



# Sanitary Collection System Business Plan

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April 19, 2017



**Sanitary Collection System Business Plan**  
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Business Plan prepared by Robert Jenkins, R. Jenkins Consulting Ltd.



## **Executive Summary**

### **Background**

The Summer Village of Sunbreaker Cove (Sunbreaker Cove) is located on the North Shore of Sylvan Lake and comprises 266 single family residences of which about 1/4 are permanently occupied. While having a permanent population enumerated at 69 in 2011, the population during the busy periods of July and August with seasonal residents and visitors enjoying the summer days, the population will soar over 1,000. There is no central wastewater system in Sunbreaker Cove and the sewage disposal needs of the residences are served by a combination of private septic fields and pump out tanks.

Protecting the water quality of Sylvan Lake is of utmost importance to those living and visiting the Lake. There is expected to be continued growth pressures for the Lake Area and, while Sunbreaker Cove itself is unable to grow further within its present municipal boundaries, the population in the Lake Area as a whole is projected to grow from the present 17,000 to 47,000 by year 2033. Given the potential for negative environmental impacts from continued reliance on private wastewater servicing in the various summer villages and rural subdivisions, the urban and rural municipalities around Sylvan Lake have joined together in developing a regional wastewater collection, treatment and disposal system. The Sylvan Lake Regional Wastewater System, a system to collect all wastewater in the Lake Area for central treatment is being developed in stages and a portion of the North Shore transmission main has been constructed. With the extension of the North Shore Line by the Regional Commission, there will be the opportunity for Sunbreaker Cove to develop a sanitary collection system providing for central treatment and allowing discontinuance of private sewer systems. This Business Plan will describe the system to be developed, identify the estimated capital and operating costs and how each would be funded.

### **System Concept**

The Collection System is planned to provide service to all subdivided lots within the current Sunbreaker Cove corporate boundary and does not intend to provide any specific capacity for undeveloped lands outside of the Summer Village. A low pressure closed pipe collection system of pressure mains (force mains) along the public roads of the Summer Village will serve all private residential lots, both occupied and vacant. The System would comprise of:

- a) A primary force main along Breakers Way, Sunhaven Way and a portion of Fox Crescent
- b) Feeder forcemains serving the remaining closes, crescents and roads

The primary forcemain would convey wastewater south and east for discharge by way of metered connection to the Regional System's Sunbreaker Regional Lift Station. The concept is set out in the diagram following



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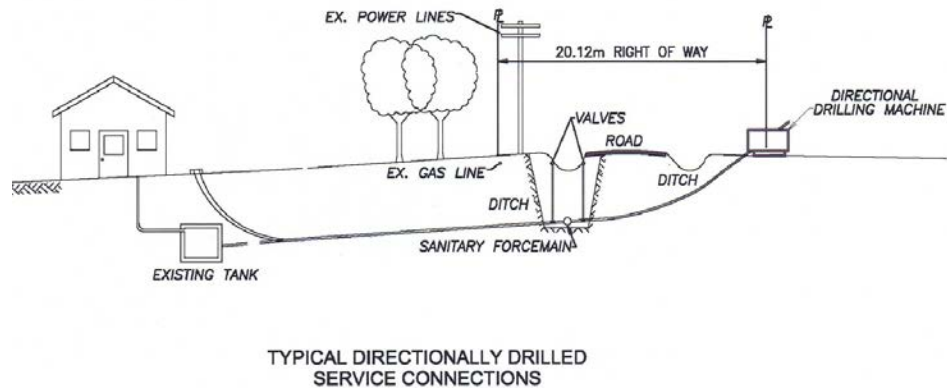


### Service Connections

For private residential lots, a connection to the force main would be installed from force main to a location just inside the property where it can be connected to the residence wastewater system. The owner of each property is responsible to purchase, install and operate a sanitary grinder pump within a tank into which household wastewater would drain. Tanks should be of sufficient size to accommodate at minimum 2 days of expected wastewater volume and where suitable, existing pump out tanks can be used. The lot servicing concept is illustrated following.



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### System Capacity

Given the influx of residents and visitors in the summer, the System will need to be constructed to meet the daily sewage disposal needs during the height of busy summer season. The estimate of future volumes is of fundamental significance as it is the future average daily volume during the summer maximum-use period – the System Capacity - for which the infrastructure must be designed and constructed. The peak day estimated volume from 271 connected lots ranges from 297 m<sup>3</sup> per day to 266 m<sup>3</sup> per day depending on the approach to calculation.

### Capital Costs

The estimated capital for constructing the System including the collection system forcemains and the service connections from the main to the property line is estimated at \$3.4 Million which includes engineering cost and a 10% contingency. The cost would be funded by:

|                                                         |                    |
|---------------------------------------------------------|--------------------|
| Municipal Sustainability Initiative (MSI) Grant Funding | \$695,000          |
| Sunbreaker Cove Cash Reserves                           | \$1,500,000        |
| Sylvan Lake Regional Wastewater Commission              | \$205,000          |
| Property Owners                                         | <u>\$1,000,000</u> |
| Total Funding                                           | \$3,400,000        |

The project includes the transmission line from the Regional Lift Station located in the Blissful Beach development in Lacombe County to the boundary of Sunbreaker Cove. With the mandate of the Regional Commission to supply wastewater services to each Member, it is expected that the cost of this portion of the transmission main would be funded by the Regional Commission.

The timing of the development of the Sunbreaker Cove wastewater system is dependent on the completion of the North Shore Line and Regional Lift Station. Under this plan, construction is projected to undertaken in 2018 with operation beginning in 2019.





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### Owners Contribution

Funding from property owners would be way of local improvement charges. Under the provisions of the *Municipal Government Act*, a levy can levied on a uniform cost per lot or on a uniform cost per lot frontage measure. On a per lot basis, the local improvement is estimated at \$3,700 per lot. On a frontage basis, the local improvement levy would \$161 per lineal meter. This cost can either be paid by the property owner:

- a) at the completion of the of the project, or
- b) over time through the payment of a local improvement tax which will be included on the annual property tax notice. On a per lot basis, the annual tax would be \$332 for 15 years or \$237 for 25 years.

It is anticipated that many property owners will opt to pay the capital cost share up front. However for the purposes of this Plan, it is assumed that all owners would choose to pay for their share of system costs through annual local improvement taxes.

Property Owners would also be responsible for the connection of the residence or facility to the end of the service connection at the property line, a cost that will vary from property to property depending on length of line and existing wastewater disposal installations.

### Capital Borrowing

To fund the capital cost share of those properties not opting to payout their capital share, Sunbreaker Cove will need to borrow funds from the Alberta Capital Finance Authority. The Business Plan estimates an interest rate of 4% on a fixed 15 year or 25 year amortization though the current ACFA rate for borrowing is about 2.735% for 15 years and 3.205% for 25 years. This financial calculations in this Plans assumes an amortization period of 15 years. Annual payments to meet this debt obligation will be funded by local improvement taxes. The amount of the borrowing will exceed the statutory borrowing authority of Sunbreaker Cove and so approval of the Minister of Municipal Affairs to raise the long term debt limit to \$1.3 million will be required.

### Annual Costs

Once operational, there will be ongoing annual costs for the System with the single largest component being the cost for wastewater delivered to the Regional System for treatment and disposal. This cost is based on a cost per cubic meter for actual volume of wastewater delivered. The Regional Commission Business Plan estimates that the wastewater services charge will be about \$1.20 / m<sup>3</sup> in the first year, 2019. It is expected that the Regional Commission will need to complete the primary transmission line to the City of Red Deer Wastewater Treatment Plant by 2019 and so in 2020, the cost of wastewater services is projected to rise to over \$3.00 per m<sup>3</sup>.



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Added to this treatment cost are fixed costs which do not vary with volume and which include allowances for the costs of contracted operations, flushing and repair.

#### **Utility Charges**

Annual debt repayment costs will be funded by local improvement taxes. The balance of the annual costs will be funded by utility charges levied against each property. The costs annually for each individual private lot is about \$120 in 2019. With the significant rise in wastewater treatment charges from the Regional Commission, this annual cost is projected to increase to \$340 in 2020 and to \$470 per lot by 2023.

Utility charges will be levied on an annual basis to recover the costs of the sanitary system. This charge would be the same for seasonal and permanently occupied sites. As well, the utility rate will be levied against all sites whether receiving wastewater services or not.





## **1. Introduction**

### **1.1 Definitions**

In this Plan:

- i) “Sunbreaker Cove” means the Summer Village of Sunbreaker Cove
- ii) “Collection System” means Summer Village of Sunbreaker Cove Sanitary Collection System,
- iii) “Lake” means the water body known as Sylvan Lake,
- iv) “Land Use Bylaw” means the Land Use Bylaw No.99-13 of the Summer Village of Sunbreaker Cove, as amended
- v) “Lake Area” means an area surrounding the Lake as identified on Figure 2.1 to be served by the Regional System, such area to include the Town, Summer Villages and those portions of the Counties identified for lake-oriented development,
- vi) “Plan” means the Summer Village of Sunbreaker Cove Sanitary Collection System Business Plan
- vii) “Regional Commission” means the Sylvan Lake Regional Wastewater Commission formed by the Government of Alberta under Alberta Regulation 53/2008 of which Sunbreaker Cove is a member
- viii) “Regional System” means the Sylvan Lake Regional Wastewater System
- ix) “Regional System Plan” means the Sylvan Lake Regional Wastewater System Business Plan,
- x) “Summer Village” means the Summer Village of Sunbreaker Cove
- xi) “Sunbreak Regional Lift Station” means the regional lift station to be developed by the Regional Commission on the North Shore Regional Transmission System

### **1.2 Wastewater Collection and Treatment Needs**

Sunbreaker Cove is incorporated as a Summer Village and lies within Lacombe County, the provincial constituency of Rimbey-Rocky Mountain House-Sundre and the present federal constituency of Red Deer - Lacombe. Sunbreaker Cove encompasses approximately 6 % (2,000 m) of the shoreline of Sylvan Lake. The Lake has a broad drawing area and acts as a recreation destination for the cities of Calgary, Edmonton, Red Deer.

Sunbreaker Cove is governed by an elected council which establishes and executes policies and programs to support a community of 260 single family dwellings and 5



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vacant lots. About 26% of the single family dwellings are occupied on a permanent basis with the balance occupied seasonally. During the busy summer months with both permanent and seasonal dwelling units occupied and with the arrival of short term visitors and guests, the population rises significantly to well over 850. Centralized, communal and public water supply and wastewater treatment and disposal systems have not been developed in Sunbreaker Cove. As a result, the water and wastewater needs of the population are currently met by private systems.

The traditional summer use and seasonal nature of Sunbreaker Cove is evolving to one which is characterized by a growing number of permanent residents and the replacement of the small seasonal cottages with much larger homes. These new homes with larger living and entertainment areas also have more bedrooms and bathrooms. The additional wastewater volumes from both larger premises and longer occupation times put a greater strain on the abilities of the watershed lands of the Lake to absorb and purify the wastewater emanating from septic field systems. The pumpout tank and septic field approach may be satisfactory in low density, low population areas but, in the case of Sunbreaker Cove specifically and the Lake Area generally, the development of centralized public sanitary collection systems are required to protect both the quality of the water in the Lake and more immediately the safety of the drinking water in private wells used by Sunbreaker Cove residents and visitors.

The Government of Alberta has provided significant funding to Regional Commission to undertake the development of a Regional System to gather and treat all wastewater from municipalities within the Lake Area. It is now the responsibility of the Summer Villages such as Sunbreaker Cove to abandon their existing private waste water treatment and disposal approach and build a sanitary collection system.

### 1.3 Central Alberta Regional Wastewater Master Plan

Recognizing the need to examine future wastewater treatment in a larger regional context, municipalities in Central Alberta, adopted the Central Alberta Regional Wastewater System Master Plan in 2008. (CARWW Master Plan) The goal of this plan is to provide for the development of *“a coordinated and integrated wastewater treatment solution for Central Alberta municipalities by*

- *Replacing many of the current stand-alone treatment facilities in individual municipalities with a large, centralized treatment facility, and*



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- *Providing public wastewater treatment capacity for new growth in urban municipalities and in those areas of the rural municipalities in proximity to the system's transmission lines."*

The CARWW Master Plan identifies the staged development over seven to ten years of an integrated system (CARWW System) of three transmission lines – north, south and west - bringing untreated wastewater to a central treatment facility at the City of Red Deer. Of these lines, the West Leg will be a 34 km system serving the Town of Sylvan Lake, the Summer Villages and lakeshore development areas of Lacombe and Red Deer Counties around Sylvan Lake and the Poplar Ridge residential area in Red Deer County.

### **1.4 Sylvan Lake Regional Wastewater System**

To address these wastewater treatment needs within the context of a larger regional solution, the municipalities around the Lake including Sunbreaker Cove have moved forward with the planning and development of the West Leg of the CARWW System known as the Sylvan Lake Regional Wastewater System (the Regional System).

The goal is to develop a Regional System which provides for the transmission, treatment and disposal of wastewater which is generated from present and future development within the Lake Area and Highway 11 / 11A corridor and collected through individual municipal or communal wastewater systems or is currently handled through individual private systems.

### **1.5 Sunbreaker Cove Sanitary Collection System**

The Collection System that would gather wastewater within Sunbreaker Cove for conveyance to the Regional System is planned to be a low pressure closed pipe system where sewage is pumped by means of a grinder pump from a holding tank within each property through a service line and connection to a pressure pipeline (forcemain) installed in the public road rights of way. The pressure from each individual pump will combine to push effluent through the forcemain to a discharge into the Regional System.

The forcemain network will be installed primarily through directionally drilling down the length of the central avenues with spur lines installed into the various cul-



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de-sacs and crescents. The final discharge will be into the Regional System's lift station to be constructed in the Blissful Beach development area.

### 1.6 Business Plan Objectives and Scope

This Plan is intended to set out for the Collection System the components to be developed, the implementation of development, the management and operation, the expected revenues, expenditures and rates and charges.

Specifically the Plan will be to set out:

1. the area of Sunbreaker Cove to be served and the expected volumes of wastewater to be collected,
2. the Collection System to be developed and the approach for construction and development.
3. the expected capital costs of the Collection System
4. how the capital cost will be financed
5. the expected operating costs of the Collection System for the years 2017 – 2021, and
6. the levies and rates to be charged for installation of Collection System and its ongoing costs of operation.

### 1.7 Previously Completed Studies, Plans and Reports

Studies, plans and reports considered in preparation of this business plan include:

1. Summer Village of Sunbreaker Cove – Wastewater Collection System – Detailed Design Report (Stantec – November 2016),
2. Sylvan Lake Regional Wastewater System Business Plan (2015),
3. Summer Village of Sunbreaker Cove – Land Use Bylaw



## **2. Sylvan Lake Regional Wastewater System**

### **2.1 Overall Regional System**

The Regional System will provide wastewater services to the Town of Sylvan Lake, the Summer Villages of Birchcliff, Half Moon Bay, Norglenwold, Sunbreaker Cove, and Jarvis Bay as well as provide wastewater services for present and future development areas in portions of the rural municipalities of:

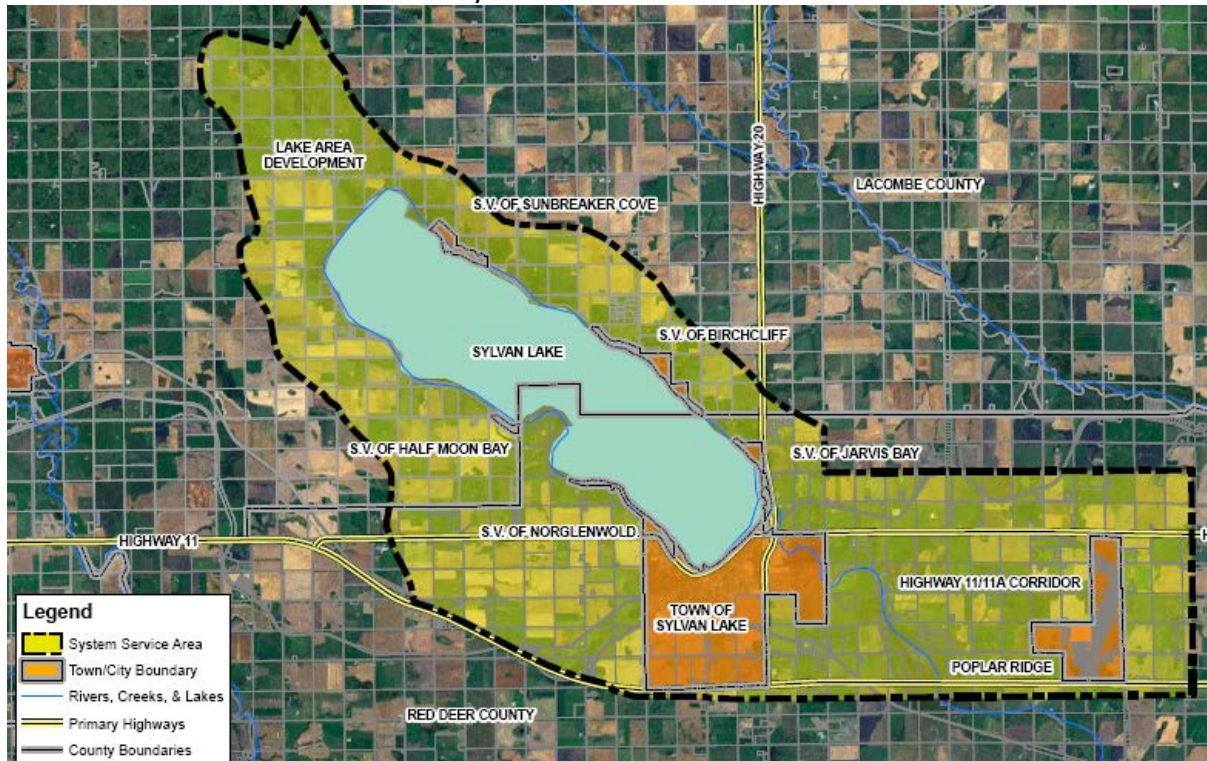
1. Lacombe County on the north and south shores and west end of Sylvan Lake, and
2. Red Deer County on the north and south shores of the Lake as well as Popular Ridge within the Highway 11/11A corridor between the City of Red Deer and the Town of Sylvan Lake.

Transmission Mains will be developed on North and South Shores of the Lake to collect wastewater from the Summer Villages and emerging development areas in Lacombe and Red Deer Counties and convey this effluent to a central point in the Town of Sylvan for conveyance to a single, central treatment facility.



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Figure 2.1  
Sylvan Lake Regional Wastewater System  
System Service Area



## 2.2 Regional System Development Stages

The Regional System is planned to be developed in stages with some components already constructed and in service:

- 1) Wastewater Treatment for Regional System is provided initially through interim upgrades to Town of Sylvan Lake wastewater treatment facilities.
- 2) The existing sanitary collection systems in the Summer Villages of Jarvis Bay and Norglenwold are connected to Town of Sylvan Lake sanitary collection and treatment system.
- 3) The Summer Village of Birchcliff completed installing a sanitary collection system in 2015 and is connected to the North Shore Line.
- 4) North Shore Line

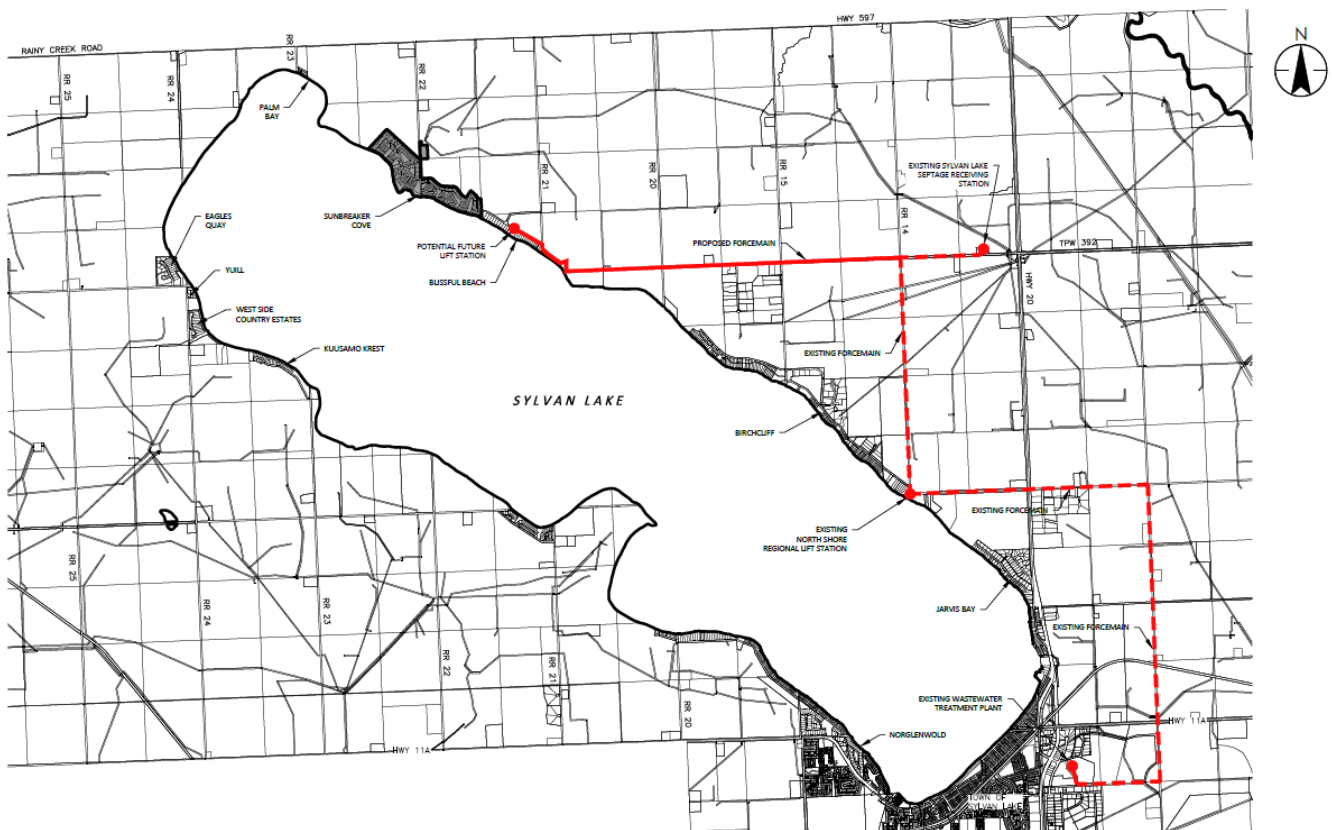




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- i) First Section was constructed from the existing Town of Sylvan Lake Wastewater treatment facility to the Septage Receiving Station Site in 2010.

Figure 2.2  
North Shore Line in the Vicinity of Sunbreaker Cove



- ii) Septic Receiving Station was installed and became operational in 2011
- iii) North Shore Regional Lift Station which serves the Summer Village of Birchcliff plus development areas of Lacombe County is completed and in operation.
- iv) The construction of the remaining portion of North Shore Line to serve Sunbreaker Cove which includes the construction of a new lift station (which for the purposes of this Plan is referred to as the Sunbreaker Regional Lift Station) does not have a definite construction timing and is dependent on development of sanitary collection system in Sunbreaker Cove or development within Lacombe County of both.





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- 5) South Shore Transmission Line - Construction of this line does not have specific timing and is dependent on development of sanitary collection system in SV of Half Moon Bay or development within Red Deer or Lacombe County or both
- 6) Treatment of Regional System effluent at the City of Red Deer WWTP
  - a) Requires construction of transmission line from Town facility to City WWTP,
  - b) Would provide service to Red Deer County Highway 11/11A corridor
  - c) Would allow decommissioning of most of Town of Sylvan Lake wastewater treatment facility
  - d) With the existing Town of Sylvan Lake treatment facilities nearing capacity, the Commission is making plans for the development of the primary transmission line to the City of Red Deer Wastewater Treatment Plant with the intention of moving forward with construction once grant funding is approved.

### **2.3 Capacity of the Sylvan Lake Regional Wastewater System identified for Sunbreaker Cove**

A portion of the planned transmission and treatment capacity of the Regional System has been identified for Sunbreaker Cove. Specifically, the Regional System Plan estimates for Sunbreaker Cove:

- 1) a 2033 Population of 935 assuming a 2.5% average annual growth from estimated equivalent 2007 population of 492
- 2) an Average Annual Daily Flow Volume (AADF) in Year 2033 of 327 cubic meters (m<sup>3</sup>) per day based on estimated wastewater generation rate of 350 litres per person day
- 3) a Yearly Volume in Year 2033 of 119,439 m<sup>3</sup> based on AADF times 365 days

The allocation of the net capital costs of developing the Secondary Transmission System around the Lake which includes the North Shore Line is based on the projected number of units for each Member in 2033. The allocation for Sunbreaker Cove is based on 267 units.



### **3. Sunbreaker Cove Sanitary Collection System**

#### **3.1 Area to be Served**

The lands within the current boundaries of Sunbreaker Cove have been fully subdivided and as such there is no further opportunity to develop additional lots that might be serviced in the future. Accordingly, the Collection System is planned to provide service only to existing subdivided lots within current Sunbreaker corporate boundary. The Collection System does not intend to provide a specific capacity for undeveloped lands outside of Sunbreaker Cove. It is assumed that as part of development on these lands, whether part of Lacombe County or an expanded Sunbreaker Cove, a sanitary collection system would be provided with discharge into the Sunbreaker Regional Lift Station or into the North Shore Regional Transmission Line.

#### **3.2 Overall Concept**

The Overall Concept is set out on Figure 3.1 (Stantec Consulting Ltd.) A low pressure closed pipe collection system of pressure mains (force mains) along the public roads of Sunbreaker Cove to serve all private residential lots, both occupied and vacant. The Collection System would be comprised of:

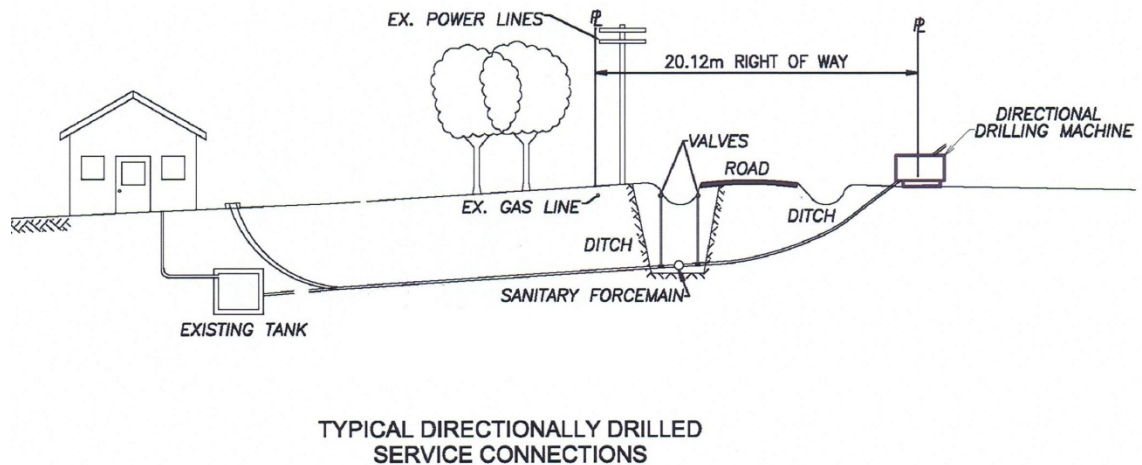
- 1) A Primary force main along Breakers Way, Sunhaven Way and Fox Crescent
- 2) Feeder forcemains serving the various closes, streets and roads.

The primary forcemain would convey wastewater south and east for discharge by way of metered connection to the Sunbreaker Regional Lift Station to be developed by the Regional System within the Blissful Beach development.

Each subdivided lot will be provided a connection to either the primary or feeder force mains. This connection would be installed from forcemain to a location inside the property where it can be connected to the residence wastewater system. The owner of each property is responsible to purchase, install and operate a sanitary grinder pump within a tank into which household wastewater would drain. Tanks should be of sufficient size to accommodate at minimum 2 days of expected wastewater volume (2.7 m<sup>3</sup> or 600 gallons) Where suitable, existing pump out tanks can be used. A cross section diagram of a typical service connection is shown below.



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### 3.3 Population Projections

In designing the sanitary collection system, Sunbreaker Cove, as a summer village, needs to accommodate the potential volumes of wastewater from both the:

- 1) permanent population of the municipality, which officially is 69 based on the 2011 Canada Census which measures permanent residents only, and
- 2) the seasonal population which is significantly larger and which is not documented through any sort of enumeration.

Beyond these calculated permanent and seasonal resident populations there would be temporary visitors and with these visitors the peak day population within Sunbreaker Cove during the summer season would well exceed 1,000.

An analysis of the estimated population is detailed below and summarized on Table 3.1. The calculated population is intended to reflect the resident population during the busy periods in July and August when warm, sunny weather brings out the seasonal private residence population and other visitors.

There are to be serviced 266 occupied residential lots plus an additional 5 which are currently vacant but available for residential development. Of these occupied lots, 69 are considered as being occupied on a permanent basis while the remaining 197 are used



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seasonally. Using a factor of 2.3 persons per household, the calculated present permanent population is 159 with a further seasonal population estimated at 690 for a total of about 850. The additional future population that is possible within the present boundaries of Sunbreaker Cove would be on the existing 5 vacant lots bring the estimated future population to about 860.

It is further assumed that the ratio of permanent residences to seasonal residences, presently at about 20% to 80%, would reverse in 25 years to 67% being permanent and 33% seasonal.

**Table 3.1**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Present and Future Population**

|                                | Permanent | Seasonal | Total |
|--------------------------------|-----------|----------|-------|
| <b>Properties Served</b>       |           |          |       |
| Subdivided Lots                |           |          |       |
| Occupied                       |           |          | 266   |
| Vacant                         |           |          | 5     |
| Total                          |           |          | 271   |
| <br>Present Number of Units    | 69        | 197      | 266   |
| Future Units                   | 3         | 2        | 5     |
| Total Units                    | 72        | 199      | 271   |
| <br>Persons per Unit           | 2.3       | 3.5      |       |
| <br><b>Present Population</b>  |           |          |       |
| Calculated                     | 159       | 690      | 848   |
| 2011 Federal Census            | 69        | N/A      |       |
| <br><b>Future Population</b>   |           |          |       |
| Calculated with Remaining Lots | 166       | 695      | 862   |
| Future Seasonal Conversion     |           |          |       |
| Present Ratio                  | 19%       | 81%      | 100%  |
| Future Ratio                   | 67%       | 33%      | 100%  |
| Future Population              | 577       | 284      | 862   |
| Sylvan Lake Regional WWS       |           |          | 935   |



### 3.4 Projected Untreated Wastewater Effluent for Collection

With present and future populations determined, the next question is how that translates into wastewater volumes to be collected by the sanitary system. Often in the projection of wastewater volumes, metered water consumption from public water distribution systems can provide guidance. However there is no such system in place in Sunbreaker Cove. As well, there has not been direct measurement of wastewater being generated by the existing private systems although this information would likely be of limited value in any event. The wastewater volume from a limited capacity private system, where the cost of pumping out full tanks or the grief of an overtaxed septic field is directly felt by the household, will be intuitively different than the volume generated by a household that can reliably pipe away wastewater for little ongoing cost.

Instead, volumes can only practically be estimated in this situation using typical per capita wastewater generation factors modified for the specific circumstances of Sunbreaker Cove.

The estimate of future volumes is of fundamental significance as it is the future average daily volume during the summer maximum-use period – **i.e. System Capacity** - for which the infrastructure must be designed and constructed. The determination of daily wastewater volumes is set out on Table 3.2 below and summarized following.

Based on Alberta Private Sewage Systems Standard of Practice, the estimated daily volume from a single family dwelling to which private sewage system should be designed is 1,350 liters per dwelling unit per day (lpd) is used or about 590 litres per person per day (lcd) based on 2.3 persons per dwelling unit. For the 271 total lots within the existing boundaries of Sunbreaker Cove, this would total about 366 cubic meters (m<sup>3</sup>) per day.

The Regional System Business Plan uses 350 liters per person per day (lcd) for calculating volume. At 2.3 persons per household, this would amount to 805 lpd or about 60% of the Code of Practice values. This difference is due to the Code of Practice prescribing volumes for which individual wastewater installations should be constructed and would include an allowance for periods and peaks of above average volume. A combination of flows from all of the individual installations will result in an average volume being lower than the sum the individual capacities. This averaging is addressed in the overall engineering design for the System and in the estimation of annual volumes in Section 5.1.



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For design Stantec Consulting Ltd. has used a lower average daily volume factor of 228 lcd. For the estimated population of 848 this would be a daily average of 193 m<sup>3</sup> with a peak daily volume of 297 m<sup>3</sup> per day.

The Regional Commission's Business Plan identifies an average daily volume of 327 m<sup>3</sup>, consistent with either of the above two methods of estimation.

**Table 3.2**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Projected Daily Wastewater Volumes**  
**During Summer Maximum Use Period**

**Based on Alberta Private Sewage Systems Standard of Practice**

**Design Volume to Meet Peak Daily Volumes**

|                                            |            |
|--------------------------------------------|------------|
| Number of Lots                             | 271        |
| Litres of Wastewater Per Dwelling Unit Day | 1,350      |
| <b>Daily Volume (m<sup>3</sup>)</b>        | <b>366</b> |

**Stantec Consulting Ltd. Estimates**

|                                                      |            |
|------------------------------------------------------|------------|
| Projected Future Population                          | 848        |
| Average Daily Volume litres per person per day (lcd) | 228        |
| <b>Average Daily Volume (m<sup>3</sup>)</b>          | <b>193</b> |
| <br>Peak Daily Volume (lcd)                          | <br>350    |
| <b>Peak Daily Volume (m<sup>3</sup>)</b>             | <b>297</b> |

**Sylvan Lake Commission Business Plan**

|                                             |            |
|---------------------------------------------|------------|
| Projected Future Population                 | 935        |
| Average Daily Volume (lcd)                  | 350        |
| <b>Average Daily Volume (m<sup>3</sup>)</b> | <b>327</b> |

### 3.5 Peak Day Volumes

Actual daily flows will, of course, vary below and above the averages and so the capacity of the sanitary collection system is sized to handle reasonably expectable surge. Typically peak flow factors of 1.5 to 2 times the average day flow are used in determine pipe size and system capacity. The volume estimations of Stantec Consulting Ltd. included a peak daily factor of 1.5. The manner in which the Collection System will be constructed with residential connections pumped intermittently from a 2 day capacity holding tank into a low pressure forcemain will have the effect of buffering the peak flows over the course of a few of days.



## **4. Capital Project Costs and Financing**

### **4.1 Capital Costs**

Estimated project capital project costs are summarized in Tables 4.1 and 4.2 and detailed Table B1 in Appendix B. Sunbreaker Cove's consulting engineers, Stantec Consulting Ltd. in its Detailed Design Report (November 2016) provided an opinion of probable cost of constructing the sanitary collection system at \$3,410,000 (exclusive of GST to which Sunbreaker Cove, as a municipality, would not be subject). This cost estimate is based on 2016 construction costs plus a contingency allowance of 10% plus an estimated of \$350,000 for non-construction costs such as engineering, survey and other professional services.

The timing of construction is dependent on the timing of the expected completion of the North Shore Line extension and construction of the Sunbreaker Regional Lift Station. For the purposes of this plan, construction is anticipated in 2018.

This cost estimation is for the construction of the entire System including the sanitary main and service connections for each lot from the main to the property line. The costs for the line from the end of the service connection to a point where it connects with the residence is not included as these are the responsibility of the property owner. The cost will depend on the circumstances and requirements of each site but may average between \$10,000 and \$12,000 per lot.

### **4.2 Capital Financing**

The capital financing is also set out in Table 4.1. Capital funding sources include government grants, reserve funds set aside for the project and recovery from the owners of property to which the Collection System would provide service.

#### **4.2.1 Government Grant Funding**

Sunbreaker Cove will continue to seek out wastewater and other infrastructure grant programs to fund a significant portion of the capital cost of the Collection System including federal/provincial infrastructure programs. However in the absence of any confirmed funding under such programs, this Plan does not contemplate funding from such programs.





In the absence of other grant programs, Sunbreaker Cove will designate significant amount the capital component allocations of the Alberta Municipal Sustainability Initiative (MSI) program funding for the project. This is expected to total \$695,000 or about 20% of the Project funding. Details of MSI Funding is set out in Table 4.3

**Table 4.1**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Summary of Capital Expenditures and Financing**

|                                                   | Amount             |
|---------------------------------------------------|--------------------|
| <b><u>Collection System Capital Costs</u></b>     |                    |
| Construction Cost Estimate                        | \$2,781,920        |
| <b>Contingency</b>                                |                    |
| Contingency %                                     | 10%                |
| Contingency Amount                                | \$278,192          |
| Total Construction Costs                          | <b>\$3,060,112</b> |
| <b>Engineering and Professional Services</b>      |                    |
| Estimate                                          | \$350,000          |
| % of Construction Costs                           | 11%                |
| <b>Total Project Costs</b>                        | <b>\$3,410,112</b> |
| <b><u>Funding</u></b>                             |                    |
| <b>Grant Funding</b>                              |                    |
| <u>Municipal Sustainability Initiative (MSI)</u>  |                    |
| Total MSI Funds Available                         | \$694,957          |
| <u>Sylvan Lake Regional Wastewater Commission</u> |                    |
| Funding for Lakeview Drive Segment                | \$208,020          |
| <b>Own Sources</b>                                |                    |
| Cash Reserves Available                           | \$1,500,000        |
| <b>Property Owners</b>                            |                    |
| Local Improvement                                 | \$1,007,135        |
| <b>Total Project Financing</b>                    | <b>\$3,410,112</b> |



# Sanitary Collection System Business Plan April 19, 2017

**Table 4.2**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Summary of Capital Cost Estimates by Segment**

| Item of Work                                             | Amount             | Contingency<br>10% | Professional<br>Services | Total<br>Cost      |
|----------------------------------------------------------|--------------------|--------------------|--------------------------|--------------------|
| <b>SCHEDULE A: Breakers Way - STA 3+000 to 1+280</b>     |                    |                    |                          |                    |
| Mobilization and Demobilization                          | \$31,000           |                    |                          |                    |
| Miscellaneous Items                                      | \$25,000           |                    |                          |                    |
| Sanitary Sewer Main                                      | \$176,000          |                    |                          |                    |
| Services Connections                                     | \$164,580          |                    |                          |                    |
| Site Restoration                                         | \$27,750           |                    |                          |                    |
| <b>Total Breakers Way 3+000-1+280</b>                    | <b>\$424,330</b>   | <b>\$42,433</b>    | <b>\$53,386</b>          | <b>\$520,149</b>   |
| <b>SCHEDULE B: Breakers Way - STA 1+280 to 1+560</b>     |                    |                    |                          |                    |
| Mobilization and Demobilization                          | \$36,000           |                    |                          |                    |
| Miscellaneous Items                                      | \$25,000           |                    |                          |                    |
| Sanitary Sewer Main                                      | \$163,400          |                    |                          |                    |
| Services Connections                                     | \$232,100          |                    |                          |                    |
| Site Restoration                                         | \$27,550           |                    |                          |                    |
| <b>Total Breakers Way - 1+280 to 1+560</b>               | <b>\$484,050</b>   | <b>\$48,405</b>    | <b>\$60,899</b>          | <b>\$593,354</b>   |
| <b>SCHEDULE C: Breakers Way - STA 1+560 to 1+800.</b>    |                    |                    |                          |                    |
| Mobilization and Demobilization                          | \$37,000           |                    |                          |                    |
| Miscellaneous Items                                      | \$25,000           |                    |                          |                    |
| Sanitary Sewer Main                                      | \$176,350          |                    |                          |                    |
| Services Connections                                     | \$223,660          |                    |                          |                    |
| Site Restoration                                         | \$26,350           |                    |                          |                    |
| <b>Total Breakers Way - 1+560 to 1+800</b>               | <b>\$488,360</b>   | <b>\$48,836</b>    | <b>\$61,442</b>          | <b>\$598,638</b>   |
| <b>SCHEDULE D: Sunhaven Way -STA 1+800 to 2+620</b>      |                    |                    |                          |                    |
| Mobilization and Demobilization                          | \$59,000           |                    |                          |                    |
| Miscellaneous Items                                      | \$50,000           |                    |                          |                    |
| Sanitary Sewer Main                                      | \$304,500          |                    |                          |                    |
| Services Connections                                     | \$333,380          |                    |                          |                    |
| Site Restoration                                         | \$41,750           |                    |                          |                    |
| <b>Total Sunhaven Way - 1+800 to 2+620</b>               | <b>\$788,630</b>   | <b>\$78,863</b>    | <b>\$99,219</b>          | <b>\$966,712</b>   |
| <b>SCHEDULE E: Fox Crescent - STA 2+620 to 14+280</b>    |                    |                    |                          |                    |
| Mobilization and Demobilization                          | \$32,000           |                    |                          |                    |
| Miscellaneous Items                                      | \$25,000           |                    |                          |                    |
| Sanitary Sewer Main                                      | \$157,000          |                    |                          |                    |
| Services Connections                                     | \$189,900          |                    |                          |                    |
| Site Restoration                                         | \$22,950           |                    |                          |                    |
| <b>Total Fox Crescent - 2+620 to 14+280</b>              | <b>\$426,850</b>   | <b>\$42,685</b>    | <b>\$53,703</b>          | <b>\$523,238</b>   |
| <b>SCHEDULE F: Lakeview Drive - STA 13+700 to 14+140</b> |                    |                    |                          |                    |
| Mobilization and Demobilization                          | \$13,000           |                    |                          |                    |
| Miscellaneous Items                                      | \$25,000           |                    |                          |                    |
| Sanitary Sewer Main                                      | \$126,500          |                    |                          |                    |
| Services Connections                                     | \$0                |                    |                          |                    |
| Site Restoration                                         | \$5,200            |                    |                          |                    |
| <b>Total Lakeview Drive - 13+700 to 14+140</b>           | <b>\$169,700</b>   | <b>\$16,970</b>    | <b>\$21,350</b>          | <b>\$208,020</b>   |
| <b>Total Construction Cost</b>                           | <b>\$2,781,920</b> | <b>\$278,192</b>   | <b>\$350,000</b>         | <b>\$3,410,112</b> |
| Contingency                                              | 10%                | \$278,192          |                          |                    |
| Professional Services                                    |                    | \$350,000          |                          |                    |
| <b>Total Project Cost</b>                                |                    | <b>\$3,410,112</b> |                          |                    |



**Sanitary Collection System Business Plan**  
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**Table 4.3**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Funding from Grants and Own Sources**

|                                                                 | Amount      |
|-----------------------------------------------------------------|-------------|
| <b><u>Municipal Sustainability Grant</u></b>                    |             |
| <b>Funding Allocations</b>                                      |             |
| <b><u>Received to Date</u></b>                                  |             |
| Balance Forward                                                 | \$227,135   |
| 2010                                                            | \$132,884   |
| 2011                                                            | \$133,246   |
| 2012                                                            | \$134,721   |
| 2013                                                            | \$126,076   |
|                                                                 | \$754,062   |
| <b>Accepted Projects</b>                                        |             |
| <b><u>2015</u></b>                                              |             |
| Rehabilitate Stormwater Discharge System                        | \$109,725   |
| <b><u>2014</u></b>                                              |             |
| Stabilize a portion of the shoreline.                           | \$138,982   |
| Prepare a storm water study.                                    | \$37,500    |
| Rehabilitate pathways.                                          | \$138,750   |
| Total Accepted Projects                                         | \$424,957   |
| <b>Funding for Wastewater Collection System</b>                 |             |
| Previous Funding Not Allocated                                  | \$329,105   |
| 2014                                                            | \$138,496   |
| 2015                                                            | \$100,668   |
| 2016                                                            | \$126,688   |
| MSI Funding Available                                           | \$694,957   |
| <b><u>Sylvan Lake Regional Wastewater System</u></b>            |             |
| Funding for Lakeview Drive                                      | \$208,020   |
| <b><u>Surplus Restricted for Sanitary Collection System</u></b> |             |
| Balance Available January 1, 2017                               | \$1,500,000 |
| Total Funding From Grants and Own Sources                       | \$2,402,977 |



#### **4.2.2 Sylvan Lake Regional Wastewater Commission**

The Regional Commission has a mandate to provide wastewater treatment and disposal services to Sunbreaker Cove. The Regional Lift Station that would serve Sunbreaker Cove is not completed but preliminary indications are that this pumping station will be located on public lands located in Blissful Beach. To enable the Collection System to discharge into this facility, a connection from the Sunbreaker Regional Lift Station would need to be constructed in Lakeview Drive to the boundary of Sunbreaker Cove. The costs of constructing this connection are included in the estimated project costs and Sunbreaker Cove anticipate reimbursement by the Regional Commission for these costs estimated at about \$208,000.

#### **4.2.3 Capital Cash Reserves**

Sunbreaker Cove has been reserving funds from the general revenues over the past few fiscal years to assist in funding this project. With annual budgeted diversions up to and including 2016, a total of \$1,500,000 would be available from Sunbreaker Cove's own sources for project funding. These cash reserves would fund almost 45% of the project.

#### **4.2.4 From Property Owners**

The remaining portion of capital funding, about \$1,000,000 or 30% of the project costs would need to be recovered from property owners of Sunbreaker Cove. There are two general approaches.

The first approach would be simply to consider the project as a community wide benefit with Sunbreaker Cove borrowing the funds and paying the annual debt repayment costs through general property taxation. Properties with higher assessed values would be pay a proportionately greater cost than lower assessed properties even though the benefit, wastewater collection services is equal

The sanitary collection service is a public utility and the more appropriate approach is to recover costs from the properties that benefit from the system installed. Public utilities are typically funded by user fees or rates charged to connected customers based on service that is available. In a normal municipal setting, the developer of new properties will typically install the utility systems needed to provide direct service to the new lots plus pay to the municipalities off site levies and connection fees for the broader, overall utility system costs.



In the case of Sunbreaker Cove the subdivided lots, essentially to the maximum extent possible, already exist and the financial viability of the project is dependent on the participation of all properties in the Summer Village, regardless of their intent to use the system. As such, the funding approach most appropriate would be by way of Local Improvement Taxation.

#### **4.2.5 Local Improvement Taxation**

The statutory authority prescribing local improvement taxation is set out in Division 7 of the *Municipal Government Act* R.S.A 2000 c. M26. (MGA) A Local Improvement Tax may be levied on one of the following bases:

- (i) the assessment prepared in accordance with Part 9,
- (ii) each parcel of land,
- (iii) each unit of frontage, or
- (iv) each unit of area,

With all of the privately owned parcels of land (subdivided lots) being used or available for use as single family dwellings local improvement taxation based on a uniform levy on each parcel of land is the most appropriate basis for local improvement taxation. The calculation of Local Improvement financing is set out in Table 4.4. The total to be raised with the local improvement tax is about \$770,000. Table 4.4 includes a comparison of levy by frontage measure.

Typically, the local improvement process would allow the property owner the option of paying at the outset, the entire amount of the levy or agreeing to pay by yearly installments the levy over time. The charges that would be made to each assessable lots is set out in Table B3 in Appendix B

The MGA provides a petition process to allow property owners to oppose a local improvement project proposed by Council. A valid petition signed by 2/3 of the owners representing property of an assessed value of at least 50% of the valuation of the lands proposed to be taxed would be required. Based on the level of support provided by property owners at public information sessions and meetings, Council is confident that such a local improvement tax proposal would not be successfully opposed.

This Plan is intended to serve as the Local Improvement Plan required under Section 394 of the MGA.



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**Table 4.4**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Local Improvement Financing**

|                                                                             | By Lot             | By Frontage        |
|-----------------------------------------------------------------------------|--------------------|--------------------|
| <b>Total to be Raised from Local Improvement</b>                            | \$1,007,135        | \$1,007,135        |
| <b>Local Improvement Levy</b>                                               |                    |                    |
| Total to be Raised from Local Improvement                                   | \$1,007,135        | \$1,007,135        |
| Number of Lots and Lot Equivalents                                          | 271                |                    |
| Levy per Lot                                                                | \$3,716            |                    |
| Total Frontage Measure in Lineal Meters                                     |                    | 6,256.68           |
| Levy per Lineal Meter                                                       |                    | \$161              |
| Average Frontage Measure Per Lot                                            |                    | 23.09              |
| Levy Per Lot of Average Frontage                                            |                    | \$3,716            |
| <b>Amortization Factor for Local Improvements</b>                           |                    |                    |
| Factor for Annual Amortized Cost                                            |                    |                    |
| Number of Years                                                             | 15                 | 15                 |
| Interest Rate                                                               | 4%                 | 4%                 |
| Factor                                                                      | 0.08930            | 0.08930            |
| Factor for 25 year amortization at 4% Annual Interest                       |                    |                    |
| Interest Rate                                                               | 4%                 | 4%                 |
| Factor                                                                      | 0.06365            | 0.06365            |
| <b>Annual Local Improvement Tax Levy</b>                                    |                    |                    |
| Annual Tax Levy per lot amortized for 15 years                              | \$332              |                    |
| Annual Tax Levy per lot amortized for 25 years                              | \$237              |                    |
| Annual Tax Levy /m frontage 15 years                                        |                    | \$14.37            |
| Annual Tax Levy /m frontage 25 years                                        |                    | \$10.25            |
| <b>Recovery of Local Improvement Costs</b>                                  |                    |                    |
| <u>Payout of Local Improvement Levy</u>                                     |                    |                    |
| Proportion of Owners Electing Payout                                        | 0%                 | 0%                 |
| Number of Lots Electing Payout                                              | -                  |                    |
| Frontage Measure Electing Payout                                            |                    | -                  |
| Funds Received from Payout                                                  | \$0                | \$0                |
| <u>Amortization of Local Improvement Costs and Recovery by Frontage Tax</u> |                    |                    |
| Number of Lots Electing Frontage Tax                                        | 271                | -                  |
| Frontage Measure                                                            |                    | 6,256.68           |
| Funds to be Borrowed                                                        | \$1,007,135        | \$1,007,135        |
| <b>Total Recovered Through Local Improvement Levy</b>                       | <b>\$1,007,135</b> | <b>\$1,007,135</b> |



#### 4.2.6 Debenture

As set out in the previous section, the local improvement process would give the property owner the choice of paying the entire share up front or spread the cost of a period of time with annual payments of principal and interest. It is expected that some of the private property owners will want to pay up front. However, for the purposes of this Plan, it is anticipated that there will be no prepayment and the total amount of the local improvement share will need to be borrowed.

The details of that borrowing are set out in Table 4.5. An amortization period of 15 years is chosen. For business planning purposes the interest is calculated at 4%. However, the annual levy would be based on the current borrowing rate available at the time the borrowing is taken. By way of information, the borrowing rates from the Alberta Capital Finance Authority in November 2016 was 2.735% for 15 years and 3.205% for 25 years.

**Table 4.5**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Local Improvement Debenture Borrowing Details**

|                                             | Amorization Period | Principal          | Interest         | Total to Repay     | Rate      | Factor    | Annual Payments |
|---------------------------------------------|--------------------|--------------------|------------------|--------------------|-----------|-----------|-----------------|
| <b>Municipal Project</b>                    |                    |                    |                  |                    |           |           |                 |
| Debenture Borrowing                         |                    |                    |                  |                    |           |           |                 |
| Drawn Latter 2018                           | 15                 | \$1,007,135        | \$341,920        | \$1,349,055        | 4.0%      | 0.08930   | \$89,937        |
| First Payment                               | June 15, 2019      |                    |                  |                    |           |           |                 |
| <b>Total Borrowed for Local Improvement</b> |                    | <b>\$1,007,135</b> | <b>\$341,920</b> | <b>\$1,349,055</b> |           |           | <b>\$89,937</b> |
| <b>Annual Payments</b>                      |                    |                    |                  |                    |           |           |                 |
|                                             | 2018               | 2019               | 2020             | 2021               | 2022      | 2023      |                 |
| Principal                                   |                    | \$50,148           | \$52,174         | \$54,282           | \$56,475  | \$58,757  |                 |
| Interest                                    |                    | \$39,789           | \$37,763         | \$35,655           | \$33,462  | \$31,180  |                 |
| Total Payments                              |                    | \$89,937           | \$89,937         | \$89,937           | \$89,937  | \$89,937  |                 |
| <b>Recovered from:</b>                      |                    |                    |                  |                    |           |           |                 |
| Frontage Tax                                | 100%               | \$89,937           | \$89,937         | \$89,937           | \$89,937  | \$89,937  |                 |
| General Revenue                             | 0%                 | \$0                | \$0              | \$0                | \$0       | \$0       |                 |
| Total Annual Payment                        |                    | \$89,937           | \$89,937         | \$89,937           | \$89,937  | \$89,937  |                 |
| <b>Principal Balance Owning at Year End</b> |                    | \$956,987          | \$904,812        | \$850,531          | \$794,056 | \$735,299 |                 |





#### **4.2.7 Debt Limit**

Under the provincial municipal regulation, there are two limitations to the amount of debt, operating and capital that a municipality can carry.

- i) Total debt cannot exceed 1.5 times the annual revenue.
- ii) Total debt servicing cost (principal and interest payments) cannot exceed 25% of the annual revenue.

If the borrowing required exceeds the debt limit of the Regulation, the Minister of Municipal Affairs, upon presentation of an acceptable business plan, may authorize an extension of the debt limit.

The borrowing needed to fund the local improvement component and complete the project funding will exceed the statutory debt limit of Sunbreaker Cove. A long term debt limit of \$1,300,000 will be requested to allow for some additional borrowing should costs exceed what is planned. The planned debt would be 1.5 times estimated 2016 annual revenue plus the annual frontage tax that would be received under the local improvement levy.

In terms of annual debt servicing costs, the borrowing being repaid over 15 years would result in an annual debt servicing cost of about 21% of 2016 annual revenue with the annual frontage. This would allow Sunbreaker Cove to remain under the 25% statutory limit. This calculation is set out in Table 4.6.



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**Table 4.6**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Detailed Debt Limit Calculation**

|                                                          |             |             |
|----------------------------------------------------------|-------------|-------------|
| <b>Total Municipal Revenue</b>                           |             |             |
| 2015 Actual                                              |             | \$346,093   |
| 2016 Projected with Frontage Tax Revenue                 |             | \$436,030   |
| <b>Statutory Debt Limit at 1.5 times Annual Revenue</b>  |             |             |
| 2015 Actual                                              |             | \$519,140   |
| 2015 with Frontage Tax Revenue                           |             | \$654,045   |
| <b>Debt to Be Authorized</b>                             |             |             |
| Operating Line of Credit                                 | \$0         |             |
| Total Borrowed for Local Improvement                     | \$1,007,135 |             |
| Total Debt to be Authorized                              |             | \$1,007,135 |
| Remaining Debt Limit / (Debt Limit Exceeded)             |             | (\$487,995) |
| Debt Limit Extended to                                   |             | \$1,300,000 |
| Total Term Debt as factor of Projected Municipal Revenue |             | 1.5         |
| <b>Debt Servicing Limit at 25% of Revenue</b>            |             |             |
| 2015 Actual                                              |             | \$86,523    |
| 2016 Projected with Frontage Tax Revenue                 |             | \$109,008   |
| <b>Proposed Debt Servicing Cost</b>                      |             |             |
| Annual Payments                                          |             | \$89,937    |
| % of Current Revenue                                     |             | 26%         |
| % of Current Revenue with Frontage Tax                   |             | 21%         |

#### **4.2.8 Responsibility of Property Owner in the Private Residential Service Area**

Under the financing arrangement set out, the property owner will be responsible for a share of the Municipal Project which includes the installation of the sanitary main and the service connection to the lot up to property line. This cost, calculated at about \$3,700 per individual lot can be paid by the property owner either:

- a) at the completion of the project, or



- b) over time through the payment of a local improvement tax which will be included as part of the annual property taxes. The annual tax is calculated at \$332 per year for 15 years.

As well, the property owner is responsible for the cost and for arranging for the completion of the service connection to the property from the property line to the connection to the residence holding tank. The owner can either choose to make arrangements with:

- a) a qualified installer, with such installation being required to meet Sunbreaker Cove standards and subject to inspection, or
- b) Sunbreaker Cove to include installation as part of the construction work of the Municipal Project. The cost of a typical installation is projected to range about \$10,000 to \$12,000 but because of the varying distances of the residence away from the sanitary main and the varying conditions and circumstances of each lot, the owner would be responsible to pay for the actual cost of the installation. There will be no option to pay this installation cost over time.

#### **4.2.9 Future Developer Purchase of Capacity**

This Plan is prepared on the basis of servicing the lots and development within the existing municipal boundary of Sunbreaker Cove. However physical configuration of Collection System, part of which is constructed along Sunhaven Way and Fox Crescent which services development sites to the south side of the roadways, provides the potential to service additional development areas outside of the current Sunbreaker Cove boundaries within Lacombe County.

The proposed collection system piping may have excess capacity beyond that required by lots in Sunbreaker Cove and it may be possible to accommodate connection of additional lots. The Summer Village will remain open to the potential to make this excess capacity available to future development on appropriate arrangements and compensation.



## 5. Annual Costs and Revenues

### 5.1 Annual Wastewater Volume

The largest single cost component of the wastewater utility is the treatment cost levied by the Regional Commission for wastewater delivered to the Regional System at the Sunbreaker Regional Lift Station. The calculation of the projected annual volumes is set out in Table 5.1 using the daily volumes set out Table 3.2 and the expected length of occupancy in a year for permanent and seasonal sites.

The calculated annual volumes are reduced to 75% to reflect a more realistic, average daily wastewater generation. The volumes are further reduced to 50% in 2019, the first year of operation and to 75% for 2020 as properties are progressively connected. Full connection is expected by year 2022.

**Table 5.1**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Projected Annual Wastewater Volume**  
**Years 2019 - 2023**

|                                      | 2019<br>Projected | 2020<br>Projected | 2021<br>Projected | 2022<br>Projected | 2023<br>Projected |
|--------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <b>Permanent Occupancy</b>           |                   |                   |                   |                   |                   |
| Number of Units                      | 69                | 71                | 73                | 75                | 77                |
| Daily Volume Per Unit (m3)           | 0.52              | 0.52              | 0.52              | 0.52              | 0.52              |
| Total Yearly Volume (m3)             | 13,207            | 13,590            | 13,973            | 14,355            | 14,738            |
| <b>Seasonal Occupancy</b>            |                   |                   |                   |                   |                   |
| Number of Units                      | 197               | 195               | 193               | 191               | 189               |
| Daily Volume Per Unit (m3)           | 0.80              | 0.80              | 0.80              | 0.80              | 0.80              |
| Number of Days Occupied              | 100               | 100               | 100               | 100               | 100               |
| Total Yearly Volume (m3)             | 15,721            | 15,561            | 15,401            | 15,242            | 15,082            |
| <b>Total Estimated Annual Volume</b> |                   |                   |                   |                   |                   |
| Total Volume by Calculation          | 28,928            | 29,151            | 29,374            | 29,597            | 29,820            |
| Factor Reflecting Actual Volume      | 75%               | 75%               | 75%               | 75%               | 75%               |
| Reduced to for 1st Year Operation    | 50%               | 75%               | 90%               | 100%              | 100%              |
| <b>Total Estimated Annual Volume</b> | <b>10,848</b>     | <b>16,397</b>     | <b>19,827</b>     | <b>22,198</b>     | <b>22,365</b>     |



## 5.2 Annual Costs

The Plan sets out the forecasted annual operating costs and revenues for the Collection System for the five year period 2019 through 2023. It is contemplated that construction would be completed in 2018. These projected costs and revenues are set out in Table 5.2

The Regional System wastewater services are calculated at the \$1.20 per m<sup>3</sup> in 1919 for treatment costs charged by the Regional Commission. This rate rises to a projected \$3.05 per m<sup>3</sup> in 2020 with the added costs of the Regional System's Primary Transmission Line from Sylvan Lake to the City of Red Deer.

Other annual costs for the wastewater utility include:

- i. Sunbreaker Cover's proportionate share of Regional system administration and governance costs as set out in Regional System Business Plan, about \$2,600 annually,
- ii. An allowance of \$15,000 for contracted services to respond to problems, maintenance on sanitary collection system.
- iii. An allowance of \$18,000 for an annual flushing program of the forcemains
- iv. A diversion of \$10,000 annually beginning in 2021 into an operating reserve to meet unforeseen and unbudgeted costs and emergencies
- v. Alberta One Call fees of \$6 per locate for an estimated 150 locates.
- vi. An allowance of \$3,000 annually for maintenance and repair beginning 2020
- vii. Debenture Repayment Costs of nearly \$90,000 beginning in 2019, the year after the borrowing is taken.

The annual cost of the Collection System is estimated at \$121,000 for 2019, rising to \$180,000 in 2020, \$200,000 in 2021 and reaching \$215,000 by 2023.



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**Table 5.2**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Annual Revenue and Expenditure, Utility Rate Calculation**  
**Years 2019 - 2023**

|                                               | 2019<br>Projected | 2020<br>Projected | 2021<br>Projected | 2022<br>Projected | 2023<br>Projected |
|-----------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <b>Expenditure</b>                            |                   |                   |                   |                   |                   |
| <b>Sylvan Lake Regional Wastewater System</b> |                   |                   |                   |                   |                   |
| <u>Disposal Costs</u>                         |                   |                   |                   |                   |                   |
| % of Private Properties Connected             | 50%               | 75%               | 90%               | 100%              | 100%              |
| Volume (m3)                                   | 10,848            | 16,397            | 19,827            | 22,198            | 22,365            |
| Projected Rate / m3                           | \$1.20            | \$3.05            | \$3.11            | \$3.17            | \$3.24            |
| Cost                                          | \$13,017          | \$50,012          | \$61,683          | \$70,439          | \$72,390          |
| Governance and Administration                 | \$2,511           | \$2,561           | \$2,612           | \$2,665           | \$2,718           |
| Total Commission Costs                        | \$15,528          | \$52,573          | \$64,296          | \$73,104          | \$75,108          |
| <b>Collection System Operation</b>            |                   |                   |                   |                   |                   |
| Operations Contract                           | \$15,000          | \$15,300          | \$15,606          | \$15,918          | \$16,236          |
| Contacted Services - Flushing                 |                   | \$18,000          | \$18,360          | \$18,727          | \$19,102          |
| Alberta One Call                              | \$900             | \$918             | \$936             | \$955             | \$974             |
| Maintenance and Repair                        |                   | \$3,000           | \$3,000           | \$3,000           | \$3,000           |
|                                               | \$15,900          | \$37,218          | \$37,902          | \$38,600          | \$39,312          |
| Transfer to Operating/Capital Reserves        | \$0               | \$0               | \$10,000          | \$10,000          | \$10,000          |
| Local Improvement Debt Repayment              | \$89,937          | \$89,937          | \$89,937          | \$89,937          | \$89,937          |
| <b>Total Wastewater Expenditures</b>          | <b>\$121,365</b>  | <b>\$179,728</b>  | <b>\$202,135</b>  | <b>\$211,641</b>  | <b>\$214,357</b>  |
| <b>Revenue</b>                                |                   |                   |                   |                   |                   |
| Local Improvement Tax - (s. 397 MGA)          | \$89,937          | \$89,937          | \$89,937          | \$89,937          | \$89,937          |
| Utility Rates (From Below)                    | \$31,920          | \$90,780          | \$112,560         | \$123,740         | \$126,900         |
|                                               | <b>\$121,857</b>  | <b>\$180,717</b>  | <b>\$202,497</b>  | <b>\$213,677</b>  | <b>\$216,837</b>  |
| Surplus                                       | \$492             | \$989             | \$362             | \$2,036           | \$2,480           |
| <b>Utility Rate</b>                           |                   |                   |                   |                   |                   |
| Annual Revenue Required                       | \$31,428          | \$89,791          | \$112,198         | \$121,704         | \$124,420         |
| Number of Occupied Lots                       | 266               | 267               | 268               | 269               | 270               |
| <b>Annual Cost Per Lot</b>                    | <b>\$120.00</b>   | <b>\$340.00</b>   | <b>\$420.00</b>   | <b>\$460.00</b>   | <b>\$470.00</b>   |
| <b>Annual Revenue Generated</b>               | <b>\$31,920</b>   | <b>\$90,780</b>   | <b>\$112,560</b>  | <b>\$123,740</b>  | <b>\$126,900</b>  |



### 5.3 Recovery of Annual Costs

The revenue required to meet the annual costs of the System other than debenture payments which are funded by local improvement taxes, can be generated through the imposition of:

- a) An additional levy on property taxes
- b) a utility charge, or
- c) a special tax

or a combination of any or all of them.

#### 5.3.1 Utility Rate

The imposition of utility charges is the most common approach to recovering utility costs and will be the approach used by Sunbreaker Cove. Typically municipal utility charges are a combination of flat rates per time period plus rates based on consumption. Often metered water consumption is used to calculate a wastewater volume. In the case of Sunbreaker Cove a piped water distribution system is not in place. It is impractical to install volume meters on the wastewater service connections for the individual residential parcels and so wastewater charges will always have to be a set as a flat rate until a water system is constructed.

Sunbreaker Cove will levy an annual utility charge on occupied lots. The cost per lot per for wastewater services is calculated on Table 5.2 The cost is projected at \$120 per year in 2019 but takes a large increase in 2020 with increased Regional System rate. The cost per lot will continue to rise to \$470 per year by 2023. Sunbreaker Cove will levy a utility charge that at lease recovers the annual costs per lot.

While it is recognized that the use of many properties in Sunbreaker Cove is seasonal, there can be no practical distinction between the rate to be charged seasonal property and the rate to be charged to permanent properties. There is no ability to measure wastewater flow from individual service connections and there are no restrictions on the time that seasonal properties may be used. As well, the rates will be imposed on each occupied property whether connection to the System is made or not.

The System will be operated as a Municipal Public Utility under the provisions of the Municipal Government Act and Sunbreaker Cove will adopt a utility bylaw which will set out the powers and responsibilities of Sunbreaker Cove and the obligation of property owners and customers of the System.





**Sanitary Collection System Business Plan**  
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**Appendix A**  
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## **Appendix B**

### **Detailed Financial Information**

**Table B1**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Detailed Construction Cost Estimates**

Source: *Summer Village of Sunbreaker Cove Wastewater Collection System (Stantec, 2016)*

|                                                                                                                                      | Qty | Unit   | Unit Cost | Estimated Cost  |
|--------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-----------|-----------------|
| <b>SCHEDULE A: Breakers Way - STA 3+000 to 1+280</b>                                                                                 |     |        |           |                 |
| <b>A. MOBILIZATION AND DEMOBILIZATION</b>                                                                                            | 1   | L.S.   | \$31,000  | \$31,000        |
| <b>TOTAL ITEM A</b>                                                                                                                  |     |        |           | <b>\$31,000</b> |
| <b>B. MISCELLANEOUS ITEMS</b>                                                                                                        |     |        |           |                 |
| 0.1 Traffic accommodation, detouring & signage                                                                                       | 1   | L.S.   | \$5,000   | \$5,000         |
| 0.2 Utility Locates including Hydrovacing                                                                                            | 1   | PC Sum | \$10,000  | \$10,000        |
| 0.3 Tree clearing and grubbing                                                                                                       | 1   | L.S.   | \$10,000  | \$10,000        |
| <b>TOTAL ITEM B</b>                                                                                                                  |     |        |           | <b>\$25,000</b> |
| <b>C. SANITARY SEWER MAIN</b>                                                                                                        |     |        |           |                 |
| 0.1 Supply and Horizontal Directionally Drill HDPE Pressure Sewer Main c/w tracer wire and "Little Fink" end connections or approved |     |        |           |                 |
| a) 75 mm HDPE DR 11                                                                                                                  | 250 | lin. m | \$160     | \$40,000        |
| b) 50 mm HDPE DR 11                                                                                                                  | 500 | lin. m | \$150     | \$75,000        |
| 0.2 Blowoff / Air Release Assembly (1,200mm dia. Barrel)                                                                             | 1   | each   | \$15,000  | \$15,000        |
| 0.3 Isolation Valves and Appurtenances                                                                                               |     |        |           |                 |
| a) Supply and Install 75mm Gate Valve                                                                                                | 2   | each   | \$3,000   | \$6,000         |
| b) Supply and Install 50mm Gate Valve                                                                                                | 6   | each   | \$2,500   | \$15,000        |

|                                                                                                          | Qty | Unit     | Unit Cost | Estimated Cost   |
|----------------------------------------------------------------------------------------------------------|-----|----------|-----------|------------------|
| 0.4 Flushouts (900mm Barrel)                                                                             | 5   | each     | \$5,000   | \$25,000         |
| <b>TOTAL ITEM C</b>                                                                                      |     |          |           | <b>\$176,000</b> |
| <b>D. SERVICE CONNECTIONS</b>                                                                            |     |          |           |                  |
| 0.1 Sewer Service Connections to Main including supply and install 38mm service each valves and curb box | 39  | each lot | \$1,800   | \$70,200         |
| 0.2 Service Excavation Pits including backfill and compaction to 95% S.P.D                               | 39  | each     | \$2,000   | \$78,000         |
| 0.3 Supply and Directionally Drill 38mm HDPE DR 11 including tracer wire and "Little Fink"               |     |          |           |                  |
| a) Within Road Right-of-Way                                                                              | 117 | lin.m    | \$140     | \$16,380         |
| b) Within Private Property (Provisional)                                                                 |     | lin.m    | \$140     | \$0              |
| <b>TOTAL ITEM D</b>                                                                                      |     |          |           | <b>\$164,580</b> |
| <b>E. SITE RESTORATION</b>                                                                               |     |          |           |                  |
| 0.1 Import topsoil, fine grading, and seeding (Provisional)                                              | 975 | m2       | \$10      | \$9,750          |
| 0.2 Asphalt Replacement (Provisional)                                                                    | 100 | tonne    | \$140     | \$14,000         |
| 0.3 Prime Cost Sum for Potentially "Unique" Site Specific Restorations                                   | 1   | PC Sum   | \$4,000   | \$4,000          |
| <b>TOTAL ITEM E</b>                                                                                      |     |          |           | <b>\$27,750</b>  |
| <b>Total Schedule A</b>                                                                                  |     |          |           | <b>\$424,330</b> |

| Qty | Unit | Unit Cost | Estimated Cost |
|-----|------|-----------|----------------|
|-----|------|-----------|----------------|

## **SCHEDULE B: Breakers Way - STA 1+280 to 1+560**

|                                           |   |      |          |                 |
|-------------------------------------------|---|------|----------|-----------------|
| <b>A. MOBILIZATION AND DEMOBILIZATION</b> | 1 | L.S. | \$36,000 | \$36,000        |
| <b>TOTAL ITEM A</b>                       |   |      |          | <b>\$36,000</b> |

### **B. MISCELLANEOUS ITEMS**

|                                                |   |        |          |                 |
|------------------------------------------------|---|--------|----------|-----------------|
| 0.1 Traffic accommodation, detouring & signage | 1 | L.S.   | \$5,000  | \$5,000         |
| 0.2 Utility Locates including Hydrovacing      | 1 | PC Sum | \$10,000 | \$10,000        |
| 0.3 Tree clearing and grubbing                 | 1 | L.S.   | \$10,000 | \$10,000        |
| <b>TOTAL ITEM B</b>                            |   |        |          | <b>\$25,000</b> |

### **C. SANITARY SEWER MAIN**

|                                                                         |     |        |          |                  |
|-------------------------------------------------------------------------|-----|--------|----------|------------------|
| 0.1 Supply and Horizontal Directionally Drill HDPE Pressure alternative |     |        |          |                  |
| a) 100mm HDPE DR 11                                                     | 30  | lin. m | \$170    | \$5,100          |
| a) 75 mm HDPE DR 11                                                     | 280 | lin. m | \$160    | \$44,800         |
| b) 50 mm HDPE DR 11                                                     | 580 | lin. m | \$150    | \$87,000         |
| 0.2 Blowoff / Air Release Assembly (1,200mm dia. Barrel)                | 0   | each   | \$15,000 | \$0              |
| 0.3 Isolation Valves and Appurtenances                                  |     |        |          | \$0              |
| a) Supply and Install 75mm Gate Valve                                   | 3   | each   | \$3,000  | \$9,000          |
| b) Supply and Install 50mm Gate Valve                                   | 1   | each   | \$2,500  | \$2,500          |
| 0.4 Flushouts (900mm Barrel)                                            | 3   | each   | \$5,000  | \$15,000         |
| <b>TOTAL ITEM C</b>                                                     |     |        |          | <b>\$163,400</b> |

### **D. SERVICE CONNECTIONS**

|                                                               |     |          |         |                  |
|---------------------------------------------------------------|-----|----------|---------|------------------|
| 0.1 Sewer Service Connections to Main including supply and    | 55  | each lot | \$1,800 | \$99,000         |
| 0.2 Service Excavation Pits including backfill and compaction | 55  | each     | \$2,000 | \$110,000        |
| 0.3 Supply and Directionally Drill 38mm HDPE DR 11            |     |          |         |                  |
| a) Within Road Right-of-Way                                   | 165 | lin.m    | \$140   | \$23,100         |
| b) Within Private Property (Provisional)                      |     | lin.m    | \$140   | \$0              |
| <b>TOTAL ITEM D</b>                                           |     |          |         | <b>\$232,100</b> |

| Qty | Unit | Unit Cost | Estimated Cost |
|-----|------|-----------|----------------|
|-----|------|-----------|----------------|

**E. SITE RESTORATION**

|                         |                                                                 |      |        |         |                  |
|-------------------------|-----------------------------------------------------------------|------|--------|---------|------------------|
| 0.1                     | Import topsoil, fine grading, and seeding (Provisional)         | 1375 | m2     | \$10    | \$13,750         |
| 0.2                     | Asphalt Replacement (Provisional)                               | 70   | tonne  | \$140   | \$9,800          |
| 0.3                     | Prime Cost Sum for Potentially "Unique" Site Specific Restorati | 1    | PC Sum | \$4,000 | \$4,000          |
|                         |                                                                 |      |        |         | <b>\$27,550</b>  |
| <b>Total Schedule B</b> |                                                                 |      |        |         | <b>\$484,050</b> |

| Qty | Unit | Unit Cost | Estimated Cost |
|-----|------|-----------|----------------|
|-----|------|-----------|----------------|

### **SCHEDULE C: Breakers Way - STA 1+560 to 1+800.**

|                                           |   |      |          |                 |
|-------------------------------------------|---|------|----------|-----------------|
| <b>A. MOBILIZATION AND DEMOBILIZATION</b> | 1 | L.S. | \$37,000 | \$37,000        |
| <b>TOTAL ITEM A</b>                       |   |      |          | <b>\$37,000</b> |

### **B. MISCELLANEOUS ITEMS**

|                                                |   |        |          |                 |
|------------------------------------------------|---|--------|----------|-----------------|
| 0.1 Traffic accommodation, detouring & signage | 1 | L.S    | \$5,000  | \$5,000         |
| 0.2 Utility Locates including Hydrovacing      | 1 | PC Sum | \$10,000 | \$10,000        |
| 0.3 Tree clearing and grubbing                 | 1 | L.S    | \$10,000 | \$10,000        |
| <b>TOTAL ITEM B</b>                            |   |        |          | <b>\$25,000</b> |

### **C. SANITARY SEWER MAIN**

|                                                                                                                                                  |     |        |          |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|----------|------------------|
| 0.1 Supply and Horizontal Directionally Drill HDPE Pressure Sewer Main c/w tracer wire and "Little Fink" end connections or approved Alternative |     |        |          |                  |
| a) 100mm HDPE DR 11                                                                                                                              | 280 | Lin. M | \$170    | \$47,600         |
| b) 75 mm HDPE DR 11                                                                                                                              | 250 | Lin. M | \$160    | \$40,000         |
| c) 50 mm HDPE DR 11                                                                                                                              | 285 | Lin. M | \$150    | \$42,750         |
| 0.2 Blowoff / Air Release Assembly (1,200mm dia. Barrel)                                                                                         | 0   | each   | \$15,000 | \$0              |
| 0.3 Isolation Valves and Appurtenances                                                                                                           |     |        |          |                  |
| a) Supply and Install 100mm Gate Valve                                                                                                           | 3   | each   | \$3,500  | \$10,500         |
| b) Supply and Install 75mm Gate Valve                                                                                                            | 1   | each   | \$3,000  | \$3,000          |
| c) Supply and Install 50mm Gate Valve                                                                                                            | 3   | each   | \$2,500  | \$7,500          |
| 0.4 Flushouts (900mm Barrel)                                                                                                                     | 5   | each   | \$5,000  | \$25,000         |
| <b>TOTAL ITEM C</b>                                                                                                                              |     |        |          | <b>\$176,350</b> |



| Qty | Unit | Unit Cost | Estimated Cost |
|-----|------|-----------|----------------|
|-----|------|-----------|----------------|

#### D. SERVICE CONNECTIONS

|                                                                  |     |          |         |                  |
|------------------------------------------------------------------|-----|----------|---------|------------------|
| 0.1 Sewer Service Connections to Main including supply and       | 53  | each lot | \$1,800 | \$95,400         |
| 0.2 Service Excavation Pits including backfill and compaction to | 53  | each lot | \$2,000 | \$106,000        |
| 0.3 Supply and Directionally Drill 38mm HDPE DR 11 including     |     |          |         |                  |
| a) Within Road Right-of-Way                                      | 159 | lin. M   | \$140   | \$22,260         |
| b) Within Private Property (Provisional)                         | 0   | lin. M   | \$140   | \$0              |
| <b>TOTAL ITEM D</b>                                              |     |          |         | <b>\$223,660</b> |

#### E. SITE RESTORATION

|                                                                     |      |        |         |                 |
|---------------------------------------------------------------------|------|--------|---------|-----------------|
| 0.1 Import topsoil, fine grading, and seeding (Provisional)         | 1325 | m2     | \$10    | \$13,250        |
| 0.2 Asphalt Replacement (Provisional)                               | 65   | tonne  | \$140   | \$9,100         |
| 0.3 Prime Cost Sum for Potentially "Unique" Site Specific Restorati | 1    | PC Sum | \$4,000 | \$4,000         |
|                                                                     |      |        |         | <b>\$26,350</b> |

**Total Schedule C**

**\$488,360**

| Qty | Unit | Unit Cost | Estimated Cost |
|-----|------|-----------|----------------|
|-----|------|-----------|----------------|

#### **SCHEDULE D: Sunhaven Way -STA 1+800 to 2+620**

|                                           |   |      |          |                 |
|-------------------------------------------|---|------|----------|-----------------|
| <b>A. MOBILIZATION AND DEMOBILIZATION</b> | 1 | L.S. | \$59,000 | \$59,000        |
| <b>TOTAL ITEM A</b>                       |   |      |          | <b>\$59,000</b> |

#### **B. MISCELLANEOUS ITEMS**

|                                                |   |        |          |                 |
|------------------------------------------------|---|--------|----------|-----------------|
| 0.1 Traffic accommodation, detouring & signage | 1 | L.S    | \$10,000 | \$10,000        |
| 0.2 Utility Locates including Hydrovacing      | 1 | PC Sum | \$20,000 | \$20,000        |
| 0.3 Tree clearing and grubbing                 | 1 | L.S    | \$20,000 | \$20,000        |
| <b>TOTAL ITEM B</b>                            |   |        |          | <b>\$50,000</b> |

#### **C. SANITARY SEWER MAIN**

|                                                                                                                                                  |     |        |          |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|----------|------------------|
| 0.1 Supply and Horizontal Directionally Drill HDPE Pressure Sewer Main c/w tracer wire and "Little Fink" end connections or approved alternative |     |        |          |                  |
| a) 100mm HDPE DR 11                                                                                                                              | 825 | Lin. M | \$170    | \$140,250        |
| b) 75 mm HDPE DR 11                                                                                                                              | 425 | Lin. M | \$160    | \$68,000         |
| c) 50 mm HDPE DR 11                                                                                                                              | 225 | Lin. M | \$150    | \$33,750         |
| 0.2 Blowoff / Air Release Assembly (1,200mm dia. Barrel)                                                                                         | 1   | each   | \$15,000 | \$15,000         |
| 0.3 Isolation Valves and Appurtenances                                                                                                           |     |        |          |                  |
| a) Supply and Install 100mm Gate Valve                                                                                                           | 4   | each   | \$3,500  | \$14,000         |
| b) Supply and Install 75mm Gate Valve                                                                                                            | 2   | each   | \$3,000  | \$6,000          |
| c) Supply and Install 50mm Gate Valve                                                                                                            | 3   | each   | \$2,500  | \$7,500          |
| 0.4 Flushouts (900mm Barrel)                                                                                                                     | 4   | each   | \$5,000  | \$20,000         |
| <b>TOTAL ITEM C</b>                                                                                                                              |     |        |          | <b>\$304,500</b> |

| Qty | Unit | Unit Cost | Estimated Cost |
|-----|------|-----------|----------------|
|-----|------|-----------|----------------|

#### D. SERVICE CONNECTIONS

|                                                                  |     |          |         |                  |
|------------------------------------------------------------------|-----|----------|---------|------------------|
| 0.1 Sewer Service Connections to Main including supply and       | 79  | each lot | \$1,800 | \$142,200        |
| 0.2 Service Excavation Pits including backfill and compaction to | 79  | each lot | \$2,000 | \$158,000        |
| 0.3 Supply and Directionally Drill 38mm HDPE DR 11 including     |     |          |         |                  |
| a) Within Road Right-of-Way                                      | 237 | lin. M   | \$140   | \$33,180         |
| b) Within Private Property (Provisional)                         | 0   | lin. M   | \$140   | \$0              |
| <b>TOTAL ITEM D</b>                                              |     |          |         | <b>\$333,380</b> |

#### E. SITE RESTORATION

|                                                                     |      |        |         |                 |
|---------------------------------------------------------------------|------|--------|---------|-----------------|
| 0.1 Import topsoil, fine grading, and seeding (Provisional)         | 1975 | m2     | \$10    | \$19,750        |
| 0.2 Asphalt Replacement (Provisional)                               | 100  | tonne  | \$140   | \$14,000        |
| 0.3 Prime Cost Sum for Potentially "Unique" Site Specific Restorati | 1    | PC Sum | \$8,000 | \$8,000         |
|                                                                     |      |        |         | <b>\$41,750</b> |

**Total Schedule D**

**\$788,630**

| Qty | Unit | Unit Cost | Estimated Cost |
|-----|------|-----------|----------------|
|-----|------|-----------|----------------|

### **SCHEDULE E: Fox Crescent - STA 2+620 to 14+280**

|                                           |   |      |          |                 |
|-------------------------------------------|---|------|----------|-----------------|
| <b>A. MOBILIZATION AND DEMOBILIZATION</b> | 1 | L.S. | \$32,000 | \$32,000        |
| <b>TOTAL ITEM A</b>                       |   |      |          | <b>\$32,000</b> |

### **B. MISCELLANEOUS ITEMS**

|                                                |   |        |          |                 |
|------------------------------------------------|---|--------|----------|-----------------|
| 0.1 Traffic accommodation, detouring & signage | 1 | L.S    | \$5,000  | \$5,000         |
| 0.2 Utility Locates including Hydrovacing      | 1 | PC Sum | \$10,000 | \$10,000        |
| 0.3 Tree clearing and grubbing                 | 1 | L.S    | \$10,000 | \$10,000        |
| <b>TOTAL ITEM B</b>                            |   |        |          | <b>\$25,000</b> |

### **C. SANITARY SEWER MAIN**

|                                                                                                                                                |     |        |          |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|----------|------------------|
| 0.1 Supply and Horizontal Directionally Drill HDPE Pressure Sewer Main c/w tracer wire and "Little Fink" end connections or approved alternate |     |        |          |                  |
| a) 150mm HDPE DR 11                                                                                                                            | 450 | lin. M | \$190    | \$85,500         |
| d) 50 mm HDPE DR 11                                                                                                                            | 130 | lin. M | \$150    | \$19,500         |
| 0.2 Blowoff / Air Release Assembly (1,200mm dia. Barrel)                                                                                       | 2   | each   | \$15,000 | \$30,000         |
| 0.3 Isolation Valves and Appurtenances                                                                                                         |     |        |          |                  |
| a) Supply and Install 150mm Gate Valve                                                                                                         | 1   | each   | \$4,500  | \$4,500          |
| c) Supply and Install 50mm Gate Valve                                                                                                          | 1   | each   | \$2,500  | \$2,500          |
| 0.4 Flushouts (900mm Barrel)                                                                                                                   | 3   | each   | \$5,000  | \$15,000         |
| <b>TOTAL ITEM C</b>                                                                                                                            |     |        |          | <b>\$157,000</b> |

| Qty | Unit | Unit Cost | Estimated Cost |
|-----|------|-----------|----------------|
|-----|------|-----------|----------------|

#### D. SERVICE CONNECTIONS

|                     |                                                                                                      |     |          |         |                  |
|---------------------|------------------------------------------------------------------------------------------------------|-----|----------|---------|------------------|
| 0.1                 | Sewer Service Connections to Main including supply and install 38mm service each valves and curb box | 45  | each lot | \$1,800 | \$81,000         |
| 0.2                 | Service Excavation Pits including backfill and compaction to 95% S.P.D                               | 45  | each lot | \$2,000 | \$90,000         |
| 0.3                 | Supply and Directionally Drill 38mm HDPE DR 11 including tracer wire and "Little Fink"               |     |          |         |                  |
|                     | a) Within Road Right-of-Way                                                                          | 135 | lin. M   | \$140   | \$18,900         |
|                     | b) Within Private Property (Provisional)                                                             | 0   | lin. M   | \$140   | \$0              |
| <b>TOTAL ITEM D</b> |                                                                                                      |     |          |         | <b>\$189,900</b> |

#### E. SITE RESTORATION

|     |                                                                 |      |        |         |                 |
|-----|-----------------------------------------------------------------|------|--------|---------|-----------------|
| 0.1 | Import topsoil, fine grading, and seeding (Provisional)         | 1125 | m2     | \$10    | \$11,250        |
| 0.2 | Asphalt Replacement (Provisional)                               | 55   | tonne  | \$140   | \$7,700         |
| 0.3 | Prime Cost Sum for Potentially "Unique" Site Specific Restorati | 1    | PC Sum | \$4,000 | \$4,000         |
|     |                                                                 |      |        |         | <b>\$22,950</b> |

#### Total Schedule E

**\$426,850**

| Qty | Unit | Unit Cost | Estimated Cost |
|-----|------|-----------|----------------|
|-----|------|-----------|----------------|

#### **SCHEDULE F: Lakeview Drive - STA 13+700 to 14+140A. MOBILIZATION AND DEMOBILIZATION**

|                                           |   |      |          |                 |
|-------------------------------------------|---|------|----------|-----------------|
| <b>A. MOBILIZATION AND DEMOBILIZATION</b> | 1 | L.S. | \$13,000 | \$13,000        |
| <b>TOTAL ITEM A</b>                       |   |      |          | <b>\$13,000</b> |

#### **B. MISCELLANEOUS ITEMS**

|                                                |   |        |          |                 |
|------------------------------------------------|---|--------|----------|-----------------|
| 0.1 Traffic accommodation, detouring & signage | 1 | L.S    | \$5,000  | \$5,000         |
| 0.2 Utility Locates including Hydrovacing      | 1 | PC Sum | \$10,000 | \$10,000        |
| 0.3 Tree clearing and grubbing                 | 1 | L.S    | \$10,000 | \$10,000        |
| <b>TOTAL ITEM B</b>                            |   |        |          | <b>\$25,000</b> |

#### **C. SANITARY SEWER MAIN**

|                                                                                                                                                |     |        |          |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|----------|------------------|
| 0.1 Supply and Horizontal Directionally Drill HDPE Pressure Sewer Main c/w tracer wire and "Little Fink" end connections or approved alternate |     |        |          |                  |
| a) 150mm HDPE DR 11                                                                                                                            | 550 | lin. M | \$190    | \$104,500        |
| 0.2 Blowoff / Air Release Assembly (1,200mm dia. Barrel)                                                                                       | 1   | each   | \$15,000 | \$15,000         |
| 0.3 Isolation Valves and Appurtenances                                                                                                         |     |        |          |                  |
| a) Supply and Install 150mm Gate Valve                                                                                                         | 1   | each   | \$4,500  | \$4,500          |
| c) Supply and Install 50mm Gate Valve                                                                                                          | 1   | each   | \$2,500  | \$2,500          |
| 0.4 Flushouts (900mm Barrel)                                                                                                                   | 0   | each   | \$5,000  | \$0              |
| <b>TOTAL ITEM C</b>                                                                                                                            |     |        |          | <b>\$126,500</b> |

#### **E. SITE RESTORATION**

|                                                                       |    |        |         |                    |
|-----------------------------------------------------------------------|----|--------|---------|--------------------|
| 0.1 Import topsoil, fine grading, and seeding (Provisional)           | 50 | m2     | \$10    | \$500              |
| 0.2 Asphalt Replacement (Provisional)                                 | 5  | tonne  | \$140   | \$700              |
| 0.3 Prime Cost Sum for Potentially "Unique" Site Specific Restoration | 1  | PC Sum | \$4,000 | \$4,000            |
|                                                                       |    |        |         | <b>\$5,200</b>     |
| <b>Total Schedule F</b>                                               |    |        |         | <b>\$169,700</b>   |
| <b>Total All Schedules</b>                                            |    |        |         | <b>\$2,781,920</b> |

**Table B3**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Local Improvement Charges by Lot**

|                               |             |                                         |          |
|-------------------------------|-------------|-----------------------------------------|----------|
| Total Local Improvmnt Levy    | \$1,007,135 | Total Frontage Measure (m)              | 6,256.68 |
| Number of Parcels             | 271         | Average Frontage Measure                | 23.09    |
| Local Improvmnt Levy / Lot    | \$3,716     | Local Improvement Levy per meter        | \$160.97 |
| Tax Per Year / Lot 15 Yr Amrt | \$332       | Tax Per Year Per meter for 15 Yr Amort. | \$14.37  |
| Tax Per Year / Lot 15 Yr Amrt | \$237       | Tax Per Year Per meter for 25 Yr Amort. | \$10.25  |

| Address |              | Local Improvement Levy by Lot |            |          | Local Improvement Levy by Frontage |            |            |          |
|---------|--------------|-------------------------------|------------|----------|------------------------------------|------------|------------|----------|
|         |              | Total Cost                    | Annual Tax |          | Frontage Measure (m)               | Total Cost | Annual Tax |          |
|         |              |                               | 15 Years   | 25 Years |                                    |            | 15 Years   | 25 Years |
| 1411    | Juniper Road | \$3,716                       | \$332      | \$237    | 20.29                              | \$3,266.07 | \$291.66   | \$207.87 |
| 1409    | Juniper Road | \$3,716                       | \$332      | \$237    | 18.84                              | \$3,032.67 | \$270.82   | \$193.02 |
| 1407    | Juniper Road | \$3,716                       | \$332      | \$237    | 22.19                              | \$3,571.91 | \$318.97   | \$227.34 |
| 1405    | Juniper Road | \$3,716                       | \$332      | \$237    | 39.85                              | \$6,414.63 | \$572.83   | \$408.27 |
| 1403    | Juniper Road | \$3,716                       | \$332      | \$237    | 34.00                              | \$5,472.96 | \$488.73   | \$348.33 |
| 1401    | Juniper Road | \$3,716                       | \$332      | \$237    | 51.02                              | \$8,212.66 | \$733.39   | \$522.71 |
| 1426    | Aspen Close  | \$3,716                       | \$332      | \$237    | 25.07                              | \$4,035.51 | \$360.37   | \$256.85 |
| 1422    | Aspen Close  | \$3,716                       | \$332      | \$237    | 15.58                              | \$2,507.90 | \$223.96   | \$159.62 |
| 1418    | Aspen Close  | \$3,716                       | \$332      | \$237    | 15.58                              | \$2,507.90 | \$223.96   | \$159.62 |
| 1414    | Aspen Close  | \$3,716                       | \$332      | \$237    | 17.44                              | \$2,807.31 | \$250.69   | \$178.68 |
| 1410    | Aspen Close  | \$3,716                       | \$332      | \$237    | 15.58                              | \$2,507.90 | \$223.96   | \$159.62 |
| 1406    | Aspen Close  | \$3,716                       | \$332      | \$237    | 15.58                              | \$2,507.90 | \$223.96   | \$159.62 |
| 1402    | Aspen Close  | \$3,716                       | \$332      | \$237    | 29.99                              | \$4,827.48 | \$431.09   | \$307.25 |
| 1333    | Birch Road   | \$3,716                       | \$332      | \$237    | 50.30                              | \$8,096.77 | \$723.04   | \$515.33 |
| 1331    | Birch Road   | \$3,716                       | \$332      | \$237    | 18.28                              | \$2,942.52 | \$262.77   | \$187.28 |
| 1329    | Birch Road   | \$3,716                       | \$332      | \$237    | 18.28                              | \$2,942.52 | \$262.77   | \$187.28 |
| 1327    | Birch Road   | \$3,716                       | \$332      | \$237    | 18.28                              | \$2,942.52 | \$262.77   | \$187.28 |
| 1325    | Birch Road   | \$3,716                       | \$332      | \$237    | 18.28                              | \$2,942.52 | \$262.77   | \$187.28 |
| 1323    | Birch Road   | \$3,716                       | \$332      | \$237    | 36.16                              | \$5,820.66 | \$519.78   | \$370.46 |



| Address |  |
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| Local Improvement Levy by Lot |            |          |
|-------------------------------|------------|----------|
| Total Cost                    | Annual Tax |          |
|                               | 15 Years   | 25 Years |

| Local Improvement Levy by Frontage |            |            |          |
|------------------------------------|------------|------------|----------|
| Frontage Measure (m)               | Total Cost | Annual Tax |          |
|                                    |            | 15 Years   | 25 Years |

|      |                  |         |       |       |       |            |          |          |
|------|------------------|---------|-------|-------|-------|------------|----------|----------|
| 1321 | Birch Road       | \$3,716 | \$332 | \$237 | 13.99 | \$2,251.96 | \$201.10 | \$143.33 |
| 1319 | Birch Road       | \$3,716 | \$332 | \$237 | 22.85 | \$3,678.15 | \$328.46 | \$234.10 |
| 1317 | Birch Road       | \$3,716 | \$332 | \$237 | 22.85 | \$3,678.15 | \$328.46 | \$234.10 |
| 1315 | Birch Road       | \$3,716 | \$332 | \$237 | 22.85 | \$3,678.15 | \$328.46 | \$234.10 |
| 1313 | Birch Road       | \$3,716 | \$332 | \$237 | 22.85 | \$3,678.15 | \$328.46 | \$234.10 |
| 1311 | Birch Road       | \$3,716 | \$332 | \$237 | 13.94 | \$2,243.91 | \$200.38 | \$142.82 |
| 1309 | Birch Road       | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 1307 | Birch Road       | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 1305 | Birch Road       | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 1303 | Birch Road       | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 1301 | Birch Road       | \$3,716 | \$332 | \$237 | 43.74 | \$7,040.81 | \$628.74 | \$448.12 |
| 1313 | Breakers Way     | \$3,716 | \$332 | \$237 | 36.55 | \$5,883.44 | \$525.39 | \$374.46 |
| 1309 | Breakers Way     | \$3,716 | \$332 | \$237 | 36.55 | \$5,883.44 | \$525.39 | \$374.46 |
| 1305 | Breakers Way     | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76 | \$328.60 | \$234.20 |
| 1301 | Breakers Way     | \$3,716 | \$332 | \$237 | 42.22 | \$6,796.13 | \$606.89 | \$432.55 |
| 1326 | CottonWood Close | \$3,716 | \$332 | \$237 | 29.69 | \$4,779.18 | \$426.78 | \$304.18 |
| 1322 | CottonWood Close | \$3,716 | \$332 | \$237 | 14.17 | \$2,280.94 | \$203.69 | \$145.17 |
| 1318 | CottonWood Close | \$3,716 | \$332 | \$237 | 14.19 | \$2,284.16 | \$203.97 | \$145.38 |
| 1314 | CottonWood Close | \$3,716 | \$332 | \$237 | 14.51 | \$2,335.67 | \$208.57 | \$148.66 |
| 1310 | CottonWood Close | \$3,716 | \$332 | \$237 | 14.18 | \$2,282.55 | \$203.83 | \$145.28 |
| 1306 | CottonWood Close | \$3,716 | \$332 | \$237 | 14.18 | \$2,282.55 | \$203.83 | \$145.28 |
| 1302 | CottonWood Close | \$3,716 | \$332 | \$237 | 30.72 | \$4,944.98 | \$441.59 | \$314.73 |
| 1227 | Pine Road        | \$3,716 | \$332 | \$237 | 21.31 | \$3,430.26 | \$306.32 | \$218.32 |
| 1225 | Pine Road        | \$3,716 | \$332 | \$237 | 21.31 | \$3,430.26 | \$306.32 | \$218.32 |
| 1223 | Pine Road        | \$3,716 | \$332 | \$237 | 21.31 | \$3,430.26 | \$306.32 | \$218.32 |
| 1221 | Pine Road        | \$3,716 | \$332 | \$237 | 21.31 | \$3,430.26 | \$306.32 | \$218.32 |
| 1219 | Pine Road        | \$3,716 | \$332 | \$237 | 13.15 | \$2,116.75 | \$189.03 | \$134.72 |
| 1215 | Pine Road        | \$3,716 | \$332 | \$237 | 22.85 | \$3,678.15 | \$328.46 | \$234.10 |
| 1211 | Pine Road        | \$3,716 | \$332 | \$237 | 21.33 | \$3,433.48 | \$306.61 | \$218.53 |
| 1209 | Pine Road        | \$3,716 | \$332 | \$237 | 13.41 | \$2,158.60 | \$192.76 | \$137.39 |

| Address |  |
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| Local Improvement Levy by Lot |            |          |
|-------------------------------|------------|----------|
| Total Cost                    | Annual Tax |          |
|                               | 15 Years   | 25 Years |

| Local Improvement Levy by Frontage |            |            |          |
|------------------------------------|------------|------------|----------|
| Frontage Measure (m)               | Total Cost | Annual Tax |          |
|                                    |            | 15 Years   | 25 Years |

|      |              |         |       |       |       |             |          |          |
|------|--------------|---------|-------|-------|-------|-------------|----------|----------|
| 1207 | Pine Road    | \$3,716 | \$332 | \$237 | 21.36 | \$3,438.31  | \$307.04 | \$218.84 |
| 1205 | Pine Road    | \$3,716 | \$332 | \$237 | 21.36 | \$3,438.31  | \$307.04 | \$218.84 |
| 1203 | Pine Road    | \$3,716 | \$332 | \$237 | 58.49 | \$9,415.11  | \$840.77 | \$599.24 |
| 1225 | Breakers Way | \$3,716 | \$332 | \$237 | 63.35 | \$10,197.42 | \$910.63 | \$649.03 |
| 1221 | Breakers Way | \$3,716 | \$332 | \$237 | 21.32 | \$3,431.87  | \$306.47 | \$218.43 |
| 1217 | Breakers Way | \$3,716 | \$332 | \$237 | 21.34 | \$3,435.09  | \$306.75 | \$218.63 |
| 1213 | Breakers Way | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13  | \$262.91 | \$187.38 |
| 1209 | Breakers Way | \$3,716 | \$332 | \$237 | 32.01 | \$5,152.63  | \$460.13 | \$327.95 |
| 1205 | Breakers Way | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76  | \$328.60 | \$234.20 |
| 1201 | Breakers Way | \$3,716 | \$332 | \$237 | 30.73 | \$4,946.59  | \$441.73 | \$314.83 |
| 1353 | Balm Road    | \$3,716 | \$332 | \$237 | 28.02 | \$4,510.37  | \$402.77 | \$287.07 |
| 1349 | Balm Road    | \$3,716 | \$332 | \$237 | 32.59 | \$5,246.00  | \$468.47 | \$333.89 |
| 1345 | Balm Road    | \$3,716 | \$332 | \$237 | 25.91 | \$4,170.72  | \$372.44 | \$265.45 |
| 1341 | Balm Road    | \$3,716 | \$332 | \$237 | 21.33 | \$3,433.48  | \$306.61 | \$218.53 |
| 1333 | Balm Road    | \$3,716 | \$332 | \$237 | 21.33 | \$3,433.48  | \$306.61 | \$218.53 |
| 1329 | Balm Road    | \$3,716 | \$332 | \$237 | 21.33 | \$3,433.48  | \$306.61 | \$218.53 |
| 1325 | Balm Road    | \$3,716 | \$332 | \$237 | 21.35 | \$3,436.70  | \$306.90 | \$218.73 |
| 1321 | Balm Road    | \$3,716 | \$332 | \$237 | 21.34 | \$3,435.09  | \$306.75 | \$218.63 |
| 1317 | Balm Road    | \$3,716 | \$332 | \$237 | 21.34 | \$3,435.09  | \$306.75 | \$218.63 |
| 1313 | Balm Road    | \$3,716 | \$332 | \$237 | 33.55 | \$5,400.53  | \$482.27 | \$343.72 |
| 1309 | Balm Road    | \$3,716 | \$332 | \$237 | 41.62 | \$6,699.55  | \$598.27 | \$426.40 |
| 1354 | Balm Road    | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76  | \$328.60 | \$234.20 |
| 1350 | Balm Road    | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76  | \$328.60 | \$234.20 |
| 1346 | Balm Road    | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76  | \$328.60 | \$234.20 |
| 1342 | Balm Road    | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76  | \$328.60 | \$234.20 |
| 1338 | Balm Road    | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76  | \$328.60 | \$234.20 |
| 1334 | Balm Road    | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76  | \$328.60 | \$234.20 |
| 1330 | Balm Road    | \$3,716 | \$332 | \$237 | 22.85 | \$3,678.15  | \$328.46 | \$234.10 |
| 1326 | Balm Road    | \$3,716 | \$332 | \$237 | 22.87 | \$3,681.37  | \$328.75 | \$234.31 |
| 1322 | Balm Road    | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76  | \$328.60 | \$234.20 |

| Address |  |
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| Local Improvement Levy by Lot |            |          |
|-------------------------------|------------|----------|
| Total Cost                    | Annual Tax |          |
|                               | 15 Years   | 25 Years |

| Local Improvement Levy by Frontage |            |            |          |
|------------------------------------|------------|------------|----------|
| Frontage Measure (m)               | Total Cost | Annual Tax |          |
|                                    |            | 15 Years   | 25 Years |

|      |             |         |       |       |       |            |          |          |
|------|-------------|---------|-------|-------|-------|------------|----------|----------|
| 1318 | Balm Road   | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76 | \$328.60 | \$234.20 |
| 1314 | Balm Road   | \$3,716 | \$332 | \$237 | 23.12 | \$3,721.61 | \$332.34 | \$236.87 |
| 1310 | Balm Road   | \$3,716 | \$332 | \$237 | 24.80 | \$3,992.04 | \$356.49 | \$254.08 |
| 1306 | Balm Road   | \$3,716 | \$332 | \$237 | 15.80 | \$2,543.32 | \$227.12 | \$161.87 |
| 1302 | Willow Road | \$3,716 | \$332 | \$237 | 28.95 | \$4,660.07 | \$416.14 | \$296.60 |
| 1310 | Willow Road | \$3,716 | \$332 | \$237 | 39.19 | \$6,308.39 | \$563.34 | \$401.51 |
| 1314 | Willow Road | \$3,716 | \$332 | \$237 | 22.85 | \$3,678.15 | \$328.46 | \$234.10 |
| 1318 | Willow Road | \$3,716 | \$332 | \$237 | 22.85 | \$3,678.15 | \$328.46 | \$234.10 |
| 1322 | Willow Road | \$3,716 | \$332 | \$237 | 22.85 | \$3,678.15 | \$328.46 | \$234.10 |
| 1326 | Willow Road | \$3,716 | \$332 | \$237 | 23.09 | \$3,716.79 | \$331.91 | \$236.56 |
| 1119 | Briar Road  | \$3,716 | \$332 | \$237 | 39.57 | \$6,369.56 | \$568.80 | \$405.40 |
| 1117 | Briar Road  | \$3,716 | \$332 | \$237 | 24.38 | \$3,924.44 | \$350.45 | \$249.78 |
| 1115 | Briar Road  | \$3,716 | \$332 | \$237 | 14.21 | \$2,287.38 | \$204.26 | \$145.58 |
| 1113 | Briar Road  | \$3,716 | \$332 | \$237 | 20.93 | \$3,369.09 | \$300.86 | \$214.43 |
| 1111 | Briar Road  | \$3,716 | \$332 | \$237 | 20.93 | \$3,369.09 | \$300.86 | \$214.43 |
| 1109 | Briar Road  | \$3,716 | \$332 | \$237 | 20.93 | \$3,369.09 | \$300.86 | \$214.43 |
| 1107 | Briar Road  | \$3,716 | \$332 | \$237 | 14.21 | \$2,287.38 | \$204.26 | \$145.58 |
| 1105 | Briar Road  | \$3,716 | \$332 | \$237 | 22.14 | \$3,563.86 | \$318.25 | \$226.83 |
| 1103 | Briar Road  | \$3,716 | \$332 | \$237 | 22.85 | \$3,678.15 | \$328.46 | \$234.10 |
| 1101 | Briar Road  | \$3,716 | \$332 | \$237 | 18.54 | \$2,984.37 | \$266.50 | \$189.94 |
| 1123 | Larch Road  | \$3,716 | \$332 | \$237 | 30.00 | \$4,829.08 | \$431.24 | \$307.35 |
| 1121 | Larch Road  | \$3,716 | \$332 | \$237 | 22.85 | \$3,678.15 | \$328.46 | \$234.10 |
| 1119 | Larch Road  | \$3,716 | \$332 | \$237 | 30.03 | \$4,833.91 | \$431.67 | \$307.66 |
| 1117 | Larch Road  | \$3,716 | \$332 | \$237 | 13.95 | \$2,245.52 | \$200.53 | \$142.92 |
| 1115 | Larch Road  | \$3,716 | \$332 | \$237 | 22.91 | \$3,687.81 | \$329.32 | \$234.72 |
| 1113 | Larch Road  | \$3,716 | \$332 | \$237 | 22.81 | \$3,671.71 | \$327.88 | \$233.69 |
| 1111 | Larch Road  | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76 | \$328.60 | \$234.20 |
| 1109 | Larch Road  | \$3,716 | \$332 | \$237 | 15.28 | \$2,459.61 | \$219.64 | \$156.55 |
| 1107 | Larch Road  | \$3,716 | \$332 | \$237 | 19.73 | \$3,175.93 | \$283.61 | \$202.14 |
| 1105 | Larch Road  | \$3,716 | \$332 | \$237 | 21.30 | \$3,428.65 | \$306.18 | \$218.22 |

| Address |  |
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| Local Improvement Levy by Lot |            |          |
|-------------------------------|------------|----------|
| Total Cost                    | Annual Tax |          |
|                               | 15 Years   | 25 Years |

| Local Improvement Levy by Frontage |            |            |          |
|------------------------------------|------------|------------|----------|
| Frontage Measure (m)               | Total Cost | Annual Tax |          |
|                                    |            | 15 Years   | 25 Years |

|      |              |         |       |       |       |            |          |          |
|------|--------------|---------|-------|-------|-------|------------|----------|----------|
| 1103 | Larch Road   | \$3,716 | \$332 | \$237 | 21.30 | \$3,428.65 | \$306.18 | \$218.22 |
| 1101 | Larch Road   | \$3,716 | \$332 | \$237 | 17.90 | \$2,881.35 | \$257.30 | \$183.39 |
| 1105 | Breakers Way | \$3,716 | \$332 | \$237 | 47.32 | \$7,617.08 | \$680.20 | \$484.80 |
| 1125 | Poplar Road  | \$3,716 | \$332 | \$237 | 16.76 | \$2,697.85 | \$240.92 | \$171.71 |
| 1123 | Poplar Road  | \$3,716 | \$332 | \$237 | 16.76 | \$2,697.85 | \$240.92 | \$171.71 |
| 1121 | Poplar Road  | \$3,716 | \$332 | \$237 | 47.81 | \$7,695.95 | \$687.25 | \$489.82 |
| 1119 | Poplar Road  | \$3,716 | \$332 | \$237 | 8.91  | \$1,434.24 | \$128.08 | \$91.28  |
| 1117 | Poplar Road  | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 1115 | Poplar Road  | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 1113 | Poplar Road  | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 1111 | Poplar Road  | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 1109 | Poplar Road  | \$3,716 | \$332 | \$237 | 8.91  | \$1,434.24 | \$128.08 | \$91.28  |
| 1107 | Poplar Road  | \$3,716 | \$332 | \$237 | 47.81 | \$7,695.95 | \$687.25 | \$489.82 |
| 1105 | Poplar Road  | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 1103 | Poplar Road  | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 1101 | Breakers Way | \$3,716 | \$332 | \$237 | 47.00 | \$7,565.57 | \$675.60 | \$481.52 |
| 1106 | Breakers Way | \$3,716 | \$332 | \$237 | 21.06 | \$3,390.02 | \$302.73 | \$215.76 |
| 1110 | Breakers Way | \$3,716 | \$332 | \$237 | 24.37 | \$3,922.83 | \$350.31 | \$249.67 |
| 1114 | Breakers Way | \$3,716 | \$332 | \$237 | 29.58 | \$4,761.48 | \$425.20 | \$303.05 |
| 1118 | Breakers Way | \$3,716 | \$332 | \$237 | 32.04 | \$5,157.46 | \$460.56 | \$328.25 |
| 1122 | Breakers Way | \$3,716 | \$332 | \$237 | 28.39 | \$4,569.92 | \$408.09 | \$290.86 |
| 1126 | Breakers Way | \$3,716 | \$332 | \$237 | 29.46 | \$4,742.16 | \$423.47 | \$301.82 |
| 1130 | Breakers Way | \$3,716 | \$332 | \$237 | 46.21 | \$7,438.40 | \$664.25 | \$473.43 |
| 1317 | Willow Road  | \$3,716 | \$332 | \$237 | 36.58 | \$5,888.26 | \$525.82 | \$374.77 |
| 1313 | Willow Road  | \$3,716 | \$332 | \$237 | 30.48 | \$4,906.35 | \$438.14 | \$312.27 |
| 1309 | Willow Road  | \$3,716 | \$332 | \$237 | 27.49 | \$4,425.05 | \$395.16 | \$281.64 |
| 1305 | Willow Road  | \$3,716 | \$332 | \$237 | 31.87 | \$5,130.10 | \$458.12 | \$326.51 |
| 1301 | Willow Road  | \$3,716 | \$332 | \$237 | 26.30 | \$4,233.50 | \$378.05 | \$269.45 |
| 1234 | Marine Drive | \$3,716 | \$332 | \$237 | 22.86 | \$3,679.76 | \$328.60 | \$234.20 |
| 1230 | Marine Drive | \$3,716 | \$332 | \$237 | 21.33 | \$3,433.48 | \$306.61 | \$218.53 |

| Address |  |
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| Local Improvement Levy by Lot |            |          |
|-------------------------------|------------|----------|
| Total Cost                    | Annual Tax |          |
|                               | 15 Years   | 25 Years |

| Local Improvement Levy by Frontage |            |            |          |
|------------------------------------|------------|------------|----------|
| Frontage Measure (m)               | Total Cost | Annual Tax |          |
|                                    |            | 15 Years   | 25 Years |

|      |                 |         |       |       |       |             |            |          |
|------|-----------------|---------|-------|-------|-------|-------------|------------|----------|
| 1226 | Marine Drive    | \$3,716 | \$332 | \$237 | 21.33 | \$3,433.48  | \$306.61   | \$218.53 |
| 1222 | Marine Drive    | \$3,716 | \$332 | \$237 | 21.33 | \$3,433.48  | \$306.61   | \$218.53 |
| 1218 | Marine Drive    | \$3,716 | \$332 | \$237 | 21.33 | \$3,433.48  | \$306.61   | \$218.53 |
| 1214 | Marine Drive    | \$3,716 | \$332 | \$237 | 21.33 | \$3,433.48  | \$306.61   | \$218.53 |
| 1210 | Marine Drive    | \$3,716 | \$332 | \$237 | 22.89 | \$3,684.59  | \$329.03   | \$234.51 |
| 1206 | Marine Drive    | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13  | \$262.91   | \$187.38 |
| 1102 | Breakers Way    | \$3,716 | \$332 | \$237 | 77.41 | \$12,460.65 | \$1,112.73 | \$793.08 |
| 929  | Sunhaven Way    | \$3,716 | \$332 | \$237 | 19.28 | \$3,103.49  | \$277.14   | \$197.53 |
| 925  | Sunhaven Way    | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13  | \$262.91   | \$187.38 |
| 921  | Sunhaven Way    | \$3,716 | \$332 | \$237 | 18.71 | \$3,011.74  | \$268.95   | \$191.69 |
| 917  | Sunhaven Way    | \$3,716 | \$332 | \$237 | 18.30 | \$2,945.74  | \$263.05   | \$187.49 |
| 913  | Sunhaven Way    | \$3,716 | \$332 | \$237 | 19.20 | \$3,090.61  | \$275.99   | \$196.71 |
| 909  | Sunhaven Way    | \$3,716 | \$332 | \$237 | 25.57 | \$4,115.99  | \$367.56   | \$261.97 |
| 905  | Sunhaven Way    | \$3,716 | \$332 | \$237 | 31.34 | \$5,044.78  | \$450.50   | \$321.08 |
| 901  | Sunhaven Way    | \$3,716 | \$332 | \$237 | 21.94 | \$3,531.67  | \$315.38   | \$224.78 |
| 822  | Antelope Street | \$3,716 | \$332 | \$237 | 21.80 | \$3,509.14  | \$313.37   | \$223.34 |
| 818  | Antelope Street | \$3,716 | \$332 | \$237 | 20.71 | \$3,333.68  | \$297.70   | \$212.18 |
| 814  | Antelope Street | \$3,716 | \$332 | \$237 | 16.76 | \$2,697.85  | \$240.92   | \$171.71 |
| 810  | Antelope Street | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13  | \$262.91   | \$187.38 |
| 806  | Antelope Street | \$3,716 | \$332 | \$237 | 16.76 | \$2,697.85  | \$240.92   | \$171.71 |
| 802  | Antelope Street | \$3,716 | \$332 | \$237 | 41.89 | \$6,743.01  | \$602.15   | \$429.17 |
| 925  | Deer Street     | \$3,716 | \$332 | \$237 | 19.97 | \$3,214.56  | \$287.06   | \$204.60 |
| 923  | Deer Street     | \$3,716 | \$332 | \$237 | 26.77 | \$4,309.15  | \$384.81   | \$274.26 |
| 921  | Deer Street     | \$3,716 | \$332 | \$237 | 19.82 | \$3,190.42  | \$284.90   | \$203.06 |
| 919  | Deer Street     | \$3,716 | \$332 | \$237 | 21.34 | \$3,435.09  | \$306.75   | \$218.63 |
| 917  | Deer Street     | \$3,716 | \$332 | \$237 | 15.24 | \$2,453.18  | \$219.07   | \$156.14 |
| 915  | Deer Street     | \$3,716 | \$332 | \$237 | 18.28 | \$2,942.52  | \$262.77   | \$187.28 |
| 913  | Deer Street     | \$3,716 | \$332 | \$237 | 18.28 | \$2,942.52  | \$262.77   | \$187.28 |
| 911  | Deer Street     | \$3,716 | \$332 | \$237 | 12.19 | \$1,962.22  | \$175.23   | \$124.89 |
| 909  | Deer Street     | \$3,716 | \$332 | \$237 | 9.00  | \$1,448.73  | \$129.37   | \$92.21  |

| Address |  |
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| Local Improvement Levy by Lot |            |          |
|-------------------------------|------------|----------|
| Total Cost                    | Annual Tax |          |
|                               | 15 Years   | 25 Years |

| Local Improvement Levy by Frontage |            |            |          |
|------------------------------------|------------|------------|----------|
| Frontage Measure (m)               | Total Cost | Annual Tax |          |
|                                    |            | 15 Years   | 25 Years |

|     |                 |         |       |       |       |            |          |          |
|-----|-----------------|---------|-------|-------|-------|------------|----------|----------|
| 907 | Deer Street     | \$3,716 | \$332 | \$237 | 9.00  | \$1,448.73 | \$129.37 | \$92.21  |
| 905 | Deer Street     | \$3,716 | \$332 | \$237 | 9.00  | \$1,448.73 | \$129.37 | \$92.21  |
| 903 | Deer Street     | \$3,716 | \$332 | \$237 | 10.45 | \$1,682.13 | \$150.21 | \$107.06 |
| 901 | Deer Street     | \$3,716 | \$332 | \$237 | 13.62 | \$2,192.40 | \$195.78 | \$139.54 |
| 805 | Antelope Street | \$3,716 | \$332 | \$237 | 49.37 | \$7,947.06 | \$709.67 | \$505.80 |
| 809 | Antelope Street | \$3,716 | \$332 | \$237 | 28.66 | \$4,613.39 | \$411.97 | \$293.63 |
| 813 | Antelope Street | \$3,716 | \$332 | \$237 | 25.88 | \$4,165.89 | \$372.01 | \$265.14 |
| 817 | Antelope Street | \$3,716 | \$332 | \$237 | 21.34 | \$3,435.09 | \$306.75 | \$218.63 |
| 841 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 19.29 | \$3,105.10 | \$277.29 | \$197.63 |
| 837 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 833 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 829 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 15.23 | \$2,451.57 | \$218.92 | \$156.03 |
| 825 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 15.23 | \$2,451.57 | \$218.92 | \$156.03 |
| 821 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 15.24 | \$2,453.18 | \$219.07 | \$156.14 |
| 817 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 15.23 | \$2,451.57 | \$218.92 | \$156.03 |
| 813 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 15.23 | \$2,451.57 | \$218.92 | \$156.03 |
| 809 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 15.23 | \$2,451.57 | \$218.92 | \$156.03 |
| 805 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 16.77 | \$2,699.46 | \$241.06 | \$171.81 |
| 801 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 19.30 | \$3,106.71 | \$277.43 | \$197.73 |
| 745 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 19.34 | \$3,113.15 | \$278.00 | \$198.14 |
| 741 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 18.28 | \$2,942.52 | \$262.77 | \$187.28 |
| 737 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 18.28 | \$2,942.52 | \$262.77 | \$187.28 |
| 733 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 23.46 | \$3,776.34 | \$337.23 | \$240.35 |
| 729 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 37.48 | \$6,033.14 | \$538.76 | \$383.99 |
| 725 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 34.71 | \$5,587.25 | \$498.94 | \$355.61 |
| 721 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 21.34 | \$3,435.09 | \$306.75 | \$218.63 |
| 717 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 21.34 | \$3,435.09 | \$306.75 | \$218.63 |
| 713 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 19.82 | \$3,190.42 | \$284.90 | \$203.06 |
| 709 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 19.80 | \$3,187.20 | \$284.62 | \$202.85 |
| 705 | Sunhaven Way    | \$3,716 | \$332 | \$237 | 18.28 | \$2,942.52 | \$262.77 | \$187.28 |

| Address |  |
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| Local Improvement Levy by Lot |            |          |
|-------------------------------|------------|----------|
| Total Cost                    | Annual Tax |          |
|                               | 15 Years   | 25 Years |

| Local Improvement Levy by Frontage |            |            |          |
|------------------------------------|------------|------------|----------|
| Frontage Measure (m)               | Total Cost | Annual Tax |          |
|                                    |            | 15 Years   | 25 Years |

|     |              |         |       |       |       |            |          |          |
|-----|--------------|---------|-------|-------|-------|------------|----------|----------|
| 701 | Sunhaven Way | \$3,716 | \$332 | \$237 | 53.20 | \$8,563.58 | \$764.73 | \$545.04 |
| 757 | Elk Street   | \$3,716 | \$332 | \$237 | 33.58 | \$5,405.36 | \$482.70 | \$344.03 |
| 755 | Elk Street   | \$3,716 | \$332 | \$237 | 24.37 | \$3,922.83 | \$350.31 | \$249.67 |
| 753 | Elk Street   | \$3,716 | \$332 | \$237 | 19.80 | \$3,187.20 | \$284.62 | \$202.85 |
| 751 | Elk Street   | \$3,716 | \$332 | \$237 | 12.90 | \$2,076.51 | \$185.43 | \$132.16 |
| 749 | Elk Street   | \$3,716 | \$332 | \$237 | 10.45 | \$1,682.13 | \$150.21 | \$107.06 |
| 747 | Elk Street   | \$3,716 | \$332 | \$237 | 9.00  | \$1,448.73 | \$129.37 | \$92.21  |
| 745 | Elk Street   | \$3,716 | \$332 | \$237 | 9.00  | \$1,448.73 | \$129.37 | \$92.21  |
| 743 | Elk Street   | \$3,716 | \$332 | \$237 | 9.00  | \$1,448.73 | \$129.37 | \$92.21  |
| 741 | Elk Street   | \$3,716 | \$332 | \$237 | 12.69 | \$2,042.70 | \$182.41 | \$130.01 |
| 739 | Elk Street   | \$3,716 | \$332 | \$237 | 35.81 | \$5,764.32 | \$514.75 | \$366.88 |
| 737 | Elk Street   | \$3,716 | \$332 | \$237 | 34.63 | \$5,574.37 | \$497.79 | \$354.79 |
| 735 | Elk Street   | \$3,716 | \$332 | \$237 | 39.63 | \$6,379.22 | \$569.66 | \$406.01 |
| 733 | Elk Street   | \$3,716 | \$332 | \$237 | 20.73 | \$3,336.90 | \$297.98 | \$212.38 |
| 731 | Elk Street   | \$3,716 | \$332 | \$237 | 19.82 | \$3,190.42 | \$284.90 | \$203.06 |
| 727 | Elk Street   | \$3,716 | \$332 | \$237 | 32.58 | \$5,244.39 | \$468.32 | \$333.79 |
| 725 | Elk Street   | \$3,716 | \$332 | \$237 | 9.01  | \$1,450.34 | \$129.51 | \$92.31  |
| 723 | Elk Street   | \$3,716 | \$332 | \$237 | 9.01  | \$1,450.34 | \$129.51 | \$92.31  |
| 721 | Elk Street   | \$3,716 | \$332 | \$237 | 8.94  | \$1,439.07 | \$128.51 | \$91.59  |
| 719 | Elk Street   | \$3,716 | \$332 | \$237 | 9.01  | \$1,450.34 | \$129.51 | \$92.31  |
| 717 | Elk Street   | \$3,716 | \$332 | \$237 | 10.40 | \$1,674.08 | \$149.50 | \$106.55 |
| 715 | Elk Street   | \$3,716 | \$332 | \$237 | 15.85 | \$2,551.37 | \$227.84 | \$162.39 |
| 713 | Elk Street   | \$3,716 | \$332 | \$237 | 19.97 | \$3,214.56 | \$287.06 | \$204.60 |
| 711 | Elk Street   | \$3,716 | \$332 | \$237 | 19.81 | \$3,188.81 | \$284.76 | \$202.96 |
| 709 | Elk Street   | \$3,716 | \$332 | \$237 | 19.81 | \$3,188.81 | \$284.76 | \$202.96 |
| 707 | Elk Street   | \$3,716 | \$332 | \$237 | 19.81 | \$3,188.81 | \$284.76 | \$202.96 |
| 705 | Elk Street   | \$3,716 | \$332 | \$237 | 24.42 | \$3,930.88 | \$351.03 | \$250.19 |
| 703 | Elk Street   | \$3,716 | \$332 | \$237 | 27.43 | \$4,415.39 | \$394.29 | \$281.02 |
| 691 | Fox Crescent | \$3,716 | \$332 | \$237 | 21.35 | \$3,436.70 | \$306.90 | \$218.73 |
| 689 | Fox Crescent | \$3,716 | \$332 | \$237 | 21.33 | \$3,433.48 | \$306.61 | \$218.53 |



| Address |  |
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| Local Improvement Levy by Lot |            |          |
|-------------------------------|------------|----------|
| Total Cost                    | Annual Tax |          |
|                               | 15 Years   | 25 Years |

| Local Improvement Levy by Frontage |            |            |          |
|------------------------------------|------------|------------|----------|
| Frontage Measure (m)               | Total Cost | Annual Tax |          |
|                                    |            | 15 Years   | 25 Years |

|     |              |         |       |       |       |            |          |          |
|-----|--------------|---------|-------|-------|-------|------------|----------|----------|
| 687 | Fox Crescent | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 685 | Fox Crescent | \$3,716 | \$332 | \$237 | 58.22 | \$9,371.64 | \$836.89 | \$596.47 |
| 683 | Fox Crescent | \$3,716 | \$332 | \$237 | 16.99 | \$2,734.87 | \$244.22 | \$174.06 |
| 681 | Fox Crescent | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 679 | Fox Crescent | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 677 | Fox Crescent | \$3,716 | \$332 | \$237 | 18.29 | \$2,944.13 | \$262.91 | \$187.38 |
| 675 | Fox Crescent | \$3,716 | \$332 | \$237 | 18.30 | \$2,945.74 | \$263.05 | \$187.49 |
| 673 | Fox Crescent | \$3,716 | \$332 | \$237 | 18.35 | \$2,953.79 | \$263.77 | \$188.00 |
| 671 | Fox Crescent | \$3,716 | \$332 | \$237 | 8.99  | \$1,447.12 | \$129.23 | \$92.10  |
| 669 | Fox Crescent | \$3,716 | \$332 | \$237 | 19.81 | \$3,188.81 | \$284.76 | \$202.96 |
| 667 | Fox Crescent | \$3,716 | \$332 | \$237 | 19.81 | \$3,188.81 | \$284.76 | \$202.96 |
| 665 | Fox Crescent | \$3,716 | \$332 | \$237 | 19.82 | \$3,190.42 | \$284.90 | \$203.06 |
| 663 | Fox Crescent | \$3,716 | \$332 | \$237 | 19.80 | \$3,187.20 | \$284.62 | \$202.85 |
| 661 | Fox Crescent | \$3,716 | \$332 | \$237 | 19.82 | \$3,190.42 | \$284.90 | \$203.06 |
| 659 | Fox Crescent | \$3,716 | \$332 | \$237 | 19.82 | \$3,190.42 | \$284.90 | \$203.06 |
| 657 | Fox Crescent | \$3,716 | \$332 | \$237 | 19.81 | \$3,188.81 | \$284.76 | \$202.96 |
| 655 | Fox Crescent | \$3,716 | \$332 | \$237 | 44.09 | \$7,097.15 | \$633.77 | \$451.71 |
| 653 | Fox Crescent | \$3,716 | \$332 | \$237 | 34.56 | \$5,563.11 | \$496.78 | \$354.07 |
| 651 | Fox Crescent | \$3,716 | \$332 | \$237 | 28.73 | \$4,624.65 | \$412.98 | \$294.34 |
| 649 | Fox Crescent | \$3,716 | \$332 | \$237 | 34.44 | \$5,543.79 | \$495.06 | \$352.84 |
| 647 | Fox Crescent | \$3,716 | \$332 | \$237 | 25.76 | \$4,146.57 | \$370.29 | \$263.91 |
| 645 | Fox Crescent | \$3,716 | \$332 | \$237 | 19.81 | \$3,188.81 | \$284.76 | \$202.96 |
| 643 | Fox Crescent | \$3,716 | \$332 | \$237 | 19.81 | \$3,188.81 | \$284.76 | \$202.96 |
| 641 | Fox Crescent | \$3,716 | \$332 | \$237 | 19.81 | \$3,188.81 | \$284.76 | \$202.96 |
| 639 | Fox Crescent | \$3,716 | \$332 | \$237 | 19.81 | \$3,188.81 | \$284.76 | \$202.96 |
| 637 | Fox Crescent | \$3,716 | \$332 | \$237 | 21.34 | \$3,435.09 | \$306.75 | \$218.63 |
| 635 | Fox Crescent | \$3,716 | \$332 | \$237 | 47.54 | \$7,652.49 | \$683.37 | \$487.05 |
| 633 | Fox Crescent | \$3,716 | \$332 | \$237 | 20.50 | \$3,299.87 | \$294.68 | \$210.03 |
| 631 | Fox Crescent | \$3,716 | \$332 | \$237 | 18.26 | \$2,939.30 | \$262.48 | \$187.08 |
| 629 | Fox Crescent | \$3,716 | \$332 | \$237 | 18.30 | \$2,945.74 | \$263.05 | \$187.49 |

| Address |  |
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| Local Improvement Levy by Lot |            |          |
|-------------------------------|------------|----------|
| Total Cost                    | Annual Tax |          |
|                               | 15 Years   | 25 Years |

| Local Improvement Levy by Frontage |            |            |          |
|------------------------------------|------------|------------|----------|
| Frontage Measure (m)               | Total Cost | Annual Tax |          |
|                                    |            | 15 Years   | 25 Years |

|     |              |                    |                 |                 |                |                    |                 |                 |
|-----|--------------|--------------------|-----------------|-----------------|----------------|--------------------|-----------------|-----------------|
| 627 | Fox Crescent | \$3,716            | \$332           | \$237           | 18.30          | \$2,945.74         | \$263.05        | \$187.49        |
| 625 | Fox Crescent | \$3,716            | \$332           | \$237           | 18.30          | \$2,945.74         | \$263.05        | \$187.49        |
| 623 | Fox Crescent | \$3,716            | \$332           | \$237           | 18.30          | \$2,945.74         | \$263.05        | \$187.49        |
| 621 | Fox Crescent | \$3,716            | \$332           | \$237           | 18.29          | \$2,944.13         | \$262.91        | \$187.38        |
| 619 | Fox Crescent | \$3,716            | \$332           | \$237           | 12.19          | \$1,962.22         | \$175.23        | \$124.89        |
| 613 | Fox Crescent | \$3,716            | \$332           | \$237           | 13.72          | \$2,208.50         | \$197.22        | \$140.56        |
| 611 | Fox Crescent | \$3,716            | \$332           | \$237           | 21.34          | \$3,435.09         | \$306.75        | \$218.63        |
| 609 | Fox Crescent | \$3,716            | \$332           | \$237           | 21.34          | \$3,435.09         | \$306.75        | \$218.63        |
| 607 | Fox Crescent | \$3,716            | \$332           | \$237           | 21.33          | \$3,433.48         | \$306.61        | \$218.53        |
| 605 | Fox Crescent | \$3,716            | \$332           | \$237           | 21.34          | \$3,435.09         | \$306.75        | \$218.63        |
| 603 | Fox Crescent | \$3,716            | \$332           | \$237           | 21.34          | \$3,435.09         | \$306.75        | \$218.63        |
| 601 | Fox Crescent | \$3,716            | \$332           | \$237           | 21.48          | \$3,457.62         | \$308.77        | \$220.07        |
|     |              | <b>\$1,007,135</b> | <b>\$89,937</b> | <b>\$64,101</b> | <b>\$6,257</b> | <b>\$1,007,135</b> | <b>\$89,937</b> | <b>\$64,101</b> |

**Table B4**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Debenture Details**

|                               |             |                       |                  |
|-------------------------------|-------------|-----------------------|------------------|
| <b>First Payment</b>          | 15-Jun-19   | (yyy-mm-dd)           |                  |
| <b>Last Payment</b>           | 2033        |                       | Accrual Days 200 |
| <b>Amount of Loan</b>         | \$1,007,135 |                       |                  |
| <b>Annual Percentage</b>      | 4.000%      |                       |                  |
| <b>Payments per Year</b>      | 2.00        |                       |                  |
| <b>Number of Years</b>        | 15.00       |                       |                  |
| <b>Number of Payments</b>     | 30.00       |                       |                  |
| <b>Start or End of Period</b> | end         |                       |                  |
| <b>Bi-yearly Payment</b>      | 44,968.49   | <b>Annual Payment</b> | 89,936.98        |

| Year | Payment | Paid     | Interest | Principal | Balance   | Payment Date |
|------|---------|----------|----------|-----------|-----------|--------------|
| 2019 | 1       | \$44,968 | \$20,143 | \$24,826  | \$982,309 | 15-Jun-19    |
| 2019 | 2       | \$44,968 | \$19,646 | \$25,322  | \$956,987 | 15-Dec-19    |
| 2020 | 3       | \$44,968 | \$19,140 | \$25,829  | \$931,158 | 15-Jun-20    |
| 2020 | 4       | \$44,968 | \$18,623 | \$26,345  | \$904,812 | 15-Dec-20    |
| 2021 | 5       | \$44,968 | \$18,096 | \$26,872  | \$877,940 | 15-Jun-21    |
| 2021 | 6       | \$44,968 | \$17,559 | \$27,410  | \$850,531 | 15-Dec-21    |
| 2022 | 7       | \$44,968 | \$17,011 | \$27,958  | \$822,573 | 15-Jun-22    |
| 2022 | 8       | \$44,968 | \$16,451 | \$28,517  | \$794,056 | 15-Dec-22    |
| 2023 | 9       | \$44,968 | \$15,881 | \$29,087  | \$764,968 | 15-Jun-23    |
| 2023 | 10      | \$44,968 | \$15,299 | \$29,669  | \$735,299 | 15-Dec-23    |
| 2024 | 11      | \$44,968 | \$14,706 | \$30,263  | \$705,037 | 15-Jun-24    |
| 2024 | 12      | \$44,968 | \$14,101 | \$30,868  | \$674,169 | 15-Dec-24    |
| 2025 | 13      | \$44,968 | \$13,483 | \$31,485  | \$642,684 | 15-Jun-25    |
| 2025 | 14      | \$44,968 | \$12,854 | \$32,115  | \$610,569 | 15-Dec-25    |
| 2026 | 15      | \$44,968 | \$12,211 | \$32,757  | \$577,812 | 15-Jun-26    |
| 2026 | 16      | \$44,968 | \$11,556 | \$33,412  | \$544,400 | 15-Dec-26    |
| 2027 | 17      | \$44,968 | \$10,888 | \$34,081  | \$510,319 | 15-Jun-27    |
| 2027 | 18      | \$44,968 | \$10,206 | \$34,762  | \$475,557 | 15-Dec-27    |
| 2028 | 19      | \$44,968 | \$9,511  | \$35,457  | \$440,100 | 15-Jun-28    |
| 2028 | 20      | \$44,968 | \$8,802  | \$36,167  | \$403,933 | 15-Dec-28    |
| 2029 | 21      | \$44,968 | \$8,079  | \$36,890  | \$367,043 | 15-Jun-29    |
| 2029 | 22      | \$44,968 | \$7,341  | \$37,628  | \$329,416 | 15-Dec-29    |
| 2030 | 23      | \$44,968 | \$6,588  | \$38,380  | \$291,035 | 15-Jun-30    |
| 2030 | 24      | \$44,968 | \$5,821  | \$39,148  | \$251,888 | 15-Dec-30    |
| 2031 | 25      | \$44,968 | \$5,038  | \$39,931  | \$211,957 | 15-Jun-31    |

[illegible]

**Table B5**  
**Summer Village of Sunbreaker Cove Sanitary Collection System**  
**Debenture Details - 25 Year Amortization**

**First Payment** 15-Jun-19 *yyy-mm-dd*)  
**Last Payment** 2043 **Accrual Days** 200

**Amount of Loan** \$1,007,135  
**Annual Percentage** 4.000%  
**Payments per Year** 2.00  
**Number of Years** 25.00  
**Number of Payments** 50.00

**Start or End of Period** end

**Bi-yearly Payment** 32,050.26 **Annual Payment** 64,100.52

| Year | Payment | Paid     | Interest | Principal | Balance   | Payment Date |
|------|---------|----------|----------|-----------|-----------|--------------|
| 2019 | 1       | \$32,050 | \$20,143 | \$11,908  | \$995,227 | 15-Jun-19    |
| 2019 | 2       | \$32,050 | \$19,905 | \$12,146  | \$983,081 | 15-Dec-19    |
| 2020 | 3       | \$32,050 | \$19,662 | \$12,389  | \$970,693 | 15-Jun-20    |
| 2020 | 4       | \$32,050 | \$19,414 | \$12,636  | \$958,056 | 15-Dec-20    |
| 2021 | 5       | \$32,050 | \$19,161 | \$12,889  | \$945,167 | 15-Jun-21    |
| 2021 | 6       | \$32,050 | \$18,903 | \$13,147  | \$932,020 | 15-Dec-21    |
| 2022 | 7       | \$32,050 | \$18,640 | \$13,410  | \$918,610 | 15-Jun-22    |
| 2022 | 8       | \$32,050 | \$18,372 | \$13,678  | \$904,932 | 15-Dec-22    |
| 2023 | 9       | \$32,050 | \$18,099 | \$13,952  | \$890,981 | 15-Jun-23    |
| 2023 | 10      | \$32,050 | \$17,820 | \$14,231  | \$876,750 | 15-Dec-23    |
| 2024 | 11      | \$32,050 | \$17,535 | \$14,515  | \$862,235 | 15-Jun-24    |
| 2024 | 12      | \$32,050 | \$17,245 | \$14,806  | \$847,429 | 15-Dec-24    |
| 2025 | 13      | \$32,050 | \$16,949 | \$15,102  | \$832,328 | 15-Jun-25    |
| 2025 | 14      | \$32,050 | \$16,647 | \$15,404  | \$816,924 | 15-Dec-25    |
| 2026 | 15      | \$32,050 | \$16,338 | \$15,712  | \$801,212 | 15-Jun-26    |
| 2026 | 16      | \$32,050 | \$16,024 | \$16,026  | \$785,186 | 15-Dec-26    |
| 2027 | 17      | \$32,050 | \$15,704 | \$16,347  | \$768,840 | 15-Jun-27    |
| 2027 | 18      | \$32,050 | \$15,377 | \$16,673  | \$752,166 | 15-Dec-27    |
| 2028 | 19      | \$32,050 | \$15,043 | \$17,007  | \$735,159 | 15-Jun-28    |
| 2028 | 20      | \$32,050 | \$14,703 | \$17,347  | \$717,812 | 15-Dec-28    |
| 2029 | 21      | \$32,050 | \$14,356 | \$17,694  | \$700,118 | 15-Jun-29    |
| 2029 | 22      | \$32,050 | \$14,002 | \$18,048  | \$682,070 | 15-Dec-29    |
| 2030 | 23      | \$32,050 | \$13,641 | \$18,409  | \$663,661 | 15-Jun-30    |
| 2030 | 24      | \$32,050 | \$13,273 | \$18,777  | \$644,884 | 15-Dec-30    |

| Year | Payment | Paid               | Interest         | Principal          | Balance    | Payment Date |
|------|---------|--------------------|------------------|--------------------|------------|--------------|
| 2031 | 25      | \$32,050           | \$12,898         | \$19,153           | \$625,732  | 15-Jun-31    |
| 2031 | 26      | \$32,050           | \$12,515         | \$19,536           | \$606,196  | 15-Dec-31    |
| 2032 | 27      | \$32,050           | \$12,124         | \$19,926           | \$586,270  | 15-Jun-32    |
| 2032 | 28      | \$32,050           | \$11,725         | \$20,325           | \$565,945  | 15-Dec-32    |
| 2033 | 29      | \$32,050           | \$11,319         | \$20,731           | \$545,214  | 15-Jun-33    |
| 2033 | 30      | \$32,050           | \$10,904         | \$21,146           | \$524,068  | 15-Dec-33    |
| 2034 | 31      | \$32,050           | \$10,481         | \$21,569           | \$502,499  | 15-Jun-34    |
| 2034 | 32      | \$32,050           | \$10,050         | \$22,000           | \$480,498  | 15-Dec-34    |
| 2035 | 33      | \$32,050           | \$9,610          | \$22,440           | \$458,058  | 15-Jun-35    |
| 2035 | 34      | \$32,050           | \$9,161          | \$22,889           | \$435,169  | 15-Dec-35    |
| 2036 | 35      | \$32,050           | \$8,703          | \$23,347           | \$411,822  | 15-Jun-36    |
| 2036 | 36      | \$32,050           | \$8,236          | \$23,814           | \$388,008  | 15-Dec-36    |
| 2037 | 37      | \$32,050           | \$7,760          | \$24,290           | \$363,718  | 15-Jun-37    |
| 2037 | 38      | \$32,050           | \$7,274          | \$24,776           | \$338,942  | 15-Dec-37    |
| 2038 | 39      | \$32,050           | \$6,779          | \$25,271           | \$313,671  | 15-Jun-38    |
| 2038 | 40      | \$32,050           | \$6,273          | \$25,777           | \$287,894  | 15-Dec-38    |
| 2039 | 41      | \$32,050           | \$5,758          | \$26,292           | \$261,602  | 15-Jun-39    |
| 2039 | 42      | \$32,050           | \$5,232          | \$26,818           | \$234,783  | 15-Dec-39    |
| 2040 | 43      | \$32,050           | \$4,696          | \$27,355           | \$207,429  | 15-Jun-40    |
| 2040 | 44      | \$32,050           | \$4,149          | \$27,902           | \$179,527  | 15-Dec-40    |
| 2041 | 45      | \$32,050           | \$3,591          | \$28,460           | \$151,067  | 15-Jun-41    |
| 2041 | 46      | \$32,050           | \$3,021          | \$29,029           | \$122,038  | 15-Dec-41    |
| 2042 | 47      | \$32,050           | \$2,441          | \$29,609           | \$92,429   | 15-Jun-42    |
| 2042 | 48      | \$32,050           | \$1,849          | \$30,202           | \$62,227   | 15-Dec-42    |
| 2043 | 49      | \$32,050           | \$1,245          | \$30,806           | \$31,422   | 15-Jun-43    |
| 2043 | 50      | \$32,050           | \$629            | \$31,422           | \$0        | 15-Dec-43    |
|      |         | <b>\$1,602,513</b> | <b>\$595,378</b> | <b>\$1,007,135</b> | <b>\$0</b> |              |