

# Construction Barrier

## Definition

Construction barriers are fences, signs, and other devices used on construction sites for:

- Limiting the movement of personnel, vehicles, and equipment, to only specific, predetermined areas necessary for ingress/egress and for performing the work. This minimizes disruption of the site, maximizes the preservation of existing vegetation, and reduces the potential for soil erosion or compaction.
- Protecting trees against abrasion or damage, and protecting their root zones against soil compaction. Note that it takes 20 to 30 years for newly-planted trees to provide the benefits of mature trees.
- Protecting sensitive areas, such as water bodies or newly seeded areas.
- Preventing unnecessary, unauthorized, or inadvertent access by people, vehicles, and equipment, to structural BMPs or other prohibited areas of the construction site.

## Pollutants Controlled

Using barriers for confining construction activities to specific, predetermined locations at a given construction site reduces the potential for soil erosion, by minimizing the area of disturbance.

## Advantages & Disadvantages

Effective use of construction barriers may reduce or eliminate the need for post construction re-grading, or revegetation of slopes or raw areas.

## Location

Use at any construction areas where earth changes are taking place, or where confinement or protection of personnel, property, or natural resources is needed. Suitable land uses include transportation (highways), urban (drains, and private, commercial, or industrial development), and golf courses. This practice is particularly critical for preventing traffic and other potentially disruptive activities on construction sites with erodible soils or steep slopes, as these areas are more susceptible to erosion.

Apply this practice prior to the start of construction and as needed throughout the duration of the project. Some barriers, such as vehicle deterrent barriers, may remain in place after project completion.

## Companion & Alternate Practices

Like other measures such as [Tree Protection](#), construction barrier is a passive practice that helps prevent erosion by restricting the movement of people and vehicles to only those areas of a site where work is being done, and by preventing unnecessary access to all other areas, including critical areas (see [Critical Area Stabilization](#)). However, construction barriers must still be used in conjunction with other active soil erosion and sedimentation control practices—such as [Access Roads](#), [Rolled Erosion Control Products](#), [Silt Fences](#), [Turbidity Curtains](#), and others—to minimize erosion and/or treat runoff from areas where work is being done and across which traffic is moving. Areas protected by construction barrier may also still need to be stabilized.

## Design

1. Make all barriers which are to separate the construction area from pedestrian thoroughfares, or to alert personnel of hazardous conditions, stable and easily legible.
2. A tree's drip line is defined as the outermost extent of the tree's canopy, projected vertically straight downward to the ground around the tree. Set up barriers just outside of the drip lines of all trees which are to remain intact during and after construction. Pounding barriers into the ground within the drip line of trees may cause root damage and weaken the tree. Follow specifications in the [Tree Protection](#) BMP.
3. Do not nail or otherwise post signs on trees.
4. In large, open areas susceptible to wind erosion, consider protecting sprigged or seeded areas with fencing.
5. Barriers are particularly important around detention, retention, and [Sediment Basins](#); and dams or cofferdams. At a minimum, include with barriers in these areas signs warning of potential dangers. Fencing may also be needed depending for steep slopes, at outlets where water flows, around deep water, etc.

Select the appropriate structure type for the intended use:

- a. Temporary: Construction barriers can consists of wood and wire snow fencing, plastic fencing, or similar types, that provide openings to allow the passage of wind and water through them.
  - b. Permanent: Can be constructed of wood, plastic, synthetic fabric, plastic, or any other appropriate material. See the item above regarding the use of [Silt Fence](#) as construction barrier;
6. [Silt Fence](#) is not generally recommended as a construction barrier, because locations where either practice is needed will not typically coincide. [Silt Fence](#) is to be installed along single isopleths (i.e., lines) of elevation, whereas construction barrier may need to be installed across (i.e., up or down) slopes.

If [Silt Fence](#) is installed incorrectly (i.e., by not being put in the proper location), it can actually concentrate flows, thus causing erosion. Another potential problem with using [Silt Fence](#) as a construction barrier is the relatively limited visibility (both in terms of height, and color) of [Silt Fence](#), which could increase the possibility of it being damaged by construction equipment.

However, if the potential complications mentioned above are not an issue, [Silt Fence](#) can theoretically be used as construction barrier. Doing so will require extra diligence in assuring that the [Silt Fence](#) is not damaged in its role as construction barrier.

One alternative to an area (i.e., line) where both [Silt Fence](#) and construction barrier are needed is to install both practices parallel to each other, with the [Silt Fence](#) just inside the construction barrier for protection. While the initial cost for such an installation would be more than using just [Silt Fence](#), the protection afforded by the construction barrier might provide cost savings in reduced maintenance require to keep the [Silt Fence](#) operational.

Use cyclone fencing with secure, locked gates around dangerous areas, such as deep basins.

Use snow fence to both prevent pedestrian access, and to control wind erosion.

## Construction Guidelines

### Pre-Construction

1. Construct signs out of durable materials, and print the signs legibly.
2. Construct fencing following specifications for the type being installed. Be sure all posts are sturdy, and all materials are suitable for the intended uses. One source of specifications for standard wire, suspension, electric, and permanent power fencing is the Natural Resource Conservation Service Field Office Technical Guide section titled "[Fence \(Feet\) 382.](#)"
3. Install any [Silt Fence](#) that's to be used on the site, following the manufacturer's recommendations. See the [Silt Fence](#) BMP for general installation guidelines. Ensure that any [Silt Fence](#) does not concentrate flow, which could exacerbate erosion. Refer to item 6. above in the **Design** section, regarding the use of [Silt Fence](#) as construction barrier.

### Post-Construction

1. Remove all temporary construction barriers. Before leaving the site, inspect all permanent barriers to ensure they are in good working order, and make any necessary repairs.
2. When removing tree protection barriers, assure that trees are still in good health. If possible, repair any damaged trees. Otherwise, remove and replace any severely damaged, unreparable trees. See the [Tree Protection](#) BMP for techniques on how to properly repair damaged roots and limbs, and for information on replacing trees.

## **Maintenance**

Inspect and maintain barriers on a regular basis. Immediately repair or replace any damaged signs or fences.

Although [Silt Fence](#) is not recommended as a construction barrier, areas where it is being used as such will be prone to damage. These areas therefore require particular diligence in conducting regular maintenance, to ensure that the silt fencing is operating as necessary.