COMPOSTING as a RECYCLING STRATEGY

Trends and Status in Commercial Composting

H-GAC Regional Recycling Roundtable
NOVEMBER 15, 2018 | PRESENTATION
Composting as a Recycling Strategy

Per TCEQ there are 106 Authorized Facilities in Texas

0 Exempt Facilities
87 Notification
8 Permitted
11 Registered

48 Texas Compost Facilities participate in the USCC Seal of Testing Assurance Program (STA)

Data as of 11.01.2018
Commercial Composting in Texas: Policies, Procedures

Where the Rules Begin: Title 30, Texas Administrative Code – Chapter 330 → 332

Section 330.1(d) – This Chapter does not apply to any person that composts MSW in accordance with Chapter 332 unless a Permit is required.

Chapter 332 – Applies to persons who compost or mulch. Chapter 330 does not apply . . . Unless a Permit is required.

TCEQ Authorizations Types for Compost Facilities

✓ Exempt
✓ Notified
✓ Registered
✓ Permitted
## Exempt Authorization

### Notice of Intent to Operate a Recycling Facility

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<tbody>
<tr>
<td>source separated;</td>
<td>To TCEQ’s MSW</td>
<td>None</td>
<td>Yes:</td>
<td>None</td>
<td>60-90 days</td>
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<td>yard trimmings;</td>
<td>Permits Section</td>
<td></td>
<td>General Requirements (Section 332.4);</td>
<td></td>
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<td>clean wood material;</td>
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<td>Air Quality Requirements [(Section 332.8(b)];</td>
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<td>vegetative material;</td>
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<td>Storage Limitations (Section 328.4);</td>
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<td>Paper; and Manure</td>
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<td>Reporting and Recordkeeping (Section 328.5)</td>
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Exempt Authorization
Notice of Intent to Operate a Recycling Facility

Form TCEQ-20049 Attachments:

A. Map of Site Location
B. Description of Operation – Compost or Mulch (Option 2,3,4)
C. End Use for Finished Product
D. Closure Cost Estimate/Financial Assurance. Section 328.4 (c) through (e)
E. Alternative Compliance Demo - Sections 328.4 (c), (e),(f)
F. Bexar County Section 328.4 (g)
# Compost Notification

## Notice of Intent to Operate a Compost Facility

## Section 332.32(c) and Chapter 332, Subchapter B

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<tr>
<td>Exempt material plus: source separated; Meat Fish Dead Animals Dairy Material Meat/Vegetable Oils and Greases <strong>NOT FOG</strong> from Grease trap / interceptors</td>
<td>Mailed Notice to Adjacent Land Owners via TCEQ’s MSW Permit Section and OCC</td>
<td>Limited to Adjacent Land Owners via letter correspondence: No Motion to Overturn; No Public Meetings; No Public Hearing available</td>
<td>Yes: General Requirements (Section 332.4); Air Quality Requirements ([Section 332.8(c)]); Storage Limitations (Section 328.4); Reporting and Recordkeeping (Section 328.5) Plus some operational requirements (Section 332.23)</td>
<td>No</td>
<td>60-120 days</td>
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## Compost Registration

### Section 332.32(b), Chapter 332, Subchapter C & Sub G

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<tr>
<td>Exempt material plus:</td>
<td>Mailed Notice to Adjacent Land Owners via TCEQ’s MSW Permit Section and OCC</td>
<td>Opportunity for Public Meetings (Published and Mailed)</td>
<td>No to Recycling</td>
<td>Yes</td>
<td>Yes to Compost: General Requirements (Section 332.4); Air Quality Requirements [(Section 332.8(c)]; Operational requirements (Section 332.27); plus Soil Liner Required</td>
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<tr>
<td>Compost Notification Material</td>
<td>Published Notice</td>
<td>Opportunity for Motion to Overturn ED Decision (mailed)</td>
<td>Yes to Compost: Sludge = Chapter 312 and 332.72(d)(2) (A) and (D) No Sludge = 332.71 and 332.72</td>
<td>Admin and Tech</td>
<td>11/15/2018</td>
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Compost Permit
Chapter 332, Subchapters D, E, F, and G & Applicable Portions of Chapter 330

Feedstocks that Trigger a Permit:

➢ Grease Trap Waste

➢ Mixed Municipal Solid Waste
# Compost Permit

**Chapter 330: Section 330.1(d)**

**Chapter 332, Subchapter D, E, F and G; Section 332.3(a)**

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<tr>
<td>Exempt material Plus:</td>
<td>Mailed Notice to Adjacent Land Owners via TCEQ’s MSW Permit Section and OCC Published Notice</td>
<td>Opportunity for Public Meetings (Published and Mailed) Opportunity for Motion to Overturn ED Decision (mailed) Opportunity for Contested Case Hearing</td>
<td>No to Recycling Yes to Compost: General Requirements (Section 332.4); Air Quality Requirements [(Section 332.8(e)]; Operational requirements (Section 332.45); plus Soil Liner Required Groundwater Monitoring Required</td>
<td>Yes Sludge = Chapter 312 and 332.72(d)(2) (A) and (D) No Sludge = 332.71 and 332.72</td>
<td>9-18 months</td>
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<tr>
<td>Compost Notification Material Plus:</td>
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<td></td>
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<tr>
<td>Mixed MSW Waste Grease Trap Waste</td>
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What’s Going on in Texas

Most Landscape Companies are utilizing mulch and composting facilities vs. landfill to dispose of green waste. Numerous Commercial generators of vegetative residuals, clean wood scraps, and Texas Municipalities offering curbside brush and yard trimmings collection divert organic materials to compost/mulch facilities vs. landfill.

Compost Facilities vs. Landfills
- Convenient, accessible locations
- Lower Tipping Fees
- Materials managed for beneficial uses
- Increased Recycling Rates for Customer
What’s Going on in Texas

• Low landfill tipping fees result in a very small amount of post-consumer food waste currently being recycled.

• Post-consumer food waste is often contaminated, resulting in higher processing costs.

• Food waste produces very little product to sell.
First City in Texas to implement Curbside Organics Collection program to include Food scraps, Meat

- Pilot Program Implemented 2011-2012
  - 30,000 residents receive 96-gallon green cart
  - $1.3 million cost to provide carts for pilot program
  - Transition to subscription service completed March 2013

- Transition from Subscription to City Wide Residential Service 2015
  - Rolled out October 2015 alongside PAYT initiative
  - Service approximately 360,000 residents; Billed according to Cart size
  - Green Cart: Yard trimmings, Food Scraps, Soiled Paper

City offers Brush collection 2 x year

Leaf collection 2 x year
- Residential call in service (311)

Contamination
- Pro: Easy to spot contamination • Challenge: Manual Sorting Process
- Loads are rejected if more than 10% non-program material
- Rejection Rate FY2018 around 25%
Residential Brush Program - Collected 6 x Year

- City utilizes five of Contractors conveniently located brush recycling facilities, minimizing trucking costs
- **381,874 tons** brush diverted and recycled for beneficial use (April 2009 - October 2018)

Residential Yard Trimmings – Collected Weekly

- Leaves, grass clippings are collected in ASTM D6400 approved Compostable bags (supplied by residents)
  - Small bundled twigs
- Material is so clean, Contractor pays City for the yard trimmings
- **129,072 tons** yard trimmings diverted and composted (April 2009 – October 2018)

Food Waste Diversion

- H-GAC Study: Commercial Food Waste Collection in the H-GAC Planning Region August 2015
  
Residential Curbside Organics Collection Pilot to Permanent

- 1st Phase ended 2013
  - Yard Trimmings made up 89.5%; Food Scraps 2.4%
- 2nd Phase initiated in 2014 (14,000+ homes served)
  - Results reported January 2015
- Backyard Composting Education & Incentive Program
- First Major Expansion of Program September 2017
  - Carts delivered to approx. 38,000 homes
- Second Major Expansion of Program June 2018
  - Carts delivered to approx. 38,000 homes

Currently there are about 90,000 homes on the program
- Planning to continue expansion through 2020 (two more phases)
- Curbside compost program contamination rate: About 2%

Universal Recycling Ordinance (URO) Phase 1

- Requires all multifamily buildings, office buildings, institutional properties in the City to recycle
- Fully implemented by October 1, 2017

URO Phase 2

- Expands to all remaining properties in Austin including retail centers, and includes food permit holders to divert organic material. Timeline was moved to 2018 for full implementation
  - City will incentive early adopters to offset their start up costs up to $1,800

https://austintexas.gov/austincomposts
Green Curb Cart Program - $3.00/month

- Accepted Materials
  - Grass Clippings
  - Wood, Limbs, Leaves
  - Kitchen Food Waste
  - Paper products
  - Milk and Juice Cartons
  - Phone Books

Facility also processes:
- Agricultural
- Horse Manure

Commercial
- Landscape trimmings (Leaves, Grass)
- Brush & Branches
- Clean Wood (chips, sawdust, lumber)

Free Compost Events for Residents. Wichita Falls Landfill.
Residential Brush Collection Program Every 4-6 weeks

Compost Facility Receives Wastes from:
- Residential – Yard trimmings
- Commercial – Brush, Clean Wood
- Industrial (e.g., food processors)

Materials Accepted for Composting
- Food Waste & Compostable Products
  - Fruits, Vegetables, Trimmings, Paper, Corrugated
- Yard Trimmings
  - Leaves, Grass Clippings
  - Logs & Stumps; Brush & Branches
  - Clean Wood (chips, sawdust, lumber)

City of McAllen
Save the Greens Program

City Owned and Operated compost facility. Program is operated by the Department of Public Works.
How the Commercial Compost Industry is Developing

Growth in Municipal Green Waste Diversion
Ban of Organics in Landfills

States that Ban Organics or Mandate Organics Recycling - October, 2014

- Ban/mandate some yard debris: Arkansas*, Delaware, Florida*, Georgia*, Illinois, Indiana, Iowa, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska*, New Hampshire, New Jersey, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, South Dakota, Vermont, West Virginia, Wisconsin
  *Allow yard debris disposal in landfills that generate energy

- Ban/mandate food scraps: California, Connecticut, Massachusetts, Rhode Island, Vermont.
  Also of note: New York City, Seattle

How the Compost Industry is Developing

Compostable ‘Plastics’ & Other Products

Check with Compost facility for Acceptance
Compost Industry Challenge – Closing Infrastructure Gaps

Challenges
• Premium Cost for Service
• Route Density Challenges
• Proximity to Processors

Solutions
Data Base & GIS Mapping to Connect Generators, Haulers, Processors

*Source: Houston-Galveston Area Council
Living Earth’s Take:
New Entrepreneur Opportunities and Areas of Future Focus

Farm Dirt Houston

Compost Peddlers
Austin

Turn Compost
Dallas

Food Waste Recycling
Resources:

✓ Composting Topics:  
http://www.tceq.texas.gov/p2/nav/composting.html


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