



To: Public Works and Transportation Committee **Date:** January 16, 2019
From: Tom Stewart, ASCT.
Director, Public Works Operations **File:** 10-6370-04-01/2018-
Vol 01
Re: **Recycling Depot - Potential Eco Centre Upgrade Options**

Staff Recommendation

1. That Option 2 of the staff reported entitled, "Recycling Depot – Potential Eco Centre Upgrade Options" from the Director, Public Works Operations dated January 16, 2019, be endorsed.
2. That the City's Consolidated 5 Year Financial Plan (2019-2023) be amended to include \$1,226,000 for the Recycling Depot – potential eco centre upgrade as presented under Option 2 of the staff report entitled "Recycling Depot – Potential Eco Centre Upgrade Options", funded from the Sanitation and Recycling provision.

Tom Stewart, ASCT.
Director, Public Works Operations
(604-233-3301)

Att. 5

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Project Development Finance	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

The City operates a Recycling Depot at 5555 Lynas Lane. Its central location and wide range of services make it a popular facility with residents. The Recycling Depot hosts over 160,000 visits annually, equal to one visitor every 53 seconds. The number of visits continues to increase with population growth and as new commodity streams are added.

To improve convenience and broaden the scope of services for residents, the range of accepted items is expanded when feasible. For example, on September 1, 2018, flexible plastic packaging was added (in collaboration with Recycle BC). Commencing in 2019, as approved by Council in the Sanitation and Recycling utility budget and rates, two key service level enhancements were introduced:

1. *Expanded Scope:* The scope of materials accepted is expanded to include upholstered furniture, electronics, propane tanks and butane cylinders, and
2. *Expanded Hours of Operation:* The hours of operation is expanded to six days per week (Tuesday – Sunday), also from 9:00 a.m. – 6:15 p.m. (Previously, the Recycling Depot was open 5 days per week, i.e. Wednesday – Sunday from 9:00 a.m. – 6:15 p.m.).

By expanding the range of materials accepted and the hours of service at the City's Recycling Depot, public convenience is enhanced, thereby promoting greater recycling to support achieving established waste diversion targets.

This report explores configuration changes/site improvements to update aging infrastructure, improve operations to keep pace with growth, and improve the user experience. In addition, potential enhancements for establishing a one-stop-drop Eco Centre facility, where enhanced services can be offered and an even broader range of materials can be accepted, are also conceptually discussed.

This report supports Council's 2014-2018 Term Goal #4 Leadership in Sustainability:

Continue advancement of the City's sustainability framework and initiatives to improve the short and long term livability of our City, and that maintain Richmond's position as a leader in sustainable programs, practices and innovations.

4.2. *Innovative projects and initiatives to advance sustainability.*

This report supports Council's 2014-2018 Term Goal #6 Quality Infrastructure Networks:

Continue diligence towards the development of infrastructure networks that are safe, sustainable, and address the challenges associated with aging systems, population growth, and environmental impact.

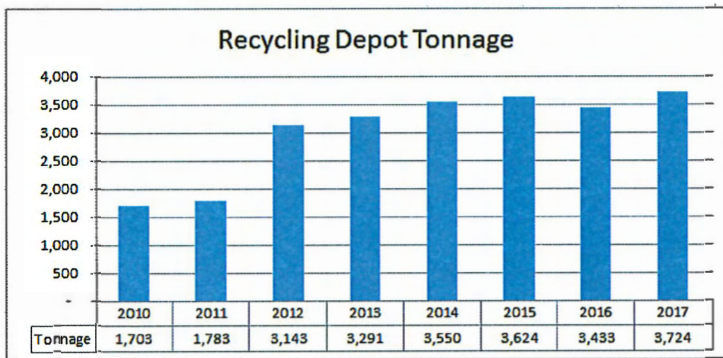
6.2. *Infrastructure is reflective of and keeping pace with community need.*

Analysis

Background

The Recycling Depot footprint is approximately 1.47 acres. It originally opened at the present site in March, 1993. The Recycling Depot is an integral component of the City’s overall suite of recycling services. These various recycling services are designed to achieve the City’s waste diversion target of 80% by 2020. In and of itself, the Recycling Depot makes up 8% annually of the City’s current 78% single-family diversion rate. For context, over 3,700 tonnes of recyclables were received at the Recycling Depot in the last year, representing a significant waste diversion component.

Table 1: Recycling Depot Tonnage from 2010 to 2014



Overall tonnage received at the depot has steadily increased over the last several years, more than doubling since 2010, as shown in Table 1. The Recycling Depot is also a key and necessary service to help mitigate illegal dumping of various materials since residents have access to a conveniently located drop off site where items are accepted at no

charge. This helps to better contain costs associated with managing illegally dumped items.

A variety of materials are currently accepted at the Recycling Depot, some in partnership with industry product stewardship agencies. A full list of items currently accepted and those newly added in 2019, along with applicable stewardship agencies, is shown in Attachment 1.

Current Issues and Challenges

1. *Recycling Awareness and Blue Box/Blue Cart Contamination Concerns:*

Recycling is continually evolving as regional disposal bans are implemented (designed to promote recycling vs. disposal of items) and provincial recycling regulations are expanded to place the onus on producers of various products for managing the waste their products create, i.e. industry stewardship programs. The City also introduces new programs and services where appropriate to support residents in recycling and waste diversion. These are designed with the goal of diverting 80% of residential waste by 2020, in line with regional diversion targets under the Integrated Solid Waste and Resource Management Plan.

While these are positive environmental initiatives, industry stewardship programs can result in a scattering of different locations for residents to take their waste for recycling or disposal. This approach has created a degree of confusion and inconvenience for residents in knowing where they can deliver various recycling/waste items. This contributes toward challenges with non-acceptable items being placed in residential blue boxes (i.e. contamination issues) and illegal dumping throughout the City.

The City offers a variety of services to support proper residential recycling and disposal of items. In addition, a number of outreach and education tools are used to inform residents about recycling and disposal locations. This includes the Richmond Collection Schedule app, which incorporates the Recycling Wizard tool. Using this tool, residents can enter the material/s they are wishing to recycle/dispose, and the Recycling Wizard provides locations and advice on where the items can be delivered in Richmond.

Even with these various initiatives, residents often comment that recycling is becoming somewhat complicated to navigate, particularly in relation to the different locations they need to travel for delivering their materials. Therefore, the more the City can offer to expand the range of acceptable items at the Recycling Depot, the easier it is for residents to recycle. This mitigates illegal dumping and captures more materials for recycling to contribute toward reduction targets.

2. Aging Infrastructure:

As previously noted, the Recycling Depot was initially opened at the present site in 1993. While general site improvements have been undertaken over time to maintain daily operations, there are a number of more major improvements emerging, including replacement of site trailers to address wear, tear and degradation from age. The current site trailers have ongoing challenges with rodent intrusion and general deterioration, and will require replacement in the near term (within two years).

3. Operational/Site Flow Issues:

With the hours of service and scope of acceptable materials being broadened in 2019, there will undoubtedly be increased user traffic. To improve efficiency and avoid safety conflicts between users and service providers, the site layout should be made more efficient through the addition of equipment which can more readily load and/or handle materials on site. Other improvements, such as fencing (to segregate and contain the new special waste items to be accepted) and enhanced lighting will also improve the site. In addition, with the 2019 expansion to include upholstered furniture, a new and large tent structure would help to ensure furniture items remain dry, which is a requirement of the processing facility. Site layout improvements will help to mitigate conflicts and inconvenience for users during those times when service vehicles are on site to remove and replace containers, etc.

4. User/Staff Feedback:

Users of the Recycling Depot are often very complimentary about the customer service received by staff on site. Many appreciate when new recycling streams are added so they can recycle larger quantities and varieties of material. Critical user feedback includes improvements to traffic flow to avoid delays from back-ups (getting stuck behind other users). Feedback from staff relates primarily to the lack of a covered structure. This exposes staff to prolonged sun and heat exposure in the warmer months. As management expectations are to remain on site to be readily available to assist customers on a regular basis, the lack of access to shaded areas is a potential health and safety concern for on-site staff. A covered pathway area in and around the

recycling containers is suggested to address this concern and would also serve to protect users from weather elements as well.

Opportunities

A range of options can be pursued to help address some of the issues and challenges noted above. These include maintaining the status quo, undertaking upgrades necessary to address emerging aging infrastructure, and a full Eco Centre facility. An Eco Centre facility/concept would serve to further simplify recycling and improve convenience by creating one location where residents can bring the majority of banned/stewardship program materials and other items for recycling/safe disposal. It also enhances opportunities for promoting reuse and education aspects more fully. These options are discussed in more detail below.

Recycling Depot Improvements/Eco Centre Options

The options presented with this report for Council's consideration, include:

1. Status Quo.
2. Improved User Experience/Operational Site Improvements.
3. Eco Centre – One-Stop-Drop Facility.

These options assume that the facility remains at its current location and is continued to be operated by City staff.

Option 1: Status Quo Arrangement – (Not Recommended)

The status quo option includes only the minimal changes being undertaken at the site to expand to the various items being added in 2019 including:

- Upholstered furniture including: office-type or cushioned table chairs; armchairs, loveseat/recliners, couches, sectional/sofa-beds or loveseat/couch with reclining seats;
- Propane tanks, including small (one pound) tanks;
- Butane cylinders (such as the type used for portable burners); and
- Electronics (computers, televisions, audio/video systems, etc.)

The locations for these new items are shown in Attachment 2, "Option 1: Status Quo – Minimal Configuration Change for 2019 Added Materials". Minimal site changes (surface restoration work, site paving, small tent structure, updated signage, promotion activities, etc.) are currently being undertaken to accommodate these new materials. Associated costs are included in existing minor capital budget allocations, so there are no added cost impacts associated with this option.

Advantages: The advantages of this option are that it allows the new materials approved by Council as part of the 2019 Solid Waste and Recycling utility budget and rates to be added

within current budget allocations. The site changes under this option are currently being implemented to coincide with the service/hours expansion commencing January, 2019.

Disadvantages: The disadvantages of this option are that it does not allow for operational equipment and site improvements necessary to improve efficiency nor does it address the challenges being experienced with aging facilities. Improved efficiency will be necessary due to the depot being open an additional day each week (i.e. one less day where the site is closed for manoeuvring materials and emptying roll off bins with service vehicles, etc.). This option also does not allow for modernization or improvements for the experience of users at the site as part of keeping pace with continued growth (discussed in more detail under Option 2).

Summary Comments: This option meets immediate requirements for expansion of new materials and operating hours in 2019. However, it is not recommended because it does not address current challenges with aging facilities, nor does it allow for necessary operational improvements to manage a growing user base and anticipated growth in overall tonnage received.

Option 2: Improved User Experience/Operational Site Improvements (Recommended)

Option 2 includes site improvements and equipment to increase site/operations flow as well as replacement of ageing, deteriorating site trailers. Larger tent-style structures for keeping upholstered furniture-style items from becoming waterlogged are a component of this option, as are improvements to the hazardous waste area. This option would also allow for some additional items, such as tires, car batteries, used motor oil, fire extinguishers and smoke alarms to also be accepted.

These improvements would modernize the Recycling Depot and make the drop-off experience more pleasant for depot users. Equipment, such as a small loader for more efficient handling of yard waste and a forklift for helping to manoeuvre large and bulky items (to minimize physical demands on staff/potential injuries, etc.) would also be added.

The proposed site improvements would help to minimize traffic conflicts between customers and service vehicles, as well as improve working conditions for staff at the site. The current site trailers are experiencing signs of aging, and additional efforts are needed to minimize vector intrusion. Staff commonly report unpleasant odours in the site trailers from repeated cycles of locating and disposing of deceased rodents, etc. in hard to reach areas of the trailers. The site trailers have deteriorated to the point where they will require replacement within the next two years in any event.

These general site improvements, including the proposed locations of the new materials to be added for storage/drop-off, are shown in Attachment 3, “Option 2: Improved User Experience/Operational Site Improvements Including 2019 Added Materials”.

One-time costs for these improvements are estimated at \$1.226 million:

- Equipment (small loader, forklift): \$ 240,000
- Drainage, water, power, paving \$ 197,000
- Site structures (tents, trailers) \$ 470,000

• Covered structure/awning/gates	\$ 132,000
• Contingency, escalation, insurance/permit fees	<u>\$ 187,000</u>
• Total estimated site improvements:	\$1,226,000

If approved by Council, these costs could be accommodated from the sanitation and recycling provision.

Advantages: This option would modernize the Recycling Depot, add equipment to better accommodate the additional materials to be added in 2019, create fewer conflicts or delays for users (i.e. more servicing/bin management activity will need to take place during regular operating hours with the depot being open one additional day per week), improve operational flow as well as the overall experience for the growing number of users at the Recycling Depot. The range of materials accepted can be expanded to include tires, car batteries, used motor oil, fire extinguishers and smoke alarms. Sanitation and Recycling provision funding is available to accommodate the associated capital expenditures.

Disadvantages: The principal disadvantages of this option are the costs involved and potential temporary inconvenience to users during the time when the construction/improvement activities will take place. A longer (i.e. estimated at 6-9 months) timeline for implementation is required.

Summary Comments: This is the recommended option since it modernizes the site, improves operational flows, and helps the City keep pace with growing demands for recycling drop off services and increasing user growth. This option also addresses the need to replacing aging infrastructure at the site, which will be required in the near term regardless.

Option 3: Eco Centre – One-Stop-Drop Facility for Expanded Range of Materials/Services

The Eco Centre concept encompasses expanding the facility to accept an even broader range of materials, including most product stewardship materials and other non-putrescible household waste. A key difference with this option is that a reuse/repair component is added to allow for donation and/or exchange of waste. Another key addition is an education centre, which would allow for classroom style workshops and recycling education to be undertaken. The hazardous waste collection area would be fully enclosed and expanded. Attachment 4, “Option 3: Eco Centre One-Stop-Drop Facility for Expanded Range of Materials/Services” presents a schematic of this option in concept only for information and reference.

Examples of Additional Materials:

- Automotive items such as anti-freeze.
- Household items such as mattresses, carpet, toilets, car seats, non-recyclable furniture.
- Potential hazardous waste items such as pharmaceuticals, drywall, residual chemical products, etc.
- Textiles and other reusable household goods.

Reuse/Repair Centre: The Reuse Centre would allow for items such as used clothing and household items for potential donation to charities (used pots and pans, cutlery, ironing boards, etc.) to be accepted. The concept could include working with a charitable organization to operate the Reuse Centre whereby these materials are accepted and either re-used or re-sold for the benefit of that charitable organization. Items could be re-used or re-sold at the Recycling Depot or other sites for the charitable organization involved. The Reuse Centre would help to provide a convenient outlet for residential drop off of these items, thereby helping to minimize contamination in curbside/multi-family recycling programs, and deterring illegal dumping. The Reuse Centre could potentially evolve in scope to include a “Repair Facility” concept, where residents could bring materials for repair, as opposed to simply donation or recycling/disposal. Volunteers and/or charitable agencies could also be engaged in the “Repair Facility” component.

Education Centre: The Education Centre would provide a learning environment where Recycling Depot tours for school students and public education workshops could be held. Ongoing education allows for the recycling momentum to be continually renewed and maintained. In addition, other environmental outreach initiatives could be delivered from the education centre (invasive plants, pesticide use, sustainability initiatives, water conservation, grease management, etc.). The Education Centre could evolve to incorporate a research and development component and help foster advancements in waste management, such as supporting transition to circular economy concepts.

Expanded Hazardous Waste Collection Centre: The Hazardous Waste collection area would provide for a secured and controlled environment where a wider variety of hazardous waste materials are sorted and contained in an enclosed structure. This centre would be equipped with removable spill catchments, ventilation, and be outfitted with explosion-resistant devices (lighting, exhaust fan/sump pump, etc.).

Eco Centre Design: Given space limitations on the existing site, a modular system where the Recycling Depot surface area is raised and other operations/storage areas are located underneath could be pursued. Facilities could be put in place to collect fees for accepting items (such as mattresses, drywall, etc.) to help support cost recovery.

In addition to the new materials that could be added under the Eco Centre option, the biggest distinction in service levels is the re-use and education centre components. This adds a new service dynamic to the current Recycling Depot in more broadly engaging charitable organizations in the reuse and donation aspects. Further, public education and outreach would be enhanced with the addition of an education centre. Participants would be able to learn in a classroom-style setting. Currently, tours and workshops are offered mainly to schools and tour groups on a request basis, generally on those days the Recycling Depot is closed. The depot tours are conducted using site ‘walking tours’ at the depot. Waste reduction and how to recycle correctly workshops are held in available meeting rooms at various City facilities.

The Eco Centre model option would require the addition of the modular structure at a preliminary estimated additional cost of \$3 million over and above those identified under Option 2. The total capital expenditure requirement for this option, therefore, is estimated at \$4.4 million. Annual operating costs would increase by an estimated \$1.2 million for staffing and

general operating costs, representing an annual increase of approximately \$15.00-\$18.00 per household.

Advantages: This option results in a very modernized facility, the first of its type in the Lower Mainland. It takes advantage of the small footprint of the existing site by raising the user area, and allows for activities and storage to be undertaken underneath. An even broader range of materials would be accepted, improving convenience for residents and helping to deter illegal dumping. Attachment 5 shows further details of the various materials and service areas of the Eco Centre concept as compared with those accepted under Options 1 and 2.

The reuse and education centre concepts broadly expand the service dynamic in support of waste reduction, while allowing for enhanced community engagement. This positions the City to better address future waste management challenges and could serve as a catalyst to evolve toward a circular economy.

The modular system design provides for a flexible construction concept. This would allow for an adaptable structure which can be expanded and re-designed at its current (and any future location) to meet changes in regulations, stewardship program expansion, etc.

Disadvantages: This option is the highest cost alternative and requires the most disruption to users during construction. It also requires the longest implementation period, i.e. estimated at two years. This option further adds annual operating costs of \$1.2 million, which impacts the rates charged to residents.

Summary comments: The modular design concept for an Eco Centre is an efficient and attractive concept, which allows for a wider range of materials to be accepted and re-use and education concepts to be incorporated. The costs identified in this report are very preliminary in nature and would require more detailed review and adjustment if this approach is desired. The modular nature of the structure for the site improvements elements outlined allows many components to be relocated to a new location (i.e. if/when the Works Yard is relocated to a new site). However, it may not be prudent to undertake such a substantial capital construction project when a Works Yard relocation project is being considered in the near future. For these reasons, this option is not recommended at this time. The Eco Centre concept can, however, be considered as part of future planning associated with the Works Yard relocation project.

Options: Summary Review

An overview summary for each of the options discussed above, including the items to be accepted, is included in Attachment 5.

Financial Impact

Capital improvements costs of the recommended Option 2 are estimated at \$1.226 million. These costs can be accommodated from the Sanitation and Recycling provision account (\$2.4 million available as of November 30, 2018). If approved, the City's Consolidated 5 Year Financial Plan (2019-2023) will be amended accordingly.

Conclusion

This report presents various options to accommodate planned service expansion at the City's Recycling Depot in 2019 as well as discusses the Eco Centre concept. Capital equipment and site improvements which accommodate the new materials and hours of service as approved by Council in the 2019 Sanitation and Recycling utility budget and rates are outlined for Council's consideration.

The recommended site improvements will modernize the Recycling Depot, expand the range of materials accepted, improve operational flow, keep pace with an increasing user base, and improve the overall user experience at the depot.

These efforts to expand recycling and modernize the site are important steps toward increasing waste diversion as the City strives for the final push toward our 80% waste diversion target by 2020.



Suzanne Bycraft
Manager, Fleet and Environmental Programs
(604-233-3338)

- Att. 1: Items Currently Accepted at Recycling Depot and Items Added in January, 2019
- 2: Option 1: Status Quo – Minimal Configuration Change for 2019 Added Materials
- 3: Option 2: Improved User Experience/Operational Site Improvements Including 2019 Added Materials
- 4: Option 3: Eco Centre One – Stop – Drop Facility for Expanded Range of Materials/Services
- 5: Recycling Depot/Eco Centre Options Summary

Attachment 1

Table 1: Items Currently Accepted at the Richmond Recycling Depot and Items Added in January, 2019

Material Category	Accepted Items	Stewardship Agency
Aerosol and Spiral Wound Cans	<ul style="list-style-type: none"> • Aerosol cans for food, air fresheners, shaving cream, deodorant, hairspray, etc. • Spiral wound cans and metal lids for frozen juice concentrate, cookie dough, nuts, coffee, baby formula, etc. 	
Appliances (large)	<ul style="list-style-type: none"> • Dishwashers • Washing machines/dryers • Stoves/ovens • Fridges/freezers • Air conditioners/dehumidifiers • Range hoods/over range microwaves • Food waste disposers • Trash compactors • Electric beverage dispensers (plumbed in) 	Major Appliance Recycling Roundtable (MARR) (Pilot program only)
Appliances (small)	<ul style="list-style-type: none"> • Kitchen countertop appliances • Microwave ovens • Electric time measurement • Weight measurement appliances • Garment care appliances • Portable air treatment appliances • Personal care appliances • Floor/surface cleaning appliances 	Canadian Electrical Stewardship Association (CESA) ElectroRecycle – Product Care
Batteries and Cell Phones	<ul style="list-style-type: none"> • Household batteries (rechargeable & single use) • Cellular phones and their batteries • Portable power banks 	Call2Recycle
Books	<ul style="list-style-type: none"> • Used books 	
Cooking Oil and Animal Fats	<ul style="list-style-type: none"> • Food based oils • Animal fats 	
Corrugated Cardboard	<ul style="list-style-type: none"> • Clean corrugated cardboard • Clean pizza boxes 	
Exercise, Hobby and Textile Machines	<ul style="list-style-type: none"> • Sewing, embroidery & knitting machines • Electric exercise machines • Portable, electric sports, leisure or craft devices 	Canadian Electrical Stewardship Association (CESA) ElectroRecycle – Product Care
Glass Bottles and Jars	<ul style="list-style-type: none"> • Glass bottles • Glass food jars 	Recycle BC
Lights and Light Fixtures	<ul style="list-style-type: none"> • Residential light bulbs (fluorescent, CFL, LED, halogen, incandescent and other mercury containing lamps) • Light fixtures (indoor and outdoor) • String lights • Table/desk lamps • Bike lights, book lights, night lights, flashlights 	LightRecycle – Product Care
Metal Food and Beverage Containers	<ul style="list-style-type: none"> • Tin, steel and aluminium cans • Aluminium foil and foil containers 	
Metal Items	<ul style="list-style-type: none"> • Bike frames, clean auto parts, BBQ's, hangers, piping, etc. 	

Attachment 1 Cont'd

Table 1: Items Currently Accepted at the Richmond Recycling Depot and Items Added in January, 2019

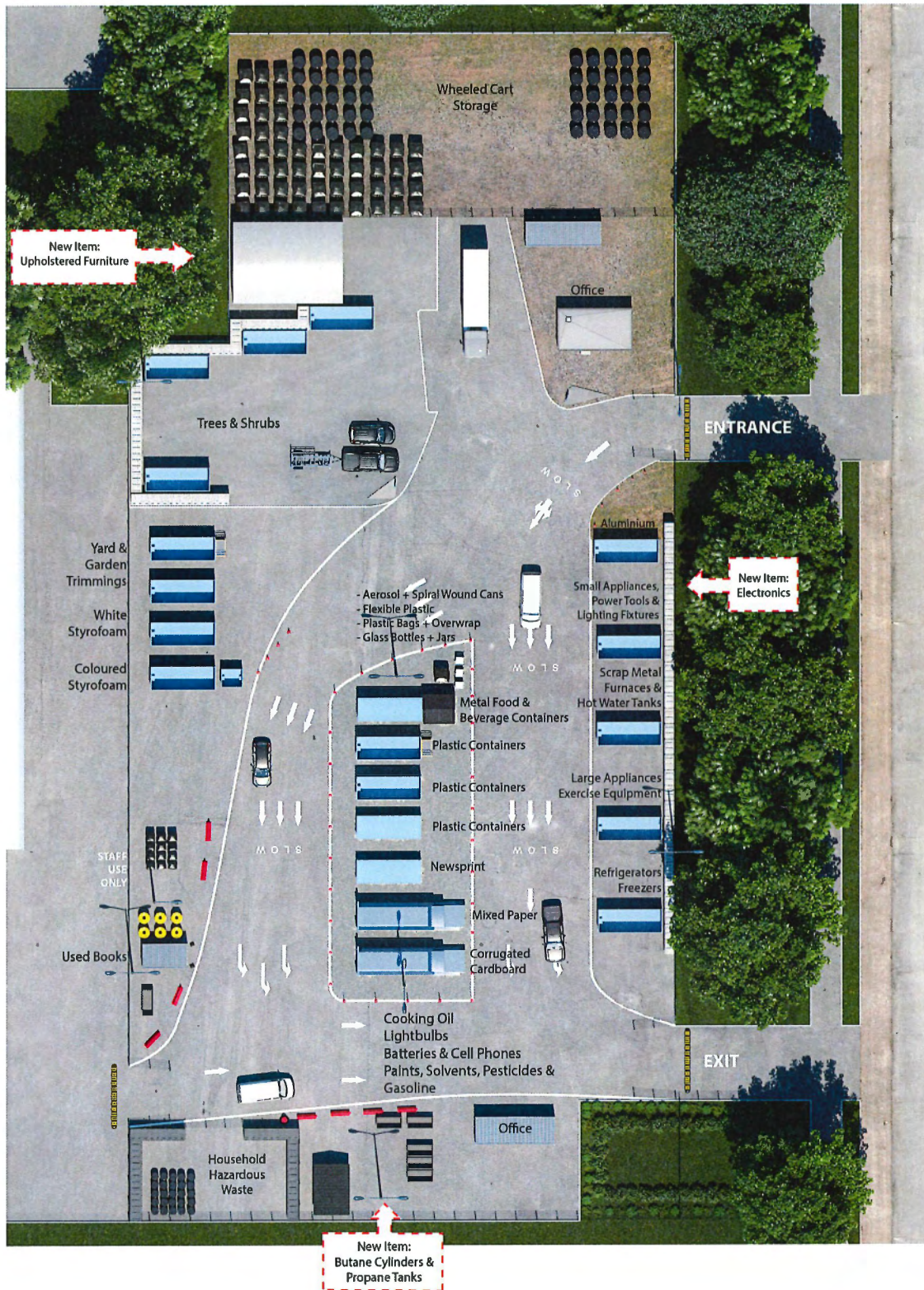
Material Category	Accepted Items	Stewardship Agency
Newspaper	<ul style="list-style-type: none"> • Newspaper, non-glossy flyers/inserts 	
Other Flexible Plastic Packaging	<ul style="list-style-type: none"> • Stand-up & zipper lock pouches • Crinkly wrappers • Flexible packaging with a plastic seal • Woven and net plastic bags • Plastic shipping packaging • Shrink wrap and bags with code 5 	Recycle BC
Paints, Solvents, Pesticides, Gasoline and Flammable Liquids	<ul style="list-style-type: none"> • Household paints • Aerosol paints • Domestic pesticides • Flammable aerosols • Flammable liquids • Gasoline 	ReGeneration – Product Care
Plastic Containers and Rigid Plastics	<ul style="list-style-type: none"> • Plastic food & beverage containers • Plastic garden pots & trays • Rigid plastic containers • Other rigid plastic household items 	
Plastic Bags and Overwrap	<ul style="list-style-type: none"> • Plastic bags for groceries, dry cleaning, bread, newspapers and flyers • Clear bags for produce and dry bulk goods • Frozen vegetable bags • Outer wrap for paper towels, tissues and other bulk products • Outer wrap for feminine hygiene and diapers 	Recycle BC
Power Tools	<ul style="list-style-type: none"> • Test and measurement tools • Hand held power tools (corded and cordless) • Bench top & free standing tools • Demolition power tools 	Canadian Electrical Stewardship Association (CESA) ElectroRecycle – Product Care
Styrofoam	<ul style="list-style-type: none"> • Packaging Styrofoam blocks • Take out containers, plates & meat trays • Drink cups 	Recycle BC
Yard and Garden Trimmings	<ul style="list-style-type: none"> • Branches & limbs • Grass & leaves • Trees & shrubs 	

Attachment 1 Cont'd

Table 1: Items Currently Accepted at the Richmond Recycling Depot and Items Added in January, 2019

Material Category	Accepted Items	Stewardship Agency
Propane Tanks	<ul style="list-style-type: none"> • Empty propane tanks (refillable) • Empty small 1 lb. propane tanks 	
Butane Cylinders	<ul style="list-style-type: none"> • Empty butane cylinders 	
Electronics	<ul style="list-style-type: none"> • Electronic toys • Electronic musical instruments • IT or telecom devices & equipment • Medical & monitoring equipment • Computers & peripherals • Televisions & monitors • Printing & copying products • Non-cellular phones & answering machines • Video gaming systems & accessories • Audio/video systems 	Electronic Products Recycling Association (Potential)
Upholstered Furniture	<ul style="list-style-type: none"> • Office or cushioned dining chair • Armchair, recliner, loveseat, couch • Sectional, sofa-bed or loveseat/couch with reclining seats 	

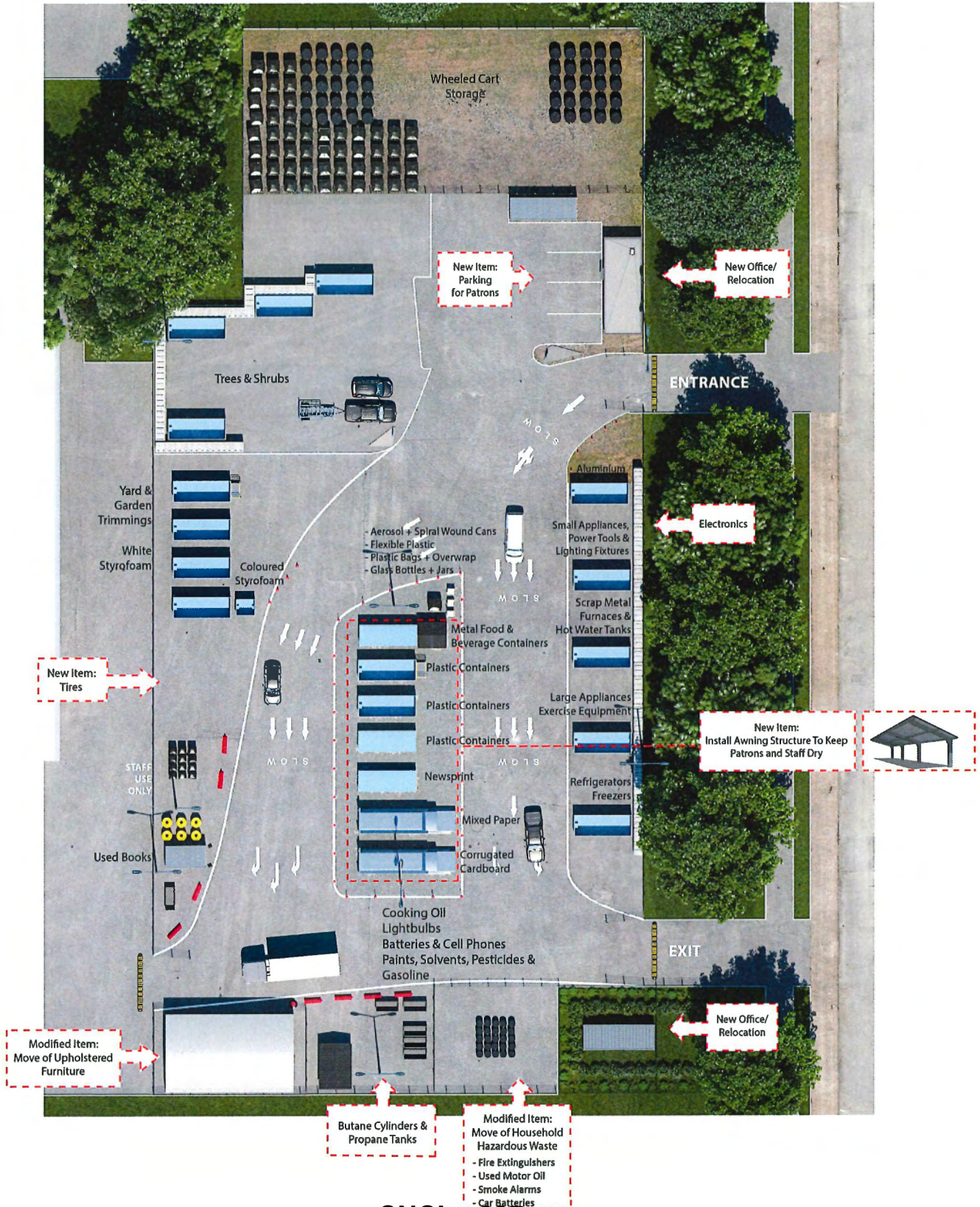
Option 1: Status Quo – Minimal Configuration Change for 2019 Added Materials
Address: 5555 Lynas Lane
Hours of Operation: Tuesday to Sunday from 9:00 a.m. to 6:15 p.m.



Option 2: Improved User Experience/Operational Site Improvements Including 2019 Added Materials

Address: 5555 Lynas Lane

Hours of Operation: Tuesday to Sunday from 9:00 a.m. to 6:15 p.m.



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Option 3: Eco Centre One-Stop-Drop Facility for Expanded Range of Materials/Services
Address: 5555 Lynas Lane
Hours of Operation: Tuesday to Sunday from 9:00 a.m. to 6:15 p.m.

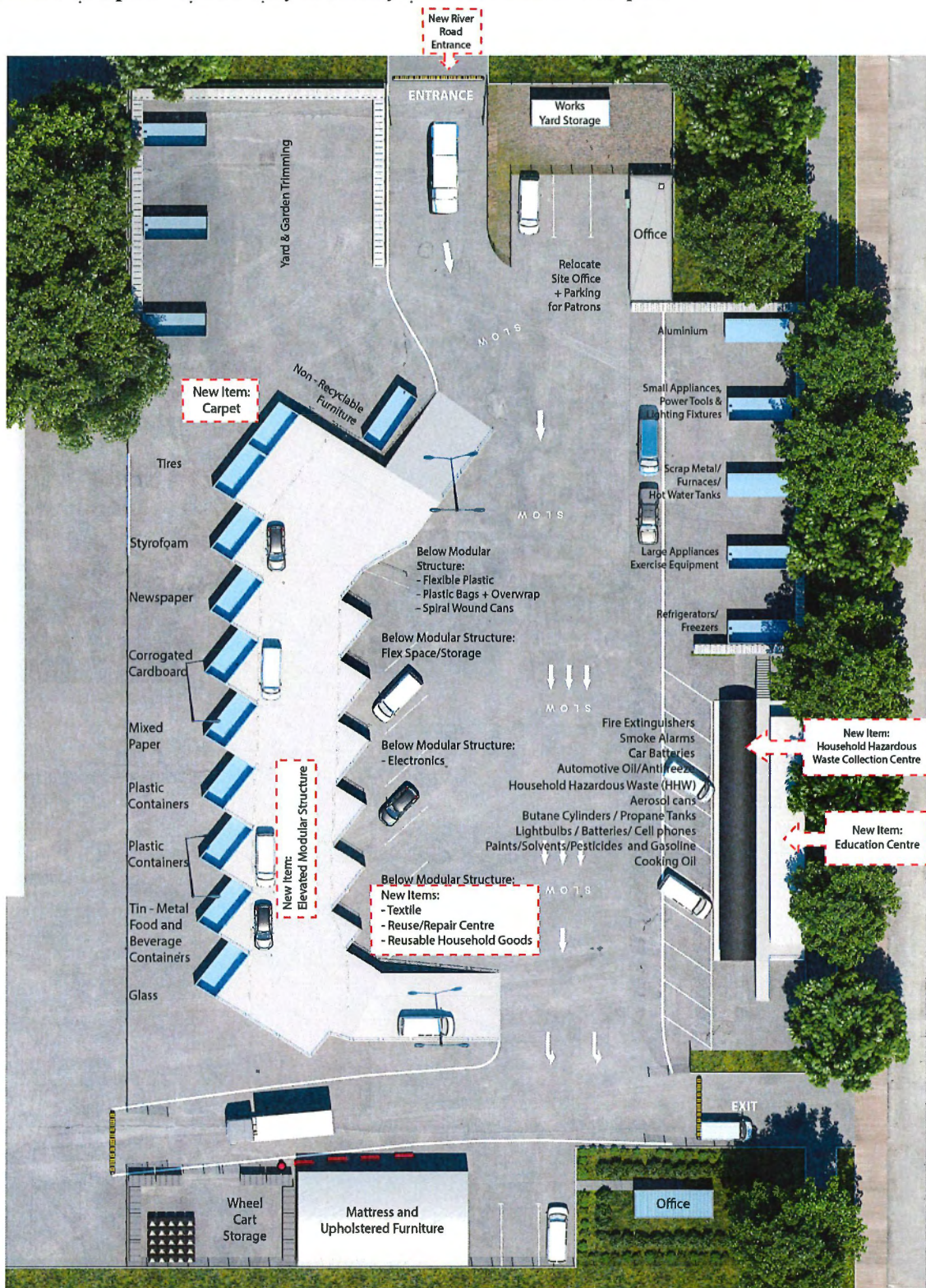


Table 3: Recycling Depot/Eco Centre Options Summary

Materials Accepted	Option 1: Status Quo – Minimal Configuration Change for 2019 Added Materials	Option 2: Improved User Experience/Operational Site Improvements Including 2019 Added Materials	Option 3: Eco Centre One-Stop-Drop Facility for Expanded Range of Materials/Services
Aerosol and Spiral Wound Cans	✓	✓	✓
Appliances (large)	✓	✓	✓
Appliances (small)	✓	✓	✓
Books	✓	✓	✓
Cooking Oil and Animal Fats	✓	✓	✓
Corrugated Cardboard	✓	✓	✓
Electronics	✓ New 2019	✓	✓
Flexible Plastic Packaging	✓	✓	✓
Glass Bottles and Jars	✓	✓	✓
Lights and Light Fixtures	✓	✓	✓
Metal Food and Beverage Containers	✓	✓	✓
Metal Items	✓	✓	✓
Mixed Paper Products	✓	✓	✓
Newsprint	✓	✓	✓
Paints, Solvents, Pesticides, Gasoline and Flammable Liquids	✓	✓	✓
Plastic Bags and Overwrap	✓	✓	✓
Plastic Containers and Rigid Plastics	✓	✓	✓
Power Tools	✓	✓	✓
Styrofoam	✓	✓	✓
Yard and Garden Trimmings	✓	✓	✓
Batteries and Cell Phones	✓	✓	✓
Butane Cylinders	✓ New 2019	✓	✓
Exercise, Hobby and Textile Machines	✓	✓	✓
Propane Tanks	✓ New 2019	✓	✓
Upholstered Furniture	✓ New 2019	✓	✓
Car Batteries		✓	✓
Fire Extinguishers		✓	✓
Smoke Alarms		✓	✓
Tires		✓	✓
Used Motor Oil		✓	✓
Antifreeze			✓
Bathtubs			✓
Bicycle Tires			✓
Car Seats			✓
Carpet			✓
Drywall			✓
Mattresses			✓
Pharmaceuticals			✓
Reusable Household Goods			✓
Textiles			✓
Thermostats			✓
Toilets			✓
Residual Chemical Products			✓
Non-Recyclable Furniture			✓
Hours of Operation	Tuesday to Sunday from 9:00 a.m. to 6:15 p.m.	Tuesday to Sunday from 9:00 a.m. to 6:15 p.m.	Tuesday to Sunday from 9:00 a.m. to 6:15 p.m.
Additional Service Areas			
Re-Use Centre			✓
Education Centre			✓
Estimated Capital Improvement Costs	N/A	\$1,366,000	\$4,400,000
Additional Operating Cost	Included	Included	\$1,200,000
Annual Operating Cost Impact to Residents	Included	Included	\$15-\$18 per household
Est. Implementation Timeline	3 Months	6-9 Months	2 Years