

## Summary of Options

### OPTION 1: MINIMUM REQUIRED BUILD

The goal of Option 1 was to de-scope Recovery Park's design and consequential estimated construction cost to within the currently allocated budget, while including components required for landfill cell expansion and to maintain current level-of-service. Option 1 provides some improvements to handling, but does not provide options for handling new material streams that could increase diversion. Household hazardous waste and yard waste drop-off would continue to occur at external sites. No provision for additional equipment is included, with leasing included under the operating budget.

Essential features have been built to future capacity while material handling areas have been sized to accommodate population growth to 400,000 under the assumption that future build-out to fulfill the master plan is required to provide increased diversion and garbage transfer. Handling areas have been designed to be easily expandable. A separate unscaled diversion/recovery area is not included; all users pass through the scales with space for diversion behind the scales (like the current landfill). Conceptual designs of Options 1-4 are presented in **Appendix 5**.

### Capital components

- Paved public right-of-way from Valley Road to Dundonald Avenue (built to 500K capacity). Remainder of site roads and developed areas are gravel;
- Four-lane scale and scale house (built to 500K capacity);
- Nine z-wall bin locations with larger capacity roll-off bins for garbage transfer and scrap metal;
- Surface storage space for material diversion;
- Concrete pads for eco-center (to be relocated) and clean fill bin;
- Two staff warm-up kiosks;
- Office building (built to LEED standards with space to expand in future) and staff parking to replace current landfill facilities (both built to 500K capacity);
- Equipment shed to replace two of three current landfill facilities (built to 500K capacity), with space to expand in future;
- One low-hour rubber tire loader rental;
- Fuel island;
- Lined storm water retention pond and lift station for managing run-off from the landfill and Recovery Park (built to future capacity);
- Utility servicing;
- Fencing, lighting, and surveillance; and
- Landscaping and public art.

### **Current landfill staffing**

- Two public weigh scale attendants per shift;
- One attendant per shift to monitor roll-off bins;
- One to two attendants per shift to operate roll-off trucks;
- One attendant per shift to supervise drop-off at the eco-center and appliance area;
- One attendant per shift to supervise drop-off at the landfill face;
- One equipment operator per shift for dozing and packing landfilled material;
- One equipment operator per shift for site maintenance and landfill support;
- One attendant per shift to cover breaks and perform general duties;
- Two seasonal labourers per shift for maintenance;
- One senior supervisor per shift; and
- One junior supervisor for the drop-off area.

### **New staffing (in addition to current landfill)**

- One attendant per shift to monitor roll-off bins (2 FTE);
- One junior supervisor for landfill face activities (1 FTE);
- One half-time labourer per shift for added site maintenance (1 FTE); and
- Two custodians per shift for building maintenance (4 FTE).

### **Other considerations**

- Does not achieve the full Master Plan vision for Recovery Park;
- Customers required to re-scale if hauling mixed loads of fee items (e.g. used oil) and chargeable items (inconvenient and ties up scales);
- Less diversion means a greater need for landfilling (greater landfill-related costs, environmental costs, and lower landfill life expectancy); and
- Greater anticipated construction costs by phasing development than proceeding with full build-out.

### **OPTION 2: ADDITIONAL RECOVERY, SCALED**

This option includes the required components for landfill cell expansion in Option 1, with the addition of three roll-off bin locations and a bulk surface storage area for diverting prioritized materials. A separate unscaled diversion/recovery area is not included; all users drive through the scales, with space for diversion after the scales. Household hazardous waste and yard waste drop-off would continue to occur at external sites.

As with Option 1, essential features have been built to future capacity while material handling areas have been sized to accommodate population growth to 400,000. Future build-out to fulfill the master plan is required to provide increased diversion. Because relatively few roll-off bin spaces will be available for diversion, use of the bulk surface storage area by manual unloaders may be required depending upon the number of materials accepted for drop-off. It is estimated that seven out of twelve bin spaces will

be required for garbage transfer initially, with eight to nine bins being needed at 400K depending upon the amount of actual diversion achieved.

### **Capital components (in addition to Option 1)**

- Paved scaled entrance road continuing past the scales to the lane merger;
- Paved staff/office area;
- Canopy for scale house;
- LEED certification for the office building (requires additional resourcing apart from construction);
- Three more z-wall bin locations (total of 12) for material diversion;
- Extra bin storage area (built to 500K capacity);
- Four-bin concrete pad for storing full roll-off bins with materials leaving site;
- Bulk surface storage area for material diversion;
- Two more staff warm-up kiosks (total of four); and
- One rubber tire loader for site maintenance and housekeeping/removal of diverted materials from the surface storage area.

### **Staffing (in addition to Option 1)**

- Contract manager for added recycling contracts and hauling (0.25 FTE);
- Attendants for supervising drop-off at bulk surface area (1.5 FTE); and
- One half-time labourer for added site maintenance (1 FTE).

### **Other considerations**

- Allows some of the vision for Recovery Park to be achieved;
- Customers required to re-scale if hauling mixed loads of fee items (e.g. used oil) and chargeable items (inconvenient and ties up scales);
- Provides no covered storage to allow for diversion of materials that require protection from the weather (e.g. mattresses, gently used items, or electronics);
- Provides minimal diversion material storage separate from tipping vehicles (a potential safety risk);
- Greater anticipated construction costs by phasing development than proceeding with full build-out; and
- Diversion of landfilled tonnes could result in a loss of landfill tipping fee revenues if diverted materials are charged a reduced fee, or no fee at all. A lower fee for diversion is considered a requirement to incentivize the public to participate, since the concept relies on user separation of materials.

### **OPTION 3: ADDITIONAL RECOVERY, SCALED AND NON-SCALED**

This option includes the required components for landfill cell expansion in Option 1, with the addition of a flexible non-scaled diversion area, eleven more roll-off bin locations, a bulk surface storage area for diverting prioritized materials, added bins for mixed recycling to allow for relocation of Meadowgreen depot, and a paved surface to host

Household Hazardous Waste (HHW) Days. Yard waste drop-off would continue to occur at external sites.

The scaled diversion area has been built to future capacity, with only the non-scaled and yard waste diversion areas requiring future build-out to provide for diversion of additional materials and service level improvements. A moveable barrier separates the scaled and non-scaled diversion areas that provides the ability to adjust the relative size of each area and number of roll-off bin spaces as needed.

Service level increases will be required to Household Hazardous Waste (HHW) Days prior to the City reaching 500,000 residents to accommodate traffic associated with eight events per year. These could include hosting more events, offering a second drop-off location, or building a permanent facility.

### **Capital components (in addition to Option 2)**

- Non-scaled diversion area with separate entrance/exit and moveable barrier;
- Gate attendant building (for non-scaled entrance);
- All site roads paved;
- Paved customer side of diversion areas. Operations areas used for load-out of materials is gravel;
- Paved area for hosting HHW day events;
- Sufficient space and bins to allow for relocation of mixed recycling drop-off from Meadowgreen to Recovery Park;
- Eight more z-wall bin locations (total of 20) for material diversion;
- Ten-bin concrete pad for storing full roll-off bins with materials leaving site;
- Expanded bulk surface storage (built to 500K capacity) with relocation of current landfill item diversion to the non-scaled area;
- Two more staff warm-up kiosks (total of six);
- One forklift for loading of materials stored on pallets to transport truck;
- One skid steer for site maintenance and housekeeping/removal of diverted materials;
- One hotsy unit and one floor scrubber for equipment shed maintenance; and
- Increased landscaping.

### **Staffing (in addition to Option 2)**

- Contract manager for added recycling contracts and hauling (0.25 FTE);
- One attendant per shift for greeting and directing customers to the non-scaled area and performing any associated financial transactions (2 FTE);
- One and one half-time attendants per shift for monitoring additional roll-off bins (3 FTE); and
- One half-time labourer per shift for added site maintenance and material removal (1 FTE).

### **Other considerations**

- Allows the majority of the vision for Recovery Park to be achieved;
- Provides no covered storage to allow for diversion of materials that require protection from the weather (e.g. mattresses, gently used items, or electronics);
- Future construction phasing to fully build-out the non-scaled area or add the yard waste area would be relatively straightforward; and
- Diversion of landfilled tonnes could result in a loss of landfill tipping fee revenues if diverted materials are charged a reduced fee, or no fee at all. A lower fee for diversion is considered a requirement to incentivize the public to participate, since the concept relies on user separation of materials.

### **OPTION 4: RECOVERY PARK MASTER PLAN**

This option includes all envisioned Recovery Park components needed to become a one-stop facility: a scaled area, a flexible non-scaled area, 30 roll-off bin locations, a bulk surface storage area, a Household Hazardous Waste (HHW) facility, bins for mixed recycling to allow for relocation of Meadowgreen depot, a covered storage building with loading docks, and an area for yard waste drop-off. All components have been fully built to service a city population of 500,000 residents.

### **Capital components (in addition to Option 3)**

- Paved “back-of-house” operations area behind material storage areas;
- Paved yard waste transfer area capable of accepting unscaled resident loads from both current depots (East and West side) and accommodating grinding of wood waste with processing or composting occurring at an external site;
- Ten more z-wall bin locations (total of 30) for material diversion;
- Ten-bin concrete pad for storing full roll-off bins with materials leaving site;
- Larger concrete pad for clean fill bins (capable of holding two);
- Permanent HHW receiving facility capable of offering 7-day per week drop-off and replacing the current eco-centre and HHW Days once operational;
- Covered storage building with integrated loading docks for receiving and storing materials that require protection from the weather;
- Addition of multipurpose/flex room to office building;
- Public washroom with attached staff warm-up kiosk (total of seven);
- Pallet jack for loading pallets of recoverable items onto haul trucks;
- One more rubber tire loader (total of two) for site maintenance and housekeeping/removal of diverted materials and yard waste; and
- Increased landscaping.

### **Staffing (in addition to Option 3)**

- Contract Manager for added recycling contracts and hauling (0.5 FTE);
- One Seasonal attendant per shift for greeting customers to the yard waste area (1 FTE);

- One seasonal equipment operator per shift for yard waste area maintenance, housekeeping, and load-out (0.5 FTE);
- One and one half-time attendant for directing traffic and receiving waste (1.5 FTE)
- Two attendants per shift for monitoring additional roll-off bins (4 FTE); and
- One attendant per shift for supervising covered storage area drop-off (2 FTE).

**Other considerations**

Diversion of landfilled tonnes could result in a loss of landfill tipping fee revenues if diverted materials are charged a reduced fee, or no fee at all. A lower fee for diversion is considered a requirement to incentivize the public to participate, since the concept relies on user separation of materials.