



## Session #1

Goal Setting, Strategic Planning &  
Collaboration: Setting the  
Framework for Less Waste



**THROW AWAY**  
*DOESN'T MEAN*  
**GO AWAY**  
*SO WE'RE ON OUR WAY TO*  
**ZERO**   
**WASTE**



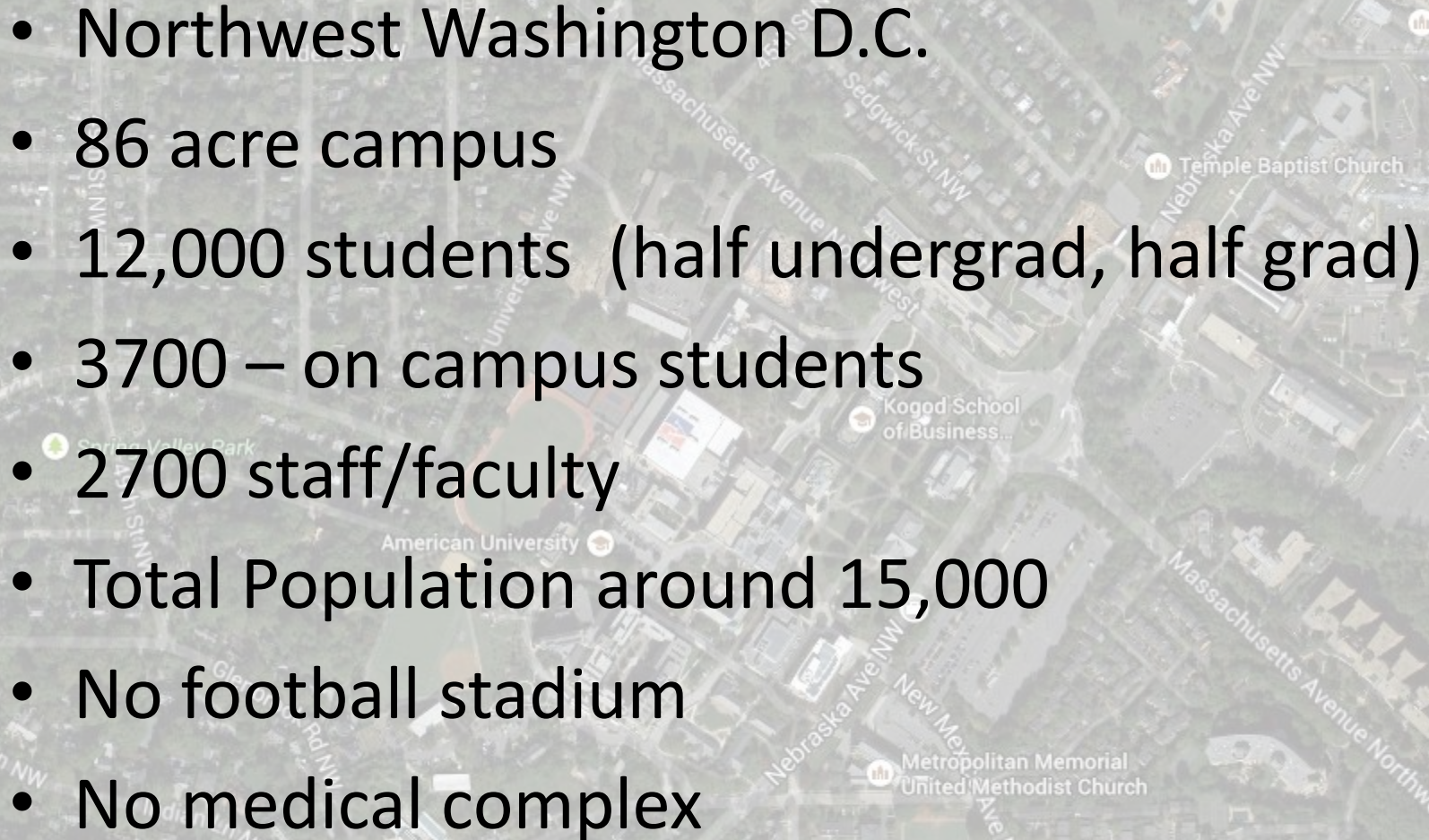
Helen Lee, LEED AP O+M, EFP  
Zero Waste Coordinator  
American University



# Striving towards Zero Waste via Collaboration

- **Zero Waste Policy**
  - Sustainability Project Team
- **AU Design and Construction Standards**
  - Standards Committee



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- Northwest Washington D.C.
  - 86 acre campus
  - 12,000 students (half undergrad, half grad)
  - 3700 – on campus students
  - 2700 staff/faculty
  - Total Population around 15,000
  - No football stadium
  - No medical complex

# Institutionalizing Zero Waste

# Policy Developed by Sustainability Project Team

- Office of Sustainability
- AVP Facilities and Administrative Services
- Facilities Management
- Office of University Architects
- Housing & Dining
- Admissions
- Procurement and Contracts
- Auxiliary Services
- Athletics
- Marketing Manager
- Law School
- ECO-Sense Club President
- Clean-Air Cool Planet student intern
- Student Government



# Zero Waste Policy

“The university shall strive to reach **zero waste** to landfill and incineration by 2020.”

[AU's Zero Waste Policy:](http://www.american.edu/loader.cfm?csModule=security/getfile&pageid=2011196)

<http://www.american.edu/loader.cfm?csModule=security/getfile&pageid=2011196>



# AU's Sustainability Commitments



THE SUSTAINABLE SITES INITIATIVE™



**STARS**  
SUSTAINABILITY TRACKING  
ASSESSMENT & RATING SYSTEM



**LEED  
VOLUME**

Certifying 25  
buildings

**SITES**

2 Star SITES  
Pilot  
Certified

**STARS**

Gold rated  
University

**ACUPCC**

Climate  
Neutrality by  
2020





## University Policy: Zero Waste

**Policy Category:** Sustainability

**Subject:** Waste

**Office(s) Responsible for Review of this Policy:** Sustainability, Facilities Management

**Related University Policies:** American College and University Presidents Climate Commitment; Green Building Policy; Green Cleaning Policy; Sustainable Purchasing Policy; Talloires Declaration

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### I. SCOPE

This policy applies to all University departments.

### II. POLICY STATEMENT

Consistent with American University's strategic goal to "Act on our values through Social Responsibility and Service," and to facilitate implementation of our existing sustainability policies (as

- January 2010 - Zero Waste Policy signed by President Kerwin
- January 2012 - Zero Waste Coordinator hired by Facilities Management

# Current Zero Waste Policy

- July 31, 2013, reuse, recycle compost 50% ongoing consumables
- December 2015, reduce solid waste by 10% and divert 90% from landfills and incineration
- December 2020, reduce additional 10% and send zero waste to landfill and incineration

# Need for Revision

- Benchmark is changing
- Waste stream is changing
- End Facility Market is constantly changing
  - Peninsula Compost
- Unreliable/Questionable Weights from Haulers

# Standardizing Zero Waste









# AU Design & Construction Standards



AMERICAN UNIVERSITY  
DESIGN AND CONSTRUCTION  
STANDARDS

01/12/2015








## Standards Committee

- 01 74 19 Construction Waste Management and Disposal
- 11 82 13 Zero Waste Interior Container Specification
- 11 82 13 Zero Waste Exterior Container Specification
- 11 82 26 Facility Waste Compactors
- 11 82 36 Facility Waste Balers





## American University Zero Waste Container Specifications

				
Material	<b>Mixed Paper &amp; Cardboard</b>		<b>Organic Waste (Compost)</b>	
Lid	 EC1119S, Paper recycle Lid (30g) EC1818S, Paper recycle Lid (40g)		 EC1119D, Diamond Recycle Lid (30g) EC1818D, Diamond Recycle Lid (40g)	
	 EC1119F – Funnel Lid (30 g) EC1818F – Funnel Lid (40 g)		 EC1119F – Funnel Lid (30 g) EC1818F – Funnel Lid (40 g)	
Location	Standard container for all indoor waste bins. New buildings, renovation projects, replacement bins will be required to purchase these containers to meet American University’s Zero Waste goal and policy. ( <a href="http://www.american.edu/zerowaste">www.american.edu/zerowaste</a> )			
Perfect Fit, Bag Liners	Transparent Bag For EC1119 Item:321001C Cost \$ Pack 225 Size 26x44 30 Gallon -Heavy *Shipping extra	Transparent Bag For EC2626 Item:601000C Cost \$ Pack 100 Size 47x52 60 Gallon - Heavy *Shipping extra	Green Biodegradable Bag For EC1119 Item:321001G-BD Cost \$ Pack 225 Size 26x44 30 Gallon– Heavy Minimum Order 77 cases *Shipping extra	Green Biodegradable Bag For EC2626 Item:601000G-BD Cost \$ Pack 100 Size 47x52 60 Gallon - Heavy Minimum Order 70 cases *Shipping extra
Manufacturer	<b>ErgoCan (SNS Films, LLC)</b>			
Specs	Made from recycled plastic, interchangeable panels for when programs update or change, recyclable. EC1119 30 gallon – Dimensions : 11”Wx19”Lx30”H EC 40 gallon – Dimensions: 17.75”Wx17.75”Lx30.25”H EC2626 60 gallon – Dimensions: 26”Wx26”Lx35”H			
Link	<a href="http://www.ergocan.com">http://www.ergocan.com</a>			
Cost	30 gallon - EC1119 \$ each. Shipping extra Price breaks for large quantities: Call or e-mail. 40 gallon - \$ each. Shipping extra Price breaks for large quantities: Call or e-mail. 60 gallon- EC2626 \$tetterfield@snsfilms.com, each. Shipping extra Price breaks for large quantities: Call or e-mail.			
Contact	Manufacturer Terry Netterfield (419) 842-1004 <a href="mailto:tetterfield@ergocan.com">tetterfield@ergocan.com</a>		AU Zero Waste Coordinator Helen Lee 202-885-2351 <a href="mailto:helenlee@american.edu">helenlee@american.edu</a>	





## 11 82 13 – SOLID WASTE BINS – ZERO WASTE EXTERIOR CONTAINER SPECIFICATION



Standard and specifications for exterior waste containers on campus. This bin is also used as a standard by the District of Columbia. New construction, renovation projects, replacement bins will be required to purchase these containers to meet American University's Zero Waste goal and policy.  
([www.american.edu/zerowaste](http://www.american.edu/zerowaste))

**Victor Stanley SD-42**

[www.victorstanley.com/product/sd-42/](http://www.victorstanley.com/product/sd-42/)

Exact specifications can be found in the AU Design and Construction Standards [Sharepoint](#). Shared Documents: Exterior Waste Bin Standard Victor Stanley sd42 Specs.pdf

Side-Door Opening

.375 x 1 in (10 x 25 mm) Bars, Bottom Recessed Pedestal

Landfill Containers utilize "Black" color with an open or "Convex" lid.

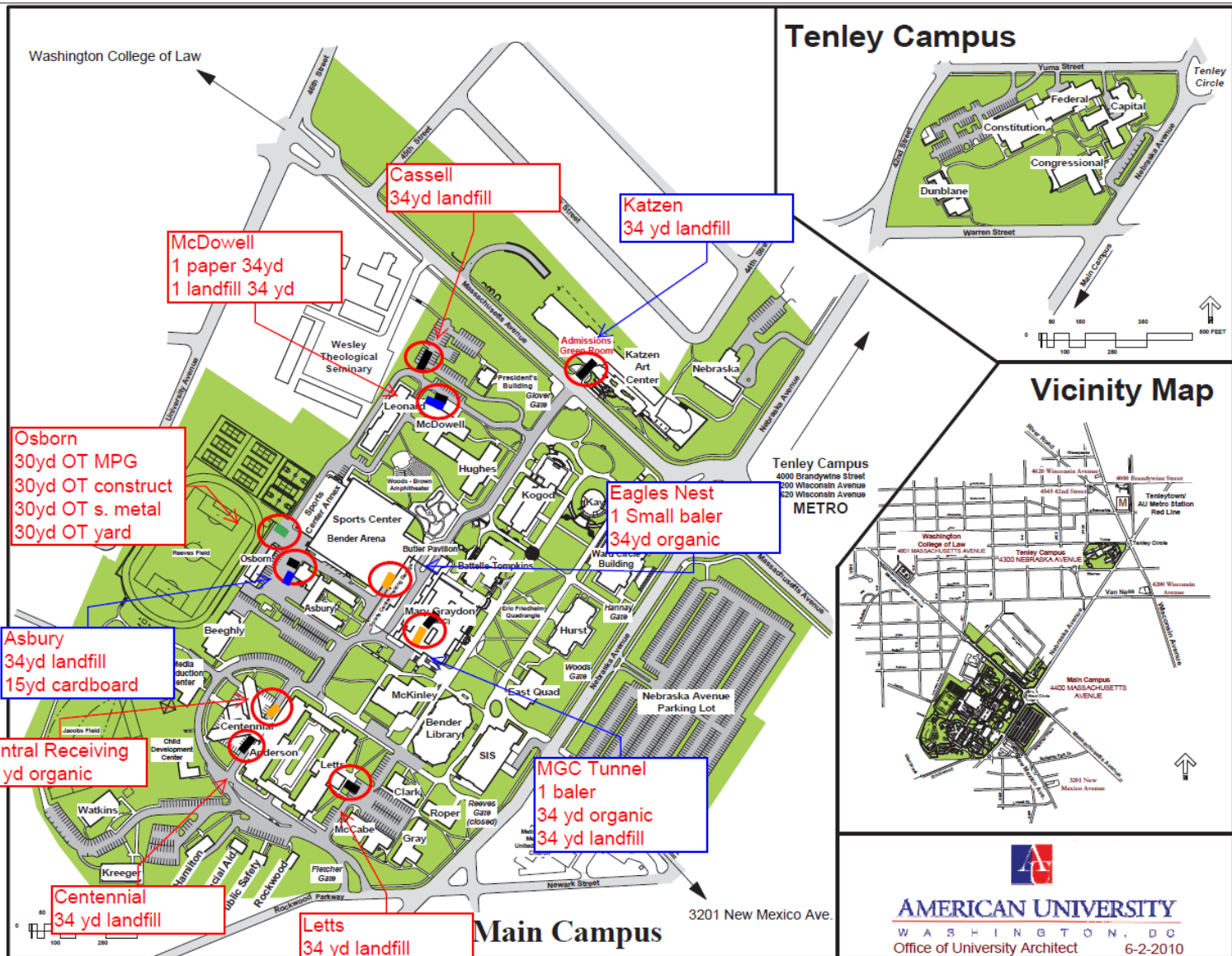
Single-Stream Recycling Containers utilize "Green" color with a "Recycle" Lid.



CONVEX

RECYCLE







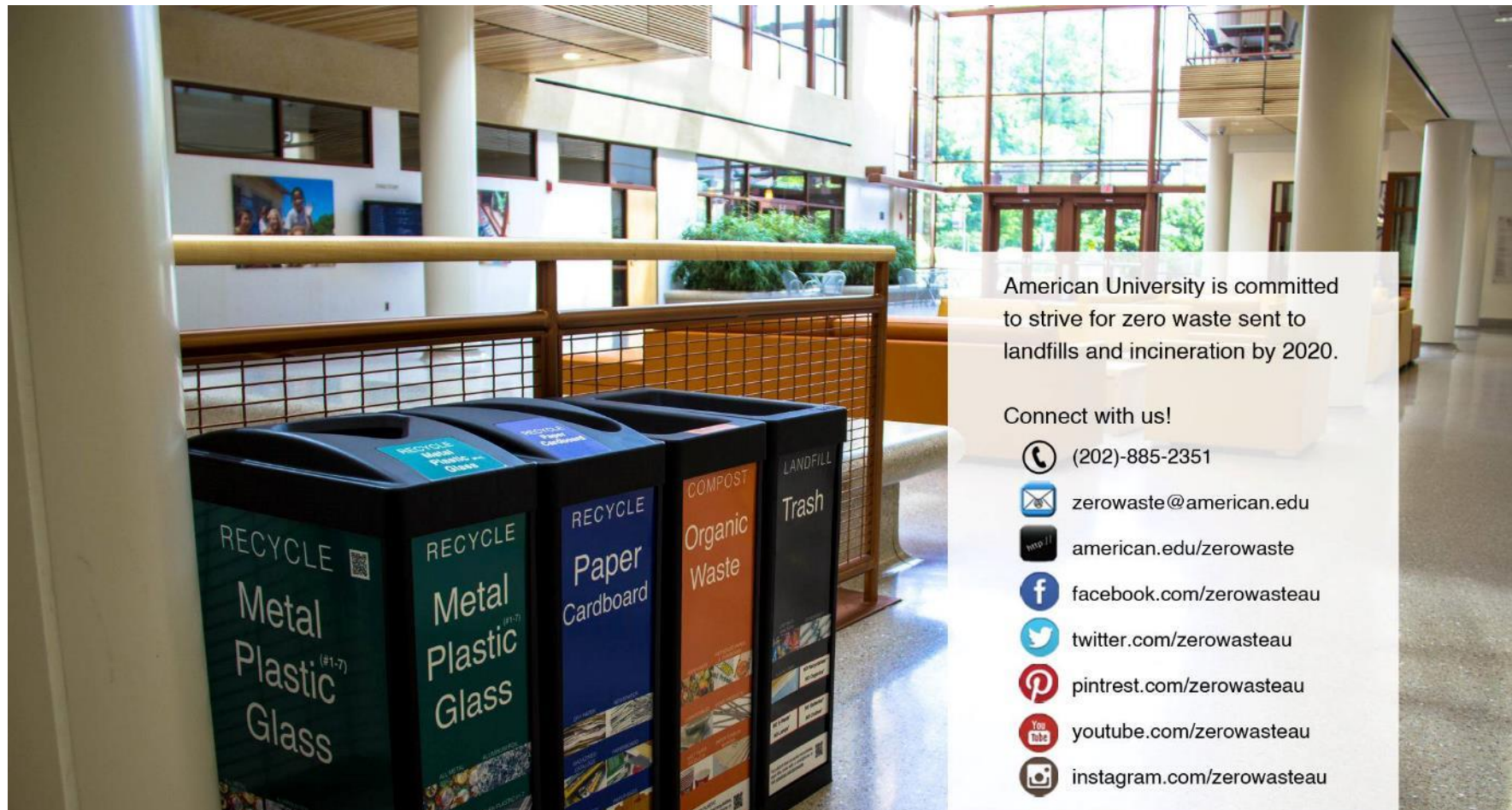


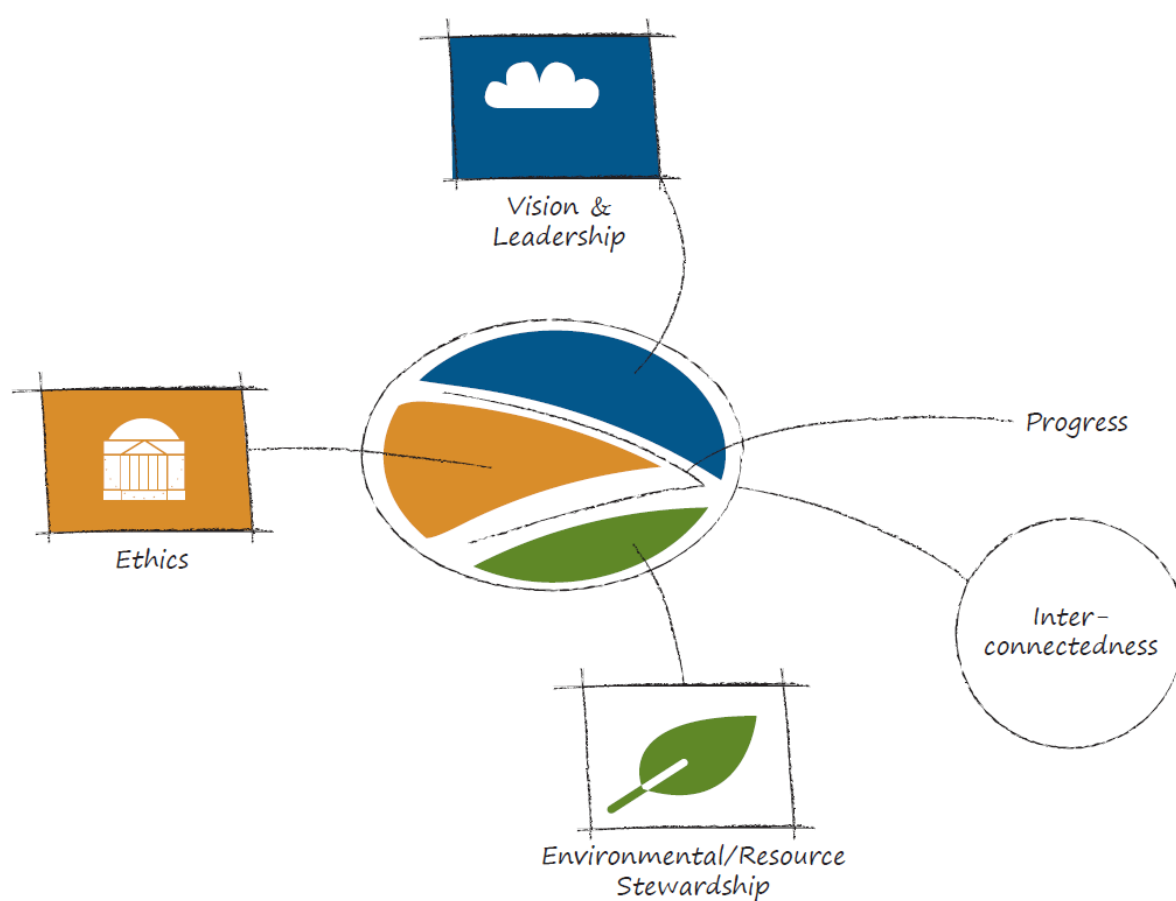






# Connect With Us!





# Goal Setting, Strategic Planning and Collaboration

## CURC Regional Workshop

Jesse Warren, Program Manager – Buildings & Operations

University of Virginia

June 12, 2015

# Waste Diversion at UVA





# 1990 – Let's Recycle



- Pilot
- Interest
- Department by department
- Personal approach





Recycling grows but  
lacks uniformity and  
consistency





# Zero waste events are successful

## ZERO WASTE EVENT GUIDE

Congratulations on your decision to minimize waste at your event! This guide provides step-by-step instructions on how to turn any event into a zero waste event. If you have questions or need assistance, please contact Jess Wenger at 982-5540; jsw6d@virginia.edu or Amy Muldoon at 982-0812; ajm6u@virginia.edu.

## CHECKLIST

DAY OF THE ZERO WASTE EVENT

## CATERERS

WHO WILL SUPPORT ZERO WASTE EVENTS



Photo Credit: Jane DeGeorge





# Contamination & sorting remain issues





# UVA Recycling today







OFFICE OF THE ARCHITECT  
UNIVERSITY of VIRGINIA

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**Deputy Chief Facilities Officer**  
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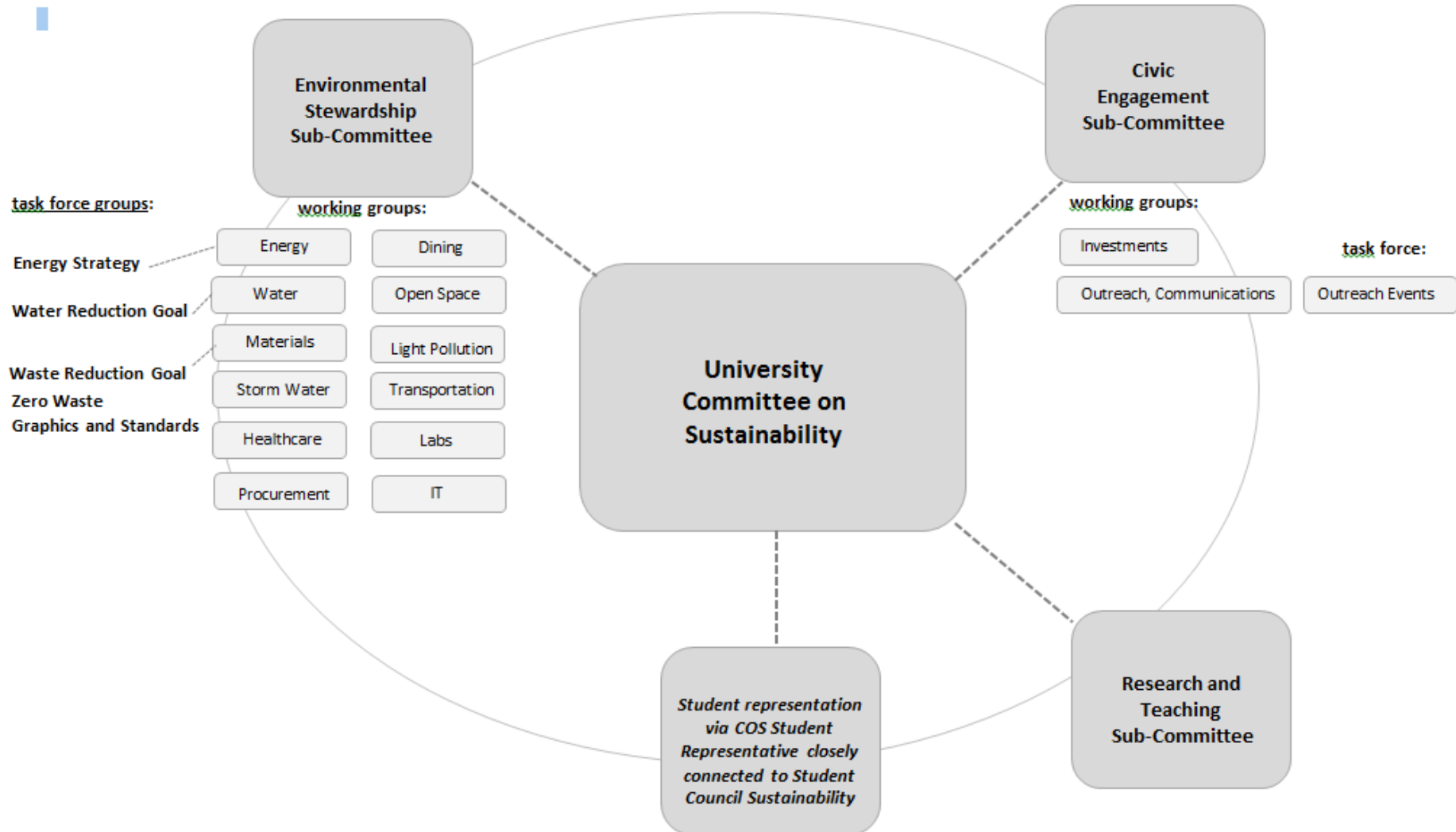
Health Systems  
Engineering

Planning and  
Business  
Management

Construction  
Management

Trades  
Management

# Committee and Task Force Structure



(+ Green Building Standards Working Group)

# UVA Sustainability Plan

## U.Va. Sustainability Plan

As we embark on creating U.Va.'s first Sustainability Plan, we want to hear from you! U.Va.'s Sustainability Plan will outline targeted actions to pursue over the next five years to meet existing and new sustainability goals, while ensuring flexibility to enable ongoing innovation towards achievement of a longer-term vision. The Plan will compile new and existing ideas while building upon U.Va.'s current initiatives and accomplishments. Make your voice heard!

TO STEWARD  
THIS SPECIAL PLACE,  
I WANT...

ADD YOUR VOICE

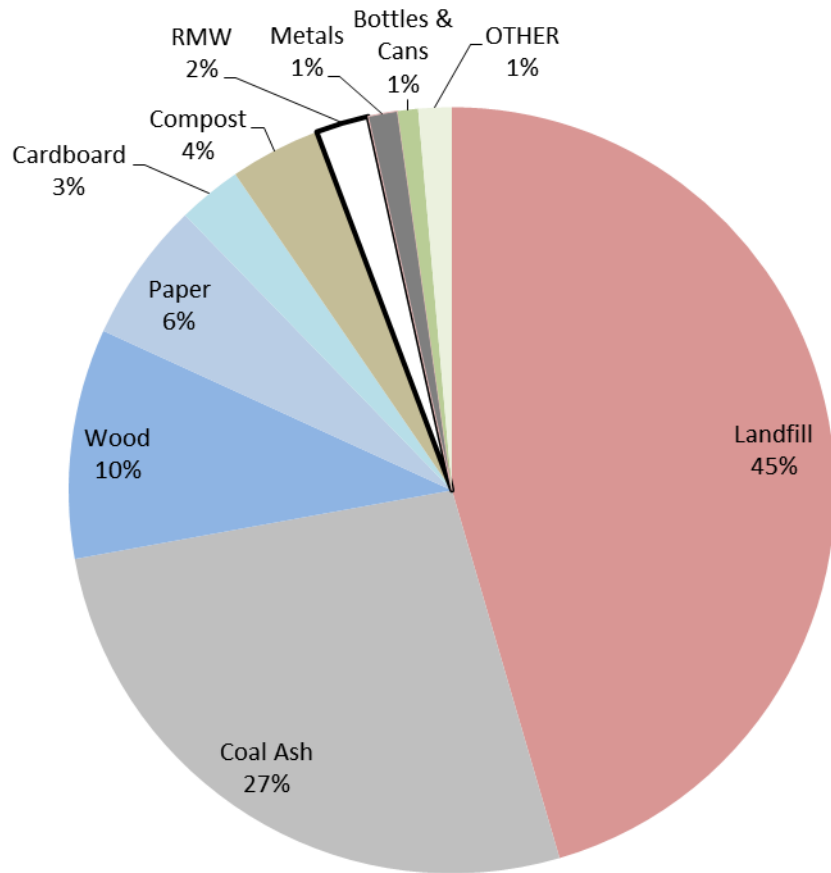
Sustainability at the University of Virginia calls for collaboration and ingenuity to promote the well-being of the community, solve local and global challenges through scholarship and practice, educate ethical leaders and steward this special place.

[U.Va. Sustainability Statement](#)





# 2013 Waste Profile



	Includes:	Quantity (Tons)
Landfill	Municipal Solid Waste	7533
Coal Ash		4418
Wood	Pallets, Construction Waste	1607
Paper		980
Cardboard		446
Compost		633
RMW	Regulated Medical Waste	370
Metals	Scrap Metal, Film, Silver Chips	205
Bottles & Cans	Aluminum, Plastic, Glass	158
OTHER	MERCI, Chemical Waste, Lamp/Ballasts/Tires/Oil/Batteries, Surplus Office Supplies, e-cycling	233

# U.Va. Waste Reduction Goal and Action Plan - Approach

	MATERIAL TYPE	Includes:	Quantity (Tons)
Scope 1	MSW	Typical Solid Waste to Landfill	3462
	CRMSW	Clinical/Research MSW to Landfill	4071
	Paper	Office and Residential Paper Diverted	980
	OCC	Corrugated Cardboard Diverted	446
	Compost	Organic Food Waste Diverted	633
	Beverage Containers	Aluminum, Plastic, Glass Diverted	158
	TOTAL TONS (2013)		9750

	MATERIAL TYPE	Includes:	Quantity (Tons)
Scope 2	MERCI	Unused Medical Supplies Diverted	39
	Chemical Waste	Unused Lab Chemicals/Pesticide/etc. Diverted	35
	Lamps & Ballasts	Used Light Bulbs & Ballasts Diverted	21
	Tires	Used Tires Diverted	9
	Oil	Used Cooking/Lubrication Oil Diverted	14
	Batteries	Used Batteries Diverted	15
	Surplus Office Supplies	R.O.S.E. Program Diverted	7
	E-Cycling	Used Electronics Diverted	92
	Metals	Scrap Metal, Film, Silver Chips Diverted	205
	Coal Ash	Fly Ash & Bottom Ash Diverted	4418
	Pallets	Used Pallets Diverted	121
	RMW	Regulated Medical Waste to Landfill	370
	CDD	Construction & Demolition Debris (apx. 10% to Landfill)	1486
	TOTAL TONS (2013)		6832

*Waste Reduction Goal Task Force – developing proposed goal and action plan*

## GOAL

- 2013 landfill tonnage: 8051 Tons
- Reduce landfill tonnage by \_\_ % by \_\_\_\_year.
- Includes entire footprint

## ACTION PLAN

- Near term: Focus on Scope 1 prioritize and target efforts and reductions in these areas
- Scope 1: Priority and focus for the next 5 years: reduce and divert

U.Va.'s 2013 Waste Footprint = 16,582 TONS

# U.Va. Waste Reduction Goal and Action Plan – Next Steps

## U.Va. Waste Reduction Goal and Action Plan: Development Framework

last updated 3.17.2015

### U.Va.: Quantitative Goals, Definitions, Sources

By the end of 2015 (?) the Waste Reduction Goal task force, in collaboration with \_\_\_ will publish a waste reduction action plan to achieve the following milestones:

10 year goal: By 2025, reduce total landfill tonnage to \_\_\_% below 2010/2013 levels (less than \_\_\_ tons). Or by 2025, reduce the total landfill tonnage to less than \_\_\_ tons (\_\_\_% reduction).

### History – previous and current initiatives and progress

Already doing – continue or expand

### Growth and Base Case demand and forecasts

### Aggregated projections – for strategies outlined below

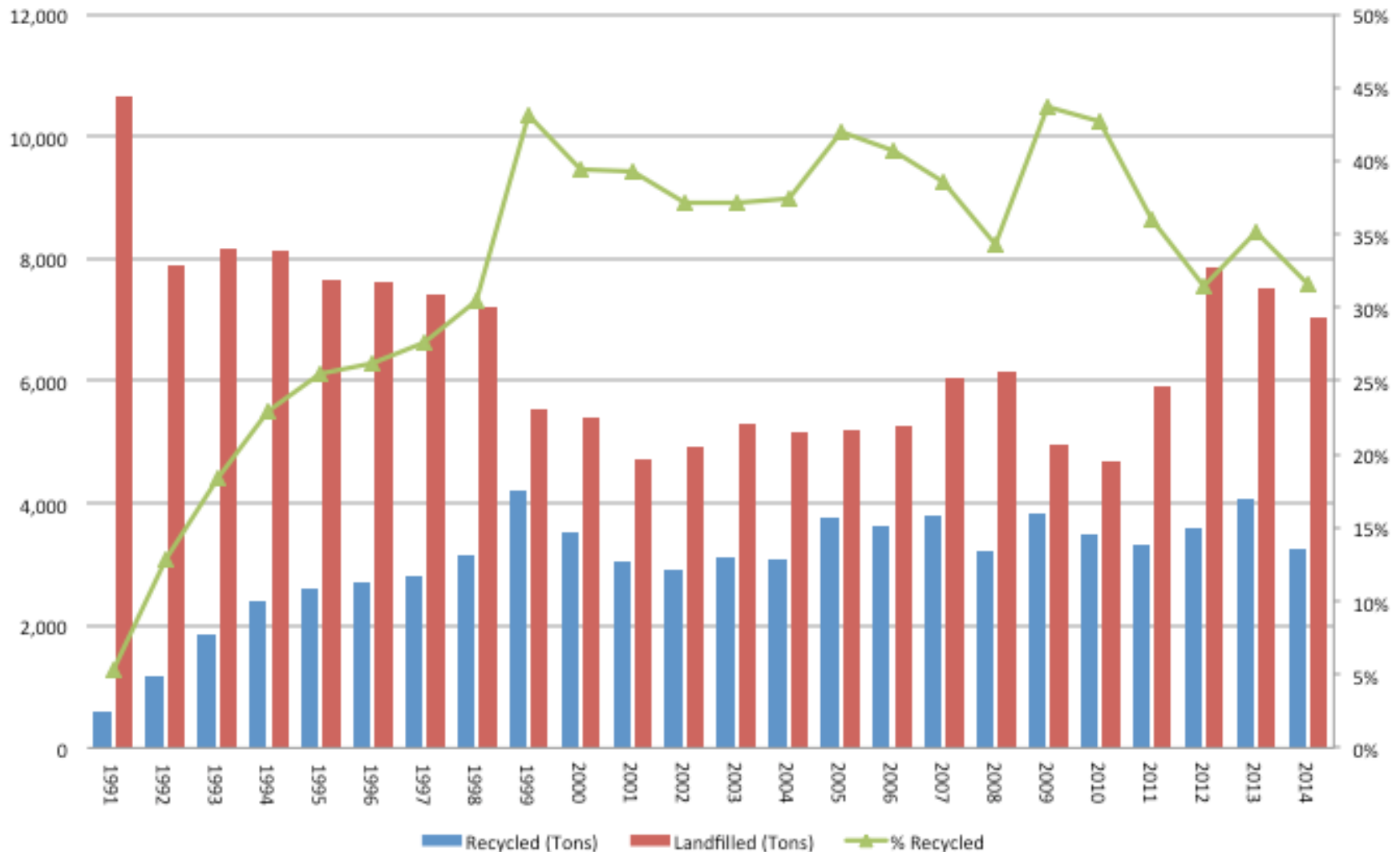
### Business Case, total cost of ownership, savings

Strategies and Implementation Plan – 5 and 10 years (articulate the next 5 years specifically, understand broader 10 year plan). Larger strategies need additional cost/benefit analysis....all of these need additional detail and analysis

Core Approach	Component	Strategy	Action	Responsible	Target Year	Anticipated Reduction	Cost/Savings/NPV?
STEWARD	Infrastructure	Diversion	Comprehensive signage and evaluation and re-vamp		2016		
STEWARD	Infrastructure	Diversion	Comprehensive process evaluation and re-vamp				
STEWARD	Infrastructure	Diversion	Further implement co-location, interior and exterior...				
STEWARD	Infrastructure	Diversion	Enabling projects – i.e. UVA catering defaults, etc.				
STEWARD	Cardboard and Packaging	Diversion	Health System				
STEWARD	Cardboard and Packaging Styrofoam	Diversion	Residence Halls				
STEWARD	Containers	Diversion	Implement Styrofoam ban (policy TBD)				
STEWARD	Containers	Diversion	Reusable to go boxes				
STEWARD	Paper Towels	Aversion	Reusable mugs				
STEWARD	Paper Towels	Aversion	Residence Halls - hand dryers, nothing?				
STEWARD	Paper Towels	Aversion	Academic Buildings - hand dryers, nothing?				
STEWARD	Organics	Diversion	Policy – food waste ban				
STEWARD	All	Aversion, Diversion	Policy – zero waste events? Big events, catered events?				
STEWARD	Organics	Diversion	Infrastructure – Composting in first year residence halls				
STEWARD	Organics	Diversion	Infrastructure – Composting in all front of house locations	Dining ...			
STEWARD	All	Diversion	Athletics – zero waste athletics	Athletics + ...			
STEWARD	C&D Waste		GB Standards FDG – minimum 90% diversion?				
STEWARD, ENGAGE	Lab		Green Labs program				
STEWARD, ENGAGE	Procurement guidelines	Aversion	Develop procurement guidelines		2015		
STEWARD	Furniture		Procurement – surplus website				
STEWARD	e-waste						
ENGAGE	Orientation – Staff	Aversion, Diversion					
ENGAGE	Orientation – Students	Aversion, Diversion	TREE program				
ENGAGE	Orientation – Faculty	Aversion, Diversion					



# The University recycled 32% MSW in 2014, with a total diversion rate of 53%



# UVA Recycling moves materials from buildings







FOR RAILING WIRE CAGE  
AirBorn  
INDUSTRIES  
800-986-4646

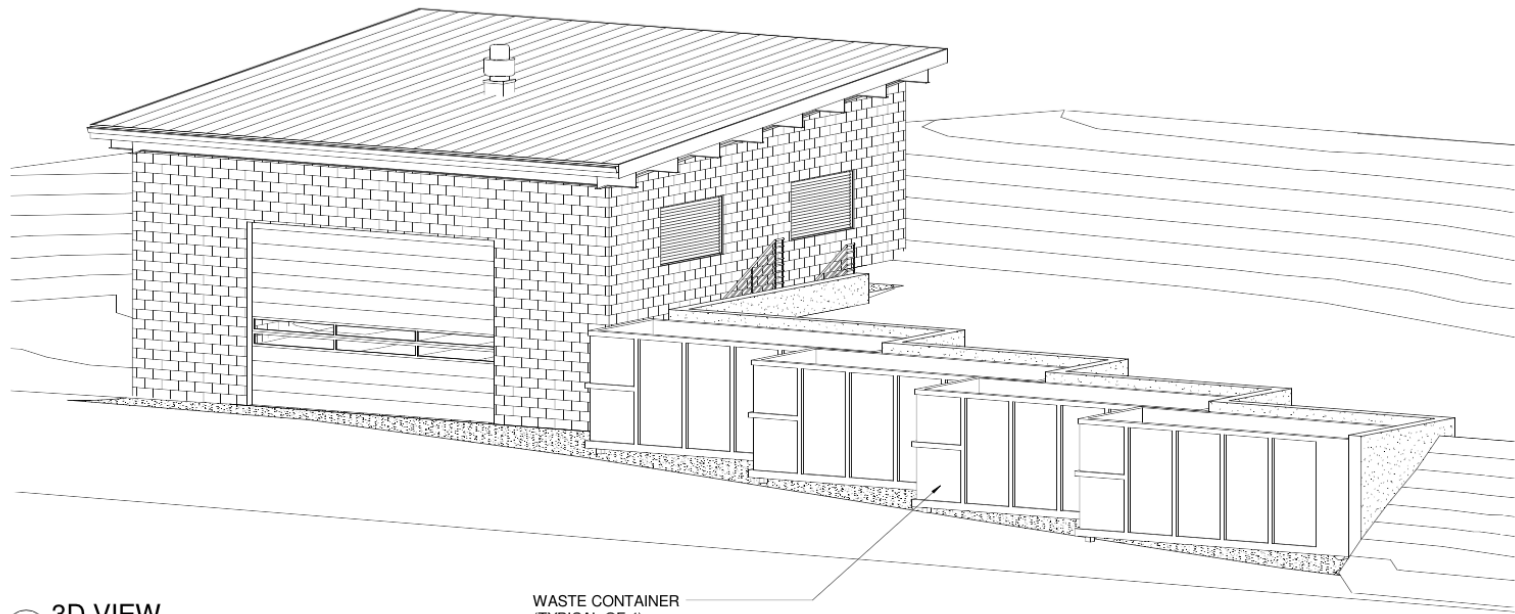
**AirBorn**  
INDUSTRIES

SD160  
REAR FEND

MIXED PAPER



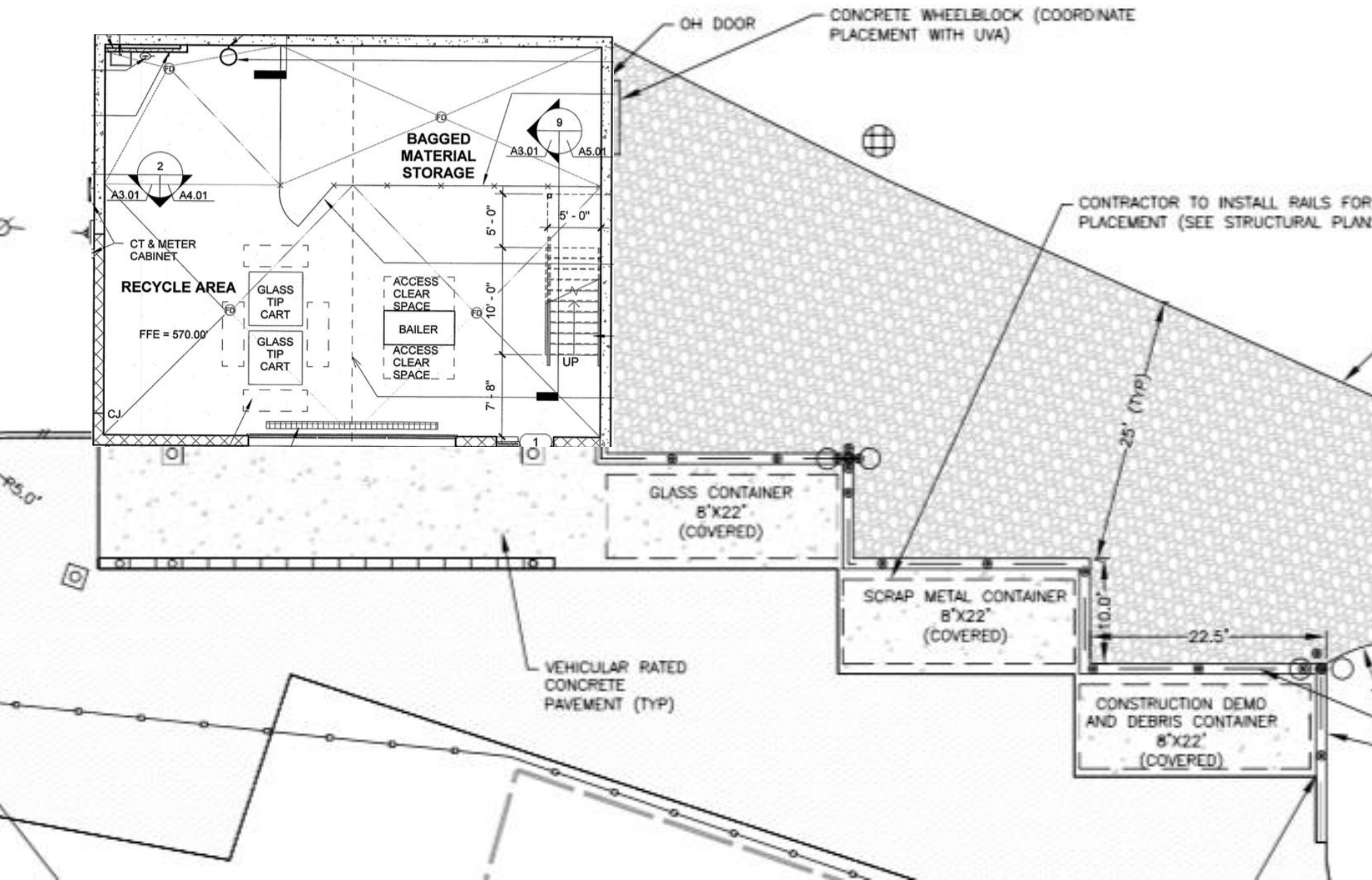
# Fully enclosed sort facility under construction



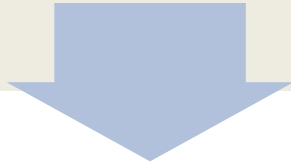
6 3D VIEW  
Scale:

WASTE CONTAINER  
(TYPICAL OF 4)

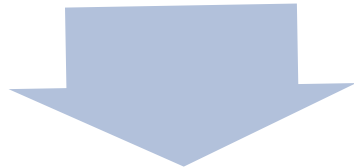
# Fully enclosed sort facility under construction



Recycling Picks Up  
Recycling

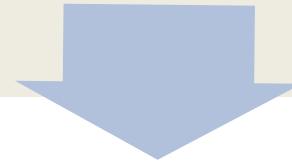


Recycling Transports

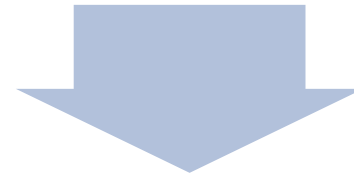


Recycling Processes

Housekeeping Picks Up  
Trash



Waste Management  
Transports



Van der Linde Recycling  
Processes Trash



**Housekeeping Picks Up Recycling and Trash**

```
graph TD; A[Housekeeping Picks Up Recycling and Trash] --> B[Recycling or Landscape Transports??]; A --> C[Waste Management Transports]; B --> D[Recycling Processes]; C --> E[Van der Linde Recycling Processes Trash];
```

**Recycling or Landscape  
Transports??**

Waste Management  
Transports

Recycling Processes

Van der Linde Recycling  
Processes Trash

# SWOT Analysis

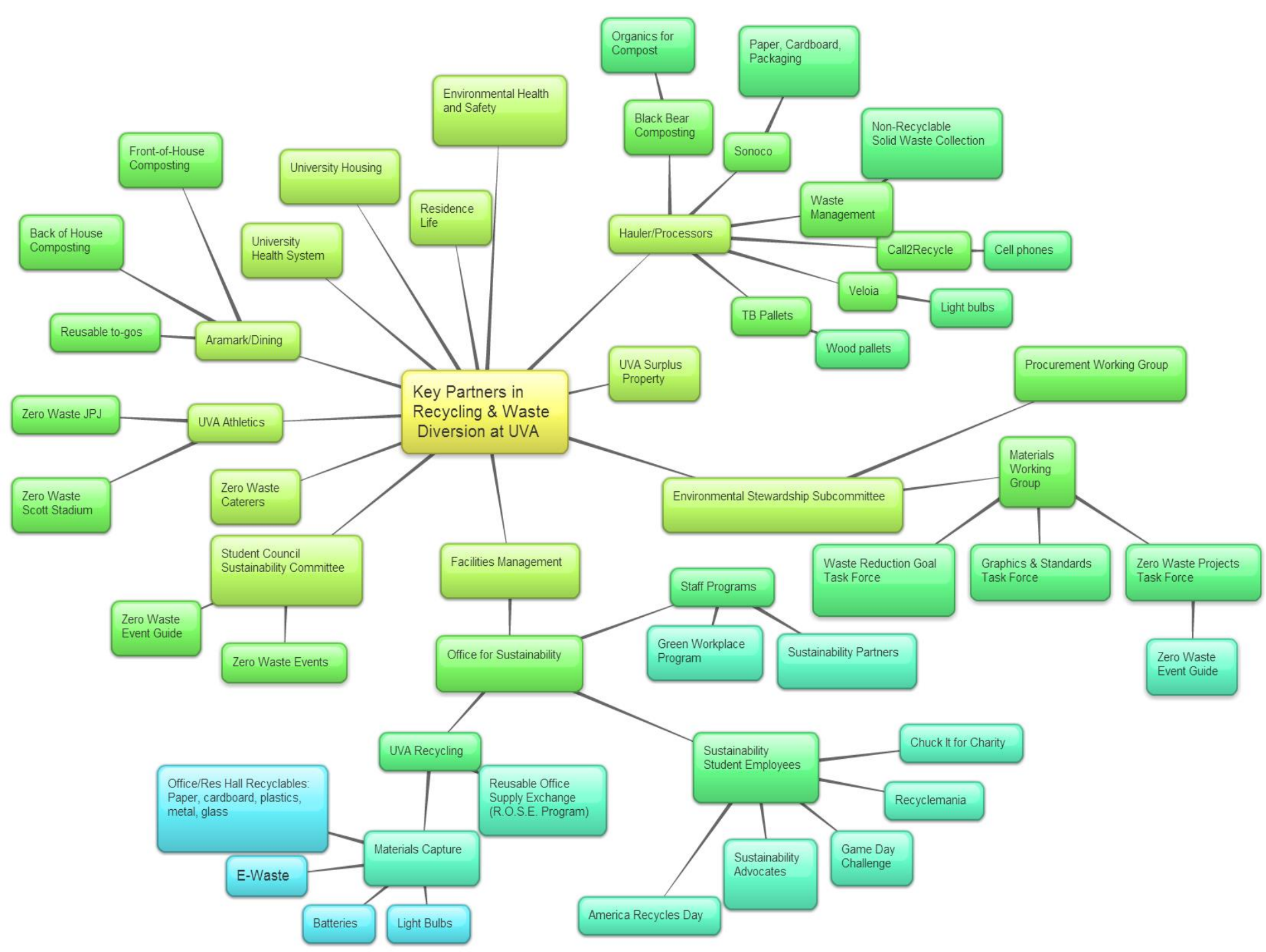
## Office for Sustainability and UVA Recycling

### Strengths

- Stability – We are needed and important to the university
- Staffing – dependable team members
- Deep institutional knowledge – long term employees
- Sense of family, both FM and connection to the larger university
- Working hard to overcome language and skill barriers
- Respond well to all different situation
- Deep experience and knowledge of technical details
- Able to adjust to many logistical details
- Branding – people know where to find us
- Approachable
- Visibility
- Customer focused
- Consistently go the extra mile within expected hours (40)
- ROSE program
- Improvements in safety over the years
- Retention and training
- Larger than typical staff for industry – non-vendor

### Weaknesses

- Duplicating effort with housekeeping – wasting time in same spaces
- Reactive instead of proactive – FM should be better
- Weekly service suffers if pulled to other projects such as snow removal
- Communication focuses on students on grounds – could improve for faculty and staff
- Messages get diluted as you get further from FM
- Top down communication – accountability
- Inconsistent bins and signage – can be customer driven and varies by building - branding challenge
- Website challenges
- Lack of resources to support zero waste events
- Unsure how to handle composting, exterior containers, pallets and revenue from confidential materials (costly)
- Perception of how we handle confidential materials
- Planning for the future
- Current facility and space for growth
- Tunnel vision – event to event
- Co-location of bins









**Customers: Provide Lessons  
Learned & Engage in Change**

**Ops: Create  
Processes &  
Train**

**Sustainability:  
Develop  
Vision &  
Milestones;  
Get UVA  
Buy-in**

Housekeeping Picks Up Recycling and Trash

```
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Recycling or Landscape  
Transports??

Waste Management  
Transports

Recycling Processes

Van der Linde Recycling  
Processes Trash



Housekeeping Picks Up Recycling and Trash

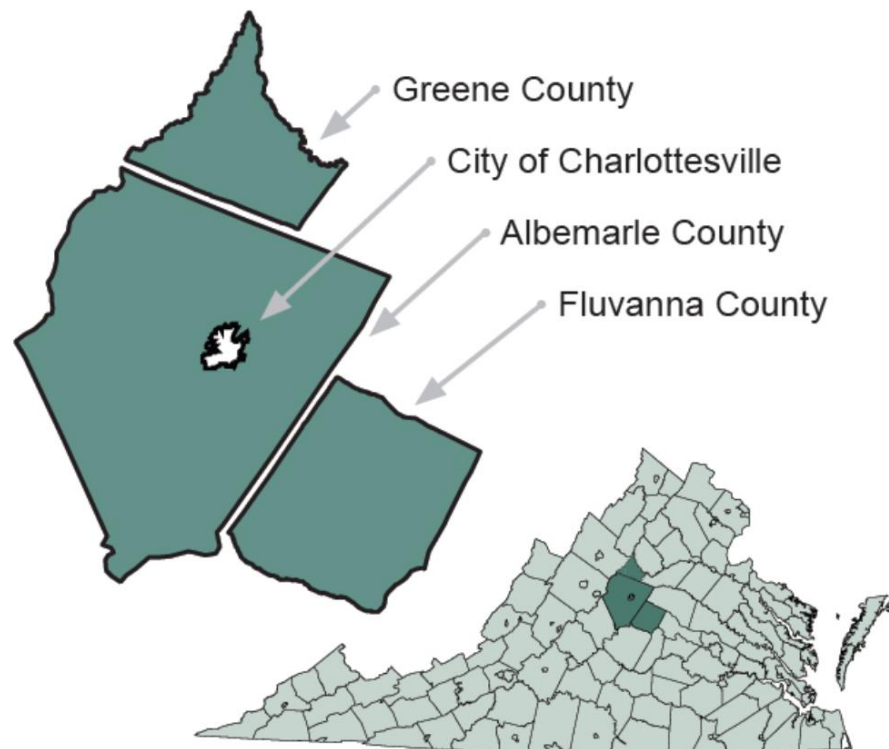
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Recycling or Landscape  
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Waste Management  
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Recycling Processes

Van der Linde Recycling  
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**Chief Facilities Officer**  
*Donald E. Sundgren*

**Deputy Chief Facilities Officer**  
*Richard H. Rice, Jr.*



OFFICE OF THE ARCHITECT  
UNIVERSITY of VIRGINIA

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*Rebecca Leinen*

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off-Grounds  
Zone 4 Maintenance

Health Systems Engineering

Planning and Business Management

Construction Management

Trades Management





# Questions?

## Contact:

University of Virginia – Facilities Management  
Office for Sustainability

<http://www.virginia.edu/sustainability/>

Jesse Warren, PE, CEM, LEED AP BD+C, O+M  
Sustainability Program Manager – Buildings & Operations  
(434) 243-8594

[jmw4ub@virginia.edu](mailto:jmw4ub@virginia.edu)

# Discussion Question

- What are some of the challenges/barriers you are experiencing with goal setting at your institution?
- What did you learn from the speakers?
- What advice do you have to give on goal setting?
- What stakeholders are you engaging when discussing goals?