

CIRCULAR ECONOMY MODEL OFFICE (CEMO) SPECIFICATION

The following specification section 1226CE CEMO PROJECT - SPECIAL REQUIREMENTS has been developed to support the documentation of CEMO related fit outs and building projects. It is designed to be used with the Masterspec specification system and includes special requirements that modify the Masterspec standard specification sections and clauses for a CEMO project. This is a pre-released draft version recommended as an aid for design stages of any new CEMO projects, Masterspec will be releasing the final version of this section with their full system in approximately August 2015, when it can be used for final project documentation.

This section is a General section and is to be read in conjunction with all other General sections and Work sections that make up the project specification. It must be customised by the user to suit the particular projects requirements, it is unlikely that it will suit the projects unique requirements without alteration. It is recommended that customisation be carried out using one of the specialised online Masterspec tools, when they become available with the final version.

For those not familiar with the Masterspec format, black text is the specification text for the contractor, green text is guidance for the specifier and will not show (in the final version) when printed.

Conditions of use:

- This example is a draft and only intended as a CEMO project aid-to-design until the final version is published in the Masterspec system.
- Masterspec and Sustainable Business Network (CEMO) are not responsible for any errors or ambiguities in the Section.
- The user is solely responsible for any additions, alterations or variations they make to the section, including as incorporated into/with other documents.
- The section is intended to be used by building professionals, and they must use their own professional judgment and skill to determine the appropriateness of using the section or parts thereof, and to satisfy themselves as to its accuracy.
- This section not to be used for projects other than CEMO projects and used in the way intended. It should not be inappropriately modified, adapted, translated, reverse engineered, decompiled, disassembled, or used to create derivative works.

Feedback - At this draft stage feedback from users of the section will be very useful to both Sustainable Business Network (CEMO) and Masterspec and help future development. Please forward any feedback to alex@masterspec.co.nz.

1226CE CEMO PROJECT - SPECIAL REQUIREMENTS

1. GENERAL

If you have pre-customised this work section using the "questions and answers" provided as part of the downloading process, it may be necessary to amend some clauses to suit the final project-specific version.

The section must still be checked and customised to suit the project being specified, by removing any other irrelevant details and adding project-specific details and selections.

This section relates to the implementation and delivery of a Circular Economy Model Office (CEMO) fit out. It includes special requirements that modify the standard specification sections and clauses. This section is to be read in conjunction with the contents of this specification.

The intention of CEMO is to reuse and recycle and avoid adding to landfill when undertaking an office fitout.

This section has been prepared in line with CEMO guidelines. A Circular Economy Model Office essentially aims to minimise waste created by the refurbishment and build of offices by using the principles of a Circular Economy. A Circular Economy is one where the lifecycle of materials is maximised, usage optimised and at the end of life all materials are reutilised. Maximising the usage of existing materials by incorporation into the design is the most tangible way of achieving a Circular Economy Model Office.

Modify or extend the above description to suit the project being specified. If the CEMO project is done in conjunction with Greenstar or the Living Building Challenge, include those sections in this specification.

1.1 RELATED WORK

Refer to 1256 WASTE MANAGEMENT for waste control and disposal

Refer to 2112 PARTIAL DEMOLITION for demolition, deconstruction and dismantling

Refer to ~ for ~

The section(s) stated above are often necessary to support this section, consider carefully and ensure they are included in the project specification if required.

Include cross references only to other work sections where they include directly related work.

Refer to 1226GS GREENSTAR PROJECT - SPECIAL REQUIREMENTS for Greenstar requirements

Refer to 1226LB LBC PROJECT - SPECIAL REQUIREMENTS for Living Building Challenge requirements.

1.2 ABBREVIATIONS AND DEFINITIONS

Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations are used in this specification section:

CEMO	Circular Economy – Model Office
REBRI	Resource Efficiency in the Building and Related Industries

The following definitions apply specifically to this section:

CEMO Circular Economy - Model Office: as many existing materials as possible are to be reused in office fit outs. All new materials are required to have an end of life solution (excluding landfill) and have minimum environmental standards. Waste generated must be diverted from landfill by either being re-used or recycled.

CEMO Consultant the designer/architect or specialist consultant

CEMO Outline Plan CEMO principles and goals specific to the project

Toolbox Talk Contractor-led weekly site meetings to discuss CEMO compliance items with contractor team and subcontractors. Attendance and minutes recorded and included in Contractor Detailed Status Reports to project meetings.

Waste Management Plan agreed plan by Contractor for treatment of waste on site, demonstrating compliance with the Outline Plan, can use REBRI Waste Management Plan Form.

Waste Diversion Tracking Table: Monitoring form to prove waste diversion, can use REBRI Waste Transfer Form.

1.3 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

CEMO Guide – Sustainable Business Network, June 2015

- Existing Materials Matrix – Project Specific form
- Introduced Materials Matrix – Project Specific form

REBRI Contract Specifications for Waste Management

REBRI Waste Management Plan Form

REBRI Waste Transfer Form

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

Delete from the DOCUMENTS clause any document not cited. List any additional cited documents. The following are related documents and if referred to in the work section need to be added to the list of DOCUMENTS.

Waste Minimisation Act 2008

1.4 CEMO AND REBRI DOCUMENTS

CEMO and REBRI documents relating to this part of the work:

REBRI Guide to Reducing Building Material Wastes

REBRI Guide for Waste Reduction - Demolition

REBRI Guide for Waste Reduction - Construction

List other CEMO or REBRI documents relating to this part of the work,

CEMO and REBRI website details

CEMO:	~
REBRI:	www.rebri.org.nz/

It is important to ensure that all personnel on-site have access to accurate, up to date CEMO and REBRI information.

Requirements

1.5 SPECIAL REQUIREMENTS

Clauses in this section are additional to or modify clauses in other standard sections.

This section should be read in conjunction with the rest of this specification.

Special Conditions of Contract and Special Conditions of Tender will require additions to suit CEMO requirements.

1.6 CEMO EXISTING MATERIALS MATRIX

Special requirements for 1270 CONSTRUCTION.

The drawings, SELECTIONS and CEMO Existing Materials Matrix indicate what existing items there are and what is to be done with them.

Existing Materials remaining in-situ/in-place:

Do not remove materials, leave in place and protect if necessary. Provide temporary labels to indicate they are to remain in place and not be damaged. Some in-place refurbishment may be required.

Existing Materials remaining on-site:

Deconstruct/dismantle carefully those materials to remain on site and to be reused/refurbished. Provide temporary labels to indicate they are to remain on-site and not be damaged. Store in a designated place.

Existing Materials no longer required:

Remove from site materials no longer required or unwanted for the project. If necessary provide temporary labels to indicate they are to be removed and what is to be done with them. Options may be:

- remove carefully and send to original supplier with product stewardship / end of life collection scheme, in place.
- remove and send to designated/appropriate waste provider, as noted in Existing Materials Matrix/SELECTIONS. Track and supply details of waste volume removed from site and confirm its destination to contract administrator.

- deconstruct carefully and donate to specific groups, as noted in the Existing Materials Matrix/SELECTIONS.
- deconstruct carefully and store in a suitable place for on-selling by the client, as noted in the Existing Materials Matrix/SELECTIONS.

The general section 1270 CONSTRUCTION describes how materials are to be addressed. Use this clause to describe specific requirements for existing materials.

1.7 CEMO INTRODUCED MATERIALS MATRIX
Special requirements for 1270 CONSTRUCTION.

The drawings, SELECTIONS and CEMO Introduced Materials Matrix indicate what introduced items, new items or recycled items from elsewhere, there are and where they come from.

Introduced Materials that are new:
Supply and provide as specified.

If not already obtained, request provision of supplier certification on their recycling /take back scheme or documentation on material recyclability. But check that it is available.

Introduced Materials that are recycled and come from elsewhere:
Supply and install as required. Carry out restoration or finishing as required.

The general section 1270 CONSTRUCTION describes how materials are to be addressed.

CEMO site coordination

1.8 CONTRACTORS CEMO SITE COORDINATOR
Special requirements for 1222 PROJECT PERSONNEL.

The contractor to designate an on-site person (or persons) responsible for instructing workers and overseeing and documenting results for CEMO requirements and the waste management plan.

Amend clause if using 1222L PROJECT PERSONNEL LBP'S.

Documentation

1.9 DOCUMENTATION REQUIRED FOR CEMO COMPLIANCE
Special requirements for 1234 DOCUMENTATION.

Contractor to prepare the following documentation in conjunction with the Contract Programme: -

- Waste Management Plan (based on CEMO Outline Plan and REBRI Waste Management Plan)
- Waste Diversion Tracking Tables (based on REBRI Waste Transfer Form).

Waste Management

1.10 DETAILED CEMO WASTE MANAGEMENT PLAN
Special requirements for 1256 WASTE MANAGEMENT.

Prepare and submit to the Contract administrator and CEMO Consultant a detailed Waste Management Plan and Waste Diversion Tracking Table, demonstrating compliance with the CEMO Consultant's Outline Plan. Plan to be provided and confirmed prior to any removal work occurring.

The submitted plan to include the following factors:

- site planning and, new and recycled material storage
- off-site storage or waste separation facilities (if necessary)
- waste management and diversion strategies
- purchasing
- recycling
- salvage

Modify the above list to suit the project. For projects involving a significant amount of demolition work, a different and more comprehensive list of parameters will be needed. Refer to the CEMO Guide for assistance.

1.11 CEMO RECORD KEEPING
Special requirements for 1256 WASTE MANAGEMENT.

Maintain a record of, waste, recycled and reused materials in the Waste Management Plan and Waste Diversion Tracking Table, including:

- For each material from the project to be recycled by others (not on this project), include the amount (in cubic metres, tonnes or items), or in the case of reuse by others (not on this project), state quantities by number, type and size of items, and the destination (i.e. recycling facility, used building materials yard).
- For each material land filled, include the amount (in cubic metres or tonnes) of material and the identity of the landfill, clean fill and/or transfer station.

Provide the CEMO Consultant with documentation that the Waste Management Plan and Waste Diversion Tracking Table has been implemented, by way of photographs, diversion and salvage documentation, bills, invoices etc, confirming that all materials have been received at the required locations.

1.12 ENSURE

Special requirements for 1256 WASTE MANAGEMENT.

Ensure all site management, staff, subcontractors, material and product suppliers and waste disposal companies are aware of the CEMO project and principles. Provide access to or copies of the Contractor Waste Management Plan and Waste Diversion Tracking Table. Keep a copy of the CEMO Guide and CEMO Consultant Outline Plan on site.

Project Management

1.13 CONTRACTORS DETAILED STATUS REPORT - CEMO REQUIREMENTS

Special requirements for 1260 PROJECT MANAGEMENT.

For Site Meetings Contractors detailed status report is to also address the following:

- Existing and Introduced Materials Matrices, including items; to remain in-place/in-situ, for reuse, for refurbishment, introduced recycled.
- Waste Management Plan and Waste Diversion Tracking Tables.
- Deconstruction and salvage.
- Toolbox talk minutes and attendance register

Final inspection and sign off by the Contract Administrator is required, that the Existing and Introduced Materials Matrix has been followed.

1.14 CONTRACT PROGRAMME

Special requirements for 1260 PROJECT MANAGEMENT.

To include long and critical lead time items both for, supply of introduced new and recycled items. Also restoration procedures where required.

The CEMO process requires contractors to be aware of lead times and ensure products are ordered and delivered to site on time.

1.15 CEMO COMPLIANCE – TOOLBOX TALKS

Special requirements for 1260 PROJECT MANAGEMENT.

Contractor to run CEMO induction seminar(s) for all sub-contractors (including waste disposal companies) and all those working on site. The seminar is to cover the CEMO principles and project CEMO requirements.

On going weekly Toolbox Talks with contractor team and subcontractors will be required to discuss CEMO compliance items and issues.

Provide minutes and attendance register to site meetings.

Success of the CEMO process requires all those working on-site to be aware of CEMO and waste management requirements.

2. MATERIALS

Substitutions

2.1 ACCEPTABLE PRODUCTS AND MATERIAL SUPPLIERS

Special requirements for 1234 DOCUMENTATION.

Where a product or material supplier is named in the Existing and Introduced Materials Matrices and/or SELECTIONS, the product/material must be provided by the named supplier, unless indicated otherwise.

This clause is used to nominate specific reused/recycled materials, either existing or introduced to site. It is not intended for nominating subcontractors which must be done in the specific conditions of contract applying to the work. Check with BCA for acceptability of multiple selection options where this relates to Building Code compliance issues.

- 2.2 NO SUBSTITUTIONS
Special requirements for 1234 DOCUMENTATION.
Where specifically stated in the Existing and Introduced Materials Matrices and/or a section, substitutions are not permitted to any of the specified systems, components and associated products listed.
The clause will always be used where an item is specifically identified by brand or supplier.

3. EXECUTION

Conditions

- 3.1 DELIVERY, STORAGE AND HANDLING
Special requirements for 1270 CONSTRUCTION.
Take delivery of new or recycled/refurbished materials and goods and store on-site and protect from damage.
Take care handling new, recycled and existing materials and goods, and store on-site and protect from damage. Provide protective wrapping etc. for reused materials and items if necessary during storage.
Protect finished surfaces, edges and corners from damage.
Move/handle goods in accordance with CEMO Outline Plan and manufacturer's requirements.
Recycle or dispose of packaging, wrappings, supports and surplus materials according to CEMO requirements.
The general section 1270 CONSTRUCTION describes how deliveries are to be managed and the goods stored.

Demolition

- 3.2 DEMOLITION
Special requirements for 2112 PARTIAL DEMOLITION.
For items to be reused, restored, left in-place/in-situ, left on-site, or removed from site, refer to SELECTIONS, drawings and the Existing Materials Matrix.
To prevent damage, particular care to be taken in deconstructing and dismantling all items to be salvaged, reused or restored. Also take particular care in demolition, deconstructing and dismantling, from and around items to remain in-place/in-situ. Use deconstruction techniques that ensure materials meet any requirements for reuse.
For items to be restored or refinished, retain an adequate amount of suitable unwanted or damaged materials that could be used for testing or trialling of restoration and finishing techniques. Testing samples to be disposed of to CEMO requirements.
If there is excessive demolish damage of material to be reused which may cause a shortfall for planned reuse, report immediately to the Contract Administrator.
Disposal of debris, waste and unwanted salvage to the Waste Management Plan, REBRI requirements and Existing Materials Matrix.
Amend this clause to suit the project, co-ordinate with 2112 PARTIAL DEMOLITION.

Samples

- 3.3 SAMPLES
Refer to SELECTIONS for samples and prototypes required.
Refer to the general section 1270 CONSTRUCTION as to how samples will be reviewed.
The general section 1270 CONSTRUCTION describes how samples are to be addressed. Use this clause and SELECTIONS to describe specific requirements for the samples and prototypes.
- 3.4 SAMPLES AND PROTOTYPES
Special requirements for 1270 CONSTRUCTION.
With refurbished and special finish items provide descriptions of the work carried out, techniques used and the details of additional materials used.
Restoration samples that are rejected, to be reworked where possible to achieve an acceptable standard.
Unwanted samples to be disposed of to CEMO requirements.
Modify to suit the project requirements.

- 3.5 **CONTROL STANDARD**
Special requirements for 1270 CONSTRUCTION.
Samples that are control standards to be incorporate into the work, where possible.
Modify to suit the project requirements.

Completion

- 3.6 **ROUTINE CLEANING**
Carry out routine trade cleaning of this part of the work including periodic removal of all debris, unused and temporary materials and elements from the site, complying with the CEMO requirements and 1256 WASTE MANAGEMENT.
Use this standard generic clause and add additional specific requirements.
- 3.7 **DEFECTIVE OR DAMAGED REFURBISHED OR NEW WORK**
Repair damaged or marked new elements also, in-situ, recycled and refurbished items damaged or marked by the works. Replace damaged or marked in situ or new elements where repair is not possible or will not be acceptable. Adjust operation of equipment and moving parts not working correctly. Leave work to the standard required for following procedures.
Use this standard generic clause and add additional specific requirements.
- 3.8 **LEFTOVER MATERIALS**
Leftover materials disposed of or retained in line with the CEMO requirements. If retained and required, deliver to client's storage facility.

4. SELECTIONS

Substitutions are not permitted to the following, unless stated otherwise.
If substitutions are permitted modify the statement above, ensure the NO SUBSTITUTIONS clause from GENERAL is treated the same.

Select the options to suit the project and delete options not specified.

These items can be scheduled elsewhere.

4.1 SAMPLES AND PROTOTYPES

Item:	~
New/refurbished:	~
Separate sample:	~
In-situ sample:	~

4.2 CONTROL SAMPLES REQUIRED

Item:	~
New/refurbished:	~

4.3 EXISTING MATERIALS – LEFT IN-SITU

Item:	~
Action required:	~
Protection method	~

4.4 EXISTING MATERIALS – DECONSTRUCTED AND REUSED IN FIT OUT

Item:	~
Action required:	~
Storage location:	~

4.5 EXISTING MATERIALS – DECONSTRUCTED AND REMOVED FROM SITE

Item:	~
Action required:	~
Storage location:	~
Destination:	~

4.6 INTRODUCED MATERIALS – NEW

Item:	~
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Take back scheme:	~
Recycling action:	~

4.7 INTRODUCED MATERIALS – RECYCLED FROM ELSEWHERE

Item:	~
Action required:	~
Storage location:	~

4.8 LEFTOVER ITEMS

The following items that are left over at the end of the project shall be delivered to the owners storage facility:

Item(s):	~
Storage location:	~

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