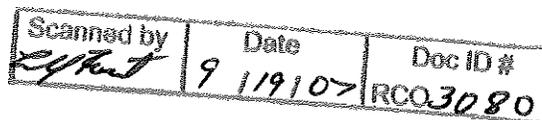


RECEIVED
September 2007
Solid Waste Section
Asheville Regional Office



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Division of Waste Management
Solid Waste Section
Date September 2, 2008 By LY Frost



Document ID No. 5638
Scanned By LY Frost Date September 19, 2007
September 14, 2007

Duke Energy
526 South Church Street
P.O. Box 1006
Mail Code: EC-11J
Charlotte, NC 28202

Attention: Mr. Ted Manes

Reference: Proposed Test Fill
Retired Ash Basin Ash Landfill - Allen Steam Station,
Gaston County, North Carolina
S&ME Project No. 1356-06-825

Dear Mr. Manes:

S&ME, Inc. (S&ME) is pleased to submit the letter summarizing the proposed construction of a full-scale monitored test fill. The purpose of the test fill is to corroborate current settlement analyses based on laboratory test results for the proposed ash landfill at Duke Energy's Allen Steam Station. This letter was prepared to communicate the proposed test fill program to the North Carolina Department of Environment and Natural Resources (NCDENR).

BACKGROUND

The Allen Steam Station is located on the west bank of the Catawba River approximately 4.5 miles southeast of Belmont in Gaston County, North Carolina. Duke Energy is in the process of permitting a new ash landfill on top of a retired ash basin (RAB) at the Allen Steam Station. The RAB is located south of the generating units and is bound to the north, east, and south by earthen dikes. The ash basin was retired in the 1970's and is currently wooded with trees. The general site vicinity and RAB location are shown in Figure 1. The RAB covers about 62 acres with ash depths ranging from approximately 20 to 50 feet.

Duke Energy and S&ME recently submitted the proposed landfill Site Suitability Study to NCDENR. The Site Suitability Study summarizes the fundamental geologic, hydrogeologic, and geotechnical characteristics of the RAB as related to the proposed landfill development. S&ME understands the challenges of constructing over a RAB and the Site Suitability Study specifically focused on understanding the geotechnical conditions

through investigations consisting of traditional geotechnical test borings, cone penetration test soundings, dilatometer soundings, and collecting various soil samples for characterization and geotechnical laboratory testing.

S&ME conducted settlement and slope stability analyses to evaluate the feasibility of the proposed landfill development over the RAB. Results of our analyses indicate the potential for several feet of settlement and acceptable slope stability factors of safety. Considering the magnitude of estimated settlement, we are proposing to design, construct, and monitor a full-scale test fill on the RAB to improve our understanding of settlement characteristics.

PROPOSED TEST FILL

The test fill is to be constructed, primarily to evaluate settlement and establish settlement parameters to corroborate, the current settlement analysis which is based on results of laboratory and in situ testing. The data and analyses obtained from the test fill are considered supplemental to analyses performed in support of the permit to construct application and engineering plan (PTC). In our opinion, the results of the test fill are not required to complete and submit the PTC application. The secondary purpose of the test fill is to evaluate the constructability of the proposed landfill over the RAB. The quantitative and qualitative data obtained from the test fill will be used to draw conclusions for design purposes.

The proposed test fill will cover approximately 3.1 acres and will be located southwest of the center of the RAB. The proposed test fill location is illustrated in Figure 2. The proposed test fill will be 20 feet tall, 250 feet by 250 feet on the top deck, and have 3 horizontal to 1 vertical side slopes. The test fill will require approximately 74,000 cubic yards of fill. We are proposing to build the test fill with ash removed from the active ash basin as part of the Plant's routine ash management practices.

We anticipate beginning construction of the test fill in October with filling operations completed within three months time. The planned construction sequence includes: clearing and grubbing; installing erosion and sediment control measures; fill placement; and stabilization. We propose stabilizing the completed test fill surface by seeding. The proposed test fill would be monitored for a undetermined period of time after completion. Ultimately, we are proposing to leave the test fill in-place to be used as foundation fill for the proposed landfill.

To support construction and development of the test fill program, we anticipate developing the following plans and programs:

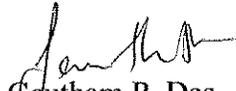
- Construction Documents – consisting of construction plans, details, and technical specifications to communicate the details to a contractor who will be building the test fill;
- Erosion and Sediment Control Plan – consisting of a plan and drawings to obtain a general NPDES permit and land disturbance permit for construction activities;

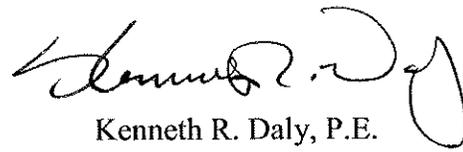
- Monitoring Program Plan – to define the means, methods, and frequency of the monitoring program; and
- Test Fill Report – summarizing test fill construction, presenting/summarizing construction testing and monitoring results, and compiling monitoring results.

CONCLUSION

S&ME. respectfully requests NCDENR authorization to proceed with the construction of the proposed test fill as described herein. If you have any questions, comments, or would like additional information, please contact feel free to contact us at (704) 523-4726.
Sincerely,

S&ME, Inc.


Gautham P. Das
Staff Professional

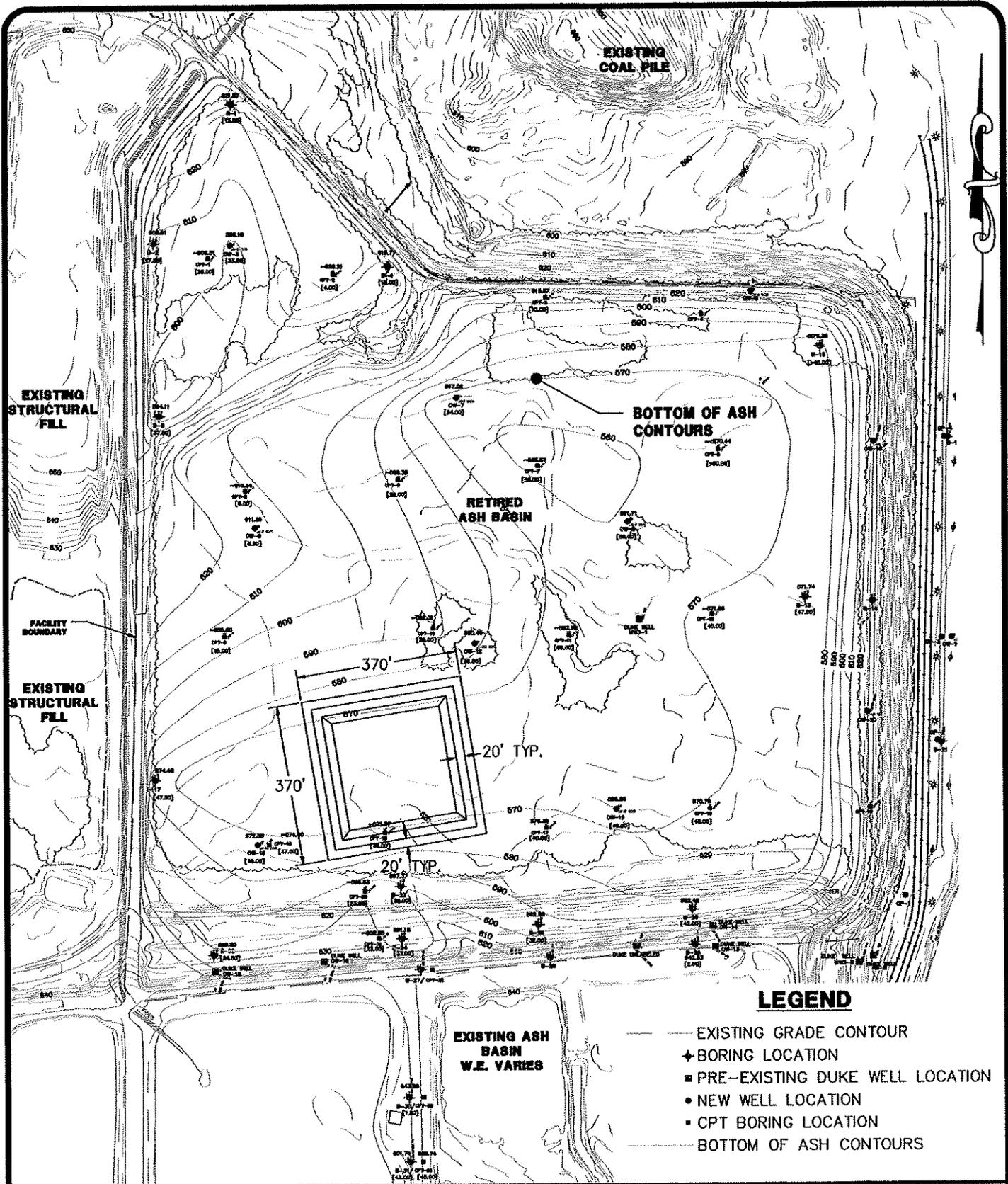

Kenneth R. Daly, P.E.
Senior Project Engineer


Jack J. Amar, P.E.
Senior Vice President



REFERENCE:
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SCALE: 1" = 1500'		DATE: 09/07/07	
PROJECT NO: 1356-06-825	DRAWN BY: DMG	CHECKED BY:	
 WWW.SMEINC.COM		TEST FILL VACINITY ALLEN STEAM STATION-RETIRED ASH BASIN BELMONT, NORTH CAROLINA	
		FIGURE NO.	



LEGEND

- EXISTING GRADE CONTOUR
- ◆ BORING LOCATION
- PRE-EXISTING DUKE WELL LOCATION
- NEW WELL LOCATION
- CPT BORING LOCATION
- BOTTOM OF ASH CONTOURS

SCALE: 1" = 300'
 DATE: 9-07-07
 DRAWN BY: ELH
 PROJECT NO: 1356-06-825



**PROPOSED TEST FILL
 LOCATION PLAN**
 PLANT ALLEN STEAM STATION
 BELMONT, NORTH CAROLINA

FIGURE NO.
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