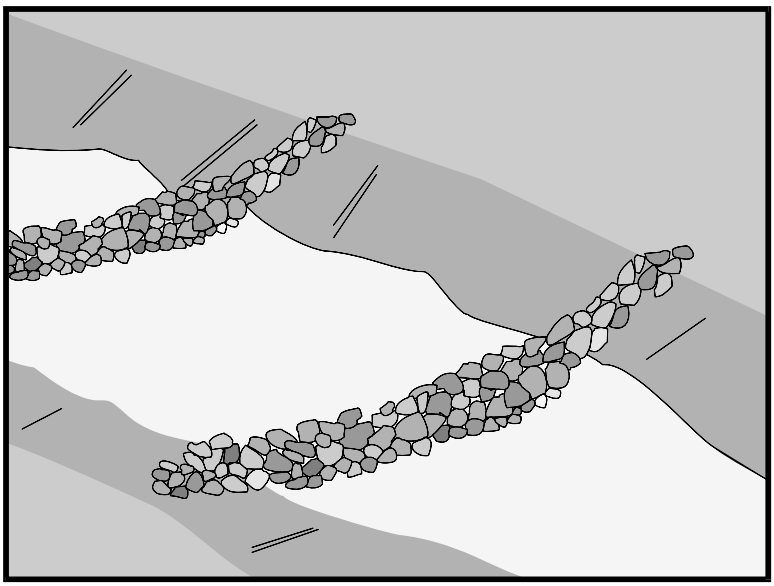
Check Dams SC-9



Source: Caltrans Construction Site Best Management Practices Manual, 2003.

Description

Temporary devices placed across channels or ditches to reduce scour and erosion by reducing flow velocity and promoting sedimentation.

Applications

- Appropriate for small open channels conveying runoff from 10 acres or less.
- Steep channels with runoff velocities exceeding 2 ft/sec.
- Temporary ditches which do not require installation of erosion-resistant linings due to expected short-term use.

Installation and Implementation Requirements

- Distance between check dams and height of each device shall promote the formation of small pools between adjacent devices.
- Backwater from the downstream check dam shall reach the toe of the upstream check dam.
- Major flows (2 year storm or larger) shall flow over the check dam without increasing upstream flooding or damaging the check dam.
- Remove check dams and accumulated sediment upon establishment of vegetative lining.
- Stone check dams shall consist of stones ranging from approximately 8 to 12 inches in size. Stones shall not be dumped but shall be placed by hand or by other mechanical means. Stone material shall completely span the channel or ditch to prevent washout of the check dam.
- Log check dams shall consist of logs ranging from approximately 4 to 6 inches in diameter. Logs shall be embedded a minimum of 18 inches into the soil.

Installation and Implementation Requirements (Continued)

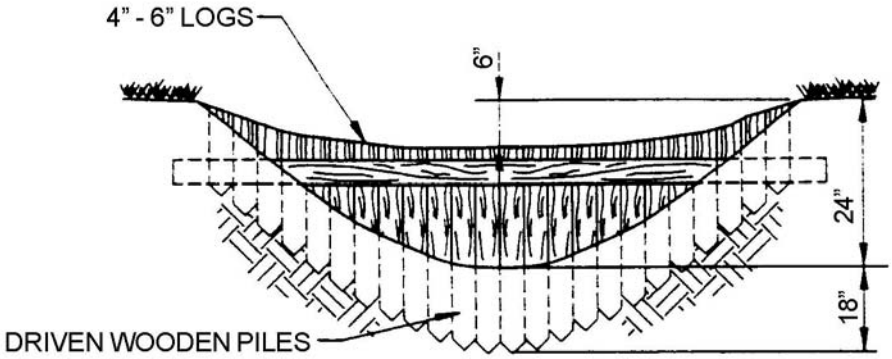
- Remove check dams upon establishment of grass used for stabilization of the ditch or channel, unless the slope of the swale exceeds 4 percent.

Limitations

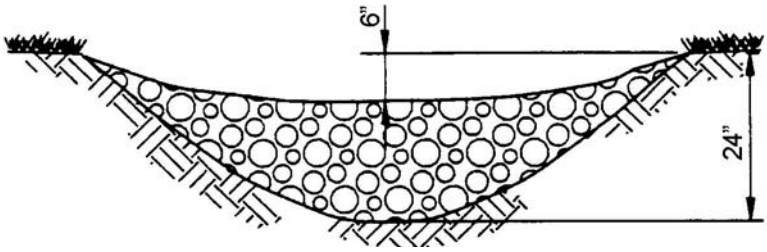
- Drainage area discharging to open channels shall not exceed 10 acres.
- Not applicable to live streams.
- Not applicable to channels with established grass linings unless erosion is expected since check dam installation may damage existing vegetation.
- High velocity flows may require extensive maintenance.
- Subsequent storms or removal of the check dam may re-suspend trapped sediment.

Inspections and Maintenance

- Inspect check dams for sediment accumulation and erosion weekly during dry periods as well as within 24 hours of any rainfall of 0.5 inch or greater which occurs in a 24-hour period and daily during periods of prolonged rainfall.
- Remove accumulated sediment when depth reaches one-half the sump depth.
- Prior to permanent seeding or soil stabilization, remove accumulated sediment and check dams.



LOG CHECK DAM ELEVATION
NTS



STONE CHECK DAM ELEVATION
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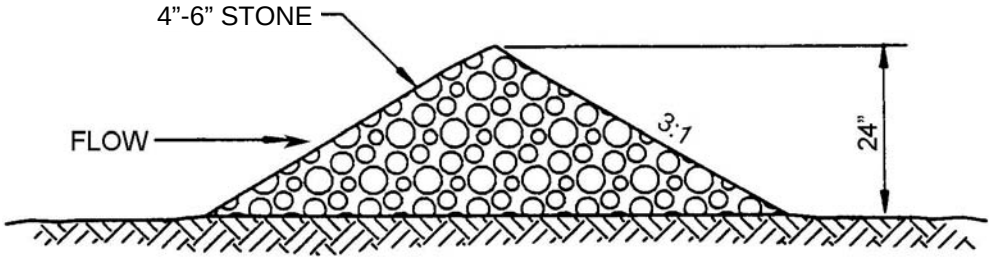
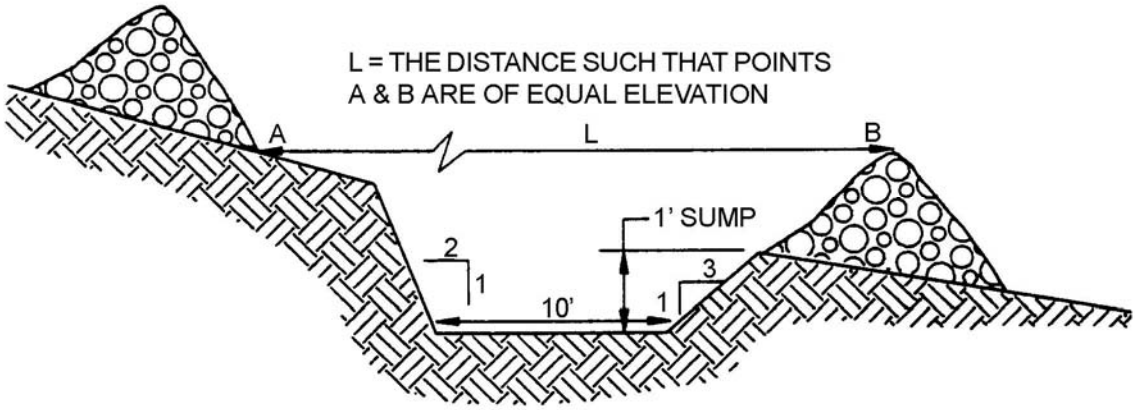


STONE CHECK DAM SECTION
NTS

Source: CCH Best Management Practices Manual for Construction Sites in Honolulu, 1999.



SPACING BETWEEN CHECK DAMS

NTS

Source: CCH Best Management Practices Manual for Construction Sites in Honolulu, 1999.