POLICY

Title: Fire-Rescue Services Apparatus & Equipment Replacement

Policy No: 3021

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Purpose: The purpose of this policy is to establish a scheduled Emergency apparatus replacement plan, which improves the process of apparatus replacement and allows for planning of funding sources. The goal of this plan is to ensure that Rescue-Fire Emergency apparatus is replaced when necessary to maintain a safe, reliable, and innovative fleet and do so in a cost-efficient manner.

This policy ensures Greenview is compliant with NFPA guidelines, OH&S guidelines, Alberta Transport Legislation, and Greenview policies.

1. DEFINITIONS

1.1. **Aircraft (Emergency)** means primarily for fire-rescue transportation purposes such as small airplanes, large planes, drones, and other aircraft transporting devices. In this document it is to be fire-rescue aircraft.

1.2. **Amortization** is the process of incrementally charging the cost of an asset to expense over its expected period of use, which shifts the asset from the balance sheet to the income statement. It essentially reflects the consumption of an intangible asset over its useful life. Amortization is most commonly used for the gradual write-down of the cost of those intangible assets that have a specific useful life.

1.3. **Assets** are economic resources controlled by Greenview as a result of past transactions or events and from which future economic benefits are expected to be obtained. Assets have three essential characteristics:

A) They embody a future benefit that involves a capacity, singly or in combination with other assets, to provide future net cash flows, or to provide goods and services;

B) That Greenview can control access to the benefit;

C) The transaction or event giving rise to the Greenview's control of the benefit has already occurred.

1.4. **Asset Disposal** refers to the removal of a tangible and / or non-tangible asset(s) from service as a result of sale, destruction, loss, or abandonment.

1.5. **AMO** mean Asset Management Officer.

1.6. **Brush Truck** means a smaller fire vehicle that is used for forest, prairie, and brush fires. They are much lighter than larger apparatus and can access areas easier than larger apparatus. They are equipped with smaller high-pressure pumps and limited water, but are a very

effective tool, especially in this area due to the terrain encountered during these types of fires.

1.7. **Class A Pumper** means an apparatus meeting that criterion for a pumper truck that can be used to fight fires in structures or other types of fires requiring larger volumes of water.

1.8. **Commercial Chassis** means a chassis constructed for several different uses. i.e., Freightliner Etc.

1.9. **Construction Equipment** means in case of aid in fighting fires. These are but not limited to: gravel truck, various heavy equipment trailers, various heavy equipment, 3-ton trucks, 5- ton trucks, water trucks, and vehicle maintenance trucks.

1.10. **Custom Chassis** means a chassis constructed by a specialty manufacturer for the sole purpose of use in the Fire Service. i.e., Spartan, Pierce, Rosenbauer, E-One etc.

1.11. **Emergency Vehicles** means primarily for transportation purposes such as automobiles, pick-up trucks under one ton, ATV, snowmobiles, UTV, and SUV.

1.12. **Emergency Vehicles Over 1 Ton** means heavy equipment specific to the fire fighting. In this the majority of the different brands of fire trucks, and rescue trucks are defined here.

1.13. **Estimated Useful Life** is the estimate of the period over which a capital asset is expected to be used or the number of units of production that can be obtained from the asset. It is the period over which an asset will be amortized and is normally the shortest of the physical, technological, commercial, or legal life. This can be also to be referred to useful life.

1.14. **Extended Warranty** also termed as after sales service or simply service type warranty. Most of the time, the buyer is required to pay this in addition to the purchase price of the asset. In such cases it is not capitalized and is rather deferred and reduced over the warranty term.

1.15. **FAMA** means Fire Apparatus Manufacturer's Association.

1.16. **Fire Apparatus** means vehicles of varying types and sizes that fulfil different roles or functions during fire and rescue operations.

1.17. **FUS** means Fire Underwriters Survey; Administered by SCM Risk Management Services. Provides information on Fire Departments in Canada to the Insurance Industry, to help set ratepayer insurance rates. They develop recommended Standards for Municipalities and Industry to follow.

1.18. **Gallons Per Minute (GPM)** means the amount of water flow volume capability of a particular pump installed on an apparatus.

1.19. **Greenview** means the Municipal District of Greenview No. 16.

1.20. **Hours of Production Method** is an amortization method which allocates the cost of an asset based on its estimated hours of use or production.

1.21. **ISO** means the Insurance Service Office/Commercial Risk Services in an organization that generally rates communities on their ability to provide a level of fire protection. The rating for many residential properties can affect the amount of insurance paid by a homeowner in

a coverage area. For the purposes of this document, this process only considered that we maintain the current ISO ratings in each fire response area. However, older apparatus that fall within the replacement recommendation of NFPA may receive deficiency points for future ISO ratings if not replaced.

1.22. **Life Cycle** means the useful life of an apparatus based on the average years, engine hours, and mileage before the repair and maintenance to operate the equipment becomes cost prohibitive.

1.23. **NFPA** means The National Fire Protection Association (NFPA). It is a non-profit organization that utilizes its membership to develop standards for fire and life safety. The document includes standards for the construction and safety features used on fire apparatus and other equipment used by the fire service. NFPA also covers thousands of other standards that relate to fire and life safety. These standards are generally the nationally accepted standards and processes and can be legally binding in certain situations.

1.24. **NFPA 1901** means Standard for Firefighting Vehicles, Automotive Fire Apparatus, Wildland Fire Apparatus, and Automotive Ambulances.

1.25. **NFPA 1911** means Standard for the Inspection, Maintenance, Testing, and Retirement of in-service Emergency Vehicles.

1.26. **Operating Equipment** means equipment specific to maintenance, and appliances, such as: forklifts, hoses, monitors, utility trailers, security systems, light towers, refrigerators, stoves, freezers, lawn maintenance equipment, generator, emergency operations equipment, safety equipment, SCBA, and extrication equipment. Will follow NFPA standards when applicable.

1.27. **Repair and Maintenance** are ongoing activities to maintain a capital asset in operating condition. They are required to obtain the expected service potential of a capital asset over the estimated useful life. Costs for repairs and maintenance are expensed.

1.28. **Rescue** means different styles of trucks used in various rescue operations. These operations can include vehicle accident extrication, building collapse, confined space rescues and other specialized rescue operations.

1.29. **Support Unit** means various styles of vehicles used to provide support during an emergency. The vehicles can range from automobiles, trucks, and/or tractors. Most of the uses for this plan are for providing transportation for personnel to emergencies, training, and mutual aid.

1.30. **Tender** means an apparatus that supplies water to other trucks or drop tanks during fire operations. If provided with a pump, this type of truck usually does not have high volume pumps.

1.31. **Tender/Pumper** means an apparatus that supplies water to other trucks or drop tanks during fire operations. However, the pumps are usually large enough that the truck could be used to fight fires just as you would be able to with a Class A Pumper. These trucks could have access issues due to the weight of the truck where a Class A Pumper would work better. It is recommended this type of truck be purchased versus just a standard Tender due to its versatility and ability to support other pumpers with water supply.

1.32. **Watercraft (Emergency)** means primarily for fire-rescue transportation purposes such as small boats, large boats, personal watercraft, remote control watercraft and other water transporting devices or rescue devises.

1.33. **Wet Rescue Class A Pumper** means a specially designed fire apparatus that is used for multi-operations including fire suppression, vehicle extrications and other light rescue operations. It reduces the need to have multiple trucks responding on certain calls ultimately reducing costs for a department.

2. POLICY STATEMENT

2.1. To maximize fire fighter capabilities in utilising fire apparatus and to minimize the risk of injuries, it is important that fire apparatus be equipped with the latest safety features and operating capabilities. In the last 10 to 15 years, much progress has been made in upgrading functional capabilities and improving the safety features of fire apparatus. This will also follow Greenview's Tangible Capital Asset Policy 1507 for emergency vehicles and equipment.

2.2. It is a generally accepted fact that fire apparatus, like all types of mechanical devices, have a finite life. The length of that life depends on many factors, including vehicle mileage, engine hours, quality of the preventative maintenance program, quality of the driver training program, whether the fire apparatus was used within the design parameters, whether the apparatus was manufactured on a custom or commercial chassis, quality of workmanship by the original manufacturer, quality of the components used, and availability of replacement parts, to name a few. In the fire service, there are at times fire apparatus with 8 to 10 years of service that are simply worn out. There are also fire apparatus that were manufactured with quality components, that have had excellent maintenance, and that have responded to a minimum number of incidents that are still in serviceable condition beyond 20 years.

2.3. An effective Emergency Vehicles and Equipment (EVAE) replacement program is essential for controlling EVAE performance (i.e., vehicle & equipment suitability, availability, reliability, safety, and environmental impacts) and total cost of ownership.

2.4. A long-term EVAE replacement program will pinpoint anticipated replacement dates and costs of individual assets based on the application of recommended replacement cycles and quantifies year-to-year, fleet-wide replacement costs and future variations therein.

2.5. The Procurement Officer with assistance from the Regional Fire Chief & Asset Management Officer will endeavor to purchase the most economical and fuel-efficient emergency vehicles and pieces of equipment available. The Regional Fire Chief and AMO will provide historical information, maintenance review and future demand of the asset for the assets needs regarding the Fire-Rescue Service.

2.6. All Fire-Rescue/ Emergency asset acquisitions and disposal will be conducted through the legislated procurement processes and in accordance with Greenview 1018 Expenditure, Disposal and Disbursement policy.

2.7. In accordance with NFPA 1911, the factors influencing apparatus replacement are:

A) Age;
B) Engine Hours;
C) Kilometres;
D) Downtime and maintenance and repair costs;

E) Life cycle and resale value; and
F) Whether the apparatus meets all present 1911 safety standards.

2.8. Regular replacement of fire apparatus helps maintain the health and safety of firefighters and the public, while ensuring the prudent use of ratepayer funding. Life cycles must be developed with the goal of minimizing overall fleet costs, maximizing vehicle availability, and providing firefighters with safe and reliable units to perform their job functions.

3. PROCEDURE

3.1. Greenview recognises the standards and guidelines set by the NFPA as the accepted standards as they relate to fire and life safety.

3.2. The preventative maintenance and equipment replacement of Greenview Fire Services apparatus are aligned with the following NFPA standards:

A) NFPA 1901: Standard for Firefighting Vehicles, Automotive Fire Apparatus, Wildland Fire Apparatus, and Automotive Ambulances;
B) NFPA 1911: Standard for the Inspection, maintenance, Testing, and Retirement of in-service Emergency Vehicles.

3.3. Apparatus replacement will also be evaluated on life cycles. Fleet unit life cycles are based on the best practice method recommended by industry standards. The overall goal is to replace vehicles at the lowest life cycle cost before the operating cost exceeds vehicle capital.

3.4. In circumstances where an apparatus becomes cost prohibitive to maintain and/or operate, before the end of its established life cycle, it may be considered for early replacement. There will be evaluation criteria used, if the asset has been being used for its intended purpose as a contributing factor.

3.5. Upon review, if a vehicle or piece of equipment has continually performed at a high level, with a satisfactory maintenance and repair record, that vehicle or piece of equipment may be considered for a life cycle extension.

4. RECOMMENDATIONS FOR APPARATUS EQUIPMENT MAINTENANCE/ REPLACEMENT

4.1. Greenview Fire- Rescue/ NFPA 1911: Standard for Fire Apparatus Preventive Maintenance Program for the emergency vehicles (all) as follows:

A) Excellent Condition:
i. Fewer than five years old.
ii. Fewer than 800 engine hours.
iii. Fewer than 25,000 kms if not used in stationary applications.
iv. No known mechanical defects.
v. Very short downtime and very little operating expense.
vi. Excellent parts available.
vii. Very good resale value.
viii. Meets all present NFPA 1911 safety standards.

B) Very Good Condition:

i. More than five but fewer than 10 years old.
ii. More than 800 but fewer than 1,600 engine hours.
iii. More than 25,000 but fewer than 50,000 kms if not used in stationary applications.
iv. No known mechanical or suspension defects present.
v. Short downtime and above average operating costs.
vi. Good parts available.
vii. Good resale value.
viii. Meets NFPA 1911 safety standards.

C) Good Condition:
i. More than 10 years but less than 15 years old.
ii. Some rust or damage to the body or cab.
iii. More than 1,600 but fewer than 2,400 engine hours.
iv. Some existing mechanical or suspension repairs necessary.
v. Downtime and operational costs are beginning to increase but not terribly above the average.
vi. Parts are still available but getting difficult to find.
vii. Resale value decreasing.
viii. Meets all NFPA 1911 safety standards.

D) Fair Condition:
i. More than 15 but fewer than 20 years old.
ii. Rust, corrosion, or body damage apparent on body or cab.
iii. More than 2,400 engine hours.
iv. More than 75,000 but fewer than 100,000 kms if not used in stationary applications.
v. Existing mechanical or suspension repairs necessary.
vi. Downtime is increasing, and operational costs are above the historical average.
vii. Parts are becoming harder to find and/or obsolete.
viii. Very little resale value.
ix. Does not meet all NFPA 1911 safety standards.

E) Poor Condition:
i. More than 20 years old.
ii. Rust, corrosion, or damage to the body of cab impacting apparatus use.
iii. More than 2,400 engine hours or 100,000 kms.
iv. Existing mechanical or suspension problems affecting the apparatus operation.
v. Downtime is exceeding in-service availability.
vi. Operational costs are exceeding the resale value of the apparatus.
vii. Parts are obsolete.
viii. Does not meet all NFPA 1911 safety standards.

4.2. Greenview's Fire-Rescue Standards for Equipment
A) Self-Contained Breathing Apparatus (SCBA) will be replaced as per NFPA 1852 standard.
B) Firefighting bunker gear will be replaced as per NFPA 1851 standard.
C) All other firefighting equipment will be annually inspected and examined to ensure compliance with the manufacturer's standards. It will be replaced on an as needed basis.

D) All emergency vehicles will be evaluated basis of:

i. Where is the vehicle performance based on NFPA 1911 Standards- Condition assessment (see sec 4.1)

ii. Where the vehicle is on the baseline time in service guidelines

iii. Maintenance records and costing

iv. Will always consider longer service dates if vehicle continue to preform well, meets minimum condition of fair by NFPA 1911 Standards and is maintained well.

VEHICLE/EQUIPMENT TYPE (According to the TCA Policy)	**BASELINE TIME IN SERVICE** (Years/kms/engine hours)
Emergency Vehicles	**5 years / 200,000 kms**
Emergency Vehicle over 1 Ton	**15 years / 300,000 kms**
Emergency ATV's/UTV's/ Snowmobiles	**5 years**
Operating Equipment	**10 years/ 7,500 hours**
Emergency Aircraft	**20 years**
Emergency Watercraft	**20 years**

5. COUNCIL RESPONSIBILITIES

5.1. Fire-Rescue Service Apparatuses and Equipment Reserve.

A) Interest earned from the Fire Apparatuses Reserve will be allocated to the reserve at year end by council.

B) Council shall authorize the transfer of funds to and from the reserve.

C) Council and Administration could allocate funds from the operating budget to the Fire Apparatuses Reserve.

5.2. Capital Budgets for purchase of Fire Apparatuses assets

A) Each Fire Apparatuses asset must be listed for replacement as described here in this policy.

B) Council will have funds from Fire Apparatuses Reserve in the capital reserve for that year's Fire Apparatuses asset purchases.

C) Any unallocated capital purchase funds will be transferred by Council back to the Fire Apparatuses Reserve.

6. ADMINISTRATION RESPONSIBILITIES

6.1. The Regional Fire Chiefs, Deputy Fire Chiefs and AMO are responsible to recommend replacement of vehicles and equipment in accordance with this policy.

6.2. Fire-Rescue Apparatus Vehicle & Equipment Reserve

A) Administration will establish a Fire Apparatuses Reserve. The reserve will in accordance with Greenview's 1502 Reserve Policy.

B) Administration will establish a Capital Reserve Replacement rate, taking into consideration the useful life of the equipment and vehicle(s) and the estimated replacement cost. This will be an element in amortizing the asset.

C) Fire Apparatuses Reserve replacement charges will be transferred to a capital reserve fund for equipment and vehicle replacement.

D) Proceeds from the disposal of vehicles or equipment will be allocated to the Fire-Rescue Service Apparatuses and Equipment Reserve.