

Permit No.	Date	Document ID No.
96-06	January 22, 2015	23002

January 21, 2015

Mr. Ming-Tai Chao, P.E., Engineer  
**North Carolina DENR, Division of Waste Management**  
 217 West Jones Street  
 Raleigh, North Carolina 27603

Received via an e-mail  
Date: January 22, 2015  
 Solid Waste Section  
 Raleigh Central Office

**RE: Construction Record– 2012-2013 LFG Collection System Installation**  
**MP Wayne, LLC – Wayne County Landfill**  
**Dudley, Wayne County, North Carolina**

Dear Mr. Chao:

Smith + Gardner (S+G) would like to submit documentation of the construction activities performed during expansion of the landfill gas collection and control system (GCCS) at Unit 3 Phase1 of the Wayne County Landfill, located in Dudley, North Carolina in accordance with the submitted Landfill Gas Collection & Control System Design Plan<sup>1</sup>, dated July 2012. To provide appropriate documentation as required by the Letter of Authorization<sup>2</sup> received from Ming-Tai Chao, P.E. (NCDENR-DWM), the following are provided:

- The GCCS expansion construction completion documentation, including;
  1. Color photographs of major project features;
  2. correspondence and approvals from the Dept. of Health and Human Services in relation to the asbestos work plan;
  3. pertinent field monitoring data and/or reports;
  4. a construction as-built figure.

The GCCS expansion installation was performed by Chandler Construction Services, Inc. (Chandler) under contract with Methane Wayne, LLC. The project consisted of:

- Installation and connection of two (2) spokes on Stage 2 of Radial Collector #2,
- Installation and connection of two (2) spokes on Stage 2 of Radial Collector #6,
- Installation and connection of one Stage 2 extension consisting of one (1) sump extension and five (5) spokes on Radial Collector #7,
- Modification and rehabilitation of three existing vertical wells in Unit 3 Phase 1
- Installation of a 16" condensate sump with one-hundred and fifty (150) feet of horizontal gas collection trench on Phase 1 of unit 3; and
- Restoration of disturbed intermediate cover.

**RADIAL LANDFILL GAS COLLECTORS**

Chandler performed upgrades to three (3) existing radial collectors at Unit 3 which was observed by S+G. The radial collector components (hubs and spokes) were dug with excavators. Hubs were constructed

<sup>1</sup> Landfill Gas Collection & Control System Design Plan – Wayne County MSW Landfill. Submitted by Smith + Gardner, Inc., July 2012.

<sup>2</sup> Authorization for the Expansion of the Existing Landfill Gas Collection and Control System (LFGCCs) and Construction of the New Piping to the Proposed Landfill Gas to Energy System (LFGTE) – Wayne County Landfill. By Ming-Tai Chao, P.E. (NCDENR-DWM), October 8, 2010.

with 36" DR 11 HDPE pipe. Spokes were constructed with 6" perforated DR 11 HDPE pipe. Approximately 1350' of additional spoke sections were installed during this project. Typical radial collector construction was as follows:

1. The hub extension location was excavated as an approximate 20'x20' area and to a depth of approximately 20 feet with a stone bed placed at the bottom to provide a level surface to rest the hub as shown in **Photograph 4 of Attachment A**;
2. The hub was then installed, with the bottom approximately 18 feet below the ground surface; stone was placed around the bottom of the hub to stabilize it during the spoke installation as shown in **Photograph 5**;
3. The spoke trenches were excavated to a depth of approximately 10-12 feet. Approximately three (3) feet of stone was placed at the bottom of the trench;
4. The spoke was then placed in the trench and connected to the hub. Approximately 3-5 feet of stone was placed on top of the spoke. Excavated waste was then placed on top of the stone up to an approximate depth of three (3) feet from the ground surface, and compacted. Soil backfill was added above the waste to the ground surface and compacted as shown in **Photograph 6**;
5. Additional stone was placed around the hub, up to the level of the stone around the spokes. Excavated waste was then placed on top of the stone up to an approximate depth of three (3) feet from the ground surface, and compacted; and
6. Soil backfill was added to the ground surface.

Upon completing the radial collector installation, Landtec 2-inch Accuflo 2V wellheads were connected to each spoke as shown in **Photograph 8**, and subsequently connected to the transmission piping. Since the length and perforation patterns of the spokes varied, characteristic breakdowns of each radial collector's spokes are included on the as-built drawings (provided by Chandler) included in **Attachment B**. Spoils generated from excavations were inspected by an accredited asbestos inspector in accordance with the approved Asbestos Work Plan (**Attachment C**).

## **HORIZONTAL GAS COLLECTOR**

A 150' long gas collection trench was installed in Unit 3. Typical horizontal gas collection trench construction was as follows:

1. The trench was excavated to a depth of approximately 10-12 feet. Approximately three (3) feet of stone was placed at the bottom of the trench;
2. A perforated gas collection pipe was then placed in the trench and connected to a fabricated HDPE condensate sump. Approximately 3-5 feet of stone was placed on top of the perforated collection piping. Excavated waste was then placed on top of the stone up to an approximate depth of three (3) feet from the ground surface, and compacted. Soil backfill was added above the waste to the ground surface and compacted.

All of the piping installation was performed by Chandler beginning in March 2013 and concluding in April 2013. A Landtec 2-inch Accuflo 2V wellhead was installed at the sump, and subsequently connected to the transmission piping. Spoils generated from excavations were inspected by an accredited asbestos inspector in accordance with the approved Asbestos Work Plan (Attachment C).

## SUMMARY

Following the completion of the system, Methane Power prepared "as-built" surveys of all recent installations and modifications including radial collectors, horizontal collectors, and well modifications in Unit 3. The as-built survey information is included in **Attachment B**. It is noted that due to differential settlement and lateral shifting of the landfill topography as waste degrades, the location of surveyed components may change significantly over time.

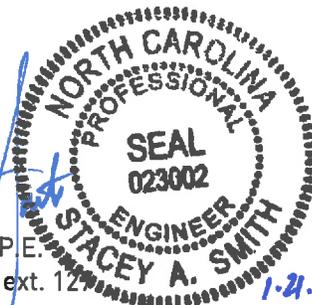
The construction methods, materials, locations of components, and testing methods are in general agreement with the submitted Landfill Gas Collection & Control System Design Plan. Please note that S+G's acceptance of the landfill gas collection and control system is limited to the items addressed in this report. Beyond this acceptance, additional issues that arise during operations of the system shall be addressed by the system owner/operator and/or the manufacturer under system warranty.

Should you have any questions or require clarification, please contact us at (919) 828-0577 or by email below.

Sincerely,  
SMITH GARDNER, INC.

  
Don Misenhiemer  
Project Scientist, ext. 224  
[don@smithgardnerinc.com](mailto:don@smithgardnerinc.com)

  
Stacey A. Smith, P.E.  
Senior Engineer, ext. 127  
[stacey@smithgardnerinc.com](mailto:stacey@smithgardnerinc.com)



CC: Tim Rogers, Wayne County  
Bob Gettys, Biogas Energy Solutions  
Ryan Hennessy, Biogas Energy Solutions  
Wes Hare, NCDENR  
Matt Lamb, Smith Gardner, Inc.  
File

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## **ATTACHMENT A**

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**Client Name:**  
Methane Power

**Site Location:**  
Wayne County Landfill

**Project No.**  
MPW-13-2

**Photo No.**  
1

**Date:**  
2/14/13

**Direction Photo Taken:**

**Description:**



**Photo No.**  
2

**Date:**  
2/14/13

**Direction Photo Taken:**

**Description:**



**Client Name:**  
Methane Power

**Site Location:**  
Wayne County Landfill

**Project No.**  
MPW-13-2

**Photo No.**  
**3**

**Date:**  
2/14/13

**Direction Photo Taken:**

**Description:**



**Photo No.**  
**4**

**Date:**  
2/14/13

**Direction Photo Taken:**

**Description:**



<b>Client Name:</b> Methane Power	<b>Site Location:</b> Wayne County Landfill	<b>Project No.</b> MPW-13-2
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<b>Photo No.</b> 5	<b>Date:</b> 2/16/13	
<b>Direction Photo Taken:</b>		
<b>Description:</b>		

<b>Photo No.</b> 6	<b>Date:</b> 3/11/13	
<b>Direction Photo Taken:</b>		
<b>Description:</b>		

<b>Client Name:</b> Methane Power	<b>Site Location:</b> Wayne County Landfill	<b>Project No.</b> MPW-13-2
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<b>Photo No.</b> 7	<b>Date:</b> 3/11/13	
<b>Direction Photo Taken:</b>		
<b>Description:</b>		

<b>Photo No.</b> 8	<b>Date:</b> 3/11/13	
<b>Direction Photo Taken:</b>		
<b>Description:</b>		

<b>Client Name:</b> Methane Power	<b>Site Location:</b> Wayne County Landfill	<b>Project No.</b> MPW-13-2
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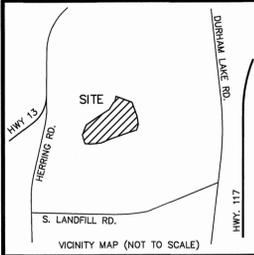
<b>Photo No.</b> <b>9</b>	<b>Date:</b> 3/11/13	
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<b>Photo No.</b> <b>10</b>	<b>Date:</b> 3/11/13	
<b>Direction Photo Taken:</b>		
<b>Description:</b>		

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## **ATTACHMENT B**

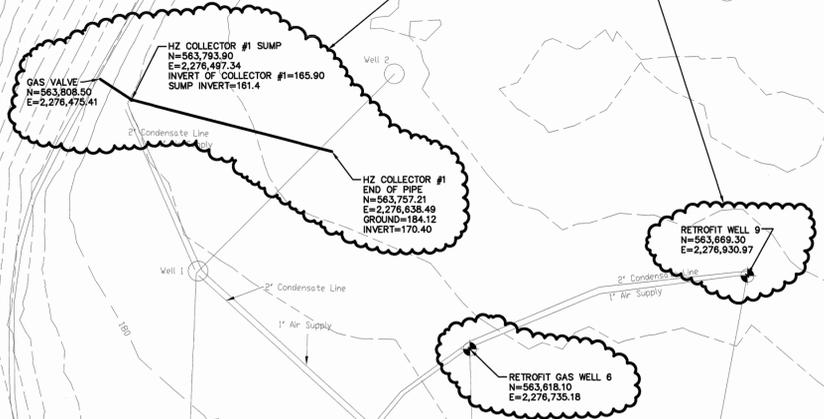
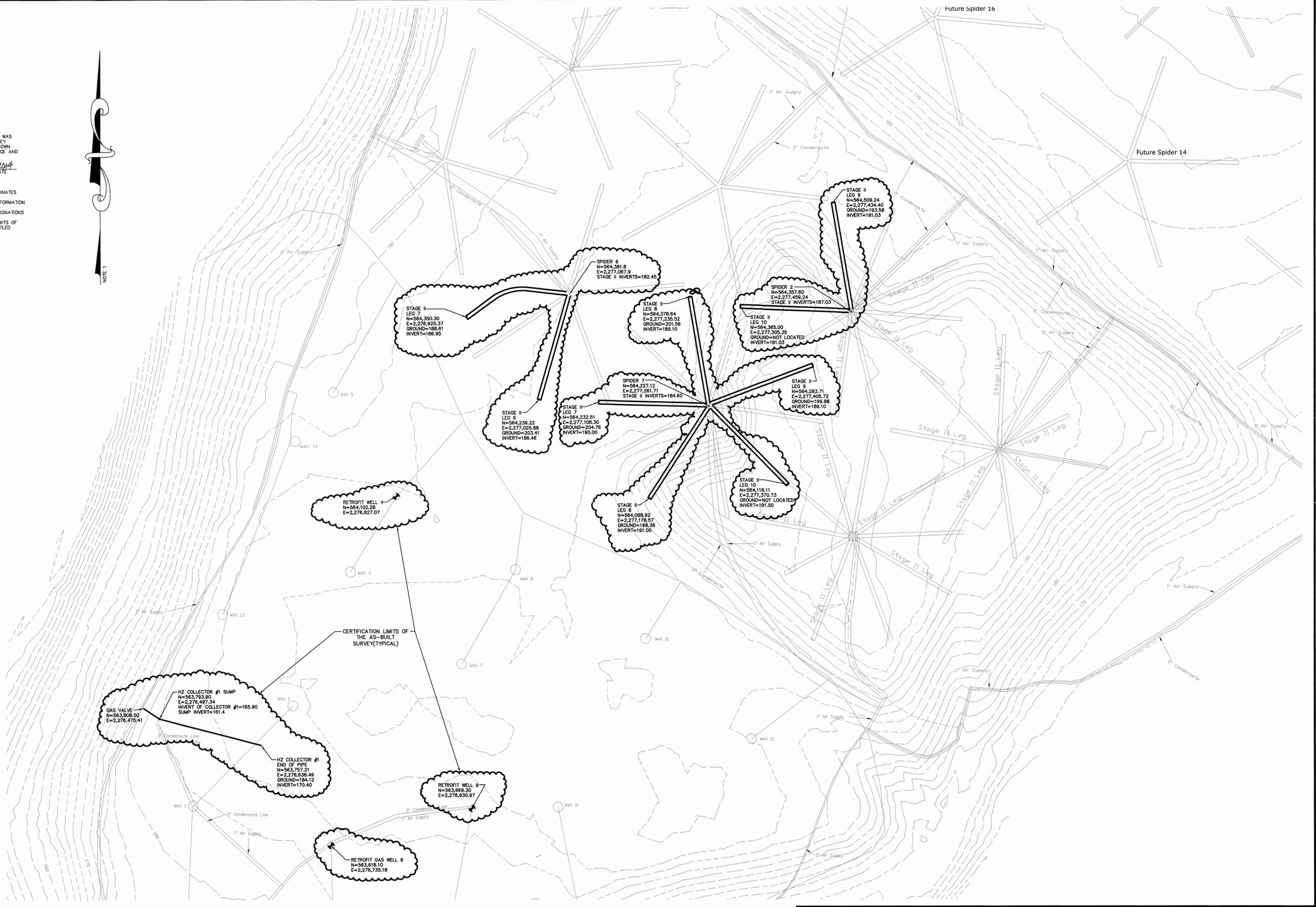
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I, DWAYNE R. KROEZE, HEREBY CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION. THAT ALL LOCATIONS SHOWN ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*Dwayne R. Kroeze* 12/11/2014  
 DWAYNE R. KROEZE, P.L.S. L-3911 DATE

- NOTES**
1. NORTH COMPUTED FROM SITE CONTROL POINT COORDINATES PROVIDED BY THE OWNER.
  2. ALL PIPE INVERT LOCATIONS SHOWN TAKEN FROM INFORMATION PROVIDED BY MP WAYNE, LLC.
  3. STAGE II LEG DESIGNATIONS LABELED PER FIELD DESIGNATIONS ON INDIVIDUAL SPIDER LEG PIPING.
  4. ALL INFORMATION OUTSIDE OF THE CERTIFICATION LIMITS OF THE AS-BUILT SURVEY IS SHOWN PER A DRAWING ENTITLED "WAYNE COUNTY LANDFILL GAS COLLECTION SYSTEM MODIFICATIONS", DATED OCTOBER 2013.



	<b>SURVEYING SOLUTIONS, P.C. C-1948</b> 295 KINGFISHER WAY P.O. BOX 376 LOUISBURG, NC 27549 (919)-340-2250		AS-BUILT SURVEY FOR <b>WAYNE COUNTY LANDFILL</b> <b>2013 GAS COLLECTION MODIFICATIONS</b> <b>UNIT 3, PHASE I SPIDERS</b>	
	SURVEY DATE: DECEMBER 1, 2014 PROJECT OWNER: MP WAYNE, LLC	WAYNE COUNTY SCALE 1"=30'	NORTH CAROLINA PROJECT 14-059	

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## **ATTACHMENT C**

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## Don Misenheimer

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**From:** Dellinger, Jeff  
**Sent:** Friday, November 09, 2012 7:49 AM  
**To:** Don Misenheimer  
**Subject:** RE: Re-submit - Asbestos Work Plan Wayne County LFG Expansion  
**Attachments:** Asbestos Accreditation Form 8-2008.pdf

Hey Don,

Yes, let's consider the plan approved with the email changes.

If you are referring to becoming a NC accredited asbestos inspector then yes, send your paperwork to my attention for review. Please read the instructions on the application and make sure all supporting documentation is included. I am attaching a copy of the application for you.

I'm going to try and be there on Tuesday. Do you have some specific directions on how to get there?

jeff

**Please note my new email address. It has changed to [jeff.dellinger@dhhs.nc.gov](mailto:jeff.dellinger@dhhs.nc.gov)**

Jeffery W. Dellinger  
Industrial Hygiene Consultant  
Health Hazards Control Unit  
Division of Public Health, NC DHHS  
1912 Mail Service Center  
Raleigh, NC 27699-1912  
Phone: (919) 707-5972 Fax (919) 870-4808

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**From:** Don Misenheimer [mailto:don@smithgardnerinc.com]  
**Sent:** Thursday, November 08, 2012 9:25 PM  
**To:** Dellinger, Jeff  
**Subject:** RE: Re-submit - Asbestos Work Plan Wayne County LFG Expansion

Jeff,

Thank you again for your review. Should we consider this plan approved with the below change?

Also- I wanted to let you know that I am closing in on number of required days of inspector experience (7 left). Once I achieve those days, what would be the fastest way to move forward with my inspector accreditation, would it be possible to go directly through you on this matter?

I heard today that you may be out at the UNC project on Tuesday. I will be on-site as well and look forward to seeing you then.

Thank you-

**Misenheimer**

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**From:** Dellinger, Jeff [<mailto:jeff.dellinger@dhhs.nc.gov>]  
**Sent:** Thursday, November 08, 2012 4:03 PM  
**To:** Don Misenheimer  
**Subject:** RE: Re-submit - Asbestos Work Plan Wayne County LFG Expansion

Hey Don,

I have read your email and understand that you have placed the responsibility of determining significant asbestos quantity and/or exposure risk with the NC accredited asbestos inspector. Keep in mind that if the AAI states that a significant amount of asbestos is present or an exposure risk is present then your plan to use NC accredited asbestos workers and supervisor will be implemented.

I will add this email to your plan.

Thanks  
Jeff

**Please note my new email address. It has changed to [jeff.dellinger@dhhs.nc.gov](mailto:jeff.dellinger@dhhs.nc.gov)**

Jeffery W. Dellinger  
Industrial Hygiene Consultant  
Health Hazards Control Unit  
Division of Public Health, NC DHHS  
1912 Mail Service Center  
Raleigh, NC 27699-1912  
Phone: (919) 707-5972 Fax (919) 870-4808

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**From:** Don Misenheimer [<mailto:don@smithgardnerinc.com>]  
**Sent:** Thursday, November 08, 2012 3:37 PM  
**To:** Dellinger, Jeff  
**Subject:** RE: Re-submit - Asbestos Work Plan Wayne County LFG Expansion

Jeff-

Please find this email addressing your comment today. Per our conversation I am sending you the changes not the entire plan.

I have added the following definition to the Plan which should address your last comment:

**“2.10 Significant Amount of ACM (suspect or identified asbestos containing waste)**

Any amount of ACM deemed to be at a quantity or state such that an immediate risk of exposure is likely, as determined by the AAI.”

Please let me know if this addresses your concerns toward approval of this plan.

Thank you for your time,

Misenheimer

SMITH + GARDNER

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**From:** Dellinger, Jeff [<mailto:jeff.dellinger@dhhs.nc.gov>]  
**Sent:** Thursday, November 08, 2012 10:30 AM  
**To:** Don Misenheimer  
**Cc:** Wylie, Pat  
**Subject:** RE: Re-submit - Asbestos Work Plan Wayne County LFG Expansion

Hey Don,

I have read your revised plan for the Wayne County Landfill LFG Expansion.

The plan meets all of the guidance requirements but I do have one item to bring to your attention.

In section 4.5, I'm not sure what is a significant amount of asbestos versus what is not a significant amount of asbestos.

The one reference point I have comes under the OSHA Asbestos in Construction Standard which addresses operations and maintenance activities (O&M) to which OSHA refers to using one standard disposal bag as meeting the intent of O&M. If the amount of material were to exceed what would fit in a standard disposal bag then that would be considered significant and accredited asbestos workers and supervisors would need to step in.

Thanks  
jeff

**Please note my new email address. It has changed to [jeff.dellinger@dhhs.nc.gov](mailto:jeff.dellinger@dhhs.nc.gov)**

Jeffery W. Dellinger  
Industrial Hygiene Consultant  
Health Hazards Control Unit  
Division of Public Health, NC DHHS  
1912 Mail Service Center  
Raleigh, NC 27699-1912  
Phone: (919) 707-5972 Fax (919) 870-4808

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**From:** Don Misenheimer [<mailto:don@smithgardnerinc.com>]  
**Sent:** Tuesday, October 30, 2012 5:01 PM  
**To:** Dellinger, Jeff  
**Cc:** Wylie, Pat  
**Subject:** RE: Re-submitt - Asbestos Work Plan Wayne County LFG Expansion

Jeff-

Thank you for your review. Good comments and I have worked them into the plan. Please see the blow email with my responses in Red.

Also, please find the complete new version of the plan for your approval/comment.

Thanks again for your time in reviewing these!

**Misenheimer**

**SMITH + GARDNER**

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**From:** Dellinger, Jeff [<mailto:jeff.dellinger@dhhs.nc.gov>]  
**Sent:** Tuesday, October 30, 2012 10:10 AM  
**To:** Don Misenheimer  
**Cc:** Wylie, Pat  
**Subject:** RE: Re-submitt - Asbestos Work Plan Wayne County LFG Expansion

Hey Don,

I've read your plan and have a couple of comments.

When referring to signage "Potential Asbestos Containing Material Disturbance Area" in 4.3, I'm not sure you can use such a sign and be in compliance with OSHA. Instead I would refer the contractor to follow the OSHA Asbestos in Construction Standard 1926.1101 and adhere to the signage requirements for asbestos (Presumed or otherwise) as referenced in the OSHA regulation.

**Understood. I have added some additional text including some of your wording.**

In 4.4, are you referring to "If all excavated waste is to be treated as "Suspect" ACM" or all excavated waste should be kept wet? You could say that all waste that is not suspect will go into a container for prompt disposal. The first paragraph addresses ACM going into a container, whereas the second paragraph addresses ACM being placed on the ground next to the excavation area. I think there are a couple thoughts here and arranging a few sentences will clear it up.

**That first paragraph was originally in the text to address projects where no inspection would be occurring and all waste would be treated as ACM. This is not the case for this project and I have removed this paragraph.**

Wayne County's asbestos waste handling procedures follows the basic procedures but keep in mind that these procedures do not address friable/regulated asbestos which has to be in a leak tight container properly labeled. This could be a small bag, or large lined container (kindly referred to as a burrito wrap). The AAS can address this if needed.

**I added some additional text to ensure that the AAS and contractor are aware.**

Just let me know what you think.

Thanks  
jeff

**Please note my new email address. It has changed to [jeff.dellinger@dhhs.nc.gov](mailto:jeff.dellinger@dhhs.nc.gov)**

Jeffery W. Dellinger  
Industrial Hygiene Consultant  
Health Hazards Control Unit  
Division of Public Health, NC DHHS  
1912 Mail Service Center

Raleigh, NC 27699-1912  
Phone: (919) 707-5972 Fax (919) 870-4808

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**From:** Don Misenheimer [<mailto:don@smithgardnerinc.com>]  
**Sent:** Wednesday, October 24, 2012 2:45 PM  
**To:** Dellinger, Jeff  
**Subject:** Re-submitt - Asbestos Work Plan Wayne County LFG Expansion

Jeff-

Please find the attached revised Asbestos work plan for the Wayne County LFG System Expansion for your review/approval. I believe this version addresses all the matters we spoke about during our meeting. Thank you again for your time.

**Don Misenheimer**  
Project Scientist

**SMITH + GARDNER**

14 N. Boylan Avenue  
Raleigh, NC 27603

P (919) **828.0577**

F (919) **828.3899**

C (919) **815.4315**

[www.smithgardnerinc.com](http://www.smithgardnerinc.com)

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# Asbestos Work Plan

## Landfill Gas Collection System Expansion 2012

Wayne County MSW Landfill  
Dudley, North Carolina

Prepared for:



MP Wayne, LLC  
121 Edinburgh South Drive, Suite 204  
Cary, North Carolina

**October 2012**

Prepared By:

NC LIC. NO. C-0828 (ENGINEERING)

**SMITH+GARDNER**

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577



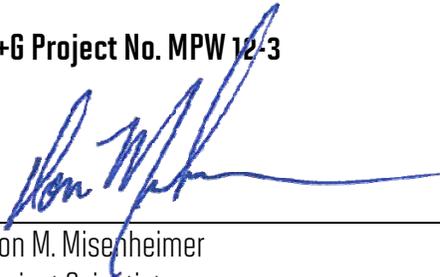
PRINTED ON 100% RECYCLED PAPER

**Asbestos Work Plan  
Landfill Gas Collection System Expansion 2012**

**Wayne County MSW Landfill  
Dudley, North Carolina**

Prepared For:  
**MP Wayne, LLC  
Cary, North Carolina**

**S+G Project No. MPW 12-3**



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Don M. Misenheimer  
Project Scientist

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Stacey A. Smith, P.E.  
Project Manager

**October 2012**

**SMITH+GARDNER**

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

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## 1.0 OVERVIEW

Landfill sites permitted to accept asbestos waste or other sites where it is unknown if indiscriminate dumping of asbestos waste has taken place, should be approached with caution when planning any subsurface investigations within the waste units. Encountering asbestos during drilling and digging/trenching should be anticipated.

Adequate records shall be provided to demonstrate that no asbestos is present in the project areas. In absence of adequate records, this plan should be followed, and a copy of this plan kept in the active work area.

*SAFETY NOTE:*

*The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.*

This document is intended to provide direction for the Contractor involved in waste disturbing activities in areas with known or suspected asbestos-contaminated waste, or where asbestos-contaminated waste is discovered. This document is meant to assist in compliance with Federal NESHAP regulations as administered by the State of North Carolina. This document is not intended to take the place of any regulations or the Contractor's responsibility of his employees, subcontractors, or agents. It is critical that the Contractor realize the context of the subject matter by being familiar with the current regulations.

This project (Landfill Gas Collection System Expansion 2012 at the Wayne County MSW Landfill) shall consist of three (3) radial collector installations, each including the excavation of a sump approximately 20 feet deep. One (1) radial collector extension stage will be installed on a previously installed sump. Additionally, six (6) additional horizontal collectors will be installed, each including the excavation of a sump approximately 20 feet deep. Associated trenching (approximately 2,600 to 3,000 feet) for the radial and horizontal collectors is also planned through the course of this project. Trenching in these areas will be approximately four (4) feet wide and up to 15 feet deep in most locations.

Additional LFG and associated piping trenching (approximately 1,500 to 2,000 feet) is also planned through the course of this project. Trenching in these areas will be approximately three (3) feet wide and up to four (4) feet deep in most locations.

Approximate locations for radial and horizontal collectors, as well as, approximate trenching locations are shown on **Figure 1**. Select details for collectors and trenching are **attached** to this plan. This project is tentatively scheduled between October 2012 and January 2013.

## 2.0 DEFINITIONS

As used herein, the following terms are defined:

### 2.1 Adequately Wet (40 CFR §61.141)

To sufficiently mix or penetrate with water to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted and represents an EPA NESHAP Violation.

### 2.2 Asbestos (40 CFR §61.141)

The asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.

### 2.3 Asbestos Waste Disposal Area

Approved area for the disposal of asbestos waste at a solid waste facility.

### 2.4 Friable Asbestos-Containing Material (ACM)

Any material containing more than one percent (1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. [Sec. 61.141]. Friable ACM readily releases asbestos fibers into the air when damaged or disturbed.

### 2.5 Non-friable (US EPA, Region 4 - Asbestos Enforcement Bulletin, June 2003)

ACM which cannot be crumbled, pulverized or reduced to powder by hand pressure, Nonfriable ACM would NOT readily release fibers into the air unless the material was severely damaged.

### 2.6 Regulated Asbestos-Containing Material (RACM) (40 CFR 61, Subpart M § 61.141 – Definitions.)

The following are regulated ACM categories: (a) friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

## 2.7 Accredited Asbestos Supervisor (AAS)

A person who, at a minimum, has completed a five (5) day asbestos abatement contractor/supervisor training course as outlined in the EPA's Asbestos Model Accreditation Plan (40 CFR §763, Subpart E, App. C (B)(2)). Full accreditation **is required** for this position

## 2.8 Trained Asbestos Supervisor (TAS)

A person who, **at a minimum**, has completed a five (5) day asbestos abatement contractor/supervisor training course as outlined in the EPA's Asbestos Model Accreditation Plan (40 CFR §763, Subpart E, App. C (B)(2)). Full accreditation is not required for this position.

## 2.9 Accredited Asbestos Inspector (AAI)

A person who, **at a minimum**, is a NC Accredited Asbestos Inspector as outlined in the EPA's Asbestos Model Accreditation Plan (40 CFR §763, Subpart E, App. C (B)(3)). Full accreditation **is required** for this position.

## 2.10 Significant Amount of ACM (suspect or identified asbestos containing waste)

Any amount of ACM deemed to be at a quantity or state such that an immediate risk of exposure is likely, as determined by the AAI.

# 3.0 REGULATIONS

## 3.1 Abbreviations

NESHAP (National Emissions Standards for Hazardous Air Pollutants)  
OSHA (Occupational Safety and Health Administration)

## 3.2 Potential Asbestos-Contaminated Waste

The following regulation shall be followed before digging/drilling begins on a project with **potential** for asbestos-contaminated waste:

<u>Regulation</u>	<u>Citation</u>
NESHAP	40 CFR §61.151 (d)

- These requirements are listed in **Section 4.0**.

### 3.3 Identified Asbestos-Contaminated Waste

The following regulations, **at a minimum**, should be followed **if** asbestos-contaminated waste is identified. Any asbestos-contaminated waste identified should be treated as if it were new asbestos waste entering the landfill and existing procedures for handling, transporting, and disposal in an asbestos waste disposal area should be followed, as required by the following rules:

<u>Regulation</u>	<u>Citation</u>
NESHAP	40 CFR §61
NC General Statutes	NC GS §130A, Article 19
NC Solid Waste Rules	15A NCAC 13B .0505 11(d)
NC Solid Waste Rules	15A NCAC 13B .1626 1(d)
OSHA	29 CFR 1926.1101
OSHA	29 CFR 1910.120

### 3.4 Administrative Agency

The following state agency should be notified with a formal notification form (permit), in accordance with 40 CFR §61.151 (d) and 40 CFR §61.154 (j), before digging/drilling begins on a project with **potential** for asbestos-contaminated waste:

**Health Hazards Control Unit**  
NC DHHS/Division of Public Health  
2nd Floor, Room D-1  
5505 Six Forks Road  
Raleigh, NC 27609-3806  
Mr. Jeffery W. Dellinger, Industrial Hygiene Consultant  
Telephone: 919-707-5950  
Fax: 919-870-4808

## 4.0 PROJECT ACTIVITIES

Typically, landfill gas collection system installation/expansion projects may include excavation and/or trenching. This project (Landfill Gas Collection System Expansion 2012 at the Wayne County MSW Landfill) shall consist of three (3) radial collector installations, each including the excavation of a sump approximately 20 feet deep. One (1) radial collector extension stage will be installed on a previously installed sump. Additionally, six (6) additional horizontal collectors will be installed, each including the excavation of a sump approximately 20 feet deep. Associated trenching (approximately 2,600 to 3,000 feet) for the radial and horizontal collectors is also planned through the course of this project. Trenching in these areas will be will be approximately four (4) feet wide and up to 15 feet deep in most locations.

Additional LFG and associated piping trenching (approximately 1,500 to 2,000 feet) is also planned through the course of this project. Trenching in these areas will be should be approximately three (3) feet wide and up to four (4) feet deep in most locations.

Approximate locations for radial and horizontal collectors, as well as, approximate trenching locations are shown on **Figure 1**. This project is tentatively scheduled between October 2012 and January 2013.

#### **4.1 NESHAP Regulations**

In accordance with 40 CFR §61 of the NESHAP regulations, the following shall be followed:

- The NESHAP Administrator shall be notified of the potential of uncovering asbestos-contaminated waste in writing at least 45 days prior to excavating or otherwise disturbing any asbestos containing material that has been deposited at a waste disposal site and is covered.

At a minimum, this notification shall include the following:

1. Scheduled starting and completion date.
2. Reason for disturbing the waste.
3. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated potential asbestos-containing material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.
4. Location of any temporary storage site and the final disposal site.
5. Site Plan

It is required to have at least one (1) TAS in the immediate vicinity of the waste excavation to oversee the work area setup and maintenance (**Section 4.3**).

#### **4.2 Involved Parties**

This project is performed by a developer Methane Power. However, Wayne County is the owner and operator of the landfill. The parties involved are as follows:

**Owner:**

Wayne County Landfill  
460 S. Landfill Road, Dudley, NC 28333  
Contact: Mr. Tim Rogers  
Phone: (919) 689-2994  
Email: [tim.rogers@waynegov.com](mailto:tim.rogers@waynegov.com)

**Developer:**

Methane Power  
121 Edinburgh South Drive, Suite 207, Cary, North Carolina 27511  
Contact: Mr. Bob Gettys  
Phone: (864) 992-6146  
Email: [robert@methanepower.net](mailto:robert@methanepower.net)

**Engineers/Construction Quality Assurance:**

Smith Gardner, Inc.  
Contact: Mr. Stacey A. Smith, P.E.  
14 N. Boylan Avenue  
Raleigh, NC 27603  
Phone: 919-828-0577 x 127  
Email: [stacey@smithgardnerinc.com](mailto:stacey@smithgardnerinc.com)

**General Contractor:**

Chandler Construction Services, Inc.  
1511 Ninety Six Highway, Ninety Six, SC 29666  
Contact: Mr. Ted Thompson  
Phone: (864) 227-3221  
Email: [tthompson@chandlerconstruction.com](mailto:tthompson@chandlerconstruction.com)

### **4.3 Work Area Setup and Maintenance**

The TAS shall setup the work area such that the operator, his/her employees, and the public are protected while disturbing potential asbestos containing waste throughout the process until disposal of all asbestos waste has been completed, as follows:

- The work area shall include adequate fencing and signage to delineate the disturbance area. This fencing shall be orange safety fencing. Signage shall be in accordance the OSHA Asbestos in Construction Standard 1926.1101 and the contractor shall adhere to the signage requirements for asbestos (presumed or otherwise) as referenced in the OSHA regulation. The fencing shall enclose enough area to adequately allow for project activities.
- The TAS is responsible for determining the locations of any covered containers, inside the fencing, that may be used to hold waste from potential asbestos containing materials. These containers should also have signage stating "Potential Asbestos Containing Material--Authorized Personnel Only."

### **4.4 Inspection of Excavated Waste**

As waste is excavated from the well or trench, it will be placed adjacent to the excavation location. An AAI shall observe the waste for signs of asbestos containing material. If the

excavated waste does not appear to be contaminated by asbestos, the waste will be promptly transported to the active face of the landfill for disposal.

If asbestos contaminated waste is identified or suspected by the AAI, the ACM Contingency Plan (**Section 4.5**) shall be followed.

All excavated waste (suspect or not) shall be kept adequately wet by spraying water from an onsite tank until covered.

#### **4.5 ACM Contingency Plan**

If asbestos contaminated waste is identified or suspected by the AAI, the following steps shall be followed:

If the AAI determines that suspect asbestos containing waste is present, the suspect waste must be maintained adequately wet by the contractor and immediately be properly contained and disposed of in either a designated cell or another location determined by the landfill operator/manager as discussed in **Section 4.6**.

If the AAI determines that a *significant* amount of suspect or identified asbestos containing waste is present, all work **MUST IMMEDIATELY STOP** and the area cleared of all personnel. The AAI shall notify the AAS to provide an abatement plan and to direct any abatement activities, in accordance with all Federal, State and Local laws, to be performed by the contractor or sub-contractors. Work may commence at another location determined by the AAS to be a safe distance away from significant suspect waste area. Work may continue at this location after the AAS determines that abatement has occurred and the suspect waste has been properly contained and disposed of in either a designated cell or another location determined by the landfill operator/manager as discussed in **Section 4.6**.

#### **4.6 Disposal**

All asbestos containing waste shall be disposed of in accordance with the Wayne County MSW Operations Plan, which includes sections for handling special wastes. **Appendix A** includes the page of the Operations Plan which discusses asbestos disposal at the Wayne County MSW Landfill. Additionally, the AAS shall direct that any friable/regulated asbestos shall be placed in a leak tight container and properly labeled prior to disposal.

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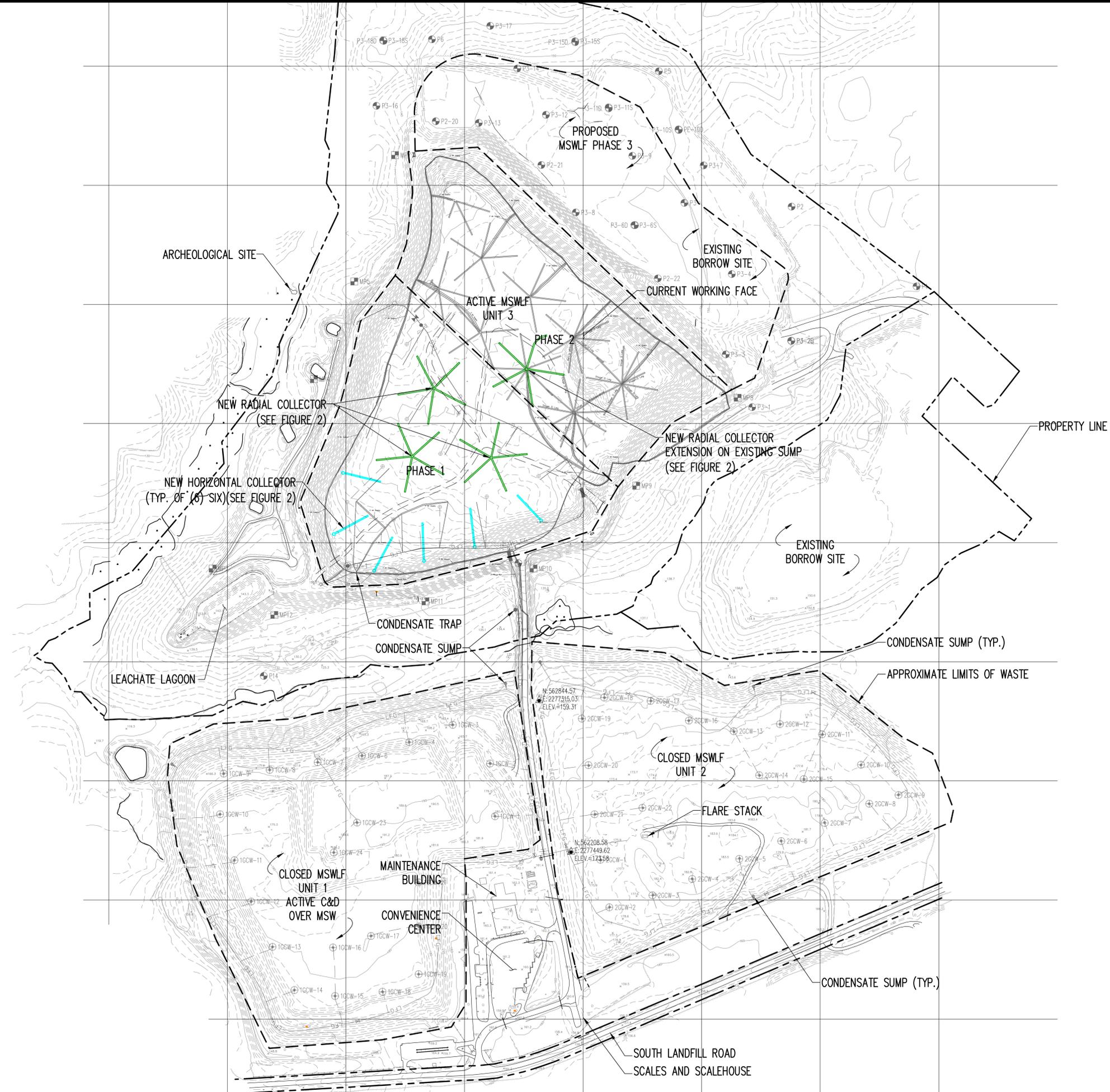
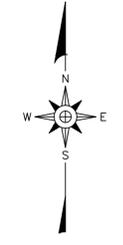
## FIGURES

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**WAYNE COUNTY  
LANDFILL FACILITY  
WAYNE COUNTY,  
NORTH CAROLINA**

PREPARED BY:  
NC LIC. NO. C-0828 (ENGINEERING)

**SMITH+  
GARDNER**  
ENGINEERS  
14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577



- LEGEND**
- 150- EXISTING 10' CONTOUR (SEE REFERENCE 1)
  - - - - - EXISTING 2' CONTOUR
  - - - - - APPROXIMATE PROPERTY LINE (SEE REFERENCE 2)
  - - - - - APPROXIMATE LIMITS OF WASTE/ANCHOR TRENCH (SEE REFERENCE 2)
  - LFG - EXISTING LANDFILL GAS HEADER
  - - - - - EXISTING LANDFILL GAS LATERAL
  - C - EXISTING CONDENSATE FORCEMAIN
  - A - EXISTING COMPRESSED AIR PIPE
  - ⊕ 2GCW-7 EXISTING LFG EXTRACTION WELL (SEE REFERENCE 1)
  - ⊕ P3-3 EXISTING PIEZOMETER (SEE REFERENCE 4)
  - ⊕ MP8 EXISTING METHANE MONITORING PROBE (SEE REFERENCE 4)
  - ⊕ N:562208.58 E:2277449.62 ELEV.=173.58 SITE BENCHMARK (SEE REFERENCE 4)

- REFERENCES**
1. LANDFILL GAS COLLECTION AND CONTROL SYSTEM AS-BUILT SURVEY PERFORMED BY SURVEYING SOLUTIONS, OCTOBER 31, 2002.
  2. SITE TOPOGRAPHY AND EXISTING CONDITIONS FROM DRAWING "FACILITY PLAN EXISTING CONDITIONS" DATED JANUARY 6, 2010 BY MUNICIPAL ENGINEERING SERVICES, AND FIELD SURVEY CONDUCTED BY SURVEYING SOLUTIONS, PC, DATED MAY 11, 2010. TOPOGRAPHY IN UNIT FROM DRAWING "UNIT 3 AS-BUILTS 2-13-2012."
  3. LOCATION OF 16" BURIED LANDFILL GAS LINE AND GENERATOR AREA FROM FIELD SURVEY PERFORMED BY SURVEYING SOLUTIONS, NOVEMBER 3, 2010.
  4. EXISTING METHANE MONITORING PROBES AND PIEZOMETERS FROM DRAWING "EXISTING CONDITIONS WITH PHASE 1 AND 2 ANCHOR TRENCH AND LEACHATE FORCEMAINS" DATED DECEMBER 2, 2010 BY MUNICIPAL ENGINEERING SERVICES.
  5. ORIGINAL GGCS PLAN FOR UNITS 1 AND 2 WAS PREPARED BY MUNICIPAL ENGINEERING SERVICES, SEPTEMBER 2001.
  6. EXISTING LFG PIPING AND WELL LOCATIONS IN PHASE 1 (UNIT 3) FROM DRAWING "LFG COLLECTION SYSTEM SITE PLAN" AUGUST 27, 2010, PREPARED BY CARLSON ENVIRONMENTAL CONSULTANTS, PC.



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PROJECT TITLE:  
**GAS SYSTEM EXPANSION**

DRAWING TITLE:  
**EXISTING CONDITIONS**

DESIGNED: S.A.S.	PROJECT NO: MPW 12-2
DRAWN: C.T.J.	SCALE: AS SHOWN
APPROVED:	DATE: OCT. 2012
FILENAME: WAYNE-D0031	DRAWING NUMBER: <b>FIG.1</b>

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## APPENDIX A

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- iii. Motor vehicle oil filters (effective October 1, 2009).
  - iv. Wooden pallets, except that wooden pallets maybe disposed of in a landfill that is permitted to only accept construction and demolition debris (effective October 1, 2009).
  - v. Discarded computer equipment (effective April 1, 2011).
- e. Asbestos waste will be accepted and managed in accordance with 40 CFR 61. The waste will be covered immediately with soil in a manner that will not cause airborne conditions and must be disposed of separate and apart from other solid wastes:
- i. At the bottom of the working face or;
  - ii. In an area not contiguous with other disposal areas. Separate areas will be clearly designated so that asbestos is not exposed by future land disturbing activities.
- f. Wastewater treatment sludges may be accepted either as a soil conditioner incorporated into or applied onto vegetative growth layer but in no case greater than six inches in depth. Or wastewater treatment sludges may be co-disposed in the lined area.
- g. The County will continue a program at the Landfill for detecting and preventing the disposal of hazardous and liquid wastes. (Section 5.3-Appendix I) This program will include, at a minimum:
- i. Random inspections of incoming loads or other comparable procedures;
  - ii. Records of any inspections;
  - iii. Training of facility personnel to recognize hazardous and liquid wastes.
  - iv. If hazardous wastes are identified by facility personnel, Emergency Management or personnel trained, shall be notified to identify the waste and address removal, storage and final deposition of the waste.
- h. Waste placement will be within the areal limits of the base liner system and in a manner consistent with the effective permit.
2. Cover material requirements.
- a. Except as in Part (b), The County must cover disposed solid waste with six inches of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors blowing litter, and scavenging.
  - b. Alternative materials such as synthetic cover may be used as daily cover on the working face until it is necessary to cover with earthen material. The alternative material must be approved by the Division of Solid Waste and applied according to manufacturers recommendations. At a minimum soil cover will be used once a week. (Section 5.4-Appendix II)
  - c. Areas which will not have additional wastes placed on them for 12 months or more, but where final termination of disposal operations has not occurred, will be covered with a minimum of one foot of intermediate cover.