

Compost in Minnesota



Compost Marketability in Minnesota
GreenStep Cities; Fall 2017

What are Organics?

- Organics includes:
 - Food scraps
 - Non recyclable paper
 - Compostable plastics
 - yard waste
- Organics account for over 40% of the trash
- Metro area has a 75% recycling goal

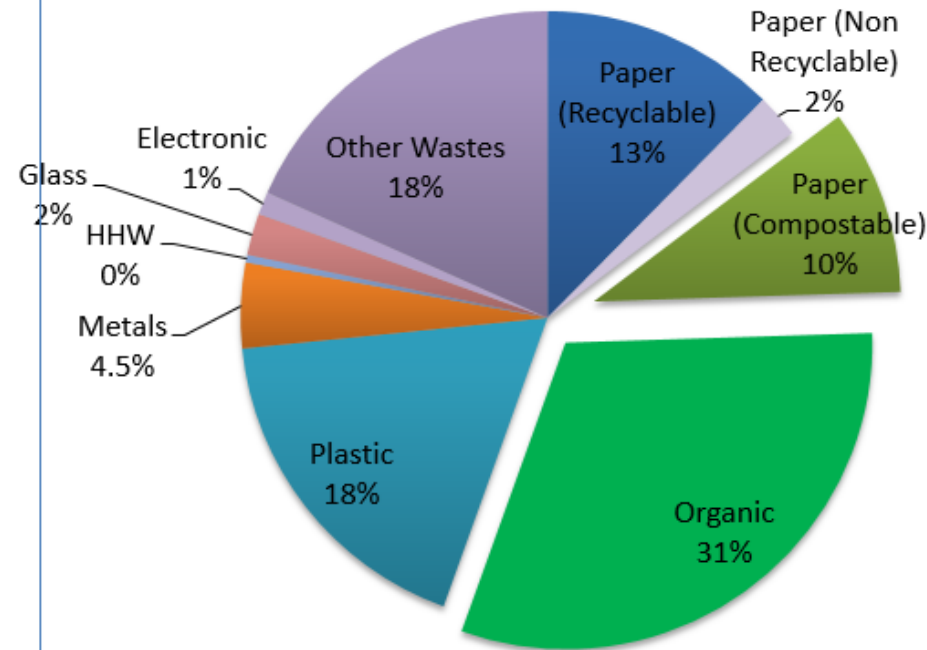


What's in Minnesota's garbage?

2013 Study of Minnesota's Waste

- Only includes materials thrown away
- Approximately 46% of waste was recycled (outside of this analysis)
- Over 40% of garbage could be composted
- Data suggests we can meet 75% recycling goal

2013 Waste Characterization -- Minnesota



Organics Recycling: A growing trend

- 100s of schools in the state
- Event Venues such as:
 - TCF Bank Stadium
 - The Science Museum
 - Xcel Center
 - Minneapolis Convention Center
 - Target Field
 - CHS Field
- Events such as:
 - Rock the Garden
 - Community Events, weddings, parties, etc.
- Parks
 - Three Rivers Park District
 - Baker Campground
 - Minneapolis Parks
- Businesses
- Residential



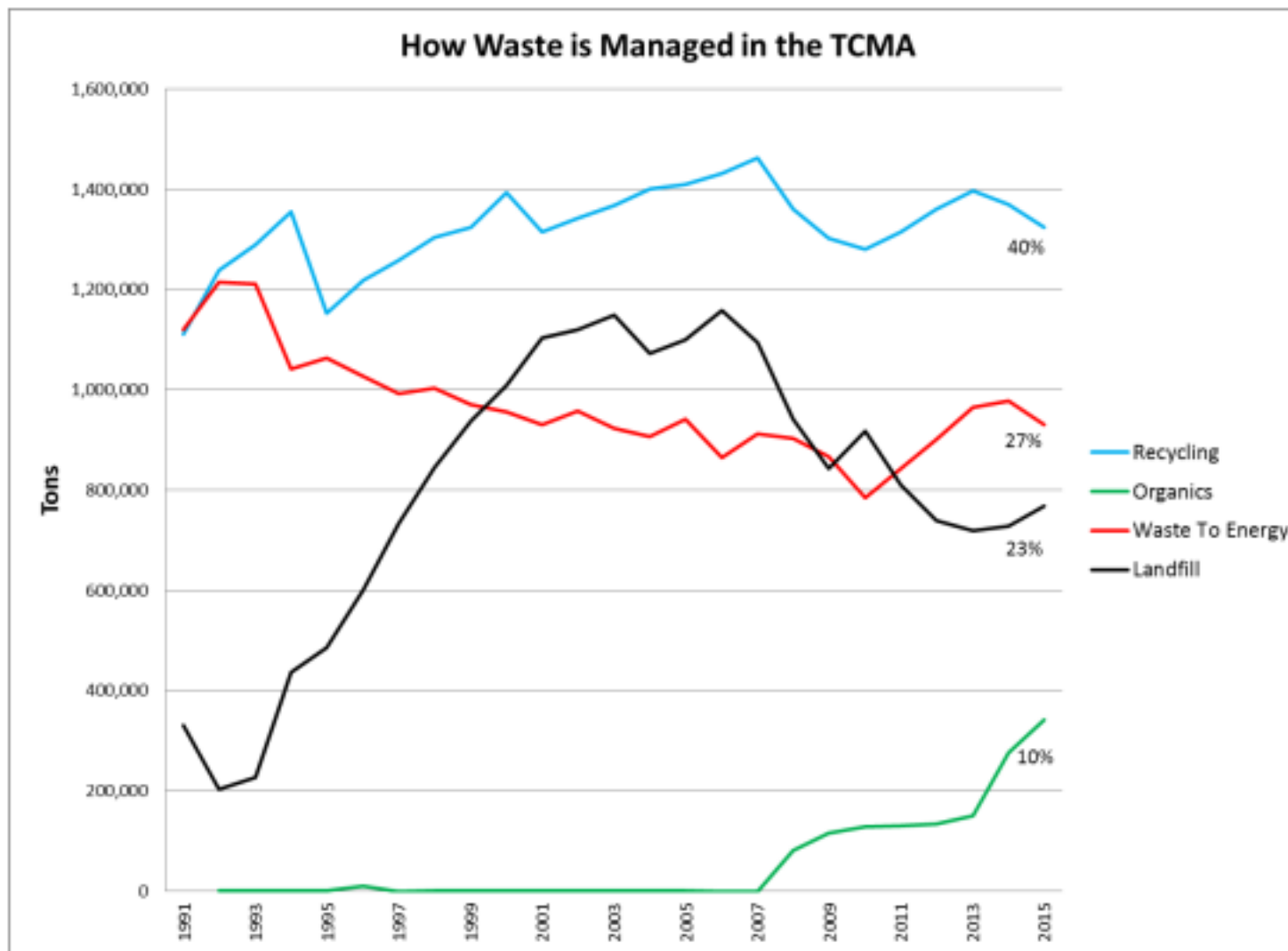


Figure 1. TCMA MSW management method percentages from 1991 to 2015 (Source: SCORE and Certification Reports)



Reduce,



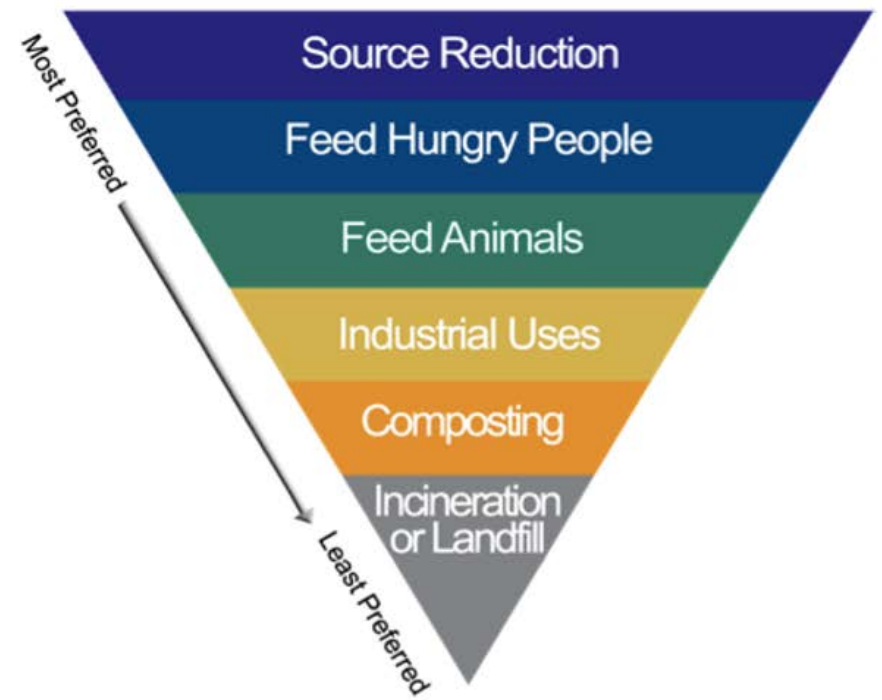
reuse, *then*



recycle.

Management Strategies

Food Recovery Hierarchy



Why Compost?

- Better than sending organic waste to landfills
- Recovers valuable material
- Increases economic activity
- Reduces greenhouse gases



Benefits of Compost

- Reduces need for pesticides and fertilizers
- Increases drought resistance
- Helps prevent water pollution
- Reduces Erosion



MnDOT uses compost-amended soil

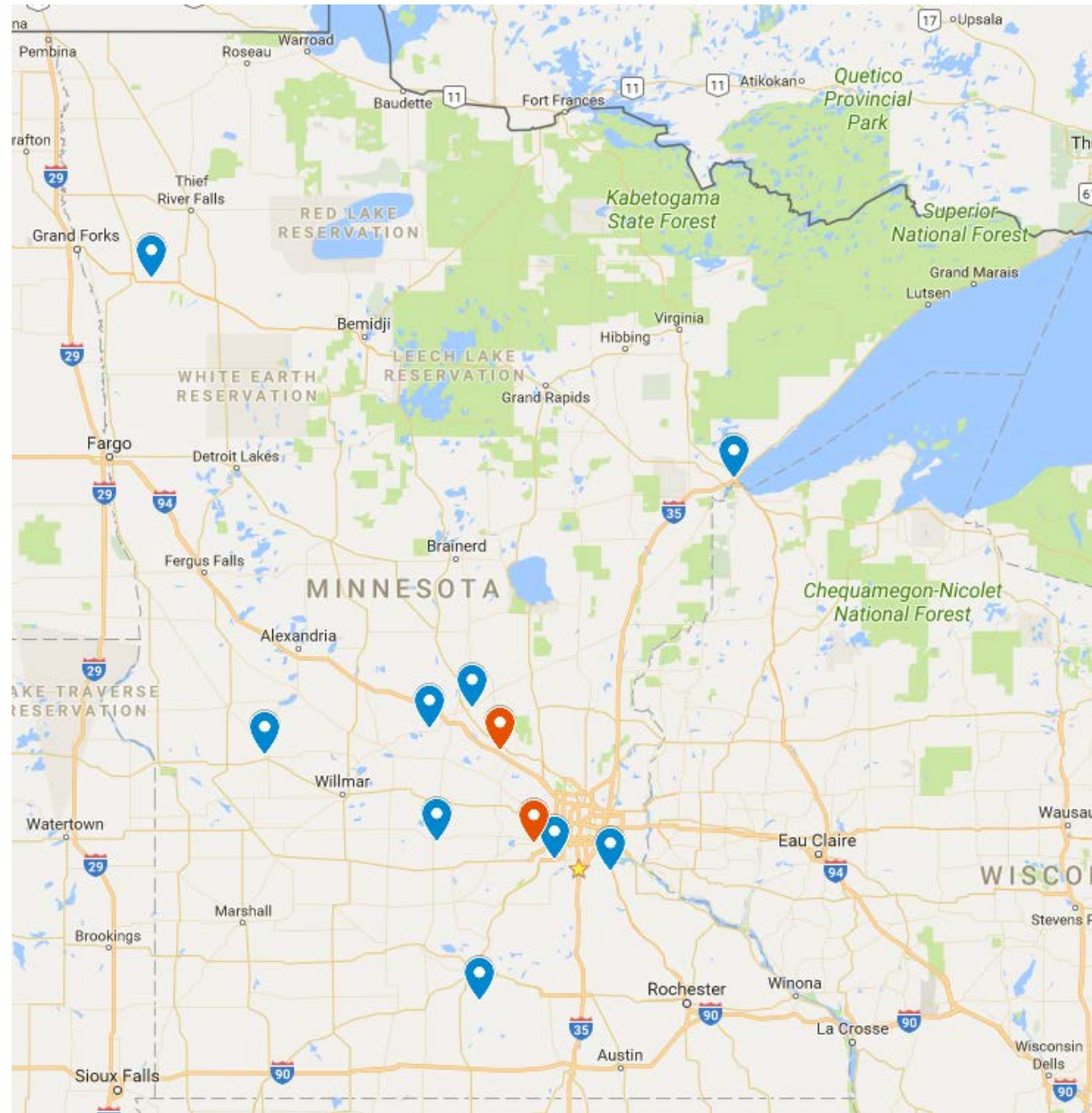
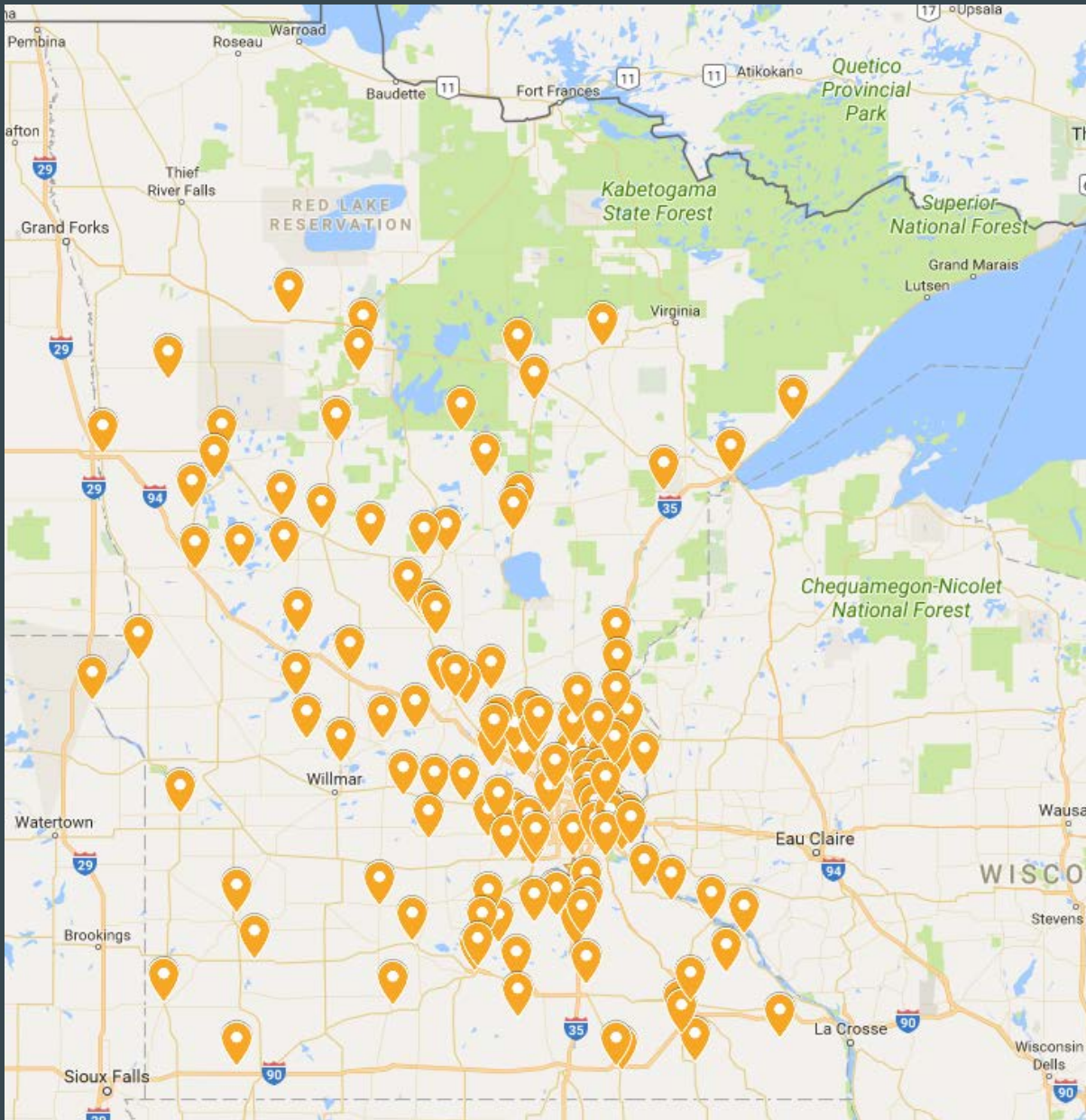


Less than 3 weeks later

Access



23% of the state's population has an organics drop-site in their city



B.P. 22.5

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Case Study, Hutchinson

Composting is not waste
management; it's product
manufacturing

New rule structure

**Backyard
compost
site**



Modify

**Small
compost
site**



New
category

**Yard
waste
compost**



No
changes

**SSOM
compost
facility**



New
category

**Solid waste
compost
facility**



No
changes



No permit required



Permit-by-rule



Permit required

Small Compost Sites

Most likely will appear at:

- Urban Farms
- Community Gardens
- Commercial Businesses
- Universities
- Apartment Complexes
- Communities in less densely populated areas



Organics Recycling Drop Sites

- Many communities now host drop-offs
- Can be co-located with yard sites or transfer stations
- Stand alone sites must supply info to their county to qualify as a *limited solid waste collection services transfer facility*

<https://www.pca.state.mn.us/waste/small-compost-sites>



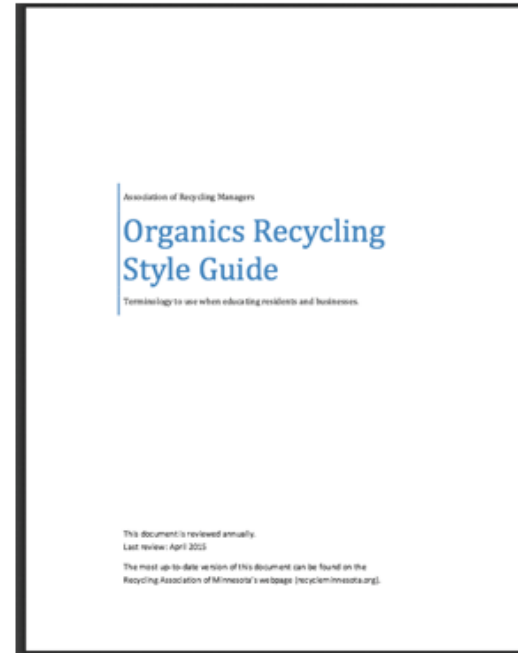
Model Ordinance

- Available Now on MNCC website
- Developed by ARM & MNCC
 - Stakeholders from Greater MN & Metro
- Intended to facilitate discussion & provide guidance



Organics Recycling Style Guide

- Developed cooperatively by:
 - ARM
 - MPCA
 - MNCC
 - RAM
 - SWMCB Communications team
 - Large scale composters
- Includes:
 - Recommended terminology
 - Recommended color and signage guidelines
 - Information about acceptable materials for composting programs
- Guide is available on the Recycling Association of Minnesota's website
 - Search for "Organics Recycling style guide"



Model City-Hauler Contract



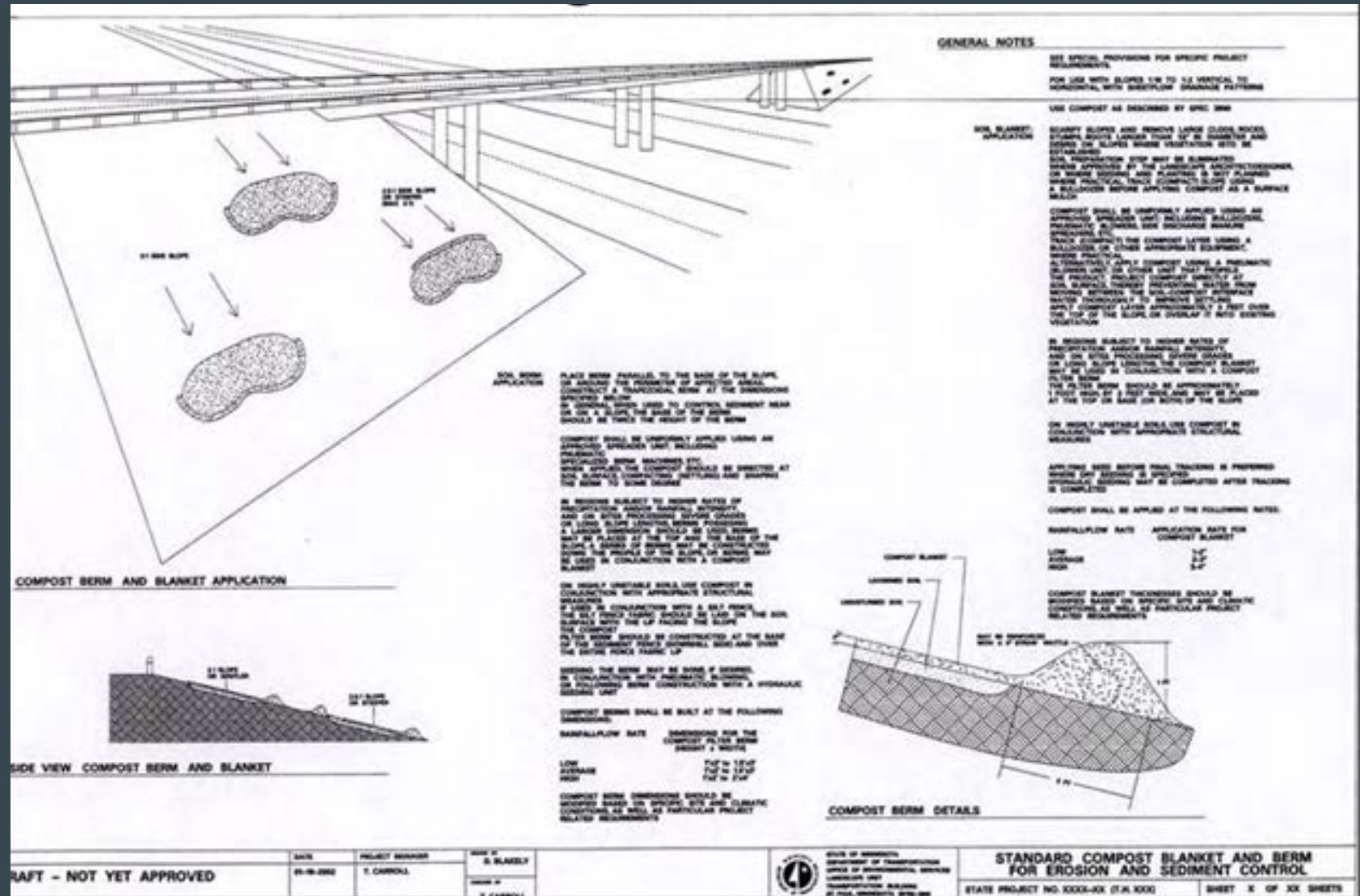
<https://www.pca.state.mn.us/sites/default/files/w-sw1-14.pdf>

MPCA SCORE Report

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Cities are also encouraged to adopt policies that expand markets for compost to improve the economic sustainability of organics collection and management programs. See these actions where cities can specify the use of compost as a soil amendment (using a MnDOT specification): Purchasing action 15.5, Forestry action 16.2, Stormwater action 17.5, and Parks action 18.5.

Compost Use with MnDOT



RAFT - NOT YET APPROVED

DATE	PROJECT MANAGER	NAME OF
01-16-2002	T. CARROLL	S. BLASEL
		T. CARROLL



STANDARD COMPOST BLANKET AND BERM FOR EROSION AND SEDIMENT CONTROL

STATE PROJECT NO. 0003-02 (7/1/00)

SHEET 2 OF 22 SHEETS

The Process

October 2016: Commissioners Meet, define priorities

November 16- January 17: Worked with MnDOT's team to re-write their 3890 spec

Gathered Stakeholder Input

composting industry, NGOs, state DOT's

Summer 2017: Spec book revisions released TBD.

Grade 1: use if turf establishment; manures

Grade 2: landscape planting medium; yard waste

Grade 3: mix of grade 1 and grade 2



**COMPOST SPEC
3890**

~~~“Evaluate the product, not the feedstock”~~~

# New Spec Recommendations

- 1) Add SSOM to Grade 2
- 2) Require STA Testing to ensure mature, safe, quality product

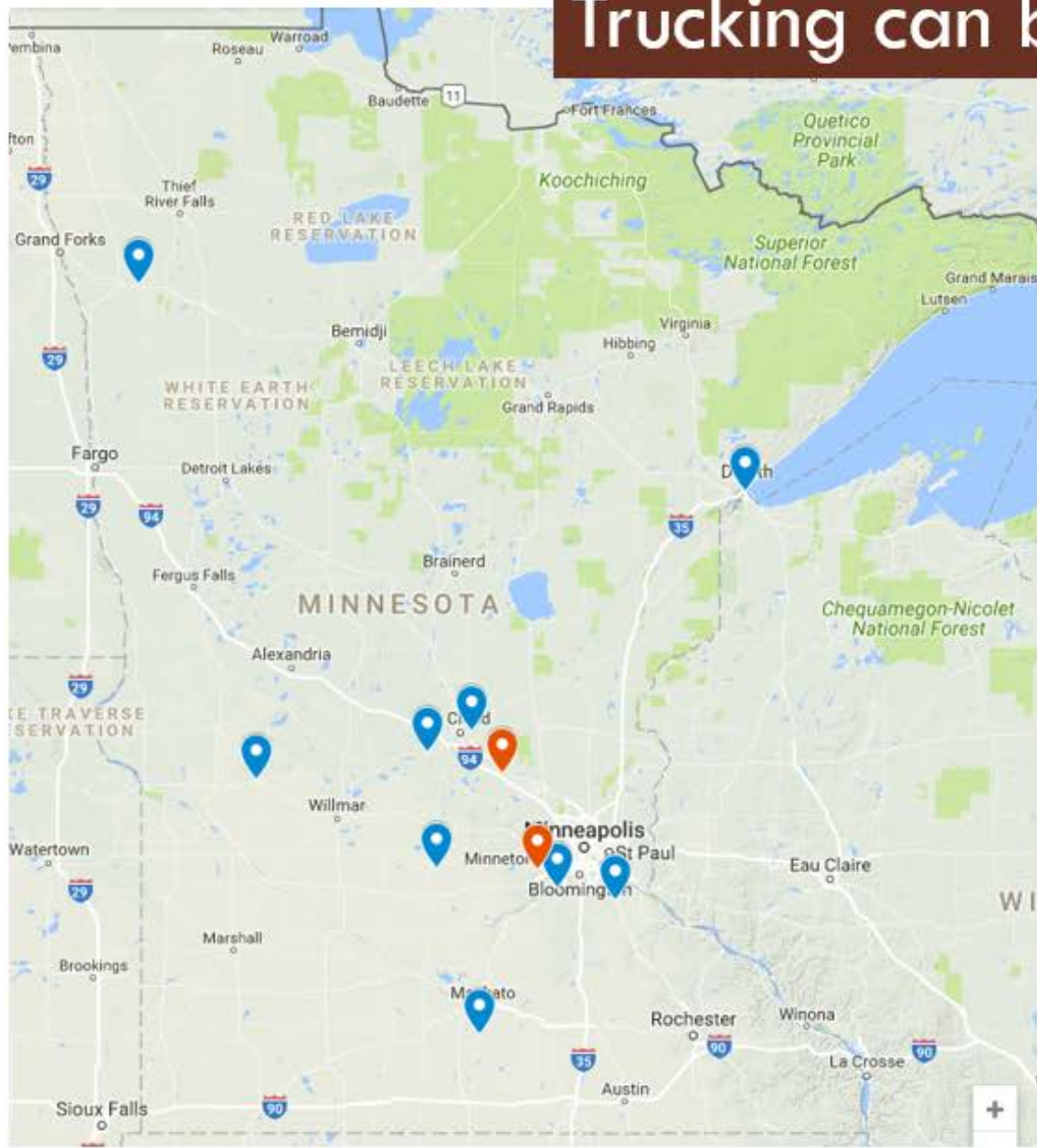


# PERCEIVED BARRIERS



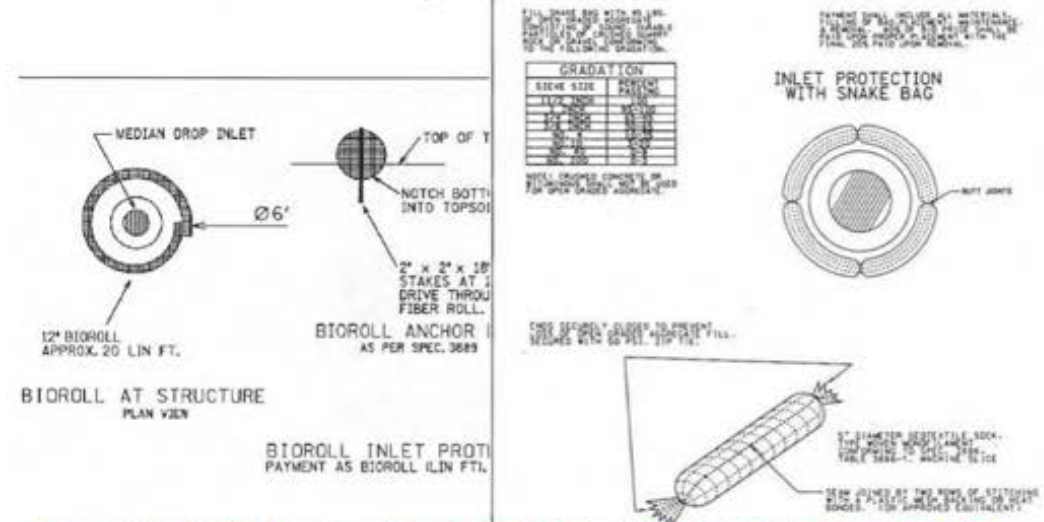
- MSW History
- Food Waste- meat and bones
- Phosphorus (Eutrophication)
- High organic content
- Unreliable Batches (?)

# Trucking can be cost prohibitive



- erosion control
- landscape planting
- turf establishment
- fertilizer
- improve water holding
- improves aeration at construction site
- binds micronutrients in the soil to improve nutrient availability for plants
- slope stabilization
- filtration of chemicals
- perimeter control (socks/blankets)

## Rock Log Compost Log



# CASE STUDIES

[HTTPS://WWW.EPA.GOV/SITES/PRODUCTION/FILES/2015-11/DOCUMENTS/HIGHWY3A.PDF](https://www.epa.gov/sites/production/files/2015-11/documents/highwy3a.pdf)

**ConnDOT:** none of the plants planted with compost needed replacement (i.e. the mortality rate was zero percent), compared to a mortality rate of approximately 40% in the standard ConnDOT control plants.

**FDOT:** One year after compost was incorporated and seed planted on the road shoulder, vegetative cover remained greater for all plots that received compost than for those which had not.

**NHDOT:** In roadside plantings, NHDOT requires the use of compost in the planting pits. Approximately 1,000 cubic yards are used annually.

# Compost/Stormwater Connection



Case Study, Eagan


# CITIES AND MUNICIPALITIES USE 3890 SPEC

**Eagan** uses compost as a soil for post construction over 10,000 sq feet

**Denver** requires 4 cubic yards compost per 1000 sq feet of permeable area incorporated to a depth of 6 inches

**Carver Co.** uses compost as a water management best practice





Actual Plan Note Excerpt:

### CITY OF EAGAN LANDSCAPE NOTES:

1. 12" SOIL LOOSENING REQUIRED IN ALL LANDSCAPE AREAS, INCLUDING LAWN AREAS
2. 3" MIN. MNDOT 3890 GRADE 2 COMPOST REQUIRED TO BE MIXED INTO PROPOSED PLANTING AND LAWN AREAS PRIOR TO PLANTING
3. NOTIFY CITY FOR INSPECTION OF SOIL AMENDMENT PROCESS PRIOR TO INSTALLATION OF ANY IRRIGATION, SEEDING OR PLANT MATERIALS TO VERIFY SOIL RESTORATION COMPLIANCE. CONTACT GREGG THOMPSON (GTHOMPSON@CITYOFEAGAN.COM - 651-675-5335)