

US EPA ARCHIVE DOCUMENT

8 YARD MAINTENANCE

Since the start of the EMPACT Lead-Safe Yard Project in 1998, the project's leaders have gained a heightened appreciation of the importance of yard maintenance to the project's overall success. It is safe to say that good maintenance is as critical as gathering accurate soil samples or selecting appropriate treatment measures.

This chapter explains the importance of yard maintenance (Section 8.1) and provides guidance on making maintenance an integral part of your lead-safe yard program. Section 8.2 presents specific maintenance guidelines for the landscape treatments found in Chapter 7. Section 8.3 describes the development of a property-specific maintenance manual and presents a sample manual used by the EMPACT Lead-Safe Yard Project. Section 8.4 provides tips on homeowner education, while Section 8.5 suggests creative ways of encouraging ongoing maintenance.

All of these sections will be useful to someone responsible for implementing a lead-safe yard program. Homeowners interested in applying landscape treatments to their own yards can focus on Sections 8.1, 8.2, and 8.3.

8.1 THE IMPORTANCE OF YARD MAINTENANCE

Why is yard maintenance such an important part of a successful lead-safe yard program? The answer is quite simple. All of the landscape measures used by the EMPACT LSYP are interim controls: that is, they are designed to protect children and other people from existing soil-lead hazards without permanently abating the hazards. These landscaping measures provide protection only so long as they are kept in good repair. Evergreen shrubs, for example, will discourage children from playing in the drip zone only if the shrubs are kept alive. Grass serves as a protective barrier only if it is healthy and well maintained. Likewise, a mulch-filled pet area must be raked regularly to maintain a 6-inch mulch barrier and keep pets from contacting lead-contaminated soil.

The good news is that all of these landscape measures can provide effective, continuing protection if well maintained. And most maintenance tasks are relatively simple—as easy as tightening a screw, watering a lawn, or raking a gravel drive.

8.2 MAINTENANCE REQUIREMENTS FOR EMPACT TREATMENT MEASURES

The table on pages 114 to 116 summarizes all maintenance tasks required for the landscape treatments described in Section 7.2 of this handbook. The table includes information on the optimum frequency of maintenance and the tools needed for each task.

8.3 DEVELOPING A PROPERTY-SPECIFIC MAINTENANCE MANUAL

For each completed yard treatment, the landscape coordinator should prepare a property-specific maintenance manual that can be provided to the homeowner as part of the case file for his or her property (see Section 7.8). This maintenance manual should tell the homeowner what maintenance tasks need to be performed, when it is best to do them, and what tools (if any) are required for each job.

The maintenance manual used by the EMPACT LSYP during its Phase 1 and 2 treatments is shown on pages 117 through 122. The manual has several features that make it effective and easy to use:

- It is easily customized for each yard treated. The landscape coordinator simply places a checkmark next to each treatment measure used in that particular yard.
- It is easy to read. The homeowner simply looks for the checkmarks identifying the treatments used, then follows the maintenance guidelines provided.
- It is keyed to correspond with the treatment plan developed during the design session. The letters identifying particular treatment measures match up with those shown on the site worksheet (see page 103 in Chapter 7).
- It includes a list of materials used for yard maintenance, their typical costs, and places they can be obtained (including sources of free materials).

8.4 EDUCATING HOMEOWNERS ABOUT YARD MAINTENANCE

At the conclusion of each yard treatment, the landscape coordinator should meet with the homeowner to review all landscape work that has been completed in the yard, pass on the property-specific maintenance manual, and explain the information it contains.

This meeting provides a perfect opportunity to educate the homeowner about the importance of yard maintenance and to re-emphasize some of the key lessons of your program. The EMPACT LSYP has found that homeowners often don't retain the information on soil-lead hazards that was presented to them by the outreach coordinator (see Lessons Learned below). For this reason, the landscape coordinator should use this opportunity to review the following:

- The results of the soil-lead sampling and the areas of concern.
- Why lead-contaminated soil is harmful to children and other people.
- The landscape treatments that were employed and how they protect against harmful exposures.
- The homeowner's responsibility in maintaining the landscape installations.

Throughout the meeting, the landscape coordinator should emphasize that the landscape treatments will only be effective if well maintained. He or she should also emphasize that all involved maintenance is easy and inexpensive to perform.

8.5 STRATEGIES FOR ENCOURAGING ONGOING MAINTENANCE

Once you have finished treating a yard, met with the homeowner one last time, thanked him or her for participating, and said goodbye, the success of that yard treatment is almost entirely in the homeowner's hands. If he or she completes all maintenance tasks as outlined in the maintenance manual, the treatments that have been installed can provide ongoing protection for many years. On the other hand, if the homeowner neglects all maintenance, the benefits of the yard treatment will be limited.

LESSONS LEARNED: RE-EDUCATING HOMEOWNERS ABOUT SOIL-LEAD HAZARDS

During Phases 1 and 2 of the EMPACT Lead-Safe Yard Project, the project team made focused efforts to educate homeowners about the need for maintaining the landscape treatments that were installed in their yards. These efforts included the creation of a homeowner packet for each completed property; the packet contained a record of the soil-lead sampling results, a color-coded plot plan showing treatments used, and a property-specific maintenance manual identifying maintenance tasks needed for that yard.

In the spring of 2000, less than two years after the first Phase 1 treatments were completed, members of the EMPACT team revisited several of the Phase 1 and 2 properties to evaluate the level of maintenance that had taken place. The results were disappointing. Their observations indicated that, at some properties, little or no maintenance had occurred. Many of the landscape installations (especially those requiring frequent attention from the homeowner, such as grassed areas and plantings) had degraded to the point where they no longer appeared to provide effective protection. Some homeowners were unable to locate their maintenance manuals when asked.

In assessing the reasons for these disappointing results, the project team found that many of the homeowners perceived the LSY as a “yard beautification” project rather than as a risk-prevention program designed to protect children from dangerous lead exposures. Though each homeowner had been given extensive information about soil-lead hazards and how landscape measures could help protect their family's health, the homeowners had not always retained this message. The project team concluded that they needed to find new strategies for emphasizing the lead hazard message during Phase 3 of the project, and for creating repeated opportunities for homeowner re-education. The strategies devised by the project team included sending out reminders about the need for yard maintenance, holding community-wide lead-safe yard maintenance days, and offering annual educational events about soil-lead hazards. These strategies are presented in Section 8.5. Additional strategies are described in Section 5.2, “Educating People About Lead and Lead in Soil.”

Here are three strategies for encouraging ongoing maintenance over time:

- **Send out reminders.** Try developing a standard maintenance reminder that can be sent out annually to all homeowners who have participated in your program.
- **Hold community maintenance days.** Once or twice a year (perhaps in spring and/or fall), organize a community-wide “Lead-Safe Yard Maintenance Day.” Such an event could be combined with community clean-up days.
- **Offer annual educational events within your community about soil-lead hazards.** For example, you might want to organize a presentation on lead poisoning and soil-lead hazards at a local community center or community college.

Above all, remember to be creative in communicating your message about soil-lead hazards, and repeat it at every opportunity.



Organize a presentation on lead poisoning and soil-lead hazards to encourage ongoing yard maintenance within the community.

MAINTENANCE REQUIRED FOR IMPACT LANDSCAPE TREATMENTS

Yard Area	Treatment Measure	Maintenance Tasks	Frequency	Tools Needed
Drip zone	Raised perimeter box filled with mulch and plantings	Check that all screws and other connections on box are secure	Annually	Screwdriver, hammer
		Look for and remove splinters	Annually	None
		Remove weeds and debris	Three times a year	None
		Replenish mulch to 6" depth	Every two years	Mulch fork or rake, shovel, wheelbarrow
		Water plantings	Regularly	Sprinkler, garden hose
	Raised perimeter box filled with gravel	Check that all screws and other connections on box are secure	Annually	Screwdriver, hammer
		Look for and remove splinters	Annually	None
		Remove weeds and debris	Annually	None
	Grassed areas	Existing lawn improvement OR New lawn installation (at existing grade)	Apply grass fertilizer	Twice a year (spring and fall)
Water lawn			Regularly	Sprinkler, garden hose
Reseed bare spots			Annually (spring or early fall)	Rake, seed mixture
New lawn installation (raised bed)		Check that all screws and other connections on box are secure	Annually	Screwdriver, hammer
		Look for and remove splinters	Annually	None
		Apply grass fertilizer	Twice a year (spring and fall)	None
		Water lawn	Regularly	Sprinkler, garden hose
		Reseed bare spots	Annually (spring or early fall)	Rake, seed mixture
Raised mulch bed (with plantings)		Check that all screws and other connections on box are secure	Annually	Screwdriver, hammer
		Look for and remove splinters	Annually	None
		Remove weeds and debris	Three times a year	None
		Replenish mulch to 6" depth	Every two years	Mulch fork or rake, shovel, wheelbarrow
		Water plantings	Regularly	Sprinkler, garden, hose

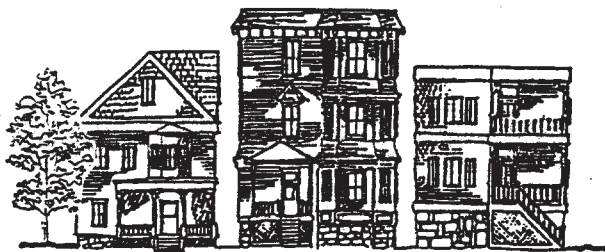
MAINTENANCE REQUIRED FOR EMPACT LANDSCAPE TREATMENTS

Yard Area	Treatment Measure	Maintenance Tasks	Frequency	Tools Needed
Parking areas	Gravel parking area	Remove weeds and debris	Twice a year (spring and fall)	None
		Rake to maintain evenly spread top layer of 1 ½ " to 2"	As needed	Rake
	Asphalt parking area	No maintenance needed	None	None
Recreation and children's play areas	Wood platform	Check that all screws and other connections are secure	Annually	Screwdriver, hammer
		Look for and remove splinters	Annually	None
		Sweep to maintain cleanliness	As needed	Broom
	Raised bed filled with mulch or woodchips	Check that all screws and other connections on box are secure	Annually	Screwdriver, hammer
		Look for and remove splinters	Annually	None
		Remove weeds and debris	Three times a year	None
		Replenish mulch to 6" depth	Every two years	Mulch fork or rake, shovel, wheelbarrow
Pet areas	Raised pet area filled with mulch or woodchips	Check that all screws and other connections on box are secure	Annually	Screwdriver, hammer
		Look for and remove splinters	Annually	None
		Remove weeds and debris	Twice a year	None
		Rake to maintain 6" depth	As needed	Rake
		Replenish mulch or woodchips to 6" depth	Every two years	Mulch fork or rake, shovel, wheelbarrow
Bare soil under porches	Install lattice and trim	Check that all screws, nails, and other connections on installation are secure	Annually	Screwdriver, hammer
		Look for and remove splinters	Annually	None
		Scrape, sand, and paint or apply additional coats of sealant		Scraper, sandpaper, paintbrush, paint or sealant

MAINTENANCE REQUIRED FOR IMPACT LANDSCAPE TREATMENTS

Yard Area	Treatment Measure	Maintenance Tasks	Frequency	Tools Needed
Bare soil under porches	Raised bed filled with mulch or gravel along footprint of porch	Check that all screws and other connections on box are secure	Annually	Screwdriver, hammer
		Look for and remove splinters	Annually	None
		Remove weeds and debris	Annually	None
		Rake to maintain evenly spread top layer	As needed	Rake
		For mulch beds, replenish mulch to 6" depth	Every two years	Mulch fork or rake, shovel, wheelbarrow
Garden areas	Raised vegetable garden bed	Check that all screws and other connections on box are secure	Annually	Screwdriver, hammer
		Look for and remove splinters	Annually	None
		Add additional loam (or compost)	Annually	Shovel, wheelbarrow
Walkways	Stone path	Sweep to maintain cleanliness	As needed	Broom

LEAD-SAFE YARDS MAINTENANCE MADE SIMPLE



Dorchester Lead Safe Yards Program

1999

LOOK FOR THE THAT SHOWS THE TREATMENTS USED IN YOUR YARD AND FOLLOW THE GUIDELINES

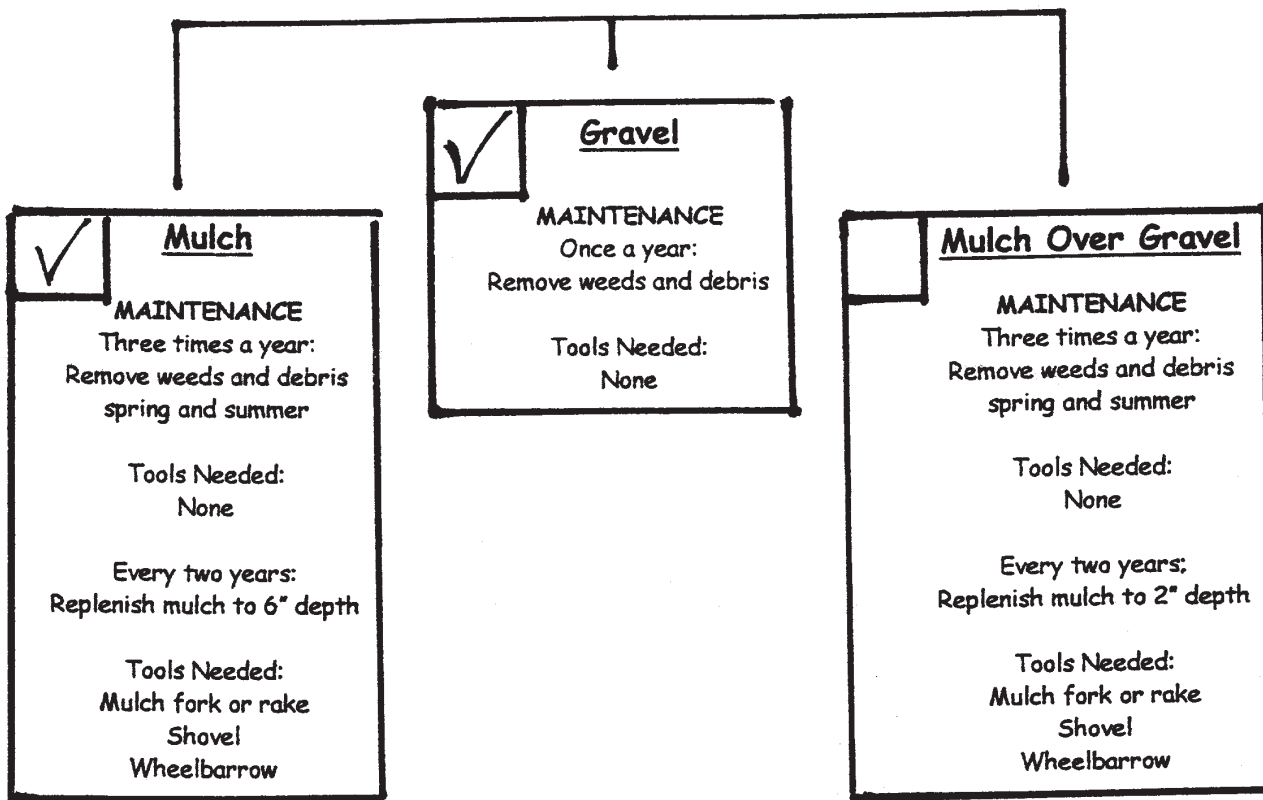
A. Pressure Treated Wood Dripline Boxes

MAINTENANCE
Once a year:
Check to make sure that all screws and other connections are secure

Look for and remove splinters

Tools Needed:
Screwdriver and/or hammer

Dripline Boxes are Lined with Perforated Plastic or Landscape Film Then Filled with One of the Following:



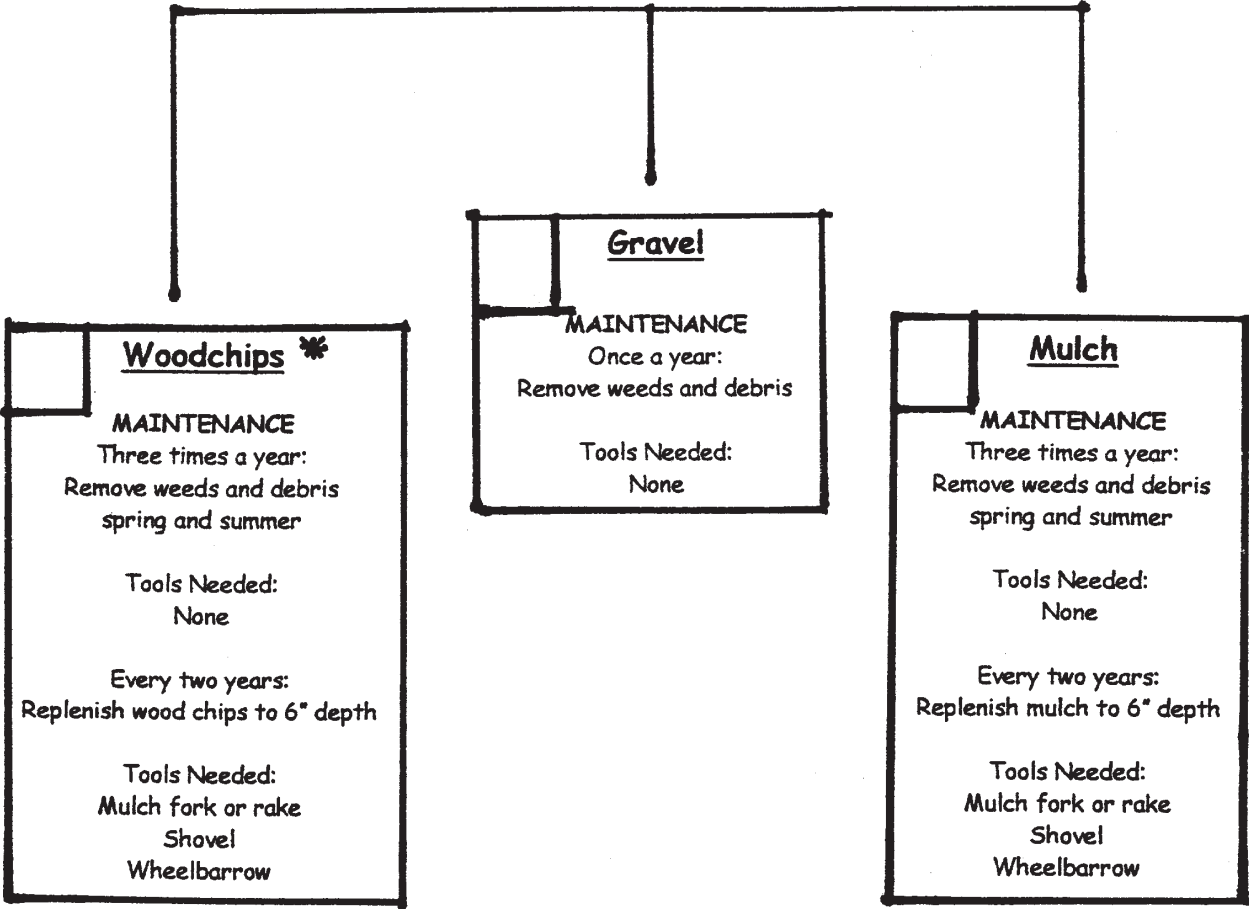
✓ **B. Pressure Treated Wood Raised Picnic/Play Areas**

MAINTENANCE
 Once a year:
 Check to make sure that all screws
 and other connections are secure

Look for and remove splinters

Tools Needed:
 Screwdriver and/or hammer

Pressure Treated Wood Raised Play or Picnic Areas are Lined
 with Perforated Plastic or Landscape Fabric and then
 Filled with One of the Following:



* See Resource List for Sources of Free Materials

<input checked="" type="checkbox"/>	C. Pressure Treated Wood Raised Garden Plots
MAINTENANCE	
Once a year:	
Check to make sure that all screws and other connections are secure	
Look for and remove splinters	
Tools Needed:	
Screwdriver and/or hammer	

Pressure Treated Wood Raised Garden Plots are Lined with Landscape Film and then filled with Loam and Compost: *



<input checked="" type="checkbox"/>	MAINTENANCE
Once a year:	
Add additional Compost Early spring	
Tools Needed:	
Shovel Wheelbarrow	

D. Covered Surface Areas for People, Cars and Pets

Stepping Stone Paths
MAINTENANCE
 Sweep as needed

 Tools Needed:
 Broom

Gravel Driveways and Paths
 (Gravel spread to 2" depth)
MAINTENANCE
 Twice a year:
 Remove weeds and debris
 spring and fall

 Tools Needed:
 None

 Rake as needed to
 maintain 2" depth

 Tools Needed:
 Rake

Grassed Areas
 (Recommended for sunny spaces)
MAINTENANCE
 Twice a year:
 Apply grass fertilizer
 spring and fall

 Tools Needed:
 None

 Water regularly especially
 during hot, dry weather

 Tools Needed:
 Sprinkler
 Garden hose

 Every Year:
 Reseed bare spots
 spring or early fall

 Tools Needed:
 Rake

Areas For Pets
 (Woodchips spread to 6" depth)
MAINTENANCE
 Twice a year:
 Remove weeds and debris
 spring and summer

 Tools Needed:
 None

 Rake as needed to
 maintain 6" depth

 Tools Needed:
 Rake

 Every two years:
 Replenish woodchips to
 maintain 6" depth *

 Tools Needed:
 Mulch fork or rake
 Shovel
 Wheelbarrow



* See Resource List for Sources of Free Materials

RESOURCES AND TYPICAL COSTS
 Prepared for Dorchester Lead Safe Yards Program 1999

<u>MATERIAL</u>	<u>SOURCE</u>	<u>TYPICAL COST</u>
Gravel	Building Supply or Garden Center	\$20.00 per cubic yard plus delivery
Mulch	Garden Center	\$25.00 per cubic yard \$6.00 per 3 cubic foot bag plus delivery
Woodchips	Tree Service or Recycling Center or Parks Department	FREE FREE FREE
Pressure Treated Lumber (2"x 6")	Lumber Yard	\$.75 per linear foot plus delivery
Grass Seed	Garden Center	\$10.00 per 3 lb. bag (covers 1700 sq. ft.)
Grass Fertilizer	Garden Center	\$10.00 per bag (covers 5000 sq. ft.)
Plastic in Rolls	Hardware Store	\$3.00 per 3'x50' roll
Landscape Fabric	Garden Center	\$15.00 per 3'x50' roll
Compost	Garden Center or Recycling Center or Parks Department	\$5.00 per 50 lb. bag FREE FREE
Stepping Stones	Building Supply or Garden Center	\$2.00 per 12" pre-cast square or round stone