

**Seattle Requirements for
Construction & Demolition Materials
*Recycling and Reporting***

**December 2014
Seattle SWAC
*Seattle Public Utilities***

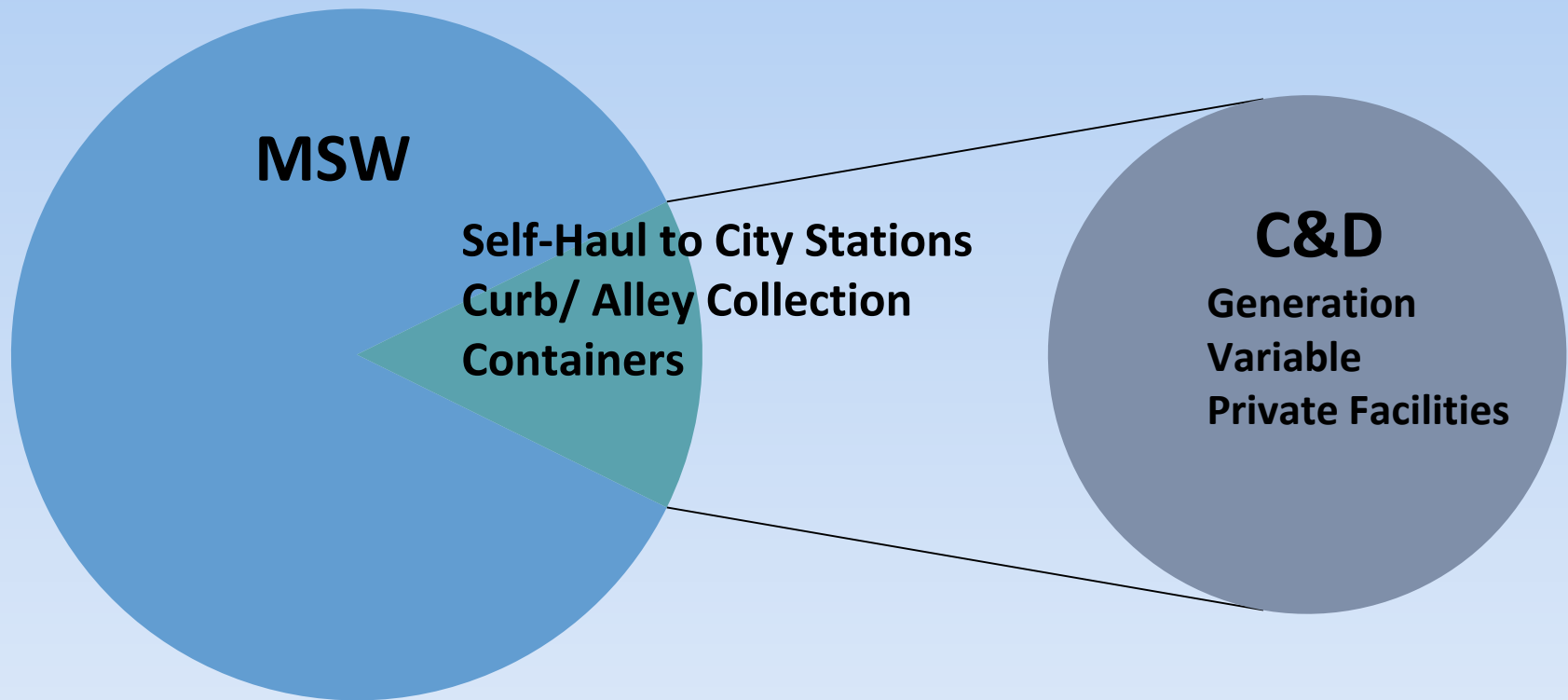
Seattle C&D Definitions

- **Recycling** – *materials separated for reuse or recycling*
- **Beneficial Use** – *clean wood to hog fuel or industrial boiler fuel*
- **Alternative Daily Cover (ADC) and Industrial Waste Stabilizer (IWS)** – *ADC covers the active face of a landfill instead of soil and IWS provides structure in special landfills.*

Both are counted as disposal

- **Disposal** – *material permanently place in a landfill*

MSW and C&D



2007 Generation – 848,759 tons
2013 Generation – 724,383 tons

2007 Generation – 415,801 tons
2013 Generation – 396,380 tons

C&D Collection

<i>City Contracted Hauler for Non-Recyclable C&D</i>	Self-Haul	“Third Party” Recycling Container Service
Waste Management	Construction Contractors	ReNu
	Demolition Contractors	Grayhawk
	Home Owners	Bobby Wolford
		United Recycling
		Republic
		Waste Management
		Many Others

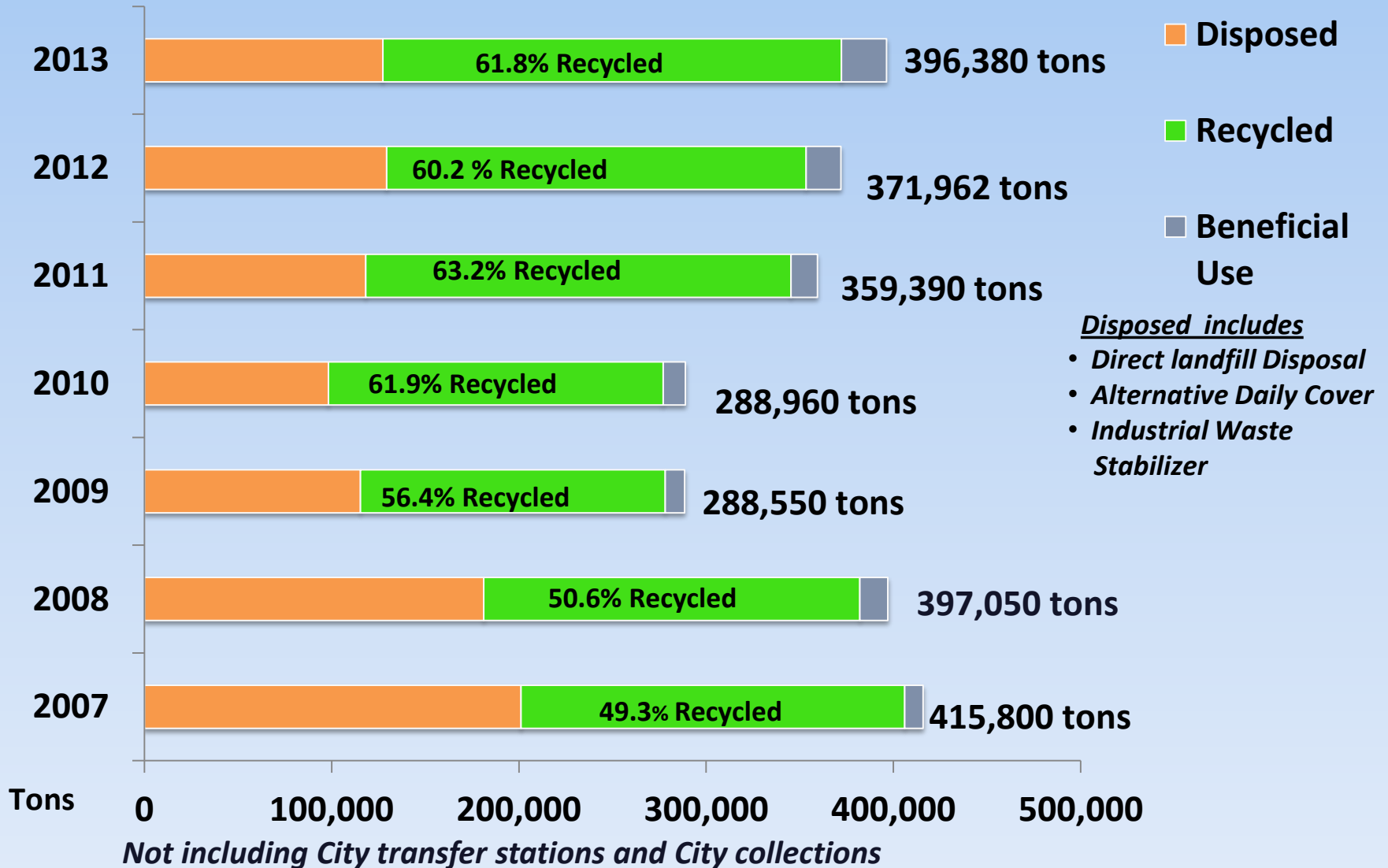
C&D Receiving and Processing

Salvage/Reuse	Ballard Reuse, Earthwise, Second Use Building Materials, Habitat for Humanity, Others
Source-Separated Recyclers	Renton Concrete, Rainier Wood Recyclers, All Wood Recycling, Seattle Iron & Metal, Pacific Topsoils, Many Others
“Commingled” or Mixed C&D Recyclers	<ul style="list-style-type: none">• Recovery One, Tacoma• Black River, Renton• CDL Recycle, Seattle• United Recycling, Maltby• Others in Snohomish County
Disposal – Private Solid Waste Transfer Stations	<ul style="list-style-type: none">• Republic – Third & Lander• Republic – Black River• Waste Management – Eastmont• Republic & WM Railheads

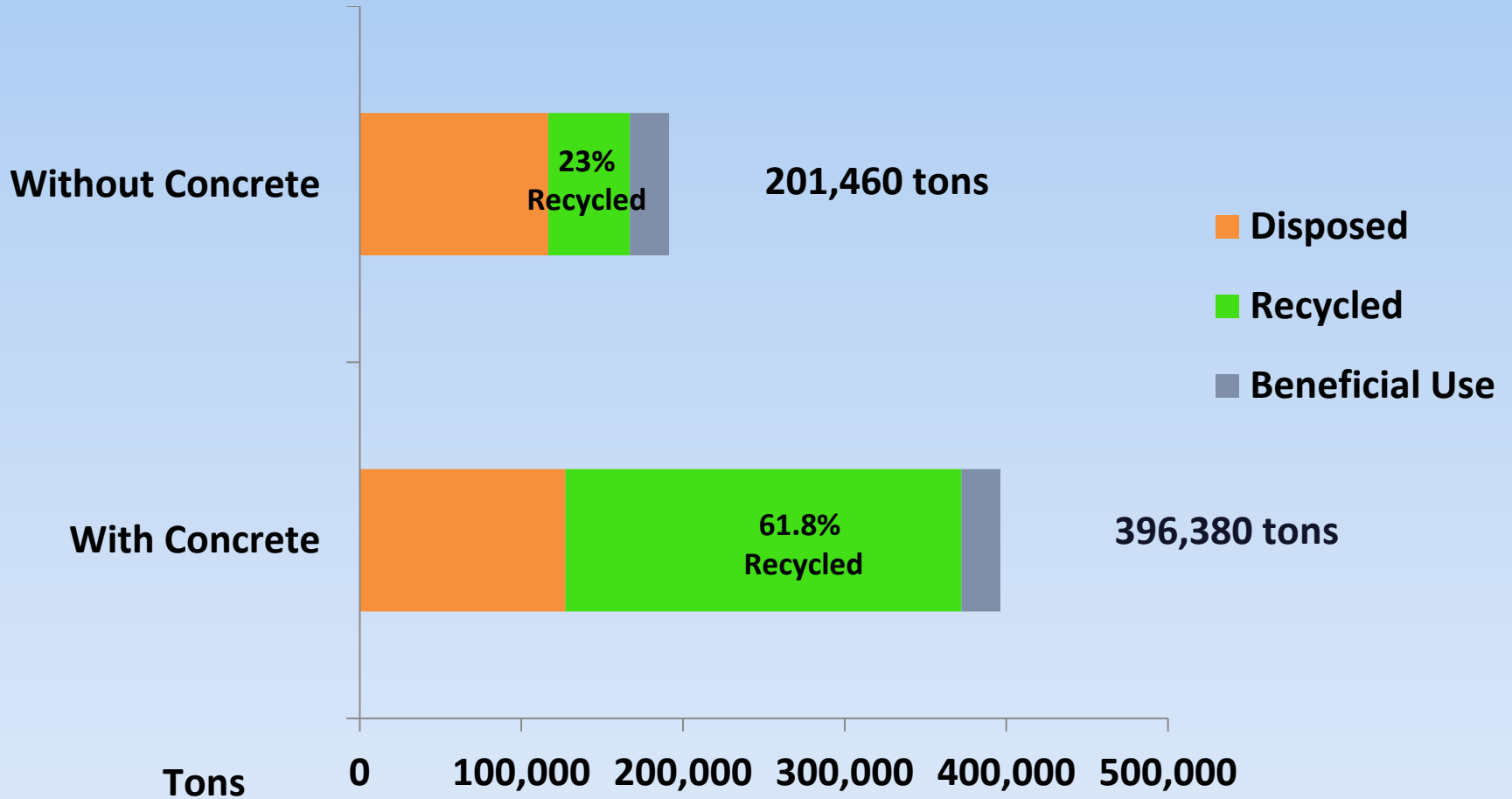
End Point Destinations for C&D

Salvage	Cabinets, Doors, Windows, Trim, Lumber
Recycling	Metal to new metal products Concrete to Aggregates Asphalt Paving to Hot Mix Asphalt Gypsum – Wallboard, land application Carpet – new carpet, plastic molding Wood – composting, mulch
Beneficial Use	Wood – RockTenn or Port Townsend mills
Disposal in a Landfill <ul style="list-style-type: none">• Direct Disposal• Residual from Processing as ADC• Residual from Processing as “IWS”	<ul style="list-style-type: none">• Columbia Ridge, Oregon• Klickitat County, WA• Weyerhaeuser (now Cowlitz County)• Other C&D Landfills

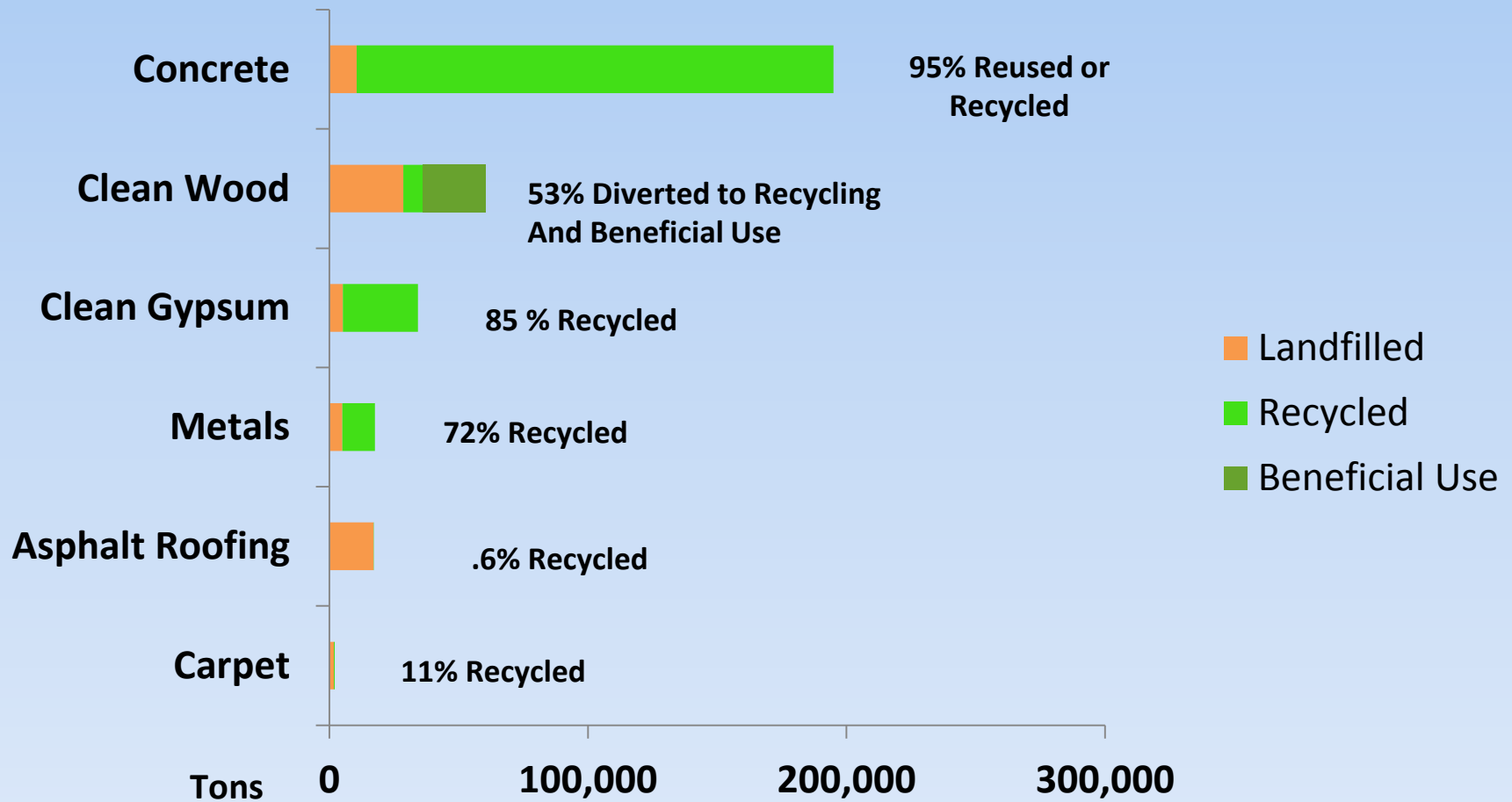
Seattle C&D Tons Generated



2013 Seattle C&D Generation with & without Concrete



2013 Material Diversion Levels



Seattle Solid Waste and Building Code Construction Waste Recycling Requirements

- Targeted Landfill Disposal Bans
- Recycling Facility Certification
- Waste Diversion Plan & Report
- Salvage Assessment



C&D Recycling Ordinances (2012- 2013)

- 2012 Seattle Solid Waste Plan Adoption
 - ❖ 70% recycling goal by 2020 for C&D Citywide
- 2012 C&D Recycling Ordinance #124076-C&D Waste Recycling Required
 - ❖ *Asphalt Paving, Brick and Concrete (effective 2012)*
 - ❖ *Metal, cardboard, new construction gypsum board (2014)*
 - ❖ *Carpet & plastic film wrap (2014)*
 - ❖ *Clean wood and tear-off asphalt roofing shingles (2015)*
- 2013 SPU Director's Rulemaking- *details of facility certification, waste diversion reporting & landfill disposal bans*
 - ❖ Director's Rule SW-405.3 delayed the disposal ban on plastic film wrap and carpet to 2015 due to end market uncertainties

2014 Director's Rule proposing to keep clean wood on schedule (2015) but delay the disposal ban on tear-off asphalt roofing shingles until July 2015 and plastic film wrap and carpet until 2016.

Phased Landfill Disposal Bans for Construction Sites (2012-2016)

Material	1/1/12	1/1/13	1/1/14	1/1/15	1/1/16
Asphalt Paving	Educate	Enforce	Enforce	Enforce	Enforce
Concrete & Bricks	Educate	Enforce	Enforce	Enforce	Enforce
Metal & Cardboard			Educate	Enforce	Enforce
New Gypsum Wallboard Scrap			Educate	Enforce	Enforce
Unpainted and Untreated Wood				Educate	Enforce
Carpet					Educate
Plastic Film Wrap					Educate
<u>Asphalt Roofing Shingles</u>				Educate (July)	Enforce (July)

***Enforce** – through field inspections and a possible monetary fine if “significant” amounts in disposal container or transfer station loads*

C&D Facility Certification Criteria (2014)

	Permits & Regulatory Compliance	Annual Reporting to Seattle	Monthly Reporting to Seattle	Minimum Recycling Percentages	Sampling Residuals for Landfill Disposal
Source Separated Recyclers	Notification to Regulators	Yes, even if outside City	No	At least 90%	No
Mixed C&D Recyclers	Solid Waste Permit Required	Yes	Yes	75% for LEED & Built Green Projects	Yes – quarterly sampling of residual for targeted materials – must meet standard of less than 10%

Hauling and Facilities

Recycling Hauling – any company can haul as long as container contents are 90% recyclable



Non-recyclable C&D only to be hauled by Waste Management under City contract

Recycling Facilities



“Qualified” Commingled Recyclers

- Recovery One, Tacoma
- Black River, Renton
- CDL Recycle, Seattle
- United Recycling, Maltby

Waste Diversion Reporting (2014)

Purpose:

- ❖ Assess if projects with a building permit are recycling targeted construction materials

Applicability:

- ❖ Projects where permit issued after January 1, 2014
- ❖ All demolition permits
- ❖ New construction and alteration permits valued at \$30,000 or greater

Report due within 60 days of a project receiving its “Final Inspection Approval” from DPD

- ❖ SPU has set out 1100 notifications to permit holders and received around 300 reports – problem in early 2014 in getting out word about the requirement

New Seattle Building Code Requirements

- **Effective Date: January 1, 2014**
- **Implemented July 1, 2014**
- **New sections:**
 - **SBC 106.5.9 & SRC R105.5.3**
- **Applies to projects > 750 sf**



Waste Diversion Plan and Salvage Assessment

Required prior to permit issuance for all projects with a working area > 750 square feet

Waste Diversion Plan must include:

- Materials from jobsite
- Hauler
- Receiving location



Deconstruction and Salvage Assessment

- Applies only to demolitions
- Checklist of Salvageable Materials
- Can be performed by reuse retail companies, or demolition or deconstruction contractors



Market Development:

- Gypsum Wallboard
- Clean Wood
- Plastic Film
- Carpet
- Tear-Off Asphalt Shingles

Seattle Gypsum Wallboard Statistics (2013)



43,000 tons generated
with 85% being recyclable
(unpainted and not demolition
scrap)

29,000 tons of clean
gypsum recycled:

- New wallboard
(Certainteed Plant)
- Land Application (DRS)
- Waste reduction
opportunity – 12% of new
construction drywall wasted
during construction
- Landfill Issues –
hydrogen sulfide gas (B.C.
landfill disposal ban)

Seattle Wood Waste Statistics (2013)



78,100 tons generated
with 77% being recyclable
*(unpainted and untreated
dimensional lumber, pallets,
crates, clean engineered wood –
nails okay)*

Recyclable Wood Portion

13% Recycled

40% Beneficial Use

47% Landfilled

Painted & Treated Wood

No end markets

Carpet



- **~37,000 tons of carpet landfilled annually** from Seattle & King County.
- 2013 – 2,000 tons generated from Seattle with around **11% recycled**
- Recovery One in Tacoma and Again in Kent accept limited quantities of carpet for processing
- **Problem** – manufacturers now using PET instead of nylon in face fiber with no end markets

Plastic Film



- Clean LDPE accepted by all major recyclers
- **End Market problem with dirty film from construction and agricultural sources**
- **Agilyx plant in Portland for plastics to crude oil production now closed.**

Tear Off Asphalt Roofing Shingles

- **29,000 tons** of asphalt shingles generated in King County annually
- **2013 in Seattle around 12,600 tons generated**
- Only **104 tons** reported as being recycled
- Valuable resource (oil) gets disposed





SE 416th St (near Enumclaw)

Paving completed in September, 2009

Pavement Performance Results

Extensive material engineering tests conducted with pavement performance 2009 – 2014 favorable

King County also used at Bow Lake Transfer Station

WSDOT General Special Provision Specification allowing up to 5% RAS

King County Roads and Snohomish County now have their own specification for RAS in hot mix

SPU needs to use in parking lot, road overlay paving projects.



Questions? Contact Us:

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Others:

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- Kinley Deller, King County Green Tools Program
- Kris Beatty, King County Linkup Market Development

<http://www.seattle.gov/util/C&DWasteManagement>