Case Study #1:

Erickson's Headquarters Hudson, WI

How specifications were used to reduce construction waste:

The specifications required the successful bidder to submit draft and final waste management plans. The contractor hired an independent waste manager to work with the subcontractors and contractor to set a realistic waste reduction goal and see that it was met. A 75% waste reduction goal was set, and it was achieved primarily through weekly site meetings, written updates to all site employees, and free lunches. The contractor reported that the waste manager improved his company's ability to recycle waste on all its projects. Another benefit reported by the contractor was increased quality, safety and productivity. For example, to reduce waste, the contractor ordered many items on pallets instead of in boxes. This saved labor time unboxing and also made parts more visible and therefore easier to locate. This building incorporated other aspects of sustainable design such as energy efficiency, indoor air quality, and use of recycled materials and native landscaping.

Project Description

New construction of corporate headquarters; private sector

Building Size

70,000 square feet

Project Status at Time of Publication

Project complete

Waste Impact

Recycled 75% of the project's waste

Project Costs

- ☐ reduced
- ☑ stayed the same
- ☐ increased

Local Landfill Fee

$63/ton

Contact

Joel Schurke
The Cuningham Group
201 Main Street, SE
Suite 325
Minneapolis, MN 55414
612-379-3400

Dale Forsberg
Watson-Forsberg Co.
1433 Utica Avenue South
Suite 252
Minneapolis, MN 55416
612-544-7761

Case Study #2:

Tidyman's Grocery
Spokane, WA

How specifications were used to reduce construction waste:

When the project went out to bid, each subcontractor was required to include a line item for disposal costs. This amount was subtracted from the final bid and an independent waste manager was hired to handle all waste recycling and disposal. The waste managers set up recycling containers and met with subcontractors at their weekly safety meetings to discuss problems and report progress toward recycling goals. The waste manager also posted regular updates on the amount of material recycled so all employees could see the results of their efforts. Waste management costs were 56% less than they would have been with the original bids

.

Project Description

New construction of grocery store; private sector

Building Size

47,000 square feet

Project Status at Time of Publication

Project complete

Waste Impact

Recycled 48 tons of construction waste

Project Costs

- [x] reduced
- [ ] stayed the same
- [ ] increased

Local Landfill Fee

$57/ton

Contact

John McKinnon
Aztech Environmental
2522 W. Lacrosse
Spokane, WA 99205
505-324-8605

Mike Bolme
Tidyman's Inc.
17515 E. Appleway
Green Acres, WA 99016
509-891-0306

Case Study #3:

Public Health Clinics Austin, TX

How specifications were used to reduce construction waste:

Specific materials were required to be recycled. These included branches and trees; lumber; bricks and blocks; metal; cardboard; plastic; and paints, stains, solvents, and sealants. The specifications also followed the City of Austin's Green Builder Program guidelines in requiring other waste reduction measures such as setting aside lumber cut-offs for use as blocking or spacers. As a general requirement, the specifications stated that an "underlying commitment to sustainable architecture and construction practices shall be reflected in all aspects of the project." The bids on the project were comparable to what they would have been otherwise.

Project Description

Renovation of 2 health clinics; new construction of a 3rd health clinic; public sector

Building Size

35,000 square feet

Project Status at Time of Publication

Bids received

Waste Impact

Project waste will be reduced

Project Costs

- ☐ reduced
- ☑ stayed the same
- ☐ increased

Local Landfill Fee

$18/ton

Contact

Bob Fernandez
Solid Waste Services
City of Austin
P.O. Box 1088
Austin, TX 78767-1088
512-499-2737

Case Study #4:

Four Times Square
New York, NY

How specifications were used to reduce construction waste:

Contractors were required to efficiently use resources and energy "to the fullest extent possible," which included recycling waste generated during the demolition and construction process. The contractors and subcontractors were also required to track what was recycled and where it went. The tracking report for demolition reported recycling of 1,800 tons of steel; 95 tons of scrap metal; 8,000 cubic yards of brick, concrete, and dirt; and 1,000 doors, beams, and copper and stone architectural elements. This building also incorporates state-of-the-art energy saving and environmentally sensitive building design elements.

.

Project Description

High-rise building demolition and new construction; private sector

Building Size

1.6 million square feet

Project Status at Time of Publication

Demolition phase complete

Waste Impact

Significantly reduced landfill of demolition waste

Project Costs

- [x] reduced
- [ ] stayed the same
- [ ] increased

Local Landfill Fee

$58/ton

Contact

Pamela Lippe
The Durst Organization
205 East 42nd Street
Suite 1314
New York, NY 10017-5706
219-922-0048

Dan Kaplan, AIA
Fox and Fowle Architects
22 West 19th Street
New York, NY 10011
212-627-1700

Case Study #5:

Police Station
Issaquah, WA

How specifications were used to reduce construction waste:

The specifications merely "encouraged" disposal alternatives to landfilling, with reuse and recycling to the extent practical. However, this language was followed up by verbal encouragement at the pre-demolition meeting and thereafter. The contractor was also told to document recycling and reuse measures. The contractor was creative and therefore very successful in achieving salvage on the project. For example, bulletproof glass from the old police station was reused in fish tank construction.

Project Description

Demolition of police station and adjoining post office, followed by construction of new police station; public sector.

Building Size

22,000 square feet

Project Status at Time of Publication

Demolition phase complete

Waste Impact

83% of demolition waste was recycled

Project Costs

- ☐ reduced
- ☑ stayed the same
- ☐ increased

Local Landfill Fee

$75/ton

Contact

David Fujimoto
City of Issaquah
P.O. Box 1307
Issaquah, WA 98027
206-391-1004

Pete Kenney
Tydico, Inc.
17937 Cedar Grove Road
Maple Valley, WA 98038
206-413-1300

Case Study #6:

Western Michigan University
Kalamazoo, MI

How specifications were used to reduce construction waste:

The specifications required the contractor to separate and salvage or recycle waste materials. The contractor required each subcontractor to separate and salvage or recycle its own materials. Subcontractors reported that their bids did not increase due to the salvaging measures and that they were getting used to recycling on the job. Individual workers responsible for contaminating bins were fined to cover the cost of cleaning up the contamination.

.

Project Description

Renovation and new construction of university science labs and offices; public sector

Building Size

250,000 square feet

Project Status at Time of Publication

Demolition phase complete

Waste Impact

Demolition waste was reduced

Project Costs

- ☐ reduced
- ☑ stayed the same
- ☐ increased

Local Landfill Fee

$57/ton

Contact

David Dakin
Campus Planning
Extension & Engineering
Western Michigan University
Kalamazoo, MI 49008
616-387-8543

Case Study #7:

Community Centers
New York, NY

How specifications were used to reduce construction waste:

The specifications required the successful bidder to submit draft and final waste management plans aimed at salvaging, reusing, and recycling as many materials as possible in order to minimize landfilling of wastes. Materials required to be included in the plans were cardboard, clean dimensional wood, land clearing debris, beverage containers, concrete, bricks, concrete masonry units, asphalt, and metals. The successful bidder reported that these requirements did not increase the amount of the bid.

Project Description

Renovation and new construction two community centers in public housing; public sector

Building Size

17,000 square feet

Project Status at Time of Publication

Demolition just begun

Waste Impact

Project waste expected to be reduced

Project Costs

- ☐ reduced
- ☑ stayed the same
- ☐ increased

Local Landfill Fee

$60/ton

Contact

Wesley Springer
New York City Housing Authority
75 Park Place
New York, NY 10007
212-776-5394

Case Study #8:

YMCA
San Francisco, CA

How specifications were used to reduce construction waste:

The specifications required the successful bidder to submit draft and final waste management plans aimed at reusing, salvaging, or recycling as many wastes materials as economically feasible. Materials required to be included in the plans were cardboard, land clearing debris, clean dimensional wood, beverage containers, concrete, bricks, concrete masonry units, asphalt, drywall, carpet, plastics, and metals.

.

Project Description

Renovation and new construction involving three buildings for the YMCA Presidio; public/ private project

Building Size

48,000 square feet

Project Status at Time of Publication

Two buildings complete

Waste Impact

Project waste was reduced

Project Costs

- ☐ reduced
- ☑ stayed the same
- ☐ increased

Local Landfill Fee

$17/ton

Contact

Michael Hilliard, AIA
Hilliard Architects
57 Post Street, Suite 512
San Francisco, CA 94104
415-989-6400

Case Study #9:

House Museum
Villanova, PA

How specifications were used to reduce construction waste:

The specifications required that the following items be salvaged, reused, or recycled: tree limbs, wood, concrete, asphalt paving, stone masonry, gravel, and metals. The specifications also required the successful bidder to submit a waste management plan. Bidders were provided with a list of local recycling firms for information only.

Contact

Jeffrey Levine
John Milner Associates
309 N. Matlack Street
West Chester, PA 19380
610-436-9000

Project Description

Renovation of house museum; public/private venture

Building Size

10,000 square feet

Project Status at Time of Publication

Project complete

Waste Impact

Project waste was reduced

Project Costs

- ☐ reduced
- ☑ stayed the same
- ☐ increased

Local Landfill Fee

$60/ton

Case Study #10:

Antioch University Seattle, WA

How specifications were used to reduce construction waste:

The specifications required the successful bidder to submit draft and final waste management plans. The plans were required to include recycling of at least the following items: clean dimensional lumber, concrete, bricks, concrete masonry units, and metal. The contractor also recycled drywall, acoustical ceiling tile, and fluorescent light bulbs. The light bulbs were advertised to local businesses which took all of them for replacing outdated models no longer sold in stores. Recycling measures reduced project costs by 25 to 50 percent.

.

Project Description

Classroom and office renovation for university's adult education center; private sector

Building Size

48,000 square feet

Project Status at Time of Publication

Project almost complete

Waste Impact

Project waste was reduced

Project Costs

- [x] reduced
- [ ] stayed the same
- [ ] increased

Local Landfill Fee

$110/ton

Contact

Ron Wright, AIA
Ron Wright & Associates
1932 First Avenue
Suite 616
Seattle, WA 98101
206-728-4248

Jim Rochlin
Richlin Construction
17025 Woodinville-Redmond Road, NE
Woodinville, WA 98072
425-488-4500