

**VI Composting Committee**  
**Meeting #1 (Dec. 2, 2010)-- Preliminary Planning Information**  
Meeting Coordinators - Jim Doersam, P.E. and Susan Parten, P.E

**General Comments:**

We're passing along a document published by North Carolina State University on Large Scale Organics Composting. That "primer" might be helpful to some persons who are less familiar with large/community scale composting operations.

We're envisioning (each for St. Thomas, St. Croix and St. John), the following:

- ◆ One composting operation that produces product that can be used for edibles crops
- ◆ One co-composting operation producing product to be used for non-edibles (e.g. nurseries/yards/non-edible home gardens); This operation would include regulated materials (under 40 CFR Part 503 federal rules), such as municipal wastewater sludge.

The windrow method of composting will likely involve the lowest up-front investment, and we feel most likely the most cost-effective and easily implemented in the long-term, so we've based the preliminary planning information below on that composting method.

With regard to siting the above two categories of composting operations, it's going to be far more cost-effective and reasonable to, if possible, locate both types of operations at the same site (different areas of same site). In that way, we can use the same equipment for both, and save a lot on equipment, as well as overall land area given buffer needs, etc. Areas of the existing landfill properties (Anguilla and Bovoni) would probably be optimal (since it should already be permitted), if they're flat and stable enough, and don't have existing hazards or dire/near-term clean-up needs.

**1) Examples of Suitable Feed Stocks for Each of Two Types of Composting Operations:**

**"Organic" Feedstocks (suitable for edible crop soil amendment)**

- Yard Trimmings (grass clippings, leaves, brush, trees, etc.);
- Source-separated food wastes, for example: restaurant wastes (except grease trap waste), beer, wine, beverages, milk, grocery stores (waste fruits, vegetables, dairy, and yes, meat, too);
- Clean (untreated/unpainted) source separated wood (lumber, pallets, etc., and nails are not an issue);
- Waste paperboard (cereal boxes, other similar packaging);
- Waxed cardboard (typically used to pack moist products such as fruits, vegetables, etc.).
- Dead animals ("roadkill", euthanized pets, poultry mortality, etc.). Also, large animals can be easily composted if handled properly.

**NOTE:** In properly managed community-scale composting operations of the type we're discussing here, windrow compost piles are brought to and maintained at pasteurization temperatures to achieve adequate pathogen destruction standards for these end uses (under U.S. federal standards). *We can discuss feed stocks as needed to address concerns about certain categories of end uses for the composted products.*

**Non-Organic Feedstocks (suitable for non-edible crop soil amendments):**

- All of the above, as well as biosolids, grease trap wastes, septage, etc. Note that we recommend that septage be disposed at the municipal treatment plant, but grease trap wastes can certainly be composted **IF** there are sufficient carbon feedstocks to absorb the excess moisture. It would probably be best for WMA to continue tracking chain of custody on all septage hauling activities, with those associated tipping/waste drop-off fees to WMA from the septage/sludge haulers.

**2) Preliminary List of Equipment Needs;**

- Tub or horizontal grinder,
- Two front-end loaders (one "clean" for loading end products and one "dirty" for incorporating materials, pushing materials to tub grinder, etc.)
- One dump truck to move materials around the site,
- One windrow turning machine (SCARAB, for example),
- One screening machine,

**3) Preliminary List of ("bare bones") Labor Needs**

**NOTE:** These labor needs are for on-going operations only, and not including site engineering/design, site preparation/construction, etc.

- Overall Composting Manager (either one for all VI operations, or one each for STT/STJ and one for STX)
- One (1) "working" supervisor (for each site)
- Two (2) equipment operators (for each site)
- One (1) sales person (could be one for all operations) to market end products as well as incoming feed stocks.

**4) Preliminary Estimates of Volumes of Feed Stock Materials Generated at Each of STT and STX:**

**NOTE:** For now, we've combined STT and STJ quantities. Based on costs for equipment and available sites for composting, and available funding for these operations, it may or may not be feasible or cost-effective to do separate STT and STJ operations (full composting operations). For example, we might process brush on STJ, thereby reducing volumes, and then transport that material over to an STT composting operation.

Unprocessed Brush & Wood Waste /Year:

St. Croix: +/- 80,000 cubic yards

St. Thomas: +/- 60,000 cubic yards

After grinding, composting, the final volumes of screened compost produced with only be about 15,000 cubic yards at St Croix and 10,000 cubic yards at St. Thomas.

**5) Preliminary Estimates of Site Area Needs Each at STT and STX:**

**NOTE:** These are very preliminary estimates, for which we've not yet done any hydrologic/hydraulic or stormwater treatment needs determinations and calculations. We'll need to do that as a part of detailed design. We've also assumed here no cover for any of the operations (which of course adds to stormwater retention and treatment needs from each composting site).

Estimated areal needs are based on the incoming brush and wood wastes because these materials are the highest volumes of waste to process, and any special wastes would be processed into the void spaces of the resulting chipped B&W wastes. The following are very rough acreage needs estimates:

St Croix:

+/- 8 Acres processing + an additional 4-5 acres of stormwater pond / buffer zone = 13 acres

St. Thomas:

+/- 6 Acres processing + an additional 2-3 acres stormwater pond / buffer zone = 10 acres

These figures were based on the areas needed to receive and grind unprocessed wastes (3 acres at St. Croix, and 2 acres at St. Thomas), and acreage needed to actually compost, screen and blend materials (5 acres at St. Croix, and 4 acres at St. Thomas). The remainder ("buffer") would be for stormwater retention and setback distances to allow for sight screening, etc.

**Suggested Goals For Next Eight to Twelve Weeks (2-3 Months):**

1. Verify above estimates, at least on a preliminary planning basis;
2. Identify equipment makes/models, and associated costs;
3. Estimate costs for labor needs;
4. Determine feasibility of locating composting operations at landfill sites (STT and STX), and identify possible alternate sites if landfills not feasible;
5. Estimate on-going operational costs;
6. Based on targeted (and most likely feasible) sites, estimate site preparation/start-up costs.
7. Identify possible funding sources/mechanisms
8. Begin developing preliminary recommendations for tipping fees to composting operations, based on operational costs.

Committee members should think about which of the above tasks they'd like to work on. At the conclusion of the conference call, we can "divvy up" tasks. We should plan on another meeting in about 4-6 weeks, and check in on progress with the above items.