventory available in 2058. The approximate cost for each concept option shown below includes 30% contingency and 1023% compound escalation:

Approximate Cost for Concept Option 1: \$3,286,564

Approximate Cost for Concept Option 2: \$2,714,369

CAPITAL COSTS SUMMARY

Capital costs are one-time costs associated with expanding or improving cemetery infrastructure. Capital investments will be needed throughout the next 25 years to improve the cemetery, increase capacity in the existing cemetery through infill, and expand the cemetery site to meet interment demand. The existing developed site area for the cemetery is 8.90 ha.

Figure 6.5 shows the anticipated construction year, additional site area where applicable, and costs based on the site plan in Section 6. Expansion area improvements include space for full burial plots, green burial plots, cremation plots, columbaria, and scattering gardens, plus roads, paths, trees, gathering spaces, drainage infrastructure, and a perimeter fence. Costs are in 2023 dollars, with a further escalation rate of 7.3% annually until the capital construction year.

Figure 6.5 Capital Improvement Phases and Costs

| | YEAR | CONCEPT OPTION 1 | | CONCEPT OPTION 2 | |
|----------------|------|--------------------|--------------------|--------------------|--------------------|
| | | COSTS (2024) | COSTS (ESCALATED) | COSTS (2024) | COSTS (ESCALATED) |
| INFILL | 2024 | \$71,405 | \$71,405 | \$71,405 | \$71,400 |
| INFILL | 2029 | \$71,405 | \$101,561 | \$71,405 | \$101,561 |
| INFILL | 2034 | \$71,405 | \$144,453 | \$71,405 | \$144,453 |
| INFILL | 2039 | \$71,405 | \$205,459 | \$71,405 | \$205,459 |
| INFILL | 2044 | \$71,405 | \$292,229 | \$71,405 | \$292,229 |
| PHASE 1 | 2035 | \$847,876 | \$1,840,472 | \$874,141 | \$1,897,485 |
| PHASE 2 | 2043 | \$330,854 | \$1,261,918 | \$722,982 | \$2,757,542 |
| PHASE 3 | 2057 | \$321,330 | \$3,286,564 | \$265,386 | \$2,714,369 |
| Total | | \$1,857,085 | \$7,204,061 | \$2,219,534 | \$8,184,503 |

OTHER IMPROVEMENTS

Within the existing cemetery area, there are other improvements and asset upgrades that should be considered including:

- › Upgrade and replacement of the existing irrigation system as required
- › Removal of concrete around and near the existing columbaria in the old section of the cemetery
- › Update wayfinding block signage in the existing areas of the cemetery. See example photos below.





8.0 RECOMMENDATIONS

As the cemetery's use increases and more interments are expected over time, the following recommendations are organized into short-, medium-, and long-term priorities and by topic area.

SHORT-TERM PRIORITIES (0-2 YEARS)

1. SERVICE DELIVERY

- › Consider the role and functions of the Cemetery Administration. Consider adjusting to a regular full-time position.
- › Maintain the staffing structure for operations and maintenance.

2. DATA AND ASSET MANAGEMENT

- › Simplify the cemetery data management system to increase efficiency. Integrate all functions into VADIM and ArcGIS with a system that supports data management in the field.
- › Phase out the digital AutoCAD drawings for any existing or new planned development including infill within the existing cemetery or in the new expansion areas.
- › Generate one consistent cemetery map that is updated across all data systems. Consider hiring a summer student position that could work to survey, record, and update all systems. The summer student could also take photos of the headstones at each grave site to confirm that the data matches what is in the field. Once everything is updated, all data should be saved and recorded as a 'master file' in ArcGIS.
- › Update the ArcGIS master file when the expansion is complete.

3. INTERMENT SERVICES AND FEES

- › Remove the requirement for grave liners (concrete and fiberglass). Remove from website, cemetery brochure, operational costs, pricing schedule.
- › Include green burials (when available) as part of the fee schedule.
- › Review operations and maintenance costs annually and adjust cemetery fees by rate of inflation or rate of cost increases.
- › Develop a list of approved deciduous trees for the memorial trees. Do not include evergreen trees. Do not include concrete rings around trees. Place the memorial plaque a minimum of 1.2 metres away from the trunk of the tree. This will provide space for the tree and roots to spread and reduce impacts to the memorial plaque.
- › As new cemetery services are introduced, work with local funeral homes to coordinate new processes and procedures.

4. UPDATE BYLAWS

- › Update all bylaws to include new interment services, exclude liners, and make other changes required.
- › Update bylaws to provide a set of clear rules and enforcement measures for the adornment of lots.

5. OPERATIONS AND MAINTENANCE

- › Explore opportunities to naturalize some of the existing areas of the cemetery. This would involve allowing designated grass areas to grow long with annual mowing, seeding areas with native grasses and wildflowers, and where feasible incorporating native grasses, shrubs, and perennials. This could happen in areas such as grass swales and along property edges, including removal and replacement of invasive species such as blackberry.
- › Work with neighbour on north property to remove dead poplar trees.
- › Prepare an operations and management manual that clarifies roles, responsibilities, and tasks.

6. IMPLEMENT INFILL AREA (2024)

- › As outlined in the infill cemetery map, advance to a detailed design of the changes noted for capital improvements in 2024. Remove Oak Lane and convert the area to a combination of cremation and full burial plots with one 48 niche columbaria, memorial tree, and bench.

7. EXPANSION AREA

- › Select an expansion area concept (concept 1 or concept 2). Consider the capital costs for each phase including the compound escalation
- › Set up a capital improvements reserve fund to expand the cemetery in +/- 2035

8. COMMUNICATIONS

- › Provide communications to the public through outreach at the cemetery, such as posters and notices, on the cemetery homepage website, and on the Let's Talk page for changes for;
 - New services at the cemetery (green principles for full plots, columbaria)
 - Rules and enforcement measures for adornment of lots

9. CAPITAL COSTS RESERVE FUND

MID-TERM PRIORITIES (3-10 YEARS)

10. TECHNOLOGY/DATABASE MANAGEMENT

- › Upgrade the municipal central server equipment so that all data is stored digitally on a cloud system.

11. REVIEW CEMETERY DEMAND AND ALIGNMENT OF FEES WITHIN THE REGION

- › Review demand projections to assess whether the projection of demand and service trends is still appropriate or if adjustments need to be made to ensure the cemetery is meeting the needs of residents.
- › Hire a consultant to provide detailed modelling to assess the demand vs. space needs to determine if construction of the expansion area needs to be implemented sooner than previous projections.

12. UPDATE BYLAWS

- › Update all bylaws to include new interment services including green burials, double depth burials, and scattering areas when expansion area

13. SPECIFY NEW INTERMENT SERVICES FEES

- › Update all materials and fee schedule with new services including green burials, scattering, and columbaria.

14. IMPLEMENT INFILL AREAS (2029 AND 2034)

- › Advance to detailed design the changes noted for capital improvements for 2029 and 2034. Remove lanes and convert the site areas to cremation plots, as shown, with columbaria, memorial trees, and benches.

15. EXPANSION AREA DETAILED DESIGN FOR PHASE 1

- › Undertake detailed design and construction documents utilizing the services of a qualified Landscape Architect, registered in the province of British Columbia, along with necessary consultants for the expansion area in phase 1. This will require the following consultants, but is not limited to the following:
 - Conduct an environmental assessment with consideration for the selected concept plan.
 - Engage a geotechnical engineer to review the expansion area, especially as it relates to the proposed roads

- Engage a civil engineer to review the stormwater catchment area and proposed features, including onsite and offsite stormwater.
- Engage an arborist for review of existing trees with consideration for the selected concept plan.

16. IMPLEMENT PHASE 1 CONSTRUCTION OF EXPANSION AREA (2035)

- › Engage the services of a general contractor for the construction of phase 1, including tree removals, construction of road, wildflower hill, and burial areas.

LONG-TERM PRIORITIES (11-33 YEARS)

17. IMPLEMENT INFILL AREAS (2039 AND 2044)

- › Advance to detailed design the changes noted for capital improvements for the years 2039 and 2044. Remove lanes and convert the site areas to a cremation plot as shown, with columbaria, memorial trees, and benches.

18. EXPANSION AREA DETAILED DESIGN FOR PHASES 2 AND 3

- › Undertake detailed design and construction documents for the expansion area in phase 2.

19. IMPLEMENT PHASE 2 (2043) AND PHASE 3 (2057) CONSTRUCTION OF EXPANSION AREA

- › Engage the services of a general contractor for the construction of phase 2, including tree removals, road construction, pond and stream, and burial areas.

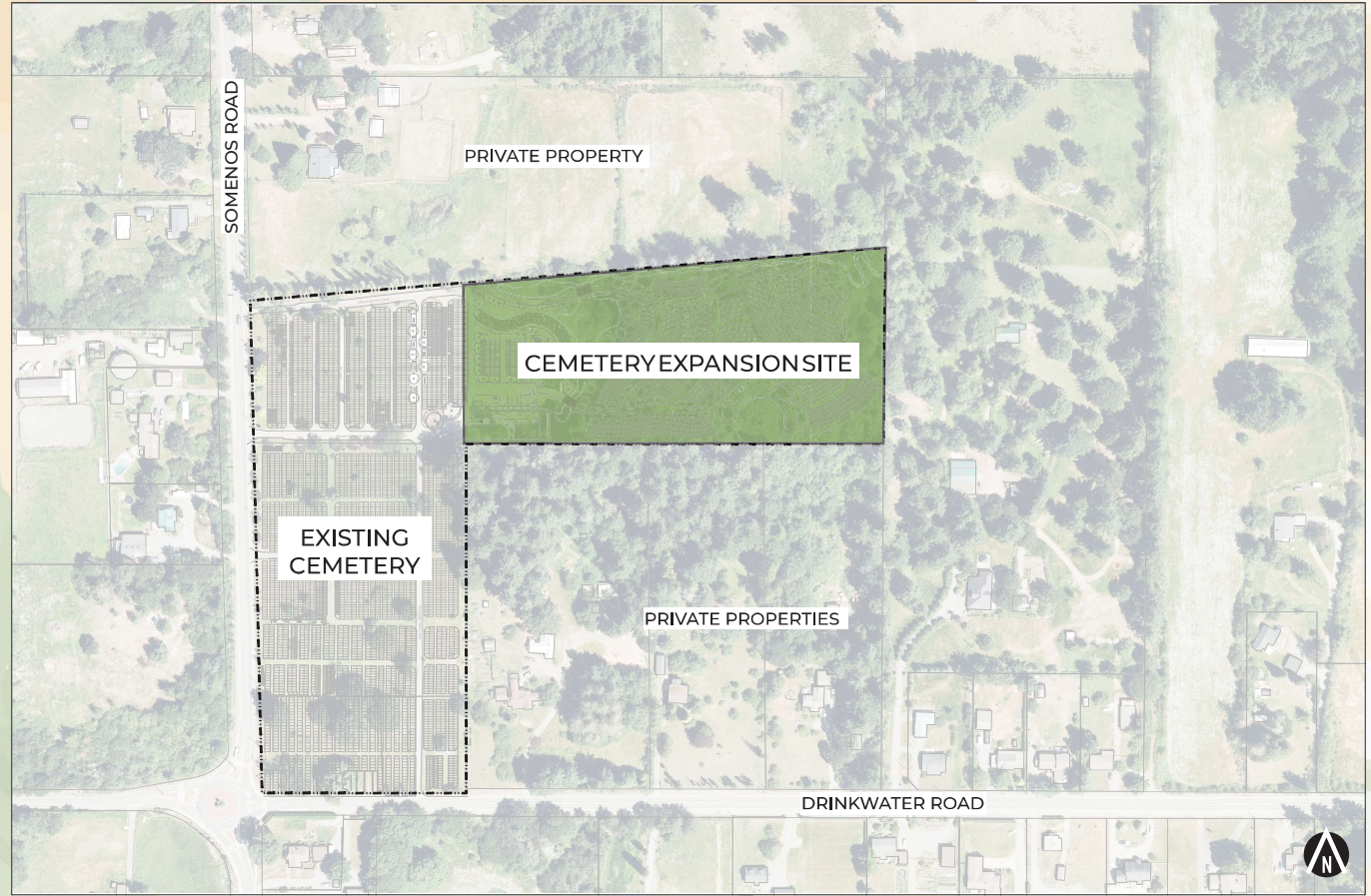
APPENDIX A: CEMETERY SERVICES DRAWINGS

MOUNTAIN VIEW CEMETERY SERVICES PLAN



DRAWING LIST













| | |
|-------------------------------|---|
| Site Analysis North | 1 |
| Site Analysis South | 2 |
| Concept Plan Option 1 | 3 |
| Concept Plan Option 2 | 4 |
| Infill Areas | 5 |
| Original Expansion Plan | 6 |
| New Cemetery Services | 7 |
| Precedent Images | 8 |

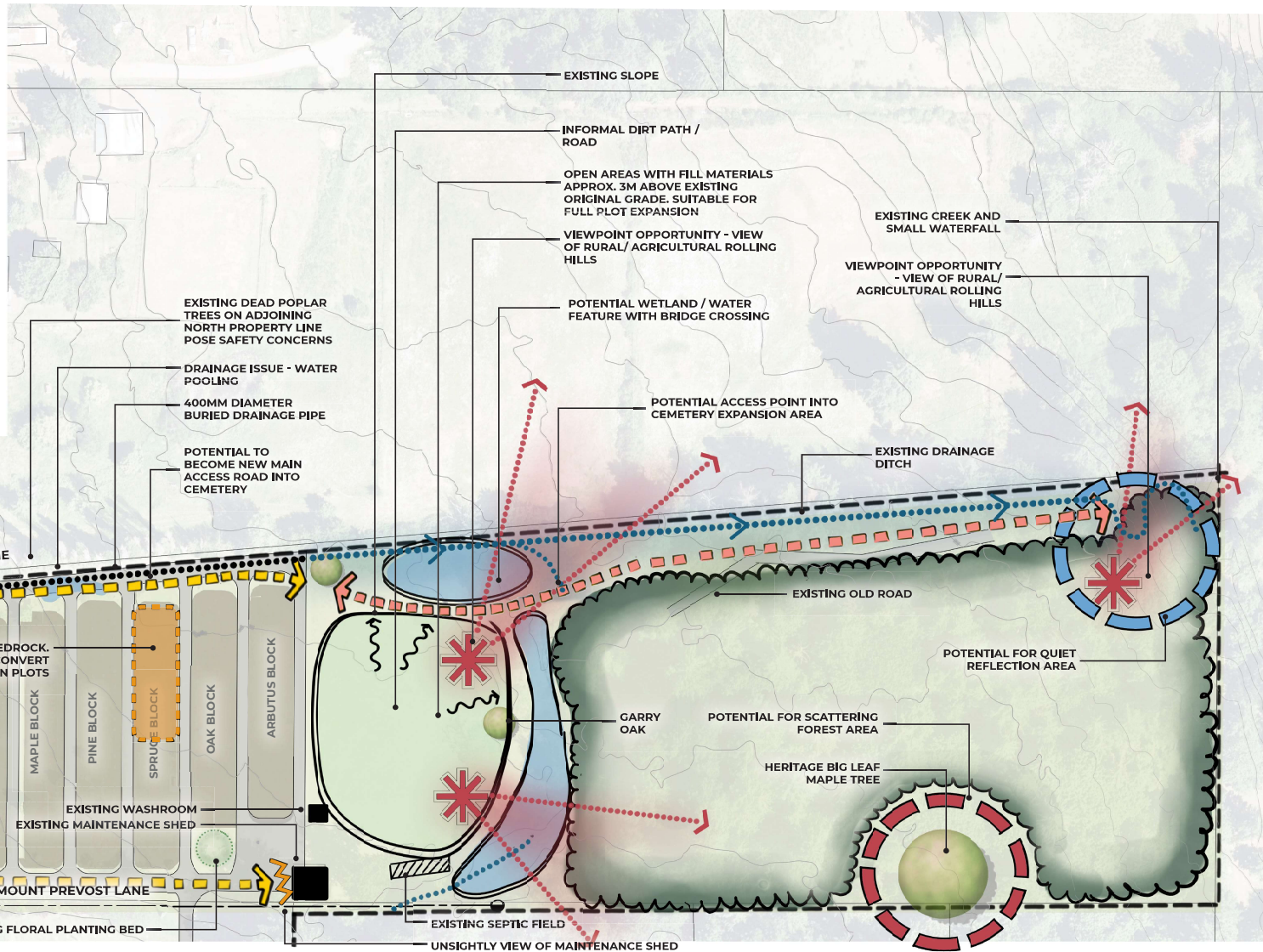


KEY PLAN

SITE ANALYSIS NORTH & EXPANSION AREA













LEGEND

-  PROPERTY LINE
-  EXISTING PLOTS
-  EXISTING ASPHALT ROAD
-  EXISTING BUILDING
-  EXISTING TREES
-  EXISTING FOREST EDGE
-  POTENTIAL PLOT EXPANSION AREA
-  APPROXIMATE EXTENT OF WET AREA
-  EXISTING SLOPE DIRECTION
-  CIRCULATION
-  GOOD VIEWS
-  SITE OPPORTUNITIES



SITE ANALYSIS SOUTH

LEGEND

-  PROPERTY LINE
-  EXISTING PLOTS
-  EXISTING ROAD
-  EXISTING BUILDING
-  EXISTING TREES
-  EXISTING FOREST EDGE
-  DEDICATED VETERANS' CEMETERY SECTION
-  OLD CEMETERY SECTION
-  CIRCULATION
-  GOOD VIEWS
-  HISTORIC MOUNTAIN VIEW CEMETERY GATE AND MONUMENT
-  CENOTAPH MONUMENT



CONCEPT OPTION 1

EXPANSION AREA MATERIALS LEGEND:

| SYMBOL | DETAIL | DESCRIPTION |
|--------|--------|--------------------------------------|
| | | ASPHALT ROAD |
| | | VEHICULAR BOLLARD SECURITY GATE |
| | | PEDESTRIAN GRANULAR PATHWAY |
| ▨ | | WILDFLOWER HILL |
| — | | BENCH |
| ■ | | BOULDERS |
| □ | | SCATTERING/MEMORIAL MONUMENT |
| ▣ | | 48 NICHE COLUMBARIUM ON CONCRETE PAD |
| ⊞ | | DOUBLE DEPTH BURIALS |
| ⊞ | | FULL BURIALS |
| ⊞ | | GREEN BURIALS |
| ⊞ | | CREMATION PLOTS |
| ⊞ | | SCATTERING OPPORTUNITIES |
| ○ | | PROPOSED TREES |

EXPANSION AREA INVENTORY AND PHASING:

PHASE 1 (YEARS 1-9)

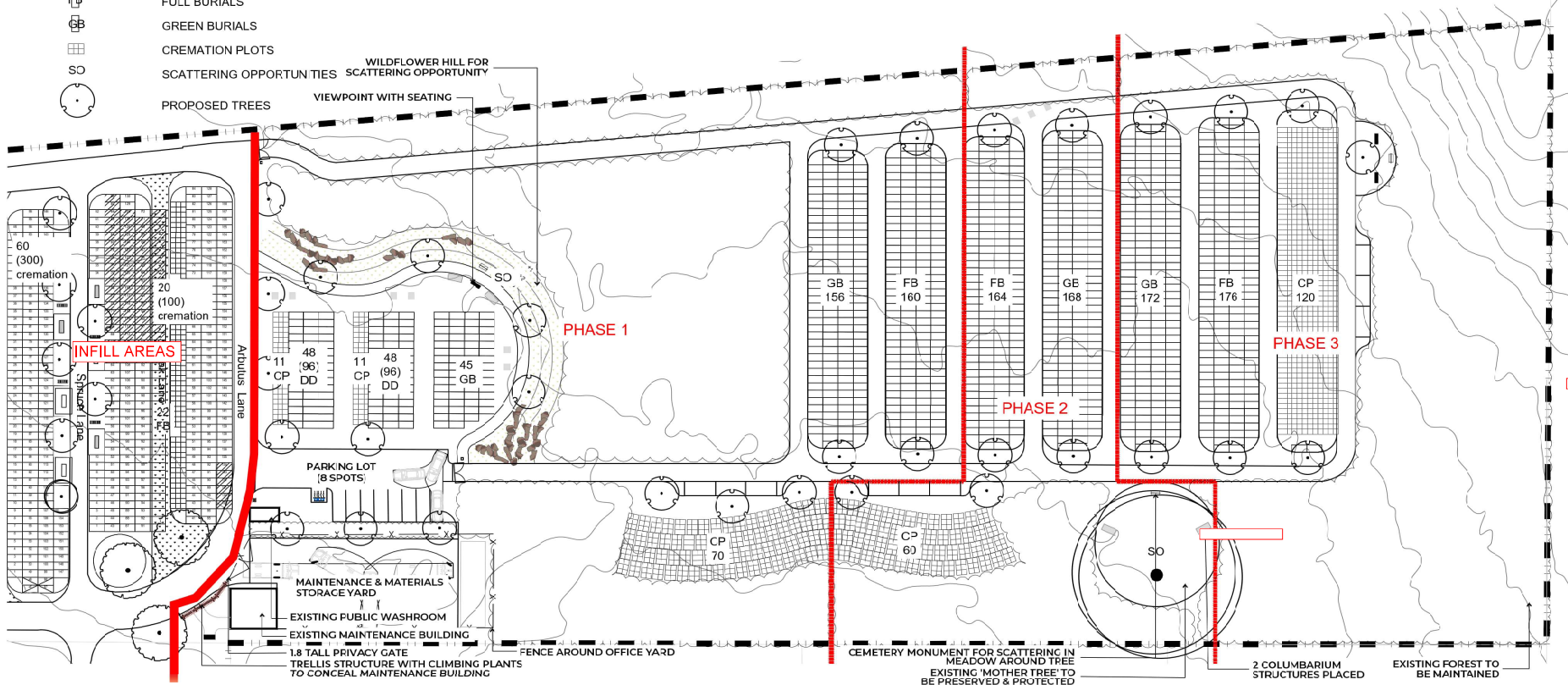
| | |
|--------------------------------|------------|
| (FB) FULL BURIAL SINGLE DEPTH: | 150 |
| (DD) FULL BURIAL DOUBLE DEPTH: | 192 (2x66) |
| (GB) GREEN BURIALS: | 201 |
| CREMATION PLOTS: | 420 (70x6) |
| COLUMBARIUM 48 NICHE: | 96 (2x46) |
| COLUMBARIUM 24 NICHE: | 0 |
| MEMORIAL MONUMENTS: | 1 |
| (SO) SCATTERING OPPORTUNITIES: | 35 |

PHASE 2 (YEARS 10-19)

| | |
|--------------------------------|------------|
| (FB) FULL BURIAL SINGLE DEPTH: | 164 |
| (DD) FULL BURIAL DOUBLE DEPTH: | 0 |
| (GB) GREEN BURIALS: | 168 |
| (CP) CREMATION PLOTS: | 360 (60x6) |
| COLUMBARIUM 48 NICHE: | 96 (2X48) |
| COLUMBARIUM 24 NICHE: | 0 |
| MEMORIAL MONUMENTS: | 1 |
| (SO) SCATTERING OPPORTUNITIES: | 79 |

PHASE 3 (YEAR 20 & BEYOND)

| | |
|--------------------------------|-------------|
| (FB) FULL BURIAL SINGLE DEPTH: | 176 |
| (DD) FULL BURIAL DOUBLE DEPTH: | 0 |
| (GB) GREEN BURIALS: | 172 |
| (CP) CREMATION PLOTS: | 720 (120X6) |
| COLUMBARIUM 48 NICHE: | 0 |
| COLUMBARIUM 24 NICHE: | 0 |
| MEMORIAL MONUMENTS: | 1 |
| (SO) SCATTERING OPPORTUNITIES: | 0 |



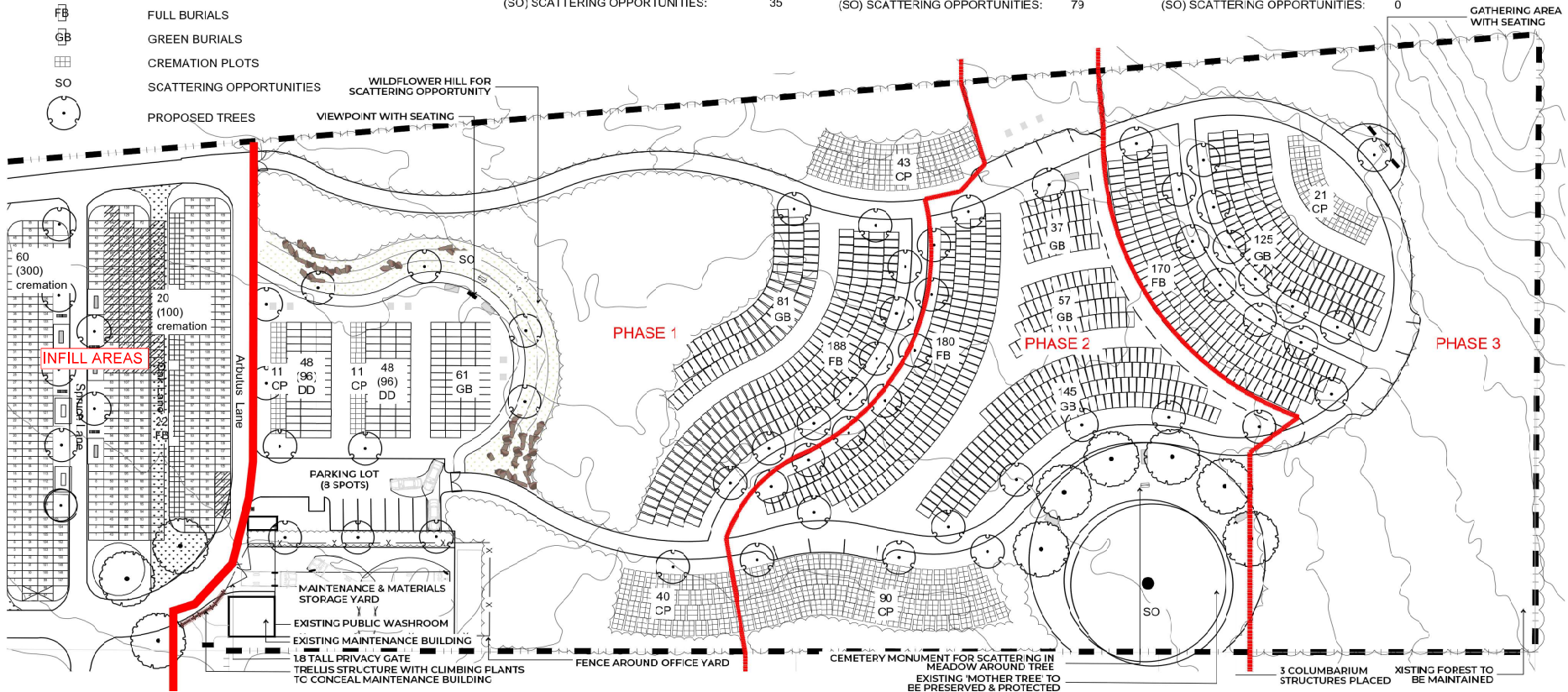
CONCEPT OPTION 2

EXPANSION AREA MATERIALS LEGEND:

| SYMBOL | DETAIL | DESCRIPTION |
|--------|--------|--------------------------------------|
| | | ASPHALT ROAD |
| | | VEHICULAR BOLLARD SECURITY GATE |
| | | PEDESTRIAN GRANULAR PATH-WAY |
| | | WILDFLOWER HILL |
| | | BENCH |
| | | BOULDERS |
| | | SCATTERING/MEMORIAL MONUMENT |
| | | 48 NICHE COLUMBARIUM ON CONCRETE PAD |
| | | DOUBLE DEPTH BURIALS |
| | | FULL BURIALS |
| | | GREEN BURIALS |
| | | CREMATION PLOTS |
| | | SCATTERING OPPORTUNITIES |
| | | PROPOSED TREES |

EXPANSION AREA INVENTORY AND PHASING:

| PHASE 1 (YEARS 1-9) | | PHASE 2 (YEARS 10-19) | | PHASE 3 (YEARS 20 & BEYOND) | |
|--------------------------------|-------------|--------------------------------|------------|--------------------------------|------------|
| (FB) FULL BURIAL SINGLE DEPTH | 188 | (FB) FULL BURIAL SINGLE DEPTH: | 180 | (FB) FULL BURIAL SINGLE DEPTH: | 170 |
| (DD) FULL BURIAL DOUBLE DEPTH: | 192 | (DD) FULL BURIAL DOUBLE DEPTH: | 0 | (DD) FULL BURIAL DOUBLE DEPTH: | 0 |
| (GB) GREEN BURIALS: | 142 | (GB) GREEN BURIALS: | 239 | (GB) GREEN BURIALS: | 125 |
| (CP) CREMATION PLOTS: | 630 (105x6) | (CP) CREMATION PLOTS: | 540 (90x6) | (CP) CREMATION PLOTS: | 126 (21X6) |
| COLUMBARIUM 48 NICHE: | 96 (2x48) | COLUMBARIUM 48 NICHE: | 192 (4X48) | COLUMBARIUM 48 NICHE: | 0 |
| COLUMBARIUM 24 NICHE: | 0 | COLUMBARIUM 24 NICHE: | 0 | COLUMBARIUM 24 NICHE: | 0 |
| MEMORIAL MONUMENTS: | 1 | MEMORIAL MONUMENTS: | 1 | MEMORIAL MONUMENTS: | 1 |
| (SO) SCATTERING OPPORTUNITIES: | 35 | (SO) SCATTERING OPPORTUNITIES: | 79 | (SO) SCATTERING OPPORTUNITIES: | 0 |



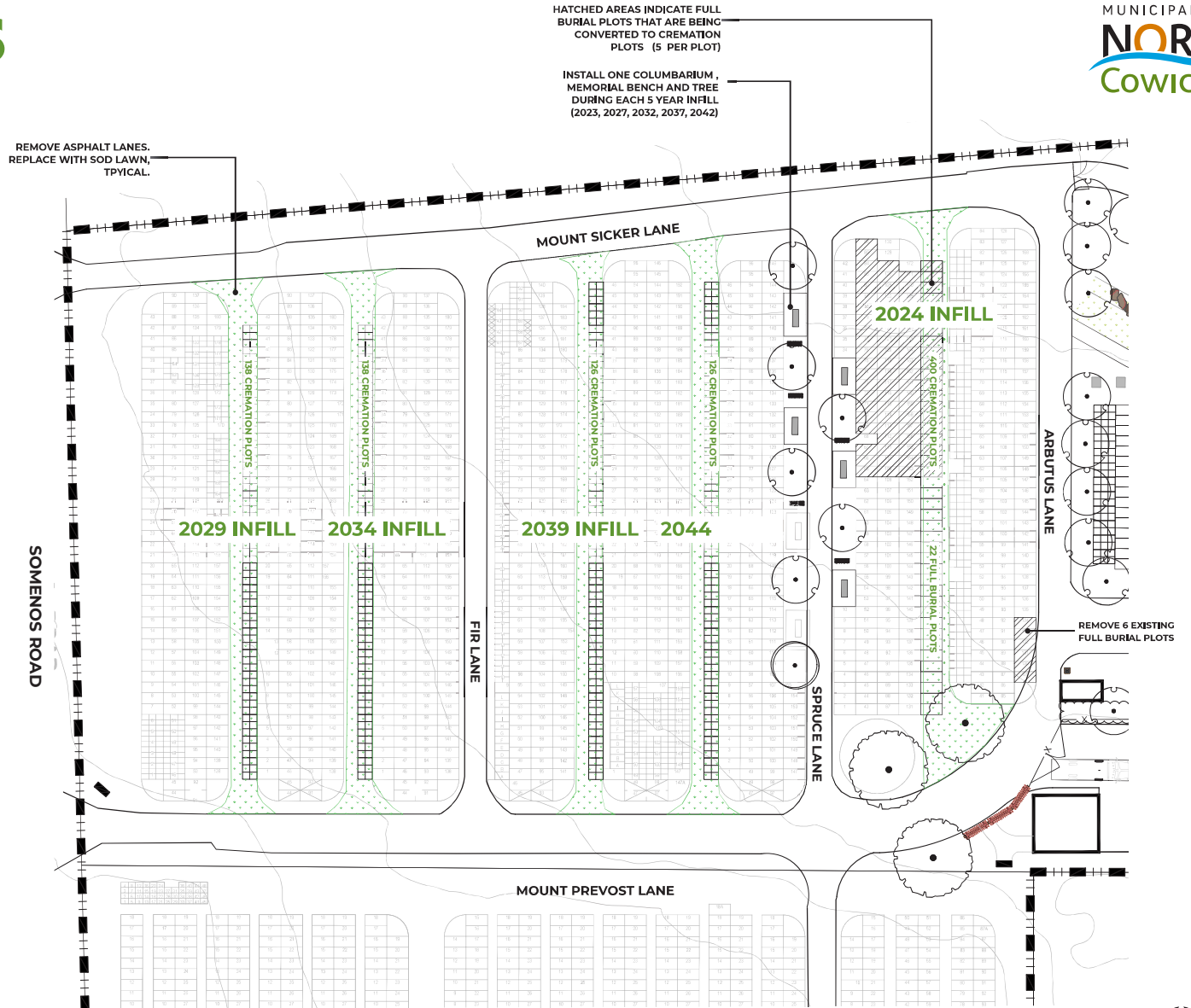
SCALE 1:350

INFILL AREAS

INFILL IN EXISTING CEMETERY

(INFILL TO OCCUR EVERY FIVE YEARS)

| INFILL 2024: | |
|--------------------------|---------------|
| FULL BURIAL SINGLE DEPTH | 16 |
| CREMATION PLOTS | 400 |
| COLUMBARIUM 48 NICHE | 1 |
| | |
| INFILL 2029: | |
| CREMATION PLOTS | 138 |
| COLUMBARIUM 48 NICHE | 1 |
| | |
| INFILL 2034: | |
| CREMATION PLOTS | 138 |
| COLUMBARIUM 48 NICHE | 1 |
| | |
| INFILL 2039: | |
| CREMATION PLOTS | 126 |
| COLUMBARIUM 48 NICHE | 1 |
| | |
| INFILL 2044: | |
| CREMATION PLOTS | 126 |
| COLUMBARIUM 48 NICHE | 1 |
| | |
| TOTALS FOR INFILL AREA: | |
| FULL BURIAL SINGLE DEPTH | 16 |
| FULL BURIAL DOUBLE DEPTH | 0 |
| GREEN BURIALS | 0 |
| CREMATION PLOTS | 928 |
| COLUMBARIUM 48 NICHE | 5 (240 NICHE) |
| COLUMBARIUM 24 NICHE | 0 |
| SCATTERING OPPORTUNITIES | 0 |



ORIGINAL EXPANSION PLAN

LEGEND

- 48 NICHE COLUMBARIUM
- 24 NICHE COLUMBARIUM
- SCATTERING GARDEN CEMETERY MONUMENT
- FULL BURIAL PLOT
- CREMATION BURIAL PLOTS (6)
- BENCH
- BOULDERS OF VARYING SIZES



NEW CEMETERY SERVICES

THE FOLLOWING ARE THE PROPOSED NEW SERVICE OFFERINGS AT THE MOUNTAIN VIEW CEMETERY:

1. GREEN BURIALS

- Placement of unembalmed remains in a biodegradable shroud or box in the ground; surface is planted and allowed to naturalize
- Name can be inscribed on a communal monument or on an individual marker that blends with the environment. Can also elect to have no monument or memorial plaque

2. SCATTERING GARDENS

- Cremated remains are placed directly in the ground (not in a vessel) in a specific area of the cemetery, name is inscribed on a communal monument.
- Name can be placed on a communal memorial wall or monument. Can also elect to have no memorial plaque or monument



PRECEDENT IMAGES



① VEHICULAR BRIDGE

② NATURAL CREEK EDGE WITH BOULDERS

③ FLOWERING MEADOWS

④ WILDFLOWER HILL

⑤ POND WITH SEATING AND VIEWING OPPORTUNITIES

⑥ GRANULAR SURFACE WALKING TRAILS

APPENDIX B: COST ESTIMATES

CLASS C COST ESTIMATE

Municipality of North Cowichan
Mountain View Cemetery - INFILL

This estimate is based on refined concept plan dated February 15, 2023

| ITEM no. | DESCRIPTION | Sub Total | Contingency (30%) | TOTAL |
|---|---------------------------------|-----------|----------------------|-------------------|
| Infill Phasing Summary | | | | |
| 1 | Infill Costs Expected Year 2024 | \$ 54,927 | \$ 16,478 | \$ 71,405 |
| 2 | Infill Costs Expected Year 2029 | \$ 54,927 | \$ 16,478 | \$ 71,405 |
| 3 | Infill Costs Expected Year 2034 | \$ 54,927 | \$ 16,478 | \$ 71,405 |
| 4 | Infill Costs Expected Year 2039 | \$ 54,927 | \$ 16,478 | \$ 71,405 |
| 5 | Infill Costs Expected Year 2044 | \$ 54,927 | \$ 16,478 | \$ 71,405 |
| ITEM 1 THROUGH 5 - TOTAL INCLUDING CONTINGENCY | | | | \$ 357,024 |

ESTIMATE COMMENTS:

- Estimate does not include any irrigation works.
- Estimate does not include escalation of cost factors. Refer to financial sections of master plan
- Estimate does not include site lighting
- Estimate is based on 2024 construction costs and does not include compound escalation

| INTERMENT OFFERINGS (INFILL) | Full Burrial (single depth) | Cremation Plots | Columbarium (48 niche) | TOTAL |
|-------------------------------|--------------------------------|--------------------|---------------------------|-------------|
| Infill Expected for Year 2024 | 16 | 400 | 48 | 464 |
| Infill Expected for Year 2028 | | 138 | 48 | 186 |
| Infill Expected for Year 2034 | | 138 | 48 | 186 |
| Infill Expected for Year 2039 | | 126 | 48 | 174 |
| Infill Expected for Year 2044 | | 126 | 48 | 174 |
| Sub-total | 16 | 928 | 240 | 1184 |

CLASS C COST ESTIMATE
Municipality of North Cowichan
Mountain View Cemetery - INFILL

This estimate is based on refined concept plan dated February 15, 2023

EXISTING CEMETERY INFILL

| ITEM | no. | DESCRIPTION | UNIT | EST. QTY. | UNIT PRICE | TOTAL |
|--|-----|---|-----------|-----------|--------------|-------------------|
| 1.0 Site Preparation and Removals | | | | | | |
| | 1.1 | Mobilization/ demobilization | allowance | 1 | \$ 8,000.00 | \$ 8,000 |
| | 1.2 | Earthwork and grading | m2 | 162 | \$ 12.00 | \$ 1,944 |
| | 1.3 | Asphalt Removal | m2 | 1205 | \$ 10.00 | \$ 12,050 |
| Item Subtotal | | | | | | \$ 21,994 |
| 2.0 Interment Areas | | | | | | |
| | 2 | Columbarium, 48 niche double-sided with concrete base, 150 granular base & Subbase preparations | ea | 5 | \$ 30,000.00 | \$ 150,000 |
| | 2.1 | Bench, including concrete pad, 150 depth granular base & subsurface preparations | ea | 6 | \$ 3,500.00 | \$ 21,000 |
| Item Subtotal | | | | | | \$ 171,000 |
| 3.0 Landscaping | | | | | | |
| | 3.1 | Growing medium - 150 depth - lawn | m2 | 1370 | \$ 35.00 | \$ 47,950 |
| | 3.2 | Growing medium - 1200 depth - trees | m3 | 6 | \$ 105.00 | \$ 630 |
| | 3.3 | Sod lawn - including establishment to total performance | m2 | 1370 | \$ 18.00 | \$ 24,660 |
| | 3.4 | Supply and Install Trees | ea. | 7 | \$ 1,200.00 | \$ 8,400 |
| Item Subtotal | | | | | | \$ 81,640 |
| ITEM 1 THRU 3 - SUBTOTAL | | | | | | \$ 274,634 |
| ITEM 1 THRU 3- CONTINGENCY 30% | | | | | | \$ 82,390 |
| ITEM 1 THRU 3 - TOTAL INCLUDING CONTINGENCY (ROUNDED) | | | | | | \$ 357,024 |

4.0 Infill Over Time

| | | | |
|-----|--|----|---------------|
| 4.1 | Infill Costs Expected Year 2024- Build one columbarium, memorial bench, asphalt removal of one lane, sod, landscape | \$ | 71,405 |
| 4.2 | Infill Costs Expected Year 2029- Build one columbarium, memorial bench, asphalt removal of one lane, sod, landscape | \$ | 71,405 |
| 4.3 | Infill Costs Expected Year 2034- Build one columbarium, memorial bench, asphalt removal of one lane, sod, landscape | \$ | 71,405 |
| 4.4 | Infill Costs Expected Year 2039- Build one columbarium, memorial bench, asphalt removal of one lane, sod, landscape | \$ | 71,405 |
| 4.5 | Infill Costs Expected Year 2044- Build one columbarium, memorial bench, asphalt removal of one lane, sod, landscape | \$ | 71,405 |

ESTIMATE COMMENTS:

Estimate includes capital cost after compound escalation.
Estimate does not include escalation of cost factors. Refer to financial sections of master plan
Estimate does not include site lighting

Estimate does not include any irrigation works.

CLASS C COST ESTIMATE

Municipality of North Cowichan
Mountain View Cemetery - OPTION 1

This estimate is based on refined concept plan dated May 21, 2024

| ITEM no. | DESCRIPTION | Sub Total | Contingency (30%) | TOTAL |
|------------------------|-------------|------------|----------------------|------------|
| Phasing Summary | | | | |
| 1 | Phase 1 | \$ 652,212 | \$ 195,664 | \$ 847,876 |
| 2 | Phase 2 | \$ 254,503 | \$ 76,351 | \$ 330,854 |
| 3 | Phase 3 | \$ 247,177 | \$ 74,153 | \$ 321,330 |

| | |
|---|---------------------|
| ITEM 1 THROUGH 3 - TOTAL INCLUDING CONTINGENCY | \$ 1,500,060 |
|---|---------------------|

ESTIMATE COMMENTS:

- Estimate does not include any irrigation works.
- Estimate does not include escalation of cost factors. Refer to financial sections of master plan
- Estimate does not include site lighting
- Estimate is based on 2024 construction costs and does not include compound escalation

| INTERMENT OFFERING COMPARISON (PHASES 1, 2 AND 3) | PHASE 1 | PHASE 2 | PHASE 3 | TOTAL |
|---|---------|---------|---------|-------------|
| Full Burial Single Depth | 160 | 164 | 176 | 500 |
| Full Burial Double Depth | 192 | 0 | 0 | 192 |
| Green Burials | 201 | 168 | 172 | 541 |
| Cremation Plots | 420 | 360 | 720 | 1500 |
| Columbarium (24 niche) | 0 | 0 | 0 | 0 |
| Columbarium (48 niche) | 96 | 96 | 0 | 192 |
| Memorial Monuments | 1 | 1 | 1 | 3 |
| Scattering Opportunities | 35 | 79 | 0 | 114 |
| | | | | 3042 |

CLASS C COST ESTIMATE
Municipality of North Cowichan
Mountain View Cemetery - OPTION 1

This estimate is based on refined concept plan dated May 21, 2024

PHASE 1

| ITEM no. | DESCRIPTION | UNIT | EST. QTY. | UNIT PRICE | TOTAL |
|--|--|-----------|-----------|--------------|-------------------|
| 1.0 Site Preparation and Removals | | | | | |
| 1.1 | Mobilization/ demobilization | allowance | 1 | \$ 42,000.00 | \$ 42,000 |
| 1.2 | Tree clearing and grubbing | m2 | 3988 | \$ 15.00 | \$ 59,820 |
| 1.3 | Earthwork and grading | m2 | 3988 | \$ 12.00 | \$ 47,856 |
| Item Subtotal | | | | | \$ 149,676 |
| 2.0 Site Circulation and Parking | | | | | |
| 2.1 | Paved Asphalt Road (50mm depth asphalt, base sub base, & prepared subgrade) | m2 | 1410 | \$ 65.00 | \$ 91,650 |
| 2.2 | 3 stalls Paved Asphalt Parking Lot (75mm depth asphalt, base sub base, & prepared subgrade, painted lines) | m2 | 55 | \$ 65.00 | \$ 3,575 |
| 2.3 | Pedestrian granular pathway; 2m wide (100mm of crusher chips on subgrade and edger) | m2 | 165 | \$ 75.00 | \$ 12,375 |
| Item Subtotal | | | | | \$ 107,600 |
| 3.0 Maintenance Yard | | | | | |
| 3.1 | Granular yard surface including strip, prep, geotextile, 150mm subbase, 100mm granular base | m2 | 525 | \$ 70.00 | \$ 36,750 |
| 3.2 | 1.8m high chain link fence (includes footings) | lm | 110 | \$ 100.00 | \$ 11,000 |
| 3.3 | 1.8m high Locking black vinyl vehicular chain link fence gate | ls | 1 | \$ 3,500.00 | \$ 3,500 |
| 3.4 | Relocate sanitary field | ls | 1 | \$ 45,000.00 | \$ 45,000 |
| Item Subtotal | | | | | \$ 96,250 |
| 4.0 Lookout Point Scattering Garden & Slope | | | | | |
| 4.1 | Memorial monuments for scattering areas | ea | 1 | \$ 20,000.00 | \$ 20,000 |
| 4.2 | Columbarium, 48 niche double-sided with concrete base | ea | 2 | \$ 30,000.00 | \$ 60,000 |
| 4.3 | Wild flower seed mix | m2 | 540 | \$ 13.00 | \$ 7,020 |
| 4.4 | Growing medium - 150 depth - lawn | m2 | 540 | \$ 15.00 | \$ 8,100 |
| 4.5 | Benches with back and armrests (includes concrete pad) | ea | 1 | \$ 3,500.00 | \$ 3,500 |
| 4.6 | Boulders | ea. | 50 | \$ 200.00 | \$ 10,000 |
| Item Subtotal | | | | | \$ 108,620 |

PHASE 1

| ITEM no. | DESCRIPTION | UNIT | EST. QTY. | UNIT PRICE | TOTAL |
|--|---|------|-----------|--------------|-------------------|
| 5.0 Site Features | | | | | |
| 5.1 | Vehicle swing gate bollards | ea | 2 | \$ 15,000.00 | \$ 30,000 |
| 5.2 | Bike rack (suitable for 8 bikes) with concrete base | ea | 1 | \$ 10,000.00 | \$ 10,000 |
| 5.3 | Recycling and Waste receptacles (includes concrete pad) | ea | 2 | \$ 3,000.00 | \$ 6,000 |
| 5.4 | Site vehicular safety | ea | 3 | \$ 3,000.00 | \$ 9,000 |
| Item Subtotal | | | | | \$ 55,000 |
| 6.0 Site Landscaping (not including the Scattering Slope) | | | | | |
| 6.1 | Growing medium - 150 depth - lawn | m2 | 3541 | \$ 15.00 | \$ 53,115 |
| 6.2 | Growing medium - 1200 depth - trees | m3 | 21.6 | \$ 80.00 | \$ 1,728 |
| 6.3 | Sod lawn - including establishment to total performance | m2 | 2518 | \$ 18.00 | \$ 45,324 |
| 6.4 | Wild flower seed mix | m2 | 1023 | \$ 13.00 | \$ 13,299 |
| 6.5 | Supply and install Trees | ea. | 18 | \$ 1,200.00 | \$ 21,600 |
| ITEM TOTAL | | | | | \$ 135,066 |
| ITEM 1 THRU 6 - SUBTOTAL | | | | | \$ 652,212 |
| ITEM 1 THRU 6 - CONTINGENCY 30% | | | | | \$ 195,664 |
| ITEM 1 THROUGH 6 - TOTAL INCLUDING CONTINGENCY (ROUNDED) | | | | | \$ 847,876 |

ESTIMATE COMMENTS:

Construction anticipated to start in 2025. Improvements available in 2026.
 Estimate does not include any irrigation works.
 Estimate does not include escalation of cost factors. Refer to financial sections of master plan
 Estimate does not include site lighting

CLASS C COST ESTIMATE
Municipality of North Cowichan
Mountain View Cemetery - OPTION 1

This estimate is based on refined concept plan dated May 21, 2024

PHASE 2

| ITEM | no. | DESCRIPTION | UNIT | EST. QTY. | UNIT PRICE | TOTAL |
|---|-----|---|-----------|-----------|--------------|-------------------|
| 1.0 Site Preparation and Removals | | | | | | |
| | 1.1 | Mobilization/ demobilization | allowance | 1 | \$ 16,000.00 | \$ 16,000 |
| | 1.2 | Tree clearing and grubbing | m2 | 1796 | \$ 15.00 | \$ 26,940 |
| | 1.3 | Earthwork and grading | m2 | 1796 | \$ 12.00 | \$ 21,552 |
| Item Subtotal | | | | | | \$ 64,492 |
| 2.0 Site Circulation and Parking | | | | | | |
| | 2.1 | Paved Asphalt Road (50mm depth asphalt, base sub base, & prepared subgrade) | m2 | 379 | \$ 65.00 | \$ 24,635 |
| | 2.2 | 3 stalls Paved Asphalt Parking pullout (50mm depth asphalt, base sub base, & prepared subgrade & painted lines) | m2 | 55 | \$ 65.00 | \$ 3,575 |
| Item Subtotal | | | | | | \$ 28,210 |
| 3.0 Site Features | | | | | | |
| | 3.1 | Memorial monuments for scattering areas | ea | 1 | \$ 20,000.00 | \$ 20,000 |
| | 3.2 | Columbarium, 48 niche double-sided with concrete base | ea | 2 | \$ 30,000.00 | \$ 60,000 |
| Item Subtotal | | | | | | \$ 80,000 |
| 4.0 Landscaping | | | | | | |
| | 4.1 | Growing medium - 150 depth - lawn | m2 | 2393 | \$ 15.00 | \$ 35,895 |
| | 4.2 | Growing medium - 1200 depth - trees | m3 | 8.4 | \$ 80.00 | \$ 672 |
| | 4.3 | Sod lawn - including establishment to total performance | m2 | 1145 | \$ 18.00 | \$ 20,610 |
| | 4.4 | Wild flower seed mix | m2 | 1248 | \$ 13.00 | \$ 16,224 |
| | 4.5 | Trees | ea. | 7 | \$ 1,200.00 | \$ 8,400 |
| Item Subtotal | | | | | | \$ 81,801 |
| ITEM 1 THRU 4- SUBTOTAL | | | | | | \$ 254,503 |
| ITEM 1 THRU 4- CONTINGENCY 30% | | | | | | \$ 76,351 |
| ITEM 1 THROUGH 4 - TOTAL INCLUDING CONTINGENCY (ROUNDED) | | | | | | \$ 330,854 |

ESTIMATE COMMENTS:

Construction Costs anticipated in 2032. Improvements available 2033.
Estimate does not include any irrigation works.
Estimate does not include escalation of cost factors. Refer to financial sections of master plan
Estimate does not include site lighting

CLASS C COST ESTIMATE
Municipality of North Cowichan
Mountain View Cemetery - OPTION 1

This estimate is based on refined concept plan dated May 21, 2024

PHASE 3

| ITEM | no. | DESCRIPTION | UNIT | EST. QTY. | UNIT PRICE | TOTAL |
|---|-----|--|-----------|-----------|--------------|-------------------|
| 1.0 Site Preparation and Removals | | | | | | |
| | 1.1 | Mobilization/ demobilization | allowance | 1 | \$ 8,300.00 | \$ 8,300 |
| | 1.2 | Tree clearing and grubbing | m2 | 3117 | \$ 15.00 | \$ 46,755 |
| | 1.3 | Earthwork and grading | m2 | 3117 | \$ 12.00 | \$ 37,404 |
| Item Subtotal | | | | | | \$ 92,459 |
| 2.0 Site Circulation and Parking | | | | | | |
| | 2.1 | Paved Asphalt Road (50mm depth asphalt, base sub base, & prepared subgrade) | m2 | 458 | \$ 65.00 | \$ 29,770 |
| | 2.2 | 3 stalls Paved Asphalt Parking pullout (50mm depth asphalt, base sub base, & prepared subgrade & painted Granular surface for gathering area (100mm depth crusher chips on landscape fabric, subgrade and edger) | m2 | 55 | \$ 65.00 | \$ 3,575 |
| | 2.3 | | m2 | 77 | \$ 75.00 | \$ 5,775 |
| Item Subtotal | | | | | | \$ 39,120 |
| 3.0 Site Features | | | | | | |
| | 3.1 | Memorial monuments for scattering areas | ea | 1 | \$ 20,000.00 | \$ 20,000 |
| | 3.2 | Benches, backless (includes concrete pad) | ea | 2 | \$ 3,500.00 | \$ 7,000 |
| Item Subtotal | | | | | | \$ 27,000 |
| 4.0 Landscaping | | | | | | |
| | 4.1 | Growing medium - 150 depth - lawn | m2 | 2517 | \$ 15.00 | \$ 37,755 |
| | 4.2 | Growing medium - 1200 depth - trees | m3 | 8.4 | \$ 80.00 | \$ 672 |
| | 4.3 | Sod lawn - including establishment to total performance | m2 | 1810 | \$ 18.00 | \$ 32,580 |
| | 4.4 | Wild flower seed mix | m2 | 707 | \$ 13.00 | \$ 9,191 |
| | 4.4 | Trees- supply and install | ea. | 7 | \$ 1,200.00 | \$ 8,400 |
| Item Subtotal | | | | | | \$ 88,598 |
| ITEM 1 THRU 4- SUBTOTAL | | | | | | \$ 247,177 |
| ITEM 1 THRU 4- CONTINGENCY 30% | | | | | | \$ 74,153 |
| ITEM 1 THROUGH 4 - TOTAL INCLUDING CONTINGENCY (ROUNDED) | | | | | | \$ 321,330 |

ESTIMATE COMMENTS:

Construction costs anticipated in 2047. Improvements available in 2048.
 Estimate does not include any irrigation works.
 Estimate does not include escalation of cost factors. Refer to financial sections of master plan
 Estimate does not include site lighting

CLASS C COST ESTIMATE

Municipality of North Cowichan
Mountain View Cemetery - OPTION 2

This estimate is based on refined concept plan dated May 21, 2024

| ITEM no. | DESCRIPTION | Sub Total | Contingency (30%) | TOTAL |
|---|-------------|------------|----------------------|---------------------|
| Phasing Summary | | | | |
| 1 | Phase 1 | \$ 672,416 | \$ 201,725 | \$ 874,141 |
| 2 | Phase 2 | \$ 556,140 | \$ 166,842 | \$ 722,982 |
| 3 | Phase 3 | \$ 204,143 | \$ 61,243 | \$ 265,386 |
| ITEM 1 THROUGH 3 - TOTAL INCLUDING CONTINGENCY (ROUNDED) | | | | \$ 1,862,509 |

ESTIMATE COMMENTS:

- Estimate does not include any irrigation works.
- Estimate does not include escalation of cost factors. Refer to financial sections of master plan
- Estimate does not include site lighting
- Estimate is based on 2024 construction costs and does not include compound escalation

| INTERMENT OFFERING COMPARISION (PHASES 1, 2 AND 3) | PHASE 1 | PHASE 2 | PHASE 3 | TOTAL |
|--|---------|---------|---------|-------------|
| Full Burial Single Depth | 188 | 180 | 170 | 538 |
| Full Burial Double Depth | 192 | 0 | 0 | 192 |
| Green Burials | 142 | 239 | 125 | 506 |
| Cremation Plots | 630 | 540 | 126 | 1296 |
| Columbarium (24 niche) | 0 | 0 | 0 | 0 |
| Columbarium (48 niche) | 96 | 192 | 0 | 288 |
| Memorial Monuments | 1 | 1 | 1 | 3 |
| Scattering Opportunities | 35 | 79 | 0 | 114 |
| | | | | 2937 |

CLASS C COST ESTIMATE
Municipality of North Cowichan
Mountain View Cemetery - OPTION 2

This estimate is based on refined concept plan dated May 21, 2024

PHASE 1

| ITEM no. | DESCRIPTION | UNIT | EST. QTY. | UNIT PRICE | TOTAL |
|--|--|-----------|-----------|--------------|-------------------|
| 1.0 Site Preparation and Removals | | | | | |
| 1.1 | Mobilization/ demobilization | allowance | 1 | \$ 42,000.00 | \$ 42,000 |
| 1.2 | Tree clearing and grubbing | m2 | 3753 | \$ 15.00 | \$ 56,295 |
| 1.3 | Earthwork and grading | m2 | 3753 | \$ 12.00 | \$ 45,036 |
| Item Subtotal | | | | | \$ 143,331 |
| 2.0 Site Circulation and Parking | | | | | |
| 2.1 | Paved Asphalt Road (50mm depth asphalt, base sub base, & prepared subgrade) | m2 | 1800 | \$ 65.00 | \$ 117,000 |
| 2.2 | 3 stalls Paved Asphalt Parking Lot (75mm depth asphalt, base sub base, & prepared subgrade, painted lines) | m2 | 55 | \$ 65.00 | \$ 3,575 |
| 2.3 | Pedestrian granular pathway; 2m wide (100mm of crusher chips on subgrade and edger) | m2 | 165 | \$ 75.00 | \$ 12,375 |
| Item Subtotal | | | | | \$ 132,950 |
| 3.0 Maintenance Yard | | | | | |
| 3.1 | Granular yard surface including strip, prep, geotextile, 150mm subbase, 100mm granular base | m2 | 525 | \$ 70.00 | \$ 36,750 |
| 3.2 | 1.8m high chain link fence (includes footings) | lm | 110 | \$ 100.00 | \$ 11,000 |
| 3.3 | 1.8m high Locking black vinyl vehicular chain link fence gate | ls | 1 | \$ 3,500.00 | \$ 3,500 |
| 3.4 | Relocate sanitary field | ls | 1 | \$ 45,000.00 | \$ 45,000 |
| Item Subtotal | | | | | \$ 96,250 |
| 4.0 Lookout Point Scattering Garden & Slope | | | | | |
| 4.1 | Memorial monuments for scattering areas | ea | 1 | \$ 20,000.00 | \$ 20,000 |
| 4.2 | Columbarium, 48 niche double-sided with concrete base | ea | 2 | \$ 30,000.00 | \$ 60,000 |
| 4.3 | Wild flower seed mix | m2 | 540 | \$ 13.00 | \$ 7,020 |
| 4.4 | Growing medium - 150 depth | m2 | 540 | \$ 15.00 | \$ 8,100 |
| 4.5 | Benches with back and armrests (includes concrete pad) | ea | 1 | \$ 3,500.00 | \$ 3,500 |
| 4.6 | Boulders | ea. | 50 | \$ 200.00 | \$ 10,000 |
| Item Subtotal | | | | | \$ 108,620 |

PHASE 1

| ITEM no. | DESCRIPTION | UNIT | EST. QTY. | UNIT PRICE | TOTAL |
|--|---|------|-----------|--------------|-------------------|
| 5.0 Site Features | | | | | |
| 5.1 | Vehicle swing gate bollards | ea | 2 | \$ 15,000.00 | \$ 30,000 |
| 5.2 | Bike rack (suitable for 8 bikes) with concrete base | ea | 1 | \$ 10,000.00 | \$ 10,000 |
| 5.3 | Recycling and Waste receptacles (includes concrete pad) | ea | 2 | \$ 3,000.00 | \$ 6,000 |
| 5.4 | Site vehicular safety signage | ea | 3 | \$ 3,000.00 | \$ 9,000 |
| Item Subtotal | | | | | \$ 55,000 |
| 6.0 Site Landscaping (not including the Scattering Slope) | | | | | |
| 6.1 | Growing medium - 150 depth - lawn | m2 | 3381 | \$ 15.00 | \$ 50,715 |
| 6.2 | Growing medium - 1200 depth - trees | m3 | 26.4 | \$ 80.00 | \$ 2,112 |
| 6.3 | Sod lawn - including establishment to total performance | m2 | 2617 | \$ 18.00 | \$ 47,106 |
| 6.4 | Wild flower seed mix | m2 | 764 | \$ 13.00 | \$ 9,932 |
| 6.5 | Supply and install Trees | ea. | 22 | \$ 1,200.00 | \$ 26,400 |
| ITEM TOTAL | | | | | \$ 136,265 |
| ITEM 1 THRU 6 - SUBTOTAL | | | | | \$ 672,416 |
| ITEM 1 THRU 6 - CONTINGENCY 30% | | | | | \$ 201,725 |
| ITEM 1 THROUGH 6 - TOTAL INCLUDING CONTINGENCY (ROUNDED) | | | | | \$ 874,141 |

ESTIMATE COMMENTS:

Construction anticipated to start in 2025. Improvements available in 2026.
 Estimate does not include any irrigation works.
 Estimate does not include escalation of cost factors. Refer to financial sections of master plan
 Estimate does not include site lighting

CLASS C COST ESTIMATE
Municipality of North Cowichan
Mountain View Cemetery - OPTION 2

This estimate is based on refined concept plan dated May 21, 2024

PHASE 2

| ITEM | no. | DESCRIPTION | UNIT | EST. QTY. | UNIT PRICE | TOTAL |
|---|-----|--|-----------|-----------|--------------|-------------------|
| 1.0 Site Preparation and Removals | | | | | | |
| | 1.1 | Mobilization/ demobilization | allowance | 1 | \$ 16,000.00 | \$ 16,000 |
| | 1.2 | Tree clearing and grubbing | m2 | 5635 | \$ 15.00 | \$ 84,525 |
| | 1.3 | Earthwork and grading | m2 | 5635 | \$ 12.00 | \$ 67,620 |
| Item Subtotal | | | | | | \$ 168,145 |
| 2.0 Site Circulation and Parking | | | | | | |
| | 2.1 | Paved Asphalt Road (50mm depth asphalt, base sub base, & prepared subgrade) | m2 | 440 | \$ 65.00 | \$ 28,600 |
| | 2.2 | 3 stalls Paved Asphalt Parking pullout (50mm depth asphalt, base sub base, & prepared subgrade & painted | m2 | 55 | \$ 65.00 | \$ 3,575 |
| Item Subtotal | | | | | | \$ 32,175 |
| 3.0 Site Features | | | | | | |
| | 3.1 | Memorial monuments for scattering areas | ea | 3 | \$ 20,000.00 | \$ 60,000 |
| | 3.2 | Columbarium, 48 niche double-sided with concrete base | ea | 4 | \$ 30,000.00 | \$ 120,000 |
| Item Subtotal | | | | | | \$ 180,000 |
| 4.0 Landscaping | | | | | | |
| | 4.1 | Growing medium - 150 depth - lawn | m2 | 4929 | \$ 15.00 | \$ 73,935 |
| | 4.2 | Growing medium - 1200 depth - trees | m3 | 27.6 | \$ 80.00 | \$ 2,208 |
| | 4.3 | Sod lawn - including establishment to total performance | m2 | 1600 | \$ 18.00 | \$ 28,800 |
| | 4.4 | Wild flower seed mix | m2 | 3329 | \$ 13.00 | \$ 43,277 |
| | 4.5 | Trees | ea. | 23 | \$ 1,200.00 | \$ 27,600 |
| Item Subtotal | | | | | | \$ 175,820 |
| ITEM 1 THRU 4- SUBTOTAL | | | | | | \$ 556,140 |
| ITEM 1 THRU 4- CONTINGENCY 30% | | | | | | \$ 166,842 |
| ITEM 1 THROUGH 4 - TOTAL INCLUDING CONTINGENCY (ROUNDED) | | | | | | \$ 722,982 |

ESTIMATE COMMENTS:

Construction Costs anticipated in 2032. Improvements available 2033.
Estimate does not include any irrigation works.
Estimate does not include escalation of cost factors. Refer to financial sections of master plan
Estimate does not include site lighting

CLASS C COST ESTIMATE
Municipality of North Cowichan
Mountain View Cemetery - OPTION 2

This estimate is based on refined concept plan dated May 21, 2024

PHASE 3

| ITEM | no. | DESCRIPTION | UNIT | EST. QTY. | UNIT PRICE | TOTAL |
|---|-----|--|-----------|-----------|--------------|-------------------|
| 1.0 Site Preparation and Removals | | | | | | |
| | 1.1 | Mobilization/ demobilization | allowance | 1 | \$ 8,300.00 | \$ 8,300 |
| | 1.2 | Tree clearing and grubbing | m2 | 2376 | \$ 15.00 | \$ 35,640 |
| | 1.3 | Earthwork and grading | m2 | 2376 | \$ 12.00 | \$ 28,512 |
| Item Subtotal | | | | | | \$ 72,452 |
| 2.0 Site Circulation and Parking | | | | | | |
| | 2.1 | Paved Asphalt Road (50mm depth asphalt, base sub base, & prepared subgrade) | m2 | 322 | \$ 65.00 | \$ 20,930 |
| | 2.2 | 3 stalls Paved Asphalt Parking pullout (50mm depth asphalt, base sub base, & prepared subgrade & painted Granular surface for gathering area (100mm depth crusher chips on landscape fabric, subgrade and edger) | m2 | 55 | \$ 65.00 | \$ 3,575 |
| | 2.3 | | m2 | 71 | \$ 75.00 | \$ 5,325 |
| Item Subtotal | | | | | | \$ 29,830 |
| 3.0 Site Features | | | | | | |
| | 3.1 | Memorial monuments for scattering areas | ea | 1 | \$ 20,000.00 | \$ 20,000 |
| | 3.2 | Benches, backless (includes concrete pad) | ea | 2 | \$ 3,500.00 | \$ 7,000 |
| Item Subtotal | | | | | | \$ 27,000 |
| 4.0 Landscaping | | | | | | |
| | 4.1 | Growing medium - 150 depth - lawn | m2 | 1859 | \$ 15.00 | \$ 27,885 |
| | 4.2 | Growing medium - 1200 depth - trees | m3 | 15.3 | \$ 80.00 | \$ 1,224 |
| | 4.3 | Sod lawn - including establishment to total performance | m2 | 1197 | \$ 18.00 | \$ 21,546 |
| | 4.4 | Wild flower seed mix | m2 | 662 | \$ 13.00 | \$ 8,606 |
| | 4.5 | Trees- supply and install | ea. | 13 | \$ 1,200.00 | \$ 15,600 |
| Item Subtotal | | | | | | \$ 74,861 |
| ITEM 1 THRU 4- SUBTOTAL | | | | | | \$ 204,143 |
| ITEM 1 THRU 4- CONTINGENCY 30% | | | | | | \$ 61,243 |
| ITEM 1 THROUGH 4 - TOTAL INCLUDING CONTINGENCY (ROUNDED) | | | | | | \$ 265,386 |

ESTIMATE COMMENTS:

Construction costs anticipated in 2047. Improvements available in 2048.
 Estimate does not include any irrigation works.
 Estimate does not include escalation of cost factors. Refer to financial sections of master plan
 Estimate does not include site lighting

**APPENDIX C:
PUBLIC ENGAGEMENT WHAT WE
HEARD SUMMARY**



MOUNTAIN VIEW CEMETERY EXPANSION PLAN

What We Heard Engagement Summary

October 2022



1. Overview

The Mountain View Cemetery is an important community asset that captures the history and unique rural community of North Cowichan. Mountain View Cemetery is a sacred space for spiritual practice, mourning, reflection, and memorialization. The developed portion of the cemetery is almost at capacity.

A planning process has been initiated to guide the expansion and services of the existing cemetery. Mountain View Cemetery currently offers a limited range of interment options. There are opportunities to expand these, potentially with scattering gardens and green burial areas. There may also be opportunities to explore different types of columbarium niches, either now or in the future.

An engagement approach is underway to learn from the community and ensure the final recommendations represent community objectives and interests.

This *What We Heard* report provides key findings from engagement on the Mountain View Cemetery Expansion Plan project.

2. Engagement Activities

The engagement approach was designed to provide a wide variety of opportunities to reach a broad audience within the municipality to discuss the interests of the community and to gather feedback on a draft concept plan.

During the engagement process, North Cowichan residents and neighbours were engaged through a variety of methods to ensure the concepts and recommendations will be informed by the community.

2.1 Online Survey

An online survey was posted on the *Connect North Cowichan* webpage and was available from September 15 – October 4th. The survey received 168 responses. This level of response is considered typical for public engagement on cemeteries.

Findings from all survey questions are discussed in Section 3.2.

2.2 Open House

A public open house was hosted at the Mountain View Cemetery on Thursday September 22nd. Participation at the Open House was estimated to be over 35 attendees. There were two project team members from Urban Systems there to support the North Cowichan staff at the Open House to speak to the public and capture feedback. Poster boards displaying information about the project and provided opportunities to capture feedback were displayed. Printed copies of the survey were also available at the open house, which resulted in 1 hard copy completed and many others being taken home for participants to review afterwards, resulting in 27 online surveys completed in the days following the public Open House. Findings from the public Open House are discussed in Section 3.3.



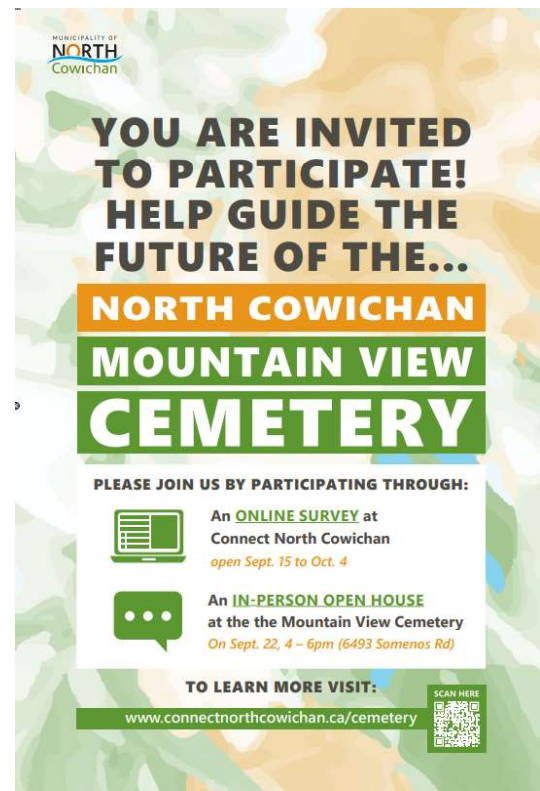
2.3 Promotion

Promotion of the engagement process was important to ensure the community was aware of the project and interested in providing feedback to inform the project. Creating awareness of the engagement opportunities within North Cowichan included mailout postcards and posters at key destinations in the community.

Postcards were distributed to 18,000 residences in the area through a flyer in the Black Press Media distribution. This method of promotion was important to the success of the project as the community members within the municipality and/or living near the project site were notified of the ways to participate in the engagement process. The postcard is shown in the image here.

Posters were placed at and near the Mountain View Cemetery and Municipal Hall.

The Municipality of North Cowichan also used social media as a tool to promote participation in the engagement opportunities. Facebook and Twitter platforms frequently posted reminders about the project to increase project awareness and participation uptake in the survey.



ENGAGEMENT BY THE NUMBERS



35+ OPEN HOUSE
ATTENDEES



18,000 POSTCARDS
MAILED TO RESIDENTS



538 WEBPAGE VISITS



168 TOTAL SURVEYS
COMPLETED

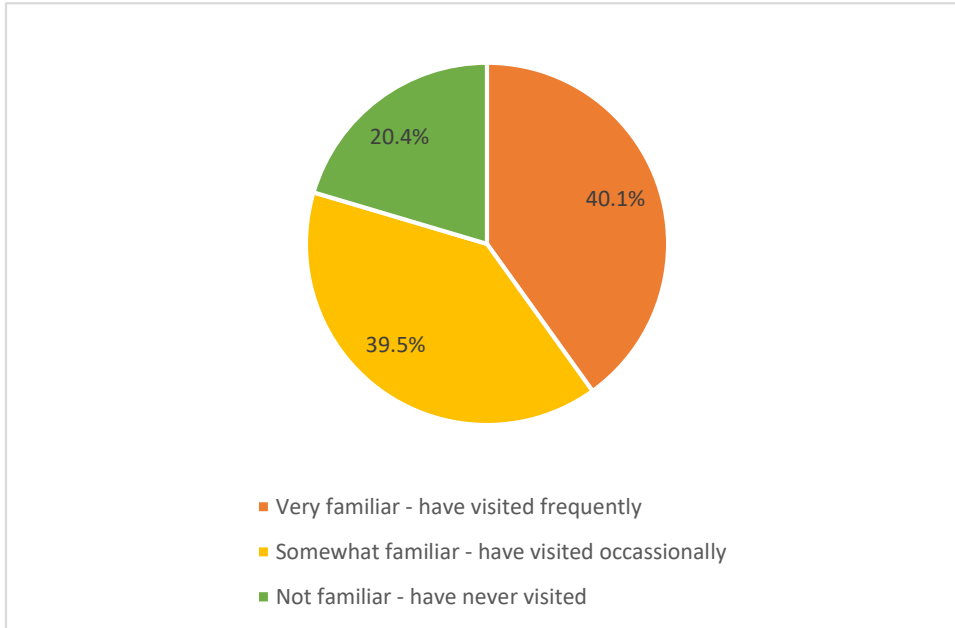
Feedback received through public consultation has been summarized into key themes that will help to inform amendments to the draft concept plan. A summary of key themes heard through public consultation includes:

- **Provide green burial and other more natural approaches**
- **Focus more on cremation options compared to burial options**
- **Preserve trees and install new native plant trees and plants**
- **Consider wildlife that uses the area indicated for expansion**
- **Improve information signage to locate areas and burial sites on the property**
- **Consider more space for parking – currently there is not enough when a funeral is taking place**
- **Provide bike parking on site**
- **Provide more seating and shelters**

3.2 Survey Findings

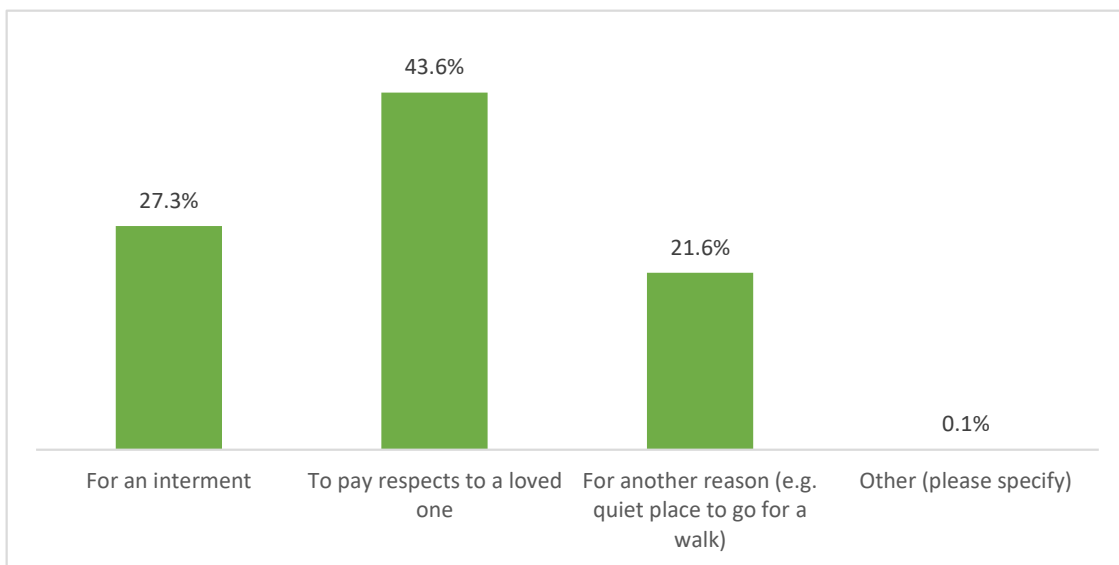
There were 168 surveys completed online. The following is a summary of what we heard through the online survey.

Question 1: How familiar are you with Mountain View Cemetery?



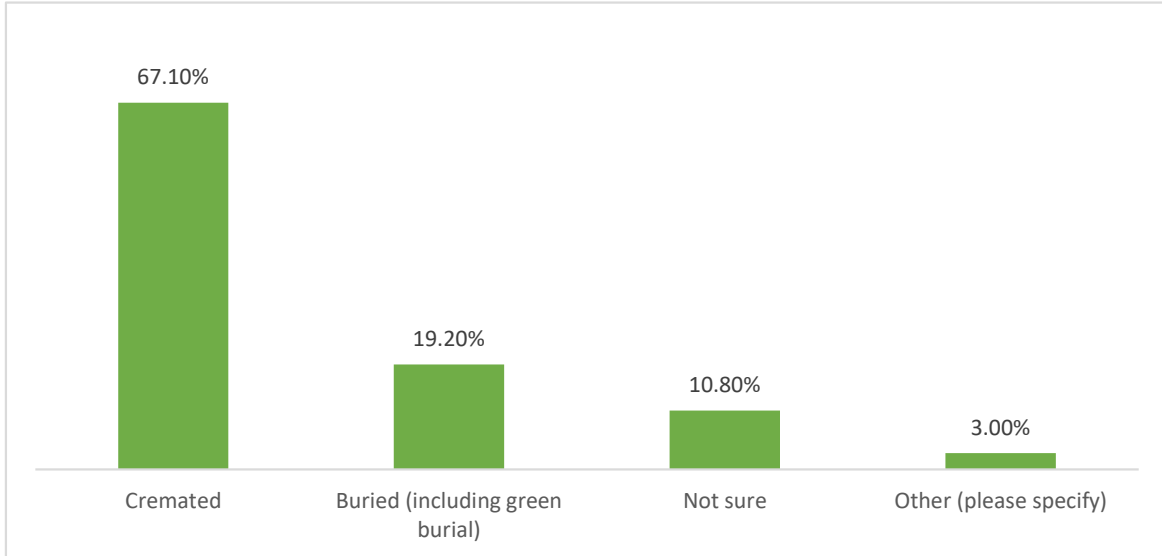
Results: 79,6% of respondents were very or somewhat familiar with the cemetery, with 20,4% of respondents never having visited the cemetery before.

Question 2: If you have been there, for what reasons have you visited Mountain View Cemetery? (Check as many as apply)



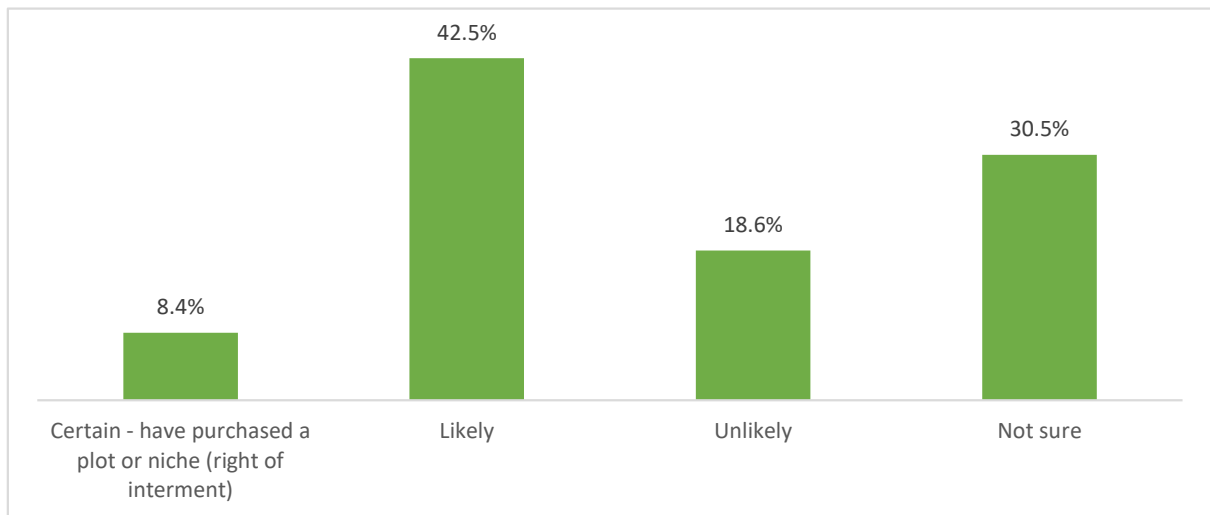
Results: Paying respects to a loved one was the predominant purpose participants visited the cemetery (43.6%). Participants that identified “other”, indicated that they visit the cemetery for heritage and historical interests of the property.

Question 3: Are your remains more likely to be cremated or buried? (Check one)



Results: Cremation was selected as the overwhelming preference at 67.1%. Participants that selected other indicated the interest in aquamation.

Question 4: How likely is it that your remains will be interred at Mountain View Cemetery? (Check one)

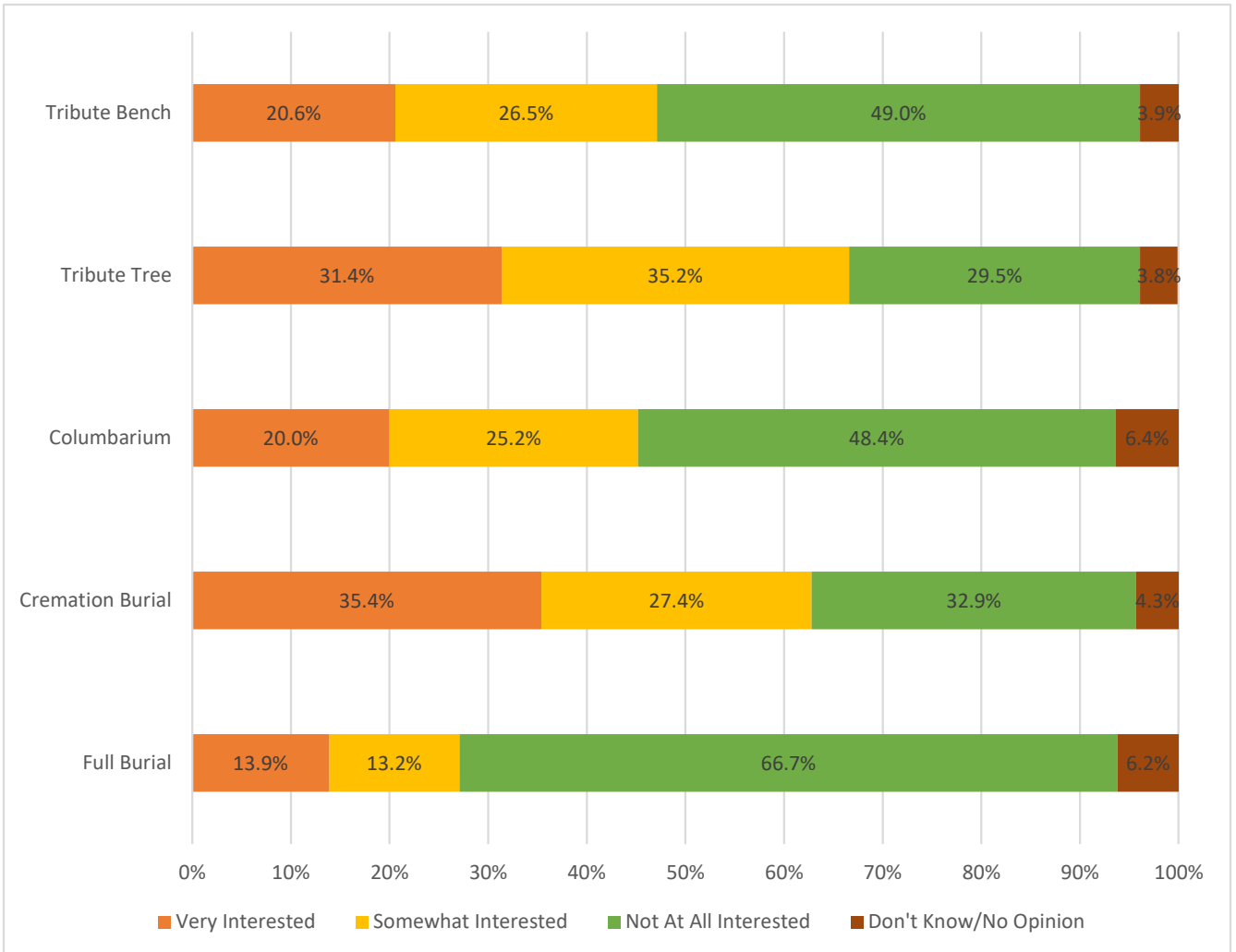


Results: 42.5% of respondents are likely to use Mountain View Cemetery. 30.5% of respondents were unsure.

Question 5: What is your level of interest in the following existing cemetery services for yourself or for a family member?

Participants were asked to select their level of interest related to the existing cemetery services. Level of interest was identified on a scale of “very interested” to “not interested at all”, as well as the option to select “don’t know/no opinion”. The existing cemetery services listed were:

- **Full Burial** – placement of remains in a casket that is put inside a concrete or fibreglass vault
- **Cremation burial** – placement of cremated remains in an urn or container that is buried at a designated plot
- **Columbarium** – placement of cremated remains in a niche (securely locked enclosure within a columbarium) with a plaque on the outside
- **Tribute tree** – placement of a tree that is planted in the designated area cemetery. There is an option to include bronze memorial plaque or go without.
- **Tribute bench** – placement of a bench that is placed in designated areas of the cemetery. There is an option to include a memorial plaque on the bench.



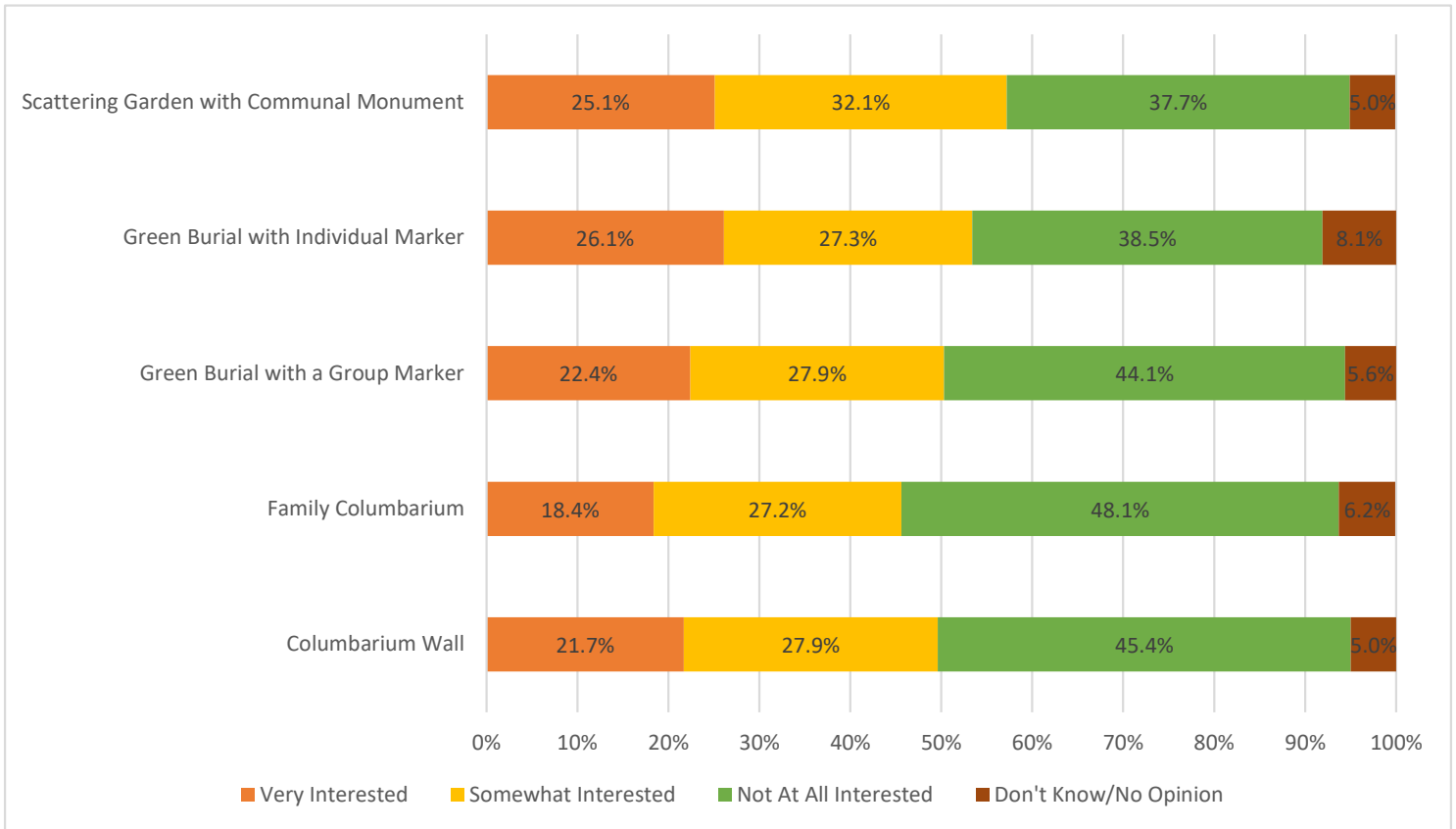
Results: Cremation burial was selected by participants as the existing services of most interest with 35.4% very interested - 31.4% of respondents are also very interested in tribute trees. Full burial had the lowest interest, followed by columbarium.

Question 6: What is your level of interest in the following proposed new cemetery services for yourself or for a family member?

Participants were asked to select their level of interest related to five proposed cemetery services. Level of interest was identified on a scale of “very interested” to “not interested at all”, as well as the option to select “don’t know/no opinion”. The new cemetery services listed were:

- **Columbarium wall** – placement of cremated remains in a niche (securely locked enclosure within a columbarium wall) with a plaque on the outside
- **Family columbarium** – placement of cremated remains in a niche within a monument for the family
- **Green burial with a group marker** – body without embalming is placed in a biodegradable shroud or box and buried in an area where vegetation is planted and allowed to naturalize. Name is inscribed on individual marker.

- **Green burial with individual marker** – body without embalming is placed in a biodegradable shroud or box and buried in an area where vegetation is planted and allowed to neutralize. Name is inscribed on individual marker.
- **Scattering garden with communal monument** – cremated remains are placed directly in the ground in a specific area of the cemetery, name is inscribed on a communal monument.



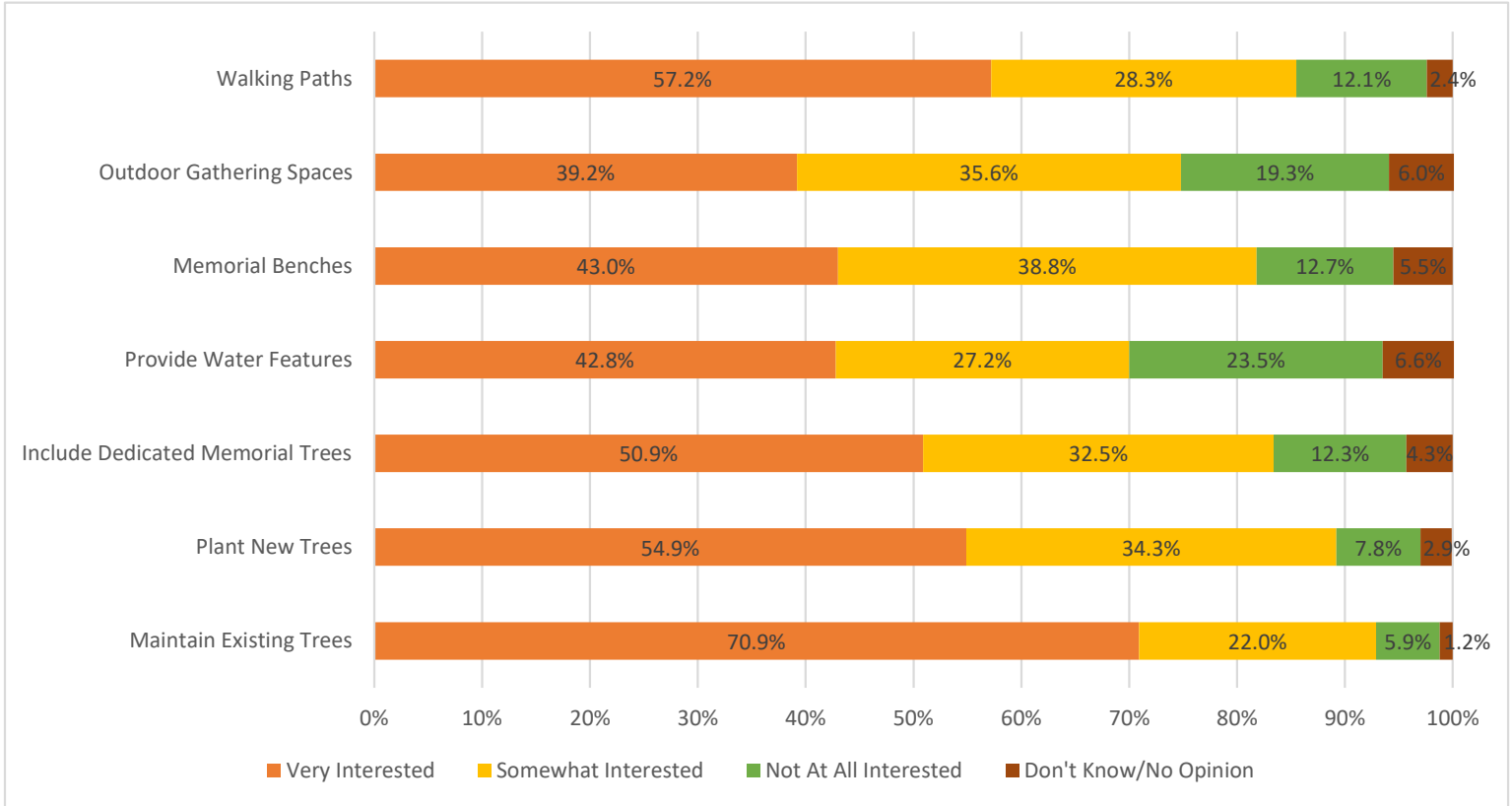
Results: For each of the new options identified, about half of the participants had some interest (somewhat or very interested). Scattering garden was also identified as an option with high interest, with 25.1% very interested and 32.1% somewhat interested. Green burial with individual marker was also of high interest to participants with 26.1% very interested and 27.3% somewhat interested.

Question 7: What is your level of interest in the following design features for the expansion area of Mountain View Cemetery?

Participants were asked to select their level of interest related to seven design features that could be included in the expansion area. Level of interest was identified on a scale of “very interested” to “not interested at all”, as well as the option to select “don’t know/no opinion”. Options for participants to choose from were:

- Maintain as many existing trees as possible
- Plant many new trees
- Include dedicated memorial trees

- Provide water features including a pond and small waterfall
- Memorial benches
- Outdoor gathering spaces
- Walking paths



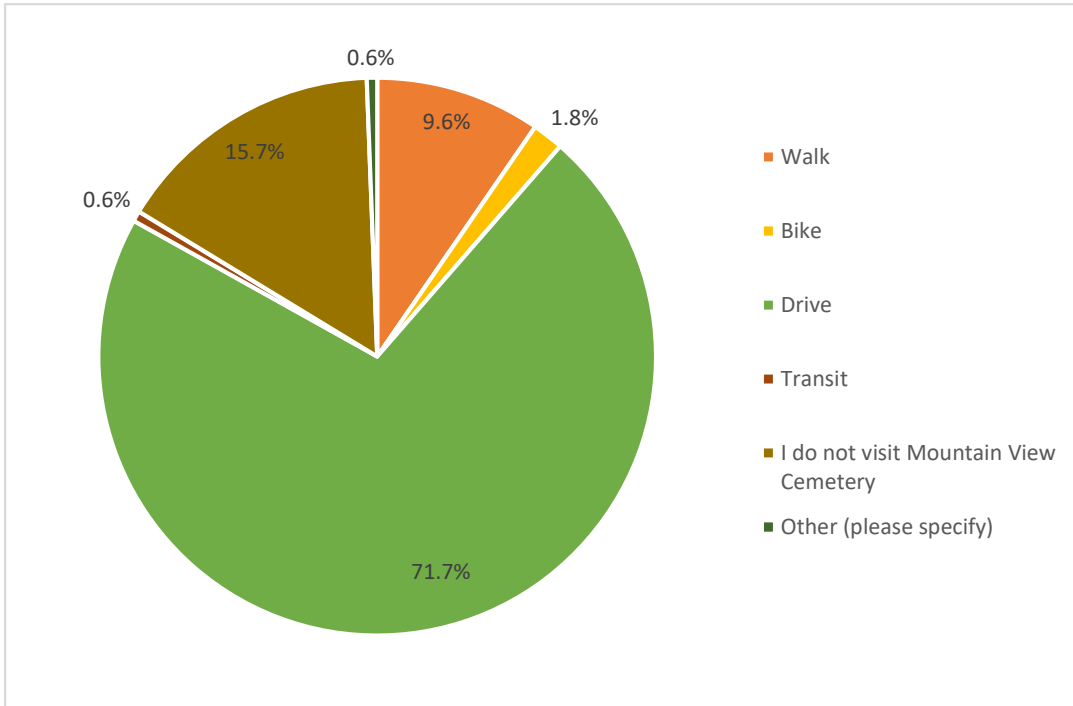
Results: Maintaining as many existing trees as possible was the option that participants were most interested in seeing in the expansion, with 70.8% of respondents stating “very interested”. Walking paths and planting new trees were also of high interest to participants, with 57.2% and 54.2% very interested, respectively.

Question 8: Are there other design features not listed above that you would like to see considered as part of the expansion area of Mountain View Cemetery?

Results:

- creating improved informational signage with maps for visitors to locate their loved ones
- more space for shelters and seating

Question 9: What mode of transportation do you typically use to access Mountain View Cemetery? (Check one)



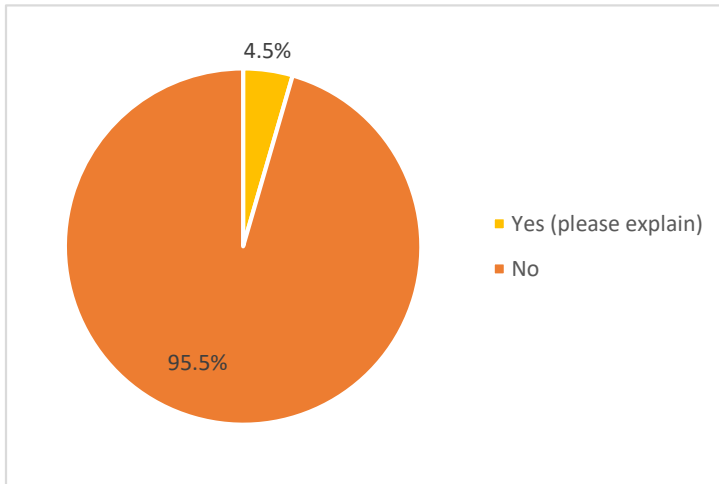
Results: 71.7% of respondents indicated that they drive, followed by walking at 9.6%. A total of 15.7% of respondents noted that they do not visit the cemetery.

Question 10: The draft concept plan includes a one-way access road with 3 pull out locations for up to 4 vehicles in each pull out area along the length of the looping road. A proposed parking lot will provide 8 parking spots with walking trails provided for access to the different areas of the cemetery. Do you have any comments for us on the proposed vehicle and pedestrian access?

Participants were given a description of the layout for additional parking, walking trails and access points as identified in the draft concept plan. An open-ended comment box was provided to allow participants to state their opinions on the proposed vehicle and pedestrian access.

Results: A total of ten participants responded supportive of the proposed layout, and nine comments stated concerns around lack of parking being provided. Many participants noted that there is not enough parking available when a funeral occurs. Eight comments identified the need to ensure new vehicle parking spots consider accessibility needs in terms of the parking stall dimensions as well as ensuring universal access from the parking stalls to the new cemetery features. Finally, three comments identified the need for bicycle parking on the property.

Question 11: Are there any cultural requirements related to how your remains will be treated that the Municipality could address in the expansion of the cemetery?



Participants were asked to identify if they have cultural requirements that should be addressed in the expansion of the cemetery.

Results: 4.5% of respondents indicated yes. Explanations to this question related to being of Baha'i Faith which often uses green burial and/or caskets of stone, hard fine wood or crystal.

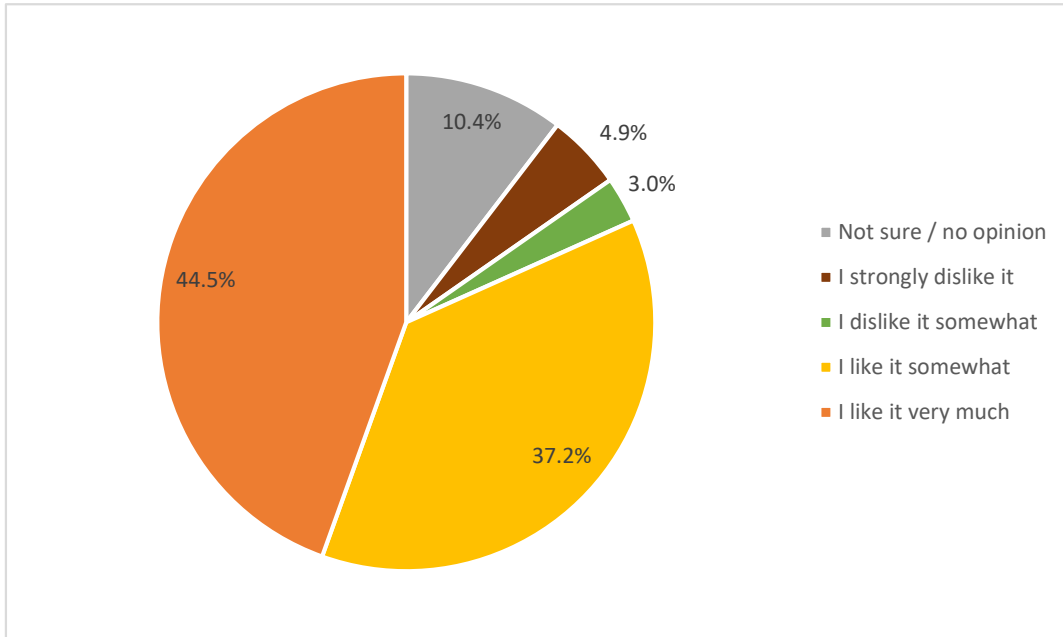
Question 12: Please provide any suggestions you may have for improving the concept plan.

Participants were given an open-ended comment box to provide any final comments on the draft concept plan.

Results:

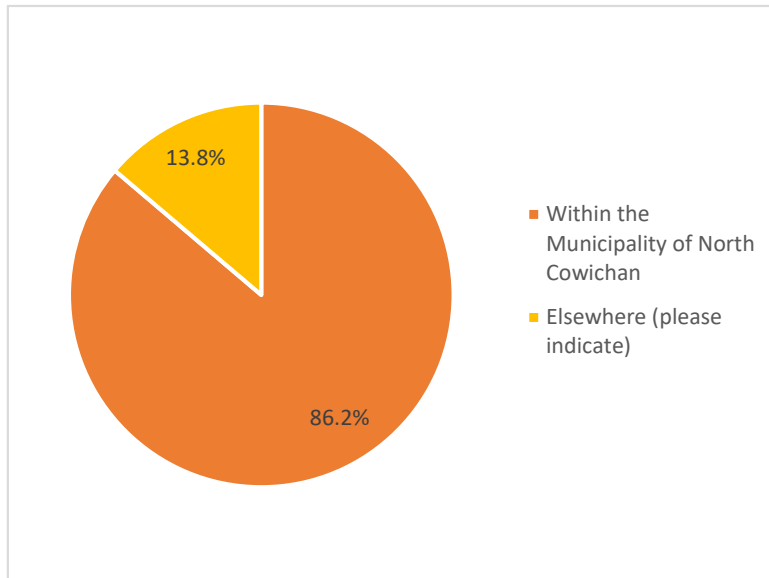
- Adding more trees
- Adding other design features such as a gazebo or fountain
- Concern related to the pond as it relates to costs and impacts on the burial plots during flooding
- Adding fencing along property lines
- The option for aquamation/water cremation

Question 13: What are your thoughts on the draft concept plan? (Select one)



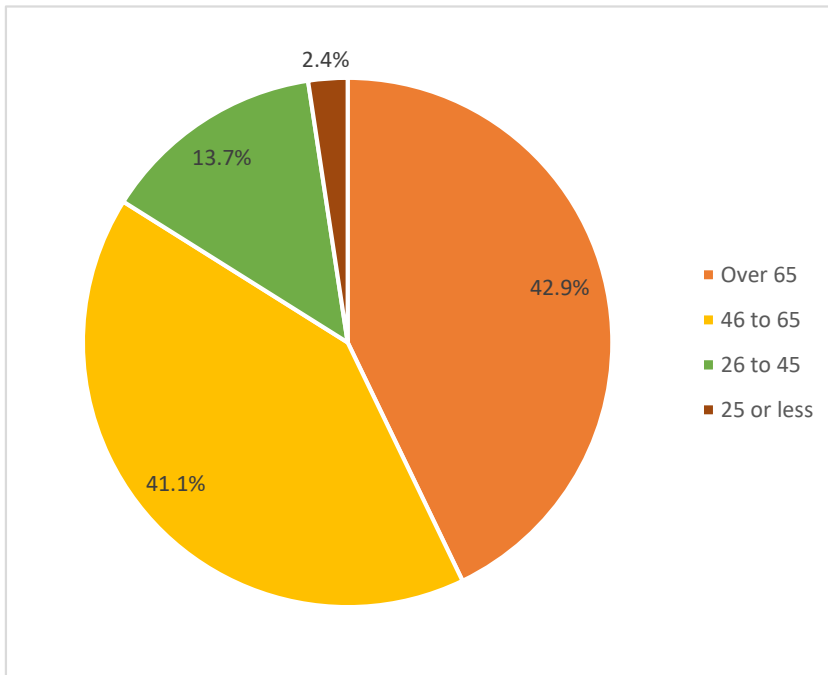
Results: There is support for the concept, with 44.4% indicating they like it very much, 37.2% liking it somewhat and 7.9% of respondents disliking or strongly disliking the concept plan.

Question 14: Where do you live?



Results: 86.2% of respondents live within the municipality. Participants that lived elsewhere identified that they reside in Duncan, Lake Cowichan, Cobble Hill and Ladysmith.

Question 15: What is your age?



Results: 42.9% of respondents are over 65 years of age, 41.1% are 46 – 65 years old and 13.7% are 26 – 45 years old.

3.3 Open House Findings

Feedback during the public open house was collected through a number of approaches:

- Using sticky notes to comment on the poster boards
- Completing paper copies of the survey
- Conversations with the project team

Key feedback received from open house attendees included:

- **Desire for green burial plots – this is urgent as there is nowhere offering it in the area**
- **The expansion area is used by a variety of wildlife – including elk, bear, cougars, deer - design should consider fencing**
- **Use native plants and trees and preserve existing trees**
- **Concerns related to the pond, including onsite and offsite flooding, stream flows and mosquitos**
- **Diversity in burial types in each area of the expanded cemetery area**

Open House attendees were asked to use sticky notes to express their feedback on the materials presented on the open house boards, which is shown on the following pages:

Engagement Board 1: Precedent Images

Precedent images were displayed on a poster board to help participants visualize what some of the concepts could look like. Comments noted were:

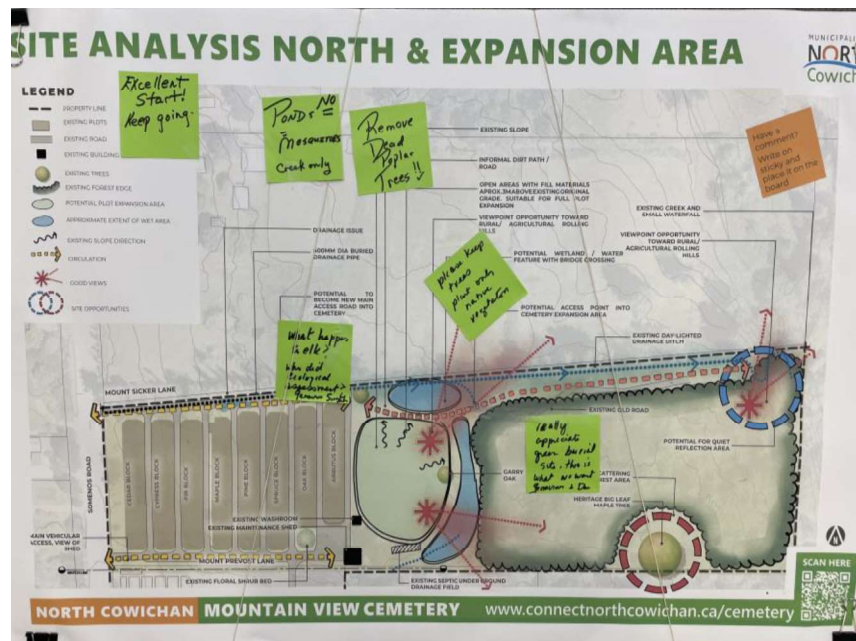
- Incorporate safety features around a pond
- Ensure the use of native plants only
- Coordinate with Ministry of Forests for more dedicated space for green burials



Engagement Board 2: Site Analysis North and Expansion Area

The second engagement board provided an analysis of the north part of the site and the expansion area. Comments received on this board were:

- Support for the proposed concept
- Reconsider the implementation of a pond
- Removing dead trees on site
- Ensuring new trees are native
- Consideration for the wildlife in the area
- Support for the incorporation of green burial sites



APPENDIX D: REGIONAL FEE COMPARISONS

Municipality of North Cowichan - Cemetery Fee Comparisons

| | Municipality of North Cowichan | Royal Oak Burial Park | City of Nanaimo | Town of Qualicum Beach | City of Courtenay | Average Resident Fees |
|---------------------------------------|--------------------------------|-----------------------|--------------------|------------------------|--------------------|-----------------------|
| Single Adult Burial Plot | \$ 1,071.75 | \$ 4,720.00 | \$ 800.00 | \$ 825.00 | \$ 474.00 | \$ 1,578.15 |
| PCF (Burial Plot) | \$ 357.25 | \$ 1,570.00 | \$ 320.00 | \$ 210.00 | \$ 158.00 | \$ 523.05 |
| Burial Plot + PCF | \$ 1,429.00 | \$ 6,290.00 | \$ 1,120.00 | \$ 1,035.00 | \$ 632.00 | \$ 2,101.20 |
| Liner | \$ 765.00 | \$ 1,125.00 | \$ 550.00 | \$ 400.00 | N/A | \$ 710.00 |
| Memorial Installation | \$ 386.00 | \$ 215.00 | \$ 100.00 | \$ 150.00 | \$ 140.00 | \$ 198.20 |
| PCF (Memorial Installation) | \$ 25.00 | \$ 115.00 | \$ 50.00 | \$ 40.00 | \$ 10.00 | \$ 48.00 |
| Memorial + PCF | \$ 411.00 | \$ 330.00 | \$ 150.00 | \$ 190.00 | \$ 150.00 | \$ 246.20 |
| Open/Close | \$ 1,621.00 | \$ 1,130.00 | \$ 750.00 | \$ 725.00 | \$ 1,215.00 | \$ 1,086.20 |
| TOTAL FEES | \$ 4,226.00 | \$ 8,875.00 | \$ 2,570.00 | \$ 2,350.00 | \$ 1,997.00 | \$ 4,145.60 |
| Single Adult Green Plot | | \$ 4,400.00 | | | | \$ 4,400.00 |
| PCF (Burial Plot) | | \$ 1,465.00 | | | | \$ 1,465.00 |
| Burial Plot + PCF | | \$ 5,865.00 | | | | \$ 5,865.00 |
| Liner | N/A | | N/A | N/A | N/A | \$ - |
| Memorial Installation | | \$ 450.00 | | | | \$ 450.00 |
| PCF (Memorial Installation) | | \$ 115.00 | | | | \$ 115.00 |
| Memorial + PCF | | \$ 565.00 | | | | \$ 565.00 |
| Open/Close | | \$ 1,130.00 | | | | \$ 1,130.00 |
| TOTAL FEES | \$ - | \$ 7,560.00 | \$ - | \$ - | \$ - | \$ 7,560.00 |
| Child Earth Burial | \$ 380.25 | | \$ 800.00 | | \$ 132.00 | \$ 437.42 |
| PCF (Burial Plot) | \$ 126.75 | | \$ 320.00 | | \$ 44.00 | \$ 163.58 |
| Burial Plot + PCF | \$ 507.00 | | \$ 1,120.00 | | \$ 176.00 | \$ 601.00 |
| Liner | N/A | N/A | \$ 550.00 | N/A | N/A | \$ 550.00 |
| Memorial Installation | \$ 386.00 | | \$ 100.00 | | \$ 140.00 | \$ 208.67 |
| PCF (Memorial Installation) | \$ 25.00 | | \$ 50.00 | | \$ 10.00 | \$ 28.33 |
| Memorial + PCF | \$ 411.00 | | \$ 150.00 | | \$ 150.00 | \$ 237.00 |
| Open/Close | \$ 793.00 | | \$ 360.00 | | \$ 607.00 | \$ 586.67 |
| TOTAL FEES | \$ 1,711.00 | \$ - | \$ 2,180.00 | \$ - | \$ 933.00 | \$ 1,974.67 |
| Cremation Plot | \$ 456.00 | \$ 1,095.00 | \$ 500.00 | \$ 350.00 | \$ 225.00 | \$ 525.20 |
| PCF | \$ 114.00 | \$ 390.00 | \$ 250.00 | \$ 90.00 | \$ 75.00 | \$ 183.80 |
| Plot + PCF | \$ 570.00 | \$ 1,485.00 | \$ 750.00 | \$ 440.00 | \$ 300.00 | \$ 709.00 |
| Liner | N/A | N/A | \$ 100.00 | \$ 75.00 | N/A | \$ 87.50 |
| Memorial Installation | \$ 386.00 | \$ 215.00 | \$ 100.00 | \$ 150.00 | \$ 140.00 | \$ 198.20 |
| PCF (Memorial Installation) | \$ 25.00 | \$ 115.00 | \$ 50.00 | \$ 40.00 | \$ 10.00 | \$ 48.00 |
| Memorial + PCF | \$ 411.00 | \$ 330.00 | \$ 150.00 | \$ 190.00 | \$ 150.00 | \$ 246.20 |
| Open/Close | \$ 500.00 | \$ 575.00 | \$ 360.00 | \$ 225.00 | \$ 285.00 | \$ 389.00 |
| TOTAL FEES | \$ 1,481.00 | \$ 2,390.00 | \$ 1,360.00 | \$ 930.00 | \$ 735.00 | \$ 1,431.70 |
| Columbarium Niche (Lower Range) | \$ 1,165.50 | \$ 4,095.00 | | \$ 1,300.00 | \$ 720.00 | \$ 1,820.13 |
| PCF (Lower) | \$ 129.50 | \$ 455.00 | | \$ 325.00 | \$ 80.00 | \$ 247.38 |
| Niche + PCF (Lower) | \$ 1,295.00 | \$ 4,550.00 | | \$ 1,625.00 | \$ 800.00 | \$ 2,067.50 |
| Columbarium Niche (Upper Range) | \$ 1,326.60 | N/A | N/A | N/A | \$ 900.00 | \$ 1,113.30 |
| PCF (Upper) | \$ 147.40 | N/A | N/A | N/A | \$ 100.00 | \$ 123.70 |
| Niche + PCF (Upper) | \$ 1,474.00 | \$ N/A | | \$ N/A | \$ 1,000.00 | \$ 1,237.00 |
| Supply + Engrave Niche Plate | \$ 456.00 | \$ 895.00 | | \$ 305.00 | \$ 450.00 | \$ 526.50 |
| Inurnment (Open/Close) | \$ 456.00 | \$ 445.00 | | \$ 160.00 | \$ 100.00 | \$ 290.25 |
| TOTAL FEES (AVG UPPER + LOWER) | \$ 2,296.50 | \$ 5,890.00 | | \$ 2,090.00 | \$ 1,450.00 | \$ 2,469.00 |
| Ash Scattering | N/A | N/A | N/A | \$ 325.00 | \$ 120.00 | \$ 222.50 |
| PCF | | | | \$ 80.00 | N/A | \$ 80.00 |
| TOTAL FEES | \$ - | \$ - | \$ - | \$ 405.00 | \$ 120.00 | \$ 302.50 |