



# Do you landfill green waste?

## Would you like to improve this process in the following areas?

- **Meet environmental compliance regulations.** Reduce solid waste disposal and increase solid waste diversion from landfills and incinerators. Media area is solid waste.
- **Improve workers' safety and health.** No change from current operations.
- **Increase productivity.** Reduce the time required to manage solid waste collection and disposal.
- **Save money.** Reduce waste collection and disposal costs. Reduce organic waste and recycle as mulch fertilizer.



Shredder/Chipper Equipment

Operations at Navy installations result in the estimated generation of 96,000 tons of organic, yard waste (green waste) annually. The green waste is landfilled or incinerated at a cost of \$8 million. This green waste can be reduced or reused by using solid waste mulching equipment, including shredder/chippers, tub grinders and mulching lawn mowers. Useable products such as landscape mulch, fuel, and compost agents can be produced. Shredder/chipper equipment can be used to mulch small organic waste material, such as tree limbs or branches. Units are diesel powered, available in various sizes and horsepower ratings. Common features include automatic feed systems, rotatable discharge chutes to distribute mulching materials, and trailer hitches. Wood tub grinders are used to reduce wood or other organic matter into smaller particles. Tub grinders can process larger and odd shaped wood, including stumps, pallets, and waste lumber. Typically, the tub grinder is fed by a front-end loader or stationary grapple, while a conveyer carries away the continuous stream of shredded material. The larger sized output material can be used as a biomass fuel or as a bulking agent in composting operations. The smaller material is composted. Mulching lawn mowers do not collect grass clippings. Instead, clippings are reused at the lawn. **This equipment is available through GSA and the Navy Pollution Prevention Equipment Program (PPEP).**

## How can you achieve these improvements?

Use solid waste mulching equipment.

## How does this equipment work?

Organic (green) waste is fed into the solid waste mulching equipment, where it is ground to a fine, even-textured material that will compost quickly.

## How will this equipment save you money?

Reduces solid waste collection and disposal costs while producing usable products. The equipment typically pays for itself in less than two years. Cost to implement shredder/chipper equipment can vary from \$4,000 to \$40,000. For a complete economic analysis of wood tub grinders, refer to Joint Service P2 Opportunity Handbook Data Sheet 7-III-13.

## Typical Process Flow Diagram



How can this technology eliminate or reduce pollution?

The solid waste mulching equipment will reduce the organic waste volume. Use will result in the following pollution reductions:

- Reduce the quantity of solid waste disposed of in landfills and incinerators.
- Reduce quantity of solid waste transported off-site from Navy installations.

Which processes can benefit most from this technology?

Solid waste mulching equipment can be used to process organic debris into mulch, compost, or supplemental fuel. Typical processes impacted include:

- Building construction and demolition operations
- Landscaping operations
- Solid waste segregation and collection operations
- Land and lot clearing

How can this technology reduce regulatory compliance concerns?

Use of solid waste mulching equipment will result in the following regulatory compliance benefits:

- May help facilities meet pertinent solid waste reduction goals including the Department of Defense Measure of Merit goal.
- Helps facilities comply with the waste reduction and recycling requirements of Executive Order 13101.



### Achieving Environmental Compliance Through Pollution Prevention

Every day the Navy faces the challenge of operating and maintaining the fleet while complying with environmental regulations. This burden can be reduced by using pollution prevention technologies and methods to reduce compliance requirements. This fact sheet is one in a series designed to encourage activities to use pollution prevention technologies and methods. The overall goal of this series is to promote sustained environmental compliance at the lowest life-cycle cost.

For additional information, contact:

Joint Service P2 Opportunity Handbook Datasheet number 7-III-13 ([http://p2library.nfesc.navy.mil/P2\\_Opportunity\\_Handbook/7\\_III\\_13.html](http://p2library.nfesc.navy.mil/P2_Opportunity_Handbook/7_III_13.html)) and the PPEP Equipment Book (<http://www.lakehurst.navy.mil/p2/index.html>)

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