



City of Fort St. John CEMETERIES MASTER PLAN



Prepared for:

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Executive Summary

The City of Fort St. John currently owns and operates two municipal cemeteries. The City has reached a juncture in the development and management of its cemeteries. There is significant population growth and cultural diversity is increasing. The cemeteries are being operated in accordance with legislation and best practices, but some of the cemetery management practices are no longer sufficient for the size of the operation. The City of Fort St. John initiated a process to prepare a 20-year Cemeteries Master Plan to guide cemetery growth, improvements, and operations.

The project involved a needs assessment, preparation of concept plans, and an organization and business plan. Community and stakeholder input was solicited, but response rates were low. The consultants worked closely with City staff on all aspects of the Master Plan. The following is a summary of the Master Plan recommendations, which are based on industry trends and best practices, and population and demographic trends and projections in Fort St. John. More detail on some of these recommendations is contained in the body of the Master Plan.

Concept Plans

- » Improve the site entries, infrastructure, spaces, pedestrian circulation, safety and security, accessibility, and the urban forest to make the cemeteries more attractive and interesting places to visit, per the concept plans proposed.
- » Offer new interment options, including green/natural burial, scattering gardens, memorial walls, and new ways to inter cremated remains; add a Veterans Section.
- » Provide information on the history of the cemeteries and those interred there.

Revenues

- » Increase cemetery service fees consistent with the fees of comparable cemeteries. Remove non-resident fees from the bylaw.
- » Increase cemetery fees up to 45% every five years, depending on the City's interest in or desired rate of achieving full cost recovery, fees in comparable cemeteries, actual revenues and costs, and affordability for Fort St. John residents. Set fees for new products offered by the cemeteries as they come online.
- » Revise the Care Fund fees to 40% of all right of interment (license) and tablet and monument setting fees; remove the current Development Fund fee.
- » If the City decides to implement a planting strip option (Section 9.1), which is expected to be costlier to maintain, consider further increasing the Care Fund fees for that portion of the cemetery.

- » Develop appropriate marketing strategies such as annual newsletters, on-site events, and improvements to the City's cemetery webpage, to increase the profile of the cemetery in the community and to encourage pre-need sales.

Regulations and Bylaws

- » Revise the bylaws to be consistent with current practices, to capture new revenue, and to meet the interests of the community. The following is a summary of proposed bylaw revisions:
 - allow up to six interments of cremated remains in addition to a full burial within a burial plot, and revise the cemetery fees to include a price for each interment that is in addition to the first two interments of cremated remains and/or full burial.
 - remove the provision requiring buried cremated remains to be in a container encased in concrete.
 - allow upright memorials anywhere in City cemeteries, with all monuments to be approved in advance by City staff for consistency with the bylaw.
 - enforce the maximum size and specified materials of upright memorials in all future transactions, requiring removal of any new memorials that are noncompliant. (As part of this, "grandfather" the noncompliant upright memorials that are already in place).
 - consider four optional approaches to grave adornments, conduct consultation in the community to determine the preferred approach, and revise the bylaw and practices accordingly.

Other City Policies and Plans

- » Revise the Memorials Policy to include more opportunities, increase fees to include maintenance, and clarify City responsibilities on the Memorial Application Form.
- » In the new Parks and Recreation Master Plan, recognize the recreation and landscape values of the cemeteries and plan to these sites into trail and open space networks.
- » In the updated Official Community Plan (OCP), recognize the parks and recreation values of the cemeteries, consistent with the Parks and Recreation Master Plan, and also link the cemeteries with the cultural resources and history of the City.

Human Resources and Administration

- » Purchase a cemetery software program to increase the efficiency and breadth of record keeping for the cemetery operations, e.g., Stone Orchard, Axiom CMS, Pontem.
- » Provide more training and information to cemetery administration staff.
- » Enhance the capacity of the City to deal directly with families through training of the cemetery clerk and provision of a suitable space for family meetings.
- » Establish a system through which those requiring cemetery services can book an appointment with the clerk.

Maintenance and Operations

- » Increase staff to 2.3 full-time equivalents (FTE) over the next five years.
- » Increase staff beyond that time based on a guideline of approximately 26 interments per FTE.
- » Remove poplars and spruce from Fort St. John Cemetery and replace with more appropriate species.
- » Phase out the use of pea gravel around tablet memorials, reverting to regular maintenance practices to keep tablets from becoming overgrown.
- » As part of the renovation of Fort St. John Cemetery, restore grass by levelling, overseeding, and fertilizing as needed.
- » Improve drainage at Woodlawn Cemetery.

Implementation Plan

The City of Fort St. John has interest in obtaining community input into the Cemeteries Master Plan, particularly related to the concept plans, interest in green burial, options for grave adornments, openness to fee increases in association with higher levels of service and the potential role and future uses of the St. Martin's Anglican Church Cemetery. The City intends to conduct community engagement in 2016, which could result in the need to amend the Cemeteries Master Plan. The following recommendations apply to monitoring of the Cemeteries Master Plan.

- » During annual planning, review trends, revenues (service and care fund fees), costs, staffing, and their implications over the past year, and set annual service fees accordingly.
- » Conduct a more comprehensive review of all aspects of cemetery operations every five years.

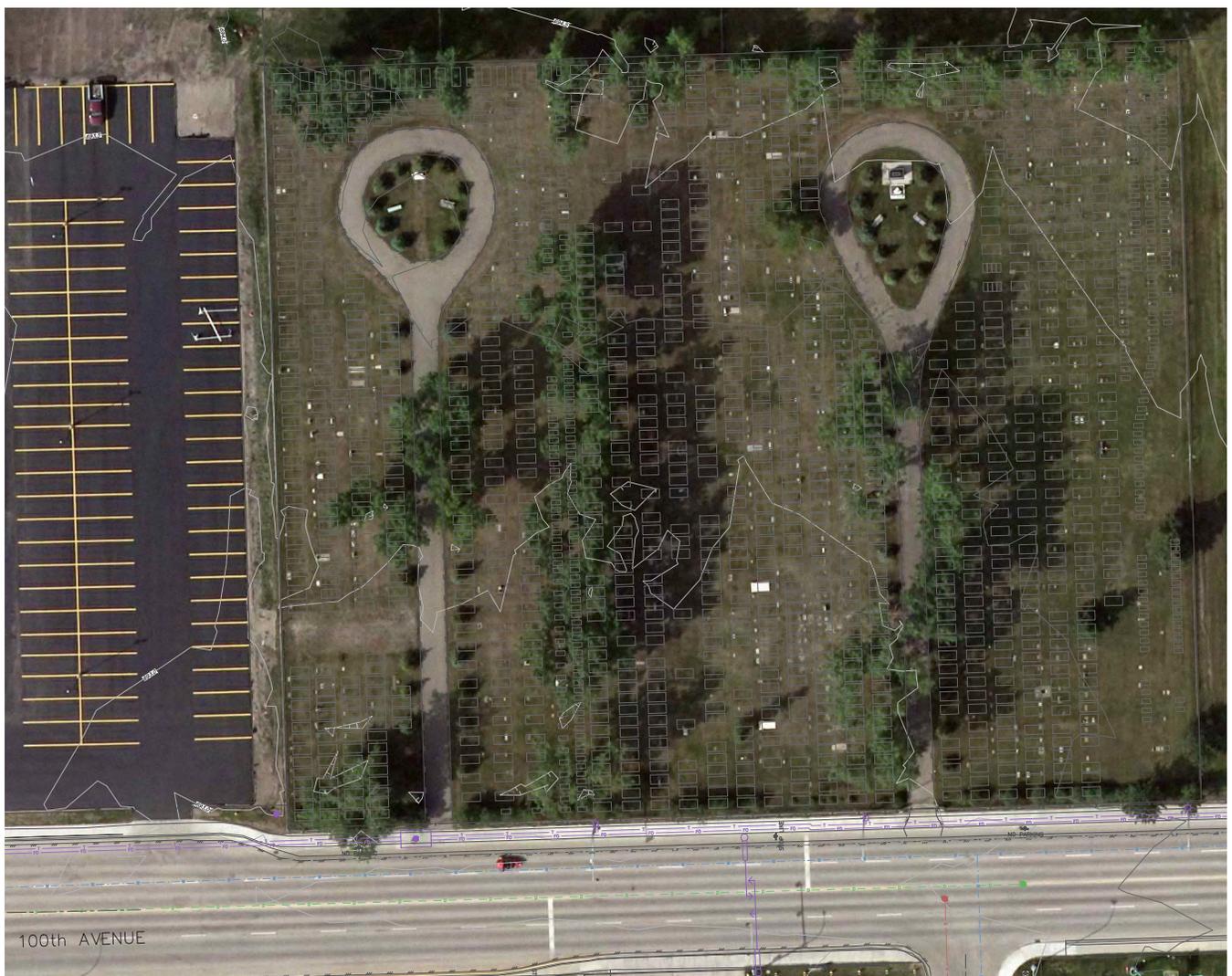


1. Introduction

1.1 Overview

The City of Fort St. John currently owns and operates two municipal cemeteries. The Fort St. John Cemetery is a historic cemetery that was established in the City in 1932 near the current centre of the City (**Figure 1.1**). The Woodlawn Cemetery was opened in 1978 to provide additional space for interment, and most of the City's interments now occur there (**Figure 1.2**). Both cemeteries offer columbaria, but due to limited capacity, the Fort St. John Cemetery no longer provides full burial plots and burial of cremated remains is limited to existing plots above full burials.

Figure 1.1: Fort St. John Cemetery



Source: City Air Photo and GIS Map

Figure 1.2: Woodlawn Cemetery



Source: City Air Photo and GIS Map

The City of Fort St. John has reached a juncture in the development and management of its cemeteries. There is significant population growth, cultural diversity is increasing, and some of the cemetery management practices are no longer sufficient for the size of the operation. The City of Fort St. John therefore initiated a process to prepare a 20-year Cemeteries Master Plan that will guide the growth of the Woodlawn Cemetery, improvements to the Fort St. John Cemetery, and operations of the cemeteries according to industry standards and best practices.

The following are the four phases of the Cemeteries Master Plan and the tasks involved in each:

- » **Needs Assessment** – identify future cemetery products and services based on funeral industry trends, comparable cemeteries, community interests and demographic projections
- » **Cemetery Concept Plans** – prepare design principles, site inventory and concept plans for the two cemeteries, with two options for Woodlawn Cemetery, and one option for Fort St. John Cemetery
- » **Preferred Woodlawn Cemetery Plan** – prepare a preferred site plan for this cemetery with input from the City
- » **Organization and Business Plan** – identify the human and other resources required, proposed revisions to the City’s Cemetery Bylaw, and a business plan that identifies revenue (including proposed cemetery fees and charges), capital and operating costs, and financial projections

1.2 Objectives of the Cemeteries Master Plan

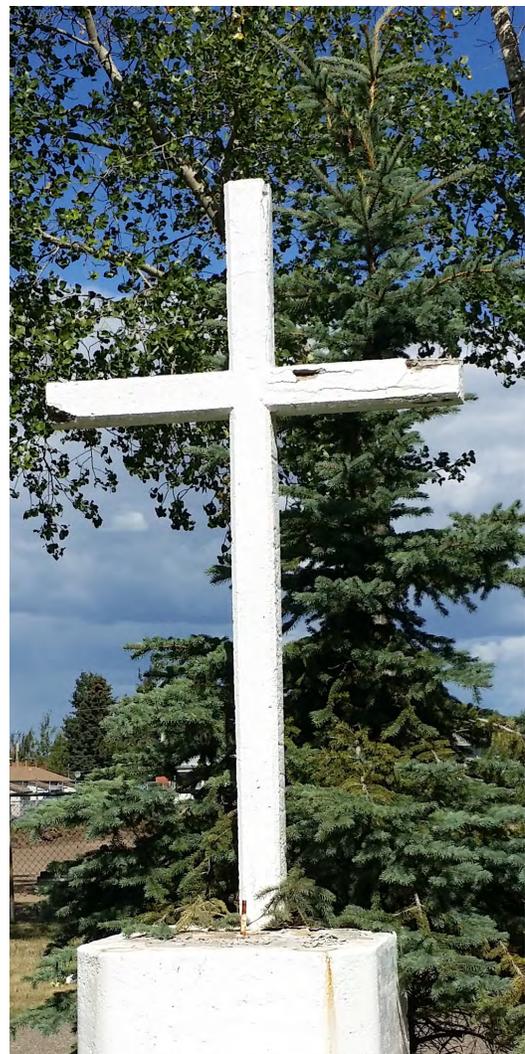
The following are the objectives of the Cemeteries Master Plan:

- » To identify how to best meet future needs based on population, interment needs, trends, and existing resources
- » To analyze the spatial requirements for interment, including full burials, columbaria, scattering gardens, and green burial
- » To maximize community benefits of the two cemeteries in Fort St. John by enhancing their role as public open space
- » To review and assess the operational management of the cemetery, and to prepare strategies for the sustainable management, operation and maintenance of the cemetery
- » To prepare plans for improvements to Fort St. John Cemetery, and renovations and landscape upgrades of Woodlawn Cemetery
- » To recognize the cultural legacy represented in the history of the cemeteries

1.3 Planning Process

The process for preparing the Cemeteries Master Plan involved close collaboration between City staff and the Urban Systems consulting team. It also integrated input from the community and stakeholders as follows:

- » An online questionnaire for stakeholders was sent by email to community groups, funeral industry members, First Nations, and faith-based institutions – 5 surveys were completed
- » An online questionnaire for community members was set up and encouragement to participate was distributed through a newspaper article, Facebook, Twitter, and PlaceSpeak – 25 surveys were completed



2. Fort St. John Cemeteries

2.1 Cemetery History and Development

The Fort St. John Cemetery was originally planned to be located on 10 acres of land outside of the current city limits, overlooking the Peace River. This changed when C.M. Finch donated land near the current city centre for the construction of a Roman Catholic Church and cemetery on 100th Avenue in 1931. The following year, mounting pressure from local residents to establish a public cemetery with no religious affiliation resulted in the development of a Cemetery Board. After significant controversy regarding the establishment of a new cemetery, the Board opted to secure more land from C.M. Finch next to the existing Roman Catholic Church and cemetery.

This land became the Village Cemetery and it was divided into Catholic and Protestant sections in 1932, with the first burials occurring the same year. The Village Cemetery was later renamed the Fort St. John Cemetery. In addition to adult and infant plots, a columbarium was added to the protestant section of the cemetery. The Catholic Church has not been interested in having columbaria in their section. The only space remaining in the cemetery is the niches, some capacity for cremated remains within full burial plots, and a few plots that have been reserved but not used to date.

As the Fort St. John Cemetery began to approach its capacity for full burials, the Woodlawn Cemetery was established just north of the City in 1978. The first phase of the cemetery has been developed, and it currently contains adult and children’s plots and two columbaria that were installed in 1997. An area designated for Phase 2 is available to the north of the developed portion. The City previously owned land for a Phase 3, but this was sold to the golf course in 2009.

2.2 Cemetery Information

Fort St. John’s municipal cemeteries offer a number of interment services (**Table 2.1**). Woodlawn Cemetery has not fully developed the space available, and the north portion of the site remains undeveloped. **Table 2.2** summarizes the existing numbers of plots for the two cemeteries. Two columbaria similar to the existing columbaria have recently been installed in the Woodlawn Cemetery and are accounted for in this table.

Table 2.1: Fort St. John Municipal Cemeteries Facts and Services Overview

	Woodlawn Cemetery	Fort St. John Cemetery (Protestant)	Fort St. John Cemetery (Roman Catholic)
Date Opened	1978	1932	1932
Religious Affiliation	None	Protestant/None	Catholic
Size Developed (hectares)	2.45	0.81	0.40
Size Undeveloped (hectares)	1.59		
Expansion Potential	✓		
Currently Active	✓	✓	✓
Services Currently Offered			
• Full Burial	✓		
• Full Burial (Child Plot)	✓		
• Cremation Burial (Full Plot)	✓	✓	✓
• Cremation Plot Burial	✓		
• Columbarium Niche	✓	✓	
• Reservation (Full Plot)	✓		
• Reservation (Cremation Plot)	✓		
• Reservation (Columbarium)	✓	✓	
Full plots Available	137 (As of 09/12/2015)	40 (reserved)	14 (reserved)

Source: City of Fort St. John with Analysis by Urban Systems

Table 2.2: Fort St. John Municipal Cemeteries Current Plot Overview

	Woodlawn Plots	FSJ Plots
Full Burial	1,699	1,148
Child	240	305
Cremation	453	0
Columbarium Niche	168	48
TOTAL	2,560	1,501

Source: City of Fort St. John

Table 2.3 identifies the annual average number of interments provided over the last four years.

Table 2.3: Fort St. John Municipal Cemeteries - 2012-2015 Services Summary

Type of Service Provided		Average Annual Units (2012 - 2015)
Interments	Full Burial Plots	21
	Cremated Remains	23
	Columbarium Niche	10
Reservations / Rights	Full Burial Plots	37
	Cremation Plots	3
	Columbarium Niche	12
Additional Services	Upright Memorial	5
	Monument Setting	26

Source: City of Fort St. John Interment and Reservation Statistics (2012-2014)

* See Table B.2 in Appendix B for more details

As noted in **Table 2.4**, the City has been contributing an average of \$103,000 per year towards cemetery services from general revenues for the last three years. This includes the 1.2 FTE salaries not fully realized in the cemeteries' financial statements. This average contribution is 68% of annual expenses, illustrating that current cemetery revenues are not sufficient to cover cemetery costs. The City will need to determine whether that contribution level is financially sustainable over the long term.

The City has established a Perpetual Care Fund (Care Fund) for the care and maintenance of the cemeteries for the time when operating revenues may no longer be available. Contributions to the fund are collected as a percentage of current cemetery right of interment and memorial fees. The Care Fund currently stands at approximately \$263,500. Ongoing funding to it is important for long-term maintenance of the two cemeteries. The future of the Care Fund is discussed in more detail in Section 7.

Table 2.4: Fort St. John Municipal Cemeteries- 2012-2015 Financial Summary

General Finances		Average Annual Amount (2012 - 2015)
Categories	Annual Revenues	\$50,869
	Annual Expenses*	\$154,171
	Annual City Contribution	\$103,302
	Total Cemetery Care Fund**	\$263,540
	Current FTE	1.2

Source: City of Fort St. John Cemetery Financial Statements (2012-2015)

* Full 1.2 FTE salaries included beyond what is stated on Cemeteries' 2012-2015 Financial Statements

** As of December 31, 2015

2.3 New Cemetery

At the time of preparing this Plan, the City of Fort St. John is in the process of acquiring the St. Martin's Anglican Church Cemetery. The North Peace Credit Union purchased the large lot that contained the church and cemetery. The church was recently demolished and the credit union will be handing the cemetery portion to the City in 2016.

The cemetery is located at 10364 100th Street. It was only in operation from 1931 to 1932, and has eight full burial plots, which are all occupied. In the future, the City will need to determine the best use of this space. Some options include allowing additional interments in occupied plots, adding niches or columbaria, or confirming the closure of the cemetery to future interments.

The City will be maintaining the grounds of this cemetery. There may be opportunities for a seating area and interpretive information at the site.

Costs related to the maintenance of this cemetery are not included in this plan, as the space is more like a historic park than a cemetery at this time. Determination of the future use of the cemetery will take place at a later date.

3. Industry Trends

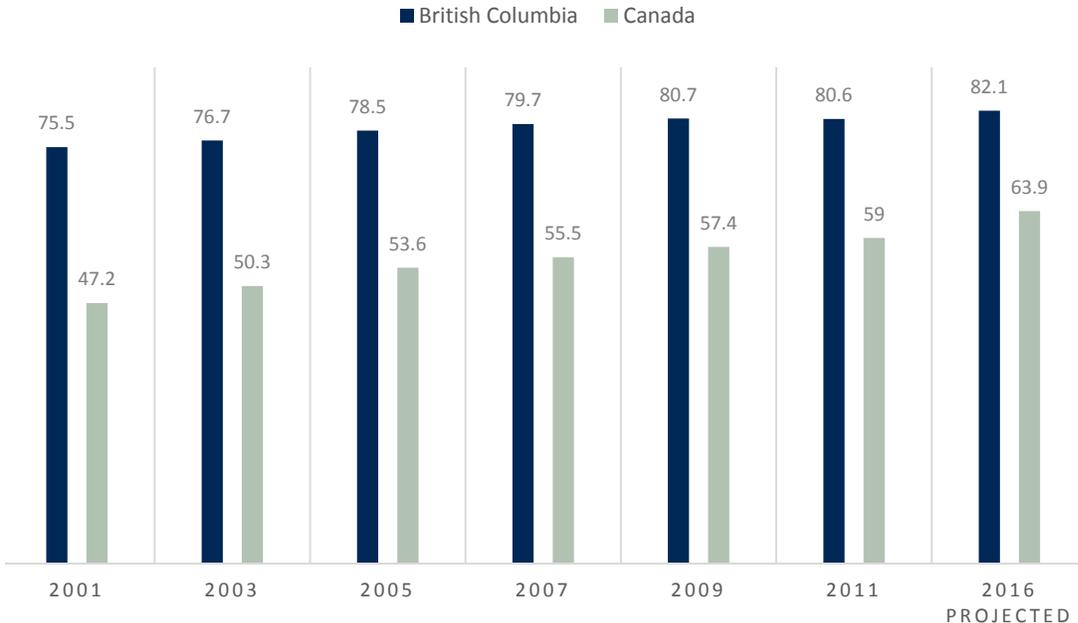
Trends involving interment practices need to be considered in order to accurately assess the future cemetery needs for the City of Fort St. John. This section examines trends occurring nationally and provincially that include more diverse forms of interment and memorialization.

3.1 National and Provincial Cremation Trends

Throughout North America, there has been a growing increase in cremation compared to traditional full burial (Table 3.1). Since 2001, the cremation rates in Canada, excluding Quebec, have increased from 47.2% in 2001 to 59.2% in 2011. It is projected that Canada will see 63.9% of all deaths cremated in 2016. The largest proportion of that increase occurred from 2001 to 2006, which saw a 10% increase in the percent of deaths cremated. From 2006 to 2011, the increase has flattened with an overall increase in deaths cremated by 1.9%.

British Columbia has historically had the highest cremation rate among the provinces and territories (Table 3.1). In 2001, British Columbia had 75.5% of all deaths cremated, a figure that was approximately 16% higher than the second highest, Yukon Territory. In 2011, British Columbia's cremation rate experienced a minor increase to 80.6%, and remained the province or territory with the highest cremation rate in the country. It is projected that this rate will rise to 82.1% in 2016. Cremation disposition made up 83% of total deaths that occurred in Fort St. John in 2014.

Table 3.1: Percentage of Deaths Resulting in Cremation in British Columbia and Canada



Source: Cremation Association of North America

The Cremation Association of North America cites five major factors for the rise of cremations and the decline of the full burials, as follows:

1. **Cost** - Typical cremation costs average between \$1,000 and \$3,000, compared to a full traditional burial, which averages between \$6,250 and \$8,000.
2. **Range of Options** - The options for memorialization offered by cremation are diverse and appealing. Cremated remains can be placed in a single or multiple locations, buried or sealed in niches in cemeteries, scattered in appropriate locations, or divided into keepsake urns, jewelry and other items that may be shared by loved ones.
3. **Environmental Impact and Land Consumption** - Full burials requiring land and perpetual maintenance and care are seen by some as having more significant environmental impacts.
4. **Location and Transport** - Cremation allows for the easy and inexpensive transport of a loved one's remains.
5. **Religious Acceptance** - Many religions accept cremation and some have begun to plan and install columbaria on their religious grounds.

Along with the increase in cremations, the death service industry has responded with multiple methods for interring cremated remains in cemeteries and memorial gardens. This enables families to visit the remains of their loved ones in a location that is permanent, protected and contemplative. The interment methods include columbaria, niche walls, scattering gardens, and burial of cremated remains in dedicated plots or combined plots that may include a full burial. Cemeteries are finding that a broader range of services can enable them to meet more diverse needs.

Cemeteries and memorial gardens are also including memorial plaques for honouring loved ones who may not be interred at their location. This is attractive to families who have relocated or for honouring loved ones who lived in multiple locations.

The evolution of burial practices within religions that have long histories in Canada 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 amount 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.

3.2 Green or Natural Burial

Green or natural burial is a trend that is gaining traction among western nations, including Canada. For example, there are now over 270 natural burial sites in the United Kingdom. BC currently has two cemeteries officially offering this option, in Victoria and Vancouver. Variations of natural burial are known to occur in other cemeteries, e.g., placement of unembalmed remains in a biodegradable covering within a traditional full burial plot (sometimes with an all-natural monument), natural burials with individual rather than group markers. Smaller communities are also becoming interested, e.g., Denman Island has a new green burial ground, and Whitehorse is planning to include natural burial spaces in the future expansion of their municipal cemetery.

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 in a protected green space. 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 inscribed on a communal marker or plaque.

This method is a low-impact alternative to traditional full burials, which introduce toxic chemicals into the environment from the embalming process, and typically involve large quantities of metal, hardwood and/or concrete used for caskets and liners. Green burial also has less environmental impact than cremations, which use large amounts of energy and materials to cremate a body. Cremated remains contain metals such as lead, boron, cadmium, chromium, and cobalt that can be toxic to the environment.

Natural or green burials are usually a less expensive option than a full burial and can cost more or less than cremation. Green burial can bypass expenses such as embalming, limousines, vaults, and headstones; on the other hand, there are costs for the use of land and vegetation. As an example, per Royal Oak Cemetery's current fee schedule in Victoria, the cost of green burials are anywhere between 65-75% of the cost of a full burial and 20% more than the cost of a cremation interment; this cemetery cremation interment fee does not include the cost of cremation, which in most cases would make the total cost of cremation higher than green burial.



4. Fort St. John Cemetery Trends and Projections

In order to assess future cemetery needs and develop an associated business plan, it is necessary to make assumptions about population growth, death rates, interments, and the use of cemetery services (e.g., burials versus cremations). **Table 4.1** summarizes the assumptions that have been carried forward in this analysis.

Table 4.1: Fort St. John Past Trends and Future Projections

Category	Past Trends		Projections	
Population Growth Rates	2.4% annual average increase (over the last 10 years)		2.2% annual average increase from 2017-2037 Based on Fort St. John's 50-Year Growth Plan	
Death Rates	Average 5.6 deaths per 1000 people from 2006-2014 with steady rise in rate throughout that period (6.8 deaths per 1000 people in 2014)		<u>Time Period</u> 2016-2021 2022-2026 2027-2031 2032-2036 2037	<u>Deaths per 1000 Population</u> 7.0 7.1 7.3 7.5 7.8
			Based on current death rate in City with gradual increase to account for baby boomers over next 20 years	
Percentage of Interments to Deaths	Percentage of interments within Fort St. John municipal cemeteries compared to City-wide deaths has fallen from 66% in 2005 to 33% in 2014		35% of interments to deaths from 2017-2037 Based on maintaining 2012-2015 average market share	
Percentage of Full Burial vs Cremation Interments	Percentage of municipal cemetery cremation interments grew from 50% to 67% of total interments from 2005 to 2015		<u>Time Period</u> 2016-2021 2022-2026 2027-2031 2032-2037	<u>Full Burials as % of Cremation & Full Interments</u> 33% 31.5% 30.0% 28.5%
			Based on current burial-cremation split with gradual % increase toward cremations given City and National trends	
Cremation Interment Services	Cremation Service Offered In Full Plot In Cremation Plot In Columbarium Niche	% of Total Cremations <u>2006</u> <u>2015</u> 69% 68% 19% 12% 12% 20%	2016 projections based on 2012-2015 average in Fort St. John's municipal cemeteries Growth between the years of 2017 and 2037 is based on the average change in each cremation service year over year exhibited between 2005 and 2015	

Source: BC Statistics and City of Fort St. John Interment and Reservation Statistics (2005-2015) with Analysis by Urban Systems

Population Growth

As shown in **Table 4.1**, the City has been growing 2.4% per year over the past 10 years. Earlier this year, Fort St. John commissioned the completion of a 50-Year Growth Plan to support the Official Community Plan update. Beginning with a population of 22,000 in 2014, the 50-Year Growth Plan identified a “Medium” growth scenario and an “Accelerated” growth scenario.

Under the Medium growth scenario, the City’s population would be expected to grow by 2.2% per year between 2017 and 2036 and by 3% in 2037. Under the Accelerated growth scenario, the City would be expected to grow annually by 5.0% from 2016 to 2024 and by 3.0% for each of the following 20 years. To ensure the City does not overestimate potential cemetery revenues, the Medium growth scenario has been adopted for this report. Additional details on the City’s population and growth are included in **Appendix A**.

Death Rates

Over the past few years, Fort St. John’s death rate has increased significantly. In 2011, the death rate was 4.7 deaths/1,000 population, and by 2014 the death rate had climbed to 6.8 deaths/1,000 population. This increase can be linked to a rise in the average age of the population, partly due to the opening of the Peace Villa Residential Care facility in 2012, which brought regional residents to the City for end-of-life care. This same trend is not expected to continue in the future. However, given the impact of aging baby boomers, the death rate in Fort St. John is still expected to increase, though less significantly, to 7.8 deaths/1,000 population by 2037. See **Table A.1** in **Appendix A** for additional details.

Interments

While the City’s death rate has been increasing, the number of interments in municipal cemeteries has remained relatively stable, amounting to approximately 35% of market share in recent years. It appears that when residents of the Peace Villa Residential Care facility pass away, they are usually interred in other communities. To avoid over-estimating cemetery revenues, it is assumed that 35% of all deaths in the Fort St. John will be interred in City cemeteries. Additional details on interments in Fort St. John’s municipal cemeteries are included in **Table A.3** of **Appendix A**.

Burials and Cremations

Consistent with national trends, the ratio of cremations to burials has been growing in Fort St. John. In 2005, cremations and burials in City cemeteries were split 50-50. In 2015, cremations had grown to 67% of interments (burials were 33%). This trend is expected to continue. For this analysis, it has been assumed that cremations will grow to 71.5% of interments by 2032 and thereafter (see **Table B.1** of **Appendix B** for further details).

Services Offered

Over the past decade, there has not only been an increased demand toward cremation interment in Fort St. John's municipal cemeteries but, more specifically, a shift to interment of cremated remains (cremains) in columbaria (up from 12% in 2006 to 20% in 2015 as a percentage of total cremations). Interments of cremains in cremation plots have concurrently declined as a percentage of total cremation interments in that same period.

Given the trends that have occurred in the City over the last decade, it can be assumed that the City will see more demand for interments of cremains in columbaria in the future. Projected growth in the next 20 years of each cremation service offered is based on the average change in each cremation service year over year between 2005 and 2015 (see **Table B.2 of Appendix B** for further details).

As discussed in Section 3.2, it is recommended that the City provide green burials and scattering gardens as new services in the future. If adopted as a method of interment, green burials will likely take a small portion of the traditional burial demand over the next 20 years. We have assumed that green burials will take a 5% share of traditional burials, with scattering gardens making up 10% of expected cremation interments.

Other interment options are accounted for within these calculations; interment of cremains under paving stones are included for revenue purposes the same way as cremation plots. Memorial plaques honouring those not interred in the cemeteries are considered a separate item, and revenues are not included as they will be minimal. The number of cremation plots in the cemetery plans will therefore be higher than what is shown if paving stone interments are implemented.



Table 4.2: Fort St. John Municipal Projected Interment Summary

Interment Service Offered	2012-2016 (Actual Data)	2017-2021	2022-2026	2027-2031	2032-2036	20-Year Total
Traditional Burials	98	99	106	116	127	
Green Burials	0	5	5	6	6	
Total Burials	98 (38%*)	104 (32%)	111 (30%)	122 (29%)	133 (28%)	470
Cremations (In Full Plot)	101	125	146	170	199	
Cremations (In Cremation Plot)	20	24	28	33	38	
Cremations (In Columbaria Plot)	41	52	60	70	82	
Scatterings	0	20	24	27	32	
Total Cremation Interments	162 (62%*)	221 (68%)	258 (70%)	300 (71%)	351 (72%)	1,131

Source: City of Fort St. John Interment and Reservation Statistics (2005-2015) with Analysis by Urban Systems

*Percentage of Total Interments

Table 4.2 provides an allocation summary of expected interments across various services offered at City cemeteries. Per this projection there will be 448 traditional burials and 22 green burials in the next 20 years. In that same period, 1,131 cremains interments are expected with 641 full plot, 123 cremation plot, 264 columbarium and 103 scattering garden interments making up that total. This is a conservative estimate so that cemetery revenue is not overestimated during this period.

Using the general guidance and interment proportions generated in these projections, concept plans for the two cemeteries were prepared (Sections 5 and 6, **Appendix C**). Section 7 examines the current and future capacity of the two cemeteries, helping to establish the basis for the Business Plan (Section 8).

5. Fort St. John Cemetery Concept Plan

5.1 Site Inventory and Analysis

A field review of the cemetery was completed in the summer of 2015 to determine the current site conditions. Based on this information, a site analysis was prepared. The following is a summary of the opportunities and challenges related to the cemetery areas and features. This analysis provides direction for the design recommendations.

Existing Vegetation

Opportunities

- Removal of unhealthy poplars could allow for healthier and safer trees and canopy
- Relocating struggling spruce to Woodlawn Cemetery could assist in providing dense buffers at that cemetery

Challenges

- Numerous unhealthy poplar trees in cemetery, mainly along walkways and northern fence line – pose risks
- Root systems of existing trees very prolific near surface -- hinder excavation, tripping hazard
- Newer spruce trees not thriving - many dead branches



Existing Roads /Pathways

Opportunities

- Large vehicular loops no longer needed
- Linear pathways with distinct destinations
- Potential to create more attractive, pedestrian-oriented pathways
- Potential to increase urn burials and/or memorials with edger stones along pathways
- Potential for a path at west entry from church parking lot
- Space permits a stepping stone path between Catholic and Protestant sides

Challenges

- City equipment will still require access along paths
- No defined path at west entry from church parking lot
- Still need roadways for access to burials
- No connecting path between Catholic and Protestant sides



Capacity

Opportunities

- Potential for integration of other interment options, e.g., more columbaria, urn burial, scattering gardens, to increase capacity

Challenges

- Cemetery is completely reserved for full burials

Entrances

Opportunities

- Potential for more sense of arrival with entry features at all three gates, e.g., archways, trellis, vertical sign or marker

Challenges

- Entries not identifiable, no announcement of arriving at an important place



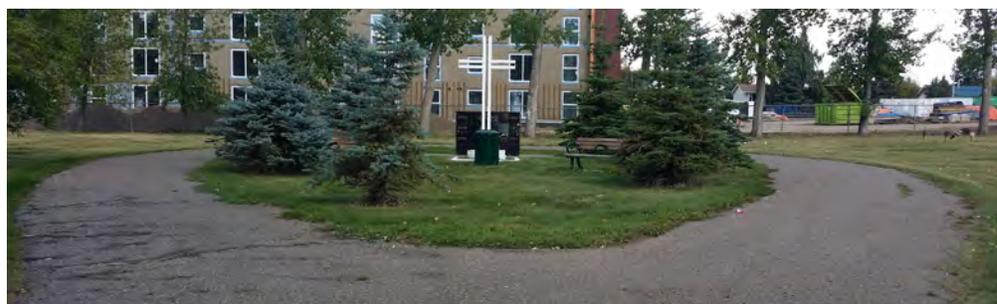
Turn-around Areas

Opportunities

- Larger spaces at focal points of both roads are available without need to turn around hearses
- White crosses make eye-catching terminations of the axes
- Spaces could be designed to improve experience, support gatherings, and increase interments

Challenges

- Existing crosses are vandalized, in poor repair, and in need of replacement
- Garbage receptacle in Protestant space is at path focal point in front of cross



Fencing / Edges

Opportunities

- New black metal fencing along southern boundary is attractive and permits views into cemetery from sidewalk
- A hedge along the east edge could reduce unpleasant views to industrial site

Challenges

- East, north, and west fencing is unattractive chain-link
- Large new development to the north
- Unattractive industrial site to the east



Headstones/Adornment

Opportunities

- Limited space and materials could be identified for adornments to graves; otherwise enforce current bylaw

Challenges

- Range of monuments from flush with ground to upright
- Inconsistent enforcement of bylaws regarding adornment of graves



Ground Surface

Opportunities

- Top dress and overseed grass after trees have been replaced and new paths constructed
- Phase out use of pea gravel

Challenges

- Irregular surface and challenges managing turf and weeds
- Pea gravel has been placed around flush headstones to assist in turf management, however is time-consuming to maintain and a safety concern when mowers pass over

Seating

Opportunities

- Potential to improve and increase seating options

Challenges

- Existing benches not attractive and randomly placed, but may have sentimental value to community members



Signage/ Wayfinding

Opportunities

- Could incorporate a kiosk with historical information and interment directory
- Could relocate existing sign to front of fence and centre between entrances

Challenges

- No information available regarding the cemetery on site
- Existing sign is very old, hidden behind fence, inconsistent with other park signs, and is far from Catholic entrance

Water

Opportunities

- City could consider restoring water service for watering new plants, etc.

Challenges

- There is no irrigation or access to water; previous taps were removed

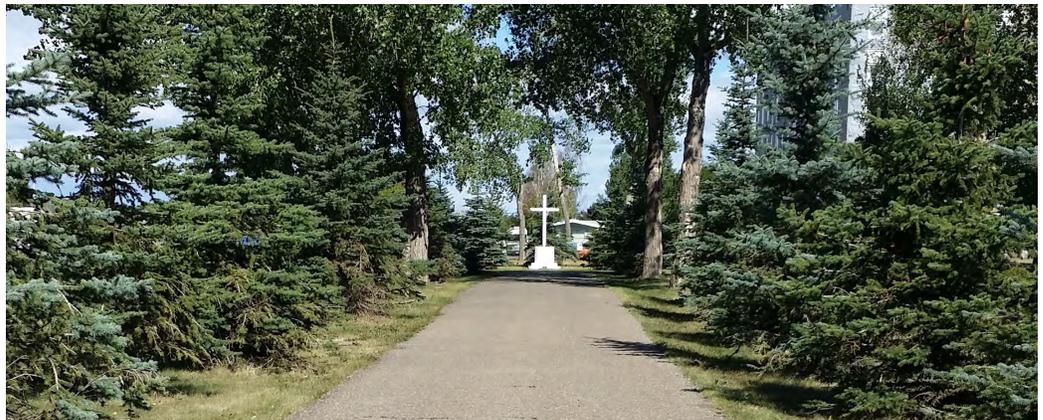
Cemetery Use

Opportunities

- Cemetery well located downtown to support casual use by the public
- More legitimate use could help to deter inappropriate uses

Challenges

- Vandalism has been a concern, and homeless people spend time in the cemetery



5.2 Design Principles

The following design principles were identified to guide the development of the concept plan:

- » Define site entries to give the cemetery a stronger identity
- » Upgrade infrastructure to make the site feel more attractive and safe, and to make it easier to maintain
- » Provide comfortable spaces for contemplation, seating and gathering
- » Improve the pedestrian circulation network
- » Use environmental design principles for landscape management
- » Increase visibility throughout the cemetery for safety and security (CPTED)
- » Improve accessibility for all ages and abilities
- » Improve the health and diversity of the urban forest
- » Offer a variety of ways to inter and honour the deceased
- » Provide information on the history of the cemetery and those interred there

5.3 Concept Plan

The proposed concept for the Fort St. John Cemetery (**Appendix C**) takes advantage of the opportunities and addresses the main challenges that were identified in the site analysis. The key features include the following:

- » Entry features at all three entrances but without horizontal members along 100 Avenue to allow access by large equipment
- » New site sign relocated to front of fence centred between the two south entrances
- » Information kiosk near the west cemetery entry with historical information and interment directory
- » Replacement of asphalt pavement with pedestrian-oriented pavers and memorial stones or pavers as edgers (with or without cremated remains below); and extend walkway to west entrance

- » Improve the turn-around areas in both Catholic and Protestant sections (leaving room for a vehicle to turn around if necessary) to become gathering spaces with the following amenities:
 - new crosses
 - benches
 - paved plaza space (interlocking pavers or similar)
 - low maintenance, low level plantings, e.g., ornamental grasses, perennials, low shrubs
 - Catholic side – memorial columns (with or without niches), scattering garden (optional)
 - Protestant side – additional columbaria, scattering garden (optional)
- » Stepping stone pathway (with memorial stones, with or without cremated remains below) connecting Catholic and Protestant gathering spaces
- » Gradually remove poplars, and interplant with new deciduous trees
- » Remove spruce, potentially relocating them to Woodlawn Cemetery
- » Hedge along east fence
- » Additional benches along path
- » Establish a water service and tap

5.4 Phasing Plan and Cost Estimate

A phasing plan for the Fort St. John Cemetery plan stages the improvements over time. The rationale for the phasing plan is as follows:

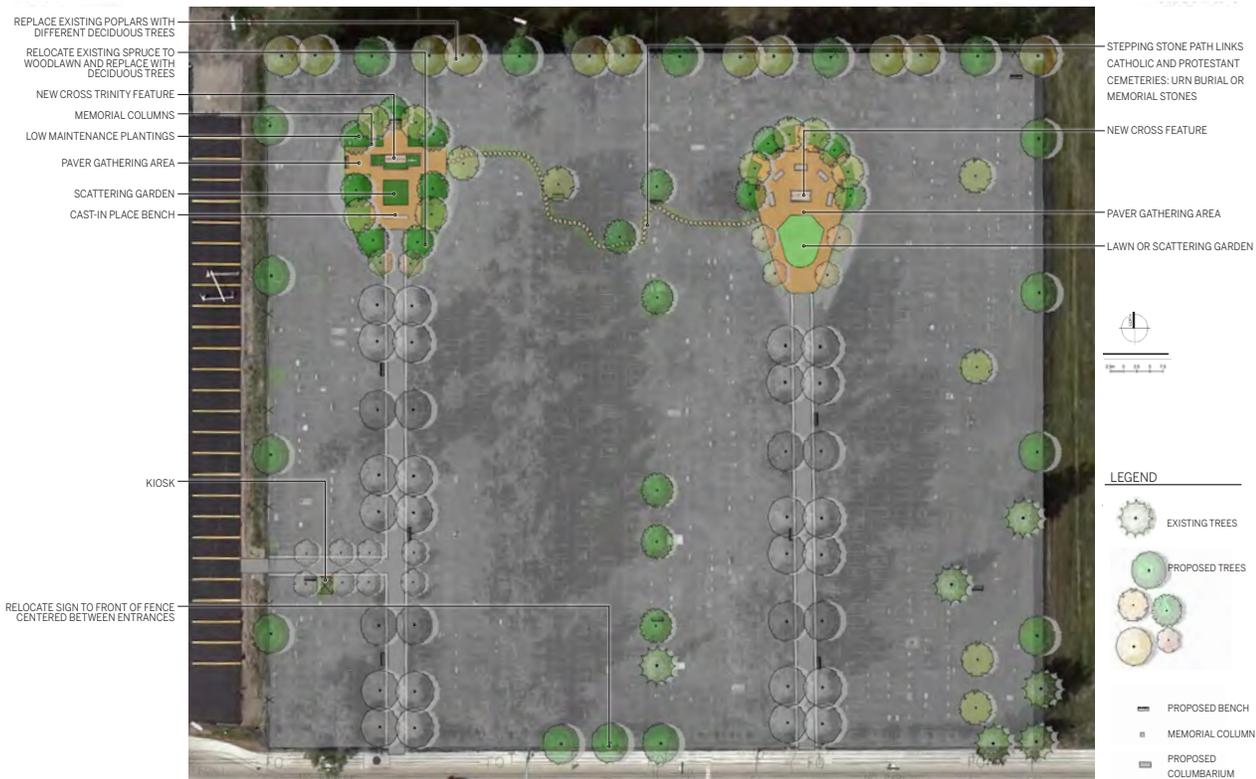
- » Remove unhealthy poplars over time and replace with other deciduous trees to get canopy regeneration started quickly
- » Improve the main paths and gathering areas in the short term to provide more interment capacity and to make the cemetery more appealing for visitors
- » Prioritize water service to support watering/survival of new plantings
- » Improve visibility of cemetery right away by relocating sign
- » Keep some existing trees in place through the first phases so that the entire canopy doesn't disappear at the same time

- » Coordinate pathway improvements, plantings, and kiosk in same phase for ease of construction
- » Hold lower priority items and final columbarium to third phase to be completed when required or desired

Table 5.1 provides a generalized summary of the cost estimate, including a contingency of 20% and design/engineering fees of 15%. The full cost estimate and larger versions of the phasing plans are in **Appendix C.1**.

Table 5.1: Fort St. John Cemetery Summary Cost Estimate

	Cost
Phase 1	\$260,000
Phase 2	\$160,000
Phase 3	\$140,000
TOTAL	\$560,000



phase 1

phase 2



phase 3



6. Woodlawn Cemetery Concept Plan

6.1 Site Inventory and Analysis

A field review of the cemetery was completed in the summer of 2015 to determine the current site conditions. Based on this information, a site analysis was prepared. The following is a summary of the opportunities and challenges related to the cemetery areas and features. This analysis provides direction for the design recommendations.

Adjacent Lands	Opportunities	Challenges
	<ul style="list-style-type: none">• MoTI right-of way (ROW) south of cemetery offers potential to construct a trail (subject to MoTI permission)• Potential to connect trail to community forest via the MoTI ROW• Stormwater from cemetery drains to pond on adjacent golf course, attractive feature with healthy vegetation• Many existing spruce line property boundary between golf course and cemetery	<ul style="list-style-type: none">• Golf balls from the golf course to north and west frequently land in cemetery and golfers play and drive carts through cemetery• Access road to golf course abuts northeast edge of cemetery, with views into the parking lot and service area



Existing Vegetation

Opportunities

- Trees and vegetation, mostly around the perimeter of the cemetery, is healthy and provides a good foundation for buffering the site from adjacent properties
- Potential to create outdoor rooms and delineate paths/roads with trees
- Creating structure and more intimate spaces

Challenges

- Very few trees and vegetation in cemetery itself – site feels very open and exposed, bland character



Unprogrammed Spaces

Opportunities

- Large area to north of active interment areas is unprogrammed, undesignated, and plots have not been laid out – many possibilities to design appealing spaces and to unify the cemetery

Challenges

- Northwestern portion of open area is vulnerable to stray golf balls and unsuitable for interments or gatherings

Parking / Service Roads

Opportunities

- Parking lot generally functions well with two entry points
- Could plant more trees near parking lot
- Consider narrowing some roads to allow tree planting
- Could add trellises to enhance entries from parking lot

Challenges

- Parking lot does not have much character or delineation of space
- Roads are wider than necessary for service/pedestrian access; however reducing the width is expensive in relation to the benefit achieved
- Cemetery has no routes that feel like paths rather than roads
- Entry to cemetery from parking lot is stark



Benches / Seating Areas

Opportunities

- Opportunity for more seating areas and dispersed benches

Challenges

- Seating is limited to a few older style memorial benches



Drainage

Opportunities

- Potential to reduce some road widths to provide more swale capacity and make service roads feel more like pedestrian paths
- Potential to complete a site survey and prepare a detailed drainage plan in future

Challenges

- Site is extremely flat
- Soil drains poorly
- Swales, mostly along roads, are not handling drainage needs
- During wet months, standing water lingers in areas already containing interments

Works Yard

Opportunities

- Potential to build proper works yard and shed in northeast corner close to the road
- Potential to screen yard (and golf course parking/service area) from cemetery
- Potential to close access from golf course to works yard area

Challenges

- Site currently has a small shed in northeast corner that is not secure, and it is insufficient for servicing needs
- Alternate location for works yard in northwest corner is vulnerable to golf balls
- Golf course entry road has direct access to works yard



Signage / Wayfinding

Opportunities

- Could incorporate a kiosk with historical information and interment directory
- Wayfinding signs for identification of interment areas
- Existing site identification sign is attractive

Challenges

- There are currently no wayfinding kiosks or signs

Headstones / Ornamentation

Opportunities

- Could provide identified areas, methods, and design guidelines for grave adornments; otherwise enforce bylaw

Challenges

- Inconsistent enforcement of bylaws regarding adornment of graves
- Monuments are not all consistent with the bylaw



Seating

Opportunities

- Potential to improve and increase seating options

Challenges

- Very few benches available

Capacity

Opportunities

- Site has extensive capacity
- Potential for integration of other interment options, e.g., more columbaria, urn burial, scattering gardens, green burial, to increase capacity and lifespan of cemetery



Fencing / Edges

Opportunities

- Existing white fencing along east perimeter is attractive
- Could remove fence and gates around parking lot
- Will need to limit encroachment from golfers with new fencing along north and west perimeters
- South edge along unopened road corridor is attractive

Challenges

- Fencing and gates around parking lot are unattractive chain link and are not required as gates are always open
- West fence at golf course is older chain link
- No fencing to delineate north side of golf course



Utilities

Opportunities

- City services may be available in the future as the urban area expands

Challenges

- There are no water or sewer services close to the site

Cemetery Use

Opportunities

- Cemetery is used by dog walkers, does not appear to be a problem, City installed dog bag dispensers
- More legitimate use could help to deter inappropriate uses

Challenges

- Activities in parking lot are not always legitimate cemetery/ park uses



6.2 Design Principles

The following design principles were identified to guide the development of the concept plans:

- » Define and protect the site boundaries
- » Define site entries from the parking lot to give the cemetery a stronger identity
- » Provide comfortable spaces for contemplation, seating and gathering
- » Provide a network of looping paths throughout the cemetery
- » Make the existing roads more appealing for pedestrians
- » Focus landscape improvements on trees and low maintenance plantings
- » Improve drainage, considering opportunities to manage water with surface features
- » Offer a variety of ways to inter and honour the deceased
- » Provide information on the history of the cemetery and those interred there

6.3 Preferred Concept Plan

Two concept plan options were prepared for Woodlawn cemetery for the City to consider and review. Concept 1 was identified for advancement by the City, and was refined into a preferred option. The preferred concept plan can be found in **Appendix C**.

The preferred concept plan for the Woodlawn Cemetery takes advantage of the opportunities inherent in the space, and addresses the main challenges that were identified in the site analysis. Key features include the following:

- » New, small Veterans Section near the cemetery entry
- » New fencing on west and north perimeters
- » Remove fence around parking lot
- » Entry features at entries from parking lot, but without horizontal members to allow access by large equipment
- » Information kiosk near the parking lot with historical information and interment directory
- » Increased perimeter plantings to improve screening
- » Roads and pathways lined or accented with trees

- » Central pedestrian north/south axis with multiple opportunities for gathering, seating, drainage, and interments (could include memorial pavers)
- » New service road/path providing access into new interment areas
- » Monument feature at north of central axis as part of columbaria courtyard space
- » Prominent central gathering area with lawn, benches, trellis, and columbaria
- » Two secondary paths radiating from central gathering space leading to east and west quadrants of new interment areas
- » Walking path around perimeter of cemetery with potential link to Community Forest
- » Expanded and screened works yard with perimeter chain-link fence, new shed and access road
- » Diverse interment options including green burial forest, scattering gardens, full-burial plots, urn plots, four types of columbaria
- » Low maintenance, low level plantings, e.g., ornamental grasses, perennials, low shrubs
- » Increased seating opportunities
- » Drainage works to reduce standing water
- » Wayfinding signs
- » Connections to City services in the long term if/when they are available near the cemetery

6.4 Phasing Plan and Cost Estimate

A phasing plan for the Woodlawn Cemetery plan stages the improvements over time. The rationale for the phasing plan is as follows:

- » Prioritize improvements that set the stage for future phases e.g., service road, pedestrian pathways and drainage swales
- » Offer full variety of interment options in the short term (full burial, green burial, columbaria, and scattering garden)
- » Quickly eliminate golfer habits of encroaching into cemetery with fence and begin creating buffer with perimeter plantings
- » Improve site understanding with kiosk and wayfinding signs

- » Establish central gathering space as a key draw and work outward from there with site improvements
- » Coordinate perimeter improvements (pathway, remaining perimeter trees, and maintenance yard) into same phase
- » Hold north courtyard improvements and lower priority items until required or needed

Table 6.1 provides a generalized summary of the cost estimate, including a contingency of 20% and design/engineering fees of 15%. The full cost estimate and larger versions of the phasing plan are in **Appendix C.2**.

Table 6.1: Woodlawn Cemetery Summary Cost Estimate

	Cost
Phase 1	\$900,000
Phase 2	\$770,000
Phase 3	\$690,000
TOTAL	\$2,360,000



phase 2



phase 3



7. Cemetery Needs Assessment and Business Plan

7.1 Needs Assessment

Fort St. John's municipal cemeteries are expected to accept 470 burial and 1,131 cremains interments over the next 20 years (Section 4, **Table 4.2**). **Table 7.1** shows the current available capacity of the two cemeteries and identifies the additional capacity each phase of the proposed cemetery improvements will provide (based on the noted assumptions below the table).

Based on this needs assessment, the current capacity in the cemeteries will provide the City with the necessary burial supply for the next 4 to 5 years and cremains supply for the next 10 years. The proposed cemetery upgrades will provide more than enough capacity to meet expected demand over the next 20 years. In 2037, the City's cemeteries are expected to still have capacity for an additional 804 burials and 2,411 cremains. Maintaining the same population projection assumptions in Section 4, the additional capacity supplied by the cemetery upgrades of this Master Plan will be near full occupancy by the year 2060.

7.2 Business Plan Introduction

The business plan includes an analysis of future revenues and costs, and projects cash flow accordingly. A primary goal of the business plan is to eliminate the sizable contribution that the City currently pays annually to operate the two municipal cemeteries. Many municipal cemeteries are self-funded and do not rely on contributions from general revenues. It has been assumed that capital improvements to the cemeteries will be financed by the City from other sources; therefore, the one-time costs associated with the proposed upgrades have not been factored into this financial analysis.



Table 7.1: Fort St. John Municipal Cemeteries Actual and Future Capacity

Phase	Service Type	Existing/Planned Quantity	Burial Capacity	Cremaains Capacity
Currently Available*	Full Plots	137 Plots	137	69
	Cremation Plots	226 Plots	--	339
	Columbaria Niches	177 Niches	--	236
Current Total			137	644
Phase 1	Full Plots	364 Plots	364	182
	Cremation Plots	171 Plots	--	257
	Columbaria Niches	288 Niches	--	384
	Green Burial Plots	40m ² allocated	40	--
	Scattering Garden	100m ² allocated	--	500
Phase 1 Total			404	1,323
Phase 2	Full Plots	193 Plots	193	97
	Columbaria Niches	78 Niches	--	104
	Green Burial Plots	122m ² allocated	122	--
Phase 2 Total			315	201
Phase 3	Full Plots	257 Plots	257	129
	Columbaria Niches	880 Niches	--	1,173
	Green Burial Plots	180m ² allocated	180	--
	Scattering Garden	22m ² allocated	--	110
Phase 3 Total			437	1,412
Phases Aggregate			1,156	2,936
Total (Existing + Phases)			1,293	3,580

*As of December 9, 2015
 Source: Analysis by Urban Systems

Assumptions

- 0.5 cremaains per full burial plot (average)
- 1.5 cremaains per cremation plot (average)
- 1/3 of columbarium niches have 2 cremaains
- 5 cremaains per m² in scattering garden
- cremaains capacity is listed for new burial plots only
- 1 green burial per m²

7.3 Revenues

Service Fees

Currently, the City’s cemeteries generate only a third of what is needed to cover annual costs. In order to reduce the contribution from general revenue or to achieve full cost recovery, the City will need to increase its cemetery fees. The key challenge will be how to do this while maintaining affordability for Fort St. John residents.

To help gauge the market, four communities were selected for a comparison of services, practices and charges. All four of the communities are in northern BC and are of a similar size to Fort St. John. **Table 7.2** provides a summary of the interment options and services offered by Fort St. John and the comparable communities. **Table 7.3** illustrates the comparison of fees in these communities.

Table 7.2: Interment Options and Services for Fort St. John and Comparable Communities

Interment Options and Services	Fort St. John	Dawson Creek	Grande Prairie	Terrace	Yellowknife
Rights of Interment:					
Full Plots	✓	✓	✓	✓	✓
Child Plots	✓	✓	✓	✓	✓
Cremation Plots	✓	✓	✓	✓	✓
Columbaria	✓	✓		✓	✓
Mausoleum					
Ossuary					
Religious Burial Sections			✓(Islamic)		
Veterans/Military Burial Section			✓		✓
Green Burial Section					
Scattering Gardens					
Double Plots					
Family Plots					✓
Max. Cremations (Full Plot)	6	4	6	4	1
Max. Cremations (Columbarium)	2	2	2	2	2
Other Services:					
Double Depth	✓		✓		
• Compulsory Grave Liners			✓		
• Monument Installations	✓	✓	✓	✓	
• Weekend/Holiday Interment	✓	✓	✓	✓	✓
• Perpetual Care	✓	✓	✓	✓	✓
• Disinterment	✓	✓	✓	✓	✓

Source: Relevant Municipal websites

Table 7.3: Residents Cemetery Fees for Fort St. John and Comparable Communities

Type of Interment	License	Open/Close	Weekend	Admin Fee	Total*
Infant/Child					
Grand Prairie	\$200	\$275	\$600	\$75	\$1,450
Dawson Creek	\$225	\$300	\$550	\$12	\$1,202
Terrace	\$170	\$720	\$525	\$45	\$1,462
Yellowknife	\$200	\$650	\$800	\$0	\$1,650
Average	\$199	\$486	\$619	\$33	\$1,441
Fort St. John- Current	\$140	\$250	\$400	\$0	\$850
Adult Plot					
Grand Prairie	\$400	\$600	\$600	\$75	\$2,375
Dawson Creek	\$345	\$575	\$575	\$12	\$1,622
Terrace	\$285	\$725	\$700	\$45	\$1,595
Yellowknife	\$280	\$650	\$800	\$0	\$1,730
Average	\$328	\$638	\$669	\$33	\$1,831
Fort St. John- Current	\$275	\$400	\$450	\$0	\$1,250
Cremation Plot					
Grand Prairie	\$250	\$300	\$300	\$75	\$1,175
Dawson Creek	\$175	\$145	\$575	\$12	\$1,022
Terrace	\$135	\$200	\$350	\$45	\$750
Yellowknife	\$120	\$350	\$515	\$0	\$985
Average	\$170	\$249	\$435	\$33	\$983
Fort St. John- Current	\$100	\$150	\$300	\$0	\$600
Columbaria (Average)					
Grand Prairie	\$350	n/a	n/a	\$50	\$350
Dawson Creek	\$460	\$175	\$575	\$12	\$1,337
Terrace	\$750	\$100	\$575	\$45	\$1,520
Yellowknife	\$120	\$350	\$515	\$0	\$985
Average	\$443	\$208	\$555	\$19	\$1,281
Fort St. John- Current	\$400	\$100	\$250	\$0	\$830
Markers/Memorials (Average)					
Grand Prairie	\$250				\$250
Dawson Creek	\$250				\$300
Terrace	\$150				\$265
Yellowknife	\$200				\$200
Average	\$213				\$316
Fort St. John- Current	\$150				\$200

* Total includes Care Fund Contributions

Source: Relevant Municipal websites

The City's fees for cemetery services are well below those in comparable communities. This suggests that the City could raise its rates while still maintaining affordability. However, even if the City raises its rates immediately to match the regional average, it will need to raise its rates further in the future to fully cover costs. **Table 7.4** shows how Fort St. John's service fee revenues in 2015 would have increased by 35% if the average regional fees had been in place.

Table 7.4: Fort St. John Service Fee Revenues (Current and with Fee Increase)

Type of Service Provided		2015 Service Quantity	Current Fees*	Regional Average Fees*
Interments				
	Burial Plots	17	\$400	\$600
	Cremaains in Plot	27	\$150	\$250
	Columbarium Niche	7	\$100	\$200
Reservations/Rights				
	Burial Plots	23	\$275	\$325
	Cremation Plot	11	\$100	\$170
	Columbarium Niche	8	\$450	\$500
Additional Services				
	Upright Memorials	15	\$400	\$400
	Memorial Settings	29	\$125	\$200
	Weekend Interment	13	\$400	\$550
	Total Revenue		\$37,400	\$50,645

*Does not include Care Fund Contributions

According to the City's cemetery bylaw, non-residents are charged higher fees than residents of Fort St. John. This aspect of the bylaw has not been enforced, partly because very few non-residents use the City's cemeteries. The separate non-resident fees add complexity without benefits.

In addition to the cemetery fees shown in **Table 7.3**, Fort St. John charges a Development Fund Fee for upright monuments, amounting to 25% of the cost of the monument. Given that many monuments cost upwards of \$50,000, this has resulted in a sizeable Development Fund fee that has been a surprise to many customers. Comparable communities do not charge a Development Fund fee.

Consultation with the funeral home in Fort St. John indicated that the costs of cemetery services are a deterrent for some families. The City could address these affordability concerns by offering a wider range of services, some of which would be less costly than those currently offered.

Other Revenue Sources

As the quality of the cemeteries improves and the range of services increases, the City will have opportunities to introduce new products and generate additional revenue. This could include the sale of flowers, biodegradable memorialization products, non-interment memorials, and commemoration cards. It could also include burial plots with planting areas that allow for some personalization (Section 8.1). Other municipal cemeteries also charge a small administration fee for the higher-quality service, such as requested genealogy research or wall plaque labour, provided at the given cemetery.

Marketing and advertising of cemetery services in Fort St. John is virtually nonexistent. These are essential components of any strategy or business plan designed to increase revenue and bolster ties with the community. An increased profile in the community often has a positive correlation with increased market share.

While a moderate increase in market share may result from the site improvements, this is not assumed in the projections at this time. Monitoring market share changes over time can help determine if the new strategies that have been implemented are successful.

Pre-need sales, purchases made by a family prior to a death, are especially valuable because other than recovering the cost of land and maintenance of that land, income is generated with little or no ongoing costs attached. Raising the quality and profile of the cemeteries can encourage more pre-need sales.

Cemetery Perpetual Care Fund

The cemetery Care Fund is set up for the care and maintenance of the cemetery for the time when operating revenues may no longer be available. This is a requirement of the Cemetery and Funeral Services Act in BC. Ideally, the Care Fund would grow large enough to generate enough interest to fund a significant portion of cemetery maintenance when revenues are no longer available.

As of December 31, 2015, the City's Care Fund stood at \$263,540. On average, \$12,500 has been contributed to the fund annually over the last four years. With declining returns on investment, the interest on the principal amount – currently \$4,000/year – would only pay for basic maintenance services. The Care Fund must grow if it is to fund a more appropriate level of cemetery maintenance.

7.4 Costs

The City incurs two types of costs related to its cemeteries:

- » One-time capital costs – these costs are investments in upgrades and expansion that occur once
- » On-going annual operating costs – these costs are related to the day-to-day operations of a cemetery

The cost estimates for capital improvements for the next 20 years are in **Appendix C**.

Operating costs for Fort St. John’s municipal cemeteries are driven primarily by staff salaries and benefits. The current complement of 1.2 FTEs (indoor and outdoor staff) is not sufficient to run the cemetery and to maintain it adequately (Section 8.3 and 9.2). Based on discussions with City staff, the business plan proposes a short-term increase in staff to 2.3 FTEs as outlined in **Table 7.5**. Additional FTEs are added for subsequent years as cemetery operations expand (maintaining about 26 interments per FTE throughout).

Table 7.5: Cemetery Staff Recommendations for Fort St. John

Cemetery Positions	2012-2016 Average (Actual Data)	2017-2021 Average	2022-2026 Average	2027-2031 Average	2032-2036 Average
Cemetery Clerk (Annual FTE)	0.2	0.5	0.7	0.9	1.1
Grounds Manager (Annual FTE)	0.1	0.1	0.1	0.1	0.1
Equipment Operator (Annual FTE)	0.3	1.0	1.0	1.0	1.0
Labourer (Annual FTE)	0.3	0.5	0.6	0.7	0.9
Groundskeeper/Gardener (Annual FTE)	0.3	0.2	0.2	0.3	0.4
Total Annual FTEs	1.2	2.3	2.6	3.0	3.5
Annual Interments	52	60	68	78	89
Interments per FTE	43	26	26	26	25

Source: City of Fort St. John with Analysis by Urban Systems

Operating costs per interment are expected to marginally increase over the next 20 years as additional operational staff are added and salaries rise (**Table 7.6**). Additional resources may be needed for marketing and have not been included in these projections; some of this could be covered by the increased role of the clerk.

Equipment costs form part of operating costs. The equipment used in the cemeteries is City-owned, and costs of the equipment are based on an amortization of the fleet, approximately \$44,000 annually over the last four years. Operations staff are generally satisfied with their mowing and other equipment; there are plans to purchase a mini-excavator for about \$100,000 in the near future. Projected annual equipment costs gradually increase over time based on the increase in interments and expansion of the cemeteries.

Table 7.6 provides a projection of operating costs, with assumptions noted below.

Table 7.6: Cemetery Operating Cost Projections for Fort St. John

Category	2012-2016 Average (Actual Data)	2017-2021 Average	2022-2026 Average	2027-2031 Average	2032-2036 Average	20-Year Average
Staff Salaries & Benefits	\$108,000	\$208,000	\$242,000	\$280,000	\$325,000	
Equipment	\$44,000	\$47,000	\$54,000	\$63,000	\$73,000	
All Other Expenses	\$2,000	\$2,000	\$3,000	\$3,000	\$4,000	
Total Annual Operating Costs	\$154,000	\$257,000	\$299,000	\$346,000	\$402,000	\$326,000
Annual Interments	52	60	68	78	89	74
Operating Costs per Interment	\$2,973	\$4,283	\$4,384	\$4,447	\$4,507	\$4,417

Source: City of Fort St. John Cemetery Financial Statements (2012-2016) with Analysis by Urban Systems

Assumptions

3% Increase in annual operating costs to account for inflation and gradual staff increases

\$90,000 in salary/benefits per FTE

26 Interments per FTE

7.5 Financial Projections

Revenue Projections

Cemetery service fees will need to be raised to cover operating costs. The analysis shows that fees will need to be increased to the regional average in 2017, and by 45% every five years thereafter to break even by 2037. Cemetery staff do not think it is realistic to increase fees more frequently due to the administrative effort and public perceptions. **Table 7.7** identifies the first two stages of fee increases needed to become completely self-funded by 2037. Analysis was also completed for a break-even scenario by 2026, but it would require an annual increase in fees of 15% which we believe is unreasonable.

As discussed in Section 7.2, fees should be set on new products that are introduced at the two cemeteries as they come online. Which and when new products will be introduced has yet to be determined by the City; as a result, this has not been included in these projections.

Table 7.7: Proposed Fees to Meet Break-even Time Frames

Current Service	Current Fees	2017 Proposed Fees*	2022 Proposed Fees under the 2037 Break-Even Scenario (Increase from 2017)
Interment - Open & Close			
Infant Plot	\$200	\$300	\$435 (45%)
Child Plot	\$250	\$300	\$435 (45%)
Adult Plot	\$400	\$600	\$870 (45%)
Cremation Plot	\$150	\$250	\$360 (44%)
Columbarium Niche	\$100	\$200	\$290 (45%)
Double Depths	\$400	\$400	\$580 (45%)
Green Burial	--	\$450	\$650 (44%)
Scattering	--	\$150	\$220 (47%)
Weekends	\$400	\$550	\$800 (45%)
Reservation/License			
Infant Plot	\$110	\$175	\$260 (44%)
Child Plot	\$140	\$175	\$260 (44%)
Adult Plot	\$275	\$325	\$475 (44%)
Cremation Plot	\$100	\$170	\$245 (44%)
Columbarium Niche	\$400	\$450	\$725 (45%)
Double Depths	\$400	\$500	\$725 (45%)
Green Burial	--	\$250	\$365 (46%)
Additional Services			
Upright Memorial	\$400	\$400	\$580 (45%)
Monument Setting	\$150	\$200	\$290 (45%)

Source: 'Fort St. John Cemetery Regulation and Maintenance Amendment Bylaw' with Analysis by Urban Systems

*Current Regional Average Fees

Care Fund Projections

The objective of Care Fund projections is to identify a certain principal amount in the Care Fund that would allow the interest earned on the principal to reasonably cover a minimum standard of annual cemetery maintenance at the time when operating revenues slow or stop altogether.

With the population projection assumptions in Section 4, it is expected that the proposed design's capacity will be filled by the year 2060. By 2060, the Care Fund will have a principal amount of \$2,575,000, generating \$38,000 in earned interest annually (based on an annual interest rate of 1.5%).

As this earned interest alone is unlikely to fund one full-time groundskeeper, the total FTE expected by the City to be required to adequately maintain the two cemeteries, additional City resources may be necessary to support any salary differences. Given that the cemeteries will continue to be used as park space after interments cease, it is reasonable to consider that the City may need to fund maintenance beyond what is available through the Care Fund interest. Assuming that one FTE is needed to maintain the cemeteries in the long term, the Care Fund will generate enough annual interest to cover 15% of the minimum required maintenance costs by 2037 and 45% of the costs by 2060.

Table 7.8 shows the Care Fund fees under the 2037 break-even scenario, assuming they are set at 40% of the right of interment fee (40% of the installation fee for upright memorials and flat markers). Under the 2037 break-even scenario, the City's Care Fund would grow to approximately \$775,000 by 2037 and to \$2,575,000 by 2060.

Table 7.8: Municipal Cemetery Care Fund Fee Schedule - Break Even by 2035 Scenario

Current Service	Current Care Fund Fees	2017 Proposed Fees	2022 Proposed Care Fund Fees under the 2037 Break Even Scenario (Increase from 2017)
Care Fund- Resident			
Infant Plot	\$60	\$70	\$210 (300%)
Child Plot	\$60	\$70	\$210 (300%)
Adult Plot	\$125	\$130	\$390 (300%)
Cremation Plot	\$50	\$70	\$210 (275%)
Columbarium Niche	\$80	\$180	\$600 (300%)
Double Depths	\$200	\$200	\$600 (300%)
Green Burial	\$0	\$100	\$300 (300%)
Scattering	\$0	\$0	\$0
Upright Memorial	\$200	\$160	\$480 (300%)
Monument Setting	\$45	\$80	\$240 (300%)
Cemetery Care Fund	\$263,540		\$776,569**

*Assume care fund fee charged is 40% of Reservation Fee and 40% of memorials installation cost

** Care Fund Balance in the year 2037

Budget Cash Flow Projections - Break Even in 2037 Scenario

The cash flow, excluding capital expenditures, is projected to remain in a deficit for the first 20 years in this scenario of breaking even by 2037 (Tables 7.9 and 7.10).

These projections do not include potential revenue sources such as memorial benches/trees, increased fees for cremains interment in full plots and administration fees. They also do not include potential new funding sources such as grants or potential revenue from offering new product options (other than sales from green burial and scattering gardens).

Table 7.9: Budget Cash Flow Projections Break Even by Year 2037*

Year	Total Revenue	Total Expenditures	Net Surplus(Deficit)
2012	\$51,562	\$150,188**	-\$98,626
2013	\$44,497	\$156,554**	-\$112,057
2014	\$49,306	\$144,821**	-\$95,515
2015	\$58,111	\$165,120**	-\$107,000
2016	\$60,000	\$169,000	-\$109,000
2017	\$68,000	\$242,000	-\$174,000
2018	\$70,000	\$250,000	-\$180,000
2019	\$71,000	\$257,000	-\$186,000
2020	\$73,000	\$265,000	-\$192,000
2021	\$75,000	\$273,000	-\$198,000
2022	\$109,000	\$281,000	-\$172,000
2023	\$111,000	\$290,000	-\$179,000
2024	\$114,000	\$298,000	-\$184,000
2025	\$117,000	\$307,000	-\$190,000
2026	\$120,000	\$316,000	-\$196,000
2027	\$175,000	\$326,000	-\$151,000
2028	\$179,000	\$336,000	-\$157,000
2029	\$184,000	\$346,000	-\$162,000
2030	\$188,000	\$356,000	-\$168,000
2031	\$193,000	\$367,000	-\$174,000
2032	\$283,000	\$378,000	-\$95,000
2033	\$290,000	\$389,000	-\$99,000
2034	\$298,000	\$401,000	-\$103,000
2035	\$305,000	\$413,000	-\$108,000
2036	\$313,000	\$425,000	-\$112,000
2037	\$460,000	\$438,000	\$22,000

* Assuming an initial fee increase to meet regional average and 45% increase of fees every five years starting in 2022; annual 3% increase in operating costs over same period

** Full 1.2 FTE salaries included beyond what is stated on Cemeteries' 2012-2015 Financial Statements

Table 7.10: Budget Cash Flow Projections to Break Even by Year 2037

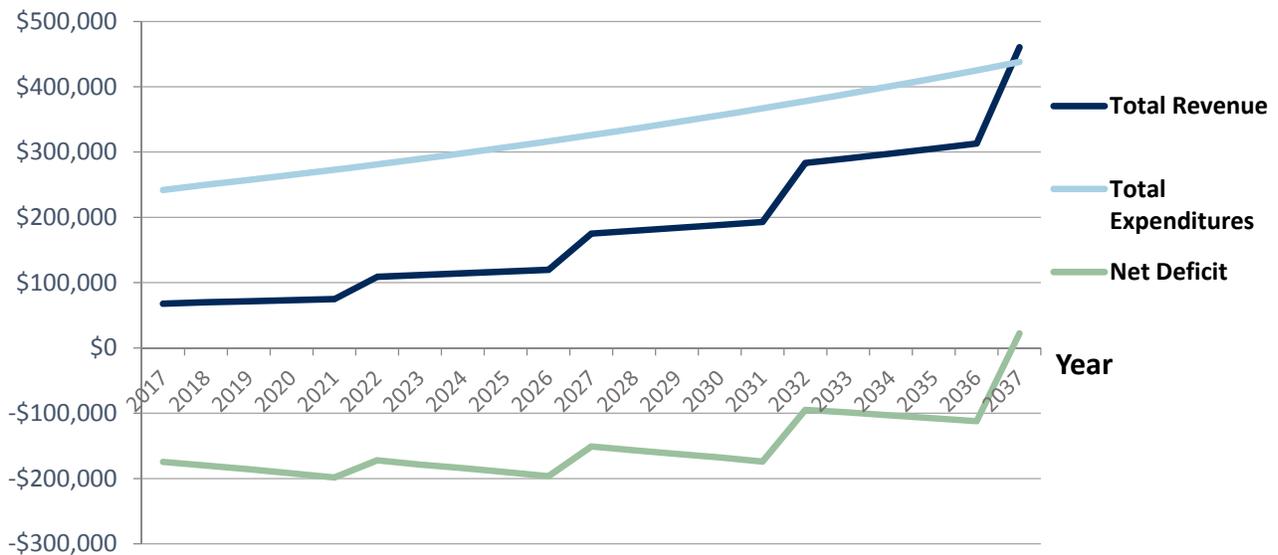


Table 7.11 summarizes the total deficit that would accumulate over the 2017 to 2036 period given the revenue and cost assumptions discussed previously. For capital improvements, which are not included in these projections, the City will need to rely on revenue sources other than those generated by cemetery service fees.

Table 7.11: Aggregate Budget Deficit for Fort St. John with 2037 Break Even Scenario

Summary (2017-2036)	
	Break even by 2037
Total Revenue	\$3,337,000
Total Expenses	\$6,516,000
Total Deficit	\$3,179,000

7.6 Business Plan Recommendations

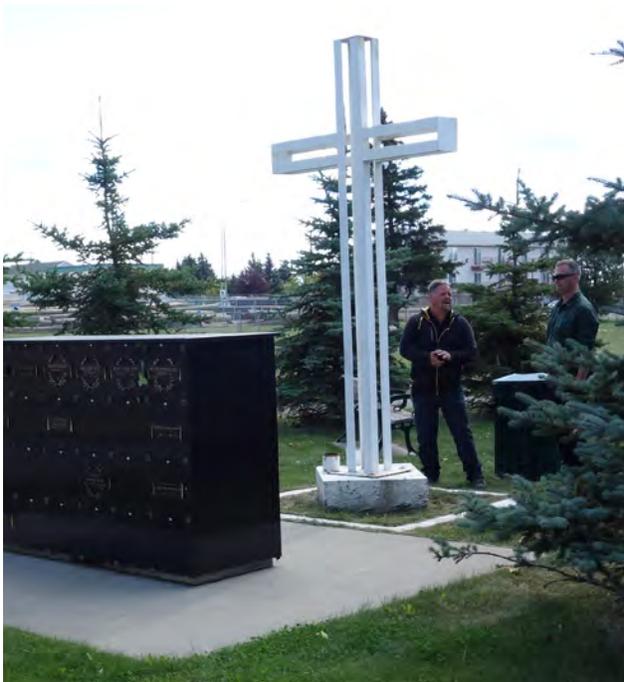
Revenues

- » Increase cemetery service fees in 2017 to be consistent with the fees of comparable cemeteries.
- » Increase cemetery fees up to 45% every five years, depending on the City’s interest in or desired rate of achieving full cost recovery, fees in comparable cemeteries, actual revenues and costs, and affordability for Fort St. John residents.

- » Remove non-resident fees from the bylaw.
- » Revise the Care Fund fees to 40% of all right of interment (license) and tablet and monument setting fees.
- » Remove the current Development Fund fee.
- » Establish fees for new products introduced at the cemeteries as they come online, e.g., genealogy research, memorial plaques.
- » If the City decides to implement a planting strip option adjacent to monuments (Section 9.1), which is expected to be costlier to maintain, consider further increasing the Care Fund fees for that portion of the cemetery.
- » Develop appropriate marketing strategies such as annual newsletters, on-site events, and improvements to the City's cemetery webpage, to increase the profile of the cemetery in the community and to encourage pre-need sales.

Costs

- » Increase staff to 2.3 FTEs over the next five years
- » Increase staff beyond that time based on a guideline of approximately 26 interments per FTE



8. Organization Plan

8.1 Regulations and Bylaws

Provincial Regulations

Cemetery services in Fort St. John are guided generally by the *BC Business Practices and Consumer Protection Act*, the *Cremation, Interment and Funeral Services Act*, and the *Cremation, Interment and Funeral Services Regulations*. Together these Acts govern the licensing requirements and conduct of businesses and persons that provide funeral service and direction in the Province of BC. The City's cemeteries operate according to the legislation and best practices, and staff work with Consumer Protection BC regarding compliance.

Municipal Bylaws

At the local level, more specific regulations are contained in the City's Cemetery Regulation and Maintenance Bylaw No. 1333, 1997. The municipal bylaw establishes the locations, regulations, fees and administration for cemetery services.

The following are some of the regulations contained within the City's bylaw:

- » A second interment of cremated remains is permitted in a grave space, in a half grave, in a columbarium niche, in a cremation plot and in a previously used plot as a second space
- » Interments of cremated remains shall be in a container encased in concrete not less than 4 cm thick
- » Tablet memorials shall be granite or bronze
- » Memorial tablets shall have their top surface set level and flush with the surface of the surrounding ground
- » Upright memorials in non-designated areas of all City cemeteries may be considered on an individual basis upon written application and, should the application be denied by the City Manager, the person applying has the right to appeal to Council
- » Upright memorial will have a minimum thickness to height ratio of 0.13 on a concrete base set flush with the ground, maximum size in any direction 1 metre, and constructed of concrete, granite or bronze, or other material approved in writing by the Director of Engineering
- » Cut flowers, wreaths and floral offerings may be placed on graves or at the base of columbaria, but may be removed by the caretaker when their condition is considered by him to be detrimental to the beauty of the cemetery
- » Containers flush with the level of the surrounding ground for holding cut flowers will be permitted and at the base of columbaria

- » No grave or grave space in the cemetery shall be defined by a fence, hedge, or railing, coping, wire screen, arbours, trellises, curbing or by other markings, except by a memorial, marker or tablet, as set out in this Bylaw
- » The care, maintenance and improvement of all grave spaces within the cemetery shall only be performed by employees of the City
- » All trees and shrubs in the cemetery and all other improvements made to the site shall be the property of the City
- » The City will not be responsible for articles placed on grave spaces
- » No person shall undertake or execute any work of a permanent nature in connection with the beautifying, improving or caring for any grave spaces, nor shall any person trim, plant, prune or remove any part of any tree, shrub or plant in the cemetery

Analysis

Consumer Protection BC conducted an inspection in Fort St. John in October 2015 to check the City's compliance with provincial regulations for funeral services. The inspector identified the following contraventions:

- » A price list of rates was not displayed to members of the public
- » There was not a single, independent and complete interment services contract that includes the services to be provided, terms of payment, and cancellation policy
- » There was not a pre-need cemetery or funeral services contract initial disclosure statement or a pre-need cemetery or funeral services contract that includes mention of the pre-need trust, required money to be deposited, policy regarding storage of cremated remains, and space for written acknowledgement by the consumer that they had received this information
- » There was not an interment right contract including information regarding a consumer's right to a refund or the amount refunded if the right of interment is not exercised, or information regarding the circumstances in which the supplier may reclaim a right of interment
- » Interment records were not complete, and many contracts did not contain the name and address of a person who had a kinship to the deceased, written authorization from the Section 5 individual, and copies of burial permits
- » Best practices are to provide training and information to municipal staff. Consumer Protection BC will provide advice and sample contracts, the latter of which should be reviewed by municipal lawyers. The BC Funeral Association provides courses and resources for cemetery operators

There are a number of areas in which the existing City bylaw is not being enforced. The following paragraphs identify and discuss those areas.

Number of Interments per Plot

The City is allowing up to six interments of cremated remains in addition to a full burial within a burial plot. While this is an efficient use of space, many families are selecting this option rather than purchasing a cremation plot or niche as it saves them money. The City is losing potential revenue as a result.

Interments of Cremated Remains Enclosed in Concrete

This provision in the bylaw is not being implemented. Requiring enclosure in concrete may help in retaining a level ground surface; however, this use of concrete is not consistent with environmental sustainability.

Upright Memorial

Upright memorials have become the common practice in the City's cemeteries. Contrary to the bylaw, each application for an upright memorial is not being reviewed by the City Manager. There are examples in both cemeteries of the maximum monument dimensions being exceeded and of the specified materials not being used. This establishes a precedent and makes it more difficult to enforce the bylaw.

Grave Adornments

There are numerous examples of bylaw infractions related to grave adornments. Most of the prohibited adornments can be found in the cemeteries. While it is understood that families want to personalize graves as part of their grieving process, the adornments make it more difficult to maintain the cemetery, they can make the cemetery appear cluttered and unkempt, and they can pose safety risks to cemetery visitors and maintenance staff, e.g., broken glass, tripping hazards. The precedent of adornments occurring makes it more difficult to enforce the bylaw.

In the cemeteries of larger municipalities, there are typically rules against grave adornment, and these are enforced. There are cemeteries that make allowances for some personalization through a standard planting strip or allowing flowers attached to monuments with a small holder.

Maintenance of Grave Adornments

The bylaw prohibits maintenance within the cemetery by anyone except City employees, yet some of the adornments such as plants require maintenance. While some families visit often and care for the adornments they place on graves, it is common for these adornments to be neglected. Due to the personal nature of these expressions, City staff are in a difficult situation balancing the need to respect the interests of families with the need to keep the cemeteries looking tidy and attractive.

8.2 Other City Policies and Plans

Memorials Policy

The purpose of the City's Memorial Policy is to provide guidelines which allow citizens the opportunity to purchase items to enhance public parks and open spaces in memory of an individual. Contributions may include trees, benches or picnic tables. The donor is responsible for the cost of the item, installation costs and any on-site recognition such as plaques. The City maintains the items, but does not replace them if they have deteriorated beyond repair or are damaged due to theft or vandalism.

There are a number of memorial benches in Fort St. John Cemetery. These include older style benches made of metal and wood, and newer benches with perforated metal seats and stainless steel plaques. There are also two types of trees that can be purchased as memorials.

The Memorials Policy appears to be working well in general. There is an opportunity to expand the memorial tree program, and to include memorials within the cemeteries. It is important to be clear that there may be a time limit on the life of benches, and to have a policy that addresses the failure of a tree to thrive or survive. Any new hard landscape elements need to be consistent with the designs of the cemeteries. The fees for memorial objects are not sufficient to allow for maintenance of these items over time.

Other City Plans

The City is planning to prepare a Parks and Recreation Master Plan that will integrate and update previous plans on parks, trails and recreation facilities. There are opportunities to recognize the recreation and landscape values of the cemeteries in the new plan and to have these sites linked into the trail and open space network. The trail connections could also be recognized in the City's Master Transportation Plan.

The City is also beginning a process to update its Official Community Plan (OCP). The cemeteries are currently designated Institutional. There is an opportunity to recognize the parks and recreation values of the cemeteries in the OCP, consistent with the Parks and Recreation Master Plan, and also to link the cemeteries with the cultural resources and history of the City.

8.3 Human Resources and Administration

Existing Human Resources and Administration

The two cemeteries in Fort St. John are managed by the Community Services Department. The Director of Facilities and Grounds is responsible for maintenance of the sites. The following are the current human resource allocations to cemetery management:

- » Clerk III, Community Services – 0.2 FTE
- » Grounds Manager – 0.1 FTE
- » Equipment Operator 2 – 0.3 FTE
- » Labourers – 0.3 FTE
- » Seasonal Labourers – 0.3 FTE

For cemetery services, the following are the person hours required:

- » Exhumation – 2 to 4 hours
- » Cremation service – 1 to 2 hours
- » Full burial service – 1.5 to 2 hours (plus 0.5 hours set-up)
- » Headstone and monument setting – 1 to 2 hours

The cemetery clerk manages all transactions and enters data into accounting software that has a module for cemetery transactions. Only the clerk can access the software.

There is one funeral home in Fort St. John. Families can make all of their arrangements with the funeral home, in which case the funeral home contacts the City for cemetery services. Alternatively, families can go directly to the City.

Analysis

The software that the City uses is not customized for cemetery use. With staff turnover, there have previously been some inconsistencies in data entry. The software is also limited in that it has no capacity to interact with a map of plots, nor does it allow for the incorporation of photographs of monuments. Dedicated software can also support research in genealogy, which is a growing area of interest.

Making cemetery arrangements directly with families can be a challenge for City staff. The municipal hall does not have a private space for meeting families and the clerk does not have training in bereavement care. There is currently no system encouraging and enabling families

to make appointments to see the clerk; website information and on-line and telephone booking systems could facilitate this.

City staff has indicated that they do not have the capacity to administer or maintain the cemeteries to an appropriate standard, which would involve weekly mowing, daily inspection and litter removal, maintenance of memorials, and general aesthetic upkeep. The following is a recommended staff allocation to manage the existing cemeteries:

- » Equipment Operator 2 – 1 FTE
- » Labourer – 0.5 FTE
- » Grounds Manager – 0.1 FTE
- » Seasonal Labourers – 0.2 FTE
- » Clerk III, Community Services – 0.5 FTE

8.4 Maintenance and Operations

Normal maintenance of the two cemeteries involves weekly mowing, trimming, litter removal and weeding. Approximately 16 hours per week is spent in each cemetery on these tasks.

The equipment dedicated to cemetery services includes two lowering devices, one pick-up mower, one push mower, two weed-eaters, and a squeeze lift for headstones. The crew also has access to a bobcat excavator and a tandem truck with a box as needed.

The cemeteries are currently available for public use at any time as there are no locked gates.

Analysis

Cemeteries receive a wide variation in the level of maintenance. In general, prominent and private cemeteries in urban areas are maintained to a higher level, resulting in a more pristine landscape and higher operating costs. Cemeteries in small towns typically have a lower level of maintenance, with less frequent mowing and less control over personalization of plots.

Fort St. John's cemeteries are in transition. As the City grows, there are expectations for a higher level of maintenance in the cemeteries. Currently, the grass is mowed, and trimming around headstones and monuments takes place.

Fort St. John Cemetery has some unique maintenance challenges. The poplars are aging and unhealthy, posing risks of breaking during strong winds or storms, and tripping hazards due to the extensive roots at the surface crossing grass areas and lifting asphalt. The spruce trees planted more recently are struggling to survive.

There are also challenges with monuments that are flush with the ground surface. To prevent these from being overgrown, staff installed pea gravel surrounds. This has helped to manage the weeds; however these areas are difficult to maintain and the gravel can pose a risk during mowing. These conditions, combined with older infrastructure and vandalism, give this cemetery an impression of being inadequately maintained.

The primary challenge at the Woodlawn Cemetery is the poor drainage. In the most recent section to be opened for burials, there is standing water for several weeks in the spring. Due to the saturated heavy clay soils, graves have collapsed during excavation, causing the need for pumping and redigging. There are also locations in the cemetery where the grass is in poor condition, likely because of standing water during some periods and drought at other times.

Many cemeteries are available for visitation at any time. This accommodates a wide range of community needs. Should the City experience problems related to this, gates that are open during daylight hours only could be considered to deter vehicular access at night. Just like any other City park, it is appropriate to allow pedestrian access at any time.

8.5 Organization Plan Recommendations

Regulations and Bylaws

- » Provide more training and information to cemetery administration staff.
- » Revise the City bylaw to allow up to six interments of cremated remains in addition to a full burial within a burial plot, and revise the cemetery fees to include a price for each interment that is in addition to the first two interments of cremated remains and/or full burial.
- » Remove the provision in the bylaw requiring buried cremated remains to be in a container encased in concrete.
- » Revise the bylaw to allow upright memorials anywhere in City cemeteries with all monuments to be approved in advance by City staff for consistency with the bylaw.
- » Enforce the maximum size and specified materials of upright memorials in all future transactions, requiring removal of any new memorials that are noncompliant. (As part of this, “grandfather” the noncompliant upright memorials that are already in place).
- » Consider the following as optional approaches to grave adornments, conduct consultation in the community to determine the preferred approach, and revise the bylaw and practices accordingly, (Any of the options below are applicable to Woodlawn Cemetery; only options 1 through 3 are applicable in Fort St. John Cemetery).

1. Enforce the existing bylaw and remove all grave adornments, providing as much advance notice of this through letters and signs at the cemeteries as possible.

This approach would provide the “cleanest” appearance and the least maintenance, but it would not allow for personalization and some consider this approach lacking in character.

2. Revise the bylaw to allow adornments of a maximum dimension that are permanently attached to the tablet or monument so that there is no intrusion beyond the maximum dimensions of the tablets or monuments as stated in the bylaw, with a slight increase in Care Fund fees for those plots. An example might be a bracket on the monument within which flowers or mementoes could be placed.

This approach would still provide a fairly clean appearance on the ground surface and there would be some personalization, but there would be a slight increase in maintenance and challenges administering adornments to comply with this regulation and removing adornments that become unsightly or unsafe, e.g., dead flowers, broken mementoes.

3. Revise the bylaw to allow a space of a defined dimension immediately in front of the upright memorial anywhere in the cemetery, along with guidelines on what can be placed within that space (e.g., low maintenance plants), with additional Care Fund fees for those plots.

This approach would provide for more personalization and more character in the cemetery, but there would be a significant increase in maintenance, inconsistency from one plot to the next, and challenges administering compliance with this regulation.

4. Establish a new section in Woodlawn Cemetery with a continuous planting strip of a specified dimension in front of upright memorials, allowing families to select low-maintenance plants from a list, with higher Care Fund fees for this portion of the cemetery.

This approach would provide for more personalization and more character in a portion of the cemetery, but there would be a significant increase in maintenance.



Other City Policies and Plans

- » Revise the Memorials Policy to allow more tree species, to mention the cemeteries as locations for memorials, and to allow other types of memorials in the cemeteries (e.g., paving stones as mentioned elsewhere). Adjust the memorial fees to include maintenance, and clarify on the application form that replacement is not included. Add to the Memorial Application Form qualifications related to the life span of memorial benches, and the potential failure of a tree to thrive or survive. Implement the policy to ensure that any new hard landscape elements in the cemeteries are consistent with the designs.

Other City Plans

- » In the new Parks and Recreation Master Plan, recognize the recreation and landscape values of the cemeteries and plan to these sites into trail and open space networks.
- » In the updated Official Community Plan (OCP), recognize the parks and recreation values of the cemeteries, consistent with the Parks and Recreation Master Plan, and also link the cemeteries with the cultural resources and history of the City.

Human Resources and Administration

- » Purchase a cemetery software program to increase the efficiency and breadth of record keeping for the cemetery operations, e.g. Stone Orchard, Axiom CMS, Pontem.
- » Enhance the capacity of the City to deal directly with families through training of the cemetery clerk and provision of a suitable space for family meetings.
- » Establish a system through which those requiring cemetery services can book an appointment with the clerk.
- » Increase operations staff over time as the cemetery service increases in size (see business plan).

Maintenance and Operations

- » Remove poplars and spruce from Fort St. John Cemetery and replace with more appropriate species (Section 5).
- » Phase out the use of pea gravel around tablet memorials, reverting to regular maintenance practices to keep tablets from becoming overgrown (Section 5).
- » As part of the renovation of Fort St. John Cemetery, restore grass by levelling, overseeding, and fertilizing as needed (Section 5).
- » Improve drainage at Woodlawn Cemetery (Section 6).

9. Implementation Plan

9.1 Next Steps

The City of Fort St. John has interest in obtaining community input into the Cemeteries Master Plan. The City particularly wants input on the following items:

- » Concept plans for both cemeteries
- » Interest in green burial
- » Options for grave adornments
- » Openness to fee increases in association with higher levels of service
- » Potential role and future uses of the St. Martin’s Anglican Church Cemetery

The City intends to conduct community engagement in 2016, which could result in the need to amend the Cemeteries Master Plan.

9.2 Phasing and Cost Summary

The recommendations of the Cemeteries Master Plan are located throughout this report, with a full list in the Executive Summary. Many of the recommendations are to be implemented internally by City staff, without new funding required.

The key items that involve new costs are the capital development required to improve and expand the cemeteries, and the increased staffing needed. Those are summarized in **Table 9.1**.

Table 9.1 Fort St. John Municipal Cemeteries Implementation Plan

Category	Implementation Recommendation	Estimated Cost Years 2017 - 2026	Estimated Cost Years 2027 - 2031	Estimated Cost Years 2032 - 2036	Funding Source
Cemetery Improvements and Expansion	Phase 1	\$1,204,000			General Revenue
	Phase 2		\$925,000		
	Phase 3			\$885,000	
	Record Software System	\$8,000	\$2,000	\$2,000	
Staffing (does not include costs for existing staff)	Add 1.1 FTE between 2017 - 2021	\$1,010,000	\$514,000	\$567,000	Cemetery Revenue
	Add 0.3 FTE between 2022 - 2026	\$140,000	\$154,000	\$170,000	
	Add 0.4 FTE between 2027 - 2031		\$187,000	\$206,000	
	Add 0.5 FTE between 2032 - 2036			\$232,000	
Total Cost Estimates		\$2,362,000	\$1,782,000	\$2,062,000	

Notes:

- » For cemetery improvements, Phase 1 to 3 costs are provided in more detail in **Appendix C**.
- » For staffing, FTE costs are based on a starting salary of \$90,000 per FTE and are the accumulated amount over the given period (e.g., the \$1,010,000 under the 'Estimated Cost Years 2017 - 2026' column is for a 10 year period). These costs are assuming the added FTE begins in the first year of each period, and costs are increased by 2% annually to account for inflation. They can be decreased by deferring the addition of FTEs.

9.3 Monitoring

The Cemeteries Master Plan is based on multiple projections and assumptions, as it is impossible to predict the complex trends that affect cemetery planning. It is therefore critical that the progress of cemetery operations be monitored over time, and adjusted as needed.

Recommendations

- » During annual planning, review trends, revenues (service and care fund fees), costs, staffing, and their implications over the past year, and set annual service fees accordingly.
- » Conduct a more comprehensive review of all aspects of cemetery operations every five years.

9.4 Concluding Statement

The cemeteries in Fort St. John have the opportunity to be important and valued locations in the community. This Master Plan identifies ways to improve the sites so they are like parks with spiritual, cultural and historical attributes. The Master Plan also identifies ways to run the municipal cemetery business in such a way that it shifts gradually towards a sustainable financial model with revenues covering operating costs.

APPENDIX A: Population, Mortality and Interment Trend Analysis

Table A.1: Population and Mortality Rates

City of Fort St. John				
Year	Population	Pop Change (Y over Y)	Total Deaths	Death Rate per 1000 People
2005	17,781		69	
2006	18,270	2.8%	99	5.4
2007	18,774	2.8%	99	5.3
2008	18,760	-0.1%	98	5.2
2009	19,457	3.7%	96	4.9
2010	19,873	2.1%	107	5.4
2011	20,408	2.7%	95	4.7
2012	20,992	2.9%	133	6.3
2013	21,523	2.5%	141	6.6
2014	22,000	2.2%	150	6.8
2015	22,488	2.2%	155	6.9
2016	22,982	2.2%	161	7.0
2017	23,488	2.2%	164	7.0
2018	24,005	2.2%	168	7.0
2019	24,533	2.2%	172	7.0
2020	25,072	2.2%	176	7.0
2021	25,624	2.2%	179	7.0
2022	26,188	2.2%	186	7.1
2023	26,764	2.2%	190	7.1
2024	27,353	2.2%	194	7.1
2025	27,954	2.2%	198	7.1
2026	28,569	2.2%	203	7.1
2027	29,198	2.2%	213	7.3
2028	29,840	2.2%	218	7.3
2029	30,497	2.2%	223	7.3
2030	31,168	2.2%	228	7.3
2031	31,853	2.2%	233	7.3
2032	32,554	2.2%	244	7.5
2033	33,270	2.2%	250	7.5
2034	34,002	2.2%	255	7.5
2035	34,750	2.2%	261	7.5
2036	35,515	2.2%	266	7.5
2037	36,296	3.0%	283	7.8

Source: BC Stats (Population) and BC Vital Stats (Total Deaths) with Population Projections based on City of Fort St. John 50-Year Growth Plan (Urban Systems); projections shaded in blue

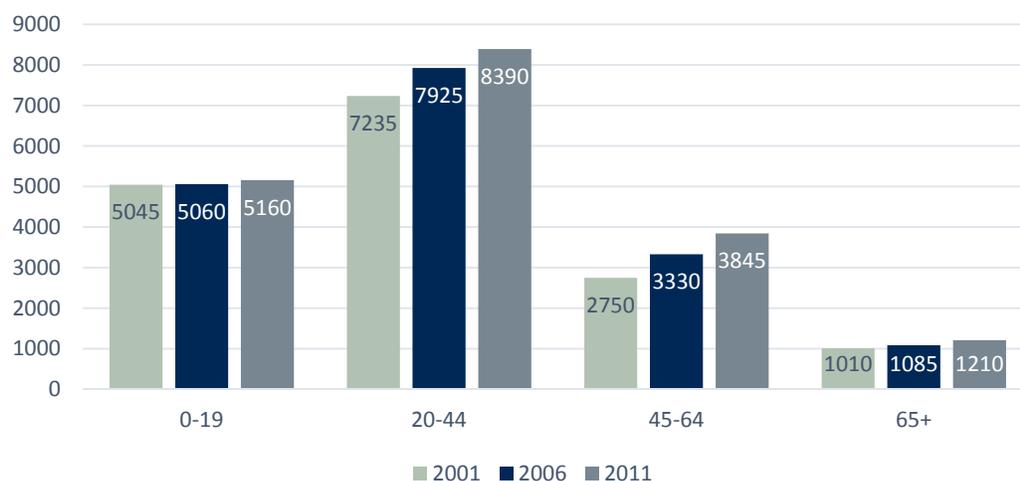
The population of Fort St. John has experienced significant growth over the past 15 years, primarily due to industrial activities resulting from oil and gas based exploration and extraction. In recent years, Fort St. John has been among BC's fastest growing communities. In 2001, Fort St. John's population was 16,419, and it grew to 17,906 in 2006, an approximate increase of 9%, and further to 19,375 in 2011, an increase of about 8.2%.

Recently, the City has experienced another period of accelerated growth, with an average growth rate per year of 3.6% from 2011 to 2014. In 2013, BC Stats recorded Fort St. John's population to be 21,523, an increase of 4.7% from the previous year.

The City of Fort St. John recently had population projections conducted for the City's 50 Year Plan (**Table A.1**). There are two estimated growth scenarios (medium and accelerated) from 2017 to 2037. The City's population will grow to 36,296 by 2037 based on the medium growth assumption or to 50,120 with the accelerated growth scenario.

Fort St. John is one of the youngest communities in British Columbia (**Figure A.3**). The 2011 Census recorded the median age of Fort St. John residents to be 30.6 years, compared to the provincial median age of 41.9. In addition to the high population of young people, the City has witnessed a slight increase in its population of seniors since 2001. The percentage of Fort St. John residents aged 65 or older increased from 6.2% (or 1,010) in 2001 to 6.5% (1,210) in 2011. The City is also experiencing high growth of the 45 to 64 age group, which increased by approximately 40% from 2001 to 2011. The growth of this age group means that the City will likely face a significant increase in its population of seniors within the next 10 to 20 years as this portion of the population ages.

Figure A.2: Fort St. John Population by Age-Group 2001-2011



Source: Statistics Canada

Table A.3: Interment Market Share Rates

City of Fort St. John			
Year	Total City Deaths	FSJ & Woodlawn Interments	% of Interments to Deaths
2005	69	46	66.7%
2006	99	55	55.6%
2007	99	57	57.6%
2008	98	62	63.3%
2009	96	56	58.3%
2010	107	70	65.4%
2011	95	53	55.8%
2012	133	59	44.4%
2013	141	41	29.1%
2014	150	51	34.0%
2015	155	51	32.9%
2016	161	56	35.0%
2017	164	58	35.0%
2018	168	59	35.0%
2019	172	60	35.0%
2020	176	61	35.0%
2021	179	63	35.0%
2022	186	65	35.0%
2023	190	67	35.0%
2024	194	68	35.0%
2025	198	69	35.0%
2026	203	71	35.0%
2027	213	75	35.0%
2028	218	76	35.0%
2029	223	78	35.0%
2030	228	80	35.0%
2031	233	81	35.0%
2032	244	85	35.0%
2033	250	87	35.0%
2034	255	89	35.0%
2035	261	91	35.0%
2036	266	93	35.0%
2037	283	99	35.0%

Source: BC Stats (2010-2014) and Peace River North Local Health Authority (2005-2009)

* Baseline & Accelerated Deaths brought over from Pop & Mortality Rates Table; projections shaded blue

APPENDIX B: Projected Needs Analysis

Table B.1: Burial and Cremation Market Share

Fort St. John Municipal Cemeteries					
Year	Interments	Actual & Projected Burial	Actual & Projected Cremation	Actual and Projected Burials	Actual and Projected Cremation
2005	46	50.0%	50.0%	23	23
2006	55	53.0%	47.0%	29	26
2007	57	42.0%	58.0%	24	33
2008	62	44.0%	56.0%	27	35
2009	56	39.0%	61.0%	22	34
2010	70	50.0%	50.0%	35	35
2011	53	32.0%	68.0%	17	36
2012	59	46.0%	54.0%	27	32
2013	41	39.0%	61.0%	16	25
2014	51	37.0%	63.0%	19	32
2015	51	33.3%	66.7%	17	34
2016	56	33.0%	67.0%	19	38
2017	58	33.0%	67.0%	19	39
2018	59	33.0%	67.0%	19	39
2019	60	33.0%	67.0%	20	40
2020	61	33.0%	67.0%	20	41
2021	63	33.0%	67.0%	21	42
2022	65	31.5%	68.5%	20	45
2023	67	31.5%	68.5%	21	46
2024	68	31.5%	68.5%	21	47
2025	69	31.5%	68.5%	22	48
2026	71	31.5%	68.5%	22	49
2027	75	30.0%	70.0%	22	52
2028	76	30.0%	70.0%	23	53
2029	78	30.0%	70.0%	23	55
2030	80	30.0%	70.0%	24	56
2031	81	30.0%	70.0%	24	57
2032	85	28.5%	71.5%	24	61
2033	87	28.5%	71.5%	25	62
2034	89	28.5%	71.5%	25	64
2035	91	28.5%	71.5%	26	65
2036	93	28.5%	71.5%	27	67
2037	99	28.5%	71.5%	28	71

Source: City of Fort St. John Internment and Reservation Statistics (2005-2015)

* Interment data brought over from Interment Market Share Rates Table; projections shaded blue (assumes a 1.5% increase in the ratio of cremation interments to full burials every 5 years)

Table B.2: Quantity of Services Provided

Fort St. John Municipal Cemeteries						
Year	Actual & Projected Burials*	Actual & Projected Cremations*	Cremation (In Full Plot)	Cremation (In Columbaria)	Cremation (In Cremation Plot)	Weekend Interments
2005	23	23	15	1	7	4
2006	29	26	18	3	5	6
2007	24	33	25	3	5	11
2008	27	35	23	5	7	9
2009	22	34	21	6	7	6
2010	35	35	26	5	4	13
2011	17	36	26	9	1	10
2012	27	32	17	10	5	13
2013	16	25	14	7	4	6
2014	19	32	23	7	2	7
2015	17	34	23	7	4	10
2016	19	38	24	10	5	9
2017	19	39	24	10	5	9
2018	19	39	24	10	5	9
2019	20	40	25	10	5	9
2020	20	41	26	11	5	9
2021	21	42	26	11	5	9
2022	20	45	28	12	5	10
2023	21	46	29	12	6	10
2024	21	47	29	12	6	10
2025	22	48	30	12	6	11
2026	22	49	31	13	6	11
2027	22	52	32	13	6	11
2028	23	53	33	14	6	11
2029	23	55	34	14	7	12
2030	24	56	35	14	7	12
2031	24	57	36	15	7	12
2032	24	61	38	16	7	13
2033	25	62	39	16	7	13
2034	25	64	40	16	8	13
2035	26	65	41	17	8	14
2036	27	67	42	17	8	14
20-Year Total	448	1,028	641	264	123	221

Source: City of Fort St. John Interment and Reservation Statistics (2005-2015)

* Burials/Cremations brought over from 'Service Type Growth' Tab; projections shaded blue (assumes 15% of burials and cremations are weekend interments)

Table B.2: Quantity of Services Provided (Continued)

Fort St. John Municipal Cemeteries							
Year	Reservations & Licenses	Reservations & Licenses (Columbaria)	Reservations & Licenses (Full Plot)	Reservations & Licenses (Cremation Plot)	Total Memorials	Upright Memorials	Memorial Settings
2005	38	1	29	8	19	6	13
2006	56	6	41	9	40	4	36
2007	52	10	38	4	53	5	48
2008	47	11	27	9	36	4	32
2009	45	3	32	10	43	8	35
2010	60	14	38	8	40	8	32
2011	51	11	37	3	33	5	28
2012	47	9	36	2	34	3	31
2013	39	14	20	5	32	8	24
2014	52	6	42	4	14	1	13
2015	42	8	23	11	44	15	29
2016	45	10	32	4	31	7	24
2017	46	10	32	4	31	7	24
2018	47	10	33	4	32	7	25
2019	48	10	34	4	32	7	25
2020	49	10	34	4	32	7	25
2021	50	11	35	4	32	7	25
2022	51	11	36	4	32	7	25
2023	52	11	36	4	32	7	25
2024	53	11	37	4	33	7	26
2025	54	11	38	4	33	7	26
2026	55	12	39	4	33	7	26
2027	56	12	39	5	33	7	26
2028	57	12	40	5	34	7	27
2029	58	12	41	5	34	7	27
2030	59	13	42	5	34	7	27
2031	61	13	43	5	34	7	27
2032	62	13	43	5	34	7	27
2033	63	13	44	5	34	7	27
2034	64	14	45	5	35	7	28
2035	66	14	46	5	35	7	28
2036	67	14	47	5	35	7	28
20-Year Total	1,115	237	785	90	664	140	524

Source: City of Fort St. John Cemetery Records

* Projections shaded blue

APPENDIX C: Concept Plan

Class C Cost Estimates

C.1 Fort St. John Cemetery

ITEM	UNIT	QUANTITY	UNIT PRICE	AMOUNT	TOTAL
Phase 1					
Walkways					
Pavers in gathering spaces	m ²	310	\$180	\$56,000	
Stepping stone pathway	linear m.	60	\$200	\$12,000	
Subtotal Walkways					\$68,000
Features					
Kiosk	ea.	1	\$3,000	\$3,000	
New Cross Trinity Feature	ea.	1	\$5,000	\$5,000	
New Cross Feature	ea.	1	\$3,000	\$3,000	
Memorial columns	ea.	8	\$1,600	\$13,000	
Columbarium	ea.	2	\$2,500	\$5,000	
Cast in place bench	ea.	1	\$3,000	\$3,000	
Benches	ea.	6	\$2,000	\$12,000	
Subtotal Features					\$44,000
Removals					
Remove existing poplar trees	Allowance	1	\$8,000	\$8,000	
Remove and relocate sign to front of fence centered between entrances	Allowance	1	\$2,000	\$2,000	
Subtotal Removals					\$10,000
Planting					
Deciduous tree planting	ea.	64	\$600	\$38,000	
Low maintenance planting and scattering gardens	m ²	225	\$50	\$11,000	
Grass including place 150mm growing medium, and sod	m ²	40	\$15	\$1,000	
Subtotal Planting					\$50,000
Site Servicing					
Water Service	allowance	1	\$15,000	\$15,000	
Water tap	allowance	1	\$3,500	\$4,000	
Subtotal Site Servicing					\$19,000
Phase 1 sub-total					\$191,000
Contingency (20%)					\$38,000
Design/Engineering (15%)					\$29,000
Phase 1 TOTAL					\$258,000

ITEM	UNIT	QUANTITY	UNIT PRICE	AMOUNT	TOTAL
Phase 2					
Walkways					
Paver walkways	m ²	410	\$180	\$74,000	
Subtotal Walkways					\$74,000
Removals					
Remove existing poplar trees	Allowance	1	\$8,000	\$8,000	
Subtotal Removals					\$8,000
Features					
Benches	ea.	7	\$2,000	\$14,000	
Columbarium	ea.	1	\$2,500	\$2,500	
Subtotal Features					\$16,500
Planting					
Deciduous tree planting	ea.	40	\$600	\$24,000	
Subtotal Planting					\$24,000
Phase 2 sub-total					\$122,500
Contingency (20%)					\$25,000
Design/Engineering (15%)					\$18,000
Phase 1 TOTAL					\$165,500
Phase 3					
Features					
Entry Feature	ea.	3	\$2,500	\$8,000	
New black metal fence to match front fence	linear m.	320	\$120	\$38,000	
Benches	ea.	2	\$2,000	\$4,000	
Columbarium	ea.	1	\$2,500	\$2,500	
Memorial stone edger or urn burial plots	ea.	316	\$250	\$79,000	
Subtotal Features					\$131,500
Planting					
Hedge along eastern fence	linear m.	137	\$40	\$5,000	
Subtotal Planting					\$5,000
Existing Cemetery					
Top dress and overseed grass in existing cemetery	m ²	11010	\$1	\$8,000	
Subtotal Existing Cemetery					\$8,000
Phase 3 sub-total					\$144,500
Contingency (20%)					\$29,000
Design/Engineering (15%)					\$22,000
Phase 1 TOTAL					\$195,500
PROJECT COST SUMMARY Sub-Total					\$458,000
Contingency (20%)					\$92,000
Design/Engineering (15%)					\$69,000
TOTAL					\$619,000

REPLACE EXISTING POPLARS WITH DIFFERENT DECIDUOUS TREES

RELOCATE EXISTING SPRUCE TO WOODLAWN AND REPLACE WITH DECIDUOUS TREES

NEW CROSS TRINITY FEATURE

MEMORIAL COLUMNS

LOW MAINTENANCE PLANTINGS

PAVER GATHERING AREA

SCATTERING GARDEN

CAST-IN PLACE BENCH

BLACK METAL FENCE TO MATCH FRONT

PAVER WALKWAY

MEMORIAL STONE EDGER OR URN BURIAL PLOTS

KIOSK

WEST ENTRY FEATURE

RELOCATE SIGN TO FRONT OF FENCE CENTERED BETWEEN ENTRANCES

MAIN ENTRY FEATURES



STEPPING STONE PATH LINKS CATHOLIC AND PROTESTANT CEMETERIES: URN BURIAL OR MEMORIAL STONES

NEW CROSS FEATURE

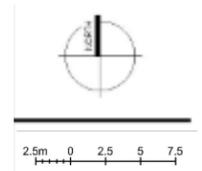
HEDGE ALONG EASTERN FENCE

PAVER GATHERING AREA

LAWN OR SCATTERING GARDEN

IN-FILL PLANTING WITH OTHER DECIDUOUS TREES TO REPLACE POPLARS AND SPRUCE

PAVER WALKWAY



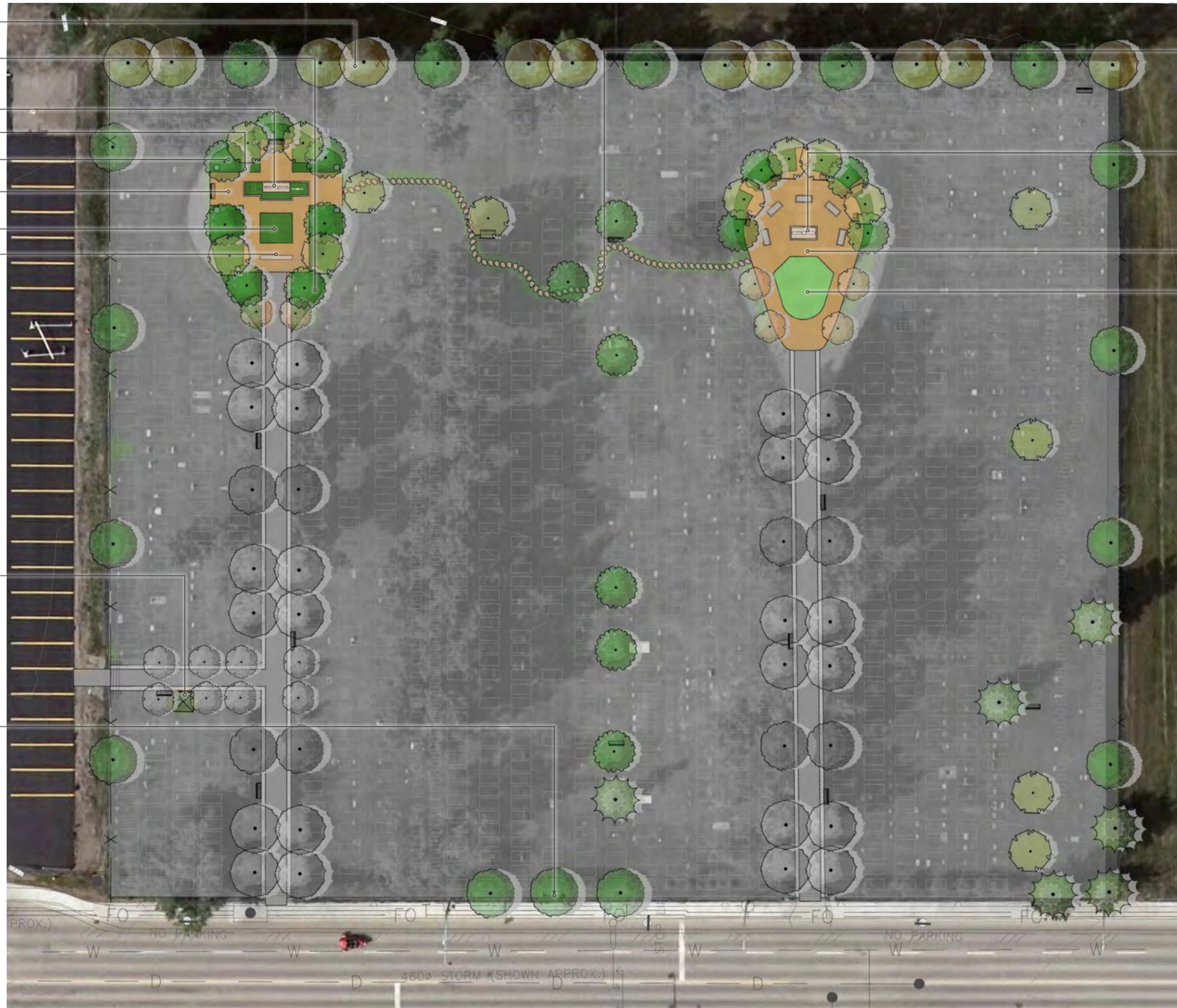
LEGEND

- EXISTING TREES
- PROPOSED TREES
- PROPOSED BENCH
- MEMORIAL COLUMN
- PROPOSED COLUMBARIUM

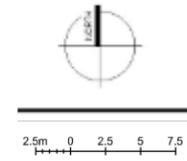
Fort St. John cemetery site plan

REPLACE EXISTING POPLARS WITH DIFFERENT DECIDUOUS TREES
 RELOCATE EXISTING SPRUCE TO WOODLAWN AND REPLACE WITH DECIDUOUS TREES
 NEW CROSS TRINITY FEATURE
 MEMORIAL COLUMNS
 LOW MAINTENANCE PLANTINGS
 PAVER GATHERING AREA
 SCATTERING GARDEN
 CAST-IN PLACE BENCH

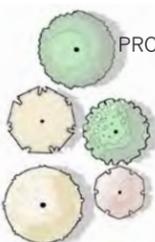
STEPPING STONE PATH LINKS CATHOLIC AND PROTESTANT CEMETERIES: URN BURIAL OR MEMORIAL STONES
 NEW CROSS FEATURE
 PAVER GATHERING AREA
 LAWN OR SCATTERING GARDEN



KIOSK
 RELOCATE SIGN TO FRONT OF FENCE CENTERED BETWEEN ENTRANCES



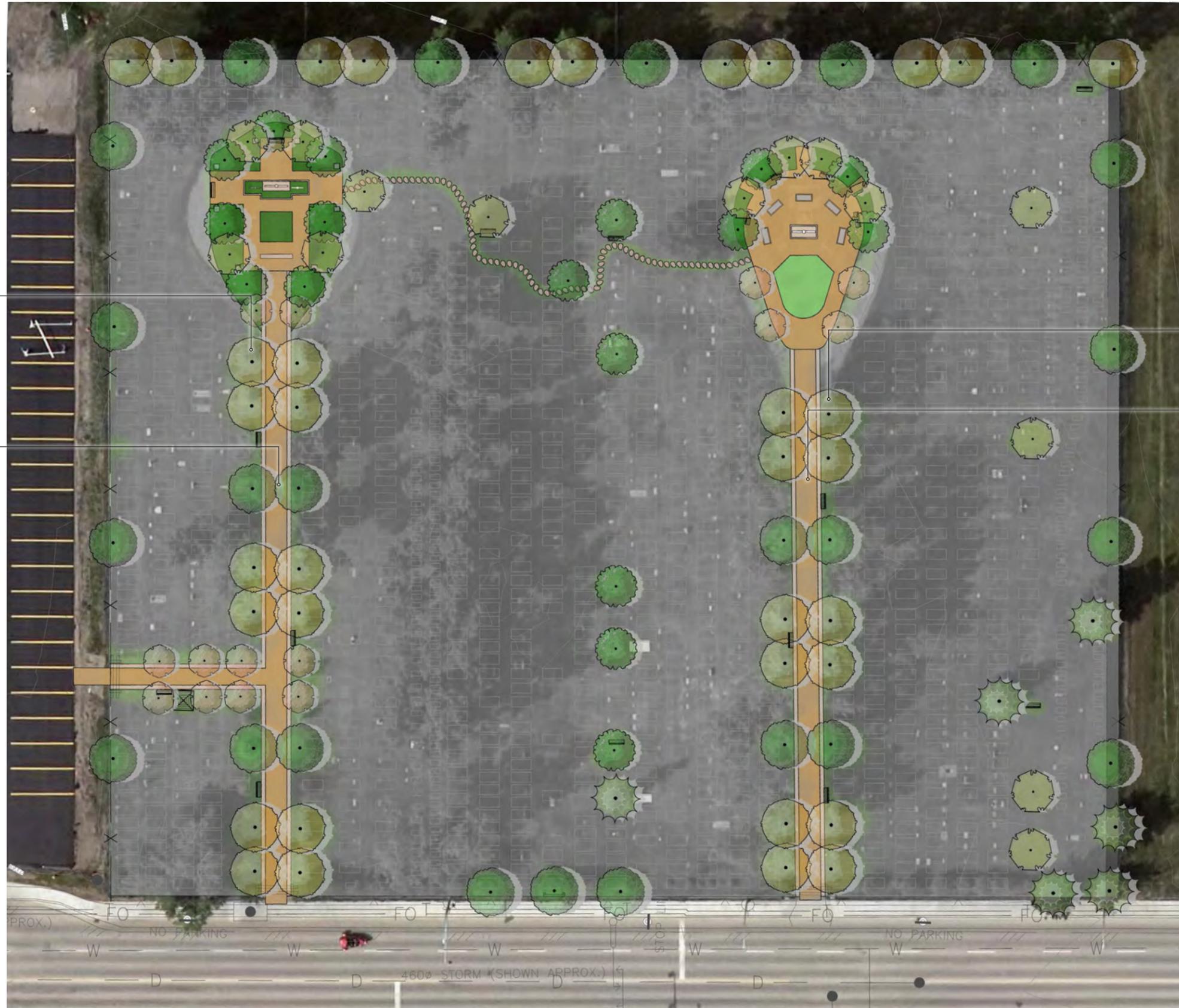
LEGEND

-  EXISTING TREES
-  PROPOSED TREES
-  PROPOSED BENCH
-  MEMORIAL COLUMN
-  PROPOSED COLUMBARIUM

Fort St. John cemetery site plan phase 1

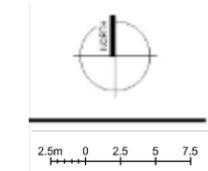
IN-FILL PLANTING WITH OTHER
DECIDUOUS TREES TO REPLACE
POPLARS AND SPRUCE

PAVER WALKWAY



IN-FILL PLANTING WITH OTHER
DECIDUOUS TREES TO REPLACE
POPLARS AND SPRUCE

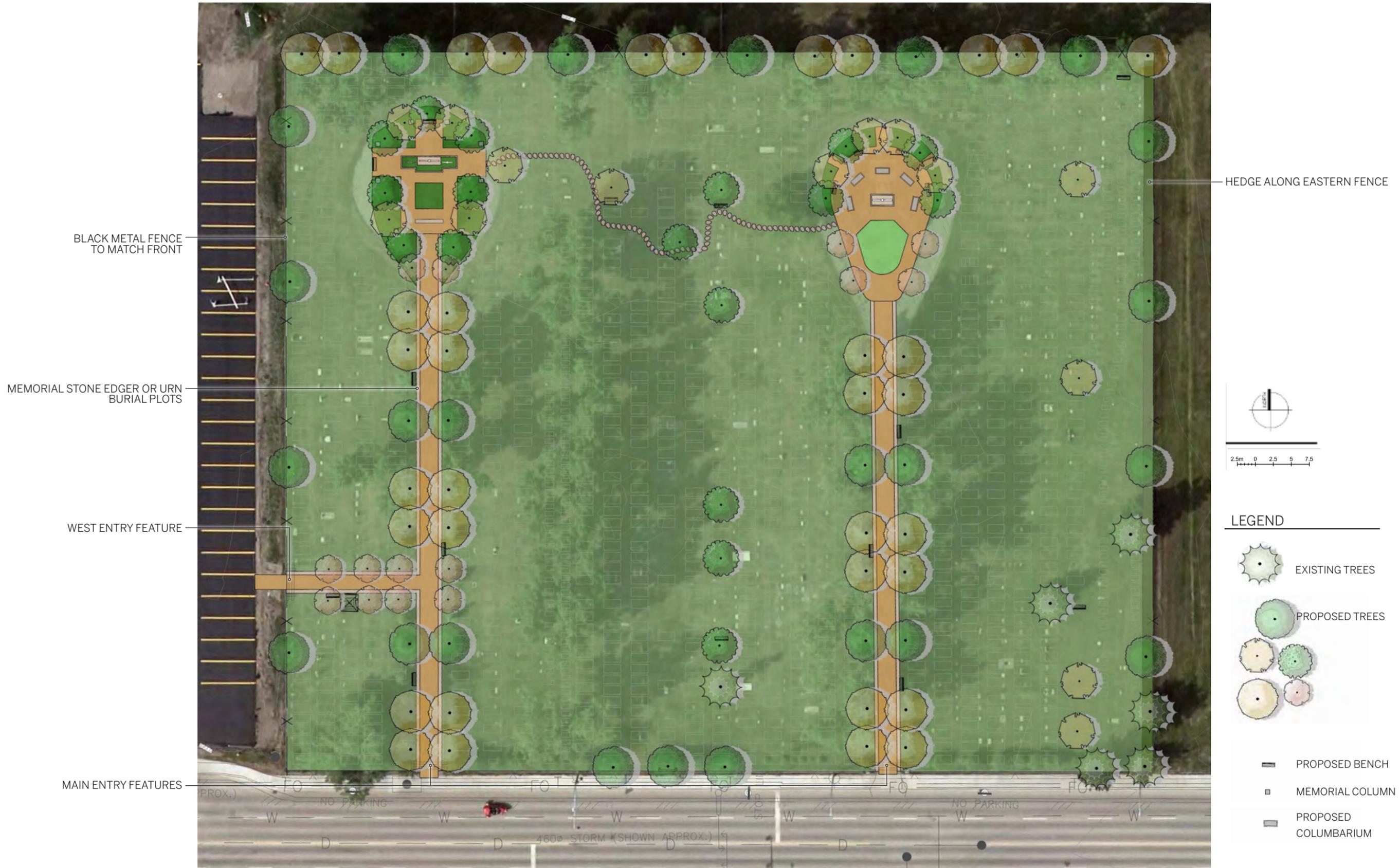
PAVER WALKWAY



LEGEND

-  EXISTING TREES
-  PROPOSED TREES
-  PROPOSED BENCH
-  MEMORIAL COLUMN
-  PROPOSED COLUMBARIUM

Fort St. John cemetery site plan phase 2



Fort St. John cemetery site plan phase 3

C.2 Woodlawn Cemetery

ITEM	UNIT	QUANTITY	UNIT PRICE	AMOUNT	TOTAL
Phase 1					
Asphalt Service Road					
Asphalt surface including strip, prep, 300mm subbase, 75mm base and 75mm asphalt	m ²	663	\$160	\$106,000	
Subtotal Asphalt Service Road					\$106,000
Walkways					
Removals-existing road	m ²	250	\$60	\$15,000	
Paver walkways and gathering areas	m ²	470	\$180	\$85,000	
Stepping stone labyrinth	linear m.	50	\$60	\$3,000	
Subtotal Walkways					\$103,000
Features					
Memorial column	ea.	1	\$1,600	\$2,000	
Columbarium-Standard	ea.	4	\$2,500	\$10,000	
Overhead Trellis	ea.	1	\$17,000	\$17,000	
Garbage receptacles	ea.	2	\$1,000	\$2,000	
Benches	ea.	15	\$2,000	\$30,000	
Subtotal Features					\$61,000
Kiosk, Fencing and Signage					
New fence on north and west perimeter	linear m.	420	\$160	\$67,000	
Kiosk with concrete base	ea.	1	\$16,000	\$16,000	
Wayfinding signage	ea.	15	\$200	\$3,000	
Subtotal Entry Kiosk, Fencing and Signage					\$86,000
Planting					
Deciduous tree planting	ea.	150	\$600	\$90,000	
Coniferous tree planting	ea.		\$600	\$0	
Low maintenance planting and scattering gardens	m ²	430	\$60	\$26,000	
Subtotal Planting					\$116,000
Full Burial Plot Areas					
Grass including place 150mm growing medium, and sod	m ²	3480	\$15	\$52,000	
Fine grading	m ²	3480	\$30	\$104,000	
Subtotal Full Burial Plots					\$156,000
Green Burial Naturalization Area.					
Fine grading	m ²	200	\$30	\$6,000	
Memorial stones	ea.	5	\$2,000	\$10,000	
Subtotal Green Burial Naturalization Area.					\$16,000
Site Servicing					
Drainage-survey	allowance	1	\$10,000	\$10,000	
Drainage-swales and culverts	allowance	1	\$47,000	\$47,000	
Subtotal Building Servicing					\$57,000
Phase 1 sub-total					\$701,000
Contingency (20%)					\$140,000
Design/Engineering (15%)					\$105,000
Phase 1 TOTAL					\$946,000

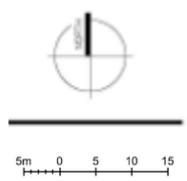
ITEM	UNIT	QUANTITY	UNIT PRICE	AMOUNT	TOTAL
Phase 2					
Walkways					
Paver walkways and gathering areas	m ²	40	\$180	\$7,000	
Granular path	m ²	1520	\$70	\$106,000	
Subtotal Walkways					\$113,000
Features					
Memorial columns	ea.	3	\$1,600	\$5,000	
Columbarium-column	ea.	3	\$2,000	\$6,000	
Benches	ea.	15	\$2,000	\$30,000	
Subtotal Features					\$41,000
Planting					
Deciduous tree planting	ea.	75	\$600	\$45,000	
Coniferous tree planting	ea.	130	\$600	\$78,000	
Native grass including strip, fine grade, place 100mm growing medium, finish grade and hydroseed	m ²	200	\$10	\$2,000	
Subtotal Planting					\$125,000
Full Burial Plot Areas					
Grass including place 150mm growing medium, and sod	m ²	1745	\$15	\$26,000	
Fine grading	m ²	1745	\$30	\$52,000	
Subtotal Full Burial Plots					\$78,000
Green Burial Naturalization Area.					
Fine grading	m ²	500	\$30	\$15,000	
Memorial stones	ea.	14	\$2,000	\$28,000	
Subtotal Green Burial Naturalization Area.					\$43,000
Maintenance Yard					
Improved maintenance yard -gravel and fencing	Allowance	1	\$61,000	\$61,000	
Shed	ea.	1	\$35,000	\$35,000	
Composting toilet	ea.	1	\$5,000	\$5,000	
Water cistern	ea.	1	\$16,000	\$16,000	
Subtotal Maintenance Yard					\$117,000
Site Servicing					
Electrical Service	allowance	1	\$15,000	\$15,000	
Water Service	allowance	1	\$18,000	\$18,000	
Water tap	allowance	2	\$3,500	\$7,000	
Solar security lighting	ea.	1	\$6,000	\$6,000	
Subtotal Site Servicing					\$46,000
Phase 2 sub-total					\$563,000
Contingency (20%)					\$113,000
Design/Engineering (15%)					\$84,000
Phase 1 TOTAL					\$760,000

ITEM	UNIT	QUANTITY	UNIT PRICE	AMOUNT	TOTAL
Phase 3					
Walkways					
Paver walkways and gathering areas	m ²	660	\$180	\$119,000	
Subtotal Walkways					\$119,000
Features					
Monument Feature	ea.	1	\$20,000	\$20,000	
Memorial columns	ea.	4	\$1,600	\$6,000	
Columbarium-column	ea.	8	\$2,000	\$16,000	
Columbarium-Large	ea.	10	\$6,000	\$60,000	
Entry trellis	ea.	2	\$6,000	\$12,000	
Benches	ea.	20	\$2,000	\$40,000	
Subtotal Features					\$154,000
Planting					
Deciduous tree planting	ea.	85	\$600	\$51,000	
Coniferous tree planting	ea.	20	\$600	\$12,000	
Low maintenance planting and scattering gardens	m ²	90	\$60	\$5,000	
Subtotal Planting					\$68,000
Full Burial Plot Areas					
Grass including place 150mm growing medium, and sod	m ²	2320	\$15	\$35,000	
Fine grading	m ²	2320	\$30	\$70,000	
Subtotal Full Burial Plots					\$105,000
Green Burial Naturalization Area.					
Fine grading	m ²	600	\$30	\$18,000	
Memorial stones	ea.	16	\$2,000	\$32,000	
Subtotal Green Burial Naturalization Area.					\$50,000
Existing Cemetery					
Top dress and overseed grass in existing cemetery	m ²	20,200	\$1	\$15,000	
Subtotal Existing Cemetery					\$15,000
Phase 3 sub-total					\$511,000
Contingency (20%)					\$102,000
Design/Engineering (15%)					\$77,000
Phase 1 TOTAL					\$690,000
PROJECT COST SUMMARY					
Sub-Total					\$1,775,000
Contingency (20%)					\$355,000
Design/Engineering (15%)					\$266,000
TOTAL					\$2,396,000



woodlawn cemetery overall site plan

CENTRAL GATHERING LAWN SPACE
 OVERHEAD TRELLIS
 GREEN BURIAL FOREST
 NORTH AND WEST PERIMETER FENCE
 ASPHALT SERVICE ROAD
 PAVER GATHERING AREA
 LABYRINTH SCATTERING GARDEN
 PAVER WALKWAY (TYP.)
 EXISTING ASPHALT SERVICE ROAD



EXISTING WHITE FENCE - TO REMAIN
 WAYFINDING KIOSK
 EXISTING SIGN - TO REMAIN

LEGEND

- EXISTING TREES
- PROPOSED DECIDUOUS TREES
- PROPOSED EVERGREEN TREES
- PROPOSED BENCH
- MEMORIAL COLUMN
- MONUMENT FEATURE COLUMBARIA
- COLUMN STANDARD LARGE CYLINDER

woodlawn cemetery site plan phase 1

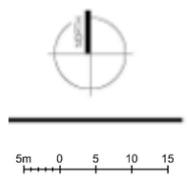
woodlawn cemetery site plan phase 2



SCATTERING GARDEN
 MONUMENT FEATURE
 SCATTERING GARDEN
 GREEN BURIAL FORESTS

MOW PATH THROUGH NATURALIZED
 AREA

FUTURE TRAIL CONNECTION TO
 COMMUNITY FOREST



TRELLIS ENTRY FEATURE (TYP.)
 REMOVE CHAIN LINK FENCE
 AND GATES

LEGEND

- EXISTING TREES
- PROPOSED DECIDUOUS TREES
- PROPOSED EVERGREEN TREES
- PROPOSED BENCH
- MEMORIAL COLUMN
- MONUMENT FEATURE
- COLUMBARIA
- COLUMN STANDARD
- COLUMN LARGE CYLINDER

woodlawn cemetery site plan phase 3