Construction and Demolition Debris Diversion Program Forms and Guidance Manual

The City of Paramount requires that at least 65% of the material generated on a construction or demolition job site be diverted from landfill (i.e. - recycled or reused) or dispose less than the maximum weight per square foot (ft^2), in compliance with State recycling mandates. The standard for Paramount is as follows:

This project will recycle, reuse, or salvage at least 65% of the waste generated on-site and/or the maximum disposal rate as follows:

- For non-residential projects, the specification is maximum disposal of two (2) pounds (lbs.) per square foot (ft^2)
- For low rise residential of less than or equal to three (3) stories, the specification is maximum disposal of four (4) pounds (lbs.) per square foot (ft^2)
- For high rise residential greater than or equal to four (4) stories, the specification is maximum disposal of two (2) pounds (lbs.) per square foot (ft^2)

Project types exempt from the reporting and deposit fee requirements include:

- Work for which only a plumbing, electrical, or mechanical permit is required
- Work for which hazardous or toxic materials are treated or removed

Project types exempt from only the deposit fee requirements include:

- Residential single-family homes up to two units that are not part of a greater planned development
- All construction projects with a valuation of less than or equal to $100,000
- All construction projects of less than 1,000 square feet

For all other project scopes, please proceed to the instructions page.

Public Works Department
16400 Colorado Avenue
Paramount, CA 90723
562-220-2020
publicworksdept@paramountcity.gov

Instructions

In September 2006, the City of Paramount adopted an ordinance that aVects all construction and demolition projects that occur within the City's limits. The ordinance requires that at least 65% of all material generated during a construction or demolition project be diverted from landfill (i.e. recycled or reused). This ordinance was adopted in response to CalGreen's Building Standards Code – Part 11, Title 24. The standard for maximum disposal is either two (2) or four (4) lbs./ft^2 depending upon project category (refer to Cover Page).

The following is a step-by-step guide to complying with the new construction and demolition ordinance:

STEP 1: Determine who will handle the project waste stream. The City of Paramount encourages all builders and contractors to utilize the services of Athens Services, Inc. (the City's franchise waste and recycling hauler). Athens will guarantee diversion of at least 65% of the project waste stream or the maximum disposal. Athens Services can be reached at (888)336-6100, or by visiting https://athensservices.com/order-special- services/request-services/

For projects in which Athens is contracted to handle the entire waste stream, the requirement to complete both forms, and pay the associated deposit fee, is waived. Simply complete Form A (both sides) and submit it when applying for a building or demolition permit. **No further action is required**

For projects in which the waste stream is handled by a company other than Athens, or the builder/contractor intends to self-haul material to disposal and recycling facilities using their own vehicles, required forms and associated deposit fee must be submitted to the City. **Continue to Step 2**

STEP 2: Complete the Pre-Project Waste Diversion Plan (Form A). Submit the form, along with the appropriate deposit fee, when applying for a building or demolition permit

STEP 3: Complete and submit a Post Project Waste Diversion Report (Form B) no less than 15 days prior to the final inspection date (i.e., the project completion date)

Enclosures

Attachment 1: Pre-Project Waste Diversion Plan (Form A), and Post Project Waste Diversion Report (Form B)

Attachment 2: Construction and Demolition Debris Generation Rates, and Construction and Demolition Debris Composition Table

Attachment 3: Recycling Facilities & Approved Processors Attachment 4: Best Management Practices &

Case Studies

FORM A – Pre-Project Waste Diversion Plan

Chapter 33 of the Paramount Municipal Code requires that at least 65% of the material generated during a construction or demolition project be diverted from landfill (i.e. recycled or reused) or a maximum disposal of two (2) or four (4) lbs./ft^2 depending upon project category. To ensure compliance with this requirement, the City of Paramount is requiring completion of a C&D Waste Diversion Plan that details anticipated diversion practices, and materials to be recycled/reused.

Both sides of this form must be completed and submitted to the City of Paramount Administrative Services Department with your 1) building permit application, and 2) diversion deposit, unless otherwise instructed.

Applicant Name: _____ Date: _____

Company Name: _____ Phone #: _____

Job Site Address: _____

Type of Property: [ ] new construction [ ] demolition [ ] renovation [ ] grading [ ] other ____

Type of Building: [ ] residential [ ] non-residential

Estimated Project Start Date: _____ Estimated Project Completion Date: _____

Brief Description of Project (include sq. footage): _____

Debris Management

Indicate how construction and demolition debris will be managed on the project site. Check all that apply.

[ ] **Athens Services** provides trash and recycling service for the project on an exclusive basis. Athens will be responsible for assuring conformance with the ordinance. Note: Deposit fee is waived so long as Athens handles all materials

[ ] A **recycling facility** (chosen from the approved list in Attachment 3) will provide bins to the project site. No refuse should be placed in any recycling bin. All refuse will be hauled by Athens unless you choose to self-haul (check box 3 as well)

[ ] **Self Haul**. Material will be collected and delivered to recyclers, processors, and landfills using only the applicant's equipment and vehicles. Refer to Attachment 3 for a list of recycling facilities and approved processors to which material may be delivered

Diversion Deposit (complete this section if you checked box 2 and/or 3)

A Diversion Deposit must be paid to the City and will be refunded in full to the applicant upon confirmation that diversion or maximum disposal requirements were met. Deposit amount should equal 3% of total project value, or $10,000, whichever is less. *Payment can be made in the form of cash, check (made payable to the City of Paramount), or credit card.*

Total Project Value: $_____ Deposit Amount: $_____

Estimates of Tonnages to be Generated

In the table below, estimate the tonnage of debris to be generated, the company that will haul the debris, and the expected destination of the debris. BE SURE TO SAVE ALL HAULING/FACILITY RECEIPTS FOR SUBMITTAL TO THE CITY.

Material	Recycled (tons)	Reused (tons)	Disposed (tons)	Total Quantity Generated	Hauler and Facility to be Used
Building Materials (doors, tiles, etc)					
Dirt/Clean Fill					
Dry Wall					
Green waste					
Inerts (concrete, brick, etc)					
Metal					
Mixed C&D Debris					
Paper/cardboard					
Plastic					
Roofing					
Wood					
Refuse					
Hazardous/Universal Waste					
Asbestos or Contaminated Soil					
Other:					
Totals					

I, the undersigned, am authorized to sign this form on behalf of the applicant, and I understand and acknowledge the requirements of Chapter 33, Ordinance Number 984, of the Paramount Municipal Code relating to the diversion of construction and demolition waste. I attest that all information presented herein is true and accurate. I have reviewed the Guidance Manual and confirm that the applicant is committed to C&D diversion practices, including any necessary employee training to ensure success.

Signature: _____ Print Name: _____ Date: _____

For City Use

◯ Approved, permit # _____ ◯ Disapproved, reason_____

Expected Diversion Rate _____% Amount Paid $_____ Date Paid _____

Reviewed by _____ Date: _____

FORM B – Post-Project Waste Diversion Report

Chapter 33 of the Paramount Municipal Code requires project conformance with either (1) divert at least 65% of the material generated during a construction or demolition project from landfill (i.e., recycled or reused) or (2) not exceed a disposal maximum of either two (2) or four (4) lbs./ft^2 based on project category. To ensure compliance with this requirement, the City of Paramount is requiring completion of a C&D Waste Diversion Report that summarizes diversion practices implemented, and materials recycled, reused, and disposed.

This form should be completed and submitted to the City of Paramount Administrative Services Department no less than 15 days prior to the final inspection date for your project. Attach to this report originals or photocopies of all receipts and weight tags from recycling facilities, salvage companies, deconstruction contractors, haulers, processors, transfer stations, and landfills.

Date of Submittal: _____

Building Permit #: _____ Project Completion Date: _____

Applicant Name: _____ Phone #: _____

Company Name: _____

Job Site Address: _____

Type of Property: [ ] new construction [ ] demolition [ ] renovation [ ] grading [ ] other _____

Type of Building: [ ] residential [ ] non-residential

I, the undersigned, am authorized to sign this form on behalf of the applicant, and I understand and acknowledge the requirements of Chapter 33, Ordinance Number 984, of the Paramount Municipal Code relating to the diversion of construction and demolition waste. I attest that all information presented herein is true and accurate.

Signature: _____ Print Name: _____ Date: _____

For City Use

[ ] Approved, deposit refunded _____
Date Refund amount Check #

[ ] Disapproved, reason _____

Reviewed by _____ Date: _____

Tonnages Generated by the Project

In the table below, indicate the tonnage of debris generated, the company that will haul the debris, and the expected destination of the debris. BE SURE TO SAVE ALL HAULING/FACILITY RECEIPTS FOR SUBMITTAL TO THE CITY.

Material	Recycled (tons)	Reused (tons)	Disposed (tons)	Total Quantity Generated	Hauler and Facility to be Used
Building Materials (doors, tiles, etc)					
Dirt/Clean Fill					
Dry Wall					
Green waste					
Inerts (concrete, brick, etc)					
Metal					
Mixed C&D Debris					
Paper/cardboard					
Plastic					
Roofing					
Wood					
Refuse					
Hazardous/Universal Waste					
Asbestos or Contaminated Soil					
Other:					
Totals					

Fill in the blanks to determine if you have diverted at least 65% of the material generated by your project:

Total Recycled _____ + Total Reused _____ = _____ ÷ Total Quantity Generated _____ x 100 = ____ %

Construction and Demolition Debris Generation Rates

Activity	Residential Project (pounds generated per sq. ft.)	Nonresidential Project (pounds generated per sq. ft.)
Renovation	3.31	No data available
New Construction	4.38	3.89
Demolition	115	155

Construction and Demolition Debris Composition Table (in percent)

Component	Residential			Commercial			Total Composition
	Renovation	New Construction	Demolition	Renovation	New Construction	Demolition	
Asphalt	0.00	0.00	0.00	0.01	N/A	0.00	0.00
Brick	3.66	1.87	2.13	0.40	N/A	0.00	1.30
Cardboard/Corrugated	0.84	3.21	0.18	0.23	N/A	0.31	0.56
Carpeting	0.38	1.18	0.01	0.04	N/A	0.27	0.20
Cinder Block	0.03	0.61	17.61	19.03	N/A	0.00	12.39
Concrete with Rebar	0.00	0.00	0.00	0.00	N/A	0.00	0.00
Concrete without Rebar	0.19	7.84	15.26	21.93	N/A	2.05	13.96
Dirt/Earth	0.00	0.43	0.00	0.10	N/A	0.00	0.08
Drywall/Sheetrock	11.83	14.18	1.35	3.97	N/A	0.06	4.64
Electric Fixtures	0.20	0.04	0.00	0.46	N/A	0.10	0.24
Electric Wiring	0.09	0.02	0.09	0.67	N/A	0.20	0.35
Furniture	0.03	0.00	0.00	0.05	N/A	1.06	0.15
Glass	0.21	0.21	0.07	0.05	N/A	0.05	0.09
Insulation - Foam	0.47	0.11	0.08	0.24	N/A	0.01	0.19
Insulation - Sheathing	0.00	0.00	0.00	0.00	N/A	0.00	0.00
Masonite/Slate	1.16	0.00	0.00	0.00	N/A	0.00	0.14
Metal Drums	0.00	0.00	0.01	0.02	N/A	1.10	0.15
Metal - Ferrous	2.18	0.77	1.88	4.89	N/A	6.47	3.67
Metal - NonFerrous	0.19	0.33	0.04	0.12	N/A	0.01	0.11
Miscellaneous. Fines	27.14	35.65	33.97	18.08	N/A	54.67	29.04
Other Paper	0.59	0.14	0.05	0.13	N/A	0.42	0.20
Pallets	0.04	0.44	0.00	0.12	N/A	0.49	0.15
Plastic - Film	0.31	0.19	0.04	0.10	N/A	0.13	0.13
Plastic - PVC Pipe, Rigid, etc.	0.05	0.70	0.04	0.21	N/A	2.08	0.42
Porcelain/Bathroom Fixtures	0.18	0.07	0.19	0.10	N/A	0.19	0.14
Pressboard/Chipboard	2.34	5.44	0.77	1.35	N/A	12.39	3.05
Roofing Material - Felt	0.03	0.13	0.19	0.00	N/A	0.00	0.06
Roofing Material - Shingles	10.76	0.98	1.21	13.22	N/A	0.00	7.35
Rubber	0.03	0.30	0.00	0.02	N/A	0.00	0.04
Siding - Aluminum	0.00	0.00	0.11	0.00	N/A	0.00	0.03
Siding - Vinyl	1.09	0.43	0.10	0.00	N/A	0.11	0.21
Textiles	0.01	0.02	0.00	0.03	N/A	0.00	0.02
Tile - Ceiling	0.51	0.55	0.26	0.42	N/A	0.08	0.36
Tile/Ceramics	2.29	1.24	0.06	0.84	N/A	0.04	0.77
Tires	0.07	0.00	0.00	0.01	N/A	0.00	0.01
Treated Wood	0.00	0.00	0.00	0.00	N/A	0.42	0.05
Tree Limbs/Stumps	1.94	7.03	0.39	0.59	N/A	0.26	1.22
Untreated Wood - Plywood	1.80	3.89	0.84	4.16	N/A	4.55	3.09
Untreated Wood – Dimen. Wood (Not Paint.)	25.38	11.95	22.28	5.26	N/A	11.86	13.24

Untreated Wood – Dimen. Wood (Paint.)	3.35	0.07	0.78	3.28	N/A	0.25	2.04
White Goods/Appliances	0.62	0.00	0.00	0.07	N/A	0.36	0.15
TOTAL	100.00	100.00	100.00	100.00	N/A	100.00	100.00

Source: LA County Department of Public Works

Approved Construction & Demolition Debris Processors

Company Name & Address	Phone Number & Business Hours	Materials Accepted	Recycling Rate	Service(s)
AMERICAN WASTE INDUSTRIES 11121 Pendleton Street Sun Valley, CA 91352	(818) 768-1492 M - F, 7am - 6pm Sat, 7am - 2pm	Cinder block, brick, concrete, asphalt, rock, gravel, soil, drywall, stucco, tile, carpet, green waste, metal, paper, cardboard, wood	81.6%, materials may be mixed or separated	Drop-off, roll-off, and on-site services for paper
CALIFORNIA WASTE SERVICES 621 West 152nd Street Los Angeles, CA 90247	(310) 538-5998 M - F, 7am - 5pm Sat, 7am - 4pm	Mixed paper, cardboard, carpet and carpet padding, green waste, wood, scrap metal, asphalt, concrete, rock, gravel, stucco, drywall, dirt, tile	100% if separated; 65% if mixed	Roll-off
COMMUNITY RECYCLING & RESOURCE RECOVERY 9147 DeGarmo Street Sun Valley, CA 91352	(818) 767-1203 open 24 hrs, 7 days	Food waste, pre-chipped, demolition and clean wood waste, tree trimmings, whole and broken pallets, cinder block, drywall, brick, concrete, asphalt, rock, gravel, dirt, metal, cardboard, stucco, carpet	95% if separated; 80% if mixed	Drop-off
DOWNTOWN DIVERSION 2024 East Olympic Blvd., Bldg. 3 Los Angeles, CA 90021	(213) 612-5005 M - F, 6am - 6pm Sat, 6am - 3pm	Wood, concrete, rock, soil, gravel, metal, drywall, brick, asphalt, stucco, tile, pallets, cardboard, dirt	100% if separated; 76.75% if mixed	Drop-off and roll-off
FALCON TRANSFER CENTER 3031 East I Street Wilmington, CA 90744	(562) 432-2268 M- F, 6am - 4pm Sat, 7am - 12pm	Asphalt, brick, concrete, drywall, flooring, glass, gravel, rock, cardboard, pallets, metal, sand, soil, wood, green waste	100% if separated; 80.96% if mixed	Drop-off
LOONEY BINS/ EAST VALLEY DIVERSION 11616 Sheldon Street Sun Valley, CA 93062	(818) 252-0019 M - F, 6am - 6pm Sat, 6am - 3pm	Wood, concrete, rock, soil, gravel, metal, drywall, brick, asphalt, stucco, tile, pallets, cardboard, paper, plastic, carpet, dirt, sand	100% if separated; 76.75% if mixed	Drop-off and roll-off
MADISON MATERIALS 1035 East 4th Street Santa Ana, CA 92701	(714) 664-0159 M - F, 7am - 4pm Sat, 7am - 2pm	Wood, asphalt, brick, piping, steel, tile, ceramic, rock, gravel, soil, asphalt shingles, concrete, paper, cardboard, glass, fiber glass, plastic, aluminum, drywall, carpet, tires, stucco, e-waste	100% if separated; 65% if mixed	Drop-off, pick-up, and roll-off
PARAMOUNT RESOURCE RECYCLING 7230 Petterson Lane Paramount, CA 90273	(562) 602-6505 M - F, 5am - 7pm Sat, 5am - 4pm Sun, 8am - 3pm	Accepts all recycling material	100% if separated; at least 60% if mixed	Drop-off, pick-up, and roll-off
SANTA MONICA RECYCLING AND TRANSFER STATION 2401 Delaware Avenue Santa Monica, CA 90404	(310) 458-2223 M - F, 6am - 2pm	Accepts all recycling material	100% if green waste only; 80% if mixed material	Drop-off

Source: LA County Department of Public Works

Construction & Demolition Debris Recycling Facilities – page 1

Company Name & Address	Phone Number & Business Hours	Materials Accepted	Recycling Rate	Service(s)
25TH STREET RECYCLING 2121 East 25th Street Los Angeles, CA 90058	(818) 767-3088 M - F, 6am - 11pm Sat, 6am - 6pm	Asphalt, concrete, concrete block, rock	100%, materials may be mixed or separated	Drop-off
A-1 METALS RECYCLING 8250 Tujunga Avenue Sun Valley, CA 91352	(818) 767-4388 M - F, 7am - 4pm Sat, 7am - 2pm	Metals	100%, metals may be mixed or separated	Drop-off, pick-up, and roll-off
AMH RECYCLING 11063 Pendleton Street Sun Valley, CA 91352	(818) 652-4536 M - F, 7am - 4pm	Concrete, rock, gravel, soil, metals	100%, materials must be separated	Drop-off and roll-off
ARCHITECTURAL DETAIL 2449 White Street Pasadena, CA 91107	(626) 844-6670 W - F, 10am - 5pm Sat, 9am - 4pm, and by appointment	Used building materials, bathroom antiques, doors, windows, plumbing fixtures, roofing tile, flooring, redwood siding	95%, materials must be separated	Drop-off and pick-up
ARTESIA SAWDUST 13434 Ontario Avenue Ontario, CA 91761	(909) 947-5983 M - F, 7am - 4pm Sat, 7am - 12pm	Clean wood waste, sawdust, clean asphalt, clean concrete	99%, materials must be separated	Drop-off
ATKINSON & EARTHSHINE 13633 South Central Avenue Los Angeles, CA 90059	(800) 763-3000 M - F, 7am - 3:15pm	Asphalt, concrete, soil, rock	100%, materials may be mixed or separated	Drop-off
BRADLEY LANDFILL & RECYCLING CENTER 9227 Tujunga Avenue Sun Valley, CA 91352	(818) 767-6180 M - F, 7am - 5pm	Wood, tree trimmings	100%, materials must be separated	Drop-off
COORIDOR RECYCLING 22500 South Alameda Street Long Beach, CA 90810	(310) 835-3849 M - F, 6am - 4:30pm Sat, 7am - 2pm	Metals, plastic	100%, materials must be separated	Drop-off, pick-up, and roll-off
C & M METALS 1709 East 24th Street Los Angeles, CA 90058	(323) 234-4662 M - F, 8am - 4:30pm Sat, 8am - 3:30pm	Scrap metal	not available	not available
DAN COPP CRUSHING/ COPP MATERIALS 1120 North Richfield Road Anaheim, CA 92807	(714) 777-6400 M - F, 7am - 3:30pm	Asphalt, concrete, rock, gravel	100%, materials must be separated	Drop-off, and portable on-site crushing
DAN COPP CRUSHING/ COPP MATERIALS 332 South Aviation Blvd. El Segundo, CA 90245	(800) DUMPSITE M - F, 7am - 4pm	Asphalt, concrete, rock, gravel	100%, materials must be separated	Drop-off, and portable on-site crushing

Construction & Demolition Debris Recycling Facilities – page 2

Company Name & Address	Phone Number & Business Hours	Materials Accepted	Recycling Rate	Service(s)
DAN COPP CRUSHING/ COPP MATERIALS 13792 Slover Avenue Fontana, CA 92337	(800) DUMPSITE M - F, 7am - 4pm	Asphalt, concrete, rock, gravel	100%, materials must be separated	Drop-off, and portable on-site crushing
DAN COPP CRUSHING/ COPP MATERIALS 12017 Greenstone Avenue Santa Fe Springs, CA 90670	(800) DUMPSITE M - F, 7am - 4:30pm Sat, 7am - 1pm	Asphalt, concrete, rock, gravel	100%, materials must be separated	Drop-off, and portable on-site crushing
DAN COPP CRUSHING/ COPP MATERIALS 201 East Commercial Street Anaheim West, CA 92801	(800) DUMPSITE M - F, 7am - 4pm	Asphalt, concrete, rock, gravel	100%, materials must be separated	Drop-off, and portable on-site crushing
FREEWAY BUILDING MATERIALS 1124 South Boyle Avenue Los Angeles, CA 90023	(323) 261-8904 M - Sat, 8am - 4pm	Brick, tile, roofing	100%, materials must be separated and in tact	Drop-off and pick-up
HANSON AGGREGATES 2850 California Avenue South Long Beach, CA 90805	(800) 300-6120 M - F, 7am - 3:30pm	Asphalt, asphalt millings and grindings, concrete, concrete block	100%, materials may be mixed or separated	Drop-off
HANSON AGGREGATES 6956 Cherry Avenue North Long Beach, CA 90805	(800) 300-6120 M - F, 7am - 3:30pm	Asphalt, asphalt millings and grindings, concrete, concrete block	100%, materials may be mixed or separated	Drop-off
HANSON AGGREGATES 24th Street s/o Michigan Santa Monica, CA 90405	(800) 300-6120 M - F, 7am - 3:30pm	Asphalt, asphalt millings and grindings, concrete, concrete block	100%, materials may be mixed or separated	Drop-off
HANSON AGGREGATES 5625 Southern Avenue South Gate, CA 90280	(800) 300-6120 M - F, 7am - 3:30pm	Asphalt, asphalt millings and grindings, concrete, concrete block	100%, materials may be mixed or separated	Drop-off
HI-WASTE DISPOSAL 11718 Arkansas Street Artesia, CA 90701	(562) 865-8068 M -F, 8am - 3pm Sat, 8am - 1pm	Scrap metal, concrete, asphalt, greenwaste, some carpet; on job sites only: wood waste, tree trimmings	not available	not available
LOVCO 23320 South Alameda Carson, CA 90810	(562) 673-6759 M - F, 6:30am - 4:30pm	Concrete, asphalt	100%, materials must be separated	Drop-off
NEWMAN & SONS, INC. 9005 Bradley Avenue Sun Valley, CA 91352	(818) 767-0700 M - F, 6:30am - 5pm Sat, 7am - 4pm	Concrete, asphalt, rock, gravel, sand	100%, materials may be mixed or separated	Drop-off and roll-off

Construction & Demolition Debris Recycling Facilities – Page 3

Company Name & Address	Phone Number & Business Hours	Materials Accepted	Recycling Rate	Service(s)
NORTH HILLS RECYCLING 11700 Blucher Avenue Granada Hills, CA 91344	(818) 364-1278 M - Sat, 6am - 6pm	Tree trimmings, brush, logs, clean construction and demolition wood leftovers	100%, materials may be mixed or separated	Drop-off
PACIFIC COAST RECYCLING 12301 East Valley Blvd. El Monte, CA 91732	(626) 444-9530 M - F, 7am - 4pm Sat, 7am - 1pm	Metals	100%, materials must be separated	Drop-off and roll-off
PACIFIC COAST RECYCLING 1545 Gage Road Montebello, CA 90640	(323) 723-8327 M - F, 6am - 2:30pm	Metals	not available	not available
SANTA FE WRECKING & SALVAGE 1600 South Santa Fe Avenue Los Angeles, CA 90021	(213) 623-3119 M - F, 8am - 5pm Sat - Sun, 9:30am - 3pm	Used building materials such as doors, tubs, sinks, etc.	not available	not available
SIMI VALLEY BASE 300 West Los Angeles Avenue Simi Valley, CA 93065	(805) 520-3595 M - F, 7am - 3:30pm Sat, 7am - 12pm	Concrete, rock, gravel, asphalt, tile	100%, materials may be mixed or separated	Drop-off
TAPO ROCK AND SAND 5023 Tapo Canyon Road Simi Valley, CA 93063	(805) 526-2899 M - F, 6:30am - 4:30pm	Separated or mixed loads of asphalt, concrete, red brick, rock, sand, dirt	not available	not available
VALLEY BASE MATERIALS 9050 Norris Avenue Sun Valley, CA 91352	(818) 767-3088 open 24 hrs, 7 days	Asphalt, concrete, concrete block, rock, sand	100%, materials may be mixed or separated	Drop-off
VULCAN MATERIALS - BRADLEY 8960 Bradley Avenue Sun Valley, CA 91352	(818) 252-7390 M - F, 6:30am - 2:30pm	Concrete, asphalt	100%, materials must be separated	Drop-off
VULCAN MATERIALS - CORONA 1709 Sherborn Street Corona, CA 92879	(951) 371-1747 M - F, 6:30am - 2:30pm	Concrete, asphalt	100%, materials must be separated	Drop-off
WASTE MANAGEMENT - CARSON 321 West Francisco Street Carson, CA 90745	(323) 560-8488 M - F, 6am - 6:30pm Sat, 6am - 4pm	Concrete, rock, gravel, soil, asphalt	100%, materials must be separated	Drop-off

The companies listed and the information presented are subject to change without notice and are based on the most readily available information. The companies listed are not endorsed or recommended by the City of Paramount, nor is the list necessarily inclusive of all recycling companies in the region.

Source: LA County Department of Public Works

A Guide to Best Management Practices

Introduction

Construction and demolition (C&D) debris is generated during new construction, renovation and/or demolition of existing buildings and structures, and land clearing. C&D debris includes bricks, concrete, masonry, soil, rocks, lumber, paving materials, shingles, glass, plastics, aluminum (including siding), steel, drywall, insulation, asphalt roofing materials, electrical materials, plumbing fixtures, vinyl siding, corrugated cardboard, vegetation, and tree stumps. Unless recycled or reused, such debris must be disposed, representing both a significant cost and loss in resources.

In California, it is also the law to divert away from disposal the maximum amount of waste materials, but no less than 65% of what is generated. In September 2006, the City of Paramount (City) adopted a C&D ordinance that mirrors this mandate. Unless specifically exempted, covered projects must fulfill the specific conditions required by the ordinance including, but not limited to, recycling and reusing (e.g., diversion) no less than 65% of C&D project debris or the more recent CalGreen requirement related to a maximum weight two (2) or four (4) pounds per square foot depending upon project category.

The rationale for targeting C&D debris is simple. In 1996, the U.S. produced an estimated 136 million tons of building-related C&D debris that was disposed in landfills. This estimate excludes road, bridge, and land-clearing materials, which can add a significant amount to the total C&D debris discarded. In California, C&D debris by itself represents 12% of the disposed municipal waste stream. However, C&D debris can also be one of the more easily diverted materials as evidenced by its generation and compositional characteristics, by emerging markets, by work being conducted in several locales, and by new infrastructure being created by numerous processors and recyclers. There are now many examples of ways that C&D debris is and can be diverted from disposal.

The building industry can manage its waste appropriately, just as it does all other aspects of the business. It takes advance planning, methods to prevent and recover debris, informed assistance from all members of a project, an understanding of the conditions affecting debris management decisions, and most importantly, follow-through. Of these, "methods" is of critical importance and they can be commonly described as "best management practices," which can add significant benefit to a project.

Best management practices (BMPs) are innovative, dynamic, and improved environmental protection practices applied to C&D debris management to help ensure that development and redevelopment is conducted in an environmentally responsible manner. This document is intended to provide guidance to the industry as to the types of practices they could use to develop and implement their debris management programs. It also presents information about how a firm can select and implement such BMPs.

The BMPs listed herein have been found by the City to be representative of the types of practices that can be applied successfully to achieve the 65% diversion or the maximum disposal (weight per square foot) mandate. The City further recognizes that there is often site-specific, technical, and cost variability in the selection of appropriate BMPs, as well as in the design constraints and diversion effectiveness of practices. The list of BMPs is not all-inclusive and does not preclude the industry from using other technically sound practices. Nonetheless, the following information is provided to help the industry to make decisions on the integration of BMPs into standard operating procedures to help comply with the City's C&D debris recycling and reuse ordinance.

Identified Benefits to Reduce, Reuse, and Recycle C&D Debris

Any firm or organization must clearly recognize the benefits of adopting BMPs. Based on the experiences of many businesses, reusing and recycling C&D debris has demonstrative benefits as listed below:

- Minimizes the negative environmental effects of extraction, transportation, and processing of raw materials, which is always a consideration of project environmental impact analysis.
- Reduces project costs through avoided disposal, avoided purchases of new materials, revenue earned from

materials sales, and tax breaks gained from donations.
- Helps business comply with state and local environmental mandates.
- Enhances the public image of firms and organizations that reduce disposal.

- Conserves space in existing landfills.

These benefits have been documented in literally hundreds of projects located around the nation. In California, there are many examples where all of these benefits have accrued to local C&D projects as can be seen in several case studies provided in a later section within this guide.

Debris Management Planning

All sound practices emerge from careful and considerate planning. Debris management plans (Plans) must be a nexus of BMPs, project specification, cost and benefit, project management, contractor and subcontractor selection, and site conditions. Debris management planning can be described as a project-related strategy for reducing, reusing, recycling, transporting and disposing of debris generated at project sites with the ultimate goal of achieving the maximum amount of diversion away from landfilling. Issues to consider in developing job-specific Plans include, but are not limited to:

- Size and type of project
- Space constraints
- Recycling equipment capability
- End uses and users (markets)
- Recycling services availability
- Field personnel experience with debris management
- Project timeline, including project phases
- Cost considerations

Each of these issues is briefly described below.

Size and Type of Project: C&D projects are highly varied, ranging from rural to urbanized locales, spacious to confined, residential to industrial, and new construction to demolition. While size is of itself a common denominator (see also *space on the building site*), the type of project has a profound impact on the types of BMPs that can be employed. For instance, demolition projects' debris can be more difficult to recycle or reuse because (1) the waste may be contaminated with hazardous or non-recyclable materials such as lead paint or adhesives, (2) materials may be damaged from fire, water or rot, etc., or (3) readily separating waste into individual categories may not be possible due to time constraints. On the other hand, new construction and renovation can yield diversion benefits due to the presence of increasingly more prevalent cardboard as many building component are shipped over long distances.

Space on the Building Site: Materials recovery is often easiest if the building site is spacious enough to allow on-site sorting of materials. Having separate containers for each type of material can reduce contamination. Where space is limited, then job site separation, and also reuse, may be restricted. In such cases, offsite processing may be needed.

End users and uses (markets): Contractors can maximize recovery by taking advantage of all available markets for recovered materials. Throughout the State, specialty hauling and processing firms serving the building industries have emerged. These firms have ties with local and remote markets and can assist the industry with materials separation or offsite processing to meet market specifications.

Cost-effectiveness: Hauling and disposal costs, the value of recovered materials, and labor costs, contribute to whether materials recovery is more or less cost-effective than disposing of materials. Recovery of low value materials may be cost-effective if disposal costs are high and removal and sorting are not labor-intensive. The added labor necessary to remove items for reuse may be offset by savings from both the avoided costs of purchasing new materials and avoided disposal costs.

Generally, costs can be categorized into four components: (1) management (oversight of debris can be as simple as ordering a dumpster from a hauler or as extensive as running a worker training program and making multiple phone calls for each project to identify reuse and/or recycling outlets), (2) handling (it reportedly takes about 2 ½ hours **per ton** to gather and carry C&D debris from point of generation to a dumpster or waste pile for the typical project), (3) transportation (trucking costs are often integrated within the dumpster or bin cost, but reflect the cost of hiring an outside party to cart the wastes to a disposal location; what is often

overlooked is that recycling can help avoid this cost as the value of the materials may offset the hauling cost for the recycling firm), and (4) disposal (this is the fee charged by the landfill; often, recyclers do not charge as much or not at all depending upon the load's recoverability).

Recycling Equipment Capability: Normally, the building industry does not maintain recycling equipment capability, but that does not mean that on a project-by-project basis such capability cannot be obtained. Usually, the same equipment that is used for disposal, such as a bin, is the same equipment used for recycling.

Recycling Services Availability: Similarly to recycling equipment, recycling services can be procured prior to project inception. Early on in the planning process, the recycler and/or hauler should be consulted to assure adequate equipment and services are available as well as any training that is necessary. In fact, some service firms now offer complete planning, management, training, monitoring and reporting services that can simplify project C&D debris management for the building industry.

Field Personnel Experience with Debris Management: A critical component of a successful diversion program is trained field personnel experienced with recycling and reuse. If a developer or contractor does not have trained and experienced field personnel, it may have to rely upon outside assistance. Such assistance can be obtained from the hauling and recycling industry, an industry association [such as the Construction Materials Recycling Association (CMRA)], or from a consultant. In any event, it is necessary to assure that the needed knowledge and experience is available and contributes at the earliest planning stages of a project.

Project Timeline: Source separation of materials for reuse and recycling can take more time than disposing of all commingled materials, and this can be a detriment since many projects are on a tight schedule due to financing arrangements. Contractors can maximize materials recovery in the time allowed by planning ahead. If necessary, contractors can focus efforts on offsite processing and recycling, streamlining onsite storage and minimizing labor costs.

Typical Steps to Planning BMPs

Listed below are suggested steps that can be used to develop a debris management strategy that addresses the selection of BMPs. Not all steps apply to all firms, and not all approaches fit specific circumstances, so users should review each step and select the best ones for each project situation. Some of the steps may even require changes in approach, so users should understand the inherent flexibility of the steps and are free to modify them as warranted.

Make a Preliminary Needs Assessment for the Project

In this step, users should make a preliminary evaluation of the potential for a project to generate debris and how much it will cost. A general sense of the types and quantities of wastes generated on your job sites and the dollars spent to dispose of these materials provides a good starting point. Reviewing past similar projects and identifying how much material and what types were generated for disposal can improve this "sense." Reviewing records of fees and costs, if available, from disposal, can help to quantify wastes. If no records are available, then it may be necessary to utilize sample generation factors that can be obtained from various sources. Users can also research what BMPs were implemented at similar projects and thereby determine appropriate diversion methods for target materials.

The user may also find a need for outside assistance due to project complexities, and there are a number of firms that can provide expert advice about waste generation and diversion. Information about expected diversion methods and

wastes to be generated will be required to complete the City's C&D Waste Diversion Plan, which must be submitted and approved prior to obtaining a building and demolition permit.

Establish a Plan

Once a needs assessment is completed, the user can usually determine if debris management is to be carried out internally or externally. Unless adequate resources are available internally (e.g., with the project manager), then the user should consider hiring a consultant or an outside vendor such as the waste hauler, processor, or recycler. If a consultant is unavailable or not preferred, there are collection, processing or recycling firms that also offer management services to assist the building industry with the planning, operation, monitoring and reporting of debris management programs.

In any respect, there should be a clear designation of a responsible individual or firm to handle all debris management aspects, whether the program is in-house or offsite. Leadership is critical to successful waste minimization in that the project team must know and understand the commitment that comes from the corporate level. It also allows for adequate coordination among the likely "partners" that a project will involve, including but not limited to, architects, estimators, property owner(s), purchasers, financiers, contractors, subcontractors, carpenters, etc. In this respect, communication and education is absolutely a priority in identifying how materials should be handled and sorted. The plan should also allow for innovation and compensation, in that experimentation can be helpful in overcoming job site "barriers" to recycling, and contractors/subcontractors can be motivated to properly implement programs.

A conceptual plan needs to be written down and kept available for key staff for reference during a project. The Debris Management Plan (DMP) should be inclusive of planning, execution, and monitoring and reporting elements. The typical DMP components should include:

- Management system from corporate level to front line employees
- Communications and education with all parties and participants, including training sessions
- Contracts and procurement, including purchase of recycled content products and agreements to assure conformance by contractors and subcontractors with recycling goals and procedures
- Waste profile of the jobsite
- Schedule
- Target materials for recovery
- Recovery and disposal options
- Projections including project economics, waste generation, diversion potential and goal, and disposal estimate
- Monitoring and evaluation (including limitations, and potential problems and solutions)
- Reporting

A sample plan is attached as a guide.

Implement the Plan

Once a project is underway, the debris management plan should be followed as drafted. If warranted, there may be a need to modify it from time to time depending upon site conditions. This is what the monitoring and evaluation component is intended to accomplish. Some key actions to assure your plan is followed:

<u>Manage Your Program</u>
Your designated team leader must be responsible in educating the crew and subcontractors, setting up the site, and coordinating and supervising recycling efforts to prevent the contamination of recycling loads.

<u>Involve Subcontractors</u>
Require subcontractors to use the on-site recycling and disposal bins or require them to recycle their own waste and provide documentation.

Find Appropriate Space
Recycling and reuse efforts require space. Set aside an area of the jobsite to store salvaged building materials and house recycling bins for either commingled or source-separated loads.

Promote and Educate
Communicate your plan to the crew and subcontractors on site. They will need to know:

- How materials should be separated
- Where materials should go
- How often the materials will be collected and delivered to the appropriate facilities Include waste-handling requirements and expectations in all project documents.

Prevent Contamination
Adopt strategies to prevent contamination.

- Clearly label the recycling bins and waste containers on site
- Post lists of recyclable and non-recyclable materials
- Conduct regular site visits to verify that bins are not contaminated
- Provide feedback to the crew and subcontractors on the results of their efforts

Monitor and Report on Progress

Depending upon the schedule of the project, the designated responsible party for debris management should carefully and regularly monitor the progress of the project and whether all plan conditions are being followed. It is prudent to provide field staff with updates either through personal visit or through other communications. It is recommended that monitoring be conducted at least as often as considered necessary. This can be daily or monthly depending upon the skill and training afforded the key personnel, and the jobsite requirements. Keep regular statistics and provide updates to key personnel on the status of progress.

Reuse and Reduce Activities

Many materials can be salvaged from demolition and renovation sites and sold, donated, stored for later use, or reused on the current project. More than 200 used building materials stores around the country buy and/or accept donations of used building materials. Contractors can avoid the cost of removal by allowing private companies to salvage materials from the site. Organizations that have space may want to consider storing high-value materials for later projects. Many building materials may be reused during renovation projects and projects where a new building is built following the demolition of another. Planners can increase reuse potential by making efforts to use the same size and types of materials as in the old construction. Inadequate storage space for materials during the interim from removal to reinstallation may limit reuse as a materials recovery option. Typical materials suitable for reuse include plumbing fixtures, doors, cabinets, windows, carpeting, bricks, light fixtures, ceiling and floor tiles, wood, HVAC equipment, and decorative items (including fireplaces and stonework).

Recycling Activities
Recycling is easier for construction projects as opposed to demolition and renovation projects. During construction, crews can source separate materials as debris is produced. Demolition and renovation project materials often consist of mixed materials and require on- or off-site sorting. Typical materials recycled from building sites include metals, lumber, asphalt, concrete, roofing materials, corrugated cardboard, and wallboard. Strategies for recovering construction and demolition materials include:

1. **C&D recovery plans in the project design:** Some recovery options may be lost if not considered at the project design stage:

    - Reuse of wall panels, ceiling panels, and doors in an office building renovation was made possible because the

architect planned the new interior to use the same size and type of materials as that used in the building before the renovation.

2. **Include recovery requirements and goals in project specifications and contracts:** By including recovery requirements and goals in project specifications and contracts, project planners can signal their commitment to recovery and hold contractors and subcontractors to their responsibilities from the project outset:

   - In its contract, a metropolitan California county required its demolition contractor to divert materials from area landfills. That county set a diversion goal of 90% based upon research of other similar efforts.

   - The Four Times Square, a construction management firm, hired a project environmental consultant who included contract requirements that construction contractors anticipate packaging materials generated on the project, work to reduce them, and document their efforts. Four Times Square announced it would withhold payments unless the contractors complied with the contract requirements.

   - Another firm, Whole Foods, did not process payments to its general contractor until all forms summarizing C&D debris recovery efforts were submitted.

3. **Educate contractors and crews on materials recovery and reuse techniques:** Educating contractors and crews on materials recovery techniques and procedures such as sorting and storage methods, recoverable materials, and removal techniques can eliminate contamination problems and increase recovery rates:

   - The materials management plan created for the construction of a major corporation's new headquarters building provided subcontractors with detailed instructions on reuse and recycling techniques, and sorting methods.

   - Besides recovery, crews can be educated to reduce debris generation such as avoiding product damage, using materials more efficiently, estimating material purchase more accurately, and coordinating just in time deliveries.

4. **Provide employee and contractor incentives for recovery:** Providing incentives to contractors and crew can create project buy-in:

   - During the renovation of the Whole Foods' Market Corporate Headquarters Building a portion of revenue from materials sales was used to fund refreshments and a pizza party for the crew.

   - As an incentive to encourage recovery, the owners of the Four Times Square office building chose to allow their contractors to retain revenues and savings from materials recovery.

5. **Think outside the box:** Recovery of C&D materials is a growing field and offers opportunities for creative thinking:

   - When the University of Oregon planned to demolish an apartment structure, Saint Vincent de Paul proposed the unique idea of moving the buildings to a new location and renovating them. The University of Oregon avoided the costs of demolishing the buildings and 30 affordable housing units were created for about half the cost of building new structures.

   - The Hartford Housing Authority undertook the deconstruction of six public housing units as an opportunity to train public housing residents in the building trades and simultaneously divert materials from disposal.

   - Many firms have used the services of local agencies to reuse and reduce debris. Commonly, the Los Angeles County Materials Exchange (LACoMAX) at www.lacomax.com, the California Materials Exchange (Calmax) at www.ciwmb.ca.gov/calmax, and Habitat for Humanity at www.habitat.org are most often referenced as outlets for reusable materials.

- In Sacramento, the largest state government building project in California's history, the Capitol Area East End Complex, included some significant BMPs including the use of carpet with 53% recycled content, acoustical ceiling tiles with 82% recycled content, and more than 30,000 square feet of salvaged marble flooring from the historic Library and Courts Building was incorporated into the main lobbies of the new complex. Importantly, about 97% of construction waste – more than a quarter million tons – was diverted from landfill disposal.

Below, we present some tips that may be helpful to the user willing and interested in implementing best management practices. The tips are provided as a "menu" and users can pick and choose those that fit specific circumstances best.

Methods of debris recycling

- Onsite source separation and delivery of source separated debris to a recycler, or debris recycling facility, or to another job site or end user for reuse and recycling
- Onsite commingled recovery and delivery of mixed debris to a recycling facility, or to another job site or end user for reuse and recycling

Tips on enhancing debris recycling

- Use bins that can be lifted to upper levels for multi-story structures
- Set up more and smaller or mobile bins
- Use bins with divided sections for separation
- Use removable but sturdy signage

- Use clear and easy-to-read signage
- Make sure that all employees can read and understand the language used on signage
- Set up individual bins for all materials
- Avoid damage to recycling bins
- Avoid contamination of segregated materials
- Know what you want to do with materials before they are generated

Tips on reducing costs

- Schedule bins for collecting recyclables only when needed
- Consider using companies that can recycle some of the debris from both source separated and mixed loads
- Be sure to understand market specifications so that recyclable materials are not rejected or penalties applied
- Include your markets and processors in your planning

Tips on buying environmentally friendly building materials

- Work with product vendors to determine the availability of recycled content products
- Ask your markets where recycled content products can be purchased

Tips on monitoring

- Regularly gather and monitor your trash and recycling invoices
- Track the cost of recycling and waste
- Ask to see sites where your materials are recycled or disposed
- Make a point to regularly inspect your job site for proper implementation and continuing needs

Tips on subcontractor participation

- Assure that contracts are written with diversion goals as a clear objective
- Require a firm commitment by subcontractors to the overall program
- Require full participation in training and assessment
- Require proper purchasing practices
- Solicit input from subcontractors
- Recognize and reward subcontractor participation

Tips on education and outreach for employees, contractors and subcontractors

- Designate a member of the crew or staff that is interested in recycling as the onsite debris management coordinator
- Be sure that the idea of a "clean and uncontaminated load" is the same as that of the recycling service provider
- Develop a communication tool to help inform staff and subcontractors of the plan and progress of the BMPs
- Develop one or more motivational tools to help encourage staff and subcontractor participation

Case Studies

Case studies were prepared to help illustrate the implementation and success of the BMPs. The premise was to identify successful C&D waste recycling programs for seven different types of building related activities common in LA County. These seven types include tract homes, renovation projects, office buildings, bridges and roads, shopping centers, multi-family dwellings, and industrial projects. Case studies for each type are provided herein.

- Residential new tract development
- Building renovation project
- Office building demolition
- Bridges and roads
- Shopping centers (2)
- Multi-family dwellings
- Industrial projects

Case Study Source: LA County Department of Public Works

Sample Waste Management Plan

General Contractor: AAA New Construction LLC **Project:** 400 Tract Homes

Designated Waste Management Coordinator: Mr. Ihram A. Noetall

Waste Management Goals:

- This project will recycle, reuse, or salvage at least 65% of the waste generated on-site and/or the maximum disposal rate as follows for three (3) demolition and construction project categories:
  - For non-residential projects, the specification is maximum disposal of two (2) pounds (lbs.) per square foot (ft^2)
  - For low rise residential of less than or equal to three (3) stories, the specification is maximum disposal of four (4) pounds (lbs.) per square foot (ft^2)"
  - For high rise residential greater than or equal to four (4) stories, the specification is maximum disposal of two (2) pounds (lbs.) per square foot (ft^2)"

Communication Plan:

- Waste prevention and recycling activities will be discussed at each job site meeting with *GENERAL CONTRACTOR* employees and subcontractors.
- All *GENERAL CONTRACTOR* employees have been notified of *GENERAL CONTRACTOR'S* Reuse & Recycling Plan on all *GENERAL CONTRACTOR'S* projects and are obligated to comply with the plan.
- All *GENERAL CONTRACTOR* employees and subcontractors will receive a copy of this Reuse & Recycling Plan (RRP) for *PROJECT NAME*.
- The subcontract used for this project clearly requires all subcontractors to comply with *GENERAL CONTRACTOR'S* Reuse & Recycling Plan.
- Any incidence of contamination of source separated waste materials by a subcontractor will result in a $250 per ton fine (per the subcontract.)
- All recycling containers will be clearly labeled.
- GENERAL CONTRACTOR will submit detailed monthly reports documenting types and quantities (tons) of materials recycled, reused, salvaged, and disposed.

Expected Project Waste & Handling Method:

The following chart identifies the expected waste materials and their expected methods of handling. The handling methods include but are not limited to the following: recycling, reuse, salvage, and disposal. The expected handling methods and/or plan may change if necessary. If additional materials are encountered, they will be added to this chart.

Date of Draft 1/10/05 Circulation to: Project Manager; GC Mgr
Date of Final
Revision no. Date of publication
Revision no. Date of publication

Material	Estimated Quantity	Handling Method	Plan
Asphalt – *old paving*	1,000 tons	Recycle	Remove and send to asphalt processor.
Brick	None	Recycle Reuse/Salvage	
Concrete – *old slab*	500 tons	Recycle	Remove and send to inert recycler, "Uptown Diversion."
Concrete with Rebar	None	Recycle	
Ledge	None	Recycle	
Metal (steel, aluminum, copper, beverage containers, others) – *copper and stainless steel piping*	2 tons	Recycle	Set aside for *Metal Recycling*.
Metal Doors (36"x70")	None	Salvage	
Metal Dock Overhead Doors (8'x10')	None	Salvage Recycle	
Metal Dock Levelers	None	Salvage Recycle	
Clean Wood – *De-nailed wood frames and trusses; scrap lumber*	40 tons	Recycle	Set aside for wood processor for reuse.
Wood Stumps	None	Recycle	
Wood Doors	None	Salvage	
Gypsum Board *(10,000 SF old demo)*	20 tons	Dispose	Send to local landfill – no market.
Gypsum Board – *(100,000 SF new generates 10,000 SF scrap)*	100 tons	Recycle	Send to mixed debris processor.
Cardboard – *Packaging*	2 tons	Recycle	Set aside for local recycler.
Lighting Fixtures (halide/sodium lamps & recessed fluorescent boxes)	None	Recycle	
Electrical (conduit & wiring)	None	Recycle	
Ceiling Tiles – *acoustical tiles*	1 ton	Recycle	Store onsite and deliver to recycler.
Carpet – *old carpet*	1 ton	Recycle	Set aside for *IBM*.
Glass (glass block & windows)	None	Recycle	
Office Furniture (panel desk cubicles, metal file cabinets, metal bookcases)	5 desks	Salvage	Set aside for pick up by local church.
HVAC Duct	None	Recycled	
HVAC Duct Insulation	None	Dispose	
Other Insulation	None	Recycle	
VCT/Linoleum – *old flooring*	5 tons	Dispose	Dispose in local landfill due to no market.
Other Packaging Material (plastics, foam, etc.)	None	Recycle	

Hazardous Materials – *ACM*	1 ton	Dispose	Disposed by authorized hazardous wastes handler.
Misc. Materials & Any Non-recyclable material from above	None	Dispose	