

Planning Considerations

The only measure in this group is **Construction Entrance**.

The **Construction Entrance** measure consists primarily of a stone pad and is used where construction traffic gains access to paved surfaces. While it is an integral part of a construction access road, it is also used for projects too small to require a construction access road. Commonly it is required to prevent unsafe roadway conditions caused by soil deposited onto paved surfaces. It reduces the potential of sediment transport from these paved surfaces during storm events as well as preventing dust clouds and slippery pavement.



12-Tire Tracked Soils

Construction Entrance (CE)

Definition

A stone stabilized pad sometimes associated with a mud rack, automotive spray, or other measures located at points of vehicular ingress and egress on a construction site.

Purpose

To reduce the tracking of sediment off site onto paved surfaces.

Applicability

At points of construction vehicle ingress and egress where sediment may be tracked onto adjoining paved surfaces by vehicles.

Planning Considerations

The construction entrance is intended to cause sediment to drop off of vehicle tires and prevent it from being tracked onto adjoining paved areas. Its design and maintenance requirements are dependent upon how intensely the entrance is used and the nature of the sediments that can be tracked. Consider the texture of the sediments that be retained by the construction entrance. The minimum construction entrance is 50 feet, but where the soils subject to tracking contain less than 80% sand, then the minimum length of the construction entrance is 100 feet (see textural triangle in Appendix H). For sites containing clay or silty soils consider developing a construction access road with a gravel base. (See Chapter 4, Special Treatments, Construction Access Roads). The length of the construction entrance may be reduced by the establishment of an access road with a stable surface that is not subject to soil tracking.

If the construction entrance drains to a paved surface and its grade exceeds 2%, then plan on installing a water bar within the construction entrance to divert water away from the paved surface. For access roads that slope down to the construction entrance, consider installing a water bar and associated sediment barrier to protect the construction entrance from unnecessary siltation during storm events.

Placing a geotextile beneath the stone pad of the construction entrance can reduce the pumping of subsoil into the stone by construction traffic and reduce maintenance costs.

Select the site of the construction entrance to avoid poorly drained soils where possible. Where lateral flows of water must be maintained through the construction entrance, consider having an engineer design subsurface drainage or other drainage facilities to eliminate the obstruction to flow.

Consider requiring the installation of construction access fencing to restrict construction traffic to the construction entrance.

When the construction entrance is installed to the minimum standards and is properly maintained, but is still unable to prevent the majority of sediments from being tracked off site, the entrance must either be extended or a washing rack installed. If a washing rack or similar device is to be used to wash sediment from tires, make provisions to intercept the wash water and trap the sediment before it is carried off-site. Determine the sizing requirements for the sediment trapping facility so that it will hold the maximum volume of water that would be used over a 2-hour period. (See **Pumping Settling Basin** measure for formula on pumping rate and storage requirements).

The use of a construction entrance may not eliminate the need for periodic street sweeping, but if properly maintain it should significantly reduce the need.

Specifications

Materials

Stone: Use angular stone sized according to the standards set by ASTM C-33, size No. 2 or 3, or DOT Standard Specifications section M.01.01, size #3. See **Figure SP-1 on page 5-4-14** for stone sizing requirements.

Geotextile: Fibers used in the geotextile shall consist of synthetic polymers composed of at least 85% by weight polypropylenes, polyesters, polyamides, polyethylene, polyolefins or polyvinylidene-chlorides. The fibers shall be formed into a stable network of filaments or yarns retaining dimensional stability relative to each other. The geotextile used shall be specifically intended for "road stabilization" applications and shall be consistent with the manufacturer's recommendations for the intended use.

Location

Locate the entrance to provide maximum utilization by construction vehicles. Avoid poorly drained soils, where possible.

Construction Entrance Dimensions (see **Figure CE-2**)
Stone Thickness: not less than 6 inches.

Width: A 12-foot minimum with points of ingress or egress flared sufficiently to accommodate the turning radius of the construction vehicles used.

Length: A 50-foot minimum except where the tracked sediments contain less than 80% sand, a 100-foot minimum is required. If the traveled length is less than the minimum, then the construction entrance shall be the traveled length. On a site specific basis increase lengths as needed to prevent the tracking of sediment onto paved surfaces.

Construction

Clear the area of the entrance of all vegetation, roots, and other objectionable material. At poorly drained locations install subsurface drainage insuring the outlet to the drains are free flowing.

If using a geotextile in place of free draining material, unroll the geotextile in a direction parallel to the roadway centerline in a loose manner permitting it to conform to the surface irregularities when the stone is placed. Unless otherwise specified by the manufacturer, the minimum overlap of geotextile panels joined without sewing according to the manufacturer's recommendations. The geotextile may be temporarily secured with pins recommended or provided by the manufacturer but they shall be removed prior to placement of the stone.

Place the stone to the specified dimensions. Keep

additional stone available or stockpile for future use. If the grade of the construction entrance drains to the paved surface and it exceeds 2%, construct a water bar within the construction entrance at least 15 feet from its entrance on the paved surface diverting runoff water to a settling or filtering area.

Construct any drainage and settling facilities needed for washing operations. If wash racks are used, install according to the manufacturer's specifications.

Washing

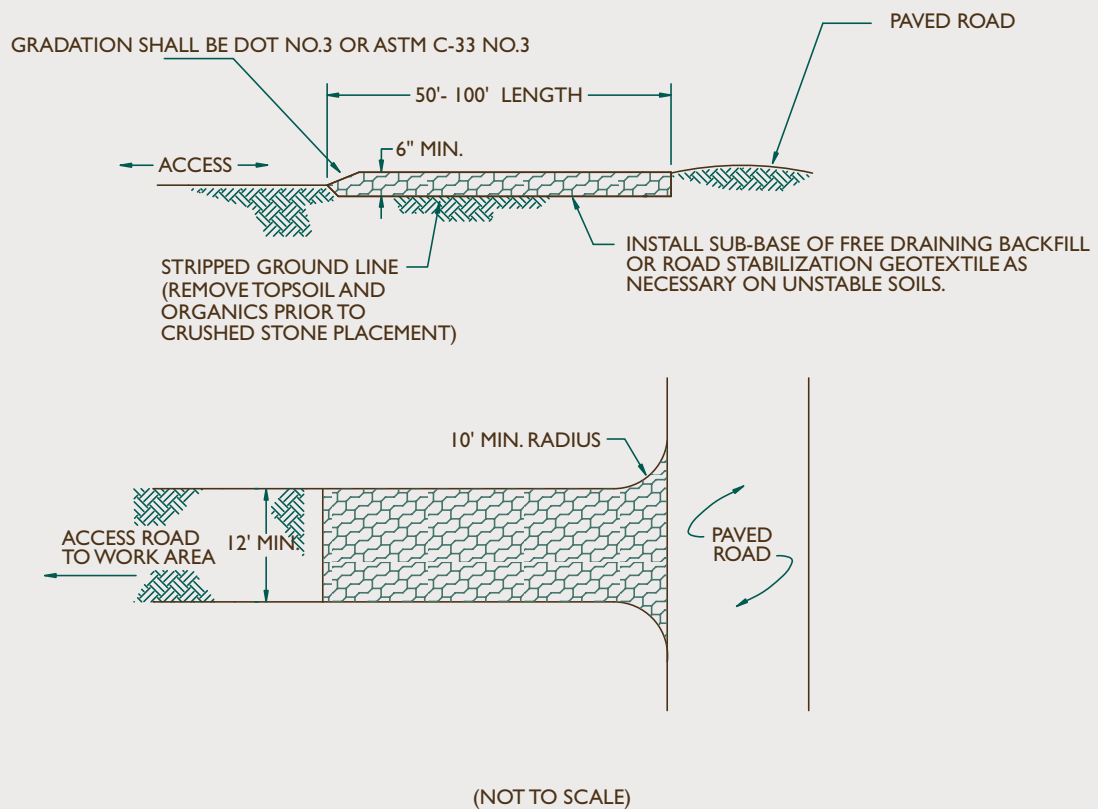
If most of the sediment is not removed by travel over the stone, wash tires before vehicles enter a public road. Divert wash water away from the entrance to a settling area to remove sediment. Size settling area to hold the volume of water used during any 2-hour period. Using a wash rack may make washing more convenient and effective.

Maintenance

Maintain the entrance in a condition which will prevent tracking and washing of sediment onto paved surfaces. Provide periodic top dressing with additional stone or additional length as conditions demand. Repair any measures used to trap sediment as needed. Immediately remove all sediment spilled, dropped, washed or tracked onto paved surfaces. Roads adjacent to a construction site shall be left clean at the end of each day.

If the construction entrance is being properly maintained and the action of a vehicle traveling over the stone pad is not sufficient to remove the majority of the sediment, then either (1) increase the length of the construction entrance, (2) modify the construction access road surface, or (3) install washing racks and associated settling area or similar devices before the vehicle enters a paved surface.

Figure CE-2 Diagram of Typical Construction Entrance



Source: USDA-NRCS

