



# **Mobile Home Recycling**

Environmental Review Commission

December 13, 2006

Stephanie Lewis

Assistant Director of Operation Services

Brunswick County, NC

# Two Options for Disposal of Mobile Homes in Brunswick County

- ⇒ Developed an operational plan allowing mobile homes to be added to the acceptable materials at the County's Construction and Demolition Landfill. This would also allow for the recycling of metals from the mobile homes and thus became known as the Mobile Home Recycling program.
- ⇒ Implemented a program called Appearance & Code Enforcement or (ACE). This has provided a service to County residents and is very popular.

# Program History

- ➡ The Mobile Home Recycling Program was initiated by the Planning Department.
  - Zoning Ordinance to discontinue all non-conforming junkyards by January 2000.
  - The objective was to provide an alternative method of mobile home disposal.
  - The Planning Department approached the Solid Waste Department with the idea of recycling mobile homes.

# Program History

- ⇒ Applied for and received a C&D Recycling Grant from NCDENR in February of 2000.
  - Assist in identifying and implementing a cost-effective management method for recycling dilapidated mobile homes.
  - Target the recovery of recyclable materials from a waste stream which historically had been absent from intermediate processing.
- ⇒ Brunswick County began accepting mobile homes at its C&D Landfill in February of 2000.

# Appearance & Code Enforcement

- ⇒ The ACE program was established in 2001.
- ⇒ This effort is aimed at addressing concerns regarding the appearance of Brunswick County.
- ⇒ The program was for a limited time and is promoted as a service to County citizens.

# Items Addressed by ACE

- ⇒ Junked/Abandoned Vehicles
- ⇒ Junked Mobile Homes
- ⇒ Dilapidated Housing

# ACE Goals

- ⇒ Improve County's appearance across its 856 scenic square miles.
- ⇒ Protect and maintain property values.
- ⇒ Eliminate public health/environmental nuisances.
- ⇒ Protect public safety and welfare.
- ⇒ Increase desirability for residential and economic development.

# ACE Program Results

- ⇒ Demolished a total of 1,227 mobile homes.
- ⇒ Demolished a total of 952 dilapidated homes.
- ⇒ Removed a total of 671 vehicles and 158 boats.
- ⇒ Recycled approximately 4,037 tons of metal.
- ⇒ Channeled over 5,000 tires to the proper waste stream.



# ACE Program Costs

➡ Costs were determined using the following:

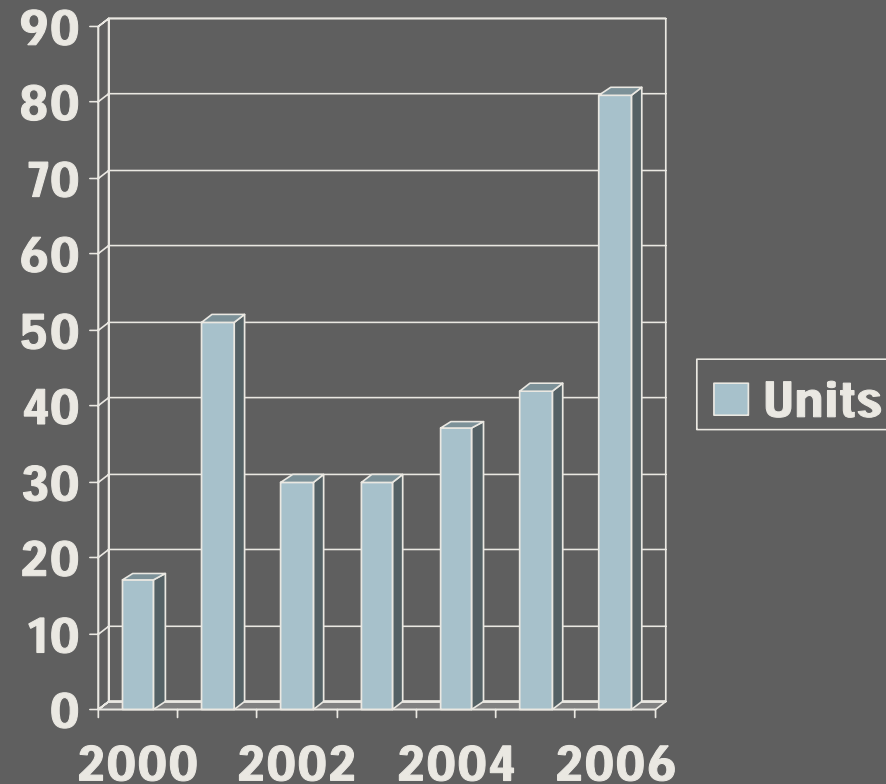
- Five (5) Equipment Operators
- One Excavator
- Four Tandem Dump Trucks
- One Lowboy Trailer & One Pickup Truck as needed
- Administrative & Supervisory Costs
- Tip Fee Costs

# ACE Program Costs

- ⇒ Estimated cost to demolish a mobile home = \$1,200/unit (without disposal fees)
- ⇒ Estimated cost to demolish & dispose of a mobile home = \$1,500/unit (varies upon tip fee)
- ⇒ Total ACE (Oct. 2001 – Nov. 2006) Costs:
  - Labor & Equipment Costs = \$1,899,730
  - Disposal Costs (waived tip fees) = \$1,907,738
    - ◆ Lost Landfill Space = 104,344 cubic yards

# Landfill Program Results

- ⇒ 2000 – 21 mobile homes
- ⇒ 2001 – 53 mobile homes
- ⇒ 2002 – 30 mobile homes
- ⇒ 2003 – 30 mobile homes
- ⇒ 2004 – 37 mobile homes
- ⇒ 2005 – 42 mobile homes
- ⇒ 2006 – 81 mobile homes



# Landfill Program Costs

- ⇒ 2 Equipment Operators
- ⇒ One Excavator
- ⇒ One Dump Truck
- ⇒ ~ 30 minutes per unit (single wide mobile home)
- ⇒ ~ in-house cost of \$75 per unit for demolition, plus \$185 - \$275 for tip fees (depending on contents and size of MH & variable tip fees)
- ⇒ Average cost for Brunswick County = \$255/unit

# Summary

- ⇒ Program initiated by the Planning Department
- ⇒ Received C&D grant from NCDENR
- ⇒ Became operational in 2000 w/ ACE starting in 2001
- ⇒ Has been very successful in several aspects:
  - Provides an alternative method of mobile home disposal for our residents.
  - Has vastly improved the appearance of our County.

# Program Benefits





# Program Benefits



# Program Benefits





# Program History

## ⇒ Public Awareness and Education

- Notifications were mailed to individuals with previously identified “junked item(s)”.
- Notifications were also placed with the County’s two major newspapers and main cable access channel.
- Program information was also included in the County’s Spring Clean Up advertisements in April 2000.

# Operational Setback

- ⇒ Mobile homes would not fit across the scales.
  - Established two ways of applying fees to mobile homes:
    - ◆ Per ton charge (same as the tipping fee for C&D material).
    - ◆ Per unit charge (a flat fee for each single wide).
      - For example, a double wide was considered as 2 units.

# Operational Setback

- ⇒ How to determine what the flat fee should be?
  - Used a portable scale to weigh a single wide mobile home and a separate axel and frame.
  - Determine the average amount of C&D material obtained from demolishing a mobile home.
  - Calculated the flat fee based on the amount of C&D material.

Wt. Of Mobile Home – Wt. Of Axel & Frame = Wt. Of C&D Material

# How to Recycle a Mobile Home



- ➡ Pull the mobile home to the side of the working face.

# How to Recycle a Mobile Home



- ➡ Push the mobile home onto its side.
  - The axel and frame will usually pull away from the mobile home.



# How to Recycle a Mobile Home



- ➡ Demolish the top side of the mobile home.
  - Remove all metal appliances and white goods.

# How to Recycle a Mobile Home



➡ Finish demolishing the mobile home.