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CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: November 23, 2009
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Meeting Date: December 15, 2009

TO: Vancouver City Council

FROM: General Manager of Engineering Services

SUBJECT: Fleet Additions - Transfer and Landfill Operations Branch

RECOMMENDATION

A. THAT Council approve the allocation of $66,000 from the Truck and Equipment Plant Account for the Transfer and Landfill Operations fleet as follows:

   i. $14,000 to add one (1) snow plow

   ii. $52,000 to add one (1) vacuum litter collection machine

   The addition of these units results in an annual operating budget increase of $16,300 to the Landfill Operating Budget.

B. THAT Council approve the allocation of $1,456,000 from the Truck and Equipment Plant Account for the Transfer and Landfill Operations fleet as follows:

   i. $190,000 to add one (1) wheel loader to replace an existing leased unit

   ii. $726,000 to add one (1) bulldozer to replace an existing leased unit

   iii. $540,000 for the “not-like-for-like” replacement of an existing water truck

   The addition of these units results in an annual operating budget savings of $19,300 to the Transfer and Landfill Operations Branch Operating Budget.

C. THAT Council authorize one (1) currently unauthorized salter/spreader at no cost to the Truck and Equipment Plant Account with operating costs to be funded from the existing Transfer and Landfill Operations Branch Operating Budget for this unit.

COUNCIL POLICY

Council approves expenditures from Reserves, including the Truck and Equipment Plant Account.

Council approves all increases in service levels, including the addition of vehicles and equipment to the fleet.

PURPOSE

The purpose of this report is to seek Council approval to add a truck mounted snow plow and a vacuum litter collection machine, to authorize an existing salter/spreader, to replace a leased wheel loader and bulldozer with City-owned units, and to perform a "not like for like replacement" of a water truck for the Transfer and Landfill Operations Branch.

BACKGROUND

The City of Vancouver owns and operates the Vancouver Landfill (Landfill) and the Vancouver South Transfer Station and Recycling Depot. The Landfill, located in Delta, serves a population of almost 1,000,000 people, which corresponds to 40% of the population in Metro Vancouver. In 2008, the Landfill received approximately 650,000 tonnes of municipal solid waste and composted over 50,000 tonnes of yard trimmings.

The Vancouver South Transfer Station and Recycling Depot (Transfer Station), located at 377 West Kent Avenue North, have been in operation since June 1989. The Transfer Station was built to provide a convenient drop-off location for Vancouver residents and commercial haulers as well as to reduce traffic flow along the roadways in Delta leading to the Landfill. Garbage from Vancouver and neighbouring communities is dropped off at the Transfer Station and then loaded into tractor-trailers for delivery to the Landfill. In 2008, the Transfer Station received 220,000 tonnes of municipal solid waste and 38,000 tonnes of yard trimmings.

Long Term Lease Replacement

In response to recommendations from the 2004 Truck & Equipment Rental Audit done by the Internal Audit Group, there is an initiative underway by the Equipment Services Branch (EQS) to review all long term leases. The review is based on the operational need for the unit and the cost effectiveness of converting the leases to City owned units. When a review indicates that fleet additions are appropriate, staff seek approval from Council for these additions.

Funding Mechanisms and Approval Process for Vehicle and Equipment Purchases

In 2007 Equipment Services and Corporate Budgets formalized a procedure for determining the funding mechanism that is used when procuring City-owned vehicles and equipment. The fleet policy is included in Appendix A. Units that are purchased using Truck and Equipment Plant Account funding are either valued at over $15,000, or can be licensed and/or insured, or require an operator to operate the unit from a seated operator's station. Units that are funded using this mechanism must be approved by Council as permanent additions to the City fleet. Units that do not meet any of the criteria above and have a purchase value greater than $300 are purchased using Small Equipment Plant Account funding.

Not-Like-for-Like Replacement Process

In 2007 Equipment Services and Corporate Budgets established a Vehicle and Equipment Replacement Process to define the two (2) types of equipment replacements and the approval method for each. The fleet policy is included in Appendix B. The first type, a "like-for-like" replacement, applies when the new unit is similar in class, cost, or operational usability to the existing unit in the fleet. The financial implications of the "like-for-like" replacement are submitted to Corporate Budgets for concurrence and approval.

In cases where the characteristics listed above differ, a "not-like-for-like" replacement approval is required. The approval method for the "not-like-for-like" replacement depends on whether the usability and the incremental capital and operating costs are within limits set out in the fleet policy. "Not-like-for-like" replacements that are within the policy limits can be directed to Corporate Budgets for approval. Council approval is required for "not-like-for-like" replacements that are outside of the limits because the replacement units differ significantly in cost or use (service level) compared to the unit originally approved by Council.

DISCUSSION

Snow Plow Addition

The Landfill's road network stretches over 10 km in length. The roads are traveled by City staff, residential customers at the residential drop off area, and commercial refuse haulers. In winter conditions, the roads become slippery due to frost, ice and snow.

Currently, the Landfill roads are serviced with an existing salter/spreader but this process is not sufficient when more than 25 mm of snow is on the ground. A wheel loader is used to clear deeper snow; however the wheel loader does not have a plow attachment so it causes damage to the roads and curbs.

Additionally the City's wheel loader is too large to clear the weigh scale decks and approaches, so they are either cleared manually or using the on-site contractor's rental machine. Shoveling two 80' by 9' scale decks multiple times during a snowfall is not only time consuming and causes service delays to customers, but also puts City staff at risk of injury. Since the on-site contractor's machine is available Monday to Friday starting at 7am and not on weekends or statutory holidays, delays to the City fleet as well as Metro Vancouver's transfer waste will result as these trucks begin to arrive at site as early as 6am on weekdays. Salting is not done as the salt damages the electronic components of the scales.

The Landfill therefore requires a truck-mounted plow to remove snow that is deeper than 25 mm. Having the Landfill road network free of ice and snow improves the safety of City staff and Landfill customers and reduces the risk to the City of incidents on the site. The plow will be mounted on an existing Transfer and Landfill Operations Branch 4 x 4 truck, resulting in much lower GHG emissions during snow removal.

Vacuum Litter Collection Machine Addition

Litter control at the Landfill is a mandatory requirement of the Ministry of Environment's Landfill Criteria for Municipal Solid Waste (Landfill Criteria). Currently, litter control is accomplished by City staff manually picking up litter and through the placement of litter fencing around active filling areas on the site. Although operations are conducted to

minimize litter, adverse weather conditions can pose significant challenges through movement of large amounts of litter in a very short period of time, e.g. one windstorm can result in numerous days of manual collection. Litter that is not collected regularly blows up high into trees, as well as off-site into Burns Bog and other neighbouring properties, resulting in complaints from the Corporation of Delta and substantial increases in the cost of litter collection through the services of an arborist. If a litter fence blows over during a storm, a large open area can quickly fill up with litter which generally requires a four person crew to spend five to ten days doing manual clean up. Although required by legislation, litter collection is simply one of the last staffing priorities given the choice between that and operating equipment or ensuring site safety.

A vacuum litter collection machine is a large trailer-mounted vacuum towed by a pickup truck. Vacuum litter collection machines are used at other state-of-the-art landfills in BC, such as Hartland Landfill on Vancouver Island. A demonstration unit was used successfully at the Landfill earlier this year and initial results showed it to be four times faster to clear litter fences and two times faster for open areas when compared to manually collecting litter. The vacuum litter collection machine would allow regular, efficient litter collection from the base of the litter fencing which should reduce wind scattered litter during storm events. The Landfill should take the necessary steps to be a state-of-the-art facility and consistently meet the Landfill Criteria which require "a regular litter pickup and general good housekeeping program or any other measures required by the Manager".

A similar size machine to the demo unit will enable the Landfill to improve litter collection efficiency and meet the City's obligations to the Ministry of Environment and the Corporation of Delta for litter control. In addition, the Landfill would lessen its impact on the host municipality of Delta.

Salter/Spreader Addition

Prior to January 2005 a City of Vancouver truck with a salter/spreader would travel from Vancouver to Delta whenever the roads throughout the Landfill required sand or salt to provide an ice and snow free road network. This practice was operationally and environmentally inefficient, as considerable travel time was required under adverse and slow conditions. Therefore the Landfill acquired a salter/spreader in January 2005 to be used with existing flat deck trucks already stationed at the Landfill.

The unit was purchased using Small Equipment Plant Account Funding, as at that time the distinction between the Truck and Equipment Plant Account and Small Equipment Plant Account funding mechanisms was not established. The capital cost of a salter/spreader is greater than $15,000, therefore with the establishment of the procedure for determining the vehicle and equipment funding mechanisms in 2007, the salter/spreader now meets the criteria to be funded using the Truck and Equipment Plant Account and thus requires Council approval for the fleet addition. At this time, staff are requesting approval to formally add the salter/spreader to the Transfer and Landfill Operations Branch fleet.

The salter/spreader is needed in addition to a plow for its ability to reduce ice build-up on the roads.

Wheel Loader Addition

The Transfer and Landfill Operations Branch currently leases a wheel loader for the Transfer Station. It is used to load tractor trailers with yard trimmings for delivery to the composting facility at the Landfill. Prior to acquiring the leased wheel loader, a backhoe was used. The backhoe is now required primarily to move garbage on the commercial side of the Transfer Station and is unavailable for use loading yard trimmings. The wheel loader has been leased since the end of 2004 when a need for increased productivity was identified due to increasing amounts of yard trimmings received at the Transfer Station. The amount of yard trimmings has increased by more than 25% since 2004. The wheel loader also allows for maintenance downtime by providing coverage for the backhoe and another smaller piece of equipment that is used to move garbage on the residential side of the Transfer Station.

There is a permanent requirement for this machine as a result of the need for increased productivity and downtime coverage. There will be savings of approximately $2,800 per year by converting the leased unit to a City-owned unit.

Bulldozer Addition

The Transfer and Landfill Operations Branch currently generates $2.6 million dollars in annual net revenue through municipal solid waste receipt at the Transfer Station. In order to move and compact the volume of municipal solid waste that is delivered daily to the Transfer Station one (1) bulldozer must be in operation moving and compacting garbage at any time. The Transfer Station currently has one (1) City-owned bulldozer to perform this task, and one (1) leased bulldozer that acts as a back-up unit when the City-owned unit requires maintenance or repair.

There is an ongoing need for a secondary bulldozer unit at the Transfer Station in order to maintain the generation of $2.6 million dollars in annual net revenue and to ensure that the disposal needs of the public are met. If only one (1) bulldozer was used at the Transfer Station and it required servicing or repairs there would be no unit immediately available to cover for this downtime. Not having a machine to cover for downtime reduces the municipal solid waste that can be processed, causes line-ups at the Transfer Station and could, in some instances, cause the Transfer Station to close as it has a limited capacity to store incoming waste. Based on the downtime of the City-owned machine and an average reduction in throughput of 25% during downtime, it is conservatively estimated that there would be approximately $165,000 loss in annual net revenues by not having a second unit available to cover for downtime at the Transfer Station.

To minimize losses in annual net revenues three options were considered going forward:

1. Purchase a City-owned 300 hp bulldozer for the Transfer Station.
2. Continue to lease a 300 hp bulldozer for the Transfer Station.
3. Rotate one (1) of the three (3) 300 hp bulldozers located at the Landfill to the Transfer Station.

The costs associated with each option are summarized in Table 1 and are described below.

Table 1. Summary of Annual Costs of Options

Option	Annualized Cost
Purchase City Owned Bulldozer	$315,200
Continue to Lease a Bulldozer	$348,900
Rotate Landfill Bulldozer to Transfer Station	$367,500

Option 1 – Purchasing a City-owned Bulldozer

The annual cost for a City-owned bulldozer is $315,200. Having a City-owned bulldozer dedicated for use at the Transfer Station would result in $33,700 in savings to the Transfer and Landfill Operations Branch compared to the current state in which a leased machine is used, and will minimize the revenue losses due to downtime.

Option 2 – Leasing a Bulldozer

The annual cost for a leased bulldozer is $348,900 per year. The current leased bulldozer at the Transfer Station has worked well, but this option is more expensive than purchasing a City-owned unit.

Option 3 - Rotating a Bulldozer from the Landfill

Currently the Transfer and Landfill Operations Branch has three (3) City-owned bulldozers at the Landfill. Of the three (3) bulldozers at the Landfill, two (2) units are used to spread garbage for compaction in the active filling area and one (1) unit is used to assist with spreading and compacting demolition material (primarily wood waste) in a separate area of the Landfill as well as to provide downtime coverage for the other two (2) units.

If the third Landfill bulldozer was transported to the Transfer Station to cover for the Transfer Station bulldozer downtime it is estimated that transport from the Landfill to the Transfer Station would be required 30 times per year. This process takes approximately one day, including shipping and reconfiguring, and costs approximately $2,100 for each return transport. Doing this 30 times per year would cost roughly $63,000. A return trip is required because the Landfill bulldozers all have regular operational functions, so the units must be returned to perform those functions as soon as possible. Additionally as the transport takes one day, it is estimated that decreased throughput would result in approximate annual net revenue losses of $72,500 at the Transfer Station.

Rotating bulldozers between the Landfill and Transfer Station would also increase the annual hours on each unit by 25%. This additional usage would result in additional annual operating costs of $180,000 for the four (4) City-owned units, and would reduce the useful economic life of each unit by one (1) year. A reduced equipment life would result in additional annual capital costs totalling $52,000 for the four (4) City-owned units.

The total of the annual cost and lost revenues for rotating a unit from the Landfill to the Transfer Station are summarized in Table 2.

Table 3. Summary of Annual Costs to Rotate a Bulldozer

Item	Annual Cost
Transport	$63,000
Operating	$180,000
Capital	$52,000
Revenue Loss	$72,500
Total	**$367,500**

Rotating a unit from the Landfill to the Transfer Station is the most expensive option at $367,500 annually, and is therefore the least desirable option.

As described above, purchasing a City-owned bulldozer is recommended as it is the least expensive option, and maximizes the revenue generated and ensures the maximum service level at the Transfer Station. As the Transfer and Landfill Operations Branch is currently leasing a machine the branch will realize $33,700 in savings by returning the leased unit and purchasing a City-owned bulldozer.

Water Truck Not-Like-for-Like Replacement

Currently, the Transfer and Landfill Operations Branch has a water truck that is used to water the roads for dust suppression, to clean radiators on equipment in the field, and to provide additional fire fighting support in the event of fire at the Landfill. This unit was outfitted as a water truck in 1999 by adding a water tank to an existing 1989 truck chassis. The current unit is not meeting the Transfer and Landfill Operations Branch operational needs for fire fighting support, dust control and road cleaning.

Fire Fighting Capability

The fire fighting support that the current water truck is able to provide is limited as the current unit is not off-road capable, and is therefore not able to access all areas of the Landfill.

Fire prevention and control is a requirement of the Landfill's Operational Certificate issued by the Ministry of Environment. Currently, an on-site contractor is paid to provide fire protection through the supply of a 26,000 litre off-road water truck as well as at least three off-road haul trucks able to provide bulk delivery of at least 15,000 litres of water per truck to a fire. The contractor is on call 24 hours per day, 365 days a year; however the contractor is only on site Monday to Friday between 7:00 am and 3:30 pm. City staff are trained to use the contractor's water truck during times when the contractor is off site.

The Landfill has had significant fires in 2000, 2006 and 2009, as well as smaller fires in the compost area on an almost annual basis. The fire that occurred earlier this year at the Landfill cost the City approximately $860,000. This amount included the rental of an additional water truck and $100,000 that was spent setting up hoses to deliver water to the fire.

To minimize the spread of fire and subsequent costs and environmental impact, it is imperative that a significant amount of water be delivered to the site of the fire as quickly as possible. Fires have typically occurred in the wood waste area of the landfill where the roads are constructed of chipped wood which makes access difficult.

An articulating off-road water truck is needed to replace the current water truck so that the unit has the capability to access the entire Landfill in the event of a fire. The requested City owned articulating off-road water truck would be in addition to the contractor-provided fire protection which would increase the fire fighting capabilities of the Landfill and reduce associated liability by increasing the rate that water can be delivered to fires.

Dust Control & Road Cleaning

Dust control is a requirement of the Ministry of Environment's Landfill Criteria for Municipal Solid Waste. The dust control capabilities of the current water truck are limited as the current unit has insufficient capacity, a long fill time, and as it is not off-road capable it is not able to access all areas of the Landfill.

The existing City-owned water truck has 69% of the capacity and takes at least four times as long to fill when compared to the contractor's off-road water truck. This results in additional trips back and forth to the filling station and additional filling time to cover the same amount of road. For these reasons the contractor's off-road water truck is often rented to meet the operational requirements for dust suppression. The new articulating off-road water truck would have the same dust suppression functionality as the contractor's off-road water truck which will reduce the time the contractor's truck will be rented for.

In addition to the water trucks dust control limitations, the current unit is also not designed with road cleaning functionality, so hired contractors are regularly called in to flush and sweep the Landfill road network. Fully outfitting the replacement truck with flushing equipment will provide additional savings by reducing the requirement for flusher and sweeper truck rentals.

The Landfill currently spends approximately $88,000 each year on rental equipment for dust suppression and road cleaning. By incorporating sufficient dust control and road cleaning equipment onto an off-road water truck the Landfill can reduce these costs significantly. In the event of a fire, an additional rental truck may still be needed to provide for dust suppression while having the off-road water truck available to support fire fighting efforts.

An articulating off road water truck will fill the Landfill's operational need for dust suppression capabilities while reducing the requirements for rental equipment.

FINANCIAL IMPLICATIONS

The expected lives, one-time capital costs, and operating budget requirements of each unit are listed in Table 3 below along with any associated offsets (existing costs foregone) and the resulting net operating budget impact. The one-time capital costs will be provided from the Truck and Equipment Plant Account. Offsets are available through existing operating budget provisions which are described below for each unit. The increase in operating budget requirements associated with the addition of the snow plow and vacuum litter collection unit and the not-like-for-like replacement of the water truck are offset by the operating budget

savings associated with the conversion of the wheel loader and bulldozer from leased to City-owned, resulting in a net annual operating budget savings of approximately $3,000.

Table 3. Total Operating Costs for New Units

Vehicle Description	Expected Vehicle Life	One-Time Capital Costs	Annual Operating Budget Requirements			Offset	Operating Budget Savings
			Capital	Operating	Subtotal		
Snow Plow	20 years	$14,000	$1,200	$100	$1,300	$0	($1,300)
Vacuum Litter Collection Machine	12 years	$52,000	$7,000	$8,000	$15,000	$0	($15,000)
Salter/ Spreader	20 years	$0	$2,700	$4,100	$6,800	$6,800	$0
Wheel Loader	4 years	$190,000	$46,000	$57,000	$103,000	$105,800	$2,800
Bulldozer	5 years	$726,000	$135,400	$179,800	$315,200	$348,900	$33,700
Water Truck	20 years	$540,000	$47,000	$40,000	$87,000	$69,800	($17,200)
	Total	**$1,522,000**	**$239,300**	**$289,000**	**$528,300**	**$531,300**	**$3,000**

Snow Plow and Vacuum Litter Collection Machine Addition

The one-time capital cost of the snow plow is approximately $14,000. This unit will require an operating budget addition of approximately $1,300 per year to cover its capital repayment and operating costs. The one-time capital cost of the vacuum litter collection machine is approximately $52,000. This unit will require an operating budget addition of approximately $15,000 per year to cover its capital repayment and operating costs.

The annual increase of $16,300 to the Landfill Operating Budget will be allocated to users of the Landfill. Specifically, Vancouver's share of the costs is 40% or approximately $6,520 annually. These units will assist the Landfill to be a state-of-the-art facility; as such, the minor annual increase is more than offset by the intangible benefits of the addition of these two units.

Salter/Spreader Addition

The capital cost of a salter/spreader unit is approximately $31,000 but as the current unit was purchased in 2005 it will not require a Truck and Equipment Plant Account allocation at this time. Funding for replacement units will be provided for from the Truck and Equipment Plant Account. The capital and operating costs of the unit will be funded using existing Transfer and Landfill Operations Branch operating budget.

Wheel Loader Addition

The one-time capital cost of the unit is approximately $190,000 and, because this unit will replace a leased unit, the annual operating budget requirement of approximately $103,000 would be offset by the current lease costs, resulting in annual savings of approximately $2,800.

Bulldozer Addition

The one-time capital cost of the unit is approximately $726,000. The cost for the current externally leased bulldozer is $348,900 per year, including capital, fuel and maintenance. The equivalent annual cost for a City owned unit is approximately $315,200. As this unit would be replacing a leased unit, the annual operating budget requirement of approximately $315,200 would be offset by the current external lease costs resulting in an operating budget savings of approximately $33,700.

Water Truck "Not-Like-for-Like" Replacement

The "not-like-for-like" replacement water truck would be an addition to the 2009 Replacement Program, as the current unit is not scheduled for replacement due to low usage resulting from insufficient capabilities. A "like-for-like" replacement of the water truck would require an allocation of $200,000 from the Truck and Equipment Plant Account for the purchase and outfitting. The one-time capital cost of the "not-like-for-like" articulating off-road water truck is approximately $540,000.

The annual operating budget requirement for the articulating off-road water truck will be approximately $87,000 per year. The annual operating budget requirement for the existing City owned water truck is approximately $18,800 per year. This "not-like-for-like" replacement would reduce rental costs for the contractors off-road water truck, a sweeper truck and a flusher truck by $51,000. This offset combined with the operating budget requirement for the current unit results in $69,800 in current annual operating budget available to offset the increased operating budget requirement for the articulating off-road water truck. This "not-like-for-like" replacement will require an operating budget addition of approximately $17,200 per year to cover the increased capital repayment and operating costs of the unit.

ENVIRONMENTAL IMPLICATIONS

All new and replacement equipment in the City fleet go through an environmental and right-sizing review process. This is to ensure that the equipment will not only meet the user's operational needs but that the selected equipment has the best combination of fuel efficiency and cost effectiveness.

Plow and Salter/Spreader Additions

The salter currently owned by the Landfill has a capacity of 2 cubic yards and is sized to fit on an existing heavy duty pickup truck. This salter has been adequate for maintaining the ten kilometres of road at the Landfill without requiring the purchase of a larger truck. The plow would have a nine foot moldboard length.

The City owns several of these salters and plows which are used on other trucks in the City. They are the smallest truck mounted salters and plows owned by the city. By eliminating the need to have a truck travel from Vancouver to Delta whenever the roads in the Landfill require clearing, fuel use and related emissions are reduced.

Vacuum Litter Collection Machine Addition

A 60 gallon litter collection machine was tested for effectiveness and found to meet the operational needs of the branch. This size is the smallest litter collection machine available and also uses reusable vacuum bags. Larger vacuum collection machines are more expensive and are typically self propelled. It is estimated that the vacuum litter collection machine will produce approximately 1400 kg of greenhouse gases per year.

Wheel Loader Addition

The wheel loader that is currently being leased by the Transfer and Landfill Operations Branch is sized to meet the requirements for bucket size and capacity, and pushing power. The two cubic yard bucket that is currently mounted on the unit meets the capacity requirements and space constraints of the Transfer Station. This bucket is undersized for the wheel loader but, because the wheel loader is used for pushing material as well, the wheel loader size was selected to meet pushing power requirements. Prior to the leased wheel loader, a four wheel drive backhoe was used to load yard trimmings but lacked the required power. This resulted in the lease of the current wheel loader which is slightly heavier and more powerful and meets operational requirements. The backhoe weighs approximately 8,800 kg and has 98 horsepower while the wheel loader weights approximately 10,200 kg and has 110 horsepower.

The leased machine emits approximately 42,000 kg of greenhouse gasses per year and, since the new machine will be of similar size, it will emit approximately the same amount of greenhouse gases. While no reduction in greenhouse gases is expected, a reduction in air pollution is. The current leased wheel loader is a 2004 model with an engine that meets Environmental Protection Agency (EPA) Tier II requirements. The recommended replacement wheel loader would have an EPA Tier III compliant engine. The Tier III standard for this engine size requires a 39% reduction in non-methane hydrocarbons and nitrogen oxide compared to Tier II engines.

Bulldozer Addition

The current 300 horsepower bulldozers that are used by the Transfer and Landfill Operations Branch were selected based on the production capacity required and reduced downtime over smaller units. Since the new bulldozer will be doing the same work as the current bulldozers during times when the existing machines are being serviced, a 300 horsepower bulldozer of the same size is required. The currently leased bulldozer emits approximately 160,000 kg of greenhouse gases per year and the new machine will emit approximately the same amount of greenhouse gases.

Water Truck Not-Like-for-Like Replacement

A 26,000 litre water truck was selected to replace the current 18,000 litre water truck. The currently rented water truck has a 26,000 litre tank, and this increased capacity has resulted in a decreased refill frequency. This will be beneficial for the City-owned water truck as operators will need to refill the truck less often and they will have increased fire fighting abilities. A 26,000 litre tank is also small enough to fit on many manufacturers smallest six-wheel drive articulated off-road truck chassis.

The articulating water truck will meet Tier III emissions standards. The greenhouse gas emissions from the articulating water truck are estimated to be approximately 33,000 kg of greenhouse gases per year and will be partially offset by the reduction in the use of the rental water truck, flusher truck and sweeper. Current greenhouse gas emissions are not available for these rental units as the fuel costs are included in the rental rate. The availability of the articulating water truck will require the 1950s vintage rented water truck to be utilized substantially less, so the offsets mentioned above are expected to be significant.

The articulating water truck would also have the ability to be filled from the on site pond which would reduce the Landfill's use of treated domestic water. The current City owned water truck does not allow it to be filled from the pond due to the spray bar being prone to plugging.

CONCLUSION

To meet the ongoing operational requirements of the Transfer and Landfill Operations Branch, six (6) additional units are required. Accordingly, we recommend that a snow plow, a salter/spreader, a vacuum litter collection machine, a wheel loader, a bulldozer and an articulating off-road water truck be added to the Transfer and Landfill Operations Branch fleet. The one-time capital cost of the units will total $1,522,000, and will be allocated from the Truck and Equipment Plant Account. It is recommended that the capital repayment and operating costs for these six (6) units be provided from the existing Transfer and Landfill Operations Branch operating budget with an annual savings in operating costs of $3,000.

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EQuip	**POLICIES AND PROCEDURES** **Equipment Services**	
Category: Operations	Subject: Procurement – Funding of Vehicles and Equipment	Policy Number: 4.1.2

Funding Mechanism – City-Owned Vehicles and Equipment

Purpose

To set out a procedure for determining which of the Equipment Service Branch administered funding mechanisms will be used for the procurement of city-owned vehicles and equipment.

Scope

This policy applies to all City owned vehicles and equipment that are inventoried and tracked by the Equipment Services Branch.

Procedures

In order for a vehicle or piece of equipment, herein known as a "Unit", to be funded from the Truck and Equipment Plant Account, the Unit must meet the following conditions:

- Be a permanent addition to the corporate fleet via a Council approved Administrative Report that has been concurred with by both the Equipment Services Branch and Corporate Budget Services.
- Unit maintenance history must be collected in the City Fleet Management System.
- Must be procured by Equipment Management staff.

In order for a Unit to be funded from the Small Equipment Plant Account, the Unit must meet the following condition:

- Unit maintenance history must be collected in the City Fleet Management System.
- Must be procured by Equipment Management staff.
- Must be a serviceable item that is placed on regular preventative maintenance schedule that will be maintained by the City (which will include VFRS).

The table below lists the criteria used to determine the appropriate funding mechanism for the procurement of City-Owned vehicles and equipment.

Funding Mechanism	
Truck & Equipment Plant Account	**Small Equipment Plant Account**
Any City-Owned Unit worth over $15,000 at time of procurement.	Any City-Owned Unit that does not meet Truck and Equipment Plant Accounting funding mechanism criteria and has a purchase value greater than $300.
Any City-Owned Unit that can be licensed and/or insured.	
Any City-Owned Unit that requires operator to operate the Unit from a seated operator's station.	

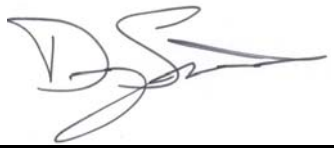
*Unit is defined as a vehicle or piece of equipment that incorporates mechanical technology.

Additional Notes

The Equipment Services Branch is responsible for administering the Truck and Equipment Plant Account and the Small Equipment Plant Account and evaluating fleet requirements and technologies funded from this funding source.

Both the Truck and Equipment Plant Account and the Small Equipment Plant Account are part of the Truck and Equipment Reserve Fund.

Any Units not defined by the criteria listed above shall be reviewed by the Manager of Equipment Services to determine the appropriate funding mechanism.

Issued by: Mani Deo	**Approved by:** 	**Date:** January 15, 2007

EQuip	**POLICIES AND PROCEDURES** **Equipment Services**	
Category: Operations	Subject: Procurement	Policy Number: 4.1.3

Vehicle/Equipment Replacement Process

Purpose

The Equipment Services Branch is responsible for administering the Truck and Equipment Plant Account. As part of the 2007/2008 Replacement Program process, the Equipment Service Branch was tasked by Corporate Budget Services to document the processes used for replacing vehicles and equipment funded from this funding source.

Scope

This Policy deals with all units funded from the Truck and Equipment Plant Account.

Process

There are two methods of replacing units funded from the Plant Account. Regardless of the method, the capital costs of the unit (minus estimated resale) must be paid back to the Plant Account in full before the unit can be replaced. Additionally, economic modeling techniques are to be used to determine optimal life of the unit based on maintenance and operating cost history for the class of unit being replaced.

Like for Like Replacement (LFLR)

The Equipment Services Branch is to ensure that there are sufficient funds available in the Plant Account for a LFLR. A LFLR means that the new unit being procured is similar in class, size, operational usability, and is of similar financial value of the unit being replaced.

Financial implications of the LFLR are to be presented to COV Budgets for concurrence before the unit can be replaced.

Not Like for Like Replacement (NLFLR)

A NLFLR is used in place of LFLR for vehicles and equipment that are need of replacement and differ in class, size, cost or operational use from the unit being replaced. The NLFLR can be performed when:

- Net annual ownership cost (capital and operating) of the replacement unit are similar or less than the unit being replaced and,
- Incremental cost of the replacement unit does not surpass 35% of a LFLR (net outfitting), up to a maximum of $300,000, unless there is proven improvement in operational productivity that decreases operational costs or increase City revenues in excess of the annual increase in fleet costs and,
- The replacement is not a component of a larger change in fleet standard for a particular class of replacement.

If any of the above criteria for NLFLR's are not met, the replacement is to be directed to Council.

Issued by: Mani Deo	**Approved by:** 	**Date:** January 15, 2007