Conduct of
Bathymetric and Hydrographic Surveys
Lake Worth Dredging (Phase I)

Under the direction of the City of Fort Worth the design of the Lake Worth Dredging Project will commence in late January 2009. One the earliest efforts to be performed under the design contract will be the collection of data to be used to characterize the lake bottom. The data collected will include:

- High density, precision depth and silt measurements in selected areas of the lake
  (used to create depth profiles of the bottom and sub-bottom beneath the silt)
- Acoustic images of the lake bottom in selected areas
  (used to determine the condition of the bottom such as amount of stumps or other impediments)
- Shoreline survey data adjacent to the areas selected
  (used to anchor the depth profiles to the shoreline)

The areas are selected to cover know problem areas and to be representative of the more shallow areas of the lake.

The data collection effort will use precision Global Positioning System (GPS) satellites for location of each data point and sophisticated sonar for depth, silt and image information. The contractor will use three vehicles to facilitate the data collection: a 30' pontoon boat, a 10' "Pelican" boat and a 9' robotic vehicle. The Pelican boat will be used to collect shoreline data and acoustic images. The pontoon boat and robotic vehicle will be used together to collect depth and silt measurements. The pontoon boat will also be used to coordinate the surveys and to process data. In general, the robotic vehicle will conduct a grid pattern in a localized area each day with the pontoon boat in company. The Pelican boat will plot points along the shoreline and will execute a pattern also in localized areas.

- The data collection effort is expected to take about 60 days.
- The survey work should not impact property owners or recreational users of the lake.
- The lake bottom will not be disturbed during sonar data collection.
- The sonar activity will not disturb fish or other wildlife, and is not audible to humans
  (the sonar uses a low power, complex acoustic pulse in a frequency range similar to fish finders)
- The robotic vehicle is a battery powered autonomous unmanned vehicle and can operate on its own without operator control. Normally the autonomous vehicle will be accompanied by the pontoon boat and the pontoon boat is normally used to transport the vehicle to the survey site.
- You may see the work boats on the lake and you are asked to keep clear of their operations to ensure the timely completion of the data collection and highest quality of the data product. However, they are not expected to interfere with normal use of the lake.
- In general the work will be conducted during the daylight hours but some night time activity may be necessary.
- All survey data collection will be conducted on the water and will not require access to your property beyond the water's edge.
- The design is contracted to the engineering firm of Freese and Nichols, Inc.
- The hydrographic survey work is subcontracted to Branch Water Services.
- Questions should be addressed to Ms Audra Gustafson, 817-237-6890.

Photographs of the vehicles are provided below.

Branch Water Command and Control Boat

Branch Water Pelican Survey Boat

Branch Water Robotic Survey Vehicle

Branch Water Robotic Survey Vehicle