

1 General

1.1 DEFINITIONS

- .1 Alternative Daily Cover: Material (other than earthen material) that is placed on the surface of the active face of municipal solid waste landfills at the end of each operating day to control vectors, fires, odours, blowing litter, and scavenging.
- .2 Biomass: Plant material from trees, grasses, or crops that can be converted to heat energy to produce electricity.
- .3 Construction and Demolition Debris: Includes waste and recyclables generated from construction and from the renovation, demolition, or deconstruction of pre-existing structures. It does not include hazardous materials or land-clearing debris, such as soil, vegetation, and rocks.
- .4 Construction Waste Calculation: Used to determine the percentage of waste diverted from landfill and incineration facilities on a metric tonne basis.
- .5 Construction Waste Management Plan: A document specific to a building project that outlines measures and procedures that divert construction waste materials from landfill and incineration facilities. It describes specific end use locations and purposes for the material diverted.
- .6 Construction Waste Management Summary Spreadsheet: A spreadsheet used to track waybill information provided by all of the construction / demolition waste haulers used on the project.
- .7 Eligible Biofuels: Untreated wood waste, agricultural crops or waste, landfill gas, animal waste and other organic waste.
- .8 Hazardous Materials: As defined by relevant regulations in the location of the project. Hazardous materials should be excluded from calculations and should be disposed of according to relevant regulations.
- .9 Incineration Facilities: Waste management operations that use combustion as a means of reducing the volume of waste materials.
- .10 Recycling: The collection, reprocessing, marketing, and use of materials that were diverted or recovered from the solid waste stream.
- .11 Reuse: The return of materials to active use in the same or a related capacity as their original use, thus extending the lifetime of materials that would otherwise be discarded.
- .12 Tipping Fees: Charged by a landfill for disposal of waste, typically quoted per tonne.

1.2 SUBMITTALS

- .1 Construction and Demolition Waste Management (CWM) Plan
 - .1 One electronic copy of the plan for review by the Departmental Representative prior to any waste being removed from the project site
 - .1 Inclusive of any demolition waste.
 - .2 Excludes land clearing waste.
 - .3 For campuses or multiple building projects it is acceptable to have a single development-wide Indoor Air Quality Management plan.
 - .2 To be reviewed and final version approved by the Departmental Representative prior to any waste being removed from the project site.
 - .3 End Use Confirmation:
 - .1 Confirmation from recycling and/or reuse facilities of the destination and end use for each material diverted from landfills.
 - .1 Signed letters provided by recycling and/or reuse facilities, including:
 - .1 Municipal addresses of receiving facilities.
 - .2 Process or method used of recycling the material (melting, crushing, chipping).

- .3 Intended use of each type of material received.
- .4 Management plan to include confirmation of on-site or off-site separation.
- .5 Sample submission of all monthly submission items detailed in this specification.
- .2 Monthly Submission Requirements
 - .1 Tracking Spreadsheet
 - .1 Inclusive of all project waste removed for a given month
 - .2 A summary of individual waybills with bin weights and material composition by bin communicated in the form of an Excel tracking tool.
 - .3 Inclusive of waybill numbers, types of waste and diversion percentages for each bin.
 - .1 Percentage breakdowns by bin are required for comingled waste. Visual inspections of the bin and breakdowns by material volume or weight.
 - .4 Consistent formatting of dates and provided in chronological order for review.
 - .5 Types of recyclable material are to be limited to items which the contractor has previously confirmed will be recycled through end use letters.
 - .1 All remaining types of waste should be included under "landfilled material" or "waste" in the calculation.
 - .6 Construction and demolition debris includes waste and recyclables generated from construction, renovation, demolition, or deconstruction of pre-existing and new structures.
 - .1 Calculations exclude hazardous materials.
 - .2 Calculations exclude soil and rock land-clearing debris.
 - .3 Close-Out Submittals:
 - .1 A letter indicating that construction / demolition waste has ceased leaving the project site.
 - .1 On the Contractor's letterhead.

2 Products

2.1 NOT USED

- .1 Not Used.

3 Execution

3.1 DIVERSION OF MATERIALS

- .1 Recycle and/or salvage non-hazardous construction and demolition debris excluding land-clearing debris such as soil and rocks.
 - .1 Unless sub-contractors report waste diversion in a format consistent with this specification and report within the given timelines, materials for removal are the responsibility of the General Contractor.
 - .2 Prevent contamination of materials for reuse and recycling by handling in accordance with requirements for acceptance by designated facilities.
- .2 Construction Waste Calculations:
 - .1 Calculations to be converted to weight (metric tonnes) throughout the entire project waste documentation.
 - .1 Where exact material weights are not available:
 - .1 Provide a defensible conversion metric to estimate the weight of construction waste.
 - .1 To be reviewed and approved by the Departmental

- Representative prior to use.
- .2 Multiple Homogenous Loads
 - .1 Requires a reasonable methodology to determine averaged bin weights based on similar loads with similar unmixed material
 - .1 To be reviewed and approved by the Departmental Representative prior to use.
- .2 End uses for salvage and recycling must be consistent with locations and end use as approved by the Departmental Representative.
 - .1 The Departmental Representative must review and approve signed letters provided by waste haulers prior to the waste leaving the project site.
 - .1 Excavated soil and rocks do not constitute waste diversion from a landfill.
 - .1 These materials are to be excluded from waste diversion calculations.
 - .2 The use of construction and demolition waste material as an alternate daily cover for landfills does not constitute diversion for the purpose of landfill diversion calculations.
 - .3 Wood used as firewood for wood-burning stoves and fireplace is not an acceptable means of waste diversion for the purpose of landfill diversion calculations
 - .4 Burning of clean wood waste to generate industrial process heat and/or electricity is considered appropriate diversion methodology provided that the wood complies with the requirements of eligible biofuels.
 - .5 If an existing building is found to contain contaminated substances, such as lead or asbestos, these materials should be remediated as required by the relevant regulatory agency.
 - .1 Hazardous materials are to be excluded from landfill diversion calculations.
 - .6 Diversion calculations may include salvaged materials such as furniture, computers and equipment, white boards, lockers, doors, lighting, and plumbing fixtures.
 - .1 Salvaged material can be donated to charitable organizations such as Habitat for Humanity, reuse centers, non-profit organizations, or other buildings. Materials sold to the community can also be counted as diverted material for the project.
 - .7 Projects that crush and reuse concrete, masonry, or asphalt on-site should include the weight of these materials in the calculations as diverted material.
 - .8 Gypsum wallboard can be recycled in communities that have reprocessing plants or when confirmation is provided that soil can handle the material as a stabilizing agent.
 - .9 Any construction debris processed into a recycled content commodity that has an open-market value may be applied to the construction waste calculations, pending confirmation from the Departmental Representative.
 - .1 The recyclability of a demolished material often depends on the extent of contamination.
- .3 Separate materials from general waste stream and stockpile in separate piles or containers, as reviewed by Departmental Representative, and consistent with applicable

fire regulations.

- .1 A project may choose to separate construction waste on-site or have commingled construction waste sorted at an off-site facility.
 - .1 On-site separation provides immediate feedback of the ongoing waste diversion efforts, but may require additional labour.
- .2 Commingled recycling simplifies the waste management effort on-site. This option is especially useful for projects with tight space constraints and no room for multiple collection bins.
 - .1 Projects that use commingled recycling rather than on-site separation should obtain summaries of diversion rates from the recycler. Typically, the recycler would provide monthly summary spreadsheets pending the level of documentation services contracted.
- .4 Work with manufacturers to minimize unnecessary packaging and making arrangements for pallets to be reclaimed after use can also reduce waste volumes and waste management costs.
- .5 The Contractor with manufacturers to minimize unnecessary packaging and making arrangements for pallets to be reclaimed after use can also reduce waste volumes and waste management costs.
 - .1 During construction, it is the general contractor's duty to remind subcontractors of the plan requirements and confirm that the plan is implemented on site.
 - .2 Keep one hard-copy of the Construction Waste Management Plan on site at all times.
- .6 Required construction and demolition waste diversion:
 - .1 100% Diversion from Landfill:
 - .1 Concrete
 - .2 Asphalt
 - .3 Clean Rubble
 - .4 Cardboard
 - .5 Standard Gypsum Board (unpainted)
 - .6 Clean Lumber
 - .7 Glass
 - .8 All Metals (aluminum, steel, iron, copper) .

END OF SECTION