

SECTION 01572 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

NOTICE TO SPECIFIER
This Section applies to ALL Projects.

1.1 The Requirement

- A. The Construction and Demolition Waste Management (CMDW) Specification includes procedures for ensuring optimal diversion of construction and demolition waste generated by the project, and documentation procedures for tracking waste generation and diversion.
- B. Each construction and/or demolition project shall reuse or recycle a minimum of 75% of the inert debris and 50% of the remaining construction and demolition debris generated by the project.
- C. The project shall promote the City's sustainable building efforts by creating a resource-efficient and environmentally sensitive project and maintaining optimum control of the construction and demolition waste generated during the project.
- D. The project shall use products with post-consumer recycled content to the greatest extent feasible. Refer to the California Integrated Waste Management Board's website for information about recycled content construction products.

1.2 Abbreviations

- A. CalMAX: California Materials Exchange
- B. C&D: Construction and Demolition
- C. CCR: California Code of Regulations
- D. CDRG: Construction and Demolition Recycling Guide
- E. CIWMB: California Integrated Waste Management Board
- F. LEA: Local Enforcement Agency
- G. SWDD: Solid Waste Diversion and Disposal
- H. WMP: Waste Management Plan

1.3 Definitions

- A. "Certified Mixed Debris Processing Facility": A solid waste processing facility that accepts loads of mixed debris for the purpose of recovering re-usable and recyclable materials and disposing of the non-recyclable residual material. A Certified Mixed Debris Processing Facility has been certified by the City of Los Angeles to have a facility specific recycling rate for C&D waste and/or another facility specific recycling rate for municipal solid waste. See CDRG Section VII G for information on the current list of certified processors.
- B. "Class III landfill": A landfill that accepts non-hazardous solid waste such as household, commercial, and industrial solid waste. A Class III landfill must have a CIWMB solid waste facilities permit and is regulated by the LEA.
- C. "Construction and Demolition Recycling Guide": a publication by the Bureau of Sanitation's Solid Resources Citywide Recycling Division available at http://www.lacity.org/san/solid_resources/recycling/publications/index.htm, or Solid Resources Citywide Recycling Division, 1149 S. Broadway, 10th Floor, Los Angeles, CA 90015, (213) 485-2260; FAX (213) 485-3671.
- D. "C&D Debris": Solid waste and recyclable materials that result directly from construction, remodeling, repair, demolition, or deconstruction of buildings and other structures, do not contain hazardous waste (as defined in CCR Title 22, Section 66621.3, *et seq.*), and contain no more than one percent (1%) putrescible wastes by volume, calculated on a

monthly basis. C&D debris includes, but is not limited to: asphalt, concrete, Portland cement, brick, lumber, wallboard, roofing material, ceramic tile, pipe, glass, carpet and associated packaging.

- E. "Deconstruction": The process of taking apart a structure with the primary goal of preserving the value of all useful building materials, so that they may be reused or recycled.
- F. "Disposal": Acceptance of solid waste at a legally operating facility for the purpose of landfilling.
- G. "Diversion": Activities that result in reducing the amount of waste disposed at a landfill. This can include source reduction activities, composting, recycling, and reuse.
- H. "Inert Backfill Site": A location, other than inert fill or other disposal facility, to which inert waste is taken for the purpose of filling an excavation, shoring, or another soils engineering operation.
- I. "Inert Fill": A facility that can legally accept inert waste such as asphalt and concrete exclusively for the purpose of disposal.
- J. "Inert Debris/Inert Waste": Solid waste and recyclable materials that are source separated or separated for reuse, do not contain hazardous waste (as defined in CCR, Title 22, section 66261.3 et. seq.) or soluble pollutants at concentrations in excess of applicable water quality objectives, and do not contain significant quantities of decomposable waste. Inert debris may not contain more than 1% putrescible wastes by volume calculated on a monthly basis. Gravel, rock, soil, sand and similar materials, whether processed or not, that have never been used in connection with any structure, development, or other human purpose are not inert debris.
- K. "Mixed Debris": Material that includes commingled recyclable and non-recyclable construction and demolition debris.
- L. "Mixed Debris Processing Facility": A solid waste processing facility that accepts loads of mixed debris for the purpose of recovering re-usable and recyclable materials and disposing of the non-recyclable residual materials. See also Certified Mixed Debris Processing Facility.
- M. "Permitted Waste Hauler": A company that possesses a valid and current permit from the City of Los Angeles to collect and transport solid waste from individuals or businesses in the City of Los Angeles.
- N. "Recycling": The process of sorting, cleaning, 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.
 - 1. On-site Recycling Materials that are sorted and processed for use in an altered form in the project, (e.g. concrete is crushed for use as base for a parking lot on the site)
 - 2. Off-site Recycling Source-separated materials hauled to another location and used in an altered form in the manufacture of a new product.
- O. "Recycling Facility": An operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of a new product. Depending on the types of materials accepted and operating procedures, a recycling facility may or may not be required to have a Solid Waste Facilities permit from the CIWMB or be regulated by the LEA.
- P. "Reuse": Materials that are recovered for use in the same form. This includes materials that are reused on-site or off-site.
- Q. "Salvage": Materials recovered for reuse or sale or donation to a third party.
- R. "Source Reduction": Any action causing a net reduction in the generation of solid waste. Source reduction includes, but is not limited to, reducing the use of nonrecyclable materials, replacing disposable materials and products with reusable materials and products, reducing packaging, and reducing the amount of yard waste generated.
- S. "Source-Separated Materials (Construction and Demolition Debris)": Material that is sorted at the site of generation by individual material type for the purpose of reuse or recycling, i.e., loads of concrete that are source-separated for delivery to a base course recycling facility to be crushed into road base material. Note: The Contractor may be able

to save money on collection fees for source-separated material. Source-separated material is not subject to the City's 10% AB939 fee.

- T. "Solid Waste": shall mean waste that the CIWMB has deemed acceptable for disposal at a Class III Landfill and shall not include source-separated material.
- U. "Transfer Station": A facility that can legally accept solid waste for the purpose of temporarily storing the materials for re-loading onto other trucks and transporting them to a landfill for disposal, or recovering some materials for reuse or recycling. Transfer stations must be permitted by the CIWMB and regulated by the LEA.

1.4 DIVERSION REQUIREMENTS

- A. The construction and demolition project shall reuse or recycle a minimum of 75% of the inert debris and 50% of the remaining construction and demolition debris generated by the project.

1.5 SUBMITTALS

- A. Waste Management Plan (WMP): The Contractor shall conduct a site assessment and estimate the types and quantities of materials, under the project, that are anticipated for on-site or off-site processing, recycling, reuse, or disposal. See CDRG Section VII G, for a partial list of facilities that accept these materials for recycling.
 - 1. After the contract is awarded and prior to the commencement of the project, the City project manager will schedule and attend a meeting with the Contractor to discuss the Contractor's proposed WMP. This plan shall be submitted to allow the City and the Contractor an opportunity to develop a mutual understanding regarding the recycling and reuse requirements and programs.
 - 2. Not more than 20 working days after the meeting, and before the commencement of the project, the Contractor shall prepare and submit to the City project manager a written WMP, Attachment A. The plan shall show a minimum 75% recycling for inert debris expected from the project and 50% recycling for the remaining C&D debris expected from the project. The Contractor shall submit the plan in the format provided herein as Attachment A, Parts I and II. Instructions for filling out the form are in Attachment A, 'Instruction Sheet'. Work shall not begin until the project Engineer approves the WMP for the project.
 - 3. If the Contractor expects a circumstance that the Contractor believes make it infeasible to comply with the Diversion Requirement, the Contractor may submit a written request for an exemption at the time the WMP is submitted. If the exemption request is not approved by the Engineer, the Contractor shall revise and resubmit a WMP.
 - 4. If the City determines that it is infeasible for the Contractor to meet the Diversion Requirement due to unique circumstances, the City shall determine the maximum feasible diversion rate for each material and shall indicate this rate on the WMP submitted by the Contractor. The City shall return a copy of the WMP to the Contractor marked "Approved for Infeasible Exemption". The Contractor will be required to meet the maximum feasible diversion rates as approved by the City. If the Contractor fails to meet the revised rates the Contractor will be subject to the stipulated penalties. Exempt projects are required to keep and submit all documentation for the project. This includes receipts, the WMP, SWDD Reports, and all supporting documentation as required herein.
 - 5. The City's approval of the Contractor's WMP will not otherwise relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures.
- B. Solid Waste Diversion and Disposal Report (SWDD Report): With each submittal of the Contractor's application for progress payment, the Contractor shall prepare and submit to the inspector a written SWDD Report quantifying all material generated in the project which was either disposed, or diverted from disposal through reuse or recycling during the

time period covered by the SWDD Report and progress payment. Part III of each SWDD Report is a cumulative history of the diversion and disposal for the project. The Contractor shall submit the report in the format provided herein as shown in Attachment B. Failure to submit the report and the supporting documentation shall render the application for progress payment incomplete and delay payment until the proper documentation is submitted. The supporting documentation includes manifests, weight tickets, receipts, reports, invoices, and other supporting documents specifically identifying the projects, the recyclables and solid waste generated by the project, and where the material was sent. Instructions for filling out the forms are in Attachment B, 'Instruction Sheet'. The final SWDD Report shall cover the complete time period of the project and shall contain, in Part III, a list of the total waste disposed and/or diverted for each reporting period. The final SWDD and supporting documentation must be submitted within 30 days of the end of the project.

- C. Substitutions: Should the Contractor desire to use materials, equipment, or products that meet the requirements of these specifications but are more environmentally responsive, the Contractor shall submit these substitutions in accordance with "Substitutions and "Or Equal" Submittals" of the General Requirements.

1.6 PENALTY

- A. If the diversion requirement has not been met, a per ton penalty will be applied to the disposed material over that allowed in the approved WMP.
- B. The penalty will be calculated as follows: Tons over that allowed in the approved WMP times the per-ton penalty in effect at the time the contract was awarded. The penalty may not exceed the total payment retention for the project.
- C. The penalty is \$100 per ton.
- D. The recommended penalty will be determined by the Bureau of Contract Administration and shall be considered by the Board of Public Works at the time of the project closeout.
- E. The Contractor who has been assessed a penalty may submit a written request for a hearing. Upon receipt of the written request the awarding authority shall set the matter for hearing and notify the Contractor.

1.7 REUSE, SALVAGE, AND RECYCLING OPTIONS

- A. Construction projects shall make use of as many reuse and salvage options as is feasible. One option is the California Materials Exchange (CaIMAX), a free program sponsored by the CIWMB. The most recent issues of CDRG Section VII G, contains contact information for non-profit organizations, salvage facilities and other reuse organizations.
- B. Recycling shall include both on-site and off-site recycling of source-separated materials, as well as mixed debris recycling efforts.
- C. On-site recycling program shall produce a quality product to meet the specifications identified in the contract documents, subject to approval. The Contractor shall estimate the amount of material to be used in the project and include a program for off-site recycling of any excess material that cannot be used in the project.
- D. The Contractor shall develop and implement a program to include source separation of solid waste, to the greatest extent feasible, of the following types:
 - 1. Asphalt
 - 2. Concrete, concrete block, slump stone (decorative concrete block)
 - 3. Rock
 - 4. Wood (lumber)
 - 5. Green material (i.e. tree trimmings)
 - 6. Other materials, as appropriate, such as red clay brick, building fixtures, architectural details, dry wall, carpet, carpet padding, and corrugated cardboard
- E. Mixed Debris Recycling: The Contractor should develop and implement a program to transport loads of commingled construction and demolition materials that cannot be feasibly source separated to a mixed debris recycling facility. A list of these facilities and

- their recycling rates is in the most recent issue of CDRG Section VII G.
- F. Certified Processors: These facilities have facility recycling rates, established by the City of Los Angeles for each mixed debris waste stream. Mixed construction and demolition debris taken to these facilities are considered to have been recycled at the rate of the certified processing facility. For example, 100 tons of material taken to a facility with a recycling rate of 60% gives the project credit for 60 tons of recycling. A list of these facilities and their recycling rates is in the most recent issue of CDRG Section VII G.
 - G. Recycling, Reuse, Mixed Waste Processing and Salvage Facilities: The CDRG is incorporated herein by reference and contains information about processing, recycling, reuse and salvage facilities.
 - H. Revenue: Revenue or savings obtained from recycled, reused, or salvaged materials shall accrue to the Contractor unless otherwise noted in the Contract Documents. Note: The Contractor may be able to save money on collection fees for source-separated material. Source-separated material is not subject to the City's 10% AB939 fee. Permitted waste haulers that take mixed C&D debris to certified processors may be eligible for a rebate on part of the AB 939 fee.
 - I. AB 939 Fee: The AB 939 fee is assessed on all solid waste hauled within the City of Los Angeles in accordance with Section 66.32 of the Los Angeles Municipal Code.
 - 1. All solid waste haulers hauling material from City of Los Angeles locations must be permitted in accordance with Section 66.32 of the Los Angeles Municipal Code.
 - 2. Source-separated material is not assessed this fee.
 - 3. Permitted solid waste haulers may apply for a rebate for the recycled portion of the mixed waste taken to certified mixed debris processing facilities.

1.8 HAULING AND DISPOSAL OPERATIONS

- A. Hauling: The Contractor is responsible for arranging the collection and hauling of C&D debris by a waste hauler that is permitted by the City of Los Angeles in accordance with Section 66.32 of the Los Angeles Municipal Code.
- B. Recycling And Processing Facilities: The Contractor shall be responsible for transporting C&D debris to recycling or processing facilities. The Contractor shall be familiar with the requirements for acceptance of C&D materials at the recycling and processing facilities before the material is delivered. The most recent issue of CDRG Section VII G, includes a partial list of these facilities. Always call facilities in advance.
- C. Disposal Facilities: The Contractor shall be responsible for transporting C&D debris that cannot be delivered to a recycling or processing facility, to a transfer station or disposal facility that can legally accept the materials for the purpose of disposal.
- D. Site Disposal: The Contractor may not burn, bury, or otherwise dispose of solid waste on the project job-site.

END OF SECTION

Attachment A

WASTE MANAGEMENT PLAN (Part I-Inert Materials)

Project Title:	W. O. Number:	Date Submitted:
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Name & Title of Responsible Person:	Signature:
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- Methods**
- | | |
|--|--|
| <p>1) Hand-wrecking to recover salvageable materials to be used on - site</p> <p>2) Hand-wrecking to recover salvageable materials to be taken off - site</p> <p>3) Other (please describe)</p> | <p>4) Hauling inerts to an engineered fill</p> <p>5) On-site concrete and asphalt crushing for use on - site</p> <p>6) On-site concrete and asphalt crushing for use off - site</p> <p>7) Source separating materials and hauling to recyclers</p> |
|--|--|

Material	Facility and Location	Method	Tons Diverted	Tons Disposed
RECYCLING/REUSE				
Asphalt				X
Concrete				X
Brick				X
Other (Describe)				X
Other (Describe)				X

DISPOSAL				
Mixed inerts			X	
Other (Describe)			X	
Other (Describe)			X	
Other (Describe)			X	

CERTIFIED PROCESSING**				
Mixed inerts				
Mixed inerts				
Mixed inerts				
Mixed inerts				

DIVERSION AND DISPOSAL TOTALS			=		
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Percent Recycling = $\frac{\text{Total diversion}}{\text{Total diversion} + \text{Total disposed}} \times 100 =$

Percent Recycling = $\frac{\text{-----}}{\text{-----} + \text{-----}} \times 100 =$

**Recycling tonnages for debris taken to a certified processor = total tonnage taken to facility X recycling rate. Remaining tonnage counts as disposal. Example: 200 tons taken to a certified processor with a recycling rate of 0.63 (63%) yields 126 tons of diversion and 74 tons of disposal.

Attachment A
WASTE MANAGEMENT PLAN (Part II-All Other Materials)

W. O. No.:	Index No.:	Date Submitted:		
Contractors Name:				
Street address:				
City, State, Zip:				
Phone:		Fax:		Email:
Methods				
1) Hand - wrecking to recover salvageable materials to be used on - site		3) Hand - wrecking to recover salvageable materials to be taken off - site		
2) Other (please describe)		4) Source separating materials and hauling to recyclers		
Material	Facility and Location	Method	Tons Diverted	Tons Disposed
RECYCLING/REUSE				
Glass				X
Wood / Greenwaste				X
Metal				X
Cardboard				X
Other (Describe)				X
Other (Describe)				X
DISPOSAL				
Mixed Waste			X	
Other (Describe)			X	
Other (Describe)			X	
CERTIFIED PROCESSING**				
Mixed Waste				
Mixed Waste				
Mixed Waste				
Mixed Waste				
DIVERSION AND DISPOSAL TOTALS			=	
$\text{Percent Recycling} = \frac{\text{Total diverted}}{\text{Total diverted} + \text{Total disposed}} \times 100$				
$\text{Percent Recycling} = \frac{\text{-----}}{\text{-----} + \text{-----}} \times 100 =$				

**Recycling tonnages for debris taken to a certified processor = total tonnage taken to facility X recycling rate. Remaining tonnage counts as disposal. Example: 200 tons taken to a certified processor with a recycling rate of 0.63 (63%) yields 126 tons of diversion and 74 tons of disposal.

Attachment A - INSTRUCTION SHEET

1. **Please print very clearly or type.**
2. Attachment A includes: **Part I**-Inert Materials and **Part II**-Metal, Wood, and Other Material
3. The information required includes but is not limited to, the following:
 - a. Contractor and project identification information
 - b. Methods to be used for recycling, reusing, salvaging and disposing of materials. The method number should be chosen from the list at the top of Part I and Part II.
 - c. Estimated quantities of **all** materials listed, in tons;
4. ****Calculating recycling and disposal for mixed material taken to a certified processor: the total tons to be taken to certified processor times the recycling rate = amount to be recycled. Total to be taken to facility minus amount to be recycled = amount for disposal.**
5. **Sample**

Project Title: Big St. Overcrossing	W. O. Number: 12341-0230709	Date Submitted: 09/09/99		
Contractors Name: Acme Construction Street address: 33333 Some St. City, State, Zip: Anytown Ca. 90000 Phone: 213-555-5555 Fax: 213-555-1111 Email:				
Methods				
1) Hand - wrecking to recover salvageable materials to be used on - site 4) Source separating materials and hauling to recyclers 2) Hand - wrecking to recover salvageable materials to be taken off - site 5) Hauling inerts to an engineered fill 3) Other (please describe)				
Material	Facility and Location	Method	Tons Diverted	Tons Disposed
RECYCLING/REUSE				
Asphalt	BBB Crushing	4	200	
Concrete	BBB Crushing	4	55	
Brick	Joe's Salvage	2	6	
Other(Describe) Clean Gravel	The Best Landscaping	4	600	
DISPOSAL				
Mixed waste	Joe's Landfill			1000
Other				
CERTIFIED PROCESSING**				
Mixed Waste	Ben's Processing (Recycling Rate .81 or 81%)		8100	1900
Mixed Waste				
DIVERSION AND DISPOSAL TOTALS =			8961	2900
Percent Recycling =	$\frac{\text{Total diverted}}{\text{Total diverted} + \text{Total disposed}} \times 100 =$			
Percent Recycling =	$\frac{8961}{8961 + 2900} \times 100 = 75.5\%$			

Attachment B
 CITY OF LOS ANGELES/DEPARTMENT OF PUBLIC WORKS
SOLID WASTE DIVERSION AND DISPOSAL REPORT
PART I OF III - INERT WASTE MATERIAL

Project Title:		W. O. Number:	Date Submitted:	Progress Payment #
Company Name:		Daytime Phone Number:		
Index Number:		Department:		
Period Covered In This Report:				
From:		To:		
Material	Facility and Location	Tons diverted	Tons Disposed	
RECYCLING/REUSE				
Asphalt				X
Concrete				X
Brick				X
Other (Describe)				X
Other (Describe)				X
DISPOSAL				
Mixed inerts				X
Other (Describe)				X
Other (Describe)				X
Other (Describe)				X
CERTIFIED PROCESSING**				
Mixed inerts				
Mixed inerts				
Mixed inerts				
Mixed inerts				
=		DIVERSION AND DISPOSAL TOTALS *		

*Copy the Diversion and Disposal Totals to Part III Cumulative Project Recycling Report. Each Report needs to have the totals from every previous Disposal And Diversion Report listed on it, as well as the totals from this report.

**Recycling tonnages for debris taken to a certified processor = total tonnage taken to facility X recycling rate. Remaining tonnage counts as disposal. Example: 200 tons taken to a certified processor with a recycling rate of 0.63 (63%) yields 126 tons of diversion and 74 tons of disposal.

Attachment B
SOLID WASTE DIVERSION AND DISPOSAL REPORT
PART II OF III - ALL OTHER WASTE MATERIAL

W. O. Number:		Date Submitted:	
Material	Facility and Location	Tons Recycled	Tons Disposed
RECYCLING/REUSE			
Metal			X
Wood / Lumber			X
Greenwaste / Landscaping			X
Glass			X
Cardboard			X
Other (Describe)			X
Other (Describe)			X
DISPOSAL			
Mixed waste		X	
Other (Describe)		X	
Other (Describe)		X	
Other (Describe)		X	
CERTIFIED PROCESSING**			
Mixed waste			
Mixed waste			
Mixed waste			
Mixed waste			
=	DIVERSION AND DISPOSAL TOTALS*		

*Copy the Diversion and Disposal Totals to Part III Cumulative Project Recycling Report. Each Report needs to have the totals from every previous Disposal And Diversion Report listed on it, as well as the totals from this report.

**Recycling tonnages for debris taken to a certified processor = total tonnage taken to facility X recycling rate. Remaining tonnage counts as disposal. Example: 200 tons taken to a certified processor with a recycling rate of 0.63 (63%) yields 126 tons of diversion and 74 tons of disposal.

ATTACHMENT B - INSTRUCTION SHEET

Contractor may contact the Solid Resources Citywide Recycling Division of the Bureau of Sanitation at (213) 473-8228 for information about recycling construction and demolition materials.

Reporting Disposal and Diversion of Solid Waste. With each submittal of Contractor's application for progress payment, the Contractor shall prepare and submit to the inspector a written Solid Waste Diversion and Disposal Report quantifying all material generated in the project that was either disposed in landfills or diverted from disposal through recycling or reuse. Submit the report in the format provided as Attachment B. The report contains three sections. All three sections must be submitted each time. As indicated on the Solid Waste Diversion and Disposal Report:

PART I

1. Report disposal, reuse, or recycling in tons. Indicate zero (0) if there is no quantity to report for a type of material.
2. Indicate all locations to which materials are delivered for reuse, recycling, or disposal. These locations can include:
 - a. Source Separated Recycling Facilities
 - b. Mixed Debris Recycling Facilities
 - c. Class III Landfills
 - d. Inert Backfill Sites
 - e. Salvage yards
 - f. Transfer Stations
3. The Solid Waste Diversion and Disposal Report must be accompanied by: legible copies of weigh tickets, receipts, or invoices that specifically identify the project generating the material. Said documents must be from recyclers and/or disposal site operators that can legally accept the materials.
4. Indicate the Project title; City Work Order Number; Progress Payment Number; Item Number, the City Department for which the work is being done; the name of the company completing the 'Solid Waste Diversion and Disposal Report' and compiling supporting documentation; the printed name, title signature, and daytime phone number of the person responsible for the information on the form; the beginning and ending dates of the period covered; and the date that the 'Solid Waste Diversion and Disposal Report' is completed.
5. If materials are taken to a facility for which weigh tickets, receipts, or invoices are not available, Contractor shall provide documentation *on company letterhead* identifying the address to which materials were taken, name of owner/operator, type of materials, tons disposed, and the specific project generating the materials.
6. If materials are used on site, Contractor shall provide documentation *on company letterhead* identifying the type and tons of materials being reused or recycled on site and the specific project generating the materials.