



Construction and Demolition (C&D)
Diversion Informational Guide

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Model Construction and Demolition (C&D) Diversion Ordinance

Legislation

The California Department of Resources Recycling and Recovery (CalRecycle) has developed a model construction and demolition (C&D) diversion ordinance, as required by Senate Bill 1374 (Kuehl, Chapter 501, Statutes of 2002), to assist jurisdictions with diverting their C&D waste material. Specifically, CalRecycle was directed to:

“...Adopt one or more model ordinances, suitable for modification by a local agency, that the local agency may adopt that will require a range of diversion rates of construction and demolition waste materials from 50 to 75 percent, as determined by CalRecycle, and as measured by weight.”

Jurisdictions are not required to adopt their own C&D ordinance, nor are they required to adopt CalRecycle’s model ordinance as their own by default. However, SB 1374 also added a new set of circumstances (related to C&D waste diversion) to those previously included in Public Resources Code section 41850 that CalRecycle shall consider when determining whether to impose a fine on a jurisdiction that has failed to implement its Source Reduction and Recycling Element (SRRE). Those circumstances are the following:

- If a jurisdiction has been issued a compliance order for failure to implement its SRRE and
 - it has failed to meet the requirements of that order; and
 - it has reported to CalRecycle that C&D waste is at least a moderately significant portion of its waste stream;
- Then CalRecycle shall include in its consideration whether the jurisdiction has taken any action to divert that C&D waste, including
 - adopting its own C&D diversion ordinance,
 - adopting CalRecycle’s model ordinance, or
 - implementing another program to encourage or require the diversion of C&D waste.

How the Model Ordinance Was Developed

CalRecycle staff developed the model ordinance based on feedback solicited from local government, building industry representatives, C&D recyclers and waste management companies, and on C&D diversion ordinances already being implemented by jurisdictions.

The most typically used sections in existing ordinances have been incorporated into the model ordinance, making the model a composite of ordinances reviewed. The model is quasi-modular in format so that you may pick and choose which sections of the model you want to include in your own ordinance. CalRecycle adopted the model ordinance at its [March 16, 2004, CalRecycle Meeting \(Agenda Item #13\)](#). It has since been updated to reflect the California Green Building Standards Code's (CALGreen) waste management requirements.

Local Government C&D Diversion Information

CalRecycle has an existing Web page on [C&D recycling](#) that includes useful information related to contractors and C&D waste diversion. The [C&D Informational Guide](#) provides information to jurisdictions and general contractors on methods and activities to divert construction and demolition (C&D) materials.

Related Events and Information

Public Workshop

CalRecycle staff conducted a public workshop on C&D diversion ordinances on July 8, 2004 in Sacramento. Two panels composed of local government and industry representatives with expertise in C&D diversion ordinances shared their insight and experiences. The workshop was broadcast over the Web.

Presentations made at the workshop are listed below as downloadable files. (Please notice file sizes.)

- [Introduction to C&D Workshop](#)

The workshop [transcripts](#) and the July 8 C&D Workshop [audio](#) (00:03:14:00) are also available.

C&D Forum: Closing the Loop on C&D Materials

CalRecycle staff conducted a C&D Forum: Closing the Loop on C&D Materials on May 31, 2006. The purpose of this forum was to share information on C&D diversion as it relates to creating infrastructure and markets for C&D materials.

Two panels of experts spoke on the following:

- Local governments' experiences with creating and/or using infrastructure to divert C&D waste.
- Industry and local government perspectives on issues related to creating markets for C&D materials, as well as an example of reusing C&D materials on site.

Video presentations of the speakers are also available.

C&D Resources

Below are selected links on C&D diversion that may help your jurisdiction “close the loop.”

- Construction and Demolition Web sites
- [infoCycling Special Edition on Construction and Demolition](#), May 2006. This edition features information on diverting construction and demolition waste.

Developing a C&D Ordinance

Background

A construction and demolition (C&D) ordinance is a formal, publicly adopted law that gives a jurisdiction enforcement authority for the diversion activities required in the ordinance. Before adopting and implementing a C&D diversion ordinance, you should begin the process by first researching your local conditions related to C&D waste, and include your local stakeholders throughout the development of the ordinance. To help ensure your ordinance actually leads to increase diversion of C&D debris from landfills, certain points should be considered during the development, adoption, and implementation phases of your ordinance.

Many jurisdictions have adopted one of the [C&D diversion ordinances](#) available on our C&D Web page. Whether you choose to use one of these sample ordinances or to build your own using CalRecycle's model ordinance tool, we strongly encourage you to first read through the "Important Considerations" section below, as the information will help you during the development of your own ordinance. Here is a [sample of language](#) used by a jurisdiction (City of Atascadero) to present their C&D ordinance to their city council and recommend its adoption (provided by San Luis County).

Based on input CalRecycle staff received from local jurisdictions, the building industry, the demolition industry, C&D recyclers, and solid waste haulers, the issues identified on the following pages should be considered during the planning and development phases of your C&D diversion ordinance. You will also find by reading through this information that several processes related to implementing the ordinance, such as training for staff and contractors, and handling deposits or fines, should be in place prior to its adoption.

Appeals

Many construction and demolition (C&D) diversion ordinances include an “appeals” section to clarify upfront what the process will be if an applicant chooses to appeal a decision made regarding:

- Granting or denying an exemption.
- Determining an applicant’s level of good faith shown in complying with the ordinance.
- The amount of deposit the compliance officer determined to be appropriate.

This section would not only give an applicant the right to appeal such a decision, but would also spell out what the process is for making an appeal. Including this section will provide clarity and add flexibility to the ordinance in how applicants and the jurisdiction will handle any special circumstances that occur that make it difficult, or impossible, for an applicant to comply with the ordinance requirements.

Case Studies Related to C&D Diversion Ordinances

Several jurisdictions around the state have already gone through a construction and demolition (C&D) diversion ordinance development and adoption process, which may or may not include green building practices. Below are a few examples from different jurisdictions in California. Please keep in mind that this website will be continually updated and we are always looking for new case study examples to add to the list below:

- **[Alameda County Waste Management Authority \(ACWMA\) Job Site Case Study](#)**. ACWMA staff developed a case studies relating to greenbuilding, as well as tools for purchasing recycled content products and C&D diversion.
- **[Case Studies](#)**. Developed by CalRecycle's C&D program staff on green building and deconstruction projects.
- **Excerpts: Best Practices in Waste Reduction Video (Chapters 1 and 6)**. Below are two chapters in CalRecycle's 12-chapter Best Practices in Waste Reduction video (Windows Media Video). All chapters are available to watch on [YouTube](#) or on our [Video Central Training](#) page.
 - Chapter 1: Opening Overview: [YouTube](#) (00:02:38) | [Transcript](#)
 - Chapter 6: C&D Diversion Ordinances: [YouTube](#) (00:04:01) | [Transcript](#)

Reducing waste can save you money, conserve energy and resources, and reduce air, soil, and water pollution. The Best Practices in Waste Reduction video shows you real options for recycling, reducing, or reusing solid waste products. Helping promote California's development of markets for recyclable materials is part of our mission. We can help you with technical, financial, and permitting assistance. Please feel free to contact CalRecycle's [Office of Public Affairs](#) for more information.

Ordinance Construction

Introduction

Many jurisdictions have adopted one of the sample [construction and demolition \(C&D\) diversion ordinances](#) available on our website, or have adapted one to fit their specific needs. You may choose instead to build your own C&D ordinance using CalRecycle's model ordinance.

CalRecycle's model is provided as a tool to assist you in developing an ordinance that best fits your jurisdiction's needs and conditions. It includes many "fill in the blanks" for those sections that require specificity based on your particular jurisdiction's conditions. For example, you could choose to include a threshold based on the cost (dollar) or square footage amount that will capture the most common types of projects in your jurisdiction, or on those projects that generate the greatest amount of C&D materials.

Also, as you read through each section of the model, you will be able to click back to the corresponding information for that section on this Information Page.

The sections included in CalRecycle's model ordinance are those typically found in existing ordinances. Information related to each section is included as guidance when developing your ordinance.

Definitions

To facilitate compliance with your ordinance and avoid conflicts over issues such as who is an applicant, what projects are covered under the ordinance, and what counts as diversion, you will want to include a list of definitions to ensure that contractors understand what is required to demonstrate compliance with the ordinance. Below is a list of frequently defined terms in construction and demolition (C&D) diversion ordinances:

- Applicant
- Construction and demolition (C&D) waste, debris, or material
- Contractor
- Conversion factor/Conversion rate
- Covered project
- Deconstruction
- Demolition
- Divert/Diversion
- Diversion requirement
- New Construction
- Performance Security/Security Deposit
- Project
- Recycling/Recyclables
- Renovation/remodeling
- Residential
- Reuse
- Salvage
- Waste Management Plan
- Waste Management Plan Compliance Official

Below are example definitions that appear in many of the sample ordinances currently on CalRecycle's [Construction and Demolition](#) web page. Some of the definitions are very similar from one to the next, while others are quite varied. When many jurisdictions used the same or a very similar definition, the example provided below is labeled "common definition." When there was large variation between definitions, multiple example definitions are provided, with the specific jurisdiction noted.

CalRecycle's [C&D Waste and Inert Debris Disposal Regulations](#) also contain definitions that may be applicable to a C&D waste diversion ordinance.

Applicant: Any individual, firm, limited liability company, association, partnership, political subdivision, government agency, municipality, industry, public or private corporation, or any other entity whatsoever who applies to the City/County for the applicable permits to undertake construction, remodeling or demolition project within the City/County. (Common definition)

Construction and demolition (C&D) waste, debris, or material: Of all the sample definitions, this one seemed to have the most variety amongst the sample ordinances reviewed, with definitions varying in length and detail. Below are variations of this definition:

- Discarded materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum, wallboard, and lumber from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure and/or landscaping, and including rocks, soils, tree remains, trees, and other vegetative matter that normally results from land clearing, landscaping and development operations for a construction project. Clean cardboard, paper, plastic, wood, and metal scraps from any construction and/or landscape project. Non-construction and demolition debris wood scraps. De-minimis amounts of other non-hazardous wastes that are generated at construction or demolition projects, provided such amounts are consistent with best management practices of the industry. Mixing of construction and demolition debris with other types of solid waste will cause it to be classified as other than construction and demolition debris. (Atherton)
- Used or discarded materials resulting from construction, remodeling, repair, or demolition operations on any pavement, house, commercial building, or other structure and such other materials as may be removed during the normal cleanup process of such construction, remodeling, repair, or demolition operations. (Santa Rosa)
- Waste building materials resulting from construction, addition, remodeling, repair, alteration, or demolition operations. (Oakland)

- Building materials and solid waste resulting from construction, remodeling, repair, cleanup, or demolition operations that are not hazardous as defined in California Code of Regulations, Title 22 section 66261.3 et seq. This term includes, but is not limited to, asphalt, concrete, Portland cement concrete, brick, lumber, gypsum wallboard, cardboard, and other associated packaging, roofing material, ceramic tile, carpeting, plastic pipe and steel. The material may be commingled with rock, soil, tree stumps, and other vegetative matter resulting from land clearing and landscaping for construction or land development projects. (Santa Monica)
- Includes discarded materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, copper, aluminum, glass, brick, concrete, asphalt material, pipe, gypsum, wallboard, and lumber from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure and/or landscaping, including rocks, soils, tree remains, trees, and other vegetative matter that normally results from land clearing, landscaping and development operations for a construction project; (2) Remnants of new materials, including but not limited to: cardboard, paper, plastic, wood, and metal scraps from any construction and/or landscape project; (San Mateo County)
- Definition in Construction, Demolition, and Inerts (CDI) regulations

Contractor: Any person or entity holding, or required to hold, a contractor’s license of any type under the laws of the State of California, or who performs (whether as contractor, subcontractor, owner-builder, or otherwise) any construction, demolition, remodeling, renovation, or landscaping service relating to buildings or accessory structures within the City/County (common definition).

Conversion factor/conversion rate: The rate set forth in the standardized Conversion Rate Table approved by the City/County/District pursuant to this Article/Chapter/Section for use in estimating the volume or weight of materials identified in the waste management plan. (Common definition)

Covered project: This sample definition varied amongst the sample ordinances reviewed, with definitions varying in length and detail. Below are variations of this definition:

- Shall have the meaning set forth in [the threshold section]
- Means and includes any project which consists of one or more of the following:
 - (1) Demolition work only, as determined by the Building Official, or designee;
 - (2) Amended to follow the California Green Building Standards Code.
 - (3) Residential and Non-residential development and new permitted structures, as determined by the Building Official, or designee.
 - (4) Additions and alterations of existing permitted structures as determined by the Building Official, or designee. (San Mateo County)

Deconstruction: The careful and systematic dismantling of buildings and structures in order to salvage materials for diversion. (La Habra)

Demolition: This sample definition varied amongst the sample ordinances reviewed, with definitions varying in length and detail. Below are variations of this definition:

- The decimating, razing, ruining, tearing down or wrecking of any facility, structure, pavement or building, (wall, fence) whether in whole or in part, whether interior or exterior. (Common definition)
- The deconstructing, destroying, razing, tearing down, or wrecking of any facility including its foundation, covered by this chapter. As used herein, the word “demolition” shall include any partial demolition and any interior demolition affecting more than ten percent of the replacement value of the structure as determined by the Building Official. Demolition work includes: (1) proper disposal of recyclables, solid waste, and hazardous materials pursuant to applicable regulations and approved plans, if any, (2) termination of utilities serving the premises including permits and final inspections and approvals, (3) removal of driveways and repair of public sidewalks, as required, and (4) site cleanup and restoration including grading, landscaping, and fencing as required. (Oakland)

Divert/diversion: This sample definition varied amongst the sample ordinances reviewed, with definitions varying in length and detail. Below are variations of this definition:

- To use material for any purpose other than disposal in a landfill or transformation facility. (Common definition)
- The reuse of construction and demolition debris to avoid disposal in a landfill. (La Habra)
- To use C&D debris for any purpose other than disposal in a landfill, incineration facility, or alternative daily cover. Methods to divert materials from landfills include reuse, salvage, and recycling. (Oakland)

Diversion requirement: This sample definition varied amongst the sample ordinances reviewed, with definitions varying in length and detail. Below are variations of this definition:

- Construction and Demolition Debris diversion must comply with the most current California Green Building Standards Code (CALGreen) requirement of generated construction materials and any future changes to the diversion rate under that Code, and all inert solids.
- The percentage of construction and demolition waste generated from a covered project by reuse or recycling that must be diverted from landfills, unless the Applicant has been granted an exemption pursuant to Part X of this Article/Chapter/Section. If the Applicant has been granted an exemption, the Diversion Requirement shall be the maximum feasible diversion rate established by the Public Works Director for the Project, Compliance Officer, or other designated staff in charge of C&D Ordinance oversight. (Common definition)
- The diversion of at least sixty-five (65) percent of the total Construction and Demolition Debris generated by a Project via reuse or recycling, unless the Applicant has been granted an Infeasibility Exemption pursuant to section 5707 of this Chapter, in which case the Diversion Requirement shall be the maximum feasible diversion rate established by the waste management plan compliance official for the Project. (Castro Valley)
- The diversion of a minimum of 65 percent of the total construction and demolition debris generated by a project, or the lower percentage requirement granted by exception pursuant to section.... (La Habra)

- At least sixty-five percent (65 percent) by weight of the total C&D debris is diverted on an affected project. (Oakland)
- The diversion of at least sixty (60) percent of the total Construction and Demolition Material generated by a Project via reuse or recycling, unless the Applicant has been granted an Exemption pursuant to section X in which case the Diversion Requirement shall be the maximum feasible diversion rate established by the waste management plan compliance official in relation to the project. (Santa Monica)

Existing Construction: The building, addition, alteration, or repair of any structure or any portion thereof including any tenant improvements to an existing structure. (Common definition)

New Construction: A newly constructed building or structure and does not include additions, alterations or repairs to previously-existing buildings or structures. (Common definition).

Performance security/security deposit: This sample definition varied amongst the sample ordinances reviewed, with definitions varying in length and detail. Below are variations of this definition:

- Any performance bond, surety bond, money order, letter of credit, or certificate of deposit or similar financial guarantee as approved by the permitting authority submitted to the City/County/District pursuant to Article/Section/Chapter XX of this Article/Section/Chapter. (Common definition)
- Cash, certified or cashiers' check, certificate of deposit, a letter of credit or other security in a form approved by the Director of Public Works. (La Habra).

Project: This sample definition varied amongst the sample ordinances reviewed, with definitions varying in length and detail. Below are variations of this definition:

- Any activity which requires an application for a building (renovation) or demolition permit or any similar permit from the City/County. (Common definition)

- Any proposal for new or changed use, or for new construction, alteration or enlargement of any structure, that requires a permit from the City of X. (La Habra)

Recycling/recyclables: This sample definition varied amongst the sample ordinances reviewed, with definitions varying in length and detail. Below are variations of this definition:

- The process of collecting, sorting, cleansing, treating, and reconstituting materials that would otherwise become solid waste, and returning them to the economic mainstream in the form of raw material for new, reused, or reconstituted products which meet the quality standards necessary to be used in the marketplace. (Common definition)
- The process of collecting, sorting, cleansing, treating, and reconstituting construction and demolition debris that would otherwise be disposed of in a landfill; for use as raw material for new, reused, or reconstituted products which meet industry standards. (La Habra)
- Residential, commercial, or industrial materials or by-products which are set aside, handled, packaged, or offered for collection in a manner different than solid waste for the purpose of being reused or processed and then returned to the economic mainstream in the form of commodities. (Oakland)
- The process of collecting, sorting, cleansing, treating, and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating, or thermally destroying solid waste. (Santa Monica)
- The material will be processed and made into new products or materials. (Contra Costa County)

Renovation/remodeling: Any change, addition or modification in an existing structure. (Common definition)

Residential: For the purposes of CALGreen:

- Low-Rise Residential Building: Any building that is three stories or less.

- High Rise Residential Building: Any building that is four stories or greater in height.

Reuse: This sample definition varied amongst the sample ordinances reviewed, with definitions varying in length and detail. Below are variations of this definition:

- Further or repeated use of construction and demolition debris/waste. (Common definition).
- Recovering material for repeated use in the same form. This includes materials that are reused at the same location as they are generated. (Oakland)
- The use, in the same or similar form as it was produced, of a material that might otherwise be discarded. (Santa Monica)

Salvage: This sample definition varied amongst the sample ordinances reviewed, with definitions varying in length and detail. Below are variations of this definition:

- The controlled removal of construction or demolition waste/material from a permitted building, construction, or demolition site for the purpose of recycling, reuse, or storage for later recycling or reuse. (Common definition)
- The controlled removal of materials from a covered project. (San Mateo County)
- The recovering of C&D debris from a building or demolition site for the purpose of recycling, reuse, or proper storage for future recycling or reuse. (Oakland)

Waste management plan: A completed waste management plan (WMP) form, approved by the City/County for the purpose of compliance with this Article/Section/Chapter, submitted by the Applicant for any Covered or Non-covered project. (Common definition)

Waste management plan compliance official: This sample definition varied amongst the sample ordinances reviewed, with definitions varying in length and detail. Below are variations of this definition:

- The designated staff person(s) authorized and responsible for implementing this chapter. (Castro Valley/Oakland)
- The administrator of the Refuse Division of the Dept. of Public Works, or his or her designee. (La Habra/Santa Monica)

Deposit Required

Many jurisdictions consider deposits to be a positive incentive for complying with their construction and demolition (C&D) diversion ordinances. One thing to consider when deciding whether to include a deposit requirement, however, is the amount of staff time that may be spent on the handling and processing of deposits. Because of limited staffing resources, some jurisdictions therefore opt to forego a deposit, and instead monitor compliance by conducting periodic, impromptu inspections of project work sites.

Alternative Compliance Incentives

Alternative compliance incentives used by jurisdictions include:

- A signed letter of intent to comply with the ordinance.
- Onsite monitoring at any given time to verify compliance.
- Penalties if a contractor fails to comply with the ordinance.

Deposit Requirement Considerations

When determining what your deposit requirements will be, it is essential that you consider the dynamics of your community and solicit contractor input regarding the requirements, including the basis and procedure for deposit reimbursement. Deposits are generally returned upon submittal of verification that the diversion requirement, or some portion thereof, was met. You may also want to allow a refund in situations when the applicant's building permit is withdrawn or cancelled before any work has begun.

If you include a deposit program in your ordinance, you will need to establish what the process will be for verifying diversion, and how the refund amount will be determined. Some jurisdictions require the applicant to file a written request for the refund and to provide supporting documentation; the amount of the refund is usually tied to the amount of substantiated diversion. The refund process should be described in the ordinance.

Deposit Uses

Jurisdictions with a diversion deposit program have used the deposit for payment of diversion deposit refunds, as well as:

- Administrative costs associated with the C&D diversion program.
- Program costs associated with the C&D diversion program, including infrastructure improvements to facilitate C&D waste diversion.

Deposit Amount

Another important consideration is the deposit amount. If the amount charged is too high for contractors, they may consider not building in your jurisdiction. If the amount is too low, it could be cheaper for the contractor to forfeit their deposit than to comply with the diversion requirement. This would be a good topic to discuss with the stakeholders prior to adopting your ordinance. You could also explore what amount works best with other jurisdictions in surrounding areas that are implementing C&D diversion ordinances that have a deposit requirement.

Deposit amounts can be based on:

- Cost of the project.
- Size or square footage of the project.
- A fixed amount to be determined by the jurisdiction.
- Type of project.
- Deposit amounts may vary with the following types of projects:
 - Construction, demolition, remodeling, and grading.
 - Residential or nonresidential buildings.

Legal Considerations

It is important to note, however, that if your jurisdiction is a general law city or county, you should consult with your city attorney's office or county counsel's office before including a deposit section in your ordinance, as general law cities and counties may have some limitations on their use of this kind of enforcement mechanism. If you do include a deposit section in your ordinance, you may want to allow deposits to be paid in the form of cash, letter of credit, performance or surety bond, or money order.

Diversion Requirement

The diversion requirement section of an ordinance sets the diversion rate (or rates) determined by the jurisdiction as the minimum required percentage(s) of construction and demolition (C&D) waste diversion a contractor must attain per project that falls under the ordinance. Percentage amounts vary between jurisdictions, and are usually based on their C&D recycling infrastructure, most common project types, or sometimes on a material type basis. For example, some ordinances set a higher diversion rate for asphalt/concrete from demolition projects than for new construction. Half of the materials generated, or 50 percent, is the most common diversion rate set when only one rate is required. Senate Bill 1374 required CalRecycle's model ordinance to have a diversion rate requirement of 50 percent to 75 percent.

To minimize confusion over which activity will count as diversion, you should consider including a definition of the types of activities that would contribute toward achieving the diversion goal (for example, source reduction in new building construction, reuse or salvaging of materials in demolition projects, recycling or composting materials.)

In regard to clean inert debris sent to engineered fills and whether or how those materials are included in the diversion rate calculation, jurisdictions should be aware of how that waste type is treated in CalRecycle's [Construction and Demolition and Inerts Debris Recycling Regulations](#). CalRecycle's regulations state that clean inerts taken to engineered fills do not count as either disposal or diversion for a jurisdiction's AB 939 diversion rate requirement.

You may also want to include a section in your ordinance that addresses how the project applicant will be required or allowed to demonstrate diversion rate achievement. An example can be seen in [Alameda County's model ordinance](#). Please refer to "Section XX-7 Compliance with WMP."

Some jurisdictions also allow for deconstruction or salvaging operations prior to demolition or construction to count toward the diversion requirement. For example, the City of Santa Monica includes in its C&D diversion ordinance the following language:

"In preparing the WMP, applicants for demolition permits involving the removal of all or part of an existing structure shall consider deconstruction... to the maximum extent feasible, and shall make the materials generated thereby available for salvage

prior to landfilling. Deconstruction can be used to meet the sixty (60) percent diversion requirement provided it is accounted for in the WMP.”

Another example is from San Mateo County’s ordinance:

- a. “Contractors are encouraged to make every structure planned for demolition available for deconstruction, salvage, and recovery prior to demolition; and to recover the maximum feasible amount of salvageable designated recyclable and reusable materials prior to demolition.
- b. Recovered and salvaged designated recyclable and reusable materials from the deconstruction phase shall be counted towards the diversion requirements of this chapter.”

Diversion requirements can be set in several ways. For example, the rate can be:

- A set or fixed rate for all projects (for example, 50 percent).
- Set at different percentage rates based on material type generated by a project.
- Based on the project type, for example, a higher diversion rate could be set for demolition projects than for new construction projects. The amount of diversion that is feasible to attain, however, will depend on the material in the building being demolished. For example, a concrete building may have a higher percentage of recyclable material than an older building that contains lead-based painted wood, asbestos acoustic tiles, etc.

Additionally, you may find, as has the City of San Jose, that certifying C&D recycling facilities can simplify verification of compliance with your ordinance’s diversion requirement. For more information on certifying C&D recycling facilities, please refer to “Know Your Infrastructure.” San Jose included a section on “certified recycling facilities” in its ordinance. Select the PDF file “CDDD Ordinance 26219;” see section “9.10.2460 Certified Facilities” for sample language.

Plan for Education and Outreach Activities

Jurisdictions have found that it helps to have a phase-in period before implementing a construction and demolition (C&D) diversion ordinance to provide time to educate your staff on how to implement the ordinance (if you haven't already done so), and to inform contractors about the ordinance and its requirements. This can help to facilitate greater compliance with diversion requirements and a smoother implementation of your overall C&D ordinance. The San Jose ordinance is one example of a program that has a phase-in period. Providing handouts on available diversion facilities, cost comparisons of recycling facilities versus disposal, etc., at this time would also be helpful.

Staff Training

The kind of education and training you will need to provide staff will depend on what sections you include in the ordinance. For example:

- If you require a deposit, you will need to develop a procedure for handling deposits, and you will need to decide what form of payment will be acceptable (e.g., cash, certificate of deposit, surety bond, etc.). You will also need to establish procedures for returning deposits, and for handling any appeals should a non-returned deposit be contested.
- If you require a particular diversion rate but also allow for a reduced rate based on the feasibility of attaining that rate, you will need to establish criteria and train the person reviewing applications for a reduced diversion requirement on how to evaluate such applications. For example, they will need to be trained to recognize which projects are likely to result in non-divertable hazardous materials, like lead-based painted wood.
- If you require that estimates of anticipated materials to be generated, disposed or diverted be included in a waste management plan (WMP) as a condition of a permit, you will also need to train the person who will be reviewing WMPs on how to evaluate the estimates. Estimates can vary from jurisdiction to jurisdiction, depending on size and project type. Consult with your local construction companies for accurate estimations of C&D waste generated by project type/size.

- If you require weight tickets to demonstrate compliance with a particular diversion rate, you could simplify the process by establishing a recycling facility certification program. The City of San Jose has developed a certification process for the C&D diversion facilities in their area, which is explained on their [Construction and Demolition Recycling](#) web page. Basically, a contractor only has to document taking their waste material to one of the facilities that the City has already certified recycles incoming C&D materials at a particular rate.
- If you establish thresholds for determining which projects would fall under the ordinance, you will need to train the staff person responsible for reviewing the project proposals to be able to evaluate the accuracy of a project's estimated cost and or/square footage, and the anticipated amount of C&D materials associated with a project of that size, whether its a demolition, new construction, or renovation project.

Diversion Requirement Exemption

There are times when an applicant for a covered project anticipates circumstances that will make it more difficult, if not impossible, to comply with the construction and demolition (C&D) diversion requirement. This possibility is often provided for in a C&D ordinance, and would include a description of the process an applicant would use to request an exemption or reduction in the required diversion rate. Usually the applicant and compliance official negotiate a more feasible and reduced diversion rate, and that reduced rate is included in the waste management plan (WMP). There are different ways to provide for exemptions in your ordinance:

- If you have both a diversion requirement and a deposit requirement in your ordinance, include a section that exempts a project from both the diversion requirement and the deposit requirement. If a project were exempt from one, it could automatically be exempt from the other.
- Include a section that allows for either a partial or complete exemption from the diversion requirement.
- Include a section that allows for either a partial or complete exemption from the deposit requirement; the [Alameda sample ordinance](#) provides a good example of deposit exemptions.
- Include a section that lists projects that are exempt from the ordinance itself (or include such a list in a “threshold” or “covered project” section).

Example circumstances that could be considered a basis for exempting a project from the diversion requirement, and/or a deposit requirement, because they could lower the feasibility of achieving the diversion rate, include:

- Lack of storage space onsite.
- Contamination by hazardous substances.
- Low recyclability of specific materials.

Frequently Asked Questions

This section contains construction and demolition (C&D) waste diversion related questions frequently asked by stake holders involved in the C&D diversion process (e.g. cities, counties, contractors, recyclers, etc). This section will be updated regularly, so if you have any C&D diversion-related questions that you would like addressed, please send them to cdrecycling@calrecycle.ca.gov.

California Green Building Standards Code

California's Green Building Standards Code (CALGreen) requires the diversion of at least 65 percent of the construction waste generated during most "new construction" projects ([CALGreen](#) Sections 4.408 and 5.408). Please see [this table](#) to see what the current requirements are. Please remember, this does not represent a complete list of requirements and contact your local building department for more information. For more information on CALGreen, see the following questions.

C&D Waste Diversion Ordinance

The following are questions most frequently posed to CalRecycle by local government solid waste officials during the development of their own C&D waste diversion ordinance.

California Green Building Code

Where can I find a copy of the code?

The California Green Building Standards Code (CALGreen) is part 11 of Title 24, California Code of Regulations. The CALGreen code is published by the [International Code Council \(ICC\)](#) and is available on its website, along with other parts of the California Building Standards Code. The applicable sections for residential construction can be found in Section 4.408 and in Section 5.408 for most non-residential new construction. Sections 301.1.1 and 301.3 addresses additions and alterations diversion requirements.

What are the code's waste diversion requirements?

Covered occupancies are required to divert 65 percent of the construction waste materials generated during the project. The code also allows a disposal reduction option that can be met when the project's disposal rate is 2 lbs. per square foot or less

for non-residential and high rise residential or 3.4 lbs. per square foot or less for low-rise residential.

Which types of construction occupancies are covered under CALGreen?

The code applies to various occupancies and types. Please see [this table](#) for general requirements for each type. For specifics on the code's scope, see Section 101.3. Also see Section 101.11 for a list of steps that can be used to determine which sections apply to each type of occupancy.

What changes does the 2019 update make to CALGreen?

No changes were made to the construction waste management requirements. Please see [this table](#) for a summary of the 2016 & 2019 waste management requirements.

Who is responsible for enforcing CALGreen?

Agencies currently enforcing building codes for the covered occupancies are responsible for applicable enforcement of CALGreen.

If city/county building departments are responsible for implementing the updated California Green Building Standards Code, please explain the level of involvement required by [recycling coordinators](#)?

CALGreen does not address the level of involvement required by recycling coordinators. It is up to each jurisdiction to determine what programs are available to divert at least 65 percent of waste from covered construction projects. Building departments, building owners, and builders are strongly encouraged to work with their jurisdiction's recycling coordinator or solid waste staff because they are the local recycling market and infrastructure experts. Recycling coordinators are encouraged to report how their city/county is implementing the code for inclusion in the AB 939 Annual Report.

What flexibility does a jurisdiction have when applying CALGreen?

The code includes exceptions to the requirements of Sections 4.408 and 5.408. The exceptions generally apply if adequate diversion facilities do not exist (exception 2 to sections §4.408.1 and 5.408.1.1, 5.408.1.2, 5.713.8.1.1, and 5.713.8.1.2). Each of these exceptions allows a reduced or alternate compliance requirement. There is an exception for demolition waste diversion in consideration of local recycling facilities and markets for non-residential occupancies (Exception 3 to 5.408.1.1 and 5.408.1.2).

CalRecycle recommends that the recycling coordinator collaborate with their building departments/ inspectors to develop any appropriate exemptions. This will also provide the recycling coordinator information they can include in the AB 939 Annual Report to CalRecycle.

Does CALGreen apply to both demolition permits and construction permits?

CALGreen applies to new construction, demolition associated with the construction permit, and to some additions and alterations, please see [this table](#) to determine which additions or alterations are covered.

What if our local ordinance has a higher diversion requirement than 65 percent?

CALGreen allows for either a 65 percent diversion requirement or the local requirements, whichever are more stringent. CALGreen does not require jurisdictions to adopt a local C&D ordinance.

Is there is a minimum size project to which the code applies?

Yes and No.

- CALGreen’s waste diversion requirement applies to projects that require a construction or building permit from a local agency. It also applies to residential additions and alteration of existing buildings where the building’s conditioned area, volume, or size increases.

Our C&D diversion ordinance requires recycling on all new construction with a specific cost and/or square footage threshold. Does our jurisdiction still need to implement CALGreen?

Yes, the requirements of CALGreen may be more (or less) restrictive than a current local C&D ordinance. Jurisdictions shall enforce their own more restrictive requirements (local ordinance) or the CALGreen Code, regardless of cost or size triggers. Jurisdictions can choose to amend its ordinance or inform stakeholders in some manner, e.g., when they apply for their building permit. A jurisdiction might also include information on its website. It could also include a note on its existing ordinance about CALGreen and how it affects new construction.

If my jurisdiction does not have an ordinance or policy, then must we still implement CALGreen?

Yes, CALGreen applies on a statewide basis, and the waste diversion and planning are required unless the exemptions (see response to question RE: jurisdiction flexibility) from those requirements apply.

If the jurisdiction is required to use the 65 percent number, can we implement some sort of review of projects that don't report 65 percent and grant "good faith effort" compliance for builders who implement a recycling program but just didn't generate enough recyclable materials to hit the 65 percent?

CALGreen requires builders/owners to divert 65 percent of the waste from covered projects. This can be met through three methods: 1) develop and submit a waste management plan to the jurisdiction's enforcement agency which identifies materials and facilities to be used and document diversion, 2) use a waste management company, approved by the enforcing agency, that can document 65 percent diversion, or 3) use the disposal reduction alternative, as appropriate for the type of project. If the waste management plan option is used, the plan should be developed before construction begins, and project managers should use the project's planning phase to estimate materials that will be generated and identify diversion strategies for those materials. The code provides for exceptions (see response to question above) and the project's planning phase would be an appropriate time to work with the jurisdiction's enforcement agency and recycling coordinator to establish the best route to compliance or to determine if an exception is warranted. All covered projects should be able to divert 65 percent non-hazardous waste.

The Building Standards Commission has developed "Guide to the (Non-Residential) California Green Building Standards Code" to provide information on CALGreen. The California Department of Housing and Community Development (HCD) has developed suggested methods and compliance forms as options for residential builders and owners to demonstrate compliance with the 65 percent or greater construction waste reduction requirement. These methods are currently available in HCD's "A Guide to the California Green Building Standards Code." Additional methods will be added as they are developed. Some projects may not generate significant amounts of waste materials. To address these situations, CALGreen includes methods to demonstrate compliance based upon disposal reduction. CALGreen Guidebooks and reference materials are available on the [CALGreen website](#).

Does our jurisdiction have the flexibility to exempt projects such as pool construction or installation of small, prefabricated buildings?

The California Building Code provides permit exemptions in Chapter 1, Administration, Section 105.2 Work Exempt from Permit, which may be further modified by your city or county. (Similar exemptions are in Section R105.2 of the California Residential Code.) One example from this list includes, “one-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11 m²).” Pool construction, if constructed as part of a new building, may be covered by this code. An existing building with a new pool would not be regulated. HCD’s CALGreen provisions for “low-rise residential” apply to buildings and do not apply to swimming pools or detached accessory structures. Always check with your local code enforcement office to determine specific requirements.

How does CALGreen apply to residential re-roofs?

Under the strict scope of CALGreen, a normal re-roof that neither increases the building’s conditioned area, volume, nor size, would not be subject to the requirements of the code. Some jurisdictions may, however, include such projects in local ordinances or adopted codes. It is always best to check with the local enforcing agency.

Does CALGreen apply to school or hospital construction projects?

Yes and no.

Hospitals, skilled nursing facilities, licensed clinics and correctional treatment centers that are regulated by the Office of Statewide Health Planning & Development (OSHPD) are covered by the CALGreen sections adopted by that agency. Currently, OSHPD has not adopted any mandatory CALGreen measures relating to construction or demolition waste management.

The Division of the State Architect (DSA) has enforcement authority for all public elementary and secondary schools (K-12) and public Community Colleges. DSA has adopted sections 5.408.1 through 5.408.3 as mandatory.

To review all the requirements, view the [CALGreen Construction Waste Management Requirements Table](#).

C&D Waste Diversion Ordinance

Are cities mandated by SB 1374 to adopt CalRecycle’s Model C&D Waste Diversion Ordinance?

No, CalRecycle’s C&D model ordinance was developed as a tool for jurisdictional use. In earlier versions of SB 1374, jurisdictions were mandated to adopt the model C&D diversion ordinance. However, in the final chaptered bill, this requirement was taken out.

How can a city determine a threshold for its C&D Ordinance?

A threshold is a set ‘target’ for a city. The threshold will list projects that must comply with the C&D diversion ordinance. A city can choose which project to target. Projects can be targeted by project cost or type. To get the largest amount of C&D debris out of the waste stream, jurisdictions could look at building permits and determine what types of projects, or what project cost amounts generate the most waste. Once the highest and/or most frequently occurring projects generating C&D waste have been identified, a city then could set its threshold in a way that captures the most C&D waste and target these projects for diversion.

Could a city that is looking to adopt a C&D ordinance save time by just finding another city of similar size and conditions that has already adopted an ordinance, and adopt it?

Every city is different, and each waste stream is different. If a city is considering adoption of a C&D ordinance, while it may benefit by knowing about how C&D ordinances are working in neighboring or similar jurisdictions, it should base their ordinance on conditions specific to the city. The city should identify its infrastructure and know its own waste stream and then tailor the ordinance to its diversion needs.

How is a diversion rate set in an ordinance?

A diversion rate can be set for C&D materials overall, or by material type. CalRecycle’s model ordinance recommends 65 percent and above for overall C&D diversion, but a city has the option to set the rate as long as it complies with CALGreen’s construction waste management requirements.

Fines and Penalties

The most common “penalty” for construction and demolition (C&D) noncompliance is forfeiture of the deposit. Some jurisdictions have additional enforcement mechanisms in their ordinance in the form of fines and/or penalties. Jurisdictions that have included fines or penalties in their C&D ordinance have found these enforcement methods to be very useful in ensuring compliance with their ordinance.

Some jurisdictions that have implemented ordinances without stipulating penalties for noncompliance have included an “option to revise” section in their ordinance. This gives a jurisdiction the opportunity to evaluate the effectiveness of the ordinance after a specified time period to determine if it should be revised to include additional requirements, such as the assessment of penalties for noncompliance. Alternatively, you may want to put the mechanism for fines or penalties in place, but not enforce those until after a specified time period to enable you to evaluate the effectiveness of the ordinance without those additional fines or penalties.

Alternatives to establishing a fine or penalty for noncompliance include:

- Focusing time and resources on increased technical support.
- Verbal warnings.

Types of fines or penalties that may be included in an ordinance are:

- **Forfeiting deposit.** Lack of compliance could mean deposit is forfeited to the jurisdiction.
- **Three strikes policy.** You could establish an increasing fine for successive violations on noncompliance, for example, \$100 for first time violation, \$200 for the second, and \$500 for each time thereafter.
- **Fines.** Civil action for misdemeanor violation. Failure to comply could result in a misdemeanor violation, a certain amount of jail time, or a set dollar amount for a fine, or both.
- **Penalties.** Lack of compliance could also result in encumbering or hindering any future building permits.

Listed below are additional ways to encourage compliance with your C&D ordinance:

- Provide grant money to certified recycling facilities.

- Return deposits for compliance with ordinance.
- Link issuance of Certificate of Occupancy to C&D ordinance compliance.
- Provide free pick up of recyclable materials (usually for projects that fall below the ordinance's threshold level).

It is important to note that if your jurisdiction is a general law city or county, you should consult with your city attorney's office or county counsel's office before including a fines/penalties section in your ordinance, as general law cities and counties may have some limitations on their use of this kind of enforcement mechanism.

Develop Ordinance Implementation Processes

During the ordinance implementation phase, you will want to provide ongoing education for new staff implementing the ordinance as well as contractors who will need to comply with the ordinance. You will also want to monitor the effectiveness of the ordinance (e.g., any increase in diversion of construction and demolition (C&D) material, or decrease in the amount being landfilled), and to enforce compliance with the ordinance. The amount of staff time (and on-going training) you will need to implement your ordinance will depend on the sections you include. For example, if you:

- Require a waste management plan (WMP), you will need to develop a template for contractors to use, and you may also need to provide training for how to complete a WMP. Some jurisdictions provide such training and examples of a completed WMP on their building department's webpage. The City of Oakland has a webpage that contains [various sample forms](#), including an example of their WMP.
- Have a diversion requirement, you will need to train staff on what are reasonable estimates for anticipated diversion/disposal per project and/or material type.
- Have penalties and/or fines (other than forfeiture of deposit), you will need to develop procedures for implementing the penalty/fines, and train staff accordingly.
- Require a deposit, you will need staff to handle the deposits (taking in and returning), as well as to evaluate compliance with the requirements that allow deposits to be returned, and to handle any related disputes or appeals. If you don't have a deposit requirement and instead require onsite source separation and diversion, you will need to have staff to monitor onsite compliance.

Encouraging/Enforcing Compliance

Below are ways for a jurisdiction to encourage/enforce compliance with their C&D ordinance:

- Provide technical assistance and education for contractors.
- Provide education/training for staff.

- Require security (or performance) deposits.
- Require proof of compliance through weight tickets and receipts from diversion facilities.
- Tie issuance of project permits to meeting ordinance requirements; for example, submittal of a complete waste management plan .
- Conduct field inspections of onsite practices.
- Tie final approval of projects to compliance with the C&D ordinance; for example, a jurisdiction may choose to only release the certificate of occupancy when the project applicant is found to be in compliance with the ordinance.

Know Your Infrastructure

Central to the success of any construction and demolition (C&D) diversion ordinance is having adequate C&D recycling facilities in place and to know if the recycling facilities and markets that are currently in place will be able to handle the amount of C&D waste and the types of projects that you hope to target. If the existing facilities in your area do not currently have the capacity to handle this amount or this type of waste, you should address this issue prior to adopting and implementing your ordinance.

Also, it is important to identify markets for this C&D debris to help ensure its diversion from disposal.

Once you have identified the C&D recycling facilities in your jurisdiction or area, it may facilitate compliance with your ordinance if you have “certified” which of the facilities are known to divert at least the minimum percentage of C&D material that you require in your ordinance. Some jurisdictions have developed a process for certifying recycling facilities that handle C&D material—a good example is the [City of San Jose](#). In the certification process, a jurisdiction verifies the diversion rate at a particular facility, and if the facility meets certain criteria, like meeting the diversion rate or rates required in the jurisdiction’s ordinance, they will be added to the jurisdiction’s “certified facilities” list.

A certified facilities list can facilitate compliance with the ordinance by allowing contractors to simply verify that they took their C&D materials to one or more of those facilities, instead of having to produce individual weight tickets from the various facilities they may have used. Such a list should be included in the educational material you provide to contractors about how they can comply with your ordinance.

The City of San Jose has an example [list](#) of certified facilities and deconstruction, recovery, and reuse listings.

Methods to Encourage C&D Diversion

There are several methods a jurisdiction can use to encourage the diversion of construction and demolition (C&D) waste from landfills. These include providing information on the following topics:

- **C&D Waste Management Plan.** A Waste Management Plan is essentially a form that estimates how much C&D debris will be generated by the project and describes how the materials will be managed. This requires the building contractor to estimate how much C&D material will be generated and to consider how, where, and how much they will divert.
- **Educational Outreach.** Inform contractors about alternatives to landfill disposal of their C&D waste.
- **Policy.** How to implement a policy for diverting C&D waste.
- **Specifications.** Incorporate specifications into local building projects.
- **Building Green.** How to use of recovered and recycled C&D materials.
- **Incentive Programs for Waste Haulers.** Encourage waste haulers to increase diversion of C&D materials.
- **C&D Diversion Ordinance.** How to develop, adopt, and implement a C&D diversion ordinance.

C&D Waste Management Plan

Most C&D diversion ordinances include a requirement that a waste management plan (WMP) be completed and submitted prior to the beginning of a project. A WMP is essentially a plan that estimates how much C&D debris will be generated by the project and describes how the materials will be managed. This requires a project applicant to estimate how much C&D material will be generated and to consider how, where, and how much they will divert. For samples and more information on what a WMP entails, visit the C&D Guide's Waste Management Plan page.

The California Green Building Standards Code (CALGreen) instructs local jurisdictions to require contractors to develop and maintain a waste management plan, among other things, to verify a minimum 65 percent waste diversion. CALGreen further specifies for the WMP to be updated as necessary and shall be available for examination during construction. Sample WMP is provided in the actual CALGreen code publication under the [Compliance Forms and Worksheets](#) section. The California

Department of Housing and Development's website also provides [sample](#) WMP for residential C&D projects.

Educational Outreach

A simple method to help divert C&D waste is to provide general contractors with educational material and information about alternative facilities that take C&D waste. This could be as simple as providing a brochure listing the C&D diversion facilities in the region, with hours, location, cost (if any), and material types accepted. Information on [building green](#) could also be included in your educational material.

You might also consider adding a page or more to your website regarding C&D diversion that includes a list of C&D diversion facilities in your region. An example web page is the [City of San Jose Environmental Services](#) website that includes a list of certified C&D diversion facilities.

Providing information on reuse opportunities, such as exchange programs, can also be useful. Below are links to exchange programs and other information on C&D materials that you could include on your web page or in a brochure with general information regarding C&D waste diversion:

U.S. EPA

The U.S. EPA's C&D Debris [website](#) provides information and links to extensive resources and organizations covering the characterization, reduction, reuse, recycling and management of C&D debris.

Oregon Metro

The [Oregon Metro](#) is a regulatory agency that helps protect the quality of Oregon's environment, including managing the proper disposal of hazardous and solid wastes. Oregon Metro's Construction and Demolition Debris Salvage Program web page provides information and tool kit on C&D Salvage programs.

Alameda County Waste Management Authority (ACWMA)

The [ACWMA](#) provides information on:

- Jobsite Recycling Case Study
- County Model Ordinance

- Information on Green Building
- New Construction, and Home Remodeling Downloadable Guides
- Downloadable Builder’s Guide to Reuse and Recycling

Policy

A C&D diversion policy is an informal advisory document or a program that strongly encourages the diversion of C&D materials, but does not provide a local jurisdiction with the same level of enforcement authority as an ordinance. Such policies or resolutions do not have the force of law within a jurisdiction but are simply expressions of opinion or preferences. In this context, the purpose of a policy would be to encourage C&D diversion without actually requiring it.

A policy can:

- Serve as a viable alternative to an ordinance when a jurisdiction does not have the time and resources necessary to fully implement an ordinance.
- Be used as a “stepping stone” in the ordinance process. While there may be a need to establish some kind of a C&D diversion program, a jurisdiction may first want to try alternatives to an ordinance. A policy can be a useful tool in “testing the waters” if used as a first step in establishing a C&D diversion program. Once a policy is in place and a C&D diversion program is established, a jurisdiction can determine over time if an ordinance would be more effective, or if a policy is adequately achieving diversion of C&D waste.
- Also provide a jurisdiction with more flexibility than an ordinance, since ordinances require a more formal process to revise.

Model Deconstruction Policy

[Minnesota Pollution Control Agency](#) works to improve our environment through partnerships, technology transfer, technical assistance, education, research, and matching grants. Their website illustrates an example of a [resolution establishing a model deconstruction policyPDF download](#).

Specifications

Another method for encouraging C&D waste diversion is to include C&D waste diversion requirements/procedures into project specifications. Because specifications are a major communication tool to convey the requirements of a construction or

demolition project, specifications that contractors are required to follow could also include the conditions and requirements for diverting C&D materials. If the conditions are not met, the contractor could be held accountable.

Sample specifications are available from several resources, some of which are listed below.

CalRecycle Specifications

- [Model C&D Diversion Specifications](#)
- [CalRecycle's Green Project Specifications](#). At the bottom of the Green Project Specifications web page, is a list of sample specifications.
- [CalRecycle's Green Building Guidelines](#). This site provides a list of external websites with green building guidelines.

King County in Washington State

In Washington State, [King County's Construction Recycling website](#) includes information on:

- [Preventing Jobsite Waste](#)
- [Design Specifications and Waste Management Plans](#)
- [Commingled vs. Source-Separated Materials](#)
- [Cost-Effectiveness of Jobsite Recycling](#)

Triangle J Council of Governments in North Carolina

The Triangle J Council of Governments in North Carolina website has a free, downloadable document regarding building specifications for reference: "[WasteSpec: Model Specifications for Construction Waste Reduction, Reuse, and RecyclingPDF download.](#)"

Building Green

To generate demand and promote the reuse of C&D materials in their present and recycled form, you may want to require the use of recovered and recycled C&D materials. Useful links to building green information include:

- CalRecycle's Green Building and Construction web page contains information on issues such as economic benefits of building green, occupant safety in green buildings, programs and partnerships, and case studies.

- U.S. Green Building Council A coalition of leaders from across the building industry working to promote buildings that are environmentally responsible, profitable and healthy places to live and work.
- [Alameda County Waste Management Authority \(ACWMA\)](#) offers building green information including resources for C&D reuse and recycling.

Incentive Programs for Waste Haulers

You may want to investigate the possibility of establishing an incentive program that would encourage waste haulers in your jurisdiction to increase their diversion of C&D material. This could include establishing a franchise agreement with the C&D material haulers in your area, and providing incentives for C&D diversion through commensurate franchise fee decreases or rebates (or establish disincentives with commensurate fee increases for disposal versus recycling of C&D waste). It is important to note, however, that contractors in your area may prefer to not be limited to the hauling services provided by a franchise hauler.

Many local jurisdictions currently require their municipal solid waste (MSW) haulers to secure a franchise agreement as a condition of their hauling permit. Sometimes, C&D material (hailed in roll-off boxes) is included within a larger exclusive refuse hauling franchise, while at other times C&D is included in multiple, nonexclusive franchises or not regulated at all. If C&D haulers are not currently included within the scope of the permit/franchise requirement, the solid waste code and/or ordinance can be amended to embrace them, as well. The franchises, in turn, can contain an incentive program that will encourage the diversion of C&D material.

Providing such an incentive could also work in a jurisdiction that has open market competition, and nonexclusive commercial and residential franchises. A C&D hauler can execute the commercial refuse services franchise but commit to providing only C&D roll-off services.

However, there is a “budget” caveat with a franchise rebate alternative—when establishing a franchise rebate program, you must carefully project anticipated franchise revenues and calculate the amount thereof that you would need to fund the cost of your budgeted solid waste programs. This will allow you to know exactly how much rebate you could afford to pay back to the haulers.

Also, Monterey Unincorporated offers increased revenue if haulers exceed their preset minimum diversion requirements, so each year there is a certain percentage for the

diversion requirement. If haulers exceed the requirement, they can get paid more. C&D is part of the materials that are recycled. Also, the converse is true. If the diversion requirement is not met, haulers are subject to decreased revenue. Language is for all divertible materials, including C&D. Monterey Unincorporated language can easily be adapted to cite C&D only.

C&D Diversion Ordinance

Ordinance description and C&D diversion ordinance issues to be considered are located in the Developing a C&D Ordinance section.

CALGreen Construction Waste Management Requirements

Waste Diversion

CALGreen requires covered projects to recycle and/or salvage for reuse a minimum 65% of the nonhazardous construction and demolition waste or meet a local construction and demolition waste management ordinance, whichever is more stringent.

The code applies to various occupancies and types. Please see [this table](#) for general requirements for each type. For specifics on the code's scope, see Section 101.3. Also see Section 101.11 for a list of steps that can be used to determine which sections apply to each type of occupancy.

Methods of Compliance

- Enforcing agencies can require contractors to develop and maintain a waste management plan and document diversion and disposal. OR
- Utilize a waste management company that can provide verifiable documentation that it meets 65% waste diversion. OR
- Use a waste stream reduction alternative:
 - Non-residential new construction and residential high rise (4 stories or more) projects with a total disposal weight of ≤ 2 lbs/ft² meets the 65% waste diversion requirement.
 - Residential low rise (3 stories or less) with new construction disposal of ≤ 3.4 lbs/ft² meets the 65% waste diversion requirement.

Recycling by Occupants (Space for Recycling)

Newly constructed non-residential buildings, certain non-residential additions and multi-family housing with ≥ 5 units should 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 minimum) paper, corrugated cardboard, glass, plastics, organic waste and metals.

Senate Bill 1374 (2002)

Introduction

[Chapter 501, Statutes of 2002 \(Kuehl, SB 1374\)](#) seeks to assist jurisdictions with diverting their construction and demolition (C&D) waste material with a primary focus on CalRecycle developing and adopting a model C&D diversion ordinance by March 1, 2004, for voluntary use by California jurisdictions. CalRecycle adopted such a model ordinance at its [March 16, 2004 meeting \(Agenda Item No. 13\)](#).

Below is an explanation of this chapter and its requirements for local governments and for CalRecycle. Chapter 501 added the following requirements to the Public Resources Code (PRC).

Annual Reporting Requirements (PRC Section 41821)

This section was amended to explicitly require that a jurisdiction include in its annual report:

A summary of progress made in diversion of construction and demolition of waste material, including information on programs and ordinances implemented by the local government, and quantitative data, where available. [PRC section 41821(b)(4)] Jurisdictions have been reporting annually to CalRecycle since 1996 on their progress in implementing diversion programs to achieve the diversion goals of AB 939. This new requirement simply makes it explicit that jurisdictions are to also report their progress in implementing C&D waste-related diversion programs in their annual report. If you have any questions on how to report your implementation of C&D diversion programs, contact your [Local assistance staff representative](#).

Enforcement Through Fines (PRC Section 41850)

This section was amended to add another circumstance for CalRecycle to consider when deciding whether to fine a jurisdiction that has failed to meet a compliance order it has been issued. Specifically, subsection (c)(4) was added to include the consideration:

Whether a local jurisdiction has provided information to CalRecycle concerning whether construction and demolition waste material is at least a moderately significant portion of the waste stream, and if so, whether the local jurisdiction has adopted an ordinance for diversion of construction and demolition waste materials

from solid waste disposal facilities, has adopted a model ordinance pursuant to subdivision (a) of section 42912 [i.e., CalRecycle’s model ordinance] for diversion of construction and demolition waste materials from solid waste facilities, or has implemented another program to encourage or require diversion of construction and demolition waste materials from solid waste disposal facilities.

CalRecycle Requirements (PRC Section 42912)

This section requires CalRecycle to develop and adopt a model C&D ordinance by March 1, 2004. Specifically, CalRecycle is required to:

Adopt one or more model ordinances, suitable for modification by a local agency, that the local agency may adopt that will require a range of diversion rates of construction and demolition waste materials from 50 to 75 percent, as determined by CalRecycle, and as measured by weight.

As specified in this section, CalRecycle was required to develop a model ordinance as a tool for jurisdictions, and to solicit public comments on the model ordinance prior to CalRecycle adoption. CalRecycle distributed a draft model for public review and comment from December 23, 2003, through January 31, 2004, and adopted the final model ordinance at its March 16, 2004 meeting.

This same section also requires CalRecycle to compile a report on programs that jurisdictions can implement and methods general contractors can use to divert C&D waste from disposal. CalRecycle is further directed to post that information on its website. These “Local Government Construction and Demolition Diversion Information” web pages, and the contractor information provided on CalRecycle’s C&D website, fulfills this requirement.

CalRecycle currently maintains a valuable web page dedicated to [C&D debris recycling](#) that provides the public with C&D-related information, including:

- Publications (e.g., case studies, fact sheets).
- C&D recyclers (e.g., a C&D debris recyclers data base).
- Recycled building products.
- Sustainable building.
- Other C&D links.
- [C&D diversion ordinances](#).

CalRecycle staff based the model ordinance on existing ordinances currently being implemented, as well as on input from local government, the League of California Cities and California State Association of Counties, private and public waste services, the building construction materials industry and construction management personnel, to ensure that the model will be a useful and effective tool for jurisdictions and general contractors.

Threshold

Most jurisdictions with construction and demolition (C&D) ordinances set a threshold for projects that would fall under the ordinance, with the intent of targeting those projects that generate the majority of C&D waste in their jurisdiction. For some jurisdictions, most of their building permits are for small construction projects, so they would set a low threshold to cover those types of projects.

Other jurisdictions find that it is really only the largest projects that generate the majority of C&D waste in their jurisdiction, so they choose to set a higher threshold. Part of your decision on what threshold to set will also depend on your staffing resources, and how many projects they can handle (for example, reviewing waste management plans, determining ordinance compliance, handling deposits, etc.).

Prior to setting a threshold, it is recommended you identify which type of construction and demolition projects generate the most C&D debris in your area. Some jurisdictions, like the City of San Jose, have identified their most commonly disposed C&D material types and the largest or most frequent generator of C&D materials by conducting surveys at local solid waste facilities.

It is also recommended that you consider setting a different threshold for a construction or renovation project than for a demolition project, because demolition projects often generate more C&D waste than construction or renovation projects of the same size or cost. You could therefore potentially exclude some demolition projects from your C&D diversion program if you set too high of a threshold based only on project cost if you have not differentiated thresholds for construction versus demolition projects.

Specific project types to consider when identifying a threshold include:

- Residential
- Non-residential
- New construction
- Renovation
- Demolition
- Land Clearing (for example, grading)

Thresholds can be established based on:

- Project size (for example, in square feet or dollar amount, or both).
- Project type (for example, large public buildings, multifamily construction, commercial buildings, home construction, or remodels).
- Construction projects only, demolition projects only, or both.

You may also want to include a list of specific types of projects that would be exempt from the ordinance. Some common exemptions are listed below:

- Emergency situations to protect the public health and safety (for example, debris removal after disasters such as floods, fires, earthquakes, etc.).
- Seismic tie-down projects.
- Pools and spas.
- Non-structural.
- Work for which a building or demolition permit is not required.
- New construction projects below a certain dollar amount or below a certain number of units.
- New nonresidential construction projects below a certain dollar or square footage amount.
- Residential or nonresidential remodeling or renovation projects below a certain dollar or square footage amount.
- Roofing projects that do not include removal of an existing roof.
- Work for which only a plumbing, only an electrical, or only a mechanical permit is required.
- Projects where no foundation or other structural building modifications are required.

Progressive Threshold

If you are not sure if your existing recycling infrastructure could handle a sudden large increase in C&D debris that could result from implementing a C&D diversion ordinance, you may want to consider establishing a progressive threshold that would allow you to:

- Target certain projects first and allow markets to develop for the recovered material.

- Then expand the ordinance to include more projects as markets for recovered C&D debris grow.

For example, a jurisdiction may choose to:

- First target only large commercial projects, allow the C&D markets to develop for the material types generated, and then expand to include large residential projects.
- Gradually decrease the square footage threshold of projects to which the ordinance applies. For example:
 - Year One—40,000 square feet.
 - Year Two—20,000 square feet.
 - Year Three—10,000 square feet.
 - Year Four—5,000 square feet.

Know Your Waste Stream

An important first step in the development phase of a construction and demolition (C&D) diversion ordinance is identifying the types and quantities of projects in your area that generate C&D material, and how that material is currently being managed.

Asking these questions in the beginning of the ordinance process will allow you to focus your ordinance on those types of projects that generate the most C&D material, and that are typically landfilled, instead of being diverted. Targeting these projects should help you to achieve a higher level of C&D diversion. The following questions are a good starting point in discovering this valuable planning information.

Demolition or Construction?

Is most of the waste generated from demolition projects, or is it also being generated from construction projects? Is the waste generated from these projects typically diverted, or being disposed in a landfill?

Note: there is usually more C&D debris and inert debris generated from demolition projects than construction projects of similar square footage or cost, although it is often easier to divert demolition debris if it consists mostly of asphalt/concrete.

Project Types

What types of C&D projects (and what percentage of each) are occurring in your area: 1) large commercial/industrial buildings, 2) new home construction (including multifamily complexes), or 3) small-scale remodels? Renovation projects may generate less waste than a demolition project, but more than new construction?

Knowing what types of C&D projects are predominant in your jurisdiction will also help you determine which projects you would want to target in your ordinance and enable you to determine the adequacy of your existing infrastructure for handling the C&D debris generated from those projects.

Most Permitted Projects

What kinds of projects (e.g., based on square footage, dollar value, or types of waste material generated) are most frequently permitted in your jurisdiction?

Small Project Diversion

In some jurisdictions, most of the C&D waste is related to small residential projects. If that is the case, while each individual project may be small, the cumulative impact on the jurisdiction's total annual disposal rate may be significant if efforts are not made to encourage or require diversion of this material. For other jurisdictions, small projects like home remodels produce less significant tonnage when compared to larger building construction and demolition projects, but they are still included in the jurisdiction's overall C&D diversion program.

Other jurisdictions have opted not to target small generators in their C&D diversion ordinances, but have instead encouraged them to divert their C&D waste material by:

- Providing them with a list of C&D recyclers in the area.
- Providing educational materials on C&D diversion.
- Requesting they divert at least 50 percent of their C&D materials.
- Offering free pickup of these materials.

The cities of San Jose and Alameda both have C&D diversion ordinances that are good examples of how a jurisdiction could address C&D waste from small generators. These cities' C&D diversion ordinances are available on CalRecycle's [C&D Ordinances](#) Web page.

Waste Management Plan

Most construction and demolition (C&D) diversion ordinances include a requirement that a waste management plan (WMP) or waste management form (WMF) be completed and submitted prior to the beginning of a project. A WMP or WMF is essentially a plan that estimates how much C&D debris will be generated by the project and describes how the materials will be managed. This will require a project applicant to estimate how much C&D material will be generated and to consider how, where, and how much they will divert.

Time Period

A jurisdiction can designate a set time period for an applicant to complete and submit the WMP prior to starting a project, as well as a set time period that a WMP official has to approve or disapprove a WMP. Jurisdictions can also look at the option of granting approval of the WMP by default in the event that the compliance official fails to take action on a WMP within that specified time period.

Job Permit Number

If a WMP is required for a permitted project, you may want to consider including the job permit number in the WMP, as well as requiring that any documentation provided to demonstrate diversion compliance include the job permit number to avoid fraudulent use of invoices or receipts from previous projects. You would also want to ask for details on how the waste generated for any given project will be diverted, as well as what specific types of material will be targeted for diversion.

Demolition Projects

For demolition projects, the WMP could also include the applicant's plans for deconstruction and salvaging activities prior to demolition, since many demolition projects are potential sources of C&D debris that could be recovered by deconstruction and salvaging activities prior to demolition. Sufficient time would have to be allowed in the project's specifications, however, to allow for diversion activities to take place prior to demolition (for example, time for deconstruction) or prior to construction (or example, time for salvaging after demolition).

The City of Castro Valley includes the following language related to deconstruction in the WMP section of its C&D diversion ordinance:

“Deconstruction: In preparing the WMP, applicants for building or demolition permits involving the removal of all or part of an existing structure shall consider deconstruction, to the maximum extent feasible, and shall make the materials generated thereby available for salvage, prior to recycling or land-filling. This can also include the sale or donation of these items.”

Also, any recovered or salvaged C&D debris from a demolition, remodel, renovation, or new construction project could also be included in the calculation for meeting the ordinance’s diversion requirement.

Types of Information in a WMP

Types of information listed in a WMP could include:

- Project name and address.
- Job permit number.
- Date(s).
- Building type.
- Project cost.
- Size (square feet).
- Applicant’s name and contact information including address.
- Type of permit or project (construction, demolition, renovation, deconstruction, land clearing and grading).
- Calculation of deposit [for size or cost, etc.].
- List of materials and estimate of amounts to be generated for each material type.*
- Estimate of amount diverted (can separate into reuse & recycling categories) vs. amount to be landfilled.*
- Recycling facilities receiving materials.
- Disposal facilities.
- Hauling company.
- Signed statement of intent to divert.
- Application signature.

*Not all jurisdictions may have the resources to evaluate the accuracy of an estimated amount of materials to be generated by each project and/or for each material type for

each project. It may also be difficult and time consuming for permit applicants to be able to estimate these amounts with any accuracy if the jurisdiction does not have standard conversion factors. An alternative to requiring estimates is to require that the applicant identify in the WMP which materials they will target, and where they will take their material.

Certification Program

Another alternative to requiring diversion estimates and confirmation that those estimates have been attained is to have a certification program for the C&D recycling facilities in the surrounding area. This will simplify the process of determining compliance, as it allows a project applicant to simply provide documentation that they used a particular diversion facility that has been certified to divert a particular percentage of incoming material. That eliminates the need for the applicant to obtain and submit weight tickets from the diversion facilities they used to show compliance with the ordinance. The [City of San Jose](#) has a good example program.

Final Report

In addition to a WMP or WMF, a final report is often required prior to the return of the applicant's deposit. Final reports may also be required for the receipt of a final inspection and Certificate of Occupancy. A final report is very similar to the WMP or WMF, except that it reflects actual tonnage amounts in place of estimates, and provides backup documentation to support the amounts of claimed diversion tonnage.

The final report may include the following as supporting documentation:

- Job permit number.
- Weight tags.
- Gate receipts.
- Invoices at all points of materials movement (i.e. generation, recycling, reuse and disposal).
- Invoices directly from the recycling facility or service provider.
- Documentation from Certified Recycling facility (i.e., a jurisdiction-approved facility).

[Oakland City WMP Example](#)