



BAYOU VISTA CANAL

On Sunday, August 30, 2020 Envirodredge, LLC conducted a sediment analysis on the main canal that runs parallel to the railroad track and perpendicular to the streets in Bayou Vista. The results are solely for the purpose of obtaining dredge estimates and a pre-dredge study for Envirodredge. Customer understands that this study does not offer an official bathymetry map of the canal.

The attached drawings and tables depict the results of our survey, and the data collected was used to provide an estimate of the current water storage volume and the amount accumulated soft sediment within the defined area. This unconsolidated sediment layer is comprised of soil particles and organic materials that have accumulated on the bottom of the waterbody, which remain penetrable by a manual depth sampling instrument. A manual probe was used to measure the remaining water depth and magnitude of unconsolidated sediment depth at each data point down to the hard bottom. A total of 22 measures were taken in the areas of greatest concern as defined by the customer and location of each data point was marked using a GPS handheld device. The information gathered was input to create a crude map on Google Earth of the remaining water depths and sediment accumulation at each location. The estimated total volume of unconsolidated sediment in area(s) of concern was derived by using an average of the measurements recorded at each data point. The table below shows the results.

Surface area of canal	7 acres (311,774 square feet)
Maximum water depth observed	10 feet
Average water depth	7 feet
Maximum sediment depth observed	8 feet
Average sediment depth at intersections of canals	5 feet
Average sediment depth at area of pipe	4.9 feet
Estimated sediment volume at area of pipe 17,000 sf	3,085 cubic yards
Estimated sediment volume of entire canal	57,735 cubic yards
Maximum depth observed from surface to hard bottom	15 feet

****NOTE: Sediment volumes are calculated Insitu (wet material as is in the water).*

Excessive sediment accumulation affects water quality and creates optimum conditions for the growth of algae and aquatic vegetation in addition to reducing the water holding capacity, which can increase the risk of flooding during heavy rain events. There are 202 gallons of water per cubic yard. Removing the sediment in this canal would increase the water holding capacity by more than 12 million gallons. The canal is currently at an estimated 67% of its potential water holding capacity.

It does not appear that the accumulation of sediment is in any one area more than another, but instead seems to be dispersed throughout the canal. Further, there is no obvious point of origin from which the sediment is entering the canal. Sedimentation is often a result of disturbed soils and other organics that enter during stormwater run-off, decay of algae and aquatic plants, grass clippings, leaves, etc. As in the

case of Bayou Vista Canals, sedimentation can also be a result of moving tides and currents. Currently, there is sufficient water depth for recreational boats to maneuver in and out of the canal. As additional sedimentation occurs, the water depth will decrease and impede the passage of boats. It is our recommendation that reserve funds always be set aside for regular maintenance dredging.

Please let us know if you have any questions or if there is additional information that we might help with.

Thank you,
 Envirodredge, LLC

BAYOU VISTA CANAL COORDINATES

PROBE COORDINATES WATER DEPTH SEDIMENT DEPTH

1	29.32281, -94.94487	6'	4'
2	29.3228, -94.94486	5'	2'
3	29.32282, -94.94486	5'	2'
4	29.32283, -94.94487	7'	3'
5	29.32282, -94.94489	6'	6'
6	29.32272, -94.94498	7'	8'
7	29.32268, -94.94448	8'	5'
8	29.32263, -94.94463	8'	6'
9	29.32259, -94.94456	8'	5'
10	29.3225, -94.94349	9'	6'
11	29.32188, -94.94243	10'	5'
12	29.32147, -94.94138	9'	6'
13	29.32114, -94.94032	10'	4'
14	29.32083, -94.93933	9'	5'
15	29.32291, -94.93933	4.5'	6" (ROCK)
16	29.32291, -94.94498	5'	2' (GRAVEL)
17	29.32289, -94.945	6'	3'
18	29.32297, -94.94542	7'	5'
19	29.32331, -94.9465	7'	5'
20	29.322761, -94.944981	7'	8'
21	29.322742, -94.944849	7'	5'
22	29.322781, -94.945080	7'	8'

BAYOU VISTA CANAL MAPS

