Wilson, Donna

From: David Garrett [david@davidgarrettpe.com]
Sent: Tuesday, April 06, 2010 1:37 PM
To: 'Elizabeth Werner'; ', Donna Wilson'; Mussler, Ed
Cc: 'Dennis Gehle'; 'Nick Marotta'; 'Vernon Smith'
Subject: WCA Brownfield Road CDLF
Attachments: WCA Brownfield Site Suitabilty Status.pdf

Please see the attached document I prepared to follow up a conversation I had with the SWS reviewers last week. This topic came up in reference to our plans to show the Southern Disposal Area and the proposed interstitial airspace (between the Northern and Southern Disposal Areas) on an updated Facility Plan, which will be subject to the public comment period associated with the upcoming permit for Phase 2A. All parties are invited to call me if there are any questions or if further information is required. Thank you.

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Tel. 919-418-4375 (mobile)

David Garrett & Associates
Engineering and Geology

April 6, 2010

Ms. Elizabeth Werner
Hydrogeologist
NC DENR Division of Waste Management
Solid Waste Section
401 Oberlin Road, Suite 150
Raleigh, North Carolina, 27611

RE: **Site Suitability Approval Status**
WCA Brownfield Road C&D Landfill
Raleigh (Wake County), North Carolina
Solid Waste Permit No. 92-31

Dear Ms. Werner:

Thank you for meeting me and Dennis Gehle of WCA at the referenced site on April 1, 2010. Part of our discussion involved a concern expressed by Donna Wilson pertaining to the inclusion of the stream feature to the south of the proposed Phase 2A footprint in the original site suitability documents. On behalf of WCA, I have researched the Site Suitability application report and drawings prepared in 2001 by Joyce Engineering, and I am pleased to offer the following opinions, with supporting citations from the earlier work. Please refer to the following pdf attachments, excerpted from the earlier work:

Drawing No. 5 Base Grading Plan

Drawing No. 6 Final Grading Plan

Pages from Volume One-Section II (Site Application), Revised April 2001

Please note that both drawings show the 210-acre facility boundary with 200-foot property line setbacks and two disposal areas – the Northern Disposal Area and the Southern Disposal Area. Both drawings show the stream features, including the stream south of the proposed Phase 2A footprint; Drawing 5 shows a sufficient number of test borings and test pits to characterize the southern portion of the property, including borings within and outside of the southern disposal area footprint. Other drawings, presented in the earlier work, show cross sections, ground water contours, and bedrock contours, typical of site suitability investigations for Solid Waste facilities.

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Bedrock was identified in a few borings and was characterized by rock coring data in both the Northern and Southern Disposal Areas. Hydrogeologic testing (slug testing) was performed in addition to laboratory testing. An estimate of long-term seasonal high ground water was made, which included potentiometric surfaces tied to the stream in question. This is typical practice for site characterizations within the piedmont, whereas the stream generally indicates the position of the water table in the vicinity of the stream.

Together, this body of literature clearly suggests to me that the authors intended for the Site Suitability report to include the entire 210-acre facility – that would include the Southern Disposal Area and the interstitial stream between the Northern and Southern Disposal areas.

Ostensibly, prior to any further permitting of either area, a Design Hydrogeologic study will be required in order to confirm the preliminary subsurface data represented in the Site Suitability study. This also is standard practice for permitting solid waste disposal sites in North Carolina (for the benefit of those based in other states, such as the WCA regional and corporate staff).

I fully understand Ms. Wilson's concern that Phase 2A (and future phases) may not have been sufficiently designed (with volumetric analyses and life expectancy calculations) for representing them in the Facility Plans that were considered in earlier pubic hearings – which reflects a rule change since the original permit to construct was issued for Phase 1 – and I understand that the contemplated addition of airspace between the Northern and Southern Disposal Areas has never been represented on a Facility Plan and subjected to public comment.

However, I can in no way see how the interstitial stream feature (between the Northern and Southern Disposal Areas) could not have been considered part of the original Site Suitability approval. Typically, the whole site – including all its various natural features – are subject to the Site Suitability characterization and, hence, are an integral part of the Facility. Further, based on my review of the data, I believe the original Site Suitability characterization was sufficient to meet current rules and requires no update. I trust you will consider this situation the same way.

Thank you for your attention to this matter. Please contact me at your earliest convenience if you have questions or comments, or if I may be of further service.

cc: Donna Wilson – NC DENR Solid Waste Section
Ed Mussler, PE – NC DENR Solid Waste Section
Dennis Gehle – WCA Waste Corporation
Nick Marotta, Regional Engineer – WCA Waste Corporation
Vernon Smith, Vice President – WCA Waste Corporation

NOTES:

1. DIGITAL MAPPING PROVIDED BY SPATIAL DATA CONSULTANTS, INC., OF HIGH POINT, NORTH CAROLINA. DATE OF AERIAL FLYOVER: MARCH 27, 2001.
2. FACILITY PROPERTY LINE REFERENCE: SURVEY BY WILLIAMS – PEARCE AND ASSOC., P.A., DATED JUNE 23, 1995. ADDITIONAL PROPERTY LINES PROVIDED BY WAKE COUNTY GIS DEPARTMENT.
3. THE NEUSE RIVER BASIN WATERWAYS WERE IDENTIFIED BY KIMLEY–HORN AND ASSOCIATES.

BENCH MARK INFORMATION:

POINT	NORTHING	EASTING	ELEVATION
NCGS MARIAH	701369.9036	2146838.4520	361.69
BM–1	713853.47	2148693.87	268.75
BM–2	711371.57	2147318.46	278.32

GRAPHIC SCALE
0 100 200 400
(FEET)

DATE	REVISIONS AND RECORD OF ISSUE	NO	BY	CK	AP

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DESIGNED SF/JD
DRAWN CADD/BY/TH
CHECKED SF
APPROVED JD
DATE 12/28/01

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SCALE 1"=200'

PROJECT NO. 47901.01

JOYCE ENGINEERING, INC.
2301 W. MEADOWVIEW RD.
GREENSBORO, N.C.
PHONE: (336) 323-0092

MATERIAL RECOVERY, LLC
WAKE COUNTY, NORTH CAROLINA

BASE GRADING PLAN

DRAWING NO. 5

NOTES:

1. DIGITAL MAPPING PROVIDED BY SPATIAL DATA CONSULTANTS, INC., OF HIGH POINT, NORTH CAROLINA. DATE OF AERIAL FLYOVER: MARCH 27, 2001.
2. FACILITY PROPERTY LINE REFERENCE: SURVEY BY WILLIAMS – PEARCE AND ASSOC., P.A., DATED JUNE 23, 1995. ADDITIONAL PROPERTY LINES PROVIDED BY WAKE COUNTY GIS DEPARTMENT.
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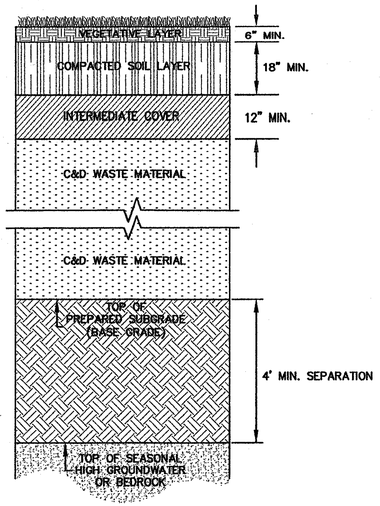

PREPARED SUBGRADE AND CAP DETAIL (A 5|6)
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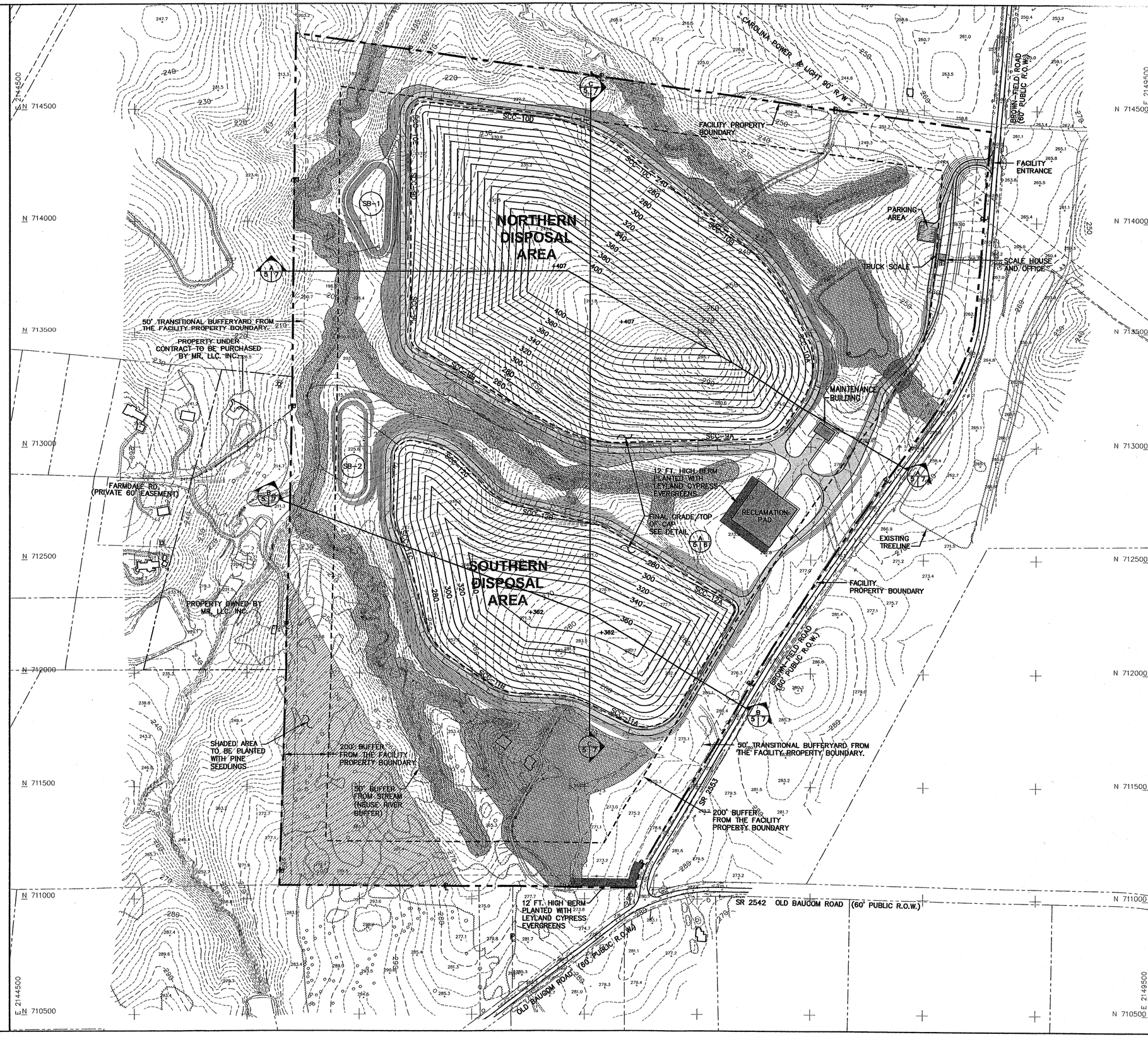

GRAPHIC SCALE
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DATE	REVISIONS AND RECORD OF ISSUE	NO	BY	CK	APP

SEAL 17201 NORTH CAROLINA PROFESSIONAL ENGINEER

DESIGNED	SF/JD
DRAWN	CADD/BY/TH
CHECKED	SF
APPROVED	JD
DATE	12/28/01

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SCALE 1"=200'

PROJECT NO. 47901.01

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WAKE COUNTY, NORTH CAROLINA

FINAL GRADING PLAN

DRAWING NO. 6

1.0 INTRODUCTION AND OVERVIEW

In accordance with the NC Solid Waste Management Rules (NCSWMR) § .0504(1)(c and g), Material Recovery, LLC (MR) is submitting this portion of the Site Application for a construction and demolition debris (C&D) landfill, which includes the Hydrogeologic Report and Groundwater Monitoring Plan. The purpose of this portion of the Site Application is to demonstrate general hydrogeologic site suitability for the facility acreage. A Construction Plan Application for the proposed landfill is being submitted as volume two of this report.

The proposed C&D facility consists of approximately 210 acres in Wake County between the towns of Garner and Clayton, NC. There are two disposal areas within the facility footprint referred to as the northern area and the southern area, 45 and 24 acres in area, respectively. The details of the investigations conducted to characterize this facility are documented in this report. This report provides a detailed Hydrogeologic Report (Section 3.0) prepared in accordance with NCSWMR .0504(c), and a Groundwater Monitoring Plan (Section 4.0) prepared in accordance with NCSWMR .0504(g). For the reviewer's clarification, please note that the legend for the drawings referred to in the above documents is provided on Drawing No. 1. Use of the word "site" during the following discussions includes all acreage within the property boundaries of the proposed facility.

The results of this investigation show that this area meets all conditions for site suitability for a C&D Landfill. The geophysical data indicate that the diabase dike(s) on site do not inhibit the ability to effectively monitor and predict groundwater flow. The bedrock elevations and seasonal high water table can be reasonably determined based on the available data. The groundwater monitoring network will be effective in monitoring for a potential release from the C&D disposal area. There is no threat to current or potential groundwater users downgradient of the proposed facility. Further, the site provides an ideal setting for a landfill as much of the surrounding land is currently owned by the City of Raleigh and is non-residential.

2.0 SITE DESCRIPTION

This section describes the site location, its physical layout, and current land usage. Specific information regarding land usage in and around the site and geologic and hydrogeologic characteristics are discussed in subsequent sections of the report.

The proposed facility encompasses approximately 210 acres and is located in the southeast-central portion of Wake County, North Carolina, approximately 6 miles east of the town of Garner, along Brown-Field Road (Drawing No. 2). The site location, property boundaries, and surrounding topography are shown on Figure 1. The site is located in the Piedmont physiographic province on a group of knolls and valleys, the highest elevations of which rise approximately 100 feet above the floodplain of the Neuse River.

Three small northwest-trending drainages transect the site to intersect a north-trending unnamed stream that parallels the western facility property line. Two of the smaller drainages have 2- to 4-acre man-made ponds at their upstream limits. These streams and ponds are shown on Figure 1. The