APPENDIX 12.4

NOTES ON TREE AND SHRUB PLANTING

WIDNES LOOPS JUNCTION

Tree and shrub screening for industrial/residential in south

A12.4.1 The suggested mixture for this area, which would provide good bird-breeding habitat, a strong element of winter green-ness from Holm Oak and Holly, as well as dense screening, is as listed below:-

Tree element

Alder (*Alnus glutinosa*)
Silver Birch (*Betula pendula*)
Holm Oak (*Quercus ilex*)
Common Oak (*Quercus robur*)
Goat Willow (*Salix caprea*)
Grey Willow (*Salix cinerea*)
Rowan (*Sorbus aucuparia*)

Shrub element

Hazel (*Corylus avellana*)
Hawthorn (*Crataegus monogyna*)
Honeysuckle (*Lonicera periclymenum*)
Blackthorn (*Prunus spinosa*)
Gorse (*Ulex europaeus*)
Bird Cherry (*Prunus padus*)
Field Rose (*Rosa arvensis*)
Dog Rose (*Rosa canina*)

A12.4.2 The shrub element should be mixed with the trees to form an understorey or shrub layer, and, if there is room, planted on the margins of the dense woodland plantings to create woodland-edge scrub of high value for breeding birds.

GOLF COURSE AREA: HABITAT CREATION

A12.4.3 It is assumed that there will be no planting to the north of Speke Road because this may be returned to a golf course use.

A12.4.4 Any planting to the south of the road should, if at all possible, be away from ditches to avoid shading because this area is existing or potential Water Vole habitat, Water Voles having recolonised parts of the golf course following translocation of voles from within the golf course to Moore Nature Reserve to allow ditch remediation work.

A12.4.5 The following planting ideas in the former golf course grassland are based on maintaining the open character of the area but improving landscape and wildlife values by intermittent tree planting on the margins, and the planting of hedgerows and scrub. Some planting adjacent to the proposed balancing ponds would also be beneficial to biodiversity.

A12.4.6 Hedgerows should be planted to a mixture of native species comprising those that qualify in assessing the importance of hedgerows in *The Hedgerows Regulations 1997*. Those suitable in this case are the following and potentially others:-

- Field Maple (*Acer campestre*)

- Hazel (*Corylus avellana*)
- Gorse (*Ulex europaeus*)
- Crab Apple (*Malus sylvestris*)
- Hawthorn (*Crataegus monogyna*)
- Holly (*Ilex aquifolium*)
- Blackthorn (*Prunus spinosa*)
- Dog Rose (*Rosa canina*)

A12.4.7 Occasional hedgerow trees could be planted, especially Silver Birch (*Betula pendula*), Common Oak (*Quercus robur*), Rowan (*Sorbus aucuparia*) and possibly other native trees.

A12.4.8 The planting of local patches of scrub or larger areas of marginal species-rich scrub would increase the breeding bird interest of the area, particularly if some scrub is planted densely and allowed to grow. A similar mixture to that listed above for the hedgerows would form good habitat, particularly if enriched with Field Rose (*Rosa arvensis*), Ivy (*Hedera helix*) and Honeysuckle (*Lonicera periclymenum*).

A12.4.9 Scrub appropriate for the balancing ponds would be Grey Willow (*Salix cinerea*), Goat Willow (*Salix caprea*) and Osier (*Salix viminalis*), particularly if Common Reed (*Phragmites australis*) is established in the balancing ponds to create reedbed. The combination of reedbed and willow scrub would provide potential breeding and feeding habitats respectively for Reed Warblers or other reedbed birds.

WILD FLOWER MIXTURE TO SOUTH, TOWARDS ESTUARY, WITH SCRUB BEHIND

A12.4.10 A suggested combination of planting here is tall scrub behind, short scrub on the margin, and wild flower grassland on the edges and beyond the shrub-planted areas. This design might be used for small pockets of planting (like small copses surrounded by grassland) or along the margins of open areas.

A12.4.11 The tall scrub element could consist of the following species:-

- Field Maple (*Acer campestre*)
- Hawthorn (*Crataegus monogyna*)
- Crab Apple (*Malus sylvestris*)
- Rowan (*Sorbus aucparia*)
- Hazel (*Corylus avellana*)
- Holly (*Ilex aquifolium*)
- Blackthorn (*Prunus spinosa*)
- Dog Rose (*Rosa canina*)

A suggested short scrub mixture is:-

- Blackthorn (*Prunus spinosa*)
- Boom (*Cytisus scoparius*)
- Gorse (*Ulex europaeus*)
- Dog Rose (*Rosa canina*)
- Field Rose (*Rosa arvensis*)

A12.4.12 An appropriate wild flower mixture that would be robust and suitable for an urban area is indicated below, together with short grass species such as Crested Dogstail (*Cynosurus cristatus*):-

- Cuckoo-flower (*Cardamine pratensis*)
- Common Knapweed (*Centaurea nigra*)

- Wild Carrot (*Daucus car*ota)
- Ox-eye Daisy (*Leucanthemum vulgare*)
- Meadow Vetchling (*Lathyrus pratensis*)
- Common Bird's-foot-trefoil (*Lotus corniculatus*)
- Cowslip (*Primula veris*)
- Bulbous Buttercup (*Ranunculus bulbosus*)

WIGG ISLAND, NORTH OF THE MANCHESTER SHIP CANAL

Planting on both sides of 25 metres high New Bridge immediately north of the Manchester Ship Canal

A12.4.13 The following advice notes assume that the planting on both sides of the bridge will be "broken up" i.e. not continuous but will provide bridge screening and a woodland edge effect with tall and fast-growing trees close to the bridge.

A12.4.14 Suggestions for tall, fast-growing tree species close to the bridge are:-

- Lombardy Poplar (*Populus nigra* Italica) which should be in groups, not lines, because it is very fragile in lines. It is a fast grower if planted on fertile soil but growth could be stunted by a limited root run so ripping and drainage may help to speed-up growth, plus fertilisation.
- Manchester Poplar (*Populus nigra*) which is a fast grower and will form a large tree. Again, would be better planted in groups, as part of a "broken up" planting design, not in lines.
- Black Italian Poplar (Hybrid Black Poplar, cultivar Serotina). This can grow 2 metres in the first year and be over 30 metres high in 30 years, producing an early landscape impact in conjunction with planting of the preceding species.

A12.4.15 The above trees might provide the "core" planting but using the following species for additional landscape and ecological diversity:-

- Silver Birch (*Betula pendula*) which is fast-growing and can grow to 15 metres in 20 years or less.
- Common Alder (*Alnus glutinosa*) which also exhibits very rapid growth and can grow 1 metre a year when young, especially if given a moist and fertile soil, preferably with phosphate fertiliser to stimulate root growth and nitrogen fixation.
- Turkey Oak (*Quercus cerris*) which exhibits very rapid growth which can be long maintained.
- Holm or Evergreen Oak (*Quercus ilex*) which will not grow as fast as the preceding species but is suited to coastal or near coastal areas and has the benefit of growing to a large size and is evergreen.
- English Oak (*Quercus robur*) which can grow at a reasonable rate although nothing like the rapidity of the poplars etc, but it is a tree for the longer term to replace the poplars and birches when they start to shed branches or become damaged by wind.

A12.4.16 The areas between the core plantings of dense poplars and associated Birch, Alder and oaks could be planted with tall scrub and shorter trees, such as the following:-

- Field Maple (*Acer campestre*)
- Hawthorn (*Crataegus monogyna*)
- Crab Apple (*Malus sylvestris*)
- Rowan (*Sorbus aucparia*)
- Hazel (*Corylus avellana*)
- Holly (*Ilex aquifolium*)
- Aspen (*Populus tremula*)

- Blackthorn (*Prunus spinosa*)

BRIDGEWATER JUNCTION AREA

A12.4.17 There is scope for further tree and scrub planting on the south-eastern side of the Project route within the large area of existing grassland and planting. In this area existing planting could be enriched with further native shrub species, particularly those listed earlier for the hedgerows and species-rich scrub, and local trees, particularly Common Oak

A12.4.18 Important species for scrub enrichment as well as inclusion in new plantings, to provide bird breeding habitat, winter cover, blossom, berries and nectar for insects, include the following:-

- Blackthorn (*Prunus spinosa*)
- Ivy (*Hedera helix*)
- Honeysuckle (*Lonicera periclymenum*)
- Holly (*Ilex aquifolium*)
- Field Rose (*Rosa arvensis*)
- Dog Rose (*Rosa canina*)
- Gorse (*Ulex europaeus*)

A12.4.19 There is scope in this area for stands of species-rich tall scrub, as specified earlier for the section of the route to the north-west of the Bridgewater Canal.

A12.4.20 In addition to species-rich and mixed scrub plantings, localised and scattered small areas should be planted to specific types of scrub (specific National Vegetation Classification) NVC plant communities. The following are suggested:-

- W21 Hawthorn-Ivy scrub (species-rich but with a low proportion of Hawthorn)
- W22 Blackthorn-Bramble scrub, planted to Blackthorn only.
- W23 Gorse scrub, planted to Gorse only.
- W25 Bramble scrub, which can be allowed to develop naturally.

A12.4.21 In addition, local patches of individual species such as Field Rose (*Rosa arvensis*) and Bird Cherry (*Prunus padus*) and Holly are worth planting to provide colour and bird-breeding habitat.

A12.4.22 Ecological benefits in this area could be maximised by planting zones of woody plantings with trees planted in the central parts of areas to be planted, with surrounding zones of tall scrub and low scrub on the outer margins of the plantings, all of which should be surrounded by a zone of either tall uncut grassland or specially seeded wild flower grassland on topsoil stripped ground.

A12.4.23 A richer wild flower seeds mixture is recommended for this area compared with the urban areas to be planted in the north, as specified for the route section north-west of the Upper Estuary. An example of a list of wild flowers to be seeded is given below:-

- Yarrow (*Achillea millefolium*)
- Cuckoo-flower (*Cardamine pratensis*)
- Common Knapweed (*Centaurea nigra*)
- Wild Carrot (*Daucus car*ota)
- Ox-eye Daisy (*Leucanthemum vulgare*)
- Meadow Vetchling (*Lathyrus pratensis*)
- Common Bird's-foot-trefoil (*Lotus corniculatus*)
- Cowslip (*Primula veris*)
- Bulbous Buttercup (*Ranunculus bulbosus*)
- Red Clover (*Trifolium pratense*)
- Tufted Vetch (*Vicia cracca*)

A12.4.24 This general area in the vicinity of the Bridgewater Junction, where there is plenty of open space, should be planted and subsequently managed as a mosaic of habitats or plant communities, ideally with the tree and shrub planted areas surrounded by uncut or infrequently cut grassland but with some central mown areas and mown pathways.

PLANTING OF ROADSIDE EMBANKMENTS AND CUTTING SLOPES

A12.4.25 The preceding prescriptions can be applied to most roadside areas to be planted but there are other possibilities of providing further enhancement of road corridor biodiversity and vegetation colour, as outlined below:-

- Planting of local colonies of individual plant species, particularly Cowslip, Ox-eye Daisy and other conspicuous species where appropriate, either following killing of existing grass or seeding into sparsely colonised areas or areas of bare soil (preferably exposed subsoil) following highway engineering works.

- Establishment of colonies of distinctive flowers, principally to provide colour, examples being Long-headed (Red) Poppy (*Papaver dubium*), Red Valerian (*Centranthus ruber*), Foxglove (*Digitalis purpurea*), Chicory (*Cichorium intybus*), Common Spotted and Marsh Orchids (*Dactylorhiza species*), Great Burnet (*Sanguisorba officinalis*) and Common Mullein (*Verbascum thapsus*). Each area seeded or established by transplanting should contain one species only.

- Planting of colonies of nationally scarce wild flowers where seed is available. There are few possibilities but one good example is White Mullein which was conserved during the construction of the Dee Crossing near Shotton Steelworks. Stored seeds (which remain viable for many years, even centuries) are available from the Dee Crossing Project, as are plants from the same project retained in cultivation by Environmental Research & Advisory Partnership. This species is colourful (*en masse*), and conspicuous when in bloom.