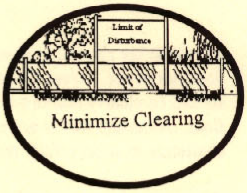
1 Minimize Clearing



Description/Goals

In this technique, land cleared for construction is kept to a minimum. Land cleared for construction produces as much as 2,000 times more sediment than forest or meadow (Paterson et al., 1993). In addition to its value for preventing erosion, minimizing clearing preserves forest, wildlife habitat and riparian corridors.

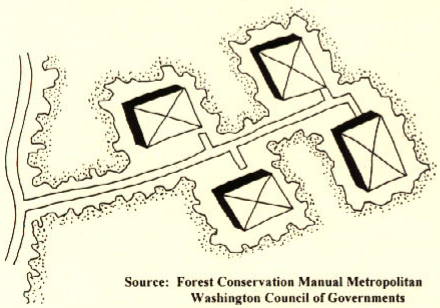
Techniques

Before construction begins, the "limits of disturbance" should be clearly marked, using flags or fencing (e.g., silt fencing). Clearing should only be performed within the context of an overall stream protection strategy. Some areas, such as stream buffers, forest conservation areas, wetlands, highly erodible soils, steep slopes, environmental features and stormwater infiltration areas should never be cleared.

In "site fingerprinting," clearing is restricted only to the areas where clearing is absolutely necessary for construction access, buildings, roads and utilities. This technique can save up to $5,000 per acre on earthwork and erosion and sediment controls (Schueler, 1995). Innovative site designs, such as cluster development, minimize disturbance by reducing the total area to be built on in a development.

Limitations/Challenges

The greatest challenge to implementing techniques that minimize clearing is the planning required throughout design and construction. Careful



Source: Forest Conservation Manual Metropolitan Washington Council of Governments

Approximate Cost: No Additional Construction Cost

Effectiveness

	Low	Mod	High
Erosion/ Sediment Control			✓
Long-Term Pollutant Reduction			✓
Habitat / Stream Protection			✓

Ease of Application

	Difficult	Average	Easy
Installation		✓	
Maintenance			✓

Limitations

- Where zoning prevents alternative site designs
- Sites with excessively steep slopes
- Small sites for some techniques

site plans are needed to ensure that needless clearing does not occur. Areas that should not be cleared should be clearly marked on the site plan and in the field. Although this is not a limitation, it is a major challenge to successfully minimizing clearing.

Zoning requirements for lot geometry or road standards which hinder cluster development or narrower streets may limit the use of innovative site designs. Furthermore, developers may be unfamiliar with these site designs, and therefore hesitant to design developments using these techniques.

Site size and steep slopes are probably the biggest physical limitations governing the use of minimization techniques. On small sites, minimizing clearing is more difficult because a large percentage of the site may be reserved for construction staging or equipment storage. On sites with steep slopes, retaining walls and other expensive construction techniques will be needed to successfully implement site fingerprinting.

Innovations/Improvements

Using an innovative technique for digging utility trenches developed by a Maryland consulting firm, a standard 25 foot wide clearing limit can be reduced to just 10 to 15 feet (Corish, 1995). Construction equipment is kept on one side of the trench and excavation spoils are deposited on the same side. A geotextile fabric is laid across the top of the spoil area prior to starting excavation, which can help preserve existing vegetation and help avoid excessive compaction of the native soils by the construction equipment. Once the trench is backfilled and the fabric removed, only the excavated portion of the trench must be re-vegetated.

References

Corish, K. 1995. *Clearing and Grading: Strategies for Urban Watersheds. Environmental Land Planning Series*. Metropolitan Washington Council of Governments. Washington, DC 66 pp.

Paterson, R.G., M.I. Luger, R.J. Burby, E.J. Kaiser, H.R. Malcolm and A.C. Beard. 1993. Costs and Benefits of Erosion and Sediment Control: The North Carolina Experience. *Environmental Management* 17(2):167-178

Schueler, T.R. 1995. *Site Planning for Urban Stream Protection*. Center for Watershed Protection. Metropolitan Washington Council of Governments. Silver Spring, MD. 222 pp.