

Hamilton City Development Manual	
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## SECTION 2 : GRASSING AND TURFING

### 1.0 GENERAL

This section covers the preparation and sowing of any new grassed areas or those requiring reinstatement, or turfing of such areas. It includes berms, lawns and banks.

### 2.0 PREPARATION FOR SOWING OR TURFING

Grassing and fertilising shall be carried out over all existing grassed areas disturbed by contract activity and other specified areas which may require reinstatement. In existing grassed areas, excessive compaction of the subsoil shall be relieved by subsoiling or similar as required, to achieve satisfactory long term growing conditions.

All topsoil removed to permit contract works to be carried out shall be stockpiled for reuse.

All new grass areas shall be built on subgrades prepared to a CBR of not less than 5 and no greater than 7. A minimum 75mm layer of clean, friable peat loam or sandy loam topsoil, free of all perennial weeds, stones & rubbish shall be placed on the subgrade. If the subgrade has been backfilled with sand or if the existing subgrade material is of a sandy nature then the 75mm topsoil shall be of a heavier silt loam.

The topsoil shall be lightly compacted or consolidated, and may be laid proud of adjoining features (such as kerb & channel, path, crossings etc) by not more than 25mm to allow for settlement, provided that it does not cause water to pond on any footpath or vehicle crossing area. All finish levels shall be those specified on the plans or to a 2-2.5% slope. New areas shall be neatly contoured into adjoining grassed areas. The top 25mm of topsoil shall have a loose tilth. No soil shall be cultivated or handled when the moisture content is at a level where soil structure damage will result.

Perennial weeds shall be sprayed with Glyphosate plus "Versatil", if clover, thistles, etc are a problem, according to manufacturer's instructions and at least 14 days before cultivation. All stones, rubbish and other foreign materials shall be removed from the areas to be grassed, and the whole area rotary hoed to a depth of 150mm or such lesser depth of topsoil as may be approved by the Engineer.

### 3.0 FERTILISERS

All fertilisers shall be delivered to the site immediately before they are required for spreading and shall be thoroughly mixed on the site. The Engineer may prohibit the use of any fertilisers which have deteriorated because of interaction, wetting, etc. Fertilisers shall be lightly harrowed into the topsoil, 2-3 days prior to seed sowing, at the following rates:

30% Potassic Superphosphate	150 kg/ha (15g/m <sup>2</sup> )
Sulphate of Ammonia	50 kg/ha ( 5g/m <sup>2</sup> )
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	200 kg/ha

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This shall be followed one month after sowing, with an application of the following:

Di-ammonium Phosphate (DAP)      100 kg/ha

#### **4.0 SOWING**

With the exception of the New Zealand Browntop component, all seed shall be certified and less than 12 months old at the time of sowing. Ryegrass component to be certified as having greater than 80% live endophyte content. The Engineer may prohibit the use of seed which has deteriorated because of wetting, fertiliser-burning, etc.

Seed mixture to be:

NZ Browntop                              50 kg/ha  
High endophyte Turf Rye      200 kg/ha

On large areas, the seed shall be "check" sown in at least two directions to ensure an even spread and covered by brush harrowing. The surface shall then be rolled with a suitable flat roller.

On small areas, grass seed shall be evenly applied to the prepared surface and raked thoroughly into the soil so that little seed remains exposed.

#### **5.0 ESTABLISHMENT OF SOWN AREAS**

The Contractor shall ensure that the newly established grass is protected from damage by pedestrian and vehicular traffic until such time as the grass growth has reached a self-sustaining state.

The Contractor shall be responsible for watering the grassed areas as required, to achieve an efficient germination of the seed and maintain satisfactory growth throughout the Maintenance Period. Watering shall commence when root zone moisture is depleted to 50% and shall ensure full re-wetting of the root zone to 200mm depth.

During the establishment, the Contractor shall maintain the newly grassed areas as follows:

- a) Upon the grass reaching 100mm in height, it shall be cut to 50mm high.
- b) For subsequent mowings, the mowing frequency shall be governed by growth rate. Minimum grass height to be 20mm – maximum grass height to be 30mm.
- c) The turf shall be maintained free of all broadleaf weeds.
- d) Areas where there has been a poor strike of grass shall be either recultivated and resown or undersown at the Contractor's expense.
- e) Upon completion of mowing, all grass clippings shall be collected and removed from all sown grass areas except non kerb-and-channelled berms. All clippings shall be removed from adjacent hard surfaces.

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- f) Edges of all sown grass adjoining cultivated gardens, borders, hand paving, sealed surfaces or landscape structures shall be trimmed to the edge or controlled by herbicide to within 25mm of flat surfaces or 50mm of vertical structures. Grass shall not be allowed to encroach over flat, sealed or paved surfaces by more than 25mm.

## **6.0 TURFING**

The turf shall be of good quality, free of weeds and pests and with an even thickness of approximately 20mm x 450mm wide and of a consistent length. The constituent grasses of the turf should include Browntop and Fescue to provide grass of a close texture of even density and green in colour, i.e. "Readylawn" or similar approved by the Engineer. The turf should be sufficiently fibrous for turves to hold together when handled but excess fibre or thatch is undesirable.

Turf should be packed to avoid drying out in transit. In hot weather it shall be sprayed with water and covered with hessian as required. Turf shall be delivered to the site within 24 hours of lifting and shall be off-loaded by hand unless arranged on pallets for mechanical handling. Any turf permitted to dry out shall be rejected when, in the opinion of the Engineer, its survival after placement is doubtful. All turf should be laid immediately after delivery to site. Where this is not possible, the turves shall be unloaded and stacked on clear ground to maximum height of one metre and suitably protected.

No turf shall be laid in exceptionally hot dry weather, or in exceptionally wet or frosty soil or weather conditions, nor shall any turf be laid until the topsoiling has been satisfactorily completed by being brought to an even tilth and firmness.

Turf shall be handled carefully to ensure minimum breakage to prevent soil dropping from the roots. The turf shall be laid from planks working over turves previously laid.

The turves must be thoroughly watered until the turf mat and top 50mm of soil is wet. After allowing a "soaking in" period the turves shall be lightly and evenly firmed with a wooden tamper so that the underside of the turf mat and the wet soil surface are thoroughly bonded.

The finished level of the turf shall conform to the levels indicated. Where the turf meets paths, mowing strips etc the finished level shall be 12mm above. Any inequalities in finished levels owing to variation in turf thickness or uneven consolidation of soil shall be adjusted by raking and/or packing fine soil under the turf, not by topdressing the lawn surface.

## **7.0 ESTABLISHMENT OF TURF**

During the establishment the Contractor shall maintain the turf as follows:

- a) Prevent any pedestrian traffic until grass is well established and uniformly covered with a strong sward of grass.
- b) Apply lawn fertiliser e.g. "Readylawn Food", at a rate according to manufacturer's instructions, at monthly intervals during the growing season.

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- c) Remove weeds and replace soil if necessary.
- d) Water regularly: The turf shall not be allowed to dry out for at least three weeks after laying, then it shall be watered normally. 'Normal' watering shall commence when the root zone moisture is depleted to 50% and shall ensure full re-wetting of the root zone to 200mm depth. In summer this will require watering at least daily. Watering shall normally be carried out prior to 7am and shall not be done in hot sunny conditions.
- e) Initial mowing shall be carried out when first growth is apparent, with blades set no lower than two-thirds of the height of the grass. Use roll-type mower for first cuts. Grass shall be in a reasonably dry condition. All clippings shall be collected and removed from site. All clippings shall also be removed from adjacent hard surfaces.
- f) Edges of all turf areas adjoining cultivated gardens, borders, hand paving, sealed surfaces or landscape structures shall be trimmed to the edge or controlled by herbicide to within 25mm of flat surfaces or 50mm of vertical structures. Grass shall not be allowed to encroach over flat paved or sealed surfaces by more than 25mm.

Areas of turf where there has been a poor establishment shall be relaid at the Contractor's expense.

## **8.0 CHEMICAL APPLICATIONS (WEED & PEST CONTROL)**

All chemical weed and pest control shall be in accordance with Section 1 Clause 10.0. Weed control, apart from edge maintenance, shall be by manual not chemical means.

## **9.0 DEFECTS LIABILITY PERIOD**

After initial establishment, during and at the end of the defects liability period, the following minimum standards shall be maintained:

- All kerb-and-channelled verges shall have grass growth no more than 50mm high, non kerb-and-channelled verges shall have grass growth no more than 200mm high and banks shall have grass growth not more than 250mm high.
- The sward shall be maintained in a healthy, weed-and-disease free state without bare patches.
- Trees and other plantings shall be protected from damage by maintenance or mowing operations and if damaged shall be reinstated within 1 week of the damage occurring.
- Maintenance and mowing operations shall be carried out at times which minimise disruption to the public.
- Maintenance and mowing operations shall be carried out only in conditions with equipment that ensures maintenance of good soil structure, minimum deformation of ground surfaces and ongoing establishment of the grass sward.

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- Litter shall be removed prior to commencing maintenance or mowing operations. Highly visible shredded litter shall be removed following maintenance and mowing.
- Grass clippings, when not required to be collected during mowing, shall be spread evenly over the sward.