

**10. HCD proposes to amend Sections 4.408.1, 4.408.2 and 4.408.2.1, adopt Sections 4.408.3 and 4.408.4, and repeal Section 4.408.2.2 as follows:**

**SECTION 4.408  
CONSTRUCTION WASTE REDUCTION,  
DISPOSAL AND RECYCLING**

**4.408.1 Construction waste reduction of at least 50 percent management.** Recycle and/or salvage for reuse a minimum of 50 percent of the nonhazardous construction and demolition debris, waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance, whichever is more stringent.

**Exceptions:**

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.
3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

**4.408.2 Construction waste management plan.** ~~Where a local jurisdiction does not have a construction and demolition waste management ordinance a construction waste management plan shall be submitted for approval to the enforcing agency that:~~ Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.

1. ~~Identifies~~ Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. ~~Specifies~~ Specify if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream) for transportation to a diversion facility.
3. ~~Identifies the~~ Identify diversion facility facilities where the construction and demolition waste material collected will be taken.
4. ~~Identifies~~ Identify construction methods employed to reduce the amount of construction and demolition waste generated.
5. ~~Specifies~~ Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

**4.408.3 Waste management company.** Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.

**Note:** The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

**4.408.4 Waste stream reduction alternative.** Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed four (4) lbs./sq. ft. of the building area shall meet the minimum 50 percent construction waste reduction requirement in Section 4.408.1.

**4.408.2-15 Documentation.** ~~Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1 through 5, Section 4.408.3 or Section 4.408.4. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.~~

**Notes:**

1. Sample forms found in "A Guide to the California Green Building Standards Code (Low-Rise Residential)" located at [www.hcd.ca.gov/CALGreen.html](http://www.hcd.ca.gov/CALGreen.html) may be used to assist in documenting compliance with this section.
2. Mixed construction and demolition debris (C&D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

**4.408.2.2 Isolated jobsites.** The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.

**Notes:**

1. Sample forms found in Chapter 8 may be used to assist in documenting compliance with the waste management plan.
2. Mixed construction and demolition debris (C&D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

**NOTE:** Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

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**11. HCD proposes to amend Section 4.502.1 as follows:**

**SECTION 4.502  
DEFINITIONS**

**4.502.1 Definitions.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

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**COMPOSITE WOOD PRODUCTS.** Composite wood products include hardwood plywood, particleboard and medium density fiberboard. Composite wood products do not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber as specified in "Structural Glued Laminated Timber" (ANSI A190.1-2002) or prefabricated wood I-joists.

**COMPOSITE WOOD PRODUCTS.** Composite wood products include hardwood plywood, particleboard, and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists, or finger-jointed lumber, all as specified in CCR, Title 17, Section 93120.1(a).

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**VOC.** A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR, Title 17, Section 94508(a).

**Note:** Where specific regulations are cited from different agencies such as the South Coast Air Quality Management District (SCAQMD), California Air Resources Board (ARB or CARB), etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.

**NOTE:** Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

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**12. HCD proposes to amend Section 4.504.1 as follows:**

**SECTION 4.504  
POLLUTANT CONTROL**

**4.504.1 Covering of duct openings and protection of mechanical equipment during construction.** At the time of rough installation, or during storage on the construction site and until final startup of the heating and cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris, which may collect in enter the system.

**NOTE:** Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

## Construction Waste Management Plan (CWMP) – CW 1

Project Name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Building Permit #: \_\_\_\_\_ Project Sq. Ft.: \_\_\_\_\_

Contractors Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Owners Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

This construction waste management plan is hereby submitted to comply with Section 4.408.2 of the 2010 California Green Building Standards Code.

The purpose of this plan is to identify and outline the methods to be used as the minimum requirements for a construction waste management plan when the local jurisdiction does not have a construction and demolition waste management ordinance per Section 4.408.2.

1. The method of waste tracking to be used on this project will be: (Check one box)

**Volume**     **Weight**     **4 Lbs. per Sq. Ft.**     **Recycling Facility**

2. Construction waste generated on this project for transport to a recycling facility will be: (Check appropriate box)

**Site Sorted/Source Separated**     **Mixed (Commingled)**

3. The facility (or facilities) where the construction waste material will be taken is:

Name of Facility: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

(Attach separate sheet for additional facilities)

4. The following construction methods will be used to reduce the amount of waste generated: (Check all that apply)

Efficient design (dimensions of building components are designed to available material sizes or standard sizes).

Careful and accurate material ordering.

Careful material handling and storage.

Panelized or prefabricated construction.

Other \_\_\_\_\_

Other \_\_\_\_\_

5. Waste reduction and recycling strategies shall be discussed at periodic project meetings. Each new [ Contractor ]\* that comes onto the site shall be provided with a copy of the CWMP, which shall also be posted in the project office. The [ Project Manager ]\* shall also instruct all [ Subcontractors ]\* as to the location and proper use of debris boxes for disposal of construction waste materials.
6. Every effort shall be made to use recycling and/or reuse (diversion) measures to reduce the amount of construction waste and other materials sent to landfills. Whenever possible, site-sorted debris boxes shall be used to segregate construction waste materials to maximize the diversion rate.
7. The [ Contractor ]\* shall provide debris boxes for site-sorted materials and/or mixed waste for all construction related waste generated on this project. Mixed construction waste shall be taken to a recycling facility that has a diversion rate of at least 50 percent. In the event that a [ Subcontractor ]\* provides their own debris box, they shall be responsible for providing the [ Contractor ]\* with a monthly report of the total Recycled and Reused (Diverted) and the total Non-Recycled (Disposed) materials to be included in the project's overall waste management/waste reduction program.
8. Any [ Supplier ]\* hauling away packaging or waste materials shall notify the [ Contractor ]\* of the amount of these materials and how they will be disposed of (reused, recycled, salvaged, or taken to landfill).
9. Identified below are the construction waste materials that will be reused and/or recycled during the course of this project and how they will be diverted:

Material	Diversion Method: (Recycle/Reuse)

(See Construction Waste Management Worksheets for examples of common materials.)

10. The [ Waste Hauler ]\* shall track the total amount of construction waste leaving the project by weight or by volume and supply the [ Contractor ]\* with copies of tickets or detailed receipts from all loads of construction waste removed from the jobsite.
11. The [ Contractor ]\* shall monitor the process of waste management, recycling, and reuse of construction waste materials to ensure compliance with the CWMP during the course of the project.
12. The [ Contractor ]\* shall ensure that all supporting documentation which demonstrates compliance with the waste management plan is provided to the local enforcement agency upon completion of the project.

\* Insert title of appropriate party or responsible person, which may include, but not be limited to: Contractor(s), Subcontractor(s), Project Manager(s), Superintendent(s), Supplier(s), or Waste Hauler(s).

## Construction Waste Management Plan (CWMP) – CW 1

Project Name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Building Permit #: \_\_\_\_\_ Project Sq. Ft.: \_\_\_\_\_

Contractors Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Owners Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

This construction waste management plan is hereby submitted to comply with Section 4.408.2 of the 2010 California Green Building Standards Code.

The purpose of this plan is to identify and outline the methods to be used as the minimum requirements for a construction waste management plan when the local jurisdiction does not have a construction and demolition waste management ordinance per Section 4.408.2.

1. The method of waste tracking to be used on this project will be: (Check one box)

Volume     Weight     4 Lbs. per Sq. Ft.     Recycling Facility

2. Construction waste generated on this project for transport to a recycling facility will be: (Check appropriate box)

Site Sorted/Source Separated     Mixed (Commingled)

3. The facility (or facilities) where the construction waste material will be taken is:

Name of Facility: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

(Attach separate sheet for additional facilities)

4. The following construction methods will be used to reduce the amount of waste generated: (Check all that apply)

Efficient design (dimensions of building components are designed to available material sizes or standard sizes).

Careful and accurate material ordering.

Careful material handling and storage.

Panelized or prefabricated construction.

Other \_\_\_\_\_

Other \_\_\_\_\_



## Construction Waste Management Worksheet (Volume Method) - CW 2

Project Name:		Date:	Page of
Project Location:			
Project Manager:	Completed By:		
Waste Hauler:	Signature:		

Waste Material Type	Insert cubic foot or cubic yard totals into proper category below			
	A Recycled	B Reused	C Divered	D
Asphalt	+	=		
Asphalt Shingles	+	=		
Brick (broken)	+	=		
Cardboard	+	=		
Carpet/Carpet Pad	+	=		
Concrete	+	=		
Gypsum Board (Drywall)	+	=		
Masonry	+	=		
Metals	+	=		
Pallets	+	=		
Plastic	+	=		
Wood (engineered)	+	=		
Wood (solid sawn)	+	=		
Office Waste	+	=		
Other	+	=		
Other	+	=		
Other	+	=		
<b>Total:</b>	+	=		

**Step 1** - Insert volume totals into Columns A, B, and D where appropriate.

**Step 2** - Add Column A to Column B and insert total into Column C for total diverted volume.

**Step 3** - Add each column down and enter totals in the boxes provided.

If Column C is larger than Column D (on the summary sheet), compliance with 50 percent waste reduction requirement is achieved.

If multiple worksheets are used, transfer column totals from each worksheet to the summary sheet.

For additional instructions and information, please see reverse.

**Instructions for Weight or Volume Method:**

- Choose which method of construction waste tracking to be used throughout the project. Choose either the Weight Method or the Volume Method, but do not use different methods on the same worksheet.
- To minimize confusion, use the same unit of measure and do not mix pounds and tons, or Cu. Yds. and Cu. Ft. on the same worksheet. It is easiest to stay with the same unit of measure for the entire project to avoid the need for conversions.
- Enter construction waste materials that are to be recycled under Recycled (Column A).
- Enter construction waste materials that are to be reused under Reused (Column B).
- Enter construction waste materials that will not get recycled or reused under Non-Recycled/Disposed (Column D).
- Add amounts from Column A to amounts from Column B and enter the total under Diverted (Column C).
- Add amounts in each Column (A, B, C, and D) and enter these sums into Total boxes.
- If the Diverted amount (Column C) is greater than the Non-Recycled/Disposed amount (Column D), compliance with the construction waste reduction requirement of at least 50 percent per Section 4.408.1 has been achieved.
- When more than one worksheet is used, transfer the data onto the Weight or Volume Summary Worksheet at the completion of the project.

**Examples of weights and volumes of some typical construction waste materials\***

Material	Range of pounds per cubic yard	Typical pounds per cubic yard	Typical cubic yards per ton
Asphalt roofing material	250-460	360	5.5
Asphalt - paving	1300-2200	1750	1.1
Cardboard	70-135	85	23.5
Concrete	1300-2200	1750	1.1
Gypsum Drywall	315-470	400	5
Metals	220-1940	540	3.7
Wood	200-540	499	5

\* Source: Sacramento Regional Solid Waste Authority

**Standard Conversions: 1 cubic yard equals 27 cubic feet  
1 ton equals 2000 pounds**



# Construction Waste Management Worksheet (Weight Method) - CW 3

Project Name:				Date:		Page	of
Project Location:							
Project Manager:							
Waste Hauler:							
	A	B	C	D			
<b>Waste Material Type</b>	Insert weight totals into proper category below						
	Recycled	Reused	Diversed				
Asphalt	+	=					
Asphalt Shingles	+	=					
Brick (broken)	+	=					
Cardboard	+	=					
Carpet/Carpet Pad	+	=					
Concrete	+	=					
Gypsum Board (Drywall)	+	=					
Masonry	+	=					
Metals	+	=					
Pallets	+	=					
Plastic	+	=					
Wood (engineered)	+	=					
Wood (solid sawn)	+	=					
Office Waste	+	=					
Other	+	=					
Other	+	=					
Other	+	=					
<b>Total:</b>	+	=					

**Step 1** - Insert weight totals into Columns A, B, and D where appropriate.

**Step 2** - Add Column A to Column B and insert total into Column C for total diverted weight.

**Step 3** - Add each column down and enter totals in the boxes provided.

If Column C is larger than Column D (on the summary sheet), compliance with 50 percent waste reduction requirement is achieved. If multiple worksheets are used, transfer column totals from each worksheet to the summary sheet.

For additional instructions and information, please see reverse.

**Instructions for Weight or Volume Method:**

- Choose which method of construction waste tracking to be used throughout the project. Choose either the Weight Method or the Volume Method, but do not use different methods on the same worksheet.
- To minimize confusion, use the same unit of measure and do not mix pounds and tons, or Cu. Yds. and Cu. Ft. on the same worksheet. It is easiest to stay with the same unit of measure for the entire project to avoid the need for conversions.
- Enter construction waste materials that are to be recycled under Recycled (Column A).
- Enter construction waste materials that are to be reused under Reused (Column B).
- Enter construction waste materials that will not get recycled or reused under Non-Recycled/Disposed (Column D).
- Add amounts from Column A to amounts from Column B and enter the total under Diverted (Column C).
- Add amounts in each Column (A, B, C, and D) and enter these sums into Total boxes.
- If the Diverted amount (Column C) is greater than the Non-Recycled/Disposed amount (Column D), compliance with the construction waste reduction requirement of at least 50 percent per Section 4.408.1 has been achieved.
- When more than one worksheet is used, transfer the data onto the Weight or Volume Summary Worksheet at the completion of the project.

**Examples of weights and volumes of some typical construction waste materials\***

Material	Range of pounds per cubic yard	Typical pounds per cubic yard	Typical cubic yards per ton
Asphalt roofing material	250-460	360	5.5
Asphalt - paving	1300-2200	1750	1.1
Cardboard	70-135	85	23.5
Concrete	1300-2200	1750	1.1
Gypsum Drywall	315-470	400	5
Metals	220-1940	540	3.7
Wood	200-540	499	5

\* Source: Sacramento Regional Solid Waste Authority

**Standard Conversions: 1 cubic yard equals 27 cubic feet  
1 ton equals 2000 pounds**

## Weight or Volume Summary Worksheet - CW/4

Project Name:				Date:	
Project Location:					
Project Manager:					
Waste Hauler:					
Worksheets by page:	<b>C</b>	<b>D</b>	Compliance Method (check only one box)		
	Insert Totals Below	Diversified	<input type="checkbox"/>	Volume	<input type="checkbox"/>
Worksheet 1					Weight
Worksheet 2					
Worksheet 3					
<b>Grand Totals:</b>					
<p><b>Step 1</b> - Insert totals from Weight or Volume worksheets in Column C and/or D.</p> <p><b>Step 2</b> - Add each Column down and enter grand totals in the boxes provided.</p> <p>If Column C is larger than Column D Compliance with the 50% waste reduction requirement is achieved.</p>					
<p><b>Certification:</b>                  The signature below represents that the information provided on this form is true and correct and certifies that I have tracked construction waste during the course of this project and that a minimum of 50% of the total waste has been diverted for either reuse or recycling.</p>					
Company Name: (general contractor, subcontractor, or homeowner)					
Responsible Person's Name:			Responsible Person's Signature:		
Date Signed:			Position with Company or Title:		
CSLB License:					



# Construction Waste Management Worksheet (4 Lbs. per Sq. Ft. Method) - CW 5

Project Name:					Date:	Page	of
Project Location:					Completed By:		
Project Manager:					Signature:		
Waste Hauler:					Notes:		
	A	B	C	D	E		
	Insert weight (Lbs.) into proper category below						
Waste Material Type	Waste Generated	Recycled and/or Reused	Net Waste		Total Lbs. per Square Foot		
Asphalt	-		=				
Asphalt Shingles	-		=				
Brick (broken)	-		=				
Cardboard	-		=				
Carpet/Carpet Pad	-		=				
Concrete	-		=				
Gypsum Board Drywall	-		=				
Masonry	-		=				
Metals	-		=				
Pallets	-		=				
Plastic	-		=				
Wood (engineered)	-		=				
Wood (solid sawn)	-		=				
Office Waste	-		=				
Other	-		=				
Other	-		=				
Other	-		=				
<b>Total:</b>	-		=	+	=		

**Step 1** - Insert weight totals into Columns A and B where appropriate and total columns.  
**Step 2** - Subtract Column B total from Column A total and insert difference into Column C total (Net Waste).  
**Step 3** - Divide Net Waste (Column C) total by Project Area (Column D) to find the net weight of construction waste per Sq. Ft.  
**Step 4** - Insert result into Column E. If result is 4 lbs. or less per sq. ft., compliance with 50 percent waste reduction requirement is achieved.

For additional instructions and information, please see reverse.  
 \*Area of project also includes garages, breezeways, and attached roof structures (covered patios, etc.)

**Instructions for 4 Lbs. per Sq. Ft. Method:**

- Enter weight of construction waste materials (in Lbs.) under Waste Generated (Column A).
- Enter construction waste materials (in Lbs.) that are to be recycled or reused under Recycled and/or Reused (Column B).
- Subtract amounts in Column B from amounts in Column A and enter the difference under Net Waste (Column C).
- Add the amounts in each column (A, B, and C) and enter these sums into Total boxes.
- Insert project square footage into Column D Total box.
- Divide Net Waste (Column C) Total by Project Area (Column D) to find the net weight of construction debris/waste per Sq. Ft.
- Insert result into Column E. If the result is 4 lbs. or less per square foot, compliance with the construction waste reduction requirement of at least 50 percent per Section 4.408.1 has been achieved.
- When more than one worksheet is used, transfer the data onto the 4 Lbs. per Sq. Ft. Summary Worksheet at the completion of the project.

**Examples of weights and volumes of some typical construction waste materials\***

Material	Range of pounds per cubic yard	Typical pounds per cubic yard	Typical cubic yards per ton
Asphalt roofing material	250-460	360	5.5
Asphalt - paving	1300-2200	1750	1.1
Cardboard	70-135	85	23.5
Concrete	1300-2200	1750	1.1
Gypsum Drywall	315-470	400	5
Metals	220-1940	540	3.7
Wood	200-540	499	5

\* Source: Sacramento Regional Solid Waste Authority

**Standard Conversions: 1 cubic yard equals 27 cubic feet  
1 ton equals 2000 pounds**

## 4 Lbs. per Sq. Ft. Summary Worksheet - CW 6

**Project Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Project Location:** \_\_\_\_\_  
**Project Manager:** \_\_\_\_\_  
**Waste Hauler:** \_\_\_\_\_

Worksheets by page #	Insert weight (Lbs.) into proper category below			Total Lbs. per Square Foot	Notes:
	A Waste Generated	B Recycled and/or Reused	C Net Waste		
Worksheet 1	-	=			
Worksheet 2	-	=			
Worksheet 3	-	=			
	-	=			
	-	=			
	-	=			
	-	=			
	-	=			
	-	=			
	-	=			
<b>Grand Total:</b>				÷	

**Step 1** - Insert totals from 4 Lb. per Sq. Ft. worksheets into Columns A, B, and C.  
**Step 2** - Add each column down and enter grand total in boxes provided  
**Step 3** - Subtract Column B grand total from Column A grand total and insert difference into Column D  
**Step 4** - Divide Column C grand total by the area of the project (Column D) to find the total net construction waste in Lbs. per Sq. Ft.  
**Step 5** - Insert total into Column E. If total is 4 lbs. or less per sq. ft., compliance with 50 percent waste reduction requirement is achieved.

**Certification:**  
 The signature below represents that the information provided on this form is true and correct and certifies that I have tracked construction waste during the course of this project, and that the total net waste generated by this project is 4 lbs. per sq. ft. or less.

Company Name: (general contractor, subcontractor, or homeowner) \_\_\_\_\_  
 Responsible Person's Name: \_\_\_\_\_ Responsible Person's Signature: \_\_\_\_\_  
 Date Signed: \_\_\_\_\_ Position with Company or Title: \_\_\_\_\_  
 CSLB License: \_\_\_\_\_





**Construction Waste Management Plan (CWMP) Acknowledgment - CW 7**

**Project Name:**  
**Project Location:**  
**Project Manager:**  
**Waste Hauler:**  
**Facility:**

The project foreman for each subcontractor and their suppliers that will be performing any work on this site will receive and read a copy of the Construction Waste Management Plan.

**By signing below, I acknowledge that I have read the CWMP for this project and agree to my responsibilities to follow the procedures in this plan.**

<b>Date</b>	<b>Company</b>	<b>Foreman Name</b>	<b>Signature</b>



## NONRESIDENTIAL MANDATORY MEASURES

### DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

#### SECTION 5.408

#### CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

~~5.408.1 Construction waste diversion.~~ Establish a construction waste management plan for the diverted materials, or meet local construction and demolition waste management ordinance, whichever is more stringent.

~~5.408.2~~ 1 Construction waste management plan. Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan for approval by the enforcement agency that:

1. Identifies the construction waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale.
2. Determines if construction waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
3. Identifies diversion facilities where construction waste material collected will be taken.
4. Specifies that the amount of construction waste materials diverted shall be calculated by weight or volume, but not by both.

5.408.1.2 Waste management company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction waste material diverted from the landfill complies with this section.

Note: The owner or contractor shall make the determination if the construction waste material will be diverted by a waste management company.

Exceptions to 5.408.1.1 and 5.408.1.2:

1. Excavated soil and land-clearing debris
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.
3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets, where demolition of an existing structure(s) is necessary for the construction of a new structure.

5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed 2 lbs/s.f. of building area may be deemed to meet the 50% minimum requirement as approved by the enforcing agency.

5.408.2.1.4 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 5.408.2 1.1, Items thru 4 through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

Notes:

1. Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" located at <http://www.bsc.ca.gov/CALGreen/default.htm> may be used to assist in documenting compliance with the waste management plan.
2. Mixed construction and demolition debris (C&D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

...

~~5.408.2-2 Isolated jobsites.~~ The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.

Notes:

1. Sample forms found in Chapter 8 may be used to assist in documenting compliance with the waste management plan.
2. Mixed construction and demolition debris (C&D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

~~5.408.3 Construction waste reduction of at least 50%.~~ Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent. Calculate the amount of materials diverted by weight or volume, but not by both.

Exceptions:

1. Excavated soil and land-clearing debris
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities

capable of compliance with this item do not exist.

**5.408.4.3 Excavated soil and land clearing debris.** 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.

Exception: Reuse, either on-or off-site, of vegetation or soil contaminated by disease or pest infestation.

**Notes:**

1. If contamination by disease or pest infestation is suspected, contact the County Agricultural Commissioner and follow its direction for recycling or disposal of the material. ([www.cdfa.ca.gov/exec/county/county\\_contacts.html](http://www.cdfa.ca.gov/exec/county/county_contacts.html))
2. For a map of known pest and/or disease quarantine zones, consult with the California Department of Food and Agriculture ([www.cdfa.ca.gov](http://www.cdfa.ca.gov))

**5.410.2 Commissioning.** For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. Commissioning requirements shall include:

1. Owner's or Owner representative's project requirements
2. Basis of design
3. Commissioning measures shown in the construction documents
4. Commissioning plan
5. Functional performance testing
6. Documentation and training
7. Commissioning report

**Exceptions:**

1. Dry storage warehouses of any size
2. Areas under 10,000 square feet used for offices or other conditioned accessory spaces within dry storage warehouses
3. Tenant improvements under 10,000 square feet as described in Section 303.1.1.

All building ~~operating~~ systems and components covered by Title 24, Part 6, as well as process equipment and controls, and renewable energy systems shall be included in the scope of the Commissioning Requirements.

**5.410.2.2 Basis of Design (BOD).** A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project, ~~and updated as necessary during the design and construction phases.~~ The Basis of Design document shall cover the following systems:

8. Heating, ventilation, air conditioning (HVAC) systems and controls
9. Indoor lighting system and controls
10. Water heating system
11. Renewable energy systems
12. Landscape irrigation systems
13. Water reuse systems

**5.410.2.3 Commissioning plan.** Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned ~~and shall be started during the design phase of the building project.~~ The Commissioning Plan shall include the following:

1. General project information
2. Commissioning goals
3. Systems to be commissioned. Plans to test systems and components shall include:
  - a. An explanation of the original design intent
  - b. Equipment and systems to be tested, including the extent of tests
  - c. Functions to be tested
  - d. Conditions under which the test shall be performed
  - e. Measurable criteria for acceptable performance
4. Commissioning team information
5. Commissioning process activities, schedules and responsibilities. Plans for the completion of commissioning requirements listed in A5.410.4.4 through A5.410.4.6 shall be included

**5.410.2.5.1 Systems manual.** Documentation of the operational aspects of the building shall be completed within the Systems Manual and delivered to the building owner or representative and facilities operator. The Systems Manual shall include the following:

1. Site information, including facility description, history and current requirements
2. Site contact information

## **5.713.6 Enhanced durability and reduced maintenance (Reserved)**

### **5.713.7 Water resistance and moisture management.**

**5.713.7.1 Weather protection.** Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2 (Weather Protection) and California Energy Code Section 150. (Mandatory Features and Devices), manufacturer's installation instructions, or local ordinance, whichever is more stringent.

**5.713.7.2 Moisture control.** Employ moisture control measures by the following methods.

**5.713.7.2.1 Sprinklers.** Design and maintain landscape irrigation systems to prevent spray on structures.

**5.713.7.2.2 Entries and openings.** Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings.

#### **Notes:**

1. Use features such as overhangs and recesses, and flashings integrated with a drainage plane.
2. Use non-absorbent floor and wall finishes within at least two feet around and perpendicular to such openings.

### **5.713.8 Construction waste reduction, disposal and recycling**

**5.713.8.1 Construction waste management.** Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction waste in accordance with Section 5.713.8.1.1 or 5.713.8.1.2; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

**5.713.8.1.1 Construction waste management plan.** Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that:

1. Identifies the construction waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale.
2. Determines if construction waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
3. Identifies diversion facilities where construction waste material collected will be taken.
4. Specifies that the amount of construction waste materials diverted shall be calculated by weight or volume, but not by both.

**5.713.8.1.2 Waste management company.** Utilize a waste management company, approved by the enforcing agency, that can provide verifiable documentation that the percentage of construction waste material diverted from the landfill complies with this section.

**Note:** The owner or contractor shall make the determination if the construction waste material will be diverted by a waste management company.

#### **Exceptions to 5.713.8.1.1 and 5.713.8.1.2:**

1. Excavated soil and land-clearing debris
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.
3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets, where demolition of an existing structure(s) is necessary for the new construction

**5.713.8.1.3 Documentation.** Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 5.713.8.1.1, Items through 4. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

#### **Notes:**

1. Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" located at <http://www.bsc.ca.gov/CALGreen/default.htm> may be used to assist in documenting compliance with the waste management plan.
2. Mixed construction and demolition debris (C&D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

**5.713.8.2 Isolated jobsites.** The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.

**5.713.8.3 Excavated soil and land clearing debris.** 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.

**Exception:** Reuse, either on-or off-site, of vegetation or soil contaminated by disease or pest infestation.

#### **Notes:**

1. If contamination by disease or pest infestation is suspected, contact the County Agricultural Commissioner and follow its direction for recycling or disposal of the material.

[www.cdfa.ca.gov/exec/county/county\\_contacts.html](http://www.cdfa.ca.gov/exec/county/county_contacts.html))

2. For a map of known pest and/or disease quarantine zones, consult with the California Department of Food and Agriculture ([www.cdfa.ca.gov](http://www.cdfa.ca.gov))

#### **5.713.9 Life cycle assessment (Reserved)**

#### **5.713.10 Building maintenance and operation**

**5.713.10.1 Recycling by occupants.** If not provided on the existing site and where site conditions permit, provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics and metals, metals in accordance with one of the following:

1. For additions or alterations by an owner or a tenant conducted within a 12-month period under single or multiple permits resulting in an increase of 30% or more in floor area
2. For additions or alterations by an owner or a tenant for which multiple permits are applied within a 12-month period resulting in an increase of 30% or more in floor area
3. As required by a lawfully enacted local recycling ordinance, if more restrictive.

**5.713.10.1.1 Sample ordinance.** Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the Public Resources Code. Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act).

**Note:** A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle's web site.

#### **5.713.10.2 (Reserved)**

#### **5.713.10.3 (Reserved)**

**5.713.10.4 Testing and adjusting.** Testing and adjusting of new systems installed in to serve an addition or alteration subject to Section 5.701.1 shall be required.

#### **5.713.10.4.1 (Reserved)**

**5.713.10.4.2 Systems.** Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project:

1. HVAC systems and controls
2. Indoor and outdoor lighting and controls
3. Water heating systems
4. Renewable energy systems
5. Landscape Irrigation Systems
6. Water Reuse Systems.

**5.713.10.4.3 Procedures.** Perform testing and adjusting procedures in accordance with applicable standards on each system as determined by the enforcing agency.

**5.713.10.4.3.1 HVAC balancing.** In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, balance the system in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; or Associated Air Balance Council National Standards or as approved by the enforcing agency.

**5.713.10.4.4 Reporting.** After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.

**5.713.10.4.5 Operation and maintenance (O & M) manual.** Provide the building owner or representative with detailed operating and maintenance instructions and copies of warranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.

**5.713.10.4.5.1 Inspections and reports.** Include a copy of all inspection verifications and reports required by the enforcing agency.

### **SECTION 5.714** **ENVIRONMENTAL QUALITY**

**5.714.1 Scope.** The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating, and/or harmful to the comfort and well-being of a building's installers, occupants, and neighbors.

**5.714.2 Definitions.** Refer to Section 5.502 of this code.

**CALGreen Section: 5.408.1 Construction waste diversion.** Establish a construction waste management plan for the diverted materials, or meet local construction and demolition waste management ordinance, whichever is more stringent.

**5.408.2 Construction waste management plan.** Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan for approval by the enforcement agency that:

1. Identifies the materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale.
2. Determines if materials will be sorted on-site or mixed.
3. Identifies diversion facilities where material collected will be taken.
4. Specifies that the amount of materials diverted shall be calculated by weight or volume, but not by both.

**5.408.2.1 Documentation.** Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 5.408.2 items 1 thru 4. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

**Exception: [DSA-SS]** Jobsites in areas where there is no mixed construction and demolition debris (C&D) processor or recycling facilities within a feasible haul distance shall meet the requirements as follows:

1. The enforcement agency having jurisdiction shall at its discretion, enforce the waste management plan and make exceptions as deemed necessary.

**5.408.2.2 Isolated jobsites.** The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.

**NOTES:**

1. Sample forms found in Chapter 8 may be used to assist in documenting compliance with the waste management plan.
2. Mixed construction and demolition debris (C&D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

**Intent:**

The intent of this measure is to ensure that construction waste is diverted away from landfills and re-used or recycled either in conformance with the construction Waste Management Plan (WMP) or local ordinance.

**Existing Law or Regulation:**

AB 939 (Stats. 1989, c. 1095) as amended (WMA) made all California cities, counties, and approved regional solid waste management agencies responsible for enacting plans and implementing programs to divert 25 percent of their solid waste by 1995 and 50 percent by year 2000.

**Compliance Method:**

**How to comply:** If no local construction waste diversion ordinance exists then establish a construction waste management plan and identify the construction waste materials to be diverted from disposal as well as the diversion facility where the material will be taken. The requirements for the WMP are indicated in the regulation above.

**Notes:** Sample WMP form provided in Part 4 of this Guide can be used to identify diverted materials. Mixed construction and demolition debris (C&D) processors can be located at <http://www.ciwmb.ca.gov/ConDemo/>.

**Enforcement:**

**Plan Intake:** The reviewer and/or plan checker should review the set of plans, specifications and/or forms to confirm that a WMP for diverted materials has been included with the plan

submittal, that a local ordinance is cited as the method of compliance, or that an exception should be granted for an isolated job site that lacks access to a recycling facility or markets.

**On-Site Enforcement:** The inspector should review the approved WMP or Exception (Isolated jobsite) to verify that the identified materials are being diverted as specified.



# CONSTRUCTION WASTE MANAGEMENT (CWM) PLAN WORKSHEET

CALGreen  
Std. – BSC-5.4-1  
7-16-10

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

Project Name: \_\_\_\_\_  
Job #: \_\_\_\_\_  
Project Manager: \_\_\_\_\_  
Waste Hauling Company: \_\_\_\_\_  
Contact Name: \_\_\_\_\_

All Subcontractors shall comply with the project's Construction Waste Management Plan.  
All Subcontractor foremen shall sign the CWM Plan Acknowledgement Sheet.

Subcontractors who fail to comply with the Waste Management Plan will be subject to backcharges or withholding of payment, as deemed appropriate. For instance, Subcontractors who contaminate debris boxes that have been designated for a single material type will be subject to backcharge or withheld payment, as deemed appropriate.

1. The project's overall rate of waste diversion will be \_\_\_\_ %.
2. This project shall generate the least amount of waste possible by planning and ordering carefully, following all proper storage and handling procedures to reduce broken and damaged materials and reusing materials whenever possible. The majority of the waste that is generated on this jobsite will be diverted from the landfill and recycled for other use.
3. Spreadsheet 1, enclosed, identifies the waste materials that will be generated on this project, the diversion strategy for each waste type and the anticipated diversion rate.
4. Waste prevention and recycling activities will be discussed at the beginning of weekly subcontractor meetings. As each new subcontractor comes on-site, the WMP Coordinator will present him/her with a copy of the CWM Plan and provide a tour of the jobsite to identify materials to be salvaged and the procedures for handling jobsite debris. Each Subcontractor foremen will acknowledge in writing that they have read and will abide by the CWM Plan. Subcontractor Acknowledgement Sheet enclosed. The CWM Plan will be posted at the jobsite trailer.
5. Salvage: Excess materials that cannot be used in the project, nor returned to the vendor, will be offered to site workers, the owner, or donated to charity if feasible.
6. [HAULING COMPANY] will provide a commingled drop box at the jobsite for most of the construction waste. These commingled drop boxes will be taken to [Sorting Facility Name and Location]. The average diversion rate for commingled waste will be \_\_\_\_%. As site conditions permit, additional drop boxes will be used for particular phases of construction (e.g., concrete and wood waste) to ensure the highest waste diversion rate possible.
7. In the event that the waste diversion rate achievable via the strategy described in (6) above, is projected to be lower than what is required, then a strategy of source-separated waste diversion and/or waste stream reduction will be implemented. Source separated waste refers to jobsite waste that is not commingled but is instead allocated to a debris box designated for a single material type, such as clean wood or metal

#### Notes:

1. Waste stream reduction refers to efforts taken by the builder to reduce the amount of waste generated by the project to below four (4) pounds per square foot of building area.
2. When using waste stream reduction measures, the gross weight of the product is subtracted from a base weight of four (4) pounds per square foot of building area. This reduction is considered additional diversion and can be used in the waste reduction percentage calculations.
8. [HAULING COMPANY] will track and calculate the quantity (in tons) of all waste leaving the project and calculate the waste diversion rate for the project. [HAULING COMPANY] will provide Project Manager with an updated monthly report on gross weight hauled and the waste diversion rate being achieved on the project. [HAULING COMPANY's] monthly report will track separately the gross weights and diversion rates for commingled debris and for each source-separated waste stream leaving the project. In the event that [HAULING COMPANY] does not service any or all of the debris boxes on the project,

the [HAULING COMPANY] will work with the responsible parties to track the material type and weight (in tons) in such debris boxes in order to determine waste diversion rates for these materials.

9. In the event that Subcontractors furnish their own debris boxes as part of their scope of work, such Subcontractors shall not be excluded from complying with the CWM Plan and will provide [HAULING COMPANY] weight and waste diversion data for their debris boxes.
10. In the event that site use constraints (such as limited space) restrict the number of debris boxes that can be used for collection of designated waste the project Superintendent will, as deemed appropriate, allocate specific areas onsite where individual material types are to be consolidated. These collection points are not to be contaminated with non-designated waste types.
11. Debris from jobsite office and meeting rooms will be collected by [DISPOSAL SERVICE COMPANY]. [DISPOSAL SERVICE COMPANY] will, at a minimum, recycle office paper, plastic, metal and cardboard.

# CONSTRUCTION WASTE MANAGEMENT (CWM) WORKSHEET

CALGreen  
Std. – BSC-5.4-2  
7-16-10

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

Project Name: \_\_\_\_\_  
 Job Number: \_\_\_\_\_  
 Project Manager: \_\_\_\_\_  
 Waste Hauling Company: \_\_\_\_\_

## Construction Waste Management (CWM) Plan

Waste Material Type	Diversion Method		Projected Diversion Rate
	Commingled and Sorted Off-site	Source Separated Onsite	
Asphalt			
Concrete			
Shotcrete			
Metals			
Wood			
Rigid Insulation			
Fiberglass Insulation			
Acoustic Ceiling Tile			
Gypsum Drywall			
Carpet/Carpet Pad			
Plastic Pipe			
Plastic Buckets			
Plastic			
Hardiplank Siding and Boards			
Glass			
Cardboard			
Pallets			
Job office trash, paper, glass & plastic bottles, cans, plastic			
Alkaline and rechargeable batteries, toner cartridges, and electronic devices			
Other:			
Other:			

Other:			
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<b>Contractor (Documentation Author's /Responsible Designer's Declaration Statement)</b>	
<ul style="list-style-type: none"> <li>• I certify that this Certificate of Compliance documentation is accurate and complete.</li> <li>• I certify that the features and performance specifications for the design identified on this Certificate of Compliance conform to the requirements of Title 24, Parts 11 of the California Code of Regulations.</li> <li>• The design features identified on this Certificate of Compliance are consistent with the information documented on other applicable compliance forms, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with the permit application.</li> </ul>	
Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

# CONSTRUCTION WASTE MANAGEMENT (CWM) ACKNOWLEDGMENT

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

CALGreen  
Std. – BSC-5.4-3  
7-16-10

**Project Name:** \_\_\_\_\_  
**Job Number:** \_\_\_\_\_  
**Project Manager:** \_\_\_\_\_  
**Waste Hauling Company:** \_\_\_\_\_

## CWM Plan Acknowledgment

The Foreman for each new Subcontractor that comes on site is to receive a copy of the Construction Waste Management Plan and complete this Acknowledgement Form.

I have read the Waste Management Plan for the project; I understand the goals of this plan and agree to follow the procedures described in this plan.

Date	Subcontractor Company Name	Foreman Name	Signature

<b>Contractor (Documentation Author's /Responsible Designer's Declaration Statement)</b>	
<ul style="list-style-type: none"> <li>• I certify that this Certificate of Compliance documentation is accurate and complete.</li> <li>• I certify that the features and performance specifications for the design identified on this Certificate of Compliance conform to the requirements of Title 24, Parts 11 of the California Code of Regulations.</li> <li>• The design features identified on this Certificate of Compliance are consistent with the information documented on other applicable compliance forms, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with the permit application.</li> </ul>	
Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone: