



ECS CAROLINAS, LLP
Geotechnical • Construction Materials • Environmental

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Mr. Pierre A. Gorja
Goria Corporation
5517 Burlington Road
McLeansville, North Carolina 27301

ECS Project G-11611

RE: Comments on NCBVA Load Test
Goria Corporation Burial Vault

Dear Mr. Gorja:

As requested, we have reviewed the report of load testing of one of your burial vaults performed by the CTL Group for the National Concrete Burial Vault Association. We have also reviewed Doric's "Virtual Plant Tour" and the NCBVA performance standards for concrete burial vaults.

CTL's load test was reportedly performed in accordance with the NCBVA guidelines. Details of the test set up are shown in Illustration F of the specifications; however, the subject illustration was absent from the specifications, so we cannot comment on CTL's conformance to that guideline.

The photograph of the load test shown in the Virtual Tour document shows a reaction frame considerably different from CTL's system, and very similar to the test system used during the load test at the Gorja plant. In both Gorja's and Doric's load test, straps were placed around the vault and hold the reaction beam in place atop the vault. CTL's test did not utilize confining straps around the vault and used a completely independent reaction beam. It is our understanding from discussions with Mr. Gorja that the use of straps around the vault is traditional during plant load tests of concrete vaults.

Confining straps around the vault prevent lateral deformation and increase rigidity of the system, so higher loads will obviously be tolerated with the straps than without. When the vault is placed in the grave and backfill placed around it, lateral earth pressure provides confining pressure that would serve to limit deflection. Under service conditions, it is also likely that the casket within the vault would limit vertical deflection. It is therefore our opinion that CTL's load test neither accurately reflects the vault's performance under service conditions, nor does it accurately replicate the typical load test conditions for a concrete burial vault.