Northern Tributary TREATMENT

• Remove all Willows from near and around creek line;
• Establish boundaries of 10m wide Pioneer Planting zone and 10m wide grass buffer zone each side of creek line;
• Establish fencing to outside edge of grass buffer to keep stock out of buffer zone and creek line;
• Establish bank protection using LWD, rocks or branch bundles around in stream obstacles (existing trees) to prevent bank scour;
• Remove woody weeds from creek line and use as branch bundles;
• Undertake supplementary planting;
• Stabilise and regrade banks to 2H:1V as required.
• Remove all Willows from near and around creek line;
• Establish boundaries of 10m wide Pioneer Planting zone and 10m wide grass buffer zone each side of creek line;
• Establish fencing to outside edge of grass buffer to keep stock out of buffer zone and creek line;
• Establish bank protection using LWD, rocks or branch bundles around in stream obstacles (existing trees) to prevent bank scour;
• Remove woody weeds from creek line and use as branch bundles;
• Undertake supplementary planting;
• Stabilise and regrade banks to 2H:1V as required.

Supplementary planting to create reconstructed riparian vegetation community. Carry out necessary weed control, particularly on private lots.

Zone showing large steep, eroded banks, requiring further detail.

Locate large boulders upstream of bridge and in locations of frequent sediment flows around boulders, encouraging sediment movement. Protect boulders locally around present boulders. Refer to details.
Mittagong Road Culvert – Mount Road

TREATMENT

- Remove all Willows from near and around creek line;
- Selectively remove woody weeds;
- Establish boundaries of 10m wide Pioneer Planting zone and 10m wide grass buffer zone each side of creek line;
- Establish fencing to outside edge of grass buffer to keep stock out of buffer zone and creek line;
- Establish bank protection using LWD, rocks or branch bundles around in stream obstacles (existing trees) to prevent bank scour;
- Remove woody weeds from creek line and use as branch bundles;
- Establish pioneer plant species along entire reach;
- Undertake supplementary planting;
- Place boulders in creek, as required where sediment slugs have formed;
- Stabilise and regrade banks to 2H:1V as required.
Mount Road – Willow Road

TREATMENT

• Remove all Willows from near and around creek line;
• Remove bunding to top of bank;
• Establish boundaries of 10m wide grass buffer zone;
• Undertake riparian reconstruction works;
• Establish fencing to outside edge of grass buffer to keep stock out of buffer zone and creek line;
• Establish bank protection using LWD, rocks or branch bundles around in-stream obstacles (existing trees) to prevent bank scour;
• Remove woody weeds from creek line and use as branch bundles;
• Establish pioneer plant species along entire reach;
• Stabilise and regrade banks to 2H:1V as required;
• Undertake supplementary planting;
• Continue and undertake weed control.
Willow Road – Oxley Hill Road

TREATMENT

• Remove all Willows from near and around creek line;
• Selectively remove woody weeds;
• Establish boundaries of 10m wide Pioneer Planting zone and 10m wide grass buffer zone each side of creek line;
• Establish fencing to outside edge of grass buffer to keep stock out of buffer zone and creek line;
• Establish bank protection using LWD, rocks or branch bundles around in stream obstacles (existing trees) to prevent bank scour;
• Remove woody weeds from creek line and use as branch bundles;
• Establish pioneer plant species along entire reach;
• Undertake supplementary planting;
• Place boulders in creek, as required where sediment slugs have formed;
• Stabilise and regrade banks to 2H:1V as required.
• Remove all Willows from near and around creek line;
• Selectively remove woody weeds;
• Establish boundaries of 10m wide Pioneer Planting zone and 10m wide grass buffer zone each side of creek line;
• Establish fencing to outside edge of grass buffer to keep stock out of buffer zone and creek line;
• Establish bank protection using LWD, rocks or branch bundles around in-stream obstacles (existing trees) to prevent bank scour;
• Remove woody weeds from creek line and use as branch bundles;
• Establish pioneer plant species along entire reach;
• Undertake supplementary planting;
• Place boulders in creek, as required where sediment slugs have formed;
• Stabilise and regrade banks to 2H:1V as required.
In-Stream Treatment

Boulders

- Treatment Objectives
  - Coir Log. These structures will prevent bank collapse and significantly improve the overall geomorphic section, preventing net sediment deposition.
  - Boulders create only minor increases in channel roughness during bankfull flow conditions (Rutherford et al. 2000). Hence, they are not likely to have any impact on flood flow conveyance.
  - Boulders can be randomly placed at approximately one rock per 27m.
  - Rocks should be angular with the flattest side laid onto the streambed to prevent rocks from rolling or gliding away.
  - Logs or bundles of logs are to be native, hardwood species.
  - Tree stakes and ties are access issues or where detailed bank restoration is required.
  - Backfills to large log.

Creek Liner Restoration Plan

- To provide habitat for riparian vegetation and fauna.
- To prevent bed sedimentation.
- To provide stream velocity.
- To improve water quality.
- To provide dissolved oxygen levels in summer months, improving water quality.

Location of Treatments

- The turbulence induced by the boulders aerates the water and will improve water quality.
- Create scour pools in the creek by strategically placing ecologically designed rock ribs and boulders.
- Branches are to be 2-3m long, with 300mm-500mm dia. or log 300mm-500mm
- Boulders should project slightly above the water surface at normal flow, creating habitat for fauna (birds, turtles, etc.).
- Rocks are to be placed into a trench excavated into the existing unconsolidated bank material (60/m2).
- Logs or bundles of logs are aligned parallel to the stream bank. The spacing of rock ribs is to be ten (10) metres from adjacent ribs.
- The dimension at right angles to the creek bed. Wesche (1985) recommends a diameter between 600mm to 1500mm.
- The length of LWD should be at least 1.5 times the stream width and the diameter should be at least 0.5 times the stream width.
- Backfill behind coir logs and bundles with existing site material and plant with riparian species. Coir logs can have plants planted directly into them.
- Rocks are to be placed into a trench excavated into the existing unconsolidated bank material. Large boulders, 300mm-500mm dia. or logs 300mm-500mm
- Coir logs are to be installed as per manufacturer’s specifications.