in the field to enable close examination of the roadway location by Department representatives and Consultants staff. The staking interval and definition of the project geometrics required will be determined on a project specific basis in consultation with the Municipality Representative.

A detailed survey of the existing greenery impacted by the project will be required. The survey will record the location, size and limits of all trees shrubs and flower beds within the limits of improvement. Photographs should be taken to supplement the data. This information will be recorded on drawings and used to investigate alignment adjustments or alternatives that will minimize the removal of greenery.

203.05   DRAINAGE SURVEYS

The Consultant is responsible for a comprehensive survey of drainage facilities and conditions and data collection during the pre-design activities. The data collection consists of three activities:

- field review of existing drainage facilities and identification of flood plains within the project's "zone of influence"
- field testing including particle size analysis, scour, etc.
- review of existing drainage master plans (urban areas), hydrologic studies/data collection (urban and rural areas), and other pertinent studies

The review of the existing drainage facilities should include:

- pump stations
- outfalls
- reinforced concrete box structures
- channels
- ditches
- large diameter pipes
- pumps, etc.

In absence of drainage master plans or other pertinent studies to establish area hydrology, the Consultant is responsible to develop/collect hydrologic data. This data is to include:

- rainfall measurement (volume and time) at a suitable collection site, such as the airport
- measurement of area run-off
- miscellaneous basic data such as soil type, land use, aerial photographs, infiltration, evaporation, solar radiation and oceanography

Note that sources for miscellaneous data are scattered. The Consultant must rely upon the collective experience of design in other similar areas to compile this information.