



Specialized Sediment Removal



■ Specialized Sediment Removal

Sediment build-up is a common problem in facility ponds and impoundments. Excess sediment can adversely effect pump intakes, aeration units and decrease holding capacity.

Allied's approach to sediment removal is unique. Bulk sediment is removed utilizing a process that combines specialized SCUBA diving techniques, vacuum extraction, and a passive sediment dewatering system within geotextile containers.

This approach allows for the safe removal of sediments from sensitive areas where conventional dredging is not feasible. Using the diver's tactile senses also ensures complete sediment capture, which can be an advantage over mechanical dredging.

Our process is ideal for:

- Fire water ponds
- Cooling water and process ponds
- Surface impoundments
- Pump stations and equipment vaults
- Dammed reservoirs

Advantages over mechanical dredging

- No draining of pond
- Safe removal around equipment
- No expensive filter presses
- Precise depth control
- Easy transport & disposal of waste solids
- In-situ sampling of sediments

Our professional diver technicians are certified by:



Specialized Sediment Removal Process

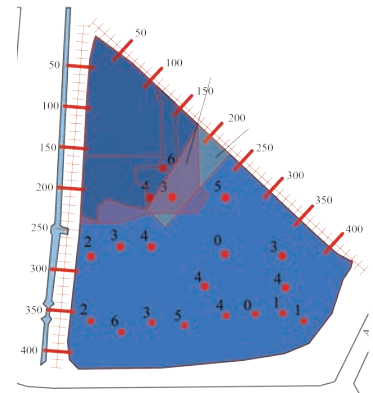
■ Assessment

The assessment and planning stage is often the most important part of a sediment removal project. Sediment composition, depth, thickness, and chemistry can affect the rate of removal and dictate how sediments must be managed for dewatering and disposal.

The assessment can sometimes be made from the pond surface using boats or barges, but often, more accurate data can be obtained employing divers with submersible equipment.

Assessment typically includes:

- Measurement of water depth/distance to sediment
- Mapping of the sediment surface and thickness
- Evaluation of sediment grain size and physical composition
- In-situ sampling and chemical analysis of sediment
- Sampling and chemical analysis of pond water
- Photographic/video documentation of subsurface conditions
- Strategic planning of dewatering and decontamination areas, and load-out zones.



■ Removal

Sediment is manually removed by divers utilizing specialized vacuum hoses powered by traditional pumps. Dive crews work methodically inside pre-mapped pond sections to ensure complete removal. Sediments are vacuumed directly to geotextile bags for dewatering.



■ Dewatering

Sediments contained within the geotextile containers dewater passively. In some instances, sediments are conditioned with a polymer flocculant to assist in the dewatering process. Sediments are periodically sampled and subjected to a paint filter test to assess dewatering progress. Water leaching from the geotextile containers can be returned to the pond, or collected for off-site disposal/treatment.



■ Disposal

Once dewatered, the geotextile containers are opened and the remaining sediment solids are excavated and loaded into trucks or roll-off containers for transport to an approved disposal/treatment facility.



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No. 400-116603



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