



5400 Glenwood Avenue, Suite 300
Raleigh, North Carolina 27612
tel: 919 787-5620
fax: 919 781-5730

December 4, 2009

Ms. Jaclynne Drummond
Solid Waste Section
Division of Waste Management
North Carolina Department of Environment and
Natural Resources
401 Oberlin Road
Suite 150
Raleigh, North Carolina 27611-9603

Subject: Groundwater Corrective Action Permit Modification Application
Closed North Wake Unlined Landfill
Facility Permit # - 92-09

Dear Ms. Drummond:

CDM, on behalf of Wake County, is submitting this Permit Modification Application and related documentation for the above referenced site. This submittal includes: Two copies of the signed Application, a signed letter by the County adopting the selected remedy, a site map with existing groundwater and surface water sampling location, a conceptual plan for the planned remedy air sparging well locations, a copy of the most recent permit for the facility, and the Financial Assurance Mechanism including cost estimates for closure, post-closure and corrective action.

Following approval of the selected remedy, CDM will submit a Corrective Action Plan (CAP) for your review and approval. Once the CAP is approved, CDM will work with the County to begin implementation of the corrective action program per Rule .1637.

If you have any questions or require further explanation, do not hesitate to call me at (919) 787-5620.

Very truly yours,

Mathew F. Colone, P.G.
Camp Dresser & McKee

cc: Tommy Esqueda, Wake County
Johnny Beal, Wake County
Lee Squires, Wake County
Bob Brossoie, CDM





**North Carolina Department of Environment and Natural Resources
Division of Waste Management
Solid Waste Section**

North Carolina Solid Waste Groundwater Corrective Action Permit Modification Application

Pursuant to 15A NCAC 13B .1636, "Within 14 days of selecting a remedy, the permittee shall submit an application to modify the permit describing the selected remedy to the Division for evaluation and approval." The application shall include the demonstrations necessary to comply with the financial assurance requirements set forth in Paragraph (d) of Rule .1628.

Please attach the following: (1) a copy of the minutes from the public meeting discussing the Assessment of Corrective Measures, (2) a signed resolution/proclamation/document adopting the remedy, (3) a site map designating locations of groundwater monitoring wells and surface water monitoring locations that will be impacted by the remedy, (4) any draft conceptual schematics/figures/plans relating to the selected remedy, (5) a list of any required registrations, permits, and approvals, (6) a copy of most recent permit issued by the Solid Waste Section, and (7) an amendment to the Financial Assurance Mechanism, including a break-down of the cost estimates for closure, post-closure and corrective action.

Send the application and attachments to NCDENR-DWM, Solid Waste Section, Compliance Unit, 1646 Mail Service Center, Raleigh, NC 27699-1646. This application and any documents attached to this application are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Please type or print all information legibly.

I. Site Identification

Permit Number: 9209 _____
Solid Waste Rule Designation (.0500 or .1600): .1600 _____
Facility Name: Closed North Wake Unlined Landfill _____
Facility Physical Address: 9016 Deponie Drive _____
City: Raleigh _____
Zip: 27614 _____
County: Wake _____
Waste Type: MSW _____

II. Owner and Operator Information

Check box, if owner and operator are the same.

Owner

Name: Wake County _____
Address: PO Box 550, Raleigh, North Carolina 27602 _____
Phone Number: (919) 856-7400 _____

Operator

Name: _____
Address: _____
Phone Number: _____

III. Groundwater Corrective Action

Selected remedy (include addition lines if needed):

(1) Monitored Natural Attenuation

(2) Institutional Controls

(3) In-situ remediation by air sparging

Contingency Plan A: In-situ remediation by anaerobic bioremediation or chemical injection

Contingency Plan B: Groundwater extraction

IV. Financial Assurance

Financial Assurance Mechanism: Enterprise Fund

Total Cost Estimate for 30 Years (based upon ACM): \$ 560,000.00

V. Project Schedule (upon Division approval)

Approximate Date of Remedy Construction Completion (if applicable): 08/01/2010

Approximate Date of Implementation of Remedy: 02/01/2010

Approximate Date of Baseline Sampling Completion (if applicable): Complete

Approximate Date of First Remedy Performance and Effectiveness Report Submittal: 06/01/2010

VI. Environmental Consultant

Consulting Company: CDM

Address: 5400 Glenwood Avenue, Suite 300, Raleigh, North Carolina 27612

Phone Number: (919) 787-5620

VII. Signatures

To the best of my knowledge, the information reported and statements made in this North Carolina Solid Waste Groundwater Corrective Action Permit Modification Application are true and correct. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of fine and imprisonment.

If Owner and Operator are the same, please sign for Owner and type or write SAME for Operator.

Owner

Owner Name (Printed or Typed): Tommy Esqueda

Owner Signature: Tommy Esqueda Date: 11/24/2009

Operator

Operator Name (Printed or Typed): Tommy Esqueda

Operator Signature: Tommy Esqueda Date: 11/24/2009

NC Professional Geologist or NC Professional Engineer

Name (Printed or Typed): Mathew F. Colone, P.G.

Signature: Mathew Colone Date: 11/30/2009

Affix NC Professional Geologist/Engineer Seal:



11/30/2009

**WAKE COUNTY
NORTH WAKE UNLINED LANDFILL
PERMIT # 9209
ASSESSMENT OF CORRECTIVE MEASURES
PUBLIC MEETING
CDM PROJECT NO. 6172-71371**

**Meeting Minutes – Required Public Meeting
Meeting Date: October 2, 2009 – 4:30 p.m. – 7:00 p.m.**

The meeting was held at the Pullen House in Raleigh, North Carolina. The following were in attendance:

Tommy Esqueda – Wake County	Johnny Beal – Wake County
Lee Squires – Wake County	Mat Colone – CDM
Sarah Williamson-Baker – Wake County	Anarosa Jones
Gordon L. Jendrasiak	Marvin Heller
Deborah Robertson – Wake County	Ray Martin – News and Observer

This meeting was held as required in Solid Waste Management Rule 15 NCAC 13B .1635(d). The requirements of the meeting were to review the results of the corrective measures assessment and receive public comment prior to the selection of remedy.

The meeting was initiated at 4:30 p.m.

No public comments were received during this process.

Meeting was adjourned at 7:00 p.m.

Copies of the meeting attendance sign-in sheet and the Notice of Public Meeting from the Raleigh News and Observer are attached.

Attachments: Meeting Attendees
Notice of Public Meeting – Raleigh News and Observer. 2 September 2009.

2009



consulting · engineering · construction · operations

JANUARY

Calendar grid for January with days of the week (S, M, T, W, TH, F, S) and dates (1-31).

FEBRUARY

Calendar grid for February with days of the week (S, M, T, W, TH, F, S) and dates (1-28).

MARCH

Calendar grid for March with days of the week (S, M, T, W, TH, F, S) and dates (1-31).

APRIL

Calendar grid for April with days of the week (S, M, T, W, TH, F, S) and dates (1-30).

MAY

Calendar grid for May with days of the week (S, M, T, W, TH, F, S) and dates (1-31).

JUNE

Calendar grid for June with days of the week (S, M, T, W, TH, F, S) and dates (1-30).

JULY

Calendar grid for July with days of the week (S, M, T, W, TH, F, S) and dates (1-31).

AUGUST

Calendar grid for August with days of the week (S, M, T, W, TH, F, S) and dates (1-31).

SEPTEMBER

Calendar grid for September with days of the week (S, M, T, W, TH, F, S) and dates (1-30).

OCTOBER

Calendar grid for October with days of the week (S, M, T, W, TH, F, S) and dates (1-31).

NOVEMBER

Calendar grid for November with days of the week (S, M, T, W, TH, F, S) and dates (1-30).

DECEMBER

Calendar grid for December with days of the week (S, M, T, W, TH, F, S) and dates (1-31).

NAME Address e mail

Handwritten contact information for Lee Squires, Johnny Beal, Mat Colone, Sarah Williamson-Baker, Jordan J. Ingraham, Jordan Elithco Bell Smith, Mervin Heller, Anarosa Long, Deborah Robertson, and Ray Martin.

919-829-4600

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INVITATION TO BID

PCL Construction Services, Inc., located at 4944 Parkway Plaza Blvd., Suite 190, Charlotte, NC 28217, phone (704) 357-3740, fax (704) 357-3692, requests subcontractor and supplier bids for the NC MATOC Fort Bragg Irwin Intermediate School. Bid due date is September 9, 2009 at 12:00 p.m. Drawings, specifications and bid form documents are available for review in our plan room at the address above. PCL encourages sub-trades to review the entire package prior to bid day. PCL encourages the participation of Minority, Women, Small Business, Small Disadvantaged, Veteran, Service Disabled Veteran and HUBZone firms. For this project the Owner has established an SDB/HUBZone/WOSB/VOSB/SDVOSB participation goal of 70%. If you have any questions please contact PCL Construction Services at the above address. An Equal Opportunity Employer.

N&O: September 2, 2009

NOTICE OF PUBLIC COMMENT PERIOD AND PUBLIC HEARING

The N. C. Capital Area Metropolitan Planning Organization (MPO) will release the proposed 2011-2017 Regional Project Priority List for a minimum 30-day public review and comment period on Tuesday, September 1, 2009. The comment period will close on Friday, October 16, 2009. Copies are available at CAMPO office (address below) and on the web site (www.campo-nc.us).

The Transportation Advisory Committee (TAC) of the NC Capital Area MPO will conduct a Public Hearing on the 2011-2017 Regional Project Priority List on September 16, 2009 at 4:00 pm in the NC Capital Area MPO Offices. The TAC may vote on the proposed 2011-2017 Regional Project Priority List on that date.

The Regional Project Priority List is a list of transportation projects that address regional and statewide needs over a seven year planning period. The transportation projects will become a part of the proposed 2011-2017 Metropolitan Transportation Improvement Program (MTIP) which is adopted biennially by the NC Capital Area MPO. The MTIP will then become a part of the overall State Transportation Improvement Program (STIP).

For more information or to make comments, contact the NC Capital Area MPO office prior to September 16, 2009 at 996-4400 or visit www.campo-nc.us. Written comments may be submitted to Suite 800 - Professional Building, 127 West Hargett Street, Raleigh, NC 27601; faxed to 807-8517, or e-mailed to Kyle.Ward@ci.raleigh.nc.us.

In compliance with the Americans with Disabilities Act (ADA), persons requiring assistance to participate in the NC Capital Area MPO meetings or to request this document in an alternative format, please contact the MPO's office at 919-996-4400 (voice), 919-807-8517 (fax), or 919-996-3107 (TTY). Located at City of Raleigh Public Affairs Dept.) at least 72 hours in advance of the meetings.

N&O: September 2, 2009

Wake County Notice of Assessment of Corrective Measures Public Meeting
 October 2, 2009
 4:30 to 7 p.m.

The Wake County Solid Waste Management Division is completing a required Assessment of Corrective Measures to address groundwater contamination at the closed North Wake Landfill. A public meeting will be held to provide information, answer questions and receive comments on this topic on Friday, October 2, 2009 from 4:30 to 7 p.m. at the Pullen House, 10801 Durant Road, Raleigh. A copy of the Assessment of Corrective Measures is available for review during normal business hours at the Environmental Services North Wake Office at 9025 Desonie Drive, or online at www.wakegov.com/recycling/solidwaste/publicnoticetext. For information, questions or to request reasonable accommodations to participate in the meeting (at least 48 hours prior) contact Wake County Facility Managers Johnny Beal at (919) 518-0272 or jbeal@co.wake.nc.us, or Lee Squires at (919) 518-0274 or lee.squires@co.wake.nc.us.

N&O: September 2, 2009

legals

NOTICE OF FORECLOSURE SALE NORTH CAROLINA, JOHNSTON COUNTY

Under and by virtue of a Power of Sale contained in that certain Deed of Trust executed by Donald A. Crutchfield and Jackie D. Crutchfield to Trustee Services of Carolina, a Trustee(s), dated February 10, 2005, and recorded in Book 02852, Page 0063, Johnston County Register, North Carolina. Default having been made in the payment of the note thereby secured by the said Deed of Trust and the undersigned, having been substituted as Trustee in said Deed of Trust by an instrument duly recorded in the Office of the Register of Deeds of Johnston County, North Carolina, and the holder of the note evidencing said indebtedness having directed that the Deed of Trust be foreclosed, the undersigned Substitute Trustees will offer for sale at the Courthouse Door in Johnston County, North Carolina, at 10:00AM on September 09, 2009, and will sell to the highest bidder for cash the following described property, to wit:

Beginning a P-K Nail Set (PKS) over a nail and cap located in the center of NCSR 2110, known as Glendale Road, located in Oneals Township, Johnston County, North Carolina, with said PKS sharing a common boundary point with that property now or formerly owned by Joann Crawford (DB 830, PG 22, JCR), thence from said PKS N 30 degrees 37 minutes 57 seconds West 180.28 feet to an EIP, thence from said EIP N 57 degrees 17 minutes 35 seconds East 69.98 feet to an EIP, thence from said EIP N 50 degrees 17 minutes 03 seconds East 169.89 feet to an EIP, thence from said EIP S 64 degrees 39 minutes 26 seconds East 188.66 feet to a nail and cap located in the center of NCSR 2110, Glendale Road, with said nail and cap being located N 19 degrees 04 minutes 15 seconds East 493.25 feet from an EPK located in the center of NC Hwy 42, thence from said nail and cap, and along NCSR 2110, S 32 degrees 22 minutes 22 seconds West 50.03 feet to an EPK, thence from said EPK S 39 degrees 39 minutes 42 seconds West 50.00 feet to an EPK, thence from said EPK S 46 degrees 12 minutes 30 seconds West 49.99 feet to an EPK, thence from said EPK S 53 degrees 10 minutes 05 seconds West 49.99 feet to an EPK, thence from said EPK S 59 degrees 54 minutes 16 seconds West 83.09 feet to a nail and cap, thence from said nail and cap S 61 degrees 14 minutes 10 seconds West 70.18 feet to the point and place of beginning, and containing 1.267 acres according to a survey of same prepared by Jimmy C. Barbour, C.L.S., and dated August 12, 1998. This being the same property acquired by grantors by deed recorded in Book 1577, Page 621, Johnston County Registry.

Said property is commonly known as 5239 Glendale Road, Kenly, NC 27542.

Third party purchasers must pay the excise tax, pursuant to N.C.G.S. 105-228.30, in the amount of One Dollar (\$1.00) per each Five Hundred Dollars (\$500.00) or fractional part thereof, and the Clerk of Courts fees, pursuant to N.C.G.S. 7A-308, in the amount of Forty-five Cents (45¢) per each One Hundred Dollars (\$100.00) or fractional part thereof or Five Hundred Dollars (\$500.00), whichever is greater. A deposit of five percent (5%) of the bid, or Seven Hundred Fifty Dollars (\$750.00), whichever is greater, will be required at the time of the sale and must be tendered in the form of certified funds. Following the expiration of the statutory upset bid period, all the remaining amounts will be immediately due and owing.

Said property to be offered pursuant to this Notice of Sale is being offered for sale, transfer and conveyance AS IS WHERE IS. There are no representations of warranty relating to the title or any physical, environmental, health or safety conditions existing in, on, at, or relating to the property being offered for sale. This sale is made subject to all prior liens, unpaid taxes, special assessments, land transfer taxes, if any, and encumbrances of record. To the best of the knowledge and belief of the undersigned, the current owner(s) of the property is/are Donald A. Crutchfield and Jackie D. Crutchfield.

PLEASE TAKE NOTICE: An order for possession of the property may be issued pursuant to G.S. 45-21.29 in favor of the purchaser and against the party or parties in possession by the clerk of superior court of the county in which the property is sold. Any person who occupies the property pursuant to a rental agreement entered into or renewed on or after October 1, 2007, may, after receiving the notice of sale, terminate the rental agreement upon 10 days' written notice to the landlord. The notice shall also state that upon termination of a rental agreement, that tenant is liable for rent due under the rental agreement prorated to the effective date of the termination.

Nationwide Trustee Services, Inc.
 Substitute Trustee
 1587 Northeast Expressway
 Atlanta, GA 30329
 (770) 234-9181
 Our File No.: 432.0927666NC

N&O: August 26; September 2, 2009

legals

LEGAL DEADLINES - Ads to Run Wed-Sat: Before Noon; 2 days prior. Ads to run Sun-Tues: Before Noon on Friday.

lost & found

LOST & FOUND PETS HAS MOVED

Please check for Lost & Found pets under Class 292 Lost & Found Pets.

tickets

NCSU SEASON TIX - Football, Sect. 9, Row Y. \$708/pr. 252-315-4764.

PLEASE CHECK YOUR AD

We make every effort to avoid errors in advertisements. Each ad is carefully checked and proofread, but when thousands of ads are handled each day, mistakes do slip through. We ask, therefore, that you check your ad, and if you find an error, report it to the Classified Department immediately by calling 829-4600. We regret that we cannot be responsible for more than one day's incorrect insertion for the portion of ad that is in error if you do not call the error to our attention. Thank you.

cemetery lots & monuments

HISTORIC Oakwood Cemetery, 3 lots. 919-676-9095.

MONTLAWN - 4 lots \$1750 each. 919-467-1089.

special notices

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TANAS HAIR-DESIGNS AND DAY SPA will be happy to honor, thru November 30, 50% of the value of Latria Spa gift certificates of any of our 3 locations: Reidsville Shopping Center, (919) 870-6050; Falls River Shopping Center, (919) 870-7009 in Raleigh; and 105 Boines Ct. off Cary Parkway in Cary, (919) 380-0221. Voted best in Triangle 3 years in a row.

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accounting

Accounting Clerk
 Automotive corporation located east of Raleigh is looking for an **ACCOUNTING CLERK**. Duties include the function of daily cash management and recording cash transactions to the financial statements.

schools & instruction

PMP EXAM PREP - Wake Tech. SPH@TEACHPATH.COM 919-468-6360

employment/situations wanted

CAREGIVER Seeks work w/ elderly. 919-779-4511.

administrative/clerical

WHEN ANSWERING help-wanted ads appearing in this paper, it is requested that you notify this paper of any discrepancies that might exist between the wording of the ad and the offer of the advertiser as to the type of work. Please report any such discrepancies by letter or in person to the Classified Ad Department, The News & Observer, 215 S. McDowell St., Raleigh, N.C. 27602, (919) 829-4600, (800) 662-6040, Fax (919) 829-4824.

education

APPLY NOW

Hallifax County Schools is now accepting applications for the Director of Human Resources, Director of Exceptional Children, Director of Testing & Accountability, Director of Child Nutrition, and a School Nurse. For other vacancies, detailed job descriptions and the application process, please visit www.hallifax.k12.nc.us or call the HR Resource Office at 252-585-5111.

TEACHERS NEEDED - Early Childhood Associates Degree read. Exc. pay & benefits. Call Beacon Christian School, 212-6494.

management

THE NEWS & OBSERVER makes every effort to publish credible job opportunity ads. Marketing management or entrepreneurial opportunities can also be found in the following classifications: 130 "SALES"; 199 "MARKETING OPPORTUNITIES"; and 601 "BUSINESS OPPORTUNITIES".

non-profit & social services

QUALIFIED PROFESSIONAL

Need someone to provide professional direction, staff supervision and coordination of services for child and adult recipients of CAP/ MR/DD/ services. Must meet eligibility criterion for QDDP. Salary \$32,000-\$40,000 based on experience. No benefit package at this time. If interested, at this time please fax resume to 919-212-3999.

sales

BUSINESS IS GREAT!
 Leith Honda in Raleigh needs 2 more salespeople right now! No auto exper. necessary. Great pay plan, comp, benefits and career potential.
 Call 369-5202 to schedule an interview.

BUSINESS OPPORTUNITIES (class 601) and MARKETING

OPPORTUNITIES (class 199) should be located in their prospective classes. If you feel you have responded to an ad in the Sales section that was not clearly represented, please feel free to call us at (919) 829-4600. We make every effort to publish credible job opportunities ads.

Sell Prestige
 Leith Jaguar in Cary is looking for one special person to join it's sales team. No auto exper. necessary, must have successful sales track record. Great prod.

customer se

FREE TAX offer taking convenient loc es begin mid-S Liberty Tax Se

legal

CASE PAP

The Law Office seeks exper Paralegal for P Ideal candidat injury experien Client service o and attent Multiple pr grov
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transportatio

DRIVERS NEE CDL license w/ night deliveries record. Apply i Rd., Raleigh.

skilled labor

REIA Contracting CHANIC w/ 3 yr CDLs required Gresham Lake 919-871-1157.

HAIRSTYLISTS talented, FT/PT avail. Pd holdic Call Angela at:

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 • Landscape Enfr
 • Laborers
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 Send Res Bland: 1200 Perry Rd mdukes@bla (919) 387-0 (919) 3

retail

SALES ASSOCIA (ing retail store) pay. Eves & week dependable perso ance. Please app McCall's located phone calls please

installation/m

MAINTENANCE S WYCA of the Gre responsible for ck keeping each of c pair. Be able to minor repairs, w supplies. He/she n Responsible for m valid N.C. Driver' drive company v have reliable tran work flexible ho should send cover WYCA, 515 E St 27601, Attn: Office



**Environmental
Services**

TEL 919 856 6186
FAX 919 856 6233

Solid Waste Management
P.O. Box 550 • Raleigh, NC 27602

November 24, 2009

Ms. Jaclynne Drummond
NC Department of Environment and Natural Resources
Division of Waste Management
Solid Waste Section,
401 Oberlin Road, Suite 150
Raleigh, North Carolina 27605-1350

Subject: Adoption of Selected Remedy
Groundwater Corrective Action
Wake County Closed Unlined North Wake Landfill
Facility Permit # - 9209

Dear Ms. Drummond:

Wake County is providing this letter notifying the Solid Waste Section that the County has completed the Public Meeting requirements discussed in Solid Waste Management Rule 15 NCAC 13B .1635(d) and is adopting the recommended remedy of Monitored Natural Attenuation (MNA) paired with in-situ remediation by air sparging. The purpose of the public meeting was to review the results of the corrective measures assessment and receive public comment prior to the selection of remedy. No public comments opposing the remedy were received during this process.

As discussed in the approved Assessment of Corrective Measures Report and adopted by the County in this letter, MNA and Institutional Controls and Landfill Gas Recovery coupled with in-situ remediation by air sparging is the preferred remedial selection due to ease of implementation, reliability, safety, exposure control, implementation cost, and ability to protect human health and the environment and attain applicable groundwater protection standards.

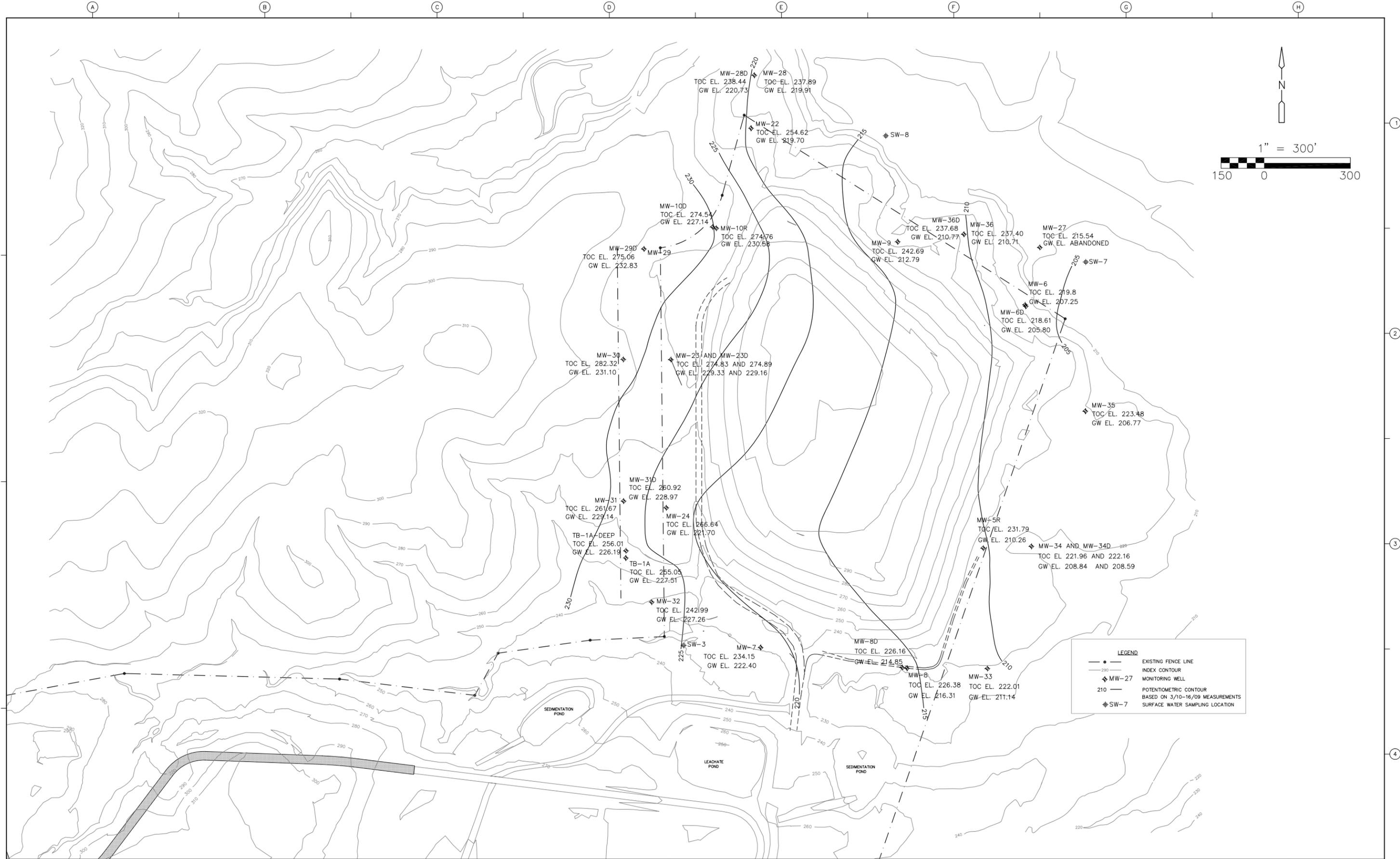
Following Solid Waste Section approval of the selected remedy, a Corrective Action Plan will be submitted in accordance with the requirements provided in Rules .1635 and .1636. Following approval of the Corrective Action Plan, Wake County will implement the Plan, per the schedule provided in the Corrective Action Plan, in accordance with Rule .1637.

If you have any questions or require further explanation, do not hesitate to call me at (919) 856-7444.

Very truly yours,

A handwritten signature in black ink, appearing to read "Tommy Esqueda", written over a light-colored rectangular background.

Thomas C. Esqueda, P.E., Director
Environmental Services Department
Wake County Government



L:\CDM-Geo\NW-ACM-1.dwg

REV. NO.	DATE	DRWN	CHKD	REMARKS

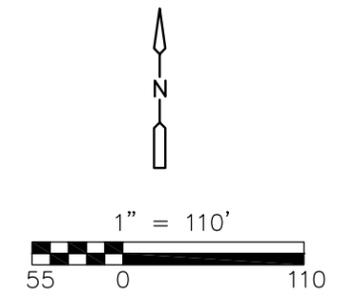
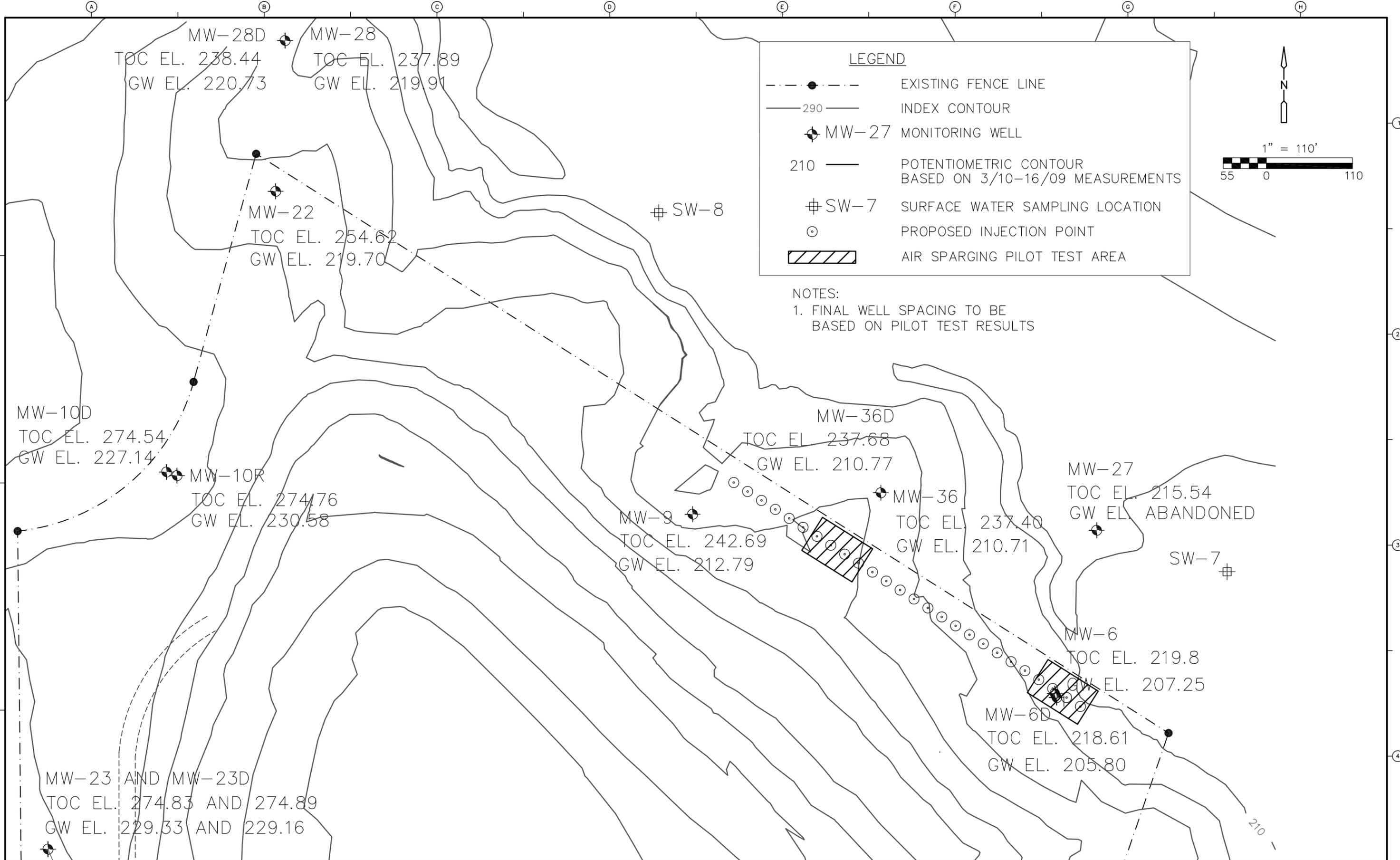
DESIGNED BY: A. WEISPFENNING
 DRAWN BY: J. KILLINGSWORTH
 SHEET CHK'D BY: M. COLONE
 CROSS CHK'D BY: _____
 APPROVED BY: _____
 DATE: JUNE 2009

CDM Camp Dresser & McKee
 environmental
 services
 office worldwide
 5400 Glenwood Avenue, Suite 300
 Raleigh, North Carolina 27612
 Tel: (919) 787-5620 Fax: (919) 781-5730

WAKE COUNTY
 NORTH CAROLINA
**NORTH WAKE UNLINED LANDFILL
 ASSESSMENT OF CORRECTIVE MEASURES**

POTENTIOMETRIC CONTOUR MAP

PROJECT NO. 6172-71371
 FILE NAME: NW-ACM1-1.dwg
 FIGURE
 1-1



L:\CDM-GEO\NW-ACM3-2.dwg

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. WEISPFENNING
 DRAWN BY: J. KILLINGSWORTH
 SHEET CHK'D BY: M. COLONE
 CROSS CHK'D BY: _____
 APPROVED BY: _____
 DATE: DECEMBER 2009

CDM Camp Dresser & McKee
 environmental services
 5400 Glenwood Avenue, Suite 300
 Raleigh, North Carolina 27612
 Tel: (919) 787-5620 Fax: (919) 781-5730

WAKE COUNTY
 NORTH CAROLINA
**NORTH WAKE UNLINED LANDFILL
 ASSESSMENT OF CORRECTIVE MEASURES**

CONCEPTUAL PLAN

PROJECT NO. 6172-71371
 FILE NAME: NW-ACM3-2.dwg
 FIGURE
3-2

ATTACHMENT 3
 Approved Documents

PART I: GENERAL FACILITY CONDITIONS

Issuance	Date
Original Issue PTO	October 19, 1984
Amendment 1 (MSWLF, YW Transfer, Intermittent HHW, Multi-Materials Drop Off)	November , 1991
Amendment 2 (PTC under new Subtitle D Rules)	October 7, 1993
Amendment 3 (Cells 1-4 and Transition Plan)	February 5, 1996
Permit Renewal (Cells 5-6)	March 31, 1998
Amendment 4 (Cells 7-11)	February 25, 1999
Amendment 5 (CDLF)	June 22, 2001

PART II: MUNICIPAL SOLID WASTE LANDFILL CONDITIONS

1. Letter with reference: *Modification of Permit No. 92-09, Wake County, North Carolina, Olver Project Number 20145.02*, dated May 19, 2006, prepared by Olver Incorporated, updating remaining airspace and operational life estimates and requesting approval of alternate daily cover (Posi-Shell).
2. *North Wake Landfill - Phase II Permit Renewal Application*, 2 Volumes, dated October 1996, amended through March 1997, prepared by Camp Dresser & McKee.
3. Drawings entitled *Facility Plan North Wake Landfill*, dated October 1996, amended through March 1997, prepared by Camp Dresser & McKee.
4. Drawings entitled *Engineering Plan North Wake Landfill*, dated October 1996, amended through March 1997, prepared by Camp Dresser & McKee.
5. Drawings entitled *Operation Plan North Wake Landfill*, dated October 1996, amended through March 1997, prepared by Camp Dresser & McKee.
6. Drawings entitled *Wake County Landfill Gas Co., LLC, Charlotte, NC.*, dated March 7, 1997, prepared by SCS Engineers.
7. *Wake County, North Carolina, Cells 1 thru 4 and Leachate Pond, North Wake Sanitary Landfill Construction Quality Assurance Report*, three volumes, dated December 1995, prepared by Camp Dresser & McKee.
8. *North Wake Sanitary Landfill Transition Plan*, dated April 1994, amended through December 1995, prepared by Camp Dresser & McKee.
9. *Wake County, North Carolina. North Wake Sanitary Landfill Construction Quality Assurance Report, Cells 5 and 6*, two volumes, dated February 1998, prepared by Camp Dresser & McKee.
10. Letter with reference: *Monitoring Well Installation, North Wake Solid Waste Management Facility*, dated February 18, 1999, prepared by Camp Dresser & McKee.
11. *Wake County, North Carolina, North Wake Sanitary Landfill Construction Quality Assurance Report, Cells 7 - 11*, 3 Volumes, dated February 1999, prepared by Camp Dresser & McKee.

PART III: CONSTRUCTION AND DEMOLITION LANDFILL CONDITIONS

12. *North Wake Construction and Demolition Landfill, Construction and Demolition Debris Landfill Permit Application*, dated October 1999, prepared by Camp Dresser & McKee.
13. Letter with reference: *Monitoring Well Installation, North Wake C&D Landfill*, dated June 18, 2001, prepared by Camp Dresser & McKee.
14. Plan sheet titled *Grading / Sedimentation and Erosion Control Plan, C-1*, dated 6/14/01, prepared by Camp Dresser & McKee.

PART IV: LAND CLEARING AND INERT DEBRIS LANDFILL CONDITIONS
(NOT APPLICABLE)

PART V: YARD WASTE CONDITIONS
(NOT APPLICABLE)

PART VI: MISCELLANEOUS TREATMENT AND PROCESSING FACILITIES CONDITIONS
(NOT APPLICABLE)

- End of Section -

ATTACHMENT 4
Conditions of Permit to Operate

PART I: GENERAL FACILITY CONDITIONS

1. This permit shall be reviewed, pursuant to 15A NCAC 13B.0201(e), five (5) years from the issuance date of this permit to operate.
2. In the event of conflicts between this Permit to Operate and previously issued conditions, the conditions of this Permit to Operate shall supersede previously issued conditions.
3. The solid waste management units within this facility shall conform to all operating procedures described in the approved plans, 15A NCAC 13B, and the conditions specified herein.
4. Additional conditions and revision of the approved documents or changes during the operation of the landfill require approval by the North Carolina Solid Waste Section.
5. On or before August 1 of each year, the permittee shall report the amount of waste received (in tons) at this facility and disposed of in the landfill units to the Solid Waste Section, on forms prescribed by the Section. This report shall include the following information:
 - a. The reporting period shall be for the previous year, beginning July 1 and ending on June 30.
 - b. The annual report shall list the amount of waste received and landfilled in tons and be compiled:
 - i) On a monthly basis,
 - ii) By county, city or transfer station of origin,
 - iii) By specific waste type,
 - iv) By disposal location within the facility, and
 - v) By diversion to alternative management facilities.
 - c. A measurement of the volume utilized in the MSW cells shall be performed during the second quarter of the calendar year. The date and volume, in cubic yards, shall be included in the report.
 - d. The amount of waste, in tons, from scale records, disposed in the MSW cells since February 4, 1994 through the date of the annual volume determination.
 - e. The completed report shall be forwarded to the Regional Waste Management Specialist for the facility. A copy of the completed report shall be forwarded to the County Manager of each county from which waste was received.
6. Ground water quality at this facility is subject to the "Classifications and Water Quality Standards Applicable To The Groundwater of North Carolina", 15A NCAC 2L. This includes, but is not limited to, provisions for detection monitoring, assessment, and corrective action.

PART II: MUNICIPAL LANDFILL UNIT SPECIFIC CONDITIONS

GENERAL CONDITIONS

7. This permit approves the operation of Phase 2 of the municipal solid waste landfill unit as well as the on-site environmental management and protection facilities as described in the approved plans.
8. This permit is for operational approval of a remaining disposal capacity of approximately 1,190,000 cubic yards, consistent with the final contours as shown on the approved plans. This capacity is based on an average annual disposal rate of approximately 450,000 tons (approximately 1450 tons per day based on 312 operating days per year) facility total as set forth in the approved documents.

MONITORING AND REPORTING

9. Ground water monitoring at this unit shall be as prescribed by the appropriate requirements of 15A NCAC 13B .1630-.1637 and the approved monitoring plan.
10. A readily accessible unobstructed path shall be cleared and maintained so that four-wheel drive vehicles may access monitoring locations at all times.
11. A field log book which details all development, sampling, repair, and all other pertinent activities associated with each monitoring well and all sampling activities associated with each surface water and leachate sampling location shall be kept as part of the permanent facility record.
12. Records of all ground-water, surface water and leachate analytical data shall be kept as part of the permanent facility record.
13. Ground water monitoring wells and surface water sampling locations must be sampled for Appendix I constituents at least semi-annually according to the specifications outlined in the approved water quality monitoring plan and the current policies and guidelines of the Section in effect at the time of sampling.
14. Reports of the analytical data for each water quality sampling event shall be submitted to the Section within 60 days of the respective sampling event. Analytical data shall be submitted in a manner prescribed by the Section.
15. The four independent samples which comprise the initial baseline sampling event shall be collected from each ground water monitoring well and the report shall be submitted to the Section within six months after issuance of the Permit to Operate.
16. Untreated leachate shall be sampled and analyzed at least semi-annually concurrently with the ground and surface water sampling. The leachate shall be analyzed for all Appendix I constituents, pH, specific conductance, BOD and COD, phosphate, nitrate, and sulfate. Test results shall be submitted to the Section along with ground and surface water test results. In the event leachate is recirculated, additional leachate sampling may be required.

OPERATIONAL CONDITIONS

17. The landfill unit shall conform to all operating requirements described in the approved plans, 15A NCAC 13B .1626, and the conditions specified herein.
18. The use of alternative daily cover requires approval, prior to implementation, by the Solid Waste Section. Requests for alternative daily cover approval must include a comprehensive use and demonstration for the effectiveness plan developed according to Section guidelines and consistent with the approved plan. Plans which are approved by the Section will be incorporated into, and made a part of, the approved documents found in Attachment 1. Posi-Shell, used in accordance with the approved operations plan, may be utilized as an alternative to daily soil cover.
19. The use of leachate recirculation as a leachate management tool requires approval, by the Solid Waste Section, prior to implementation. Requests for leachate recirculation approval must include a comprehensive management plan developed according to Section guidelines and which is consistent with the approved operation plan. Plans which are approved by the Section will be incorporated into, and made a part of, the approved documents found in Attachment 1.
20. The MSWLF unit is permitted to co-dispose of wastewater treatment sludges generated within the facility's approved service area, subject to the terms and procedures of the approved plan.
21. Closure or partial closure of any MSWLF unit shall be in accordance with the Closure Plans described in the approved plans and 15A NCAC 13B .1629. Final Closure Plans shall be submitted to the Division at least 90 days prior to implementation. Closure and Post-closure plans, including financial instruments shall be updated annually pursuant to 15A NCAC 13B .1628.

PART III: CONSTRUCTION AND DEMOLITION DEBRIS UNIT SPECIFIC CONDITIONS

22. The C&D unit has been closed.
23. Ground water and surface water sampling and analysis shall conform to the specifications found in the approved monitoring plan.

PART IV: LAND CLEARING AND INERT DEBRIS UNIT SPECIFIC CONDITIONS

PART V: YARD WASTE UNIT SPECIFIC CONDITIONS

PART VI: MISCELLANEOUS UNIT SPECIFIC CONDITIONS

- end of permit conditions -



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September 28, 2009

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Subject: Post-Closure Cost Summaries for the Wake County Landfills

To whom it may concern:

Camp Dresser & McKee (CDM) has prepared a post closure cost summary for the North Wake and Feltonville Landfills. The summary is an estimate of the cost of the regulatory required post-closure care activities, assuming all work is conducted by a third party.

The North Carolina Division of Waste Management provides an annual inflation factor to be used in determining financial assurance. For 2009, the inflation factor is 2.2%, which CDM used in escalating the previous 2008 costs. The estimates for post-closure funding required to cover anticipated costs do not account for any interest that will be earned on the accumulated funds over time.

The information for each facility is summarized by facility below.

NORTH WAKE SUBTITLE D LANDFILL

Remaining Capacity

The North Wake Subtitle D Landfill received its final load of waste on May 28, 2008. A contractor was selected in May 2008 to install the permitted final cover system. The final closure of the North Wake Subtitle D Landfill was substantially completed on June 21, 2009. The total amount of airspace used as of May 28, 2008, not including final cover, was 7,334,466 cubic yards (cy). The North Wake Subtitle D Landfill is officially closed; therefore no additional airspace capacity is available for waste disposal.

Closure and Post-Closure Cost Estimates

The contract cost to close the remaining 40 acres was \$5,246,137, which is the total base bid of the firm who was awarded the closure contract. Although final payment of \$563,131 has yet to be made to the contractor, the final closure cost is expected to be \$5,697,073, which reflects additional work that was added to support the landfill Re-use/Park project.



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In late 2008 (after completion of the 2008 post-closure cost estimate), CDM conducted a comprehensive review of post-closure costs that were being incurred at all of Wake County's landfills. The results of this review have been used to refine the post-closure cost estimates for the North Wake Subtitle D Landfill and other landfills. In addition to gaining an updated understanding of costs for the major post-closure related activities, several additional activities were identified which had not been previously accounted for. For instance, the landfill permit requires that the leachate collection lines be cleaned every three years. CDM received a quote from Jet Clean America to provide this tri-annual cleaning service at a cost of \$28,000. CDM has added an annual cost of \$9,333 to cover the tri-annual cost of \$28,000. Also, based upon the cost data provided by the County, CDM has also added \$10,000 under a new landfill gas (LFG) cost item titled Miscellaneous Gas Consulting to cover unanticipated services associated with the active LFG collection system. Deductions were made to account for the State's determination that stormwater outfall sampling was no longer required at the site.

The 2008 post-closure estimate was \$4,886,800. Making the adjustment based on actual recent and future post-closure care costs which were reviewed in late 2008, the items noted above, and adjusting for inflation increase for 2009 (2.2%) yields a June 30, 2009 estimate of \$4,462,889 (excluding future inflation). This updated amount reflects an annual post-closure cost of \$153,893 for the remaining 29 years.

NORTH WAKE UNLINED LANDFILL

Remaining Capacity

The unlined portion of the North Wake Landfill (approximately 44.5 acres) is officially closed and has been for about eleven years. Thus, there is no additional capacity remaining.

Closure and Post-Closure Cost Estimates

No additional closure costs are expected at this facility. Since the facility has been officially closed for about eleven years, the County is currently responsible for accounting for an additional 19 years of post-closure costs.

The County continues to monitor groundwater conditions at the site. The North Carolina Department of Environment and Natural Resources (NCDENR) required that the County begin a formal groundwater assessment process, which will result in the development and implementation of an approved correction action plan. The County has developed a Corrective Action Plan (CAP) for addressing the small amount of contamination. The



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County will hold a public meeting in October 2009 to present the plan for public review and comment. The proposed remedial measures include Monitored Natural Attenuation (MNA) and in situ Air Sparging. Upon NCDENR approval of the proposed CAP, the County will implement the remedial measures. CDM has developed preliminary estimates for capital costs (\$136,000) and O&M costs (\$35,000). O&M costs are assumed to continue annually for 10 years, beginning in 2010. After 10 years, it is assumed that the remedial system (air sparging) will no longer be required. These additional costs have been added as remediation costs to the financial assurance estimates for this facility.

During FY 04, the County completed construction and began operation of a landfill gas migration control system around the unlined portion of the North Wake Landfill. Monitoring results indicate that the system is working as intended. Based upon cost data provided by the County, CDM has added \$10,000 under a new LFG cost item titled Miscellaneous Gas Consulting to cover unanticipated services associated with the active LFG perimeter migration control system. Deductions were made to account for the State's determination that stormwater outfall sampling was no longer required at the site.

The County has a landfill gas system operational agreement with DTE Biomass who operates a landfill gas-to-energy system at the landfill. It is CDM's understanding that the agreement ends in calendar year 2013 at which time the County will need to either negotiate a new agreement with DTE Biomass or assume responsibility for operations and maintenance of the landfill gas migration control system. DTE Biomass continues to operate the system at no additional cost to the County. At this time, it is assumed that the system will continue to be operated beyond 2013 at no additional cost to the County.

Adjustments to the 2008 cost estimate based on recent and future post-closure care costs, along with an inflation increase for 2009 (2.2%) yields a June 30, 2009 estimate of **\$3,543,091 (excluding annual adjustments for future inflation)**. This updated amount reflects an annual post-closure cost of \$203,056 through 2019, and an annual cost of \$163,685 for years 2020 through 2027. The \$136,000 for capital costs associated with the groundwater remediation system is not included in the annual post-closure cost estimate. Including remediation capital costs, the total post-closure care cost estimate is **\$3,679,091 (excluding annual adjustments for future inflation)**. Post-closure monitoring and maintenance costs indicated that these costs are variable; therefore, additional review of actual costs will be conducted in coming years to continue refining the post-closure estimate for this landfill.



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NORTH WAKE C&D LANDFILL

The North Wake C&D Landfill (approximately 5.5 acres) reached capacity on August 9, 2003. Near the end of FY 03, bids were received and a contract awarded for closure of the facility. Construction of the closure system was successfully completed and certified during FY 04. Therefore, no closure funds need to be reserved. It is assumed that the post-closure costs associated with this facility will be covered by the post-closure funds set aside for the adjacent Subtitle D and unlined landfills.

FELTONSVILLE UNLINED LANDFILL

The unlined Feltonsville MSW Landfill has been closed for approximately eleven years. Therefore, no additional closure costs are expected. Post-closure care will continue for the next 19 years.

The County continues to assess groundwater contamination issues at the site. NCDENR required that the County begin a formal groundwater assessment process, which will result in the development and implementation of a correction action plan. The current assessment of groundwater conditions indicates that the proposed remedial measure will most likely be Monitored Natural Attenuation (MNA), which will require no additional capital costs. The County will incur some additional sampling and reporting costs associated with the MNA remedial measure. CDM has added these annual costs to our 2009 post-closure care estimate. Deductions were made to account for the State's determination that stormwater outfall sampling was no longer required at the site.

Making adjustments to the 2008 cost estimate based on actual recent and future post-closure care costs, and an inflation increase for 2009 (2.2%) yields a June 30, 2009 estimate of **\$3,209,341(excluding annual adjustments for future inflation)**. This updated amount reflects an annual post-closure cost of \$168,913 for the remaining 19 years. The increase in the post-closure cost estimate is primarily due to the increase in groundwater monitoring costs. Additional review of actual costs will be conducted in coming years to further refine the post-closure estimate for this landfill.

FELTONSVILLE C&D LANDFILL

The Feltonsville C&D Landfill reached capacity and stopped accepting waste in FY 04. Construction of the final cap was completed in FY 05. There will be no further closure cost expenditures on this facility. It is assumed that all post-closure costs for this facility will be



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handled using the post-closure funds set aside for the unlined Feltonville MSW Landfill.
This is the same approach being used for the North Wake C&D Landfill.

If you need any additional information, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read 'John D. Boyer'.

John D. Boyer, P.E., BCEE, D.WRE
Principal
Camp Dresser & McKee

cc: K. Lorbacher
A. Jones
T. Esqueda