Fauquier County Department of Environmental Services

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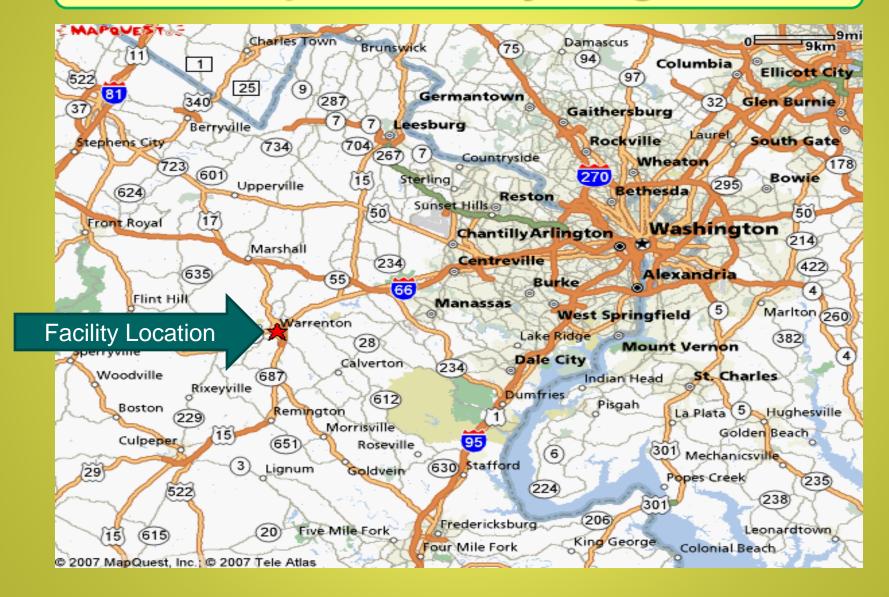


Construction Waste Trade and Recycling...

Reusing to Save Resources



Fauquier County, Virginia



Fauquier County Solid Waste Complex



Construction & Demolition / Waste Exchange

"is about green"







C&D Recycling in Virginia

- Faced with crowded landfills & economic concerns
 Virginia currently relies mostly on Landfill's and transfer stations for
 processing C&D waste.
- Mandated recycling rate
- Low Housing Market
- High Construction Costs
- Increased Disposal Fees
- Environmental concerns
 (Base on DEQ statistics) Virginia recycles 5% of its C&D waste.



C&D Recycling Grows

- Fauquier County along with other Municipalities and States target the bulky construction material looking to reduce landfill burial tonnage and increase recycling rates.
- Recovery and processing plants are being built in different regions to offer opportunity to recycle construction waste.
- Researching markets and other outlets play an important role for the Individual commodities.
- Markets help determine whether to recycle the material or landfill.





C&D Recycling

Fauquier County C&D Waste Recovery Facility





In July 2, 2007, Fauquier County Environmental Services opened a construction waste recovery facility as a means to divert valuable reusable materials from the county landfill. As "green" becomes a red hot subject, Fauquier County supports owners/builders in the region with a means toward their LEED certification by recycling their construction waste. Currently, 53% of our incoming construction/demolition (C&D) waste is recycled including inerts.

C&D Facilities in the Commonwealth

There are a little more than 14 permitted C&D Facilities in the State of Virginia.

One of those Facilities are publicly-owned and operated





Construction Waste Management

C & D waste management planning is an essential tool for Fauquier County to improve environmental performance, preserve landfill space and operational cost.

Fauquier County received about 18,438.5 Tons. of construction waste in FY10 budget year. Generated from commercial, home building and renovation.





Construction Waste Management

Goal:



 Recycle construction and demolition waste (C&D) to decrease demand for raw materials, conserve energy, reduce pollution, preserve landfill space and increase bottom line.

C&D Recycling

As the "green" movement gains momentum and the economy slowly recovers, keeping metal, cardboard, plastics, bottles, cans, etc., from landfills is the minimum material targeted to recycled.

We want to look for every opportunity to reuse or recycle every item possible.

Often, recycling is cash positive because some of the materials have value and landfill costs are reduced/eliminated.

											YR	
Incoming Tonnage (MIXED C&D)	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	TOTAL	Yr Est.
Non-County												
Incoming Commercial	331	472	437_	338	447	491	356	534	441	365	4,212	5,055
Fairfax		→390	333								723	723
Total Non-County	331	862	770	338	447	491	356	534	441	365	4,935	5,778
<u>In-County</u>												
Incoming Commercial	730	983	446	508	652	439	345	933	690	590	6,313	7,575
Residential Direct Delivery	31	14	58	14	23	27	15	19	25	19	246	295
Corral Farm Residential Container	84	90	148	107	74	63	54	52	64	71	807	968
Bulk Containers from Sites	109	160	152	165	175	122	123	143	179	209	1,538	1,846
Total In-County	954	1,246	804	794	924	652	536	1,147	957	890	8,903	10,684
Total Waste Received at Facility	1,284	2,108	1,574	1,132	1,371	1,143	892	1,681	1,398	1,255	13,838	16,461
Incoming Non-County %	25.8%	40.9%	48.9%	29.9%	32.6%	42.9%	39.9%	31.8%	31.5%	29.1%	35.7%	
Incoming In-County %	74.2%	59.1%	51.1%	70.1%	67.4%	57.1%	60.1%	68.2%	68.5%	70.9%	64.3%	

Reuse/Recycled Materials	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	YR TOTAL	Yr Est
Carpet	0	0	0	0	0	0	0	0	0	0	0	(
Drywall	23	0	0	0	0	29	0	0	0	0	53	63
Fines (0-2)	281	384	392	348	299	253	289	257	361	670	3,535	4,242
Inert	18	88	65	41	23	23	64	35	88	112	557	668
Metal-Bulk	35	77	62	45	47	32	52	34	54	76	514	617
Metal-Fines	0	0	0	0	0	0	0	0	0	0	0	(
Metal-Non Ferrous	0	0	0	0	0	0	0	0	0	0	0	C
OCC	5	11	6	4	11	4	9	8	4	13	75	89
Padding - Carpet/Furniture	0	0	0	0	0	0	0	0	0	0	0	C
Plastic	0	0	2	4	1	0	0	3	8	2	20	24
Plastic - PVC (direct)	4	3	0	3	0	4	0	0	0	0	14	17
Shingles-Asphalt	0	0	0	0	0	0	0	0	0	0	0	C
Wood	98	134	122	107	48	130	85	59	144	151	1,078	1,294
Total Reuse/Recycle Tons	464	698	649	551	430	475	498	397	659	1,023	5,845	7,015
Fons to Fairfax		276	218								494	494
Estimated Tons to MSW Landfill	820	1,134	707	581	942	668	394	1,285	739	232	7,499	8,999
Estimated Total Residue Tons	820	1,409	925	581	942	668	394	1,285	739	232	7,993	9,493
C&D Recycling Rate (no Com. Inert)	36%	33%	41%	49%	31%	42%	56%	24%	47%	82%	42%	

August 3, 2010 Fairfax Incoming C&D Mixed







C&D Materials Sorted, Recycled, Reused & Sold

- Drywall
- Asphalt Shingles
- Concrete, rock, cinder block, glass, dirt
- Carpet
- Rigid Plastic
- Vinyl siding
- Nursery/agricultural plastics
- Cardboard
- Wood
- Metal (Ferrous & Non-Ferrous)



Brick, Block & Stone













Separated Asphalt/Concrete/Block Tons	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	YR TOTAL	Yr Est.
Pick Ups	2	5	1	3	8	1	2	0	8	4	34	41
Single Axle (10T/vehicle)	28	63	47	48	43	13	9	25	114	48	439	526
Mulit-Axle (14T/vehicle)	417	193	119	99	58	37	59	58	1,016	549	2,605	3,125
Demo Trailer (20T/vehicle)	0	0	0	0	0	0	0	0	88		88	105
TOTAL Commercial	448	260	167	150	109	51	70	82	1,227		3,165	3,798
TOTAL Concrete : CSD												
TOTAL Concrete + C&D InertTons	466	348	232	191	132	73	134	118	1,315	713	3,722	4,467

On site White Wood, Stone, Brick and Concrete









Ferrous Metal







Non -Ferrous Metal









C&D Plastic Recovery



Buckets



Plastic Bags





Nursery Trays



Vinyl Siding Drink Bottle Rigid Plastic

Recycling Center Operations



Direct Pit-Feed C&D Materials

Bucket Processing





Vinyl Siding Processing





Cardboard Processing



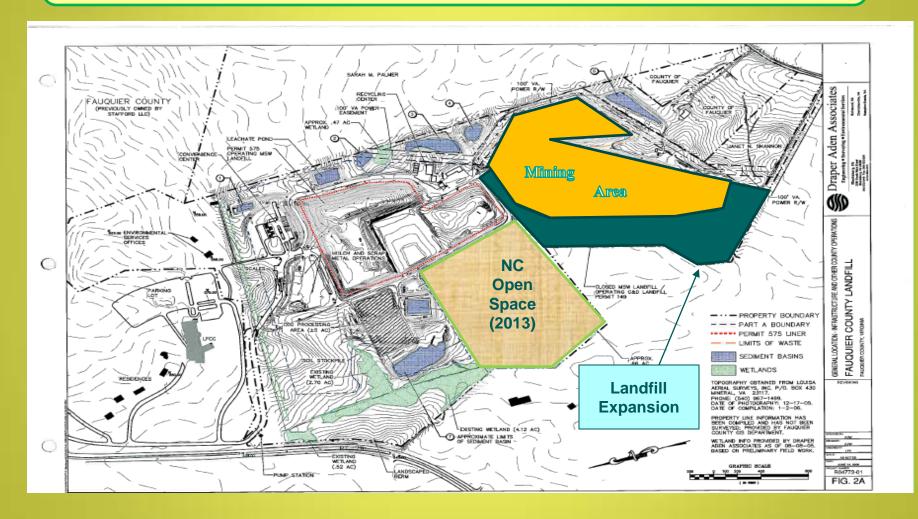


Waste Exchange

While many companies can find cost-effective ways to reduce the amount of waste they generate through recycling initiatives or reusing byproducts within their own operations, most municipalities and private waste facility do not have the same opportunities for in-house reductions because of restraints.

In these situations, exchanging waste could be a viable and inexpensive alternative for reducing the volume and cost of waste disposal, while preserving natural resources and the environment for future generations.

Landfill Expansion



C&D Landfill Mining



C&D Landfill Mining



C&D Landfill Mining







Other Recycling





Latex Paint

Dry Posi-Shell



Posi-Shell & Latex Paint for Daily cover

Glass Re-Use







Other Recycling





Average FY10 Market Prices for Recovered Materials

<u>Metal</u>	<u>\$</u>	/Ton	Misc	\$/Ton
Scrap(Fe)	\$	175.50	Textiles	\$ 182.47
Scrap (fines/Fe)	\$	120.00	Belts, Shoes, Purses	\$ 499.81
Non-Ferrous	\$	472.17	Used Oil	\$ 0.37/gal
Aluminum Cans	\$	1,164.72	"Green" Wood	\$ 2.00
Bi-metal Cans	\$	146.78	"White" Wood	\$ 1.00
Cat food Cans	\$	500.00	Drywall	(\$25.00)
			Electronic Wastes	(\$100.00)
<u>Paper</u>		\$/Ton		
Cardboard	\$	119.02	Reused Materials	\$/Ton
Mixed Paper	\$	97.76	Tires	\$ O
Newspaper	\$	90.51	Glass bottles	\$ O
Office Paper	\$	155.50	Rock/Soil	\$ 110.00
Books (Hardcover)	\$	0	Pallets	\$ 0
			Inerts	\$ O
<u>Plastic</u>	3	\$/Ton		
HDPE-Natural	\$	580.00		
HDPE-Colored	\$	440.00		
PETE	\$	280.00		
Vinyl Siding	\$	120.00		
HDPE-Pipe	\$	0		
PVC-Drainage	\$	120.00		
Rigid Plastics	\$	90.00		

Total 'Recycling Sales' Revenue History



Fauquier County Awards

Keep America Beautiful 2007 2nd Place National Award for Waste Reduction & Recycling

Virginia Association of Counties 2008 Environmental Achievement Award

Virginia Recycling Association 2008
Award for Excellence in Recycling



Benefits of C&D Processing

- Recover additional materials to increase diversion rate
- Increase recycling revenue
- Increase (maintain) net revenue
- Replace purchased stone from quarries
- Mining project to defer landfill closure & increase landfill airspace
- Waste 'trade' pilot
- Emergency response capability



C&D recycling makes sense along with all recycling efforts.

Success in today's market requires:

Vision Incentive Innovation



"The key to a prosperous future is sustainability, and triple the bottom line—environmental responsibility, economic prosperity and social equity— is imperative as we move forward."

Rick Fedrizz, Pres., CEO & Founding Chair, U.S. Green Building Council



