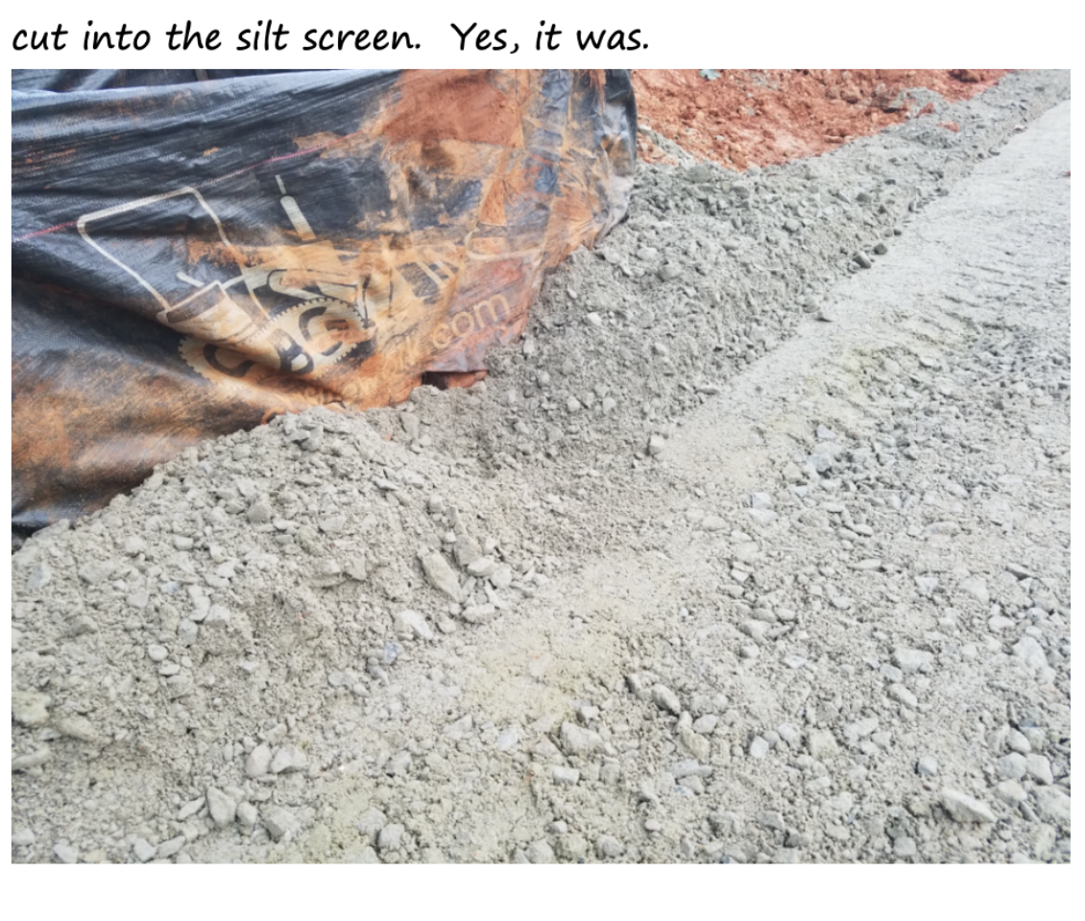
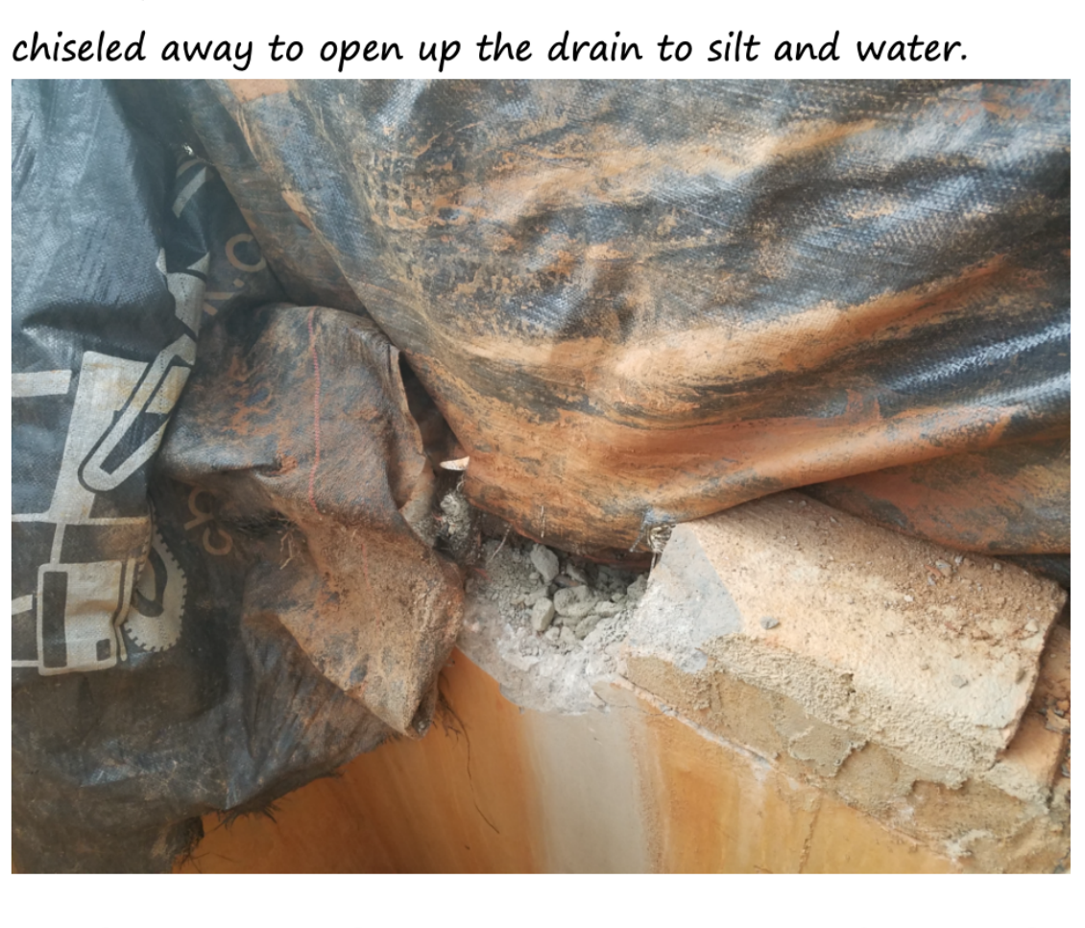
Why Are Storm Drains Allowed to be Compromised?

August 23, 2020

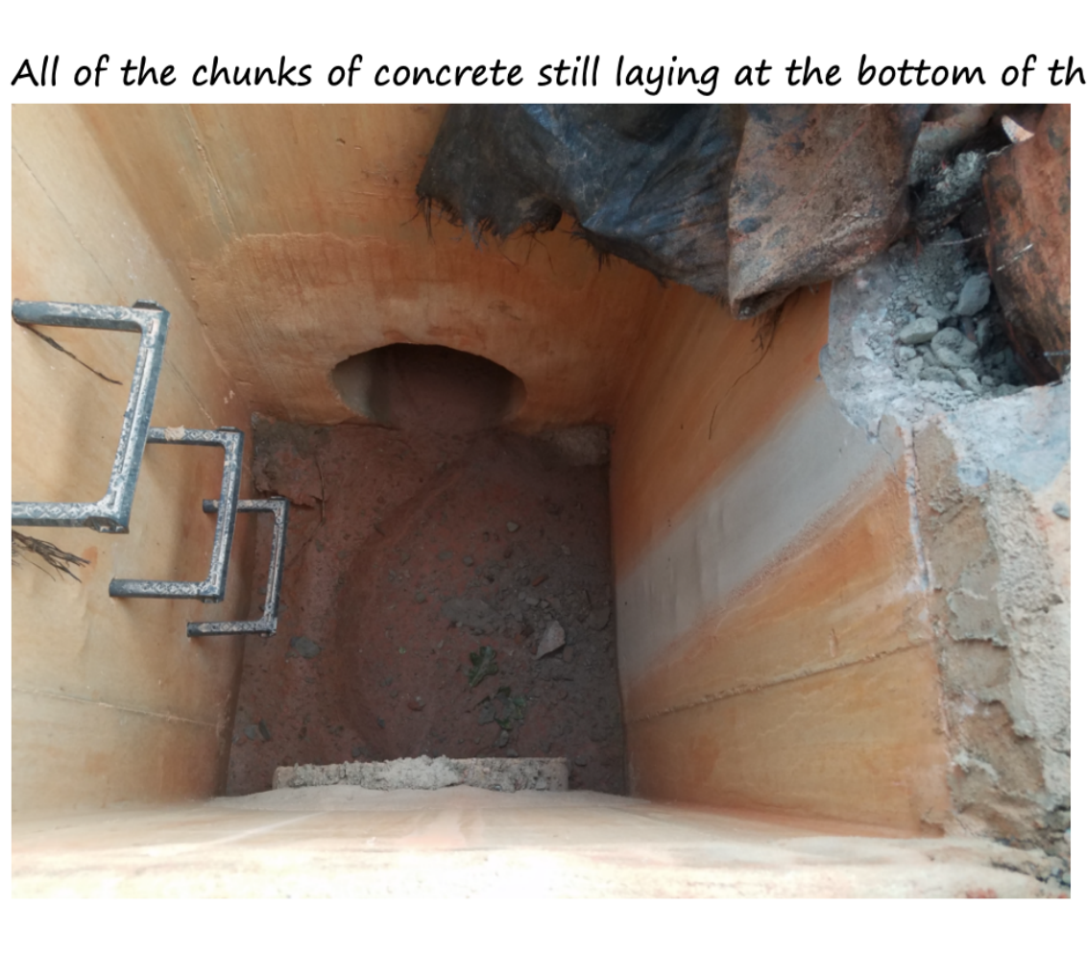
For over a week, actually starting on August 15, 2020, the Storm Drain Inlet Protection was purposely compromised by the contractor. ***(By the way, it is really appreciated that the contractor does put his name on the work they do. Their website is right there on every compromised storm drain – CBGsitework.com. Great advertising.)*** *I noticed on one drain that the crush-n-run was dug out in the middle of the drain and it appeared that there was hole cut into the silt screen. Yes, it was.*



Then I looked into the drain and saw that the concrete had actually been chiseled away to open up the drain to silt and water.



All of the chunks of concrete still laying at the bottom of the drain.

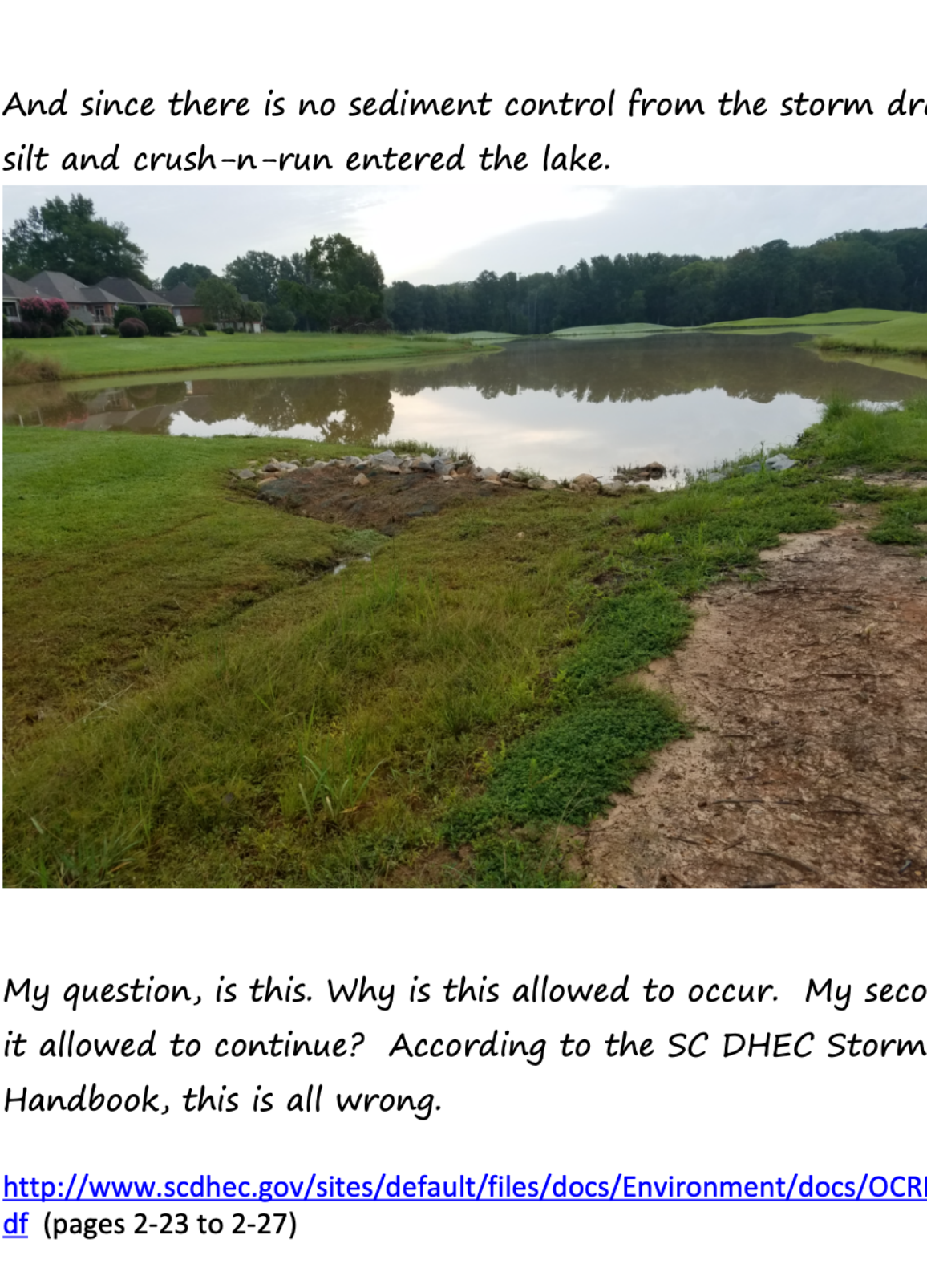


I then started to check the other storm drains, and they were all compromised, too. These three are representative of the others.

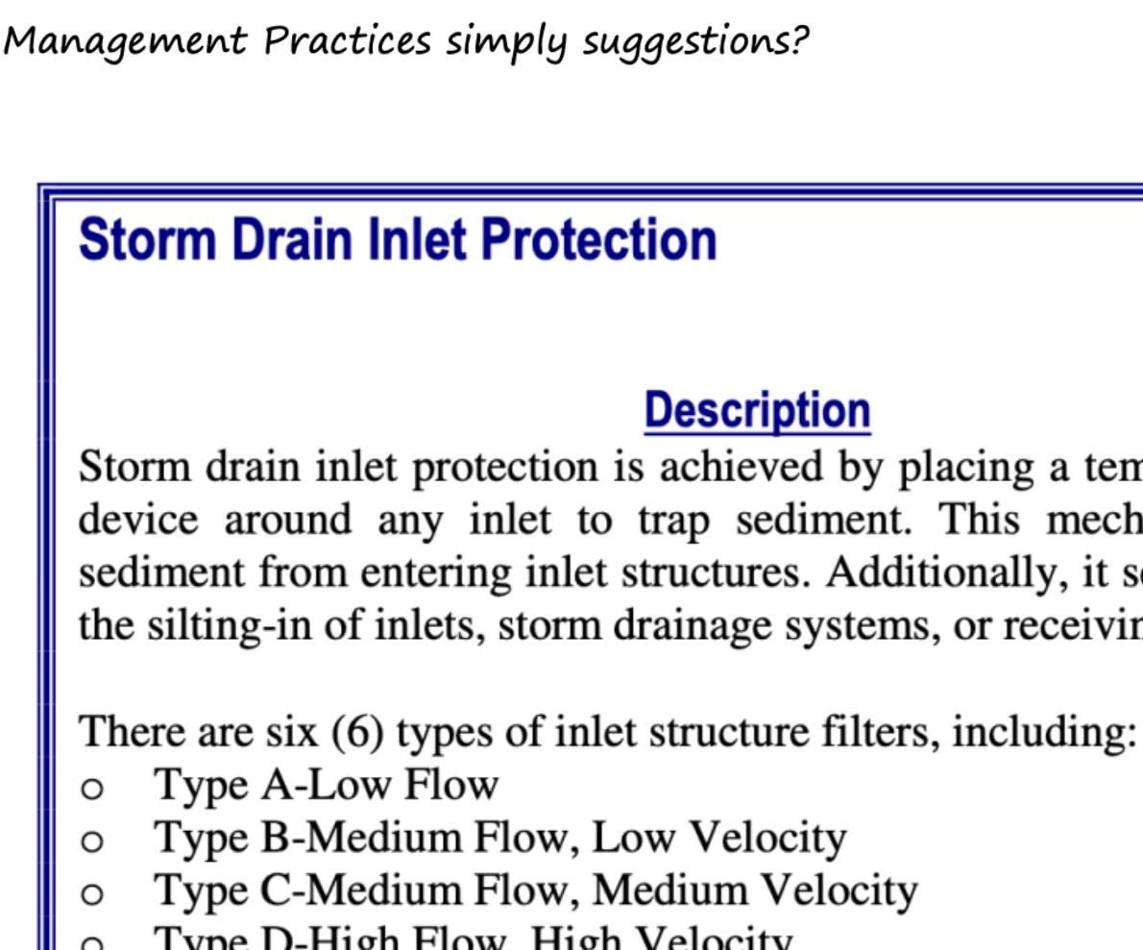
Then on August 18 the contractor decided to direct water and silt directly into all of the storm drains using a berm going out about 20 feet into the road and directing the silt and water to the compromised silt fabric and cut away blocks. These four storm drains are examples.

Then on August 21, after more rock was added to the road, the contractor started taking away the berms and building a catch basin around the storm drains that lined up with the comprised entry point. As of August 23rd they are still like this.

Of course all of these storm drains run to through a drain system that comes out here. Where you can see some of the residual of silt and the crush-n-run.



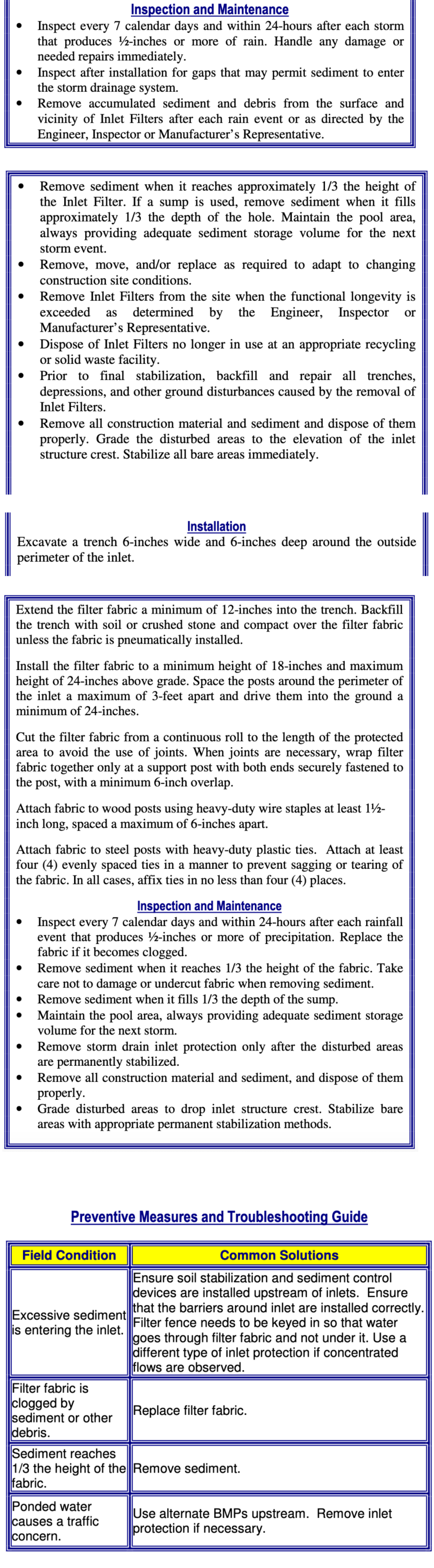
And since there is no sediment control from the storm drains, all the rest of the silt and crush-n-run entered the lake.



My question, is this. Why is this allowed to occur. My second question is why is it allowed to continue? According to the SC DHEC Stormwater BMP Handbook, this is all wrong.

http://www.scdhec.gov/sites/default/files/docs/Environment/docs/OCRM_DHEC_FIELD_MANUAL.pdf (pages 2-23 to 2-27)

I believe it could be argued that none of the following Best Management Practices were followed. Which begs the question, is the SC DHEC Best Management Practices simply suggestions?



Storm Drain Inlet Protection

Description

Storm drain inlet protection is achieved by placing a temporary filtering device around any inlet to trap sediment. This mechanism prevents sediment from entering inlet structures. Additionally, it serves to prevent the silting-in of inlets, storm drainage systems, or receiving channels.

There are six (6) types of inlet structure filters, including:

- Type A-Low Flow
- Type B-Medium Flow, Low Velocity
- Type C-Medium Flow, Medium Velocity
- Type D-High Flow, High Velocity
- Type E-Surface Course Curb Inlet
- Type F-Inlet Tubes

When and Where to Use It

Inlet protection may be installed prior to the construction of roads however, once the sub base is placed, a different type of inlet protection may be required. Inlet protection is required on all inlets that have outfalls that bypass sediment trapping structures and directly discharge off site. Use inlet protection as a last resort for sediment control when no other means are practical and do not use as the only means of protection.

Inspection and Maintenance

- Inspect every 7 calendar days and within 24-hours after each storm that produces ½-inches or more of rain. Handle any damage or needed repairs immediately.
- Inspect after installation for gaps that may permit sediment to enter the storm drainage system.
- Remove accumulated sediment and debris from the surface and vicinity of Inlet Filters after each rain event or as directed by the Engineer, Inspector or Manufacturer's Representative.

- Remove sediment when it reaches approximately 1/3 the height of the Inlet Filter. If a sump is used, remove sediment when it fills approximately 1/3 the depth of the hole. Maintain the pool area, always providing adequate sediment storage volume for the next storm event.
- Remove, move, and/or replace as required to adapt to changing construction site conditions.
- Remove Inlet Filters from the site when the functional longevity is exceeded as determined by the Engineer, Inspector or Manufacturer's Representative.
- Dispose of Inlet Filters no longer in use at an appropriate recycling or solid waste facility.
- Prior to final stabilization, backfill and repair all trenches, depressions, and other ground disturbances caused by the removal of Inlet Filters.
- Remove all construction material and sediment and dispose of them properly. Grade the disturbed areas to the elevation of the inlet structure crest. Stabilize all bare areas immediately.

Installation

Excavate a trench 6-inches wide and 6-inches deep around the outside perimeter of the inlet.

Extend the filter fabric a minimum of 12-inches into the trench. Backfill the trench with soil or crushed stone and compact over the filter fabric unless the fabric is pneumatically installed.

Install the filter fabric to a minimum height of 18-inches and maximum height of 24-inches above grade. Space the posts around the perimeter of the inlet a maximum of 3-feet apart and drive them into the ground a minimum of 24-inches.

Cut the filter fabric from a continuous roll to the length of the protected area to avoid the use of joints. When joints are necessary, wrap filter fabric together only at a support post with both ends securely fastened to the post, with a minimum 6-inch overlap.

Attach fabric to wood posts using heavy-duty wire staples at least 1½-inch long, spaced a maximum of 6-inches apart.

Attach fabric to steel posts with heavy-duty plastic ties. Attach at least four (4) evenly spaced ties in a manner to prevent sagging or tearing of the fabric. In all cases, affix ties in no less than four (4) places.

Inspection and Maintenance

- Inspect every 7 calendar days and within 24-hours after each rainfall event that produces ½-inches or more of precipitation. Replace the fabric if it becomes clogged.
- Remove sediment when it reaches 1/3 the height of the fabric. Take care not to damage or undercut fabric when removing sediment.
- Remove sediment when it fills 1/3 the depth of the sump.
- Maintain the pool area, always providing adequate sediment storage volume for the next storm.
- Remove storm drain inlet protection only after the disturbed areas are permanently stabilized.
- Remove all construction material and sediment, and dispose of them properly.
- Grade disturbed areas to drop inlet structure crest. Stabilize bare areas with appropriate permanent stabilization methods.

Preventive Measures and Troubleshooting Guide

Field Condition	Common Solutions
Excessive sediment is entering the inlet.	Ensure soil stabilization and sediment control devices are installed upstream of inlets. Ensure that the barriers around inlet are installed correctly. Filter fence needs to be keyed in so that water goes through filter fabric and not under it. Use a different type of inlet protection if concentrated flows are observed.
Filter fabric is clogged by sediment or other debris.	Replace filter fabric.
Sediment reaches 1/3 the height of the fabric.	Remove sediment.
Ponded water causes a traffic concern.	Use alternate BMPs upstream. Remove inlet protection if necessary.