

## PART 1 - GENERAL

### 1.1 WASTE MANAGEMENT GOALS

- .1 Prior to start of Work conduct meeting with Departmental Representative to review and discuss PWGSC's Waste Management Plan and Goals.
- .2 PWGSC's Waste Management Goal 75 percent of total Project Waste to be diverted from landfill sites. Provide Departmental Representative documentation certifying that waste management, recycling, reuse of recyclable and reusable materials have been extensively practiced.
- .3 Accomplish maximum control of solid construction waste.
- .4 Preserve environment and prevent pollution and environment damage.

### 1.2 RELATED REQUIREMENTS

- .1 Section 02 81 01 Hazardous Materials.

### 1.3 REFERENCES

- .1 LEED Canadian Green Building Council (CGBC), Green Building Rating System, For New Construction and Major Renovations LEED Canada-NC, Version 1.0 - December 2004.

### 1.4 DEFINITIONS

- .1 Class III: non-hazardous waste - construction renovation and demolition waste.
- .2 Cost/Revenue Analysis Workplan (CRAW): based on information from WRW, and intended as financial tracking tool for determining economic status of waste management practices.
- .3 Demolition Waste Audit (DWA): relates to actual waste generated from project.
- .4 Inert Fill: inert waste - exclusively asphalt and

concrete.

- .5 Materials Source Separation Program (MSSP): consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
- .6 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .7 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .8 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .9 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
  - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
  - .2 Returning reusable items including pallets or unused products to vendors.
- .10 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .11 Separate Condition: refers to waste sorted into individual types.
- .12 Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.
- .13 Waste Audit (WA): detailed inventory of materials in building. Involves quantifying by volume/weight amounts of materials and wastes generated during construction, demolition, deconstruction, or renovation project. Indicates quantities of reuse, recycling and landfill. Refer to Schedule A.
- .14 Waste Management Co-ordinator (WMC) : contractor representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements.
- .15 Waste Reduction Workplan (WRW): written report which addresses opportunities for reduction, reuse, or recycling of materials. Refer to Schedule B. WRW is

based on information acquired from WA (Schedule A).

#### 1.5 DOCUMENTS

- .1 Maintain at job site, one copy of following documents:
  - .1 Waste Audit.
  - .2 Waste Reduction Workplan.
  - .3 Material Source Separation Plan.
  - .4 Schedules [A] [B] [C] [D] [E] completed for project.

#### 1.6 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prepare and submit following prior to [project start-up]:
  - .1 Submit [2] copies of completed Waste Audit (WA): Schedule A.
  - .2 Submit [2] copies of completed Waste Reduction Workplan (WRW): Schedule B.
  - .3 Submit [2] copies of completed Demolition Waste Audit (DWA): Schedule C.
  - .4 Submit [2] copies of Cost/Revenue Analysis Workplan (CRAW): Schedule D.
  - .5 Submit [2] copies of Materials Source Separation Program (MSSP) description.
- .3 Submit before final payment summary of waste materials salvaged for reuse, recycling or disposal by project using deconstruction/disassembly material audit form.
  - .1 Provide receipts, scale tickets, waybills, and show quantities and types of materials reused, recycled[, co-mingled and separated off-site] or disposed of.
  - .2 For each material reused, sold or recycled from project, include amount [in tonnes] [quantities by number, type and size of items] and the destination.
  - .3 For each material land filled or incinerated from project, include amount [in tonnes] of material and identity of landfill, incinerator or transfer station.

#### 1.7 WASTE AUDIT (WA)

- .1 Conduct WA prior to project start-up.
- .2 Prepare WA: Schedule A.
- .3 Record, on WA - Schedule A, extent to which materials

or products used consist of recycled or reused materials or products.

#### 1.8 WASTE REDUCTION WORKPLAN (WRW)

- .1 Prepare WRW prior to project start-up.
- .2 WRW should include but not limited to:
  - .1 Destination of materials listed.
  - .2 Deconstruction/disassembly techniques and sequencing.
  - .3 Schedule for deconstruction/disassembly.
  - .4 Location.
  - .5 Security.
  - .6 Protection.
  - .7 Clear labelling of storage areas.
  - .8 Details on materials handling and removal procedures.
  - .9 Quantities for materials to be salvaged for reuse or recycled and materials sent to landfill.
- .3 Structure WRW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.
- .4 Describe management of waste.
- .5 Identify opportunities for reduction, reuse, and recycling of materials. Based on information acquired from WA.
- .6 Post WRW or summary where workers at site are able to review content.
- .7 Set realistic goals for waste reduction, recognize existing barriers and develop strategies to overcome these barriers.
- .8 Monitor and report on waste reduction by documenting total volume and cost of actual waste removed from project.

#### 1.9 DEMOLITION WASTE AUDIT (DWA)

- .1 Prepare DWA prior to project start-up.
- .2 Complete DWA: Schedule C.
- .3 Provide inventory of quantities of materials to be salvaged for reuse, recycling, or disposal.

#### 1.10 COST/REVENUE ANALYSIS WORKPLAN (CRAW)

- .1 Prepare CRAW: Schedule D.

#### 1.11 MATERIALS SOURCE SEPARATION PROGRAM (MSSP)

- .1 Prepare MSSP and have ready for use prior to project start-up.
- .2 Implement MSSP for waste generated on project in compliance with approved methods and as reviewed by [Departmental Representative] [DCC Representative] [Consultant].
- .3 Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.
- .4 Provide containers to deposit reusable and recyclable materials.
- .5 Locate containers in locations, to facilitate deposit of materials without hindering daily operations.
- .6 Locate separated material[s] in area[s] which minimize material damage.
- .7 Collect, handle, store on-site, and transport off-site, salvaged materials in separate condition.
  - .1 Transport to [approved and authorized recycling facility] [to users of material for recycling].
- .8 Collect, handle, store on-site, and transport off-site, salvaged materials in combined condition.
  - .1 Ship material[s] to [site operating under Certificate of Approval] [premises of Owner].
  - .2 Materials must be immediately separated into required categories for reuse or recycling.

#### 1.12 WASTE PROCESSING SITES

- .1 NOT USED

#### 1.13 STORAGE, HANDLING AND

- .1 Store, materials to be reused, recycled and salvaged

#### PROTECTION

in locations as directed by Departmental Representative.

- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .5 Protect structural components not removed for demolition from movement or damage.
- .6 Support affected structures. If safety of building is endangered, cease operations and immediately notify Departmental Representative.
- .7 Protect surface drainage, mechanical and electrical from damage and blockage.
- .8 Separate and store materials produced during dismantling of structures in designated areas.
- .9 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
  - .1 On-site source separation is recommended.
  - .2 Remove co-mingled materials to off-site processing facility for separation.
  - .3 Provide waybills for separated materials.

#### 1.14 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste, volatile materials into waterways, storm, or sanitary sewers.
- .3 Keep records of construction waste including:
  - .1 Number and size of bins.
  - .2 Waste type of each bin.
  - .3 Total tonnage generated.
  - .4 Tonnage reused or recycled.
  - .5 Reused or recycled waste destination.
- .4 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .5 Prepare project summary to verify destination and quantities on a material-by-material basis as

identified in pre-demolition material audit.

#### 1.15 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Maintain security measures established by existing facility approved by Departmental Representative.

#### 1.16 SCHEDULING

- .1 Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

### PART 2 - PRODUCTS

#### 2.1 NOT USED

- .1 Not Used.

### PART 3 - EXECUTION

#### 3.1 SELECTIVE DEMOLITION

- .1 removal of roofing materials

#### 3.2 APPLICATION

- .1 Do Work in compliance with WRW.
- .2 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

#### 3.3 CLEANING

- .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .2 Clean-up work area as work progresses.

- .3 Source separate materials to be reused/recycled into specified sort areas.

### 3.4 DIVERSION OF MATERIALS

- .1 From following list, 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 Mark containers or stockpile areas.
- .2 Provide instruction on disposal practices.
- .2 On-site sale of salvaged, recovered, reusable, recyclable, materials is not permitted.

- .3 Demolition Waste:

Material Type	Recommended Diversion %	Actual Diversion %
Brick	[100]	[_____]
Metals	[100]	[_____]
Wood (uncontaminated)	[100]	[_____]
Other		[_____]

- .4 Construction Waste:

Material Type	Recommended Diversion %	Actual Diversion %
Cardboard	[100]	[_____]
Plastic Packaging	[100]	[_____]
Rubble	[100]	[_____]
Steel	[100]	[_____]
Wood (uncontaminated)	[100]	[_____]
Other		[_____]

### 3.5 WASTE AUDIT (WA)

- .1 Schedule A - Waste Audit (WA):

(1) Material Category	(2) Material Quantity Unit	(3) Estimate d Waste %	(4) Total Quantity of Waste (unit)	(5) Generation Point	(6) % Recycled	(7) % Reused
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Wood



and  
Plastics  
Material  
Descript  
ion

Off-cuts

Warped  
Pallet  
Forms

Plastic  
Packaging

Cardboard  
Packaging

Other

Wood

Metal

Other

### 3.6 WASTE REDUCTION WORKPLAN (WRW)

.1 Schedule B:

(1) Material	(2) Person	(3) Total Quantity	(4) Reused Amount	Actual	(5) Recycled Amount	Actual	(6) Materials Destination
Category	Responsible	of Waste (unit)	(units) Projected		(unit) Projected		

Wood  
and  
Plastics  
Material  
Description

Warped  
Pallet  
Forms

Plastic  
Packaging

Cardboard  
Packaging

Other

Wood

Metal

Other

### 3.7 DEMOLITION

#### WASTE AUDIT (DWA)

.1 Schedule C - Demolition Waste Audit (DWA):

(1) Material Description	(2) Quantity	(3) Unit	(4) Total	(5) Volume (cum)	(6) Weight (cum)	(7) Remarks and Assumpti ons
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Wood

Wood  
Stud

Plywood

### 3.8 COST/REVENUE

#### ANALYSIS WORKPLAN (CRAW)

.1 Schedule D - Cost/Revenue Analysis Workplan (CRAW):

(1) Material Description	(2) Total Quantity (unit)	(3) Volume (cum)	(4) Weight (cum)	(5) Disposal Cost/Credit \$ (+/-)	(6) Category Sub-Total \$ (+/-)
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Wood

Plywood

### 3.9 CANADIAN

#### GOVERNMENTAL DEPARTMENTS CHIEF RESPONSIBILITY FOR

.1 Schedule E - Government Chief Responsibility for the Environment:

# THE ENVIRONMENT

Province	Address	General Inquires	Fax
Québec	Ministère De l'Environnement et de la Faune, Siège social 150, boul, René-Lévesque Est Québec QC G1R 4Y1 Conseil de laconservation et de l'environnement 800, placed'Youville, 19e étage Québec QC G1R 3P4	418-643-3127	418-646-5974