BEYOND
SMART CITIES
LEED®IMPLEMENTATION GUIDE
FOR CONSTRUCTION PROFESSIONALS
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SUSTAINABILITY SPECIALIST ONLINE CURRICULUM COURSE

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SMART CITIES
CONSTRUCTION WASTE MANAGEMENT PLAN
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LEARNING OBJECTIVES
Details and Descriptions - Construction Waste Management Plan
Contractor Overview - Construction Waste Management Plan
Contractor Requirements - Construction Waste Management Plan
Contractor Best Practices - Construction Waste Management Plan
Construction Waste Management Plan - Sample

MATERIALS AND RESOURCES

STORAGE AND COLLECTION OF RECYCLABLES

BUILDING LIFE-CYCLE IMPACT REDUCTION

ENVIRONMENTAL PRODUCT DECLARATIONS

SOURCING OF RAW MATERIALS

MATERIAL INGREDIENTS

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

PRE REQUISITE : STORAGE AND COLLECTION OF RECYCLABLES

CONSTRUCTION WASTE MANAGEMENT PLAN

Intent:

The intent of this plan is to layout the plan for waste management and disposal on this project. Throughout new construction several different types of waste will be created. This document is not meant to be a rigid all governing document as much as a living documents which will be updated/ revised throughout the project to best suit all parties involved while still meeting legislated and contract requirements.

Requirements :

Develop and implement a construction and demolition waste management plan and achieve points through waste prevention and/ or diversion.
Waste Management Plan and Report: All projects must develop and implement a construction and demolition waste management plan:

- Identify strategies to reduce the generation of waste during project design and construction.
- Establish waste diversion goals for the project by identifying the materials (both structural and nonstructural) targeted for diversion.
- Describe the diversion strategies planned for the project. Describe where materials will be taken including expected diversion rates for each material.

Provide a final waste management report detailing all waste generated, including disposal and diversion rates for the project. Calculations can be by weight or volume but must be consistent throughout. Exclude excavated soil and land-clearing debris from calculations. Include materials destined for alternative daily cover (ADC) in the calculations as waste (not diversion). Any materials sent to a commingled recycling facility for processing must take the facility average recycling rate and must include any ADC as waste (not diversion).

Construction and Demolition Waste Management

Intent

Divert construction, demolition debris from disposal. Redirect reusable materials to appropriate sites.

Requirements

- ***Recycle*** *and/or salvage* ***non-hazardous*** *construction and demolition debris.*
- ***Develop and implement*** *a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or co-mingled.*

Calculations can be done by ***weight or volume****, but must be consistent throughout.*

Recycled or Salvaged	***Points***
50%	1
75%	2

Potential Technologies & Strategies

Establish goals for diversion from disposal in landfills and incinerators and adopt a construction waste management plan Consider recycling cardboard, metal, brick, mineral fiber panel, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation.

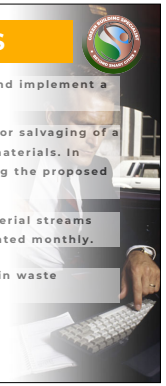
CONTRACTOR -OVERVIEW

- Construction waste management is primarily the responsibility of the Contractor.
- Most construction waste can and should be reused or recycled.
  - **The Contractor should be integrated early in the design phase.**
  - **The Contractor must be vigilant during the construction phase and promote job-site cooperation.**

Construction and demolition waste management

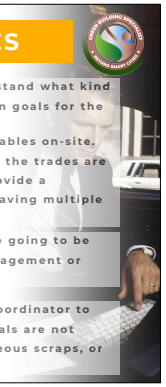
- This credit focuses on reducing construction and demolition waste disposed of in landfills and incineration facilities by recovering, reusing and recycling materials.

CONTRACTOR - REQUIREMENTS



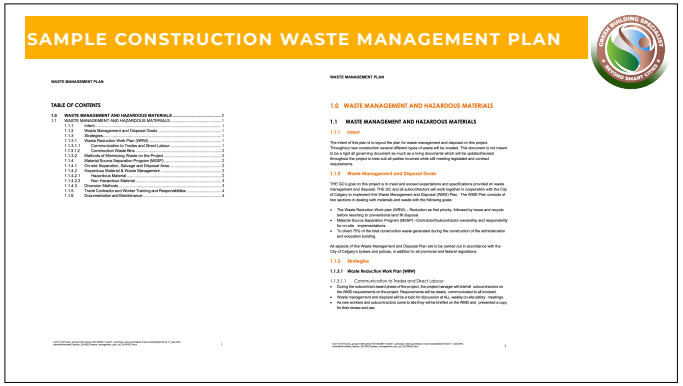
- In order to meet this prerequisite, the Contractor must develop and implement a detailed construction and demolition waste management plan.
- To achieve this credit, the Contractor must oversee the recycling or salvaging of a certain percentage of nonhazardous construction and demolition materials. In other words, the Contractor must ensure that the project is meeting the proposed diversion thresholds for identified waste streams.
- The Contractor must create a report that will track the major material streams generated, disposal and diversion rates. This report should be updated monthly.
- The Contractor must understand which materials can be counted in waste diversion/disposal calculations.

CONTRACTOR - BEST PRACTICES



- The Contractor should work with the recycling facilities to understand what kind of infrastructure will be needed on-site to meet the waste diversion goals for the project.
- If needed, the Contractor can plan for source separation of recyclables on-site. Source separation can be effective on tight/smaller job sites where the trades are sequenced one after the other. For example, the Contractor can provide a standalone drywall bin when the drywall contractor is on-site vs. having multiple source-separated bins throughout construction.
- The Contractor should contact manufacturers of products that are going to be used on or removed from the project to see if they have waste management or take-back programs.
- The Contractor should designate an on-site Waste Management Coordinator to monitor day-to- day activities. Have them ensure recyclable materials are not contaminated by trash brought on- site, like food waste, miscellaneous scraps, or water bottles.

SAMPLE CONSTRUCTION WASTE MANAGEMENT PLAN



WASTE MANAGEMENT PLAN

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WASTE MANAGEMENT PLAN

1.0 WASTE MANAGEMENT AND HAZARDOUS MATERIALS

1.1 WASTE MANAGEMENT AND HAZARDOUS MATERIALS

1.1.1 Intent

The intent of this plan is to layout the plan for waste management and disposal on this project. Waste Management and Hazardous Materials Plan is a requirement of the City of Calgary, however, is not meant to be a rigid all governing document as much as a living document to which will be updated/revised throughout the project to best suit all parties involved while still meeting legislated and contract requirements.

1.1.2 Waste Management and Disposal Goals

THC GC's goal on this project is to meet and exceed expectations and specifications provided on waste management and disposal by the City of Calgary and to implement the Waste Management Plan as per City of Calgary to implement this Waste Management and Disposal (WMD) Plan. The WMD Plan consists of two sections in dealing with materials and waste with the following goals:

- The Waste Reduction Work plan (WRW) – Reduction as first priority, followed by reuse and recycle before resorting to conventional land fill disposal.
- Material Source Separation Program (MSSP) –Contractor/subcontractor ownership and responsibility for on-site implementations.
- Waste Bins – Dedicated construction waste generated during the construction of the administration and education building.

All aspects of this Waste Management and Disposal Plan are to be carried out in accordance with the City of Calgary's bylaws and policies, in addition to all provincial and federal regulations.

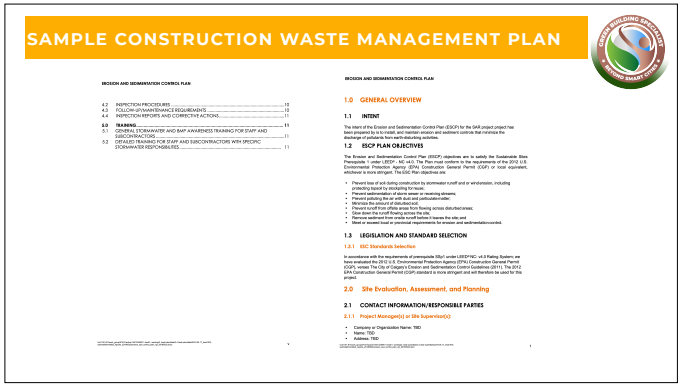
1.1.3 Strategies

1.1.3.1 Waste Reduction Work Plan (WRW)

1.1.3.1.1 Communication to Trades and Direct Labour

- During the subcontract award phase of the project, the project manager will brief all subcontractors on the WMD requirements on the project. Requirements will be clearly communicated to all involved.
- Waste management and disposal will be a topic for discussion at ALL weekly on-site safety meetings.
- As new workers and subcontractors come to site they will be briefed on the WMD and presented a copy for their review and use.

SAMPLE CONSTRUCTION WASTE MANAGEMENT PLAN



EROSION AND SEDIMENTATION CONTROL PLAN

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EROSION AND SEDIMENTATION CONTROL PLAN

1.0 GENERAL OVERVIEW

1.1 INTENT

The intent of the Erosion and Sedimentation Control Plan (ESCP) for the SAR project project has been prepared by to is to install, and maintain erosion and sediment controls that minimize the discharge of pollutants from earth-disturbing activities.

1.2 ESCP PLAN OBJECTIVES

The Erosion and Sedimentation Control Plan (ESCP) objectives are to satisfy the Sustainable Sites Prerequisite 1 under LEED® - NC v4.0. The Plan must conform to the requirements of the 2012 U.S. Environmental Protection Agency (EPA) Construction General Permit (CGP) or local equivalent, whichever is more stringent. The ESC Plan objectives are

- Prevent loss of soil during construction by stormwater runoff and or wind erosion, including protecting topsoil by stockpiling for reuse.
- Prevent sedimentation of storm sewer or receiving streams.
- Prevent pollution of air, water, and soil by particulate matter.
- Minimize the amount of disturbed soil.
- Prevent runoff from offsite areas from flowing across disturbed areas.
- Retain sediment on-site to the extent practicable.
- Remove sediment from onsite runoff before it leaves the site and
- Meet or exceed local or provincial requirements for erosion and sedimentationcontrol.

1.3 LEGISLATION AND STANDARD SELECTION

1.3.1 ESC Standards Selection

In accordance with the requirements of prerequisite SSp1 under LEED®NC v4.0 Rating System, we have evaluated the 2012 U.S. Environmental Protection Agency (EPA) Construction General Permit (CGP) and the City of Calgary Erosion and Sediment Control Standard and Bylaw 32M2012. The 2012 EPA Construction General Permit (CGP) standard is more stringent and will therefore be used for this project.

2.0 Site Evaluation, Assessment, and Planning

2.1 CONTACT INFORMATION/RESPONSIBLE PARTIES

2.1.1 Project Manager(s) or Site Supervisor(s):

- Company or Organization Name: TBD
- Name: TDD
- Address: TBD