ROLLED EROSION CONTROL PRODUCTS
(abbr. RECPs)

Rolled Erosion Control Products (RECP) are prefabricated blanket-like ground covers, made up of organic and/or synthetic materials and designed to act as a physical barrier to erosive forces. RECPs are typically applied and stapled into place over bare soil areas or on newly seeded areas, but sometimes are set up for added long term stabilization of vegetated areas with high erosion risk. In addition to acting as a physical erosion barrier, RECPs promote the establishment of vegetation by allowing for water infiltration (resulting in higher soil moisture levels), protecting seed from being carried away or consumed by wildlife, and moderating soil temperatures.

Specific types of RECPs include:

- **Netting** | A woven degradable net composed of material like jute, straw or coir (coconut fibre), which provides temporary stabilization to aid in the establishment of vegetation. Highly erodible slopes may require application of a sub layer of straw mulch overlain with netting, which is stapled through to enhance ground contact.

- **Blankets** | Typically composed of coir, straw or wood fibre woven within a photodegradable netting to form a thick blanket. Often used as a temporary measure to protect against erosion during seed establishment, although some types can last up to 2 years. They have a lower tensile strength compared to mats, but are capable of better ground contact.

- **Turf reinforcement mats (TRM)** | Hardy materials, such as coconut husk fibers or synthetic polypropylene fibers, woven together to provide the highest tensile strength and most long term erosion control of any of the RECPs. Composite TRMs combine the protection of a blanket with the added reinforcement of netting in areas requiring long term or permanent stabilization.

Figure B1-14: From top to bottom - jute netting, coir blanket and a turf reinforcement mat

Application

- Un-vegetated areas that convey concentrated flows, including swales and ditches.
- Any slopes steeper than 2H:1V that have not been stabilized with other erosion control measures (e.g. vegetation).Newly seeded areas where germination/vegetation establishment has not yet occurred. See “Seeding” section for guidance on when seeded areas require secondary erosion controls.
- Riparian areas or within natural water features or watercourse diversions if conservation authority approval has been granted.
- Banks of sediment control traps or basins, on a temporary basis until they are seeded. RECPs should also be used on newly seeded banks if the seeding method does not provide immediate soil stabilization.
- Erosion scars.

To net or not to net?

RECPs that include biodegradable or photodegradable plastic netting can provide a significant erosion control advantage due to their higher tensile strength, but netting can also ***ensnare small wildlife like snakes, turtles and frogs***.

When choosing an RECP for application in areas frequented by wildlife – like riparian areas, natural features and stormwater pond banks - opt for ***100% biodegradable products*** that are ***free of plastic netting,*** like ***jute, sisal,*** or ***coir fiber.*** Products with a loose-weave design and movable joints are ideal. Where plastic netting must be used, remove it as soon as it is no longer needed, as long as its removal will not damage vegetation.

- Any other areas requiring erosion protection and where ground surface is not rocky.
- Not suitable for application when ground is frozen.

Design and Installation

Figure B1-15: RECP installed on a slope and anchored in place at the top

- Consult with RECP suppliers for information and guidance on selection of an appropriate product, with consideration for required longevity, slopes, and flow velocities.
- Site conditions and the required longevity of the RECP will inform which product is best suited for the application. Biodegradable RECPs should be selected where they are serving as a temporary erosion control. Non-biodegradable plastic components may be necessary in some permanent installations where long term heavy duty stabilization is required, but in general these types of plastics should not be installed and left in vegetated areas indefinitely.
- Consult the local Conservation Authority if the application is proposed within a water feature or watercourse diversion channel.
- Prepare the exposed surface by removing mounds, protruding objects that could cause punctures, etc. to ensure that there will be a firm, continuous contact between the RECP and the ground. Tenting must be avoided as it creates a drip zone that will lead to erosion of the soil under the blanket.
- Where RECP is protecting a seeded area, apply topsoil and seed prior to installing the RECP.
- RECPs should be installed vertically down slopes for slopes 3H:1V or steeper. On slopes with a lower grade, RECPs can be installed horizontally across the slope where necessary. (see Figure B1-16)
- Ensure that sections overlap at edges and at the ends. The upslope segment of the RECP should always be on top as it overlaps with the next downslope segment. This prevents the RECP from being breached by water flowing over the surface. RECP segments overlapping parallel to the direction of flow should overlap at least 10 cm, while segments overlapping perpendicular to the direction of flow should overlap at least 30 cm. See Figure B1-16.
- For installations on either slopes or channels/swales, RECPs should always be installed starting at the top of the slope (or side slopes in the case of a channel/swale). Without protection the top of slope will

be highly susceptible to rill erosion, which could ultimately undermine the RECP.

- When applied on slopes or conveyance channels, the use of an anchor trench at the top and/or bottom ends can help to keep the RECP in place (see Figure B1-16). Anchor trenches should be at least 15 cm by 15 cm. If the RECP is not long enough to extend the full length or the slope of channel, a check slot (15 cm by 15 cm in size) should be constructed at the location where the RECP will overlap with the next downslope piece in order to help keep the downslope segment in place.
- RECPs should be attached to the ground surface with wire staples, metal geotextile stake pins, or triangular wooden stakes, all of which should be at least 15 cm long.

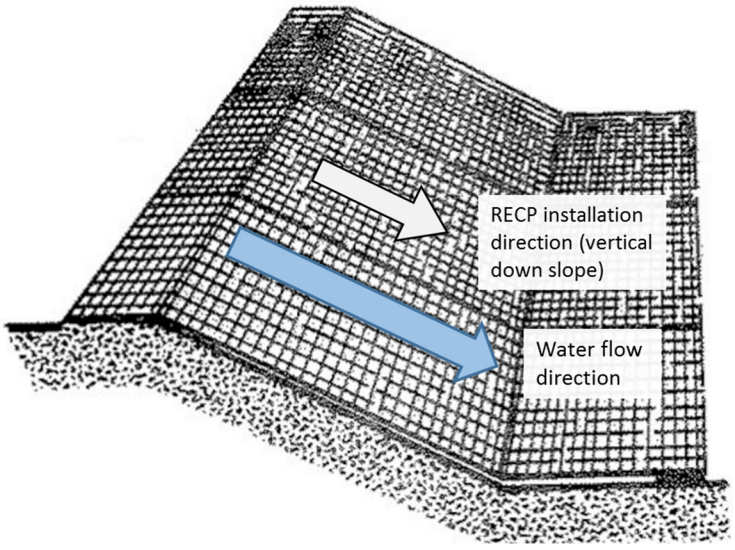
Seeding + RECP = *Success!*

RECPs work best as a support for vegetation establishment, and will often fail when underlying seeding is sparse or poorly established.

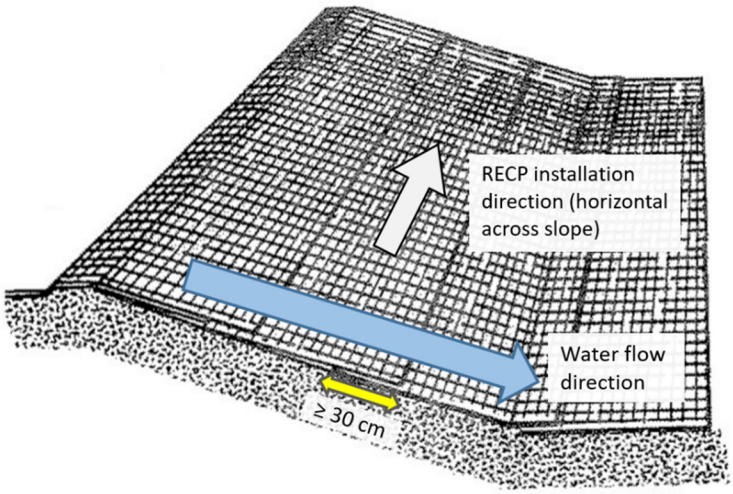
- Figure B1-16 provides some general guidance for installation, but the manufacturer should be consulted on the best method for application. Follow manufacturer's product specific application instructions, including anchoring and staple patterns.

Inspection and Maintenance

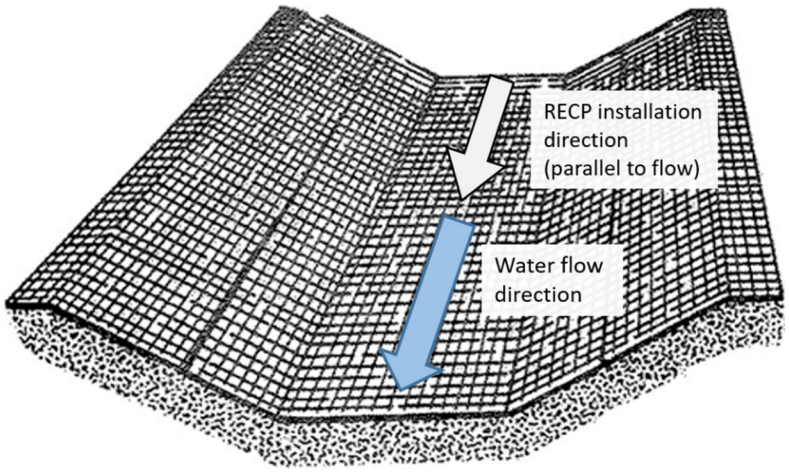
- Until vegetative cover is well established, inspect areas covered with RECPs weekly, and before and after significant rainfall (see definition in Section 10.1.2) or snowmelt events, and keep a record of the inspection. Newly seeded RECP-covered areas may warrant more frequent inspection. See pages B1-17 to B1-21 for guidance on inspection and maintenance of seeded areas.
- Ensure good contact with the ground and that there is no tenting of the RECP or erosion of the soil surface under the blanket.
- Inspect the condition of the RECP to ensure it has not been torn or detached.
- Re-attach or replace any RECP anchors (e.g. staples, stakes) that have come loose.
- Where anchor trenches or check slots are used, ensure RECPs are still firmly secured.
- Ensure vehicles and equipment are not driving over areas that have been covered with RECPs. To prevent damage, areas should be fenced off during vegetation establishment, particularly if it is a busy and heavily used area.
- Where erosion is occurring under the RECP, consider whether the blanket needs better contact with the ground, if a higher tensile strength RECP should be used, or if flows should be re-routed around the area.
- Repair eroded areas by removing RECPs, re-grading, re-applying topsoil and/or seed, and re-installing RECPs.
- Any repair or maintenance needs identified should be repaired within 48 hours or sooner if natural receptors are at imminent and foreseeable risk of adverse impact.



- RECPs should be installed vertically down slopes, particularly on slopes 3H:1V or steeper
- Anchor trench should be constructed at the top and bottom of slope
- Overlap of adjacent strips of RECP should be at least 10 cm.



- RECPs may be installed horizontally across slopes less steep than 3H:1V where necessary.
- Anchor trench should be constructed at the top and bottom of slope
- Upslope segments should be on top, overlapping downslope segments by at least 30 cm.



- In ditches and channels, RECPs should be installed vertically in the direction of flow.
- Anchor trenches should be installed at the beginning of the channel and along the tops of channel slopes.
- Down the side slopes, the upslope segments should be on top of the downslope segments and should overlap at least 10 cm.
- Down the length of the channel, upslope segments should be on top of downslope segments, overlapping by at least 30 cm.

Figure B1-16: Recommended orientation and overlap of RECPs on slopes and channels. *Adapted from: Keeping Soil on Construction Sites* (HRCA & HCA, 1994).