



July 31, 2013

VISTA LANDFILL, LLC

242 W. Keene Road
Apopka, FL 32703

Mr. Thomas Lubozynski, P.E.
Florida Department of Environmental Protection (FDEP)
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Subject: Orange County – SW WACS# 87081
Vista landfill Class III, DEP Permit No. SO48-0165969-020
Section 2 – Specific Condition E. Gas Management System Requirement No. 3
Gas System Certification of Construction Completion Report
2013 Gas Collection System Expansion Project Event No. 1

Dear Mr. Lubozynski:

Please find enclosed two original copies of the subject reports dated July 2013 prepared by Carlson Environmental Consultants, PC (CEC). The enclosed report documents the subject construction event.

Construction activities began April 10, 2013 with completion on April 26, 2013. Construction consisted of installing five vertical gas extraction wells, extending the header pipe, condensate sump (CS-3), lateral pipe and fittings.

Notice was provided prior to starting and construction was completed in accordance with the approved gas management system design, drawings, and specifications approved the subject DEP Permit.

If you have any questions during your review, please feel free to contact me at 407-902-1469, sgrant@wm.com or Seth Nunes, P.E. of CEC, at 863-634-7185, snunes@cecenv.com.

Sincerely,

Sheree Grant

Waste Management Florida Market Area Engineer

RECEIVED

JUL 31 2013

DEP Central Dist.

C: Kim Rush, P.E., FDEP Solid Waste
Jay Davoll, P.E. City of Apopka Engineer
Craig Pelton, – WMIF Gas Operations Manager
Deborah Perez, WMIF District Manager
Paul Bermillo, WMIF Environmental Protection Manager
Seth Nunes, P.E., CEC Engineer of Record

From everyday collection to environmental protection, Think Green® Think Waste Management.



July 31, 2013

VISTA LANDFILL, LLC

242 W. Keene Road
Apopka, FL 32703

Mr. Thomas Lubozynski, P.E.
Florida Department of Environmental Protection (FDEP)
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Subject: Orange County – SW WACS# 87081
Vista landfill Class III, DEP Permit No. SO48-0165969-020
Section 2 – Specific Condition E. Gas Management System Requirement No. 3
Gas System Certification of Construction Completion Report
2013 Gas Collection System Expansion Project Event No. 1

Dear Mr. Lubozynski:

Please find enclosed two original copies of the subject reports dated July 2013 prepared by Carlson Environmental Consultants, PC (CEC). The enclosed report documents the subject construction event.

Construction activities began April 10, 2013 with completion on April 26, 2013. Construction consisted of installing five vertical gas extraction wells, extending the header pipe, condensate sump (CS-3), lateral pipe and fittings.

Notice was provided prior to starting and construction was completed in accordance with the approved gas management system design, drawings, and specifications approved the subject DEP Permit.

If you have any questions during your review, please feel free to contact me at 407-902-1469, sgrant@wm.com or Seth Nunes, P.E. of CEC, at 863-634-7185, snunes@cecenv.com.

Sincerely,

Sheree Grant

Waste Management Florida Market Area Engineer

C: Kim Rush, P.E., FDEP Solid Waste
Jay Davoll, P.E. City of Apopka Engineer
Craig Pelton, – WMIF Gas Operations Manager
Deborah Perez, WMIF District Manager
Paul Bermillo, WMIF Environmental Protection Manager
Seth Nunes, P.E., CEC Engineer of Record

From everyday collection to environmental protection, Think Green® Think Waste Management.

CONSTRUCTION CERTIFICATION REPORT

2013 LANDFILL GAS COLLECTION SYSTEM EXPANSION VISTA LANDFILL – APOPKA, FLORIDA

Presented to:



Vista Landfill, LLC
242 West Keene Road
Apopka, FL 32703
(407) 886-2920

By:



Carlson Environmental Consultants, PC
305 South Main Street
Monroe, NC 28112
(704) 283-9765

July 2013



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

July 11, 2013

Mr. Craig Pelton
Gas Operation Manager
Vista Landfill LLC
242 West Keene Road
Apopka, Florida 32703

RECEIVED

JUL 31 2013

Subject: Construction Certification Report
Landfill Gas Collection System Expansion – 2013
Vista Landfill – Apopka, Florida

DEP Central Dist.

Dear Mr. Pelton:

Per your request, Carlson Environmental Consultants, PC (CEC) is submitting this Construction Certification Report to Vista Landfill LLC (VLL) for the gas collection system expansion project (Project) at the Vista Landfill (Landfill) located in Apopka, Florida. This certification report documents the construction activities from the beginning of construction of the landfill gas collection system expansion on April 10, 2013 through final completion of the construction project on April 26, 2013. The Construction Certification Report provides a project description, well drilling documentation, daily field reports, construction photographs, additional construction documentation, and final as-built drawings.

Based on the information provided to CEC by VLL and by CEC's on-site inspections, it is my professional opinion that the landfill gas collection system expansion project was performed in accordance with the Project Plans and Specifications or the documented modifications depicted in this Report. A signed and sealed Certification of Construction Completion of a Solid Waste Management Facility (DEP Form 62-701.900(2)) is attached to this letter.

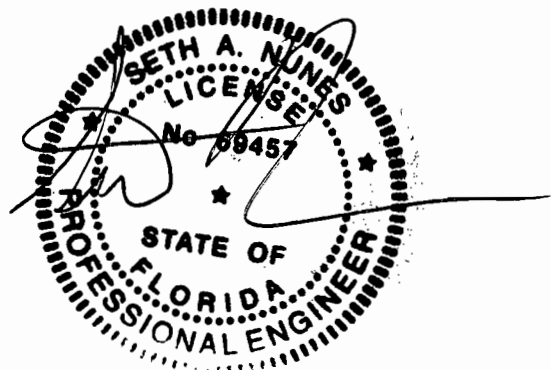
Carlson Environmental Consultants, PC is pleased to have assisted Vista Landfill LLC with this project. Please feel free to call me at (704) 283-9765 if you have any questions or require additional information.

Sincerely,

Seth A. Nunes, P.E.
Senior Engineer
FL PE #69457
Carlson Environmental Consultants, PC

Attachments

cc: Ms. Sheree Grant – VLL
Ms. Deborah Perez - VLL





Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Reset Form

Print Form

DEP Form # 62-701.900(2)

Form Title Certification of Construction Completion
of a Solid Waste Management Facility

Effective Date May 19, 1994

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: SO48-0165969-020 County: Orange

Name of Project: 2013 LFG System Expansion

Name of Owner: Vista Landfill, LLC

Name of Engineer: Carlson Environmental Consultants, PC - Seth A. Nunes, P.E.

Type of Project: Landfill Gas System Expansion Construction

Cost: Estimate \$150,000 Actual \$ 150,000

Site Design Quantity: 2,500 ton/day Site Acreage: 102 Acres

Deviations from Plans and Application Approved by DEP (attach additional pages as needed):

No substantial deviations from the Plans, see attached Certification Report.

Address and Telephone No. of Site: 242 West Keene Road, Apopka, Florida 32703

Telephone: (407) 886-2920

Name(s) of Site Supervisor: Deborah Perez

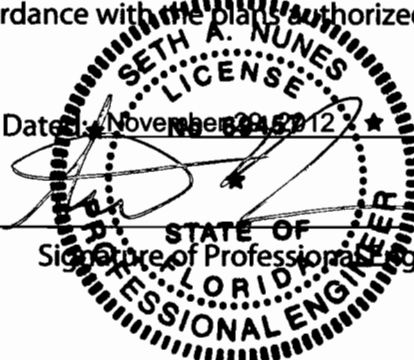
Date Site inspection is requested: As soon as possible

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction

Permit No.: SO48-0165969-020 Date: November 29, 2012

Date: July 11, 2013

Signature of Professional Engineer



Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6800

CONSTRUCTION CERTIFICATION REPORT

2013 LANDFILL GAS COLLECTION SYSTEM EXPANSION VISTA LANDFILL – APOPKA, FLORIDA

Presented to:



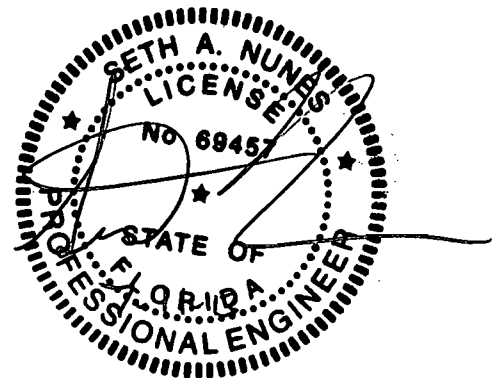
Vista Landfill, LLC
242 West Keene Road
Apopka, FL 32703
(407) 886-2920

By:



Carlson Environmental Consultants, PC
305 South Main Street
Monroe, NC 28112
(704) 283-9765

July 2013



**CONSTRUCTION CERTIFICATION REPORT
2013 LANDFILL GAS COLLECTION SYSTEM EXPANSION
VISTA LANDFILL – APOPKA, FLORIDA**

TABLE OF CONTENTS

APPENDIX A	PROJECT SUMMARY
APPENDIX B	WELL DRILLING DOCUMENTATION <ul style="list-style-type: none">• DRILLING SUMMARY TABLE• SIGNED WELL SCHEDULE• WELL LOGS
APPENDIX C	DAILY FIELD REPORTS
APPENDIX D	CONSTRUCTION PHOTOGRAPHS
APPENDIX E	CONSTRUCTION DOCUMENTATION <ul style="list-style-type: none">• CONSTRUCTION DRAWINGS• CERTIFICATE OF COMPLETION
APPENDIX F	AS-BUILT DRAWINGS <ul style="list-style-type: none">• PEAVEY & ASSOCIATES, INC.• CEC

APPENDIX A
PROJECT SUMMARY

PROJECT SUMMARY
2013 LANDFILL GAS COLLECTION SYSTEM EXPANSION
VISTA LANDFILL – APOPKA, FLORIDA

Project Timeframe: April 10, 2013 to April 27, 2013

Parties Involved:

Site Owner: Vista Landfill LLC (VLL)
242 West Keene Road
Apopka, FL 32703
Phone: (407) 886-2920

VLL Gas Operations Manager: Craig Pelton
VLL District Manager: Deborah Perez
VLL Market Area Engineer: Sheree Grant

Design Engineer: Carlson Environmental Consultants, PC (CEC)
305 South Main Street
Monroe, NC 28112
Phone: (704) 283-9765

CEC Design Engineer: Seth Nunes, P.E.

Contractor: Carlson Environmental Consultants, PC (CEC)
305 South Main Street
Monroe, NC 28112
Phone: (704) 283-9765

CEC Construction Superintendent: D. Vince Coleman
CEC Foreman/Operator: Verlon Coleman
CEC Foreman/Operator: Charles LaFollette
CEC Pipe Fusion Technician: Edwin Hernandez
CEC Pipe Fusion Technician: Rick Bartrug
CEC Pipe Fusion Technician: James McNeal
CEC Pipe Fusion Technician: Victor Seepoe

Driller: Quality Drilling Services, LLC (QDS)
P.O. Box 462
Christiansburg, OH 45389
Phone: (937) 857-4042

QDS Driller: Sean Slayton

Surveyor: Peavey & Associates Survey & Mapping PA (Peavey)
9399 North Lake Buffum Road
Fort Meade, FL 33841
Phone: (863) 738-4960

Peavey Surveyor: Deborah L. Peavey, P.S.M.

Design Drawings & Specifications:

Bid Drawings: Landfill Gas Collection and Control System
2013 Expansion
Vista Landfill – Apopka, FL
Sheets 1 – 5
Dated February 2013
Prepared by Carlson Environmental Consultants, PC

Specifications: Dated February 2013
Prepared by Waste Management

Construction Drawings: Landfill Gas Collection and Control System
2013 Expansion
Vista Landfill – Apopka, FL
Sheets 1 – 5
Dated April 2013
Prepared by Carlson Environmental Consultants, PC

Project Description:

LFG Well Drilling

The LFG system was expanded into Cell 2 by installing five (5) gas wells and connecting these wells to the existing gas collection system.

New Wells Installed	
EW-5	EW-8
EW-6	EW-9
EW-7	

The five (5) newly drilled wells were drilled to depths between 54 and 75 feet with a 36-inch diameter hole. The gas wells were constructed of solid and perforated 8 inch Schedule 80 PVC pipe. All wells were terminated a minimum of 10 feet above the landfill's base liner system.

LFG Piping

The 12" SDR 17 HDPE perimeter header system was extended on the north and south sides of the landfill along the exterior slopes of Cells 1 and 2. The 12" SDR 17 HDPE header piping was installed in a common trench with 2" SDR 9 HDPE air supply line piping and 2" SDR 11 HDPE condensate forcemain piping. The header piping was installed at a minimum 4% slope.

On the north side of the site, the 12" SDR 17 HDPE header was extended from the existing 12" blind flange up the exterior slope of Cell 2. EW-5 and EW-7 were connected to the 12" SDR 17 HDPE header via 6" HDPE SDR 17 lateral piping. Also connected to this section of the header is a LFG connection from the leachate cleanout (LC-2). The 12" header on the north slope was terminated with a 12" blind flanged end as well as air supply line and forcemain stub ups.

On the south side of the site, the 12" SDR 17 HDPE header was connected to the existing blind flange location east of CS-2. After the 12" flanged connection a 12" SDR 17 HDPE 90 degree bend was installed to continue the 12" SDR 17 HDPE header along the south slope to a high point. At the high point, a 4" header sample port, 2" air supply line valve, and 4" condensate forcemain valve were installed. The 12" SDR 17 HDPE header continues south through two (2) road crossings. The 12" SDR 17 HDPE header, 2" SDR 9 HDPE air supply line, and 2" SDR 11 HDPE condensate forcemain piping are encased in a 18" HDPE sleeve through each of the road crossings. EW-9 is connected to the 12" SDR 17 HDPE header via a 6" SDR 17 HDPE lateral before the header reaches the condensate sump (CS-3). CS-3 is a field fabricated 18" SDR 17 HDPE stacked tee sump with a pneumatic pump. The 12" SDR 17 HDPE header continues out of CS-3 to its termination with EW-8 connected via a 6" SDR 17 HDPE lateral. The 12" header on the south slope of Cell 2 was terminated with a 12" blind flanged end as well as air supply line and forcemain stub ups.

Modifications to Project Plans:

- The locations of the extraction wells were moved slightly to accommodate existing operations and material stockpiles located on the landfill at the time of drilling.
- EW-7 was planned to be drilled to a depth of 76 feet. At 54 feet the driller hit refusal and could not proceed. It was suspected that they encountered a large piece of concrete that the drill bit couldn't grab or break through. After 1 hour of attempting, the well was set at 54 feet.
- The road crossing locations were modified from their proposed locations based on the actual road locations at the site.

APPENDIX B
WELL DRILLING DOCUMENTATION

Drill Summary Table

DRILLING SUMMARY
LFG COLLECTION SYSTEM CONSTRUCTION - 2013
VISTA LANDFILL - APOPKA, FLORIDA

Well No	Northing	Easting	Actual Surface Grade Elevation (El.)	Proposed Drill Depth (ft)	Actual Final Drill Depth (ft)	Length of Solid Pipe Installed (ft)	Bench Built (Y/N)	Date(s) Drilled	Signed Contractor Boring Log Rec'd (Y/N)	CQA Approved Boring Log (Y/N)	Change Order Req'd (Y/N)	Comments
EW-5	1,565,303.9	491,596.5	122.2	56	56	15	Y	04/11/13	Y	Y	Y	Bench Required
EW-6	1,565,115.3	491,339.1	143.9	75	75	15	N	04/10/13	Y	Y	N	
EW-7	1,565,101.3	491,582.5	142.9	76	54	15	N	04/10/13	Y	Y	Y	Hit refusal at 54' and couldn't proceed.
EW-8	1,564,742.4	491,615.6	137.3	67	67	15	N	04/10/13	Y	Y	N	
EW-9	1,564,786.4	491,387.7	130.6	57	57	15	Y	04/11/13	Y	Y	Y	Bench Required
Totals				331	309							

Signed Well Schedule

WELL SCHEDULE
LFG COLLECTION SYSTEM EXPANSION - 2013
VISTA LANDFILL - APOPKA, FL

Well No	Northing	Easting	Actual Surface Grade Elevation (ft)	Actual Base Grade Elevation (ft)	Waste Depth (ft)	Drill Depths (ft)	Liner Separation (ft)	Bottom of Well (ft)	Proposed Perf Pipe (ft)	Proposed Solid Pipe (ft)
EW-5	1,565,303.9	491,596.5	122.2	56	66	56	10	66	40	15
EW-6	1,565,115.3	491,339.1	143.9	59	85	75	10	69	59	15
EW-7	1,565,101.3	491,582.5	142.9	57	86	76	10	67	60	15
EW-8	1,564,742.4	491,615.6	137.3	60	77	67	10	70	51	15
EW-9	1,564,785.4	491,387.7	130.6/63	64	67	57	10	74	41	15
					TOTALS	331			251	75

Notes:

1. Actual surface grade elevations taken from ground survey information completed on April 8, 2013 by Peavey & Associates, Inc.
2. Base grade elevations taken from base grade data provided by WMIF.
3. The entities below have reviewed this well schedule, notified CEC of any discrepancies, and believe to the best of their knowledge that this well schedule is correct.
4. All wells are to have a minimum of 10 feet of separation between the top of liner and the bottom of the bore.
5. The solid pipe shown does not include the above grade "stick-up". This portion of pipe must be added to the total amount shown.

Approved By:

CEC Engineer:

[Signature] Date: 4/9/13

3rd Party Review:

[Signature] Date: 4/9/13

Contractor/Driller:

[Signature] Date: _____

WMIF:

[Signature] Date: 4/9/13

Well Logs



DRILL LOG

Well No.: EW-5

Site: Vista Landfill

Date: 04/11/13

Drilling Co.: Quality Drilling Service, LLP

Driller Name: Sean Slayton

Bench (Y/N): Y

Weather: 78° F, clear, humid

Northing: 1,565,303.9

Easting: 491,596.5

Surface Elevation: 122.2

Time Start Drilling: 7:00 a.m.

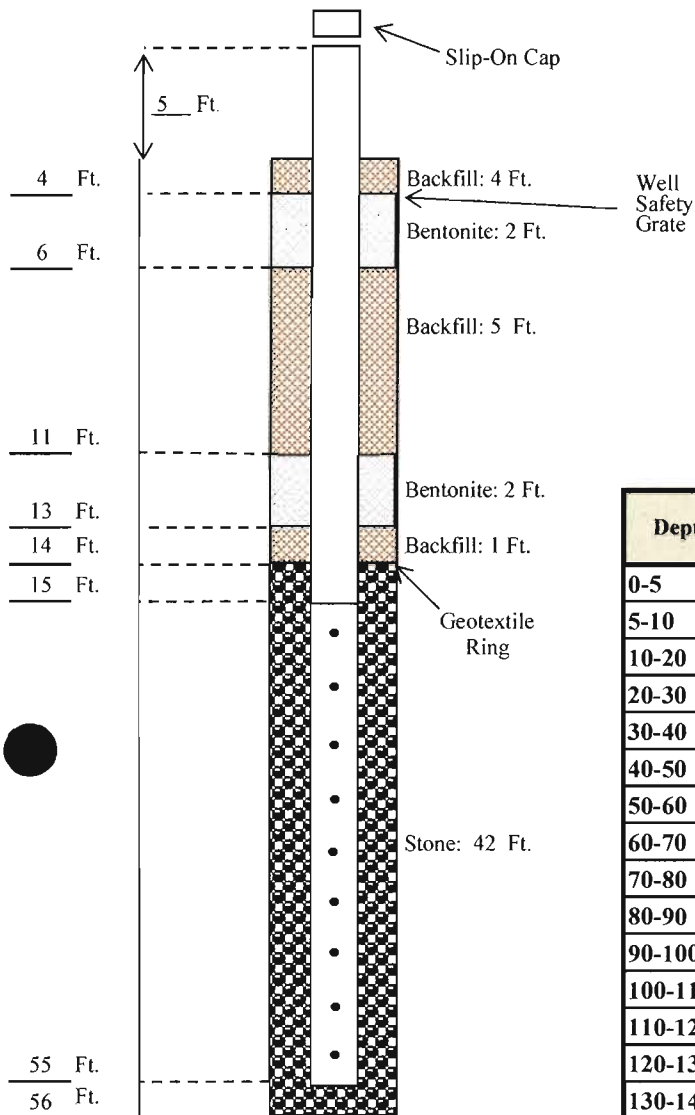
Time End Drilling: 8:20 a.m.

Well Pipe Size: 8"

Well Material: SCH 80 PVC

Solid Pipe: 15' (below grade)

Perforated Pipe: 40'



Depth	Composition	Temp (F)	Degree of Decomposition	Amount of Moisture
0-5	Cover/C&D	82	None	Dry
5-10	Cover/C&D	82	None	Dry
10-20	Soil/C&D	97	None	Dry
20-30	Soil/C&D	97	None	Dry
30-40	Soil/C&D	102	None	Dry
40-50	Soil/C&D	103	None	Dry
50-60	Soil/C&D	104	None	Dry
60-70				
70-80				
80-90				
90-100				
100-110				
110-120				
120-130				
130-140				
140-150				
150-160				

TD: 56 Ft.

Comments:

None

Record Prepared By: Verlon Coleman

Date: 04/12/13



DRILL LOG

Well No.: EW-6

Site: Vista Landfill

Date: 04/10/13

Drilling Co.: Quality Drilling Service, LLP

Driller Name: Sean Slayton

Bench (Y/N): N

Weather: 68° F, clear

Northing: 1,565,115.3

Easting: 491,339.1

Surface Elevation: 143.9

Time Start Drilling: 6:45 a.m.

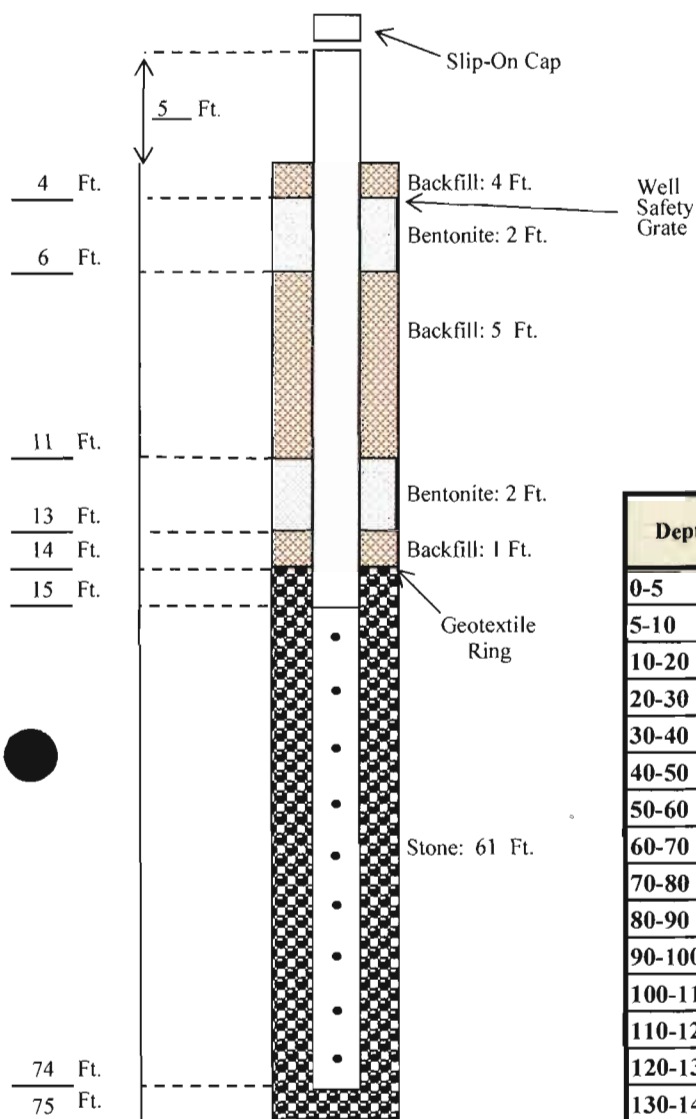
Time End Drilling: 9:45 a.m.

Well Pipe Size: 8"

Well Material: SCH 80 PVC

Solid Pipe: 15' (below grade)

Perforated Pipe: 59'



Depth	Composition	Temp (F)	Degree of Decomposition	Amount of Moisture
0-5	Cover	59	None	Dry
5-10	Cover	59	None	Dry
10-20	Cover/C&D	84	None	Dry
20-30	MSW/C&D/Leaves	86	None	Dry
30-40	MSW/C&D/Leaves	92	None	Dry
40-50	MSW/C&D/Leaves	104	None	Dry
50-60	MSW/C&D/Leaves	116	None	Dry
60-70	MSW/C&D/Leaves	108	None	Dry
70-80	MSW/C&D/Leaves	83	None	Dry
80-90				
90-100				
100-110				
110-120				
120-130				
130-140				
140-150				
150-160				

TD: 75 Ft.

Comments:

None

Record Prepared By: Verlon Coleman

Date: 04/12/13



DRILL LOG

Well No.: EW-7

Site: Vista Landfill

Date: 04/10/13

Drilling Co.: Quality Drilling Service, LLP

Driller Name: Sean Slayton

Bench (Y/N): N

Weather: 75° F, clear

Northing: 1,565,101.3

Easting: 491,582.5

Surface Elevation: 142.9

Time Start Drilling: 10:10 a.m.

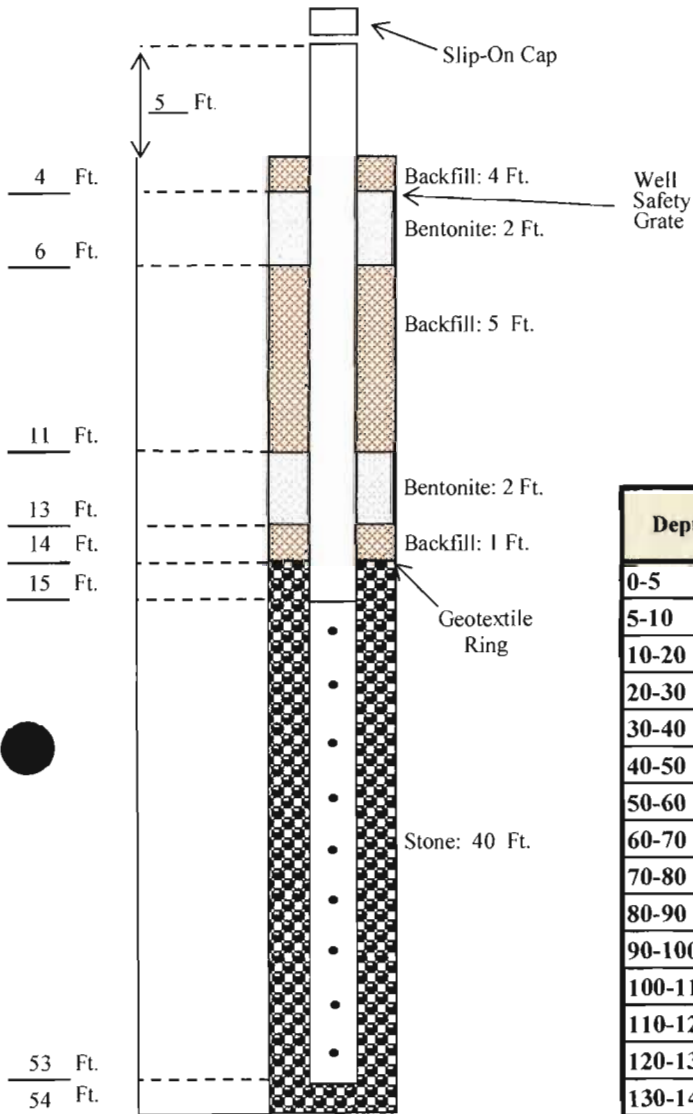
Time End Drilling: 1:38 p.m.

Well Pipe Size: 8"

Well Material: SCH 80 PVC

Solid Pipe: 15' (below grade)

Perforated Pipe: 38'



Depth	Composition	Temp (F)	Degree of Decomposition	Amount of Moisture
0-5	Cover/C&D	121	None	Dry
5-10	Cover/C&D	121	None	Dry
10-20	C&D/Soil	135	None	Dry
20-30	C&D/Soil	128	None	Dry
30-40	C&D/Soil	111	None	Dry
40-50	C&D/Soil	117	None	Dry
50-60	C&D/Soil	125	None	Dry
60-70				
70-80				
80-90				
90-100				
100-110				
110-120				
120-130				
130-140				
140-150				
150-160				

TD: 54 Ft.

Comments:

Well scheduled to be drilled to a depth of 76 feet. At 54 feet the driller hit refusal and could not proceed. It was suspected that they encountered a large piece of concrete that the drill bit couldn't grab or break through. After 1 hour of attempting, WM was notified and the well was set at 54 feet.

Record Prepared By: Verlon Coleman

Date: 04/12/13



DRILL LOG

Well No.: EW-8

Site: Vista Landfill

Date: 04/10/13

Drilling Co.: Quality Drilling Service, LLP

Driller Name: Sean Slayton

Bench (Y/N): N

Weather: 82° F, clear

Northing: 1,564,742.4

Easting: 491,615.6

Surface Elevation: 137.3

Time Start Drilling: 2:15 p.m.

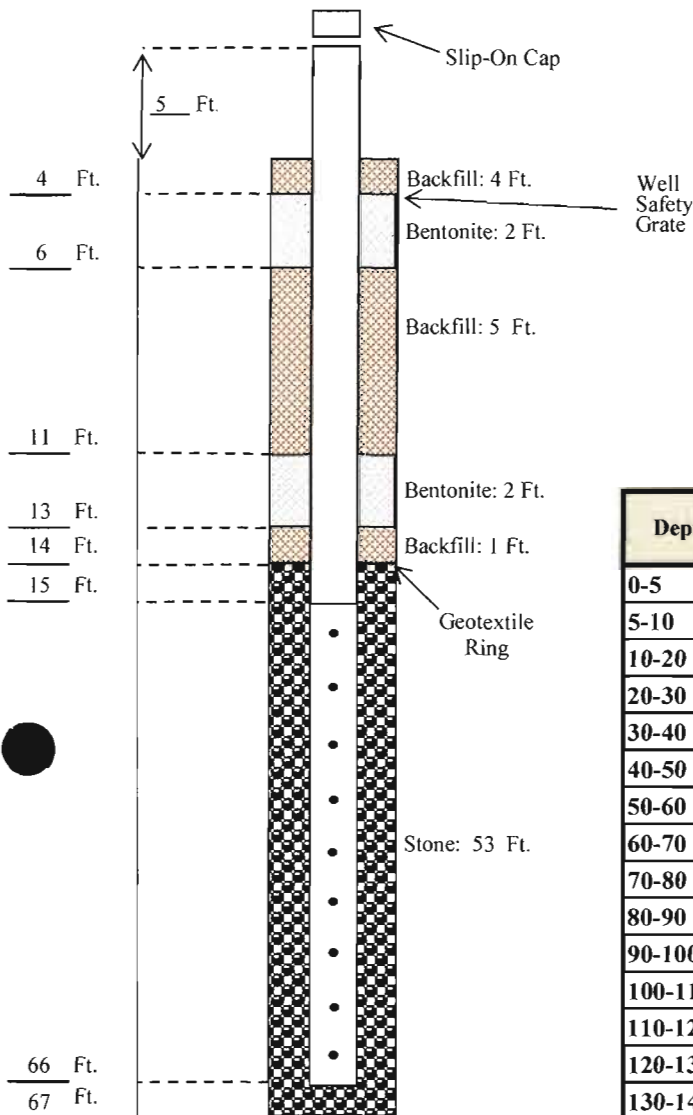
Time End Drilling: 4:15 p.m.

Well Pipe Size: 8"

Well Material: SCH 80 PVC

Solid Pipe: 15' (below grade)

Perforated Pipe: 51'



Depth	Composition	Temp (F)	Degree of Decomposition	Amount of Moisture
0-5	Cover/C&D	92	None	Dry
5-10	Cover/C&D	92	None	Dry
10-20	Soil/C&D	113	None	Dry
20-30	Soil/C&D	125	None	Dry
30-40	Soil/C&D	122	None	Dry
40-50	Soil/C&D	110	None	Dry
50-60	Soil/C&D	112	None	Dry
60-70	Soil/C&D	115	None	Dry
70-80				
80-90				
90-100				
100-110				
110-120				
120-130				
130-140				
140-150				
150-160				

TD: 67 Ft.

Comments:

None

Record Prepared By: Verlon Coleman

Date: 04/12/13



DRILL LOG

Well No.: EW-9

Site: Vista Landfill

Date: 04/11/13

Drilling Co.: Quality Drilling Service, LLP

Driller Name: Sean Slayton

Bench (Y/N): Y

Weather: 70° F, clear

Northing: 1,564,786.4

Easting: 491,387.7

Surface Elevation: 130.6

Time Start Drilling: 8:45 a.m.

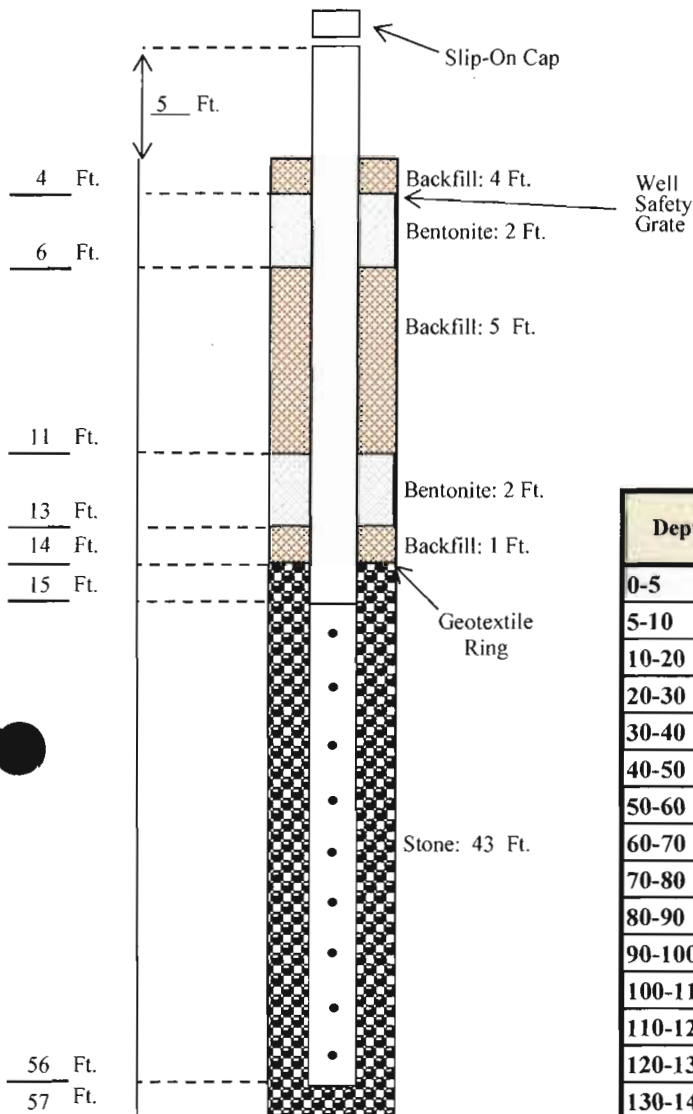
Time End Drilling: 8:00 p.m.

Well Pipe Size: 8"

Well Material: SCH 80 PVC

Solid Pipe: 15' (below grade)

Perforated Pipe: 41'



Depth	Composition	Temp (F)	Degree of Decomposition	Amount of Moisture
0-5	Cover	94	None	Dry
5-10	Cover	94	None	Dry
10-20	C&D	99	None	Dry
20-30	C&D	107	None	Dry
30-40	C&D	117	None	Dry
40-50	C&D	116	None	Dry
50-60	C&D	113	None	Dry
60-70				
70-80				
80-90				
90-100				
100-110				
110-120				
120-130				
130-140				
140-150				
150-160				

TD: 57 Ft.

Comments:

Drilling started at 8:45 am. Drill became inoperable and had to be repaired. Well was not completed until 8:00 pm that night.

Record Prepared By: Verlon Coleman

Date: 04/12/13

APPENDIX C
DAILY FIELD REPORTS



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

DAILY FIELD REPORT

Site: Vista Landfill - Apopka, FL Date: 04/10/13
Project: LFG Collection System Expansion 2013 Day No: Drilling - 1
Personnel Onsite: Verlon Coleman, Rick Bartrug

Time In: 6:45 a.m. Time Out: 6:00 p.m. Drive Hours: 0 Total Hours: 11.25
Weather: Clear, hot Temperature: Low: 65 °F High: 82 °F
Equipment: _____

Notes:

Drilled and completed EW-6 to the scheduled depth of 75 feet.

Drilled EW-7 to 54 feet. Was scheduled to be drilled to 76 feet but driller could not proceed after 54 feet. It was suspected that they encountered a large piece of concrete that the drill bit could not break or grab. After 1 hour of attempting, WM was notified and the well was set at 54 feet.

Drilled and completed EW-8 to the scheduled depth of 67 feet.

Record Prepared By: Verlon Coleman



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

DAILY FIELD REPORT

Site: Vista Landfill - Apopka, FL Date: 04/11/13
Project: LFG Collection System Expansion 2013 Day No: Drilling - 2
Personnel Onsite: Verlon Coleman, Rick Bartrug

Time In: 7:00 a.m. Time Out: 8:00 p.m. Drive Hours: 0 Total Hours: 13.0
Weather: Clear, hot Temperature: Low: 65 °F High: 78 °F
Equipment: _____

Notes:

Built bench for EW-5. Drilled and completed EW-5 to scheduled depth of 56 feet.

Built bench for EW-9. Moved rig to EW-9. Began drilling EW-9. Drill rig became inoperable and had to be repaired. Rig was fixed and well was completed to scheduled depth of 57 feet.

Record Prepared By: Verlon Coleman



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

DAILY FIELD REPORT

Site: Vista Landfill - Apopka, FL **Date:** 04/18/13

Project: LFG Collection System Expansion 2013 **Day No:** 1

Personnel Onsite: Vince Coleman, Rick Bartrug, Charles Lafollette, Edwin Hernandez,
James McNeal

Time In: 7:00 a.m. **Time Out:** 6:30 p.m. **Drive Hours:** 0 **Total Hours:** 11.5

Weather: Clear, hot **Temperature: Low:** 66 °F **High:** 87 °F

Equipment:

Notes:

Build CS-3, trenched 77', excavated for CS#3, set sump, completed a 12" ditch fuse on the
sump, backfilled hole and dressed area.

Record Prepared By: Vince Coleman



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

DAILY FIELD REPORT

Site: Vista Landfill - Apopka, FL **Date:** 04/19/13

Project: LFG Collection System Expansion 2013 **Day No:** 2

Personnel Onsite: Vince Coleman, Rick Bartrug, Charles Lafollette, Edwin Hernandez,
James McNeal, Victor

Time In: 7:00 a.m. **Time Out:** 7:30 p.m. **Drive Hours:** 0 **Total Hours:** 12.5

Weather: Clear, hot **Temperature: Low:** 72 °F **High:** 90 °F

Equipment:

Notes:

Trench from CS#3 to future 12" blind flange (280'), built 6" pipe stringers, tied in 2" at CS-3
installed air/forcemain stub ups at CS-3 & 12" blind flange. Backfilled trench and dressed up
area.

Record Prepared By: Vince Coleman



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

DAILY FIELD REPORT

Site: Vista Landfill - Apopka, FL Date: 04/20/13

Project: LFG Collection System Expansion 2013 Day No: 3

Personnel Onsite: Vince Coleman, Rick Bartrug, Charles Lafollette, Edwin Hernandez, Victor

Time In: 7:00 a.m. Time Out: 12:30 pm Drive Hours: 0 Total Hours: 5.5

Weather: Clear, warm Temperature: Low: 60 °F High: 75 °F

Equipment: _____

Notes:

Trench to EW-8 installed 6" lateral 70 feet long

Trench to EW-9 installed 6" lateral 25 feet long

Tied in both laterals backfilled and dressed up area.

Left site at 12:30 pm per Sheree's request.

Record Prepared By: Vince Coleman



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

DAILY FIELD REPORT

Site: Vista Landfill - Apopka, FL Date: 04/22/13

Project: LFG Collection System Expansion 2013 Day No: 4

Personnel Onsite: Vince Coleman, Rick Bartrug, Charles Lafollette, James McNeal

Time In: 7:00 a.m. Time Out: 7:30 p.m. Drive Hours: 0 Total Hours: 12.5

Weather: Clear, warm Temperature: Low: 66 °F High: 80 °F

Equipment: _____

Notes:

Trenched in 12" header on the north side to the blind flange.

Pressure tested the air & FM lines on the south side, both passed.

Backfilled and dressed up trenched areas.

Stockpiled material before left the site.

Record Prepared By: Vince Coleman



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

DAILY FIELD REPORT

Site: Vista Landfill - Apopka, FL Date: 04/23/13

Project: LFG Collection System Expansion 2013 Day No: 5

Personnel Onsite: Vince Coleman, Rick Bartrug, Charles Lafollette, James McNeal,
Victor S

Time In: 7:00 a.m. Time Out: 7:30 p.m. Drive Hours: 0 Total Hours: 12.5

Weather: Clear, warm Temperature: Low: 63 °F High: 80 °F

Equipment:

Notes:

Trenched 60' along the 12" header on the north side towards the blind flange.

Trenched 220' along the 6" lateral to EW-5 and EW-7.

Backfilled trenches and dressed areas.

Stockpiled material for tomorrow.

Record Prepared By: Vince Coleman



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

DAILY FIELD REPORT

Site: Vista Landfill - Apopka, FL Date: 04/24/13

Project: LFG Collection System Expansion 2013 Day No: 6

Personnel Onsite: Vince Coleman, Rick Bartrug, Charles Lafollette, James McNeal,
Victor S

Time In: 7:00 a.m. Time Out: 7:00 p.m. Drive Hours: 0 Total Hours: 12

Weather: Clear, hot Temperature: Low: 60 °F High: 84 °F

Equipment:

Notes:

Cut & moved riser for EW5. bolt up 12" at the

Trenched 6" lateral for EW-6 from EW-2, installed piping.

Bolted up 12" flange at the 90 deg elbow on the north side. Fused the 12" line together.

12" header installed and complete. Backfilled trenches and dress up area.

Pressure tested 12" header on the north side.

Met with Sheree Grant (WM) and discussed pressure test results and safety.

Record Prepared By: Vince Coleman

CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

DAILY FIELD REPORT

Site: Vista Landfill - Apopka, FL **Date:** 04/25/13

Project: LFG Collection System Expansion 2013 **Day No:** 7

Personnel Onsite: Vince Coleman, Rick Bartrug, Charles Lafollette, James McNeal,
Victor Seepoe

Time In: 7:00 a.m. **Time Out:** 7:00 p.m. **Drive Hours:** 0 **Total Hours:** 12

Weather: Clear, hot **Temperature: Low:** 64 °F **High:** 86 °F

Equipment: _____

Notes:

Trenched from 12" header to LC-2, made connection at LC-2 with an EF coupler.

Completed other 12" header by bolting flange connection. Air test completed on 12", passed.

Backfilled all trenches and completed daily dress up. Stockpiled material for tomorrow.

All pressure testing completed and all passed.

Record Prepared By: Vince Coleman



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

DAILY FIELD REPORT

Site: Vista Landfill - Apopka, FL Date: 04/27/13

Project: LFG Collection System Expansion 2013 Day No: 9

Personnel Onsite: Vince Coleman, Rick Bartrug, Charles Lafollette, Victor S

Time In: 7:00 a.m. Time Out: 7:30 a.m. Drive Hours: 0 Total Hours: 0.5

Weather: Clear, hot Temperature: Low: 68 °F High: 87 °F

Equipment: _____

Notes:

Demobilized from the site. Project complete.

Record Prepared By: Vince Coleman

APPENDIX D
CONSTRUCTION PHOTOGRAPHS

Vista Landfill
2013 LFG System Expansion
Well Drilling Photos



EW-7 at 10' drill depth



EW-7 at 15' drill depth



EW-7 at 20' drill depth



EW-7 at 25' drill depth



EW-7 at 30' drill depth



EW-7 at 50' drill depth

Vista Landfill
2013 LFG System Expansion
Well Drilling Photos



EW-8 at 10' drill depth



EW-8 at 25' drill depth



EW-8 at 40' drill depth



EW-8 at 50' drill depth



EW-8 at 60' drill depth



EW-8 at 67' drill depth

Vista Landfill
2013 LFG System Expansion
Well Drilling Photos



EW-5 at 10' drill depth



EW-5 at 20' drill depth



EW-5 at 30' drill depth



EW-5 at 40' drill depth



EW-5 at 50' drill depth



EW-5 at 56' drill depth

Vista Landfill
2013 LFG System Expansion
Piping Installation Photos



12" Header Trench



12" Header Trench



Building CS-3 (18" Sump)



Building CS-3 (18" Sump)



Setting CS-3 (18" sump)



Installation of CS-3 with 12" inlet/outlets and 2" airline and 2" forcemain stub ups

Vista Landfill
2013 LFG System Expansion
Piping Installation Photos



Stone placed around bottom of CS-3



Connected CS-3 (18" sump)



CS-3 flanged 12" inlet



Backfilling 12" header to CS-3



Connection of 12" Header to 18" sump (CS-3)



Placement of 12" header with 2" airline and 2" forcemain in the trench

Vista Landfill
2013 LFG System Expansion
Piping Installation Photos



12" Header Trench



End of 12" Header (Blind Flange) with 2" airline
& 2" forcemain stub ups



12" Header with 2" airline & 2" forcemain



12" Header with 2" airline & 2" forcemain



12" Header with 2" airline (yellow stripe) & 2"
forcemain



2" condensate valve (in line) at high point, 4"
header sample port riser

Vista Landfill
2013 LFG System Expansion
Piping Installation Photos



2" airline valve at high point



12" header road crossing



2" airline valve & 2" airline air release valve



12" Road Crossing; 12" header encased in 18" HDPE, 2" airline & 2" forcemain encased in 6" HDPE through the road



12" Road Crossing; 12" header encased in 18" HDPE, 2" airline & 2" forcemain encased in 6" HDPE through the road



Backfilling 12" Header Trench

Vista Landfill
2013 LFG System Expansion
Piping Installation Photos



Backfilling 12" Header Trench



Caution Tape Installation along lateral to EW-5 and EW-7



6" Lateral Piping to EW-5 and EW-7



Connection at EW-2 for 6" lateral to EW-6



Caution Tape Installation along lateral to EW-5 and EW-7



6" lateral piping from EW-2 to EW-6

Vista Landfill
2013 LFG System Expansion
Piping Installation Photos



Completed lateral installation to EW-6



12" Header Trench Backfilled with caution tape



Pressure test on 12" header



Backfilled lateral piping with caution tape



Pressure test on 12" header



Backfilling trench with waste above the bedding material

Vista Landfill
2013 LFG System Expansion
Piping Installation Photos



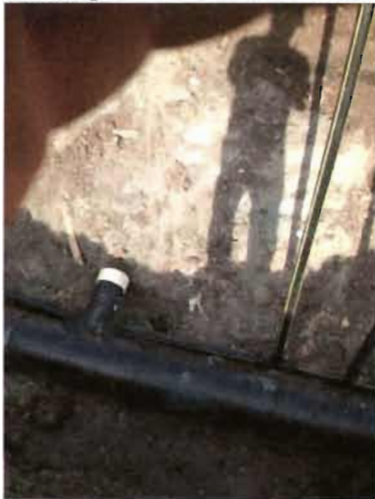
Backfilling 6" lateral trench to EW-8



6" Lateral Piping



Backfilling 12" header trench with caution tape
and survey risers



6" Tee on 12" Header for EW-9 with 2" air and
2" forcemain stub ups



6" Lateral Piping



Backfilled 12" header trench to the caution tape

Vista Landfill
2013 LFG System Expansion
Piping Installation Photos



Wrong flanged top received for CS-3



Correct flanged top installed on CS-3

APPENDIX E
CONSTRUCTION DOCUMENTATION

Construction Drawings

CONSTRUCTION DRAWINGS
LANDFILL GAS COLLECTION AND CONTROL SYSTEM
2013 EXPANSION
VISTA LANDFILL - APOPKA, FL



OWNER:
VISTA LANDFILL, LLC
VISTA LANDFILL
242 WEST KEENE ROAD
APOPKA, FLORIDA 32703
(407) 886-2920

OWNER REPRESENTATIVE:
CRAIG PELTON
(954) 984-2000

ENGINEER:
CARLSON ENVIRONMENTAL CONSULTANTS, PC
305 SOUTH MAIN STREET
MONROE, NORTH CAROLINA 28112
(704) 283-9765

CEC JOB NO. 101.07.12

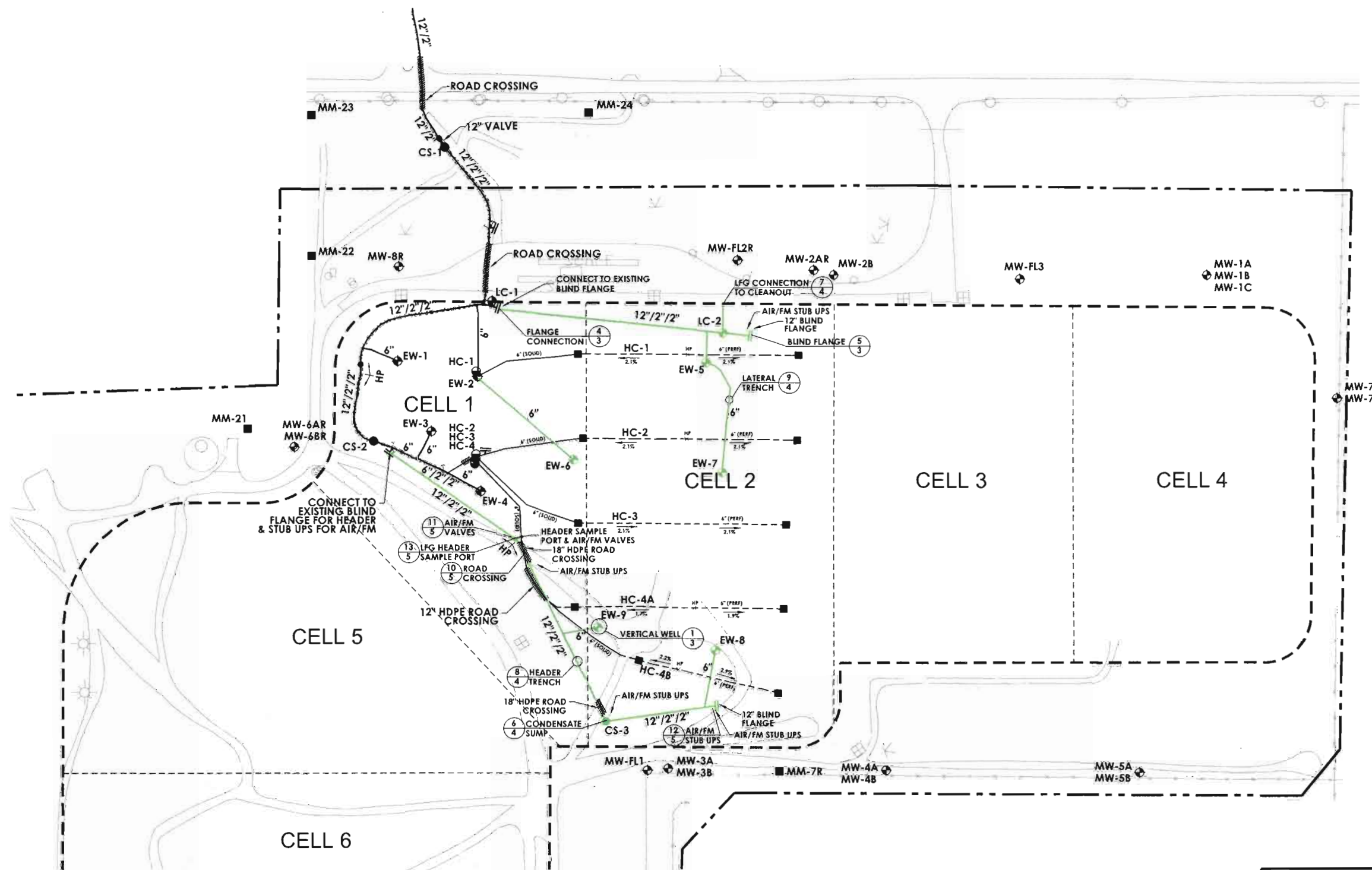
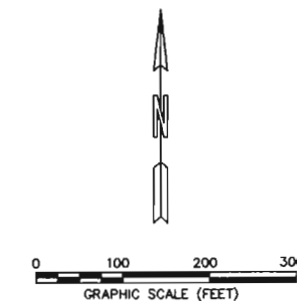
APRIL 2013

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PROPOSED LFG SITE PLAN
3	DETAILS
4	DETAILS
5	DETAILS

COPY

ISSUED FOR CONSTRUCTION

DRAWING TITLE:		TITLE SHEET	
PROJECT:		LANDFILL GAS COLLECTION AND CONTROL SYSTEM 2013 EXPANSION	
SITE:		VISTA LANDFILL, LLC VISTA LANDFILL APOPKA, FLORIDA	
CARLSON ENVIRONMENTAL CONSULTANTS, PC			
<small>305 SOUTH MAIN STREET MONROE, NORTH CAROLINA 28112</small> <small>FLORIDA COA# 27045</small> <small>(704) 283-9765 FAX (704) 283-9755</small>			
CEC PROJECT NO.	101.07.12	DWG. 1-VISTA.2013.C.TITLE	REV. 0
SCALE	NO SCALE	SHEET 1 OF 5	
DATE	APRIL 2013		



COPY

ISSUED FOR CONSTRUCTION

LEGEND

EXISTING FEATURES

- PROPERTY BOUNDARY
- PERMITTED LIMITS OF WASTE
- 10-FOOT CONTOUR LINE
- 2-FOOT CONTOUR LINE
- CELL BOUNDARY
- ⊕ GROUNDWATER MONITORING WELL
- METHANE MONITORING DATA
- LFG HEADER/LATERAL
- LFG AIR SUPPLY LINE
- LFG CONDENSATE FORCEMAIN
- LFG HORIZONTAL COLLECTOR
- ⊕ LFG WELLHEAD
- HORIZONTAL COLLECTOR SUMP

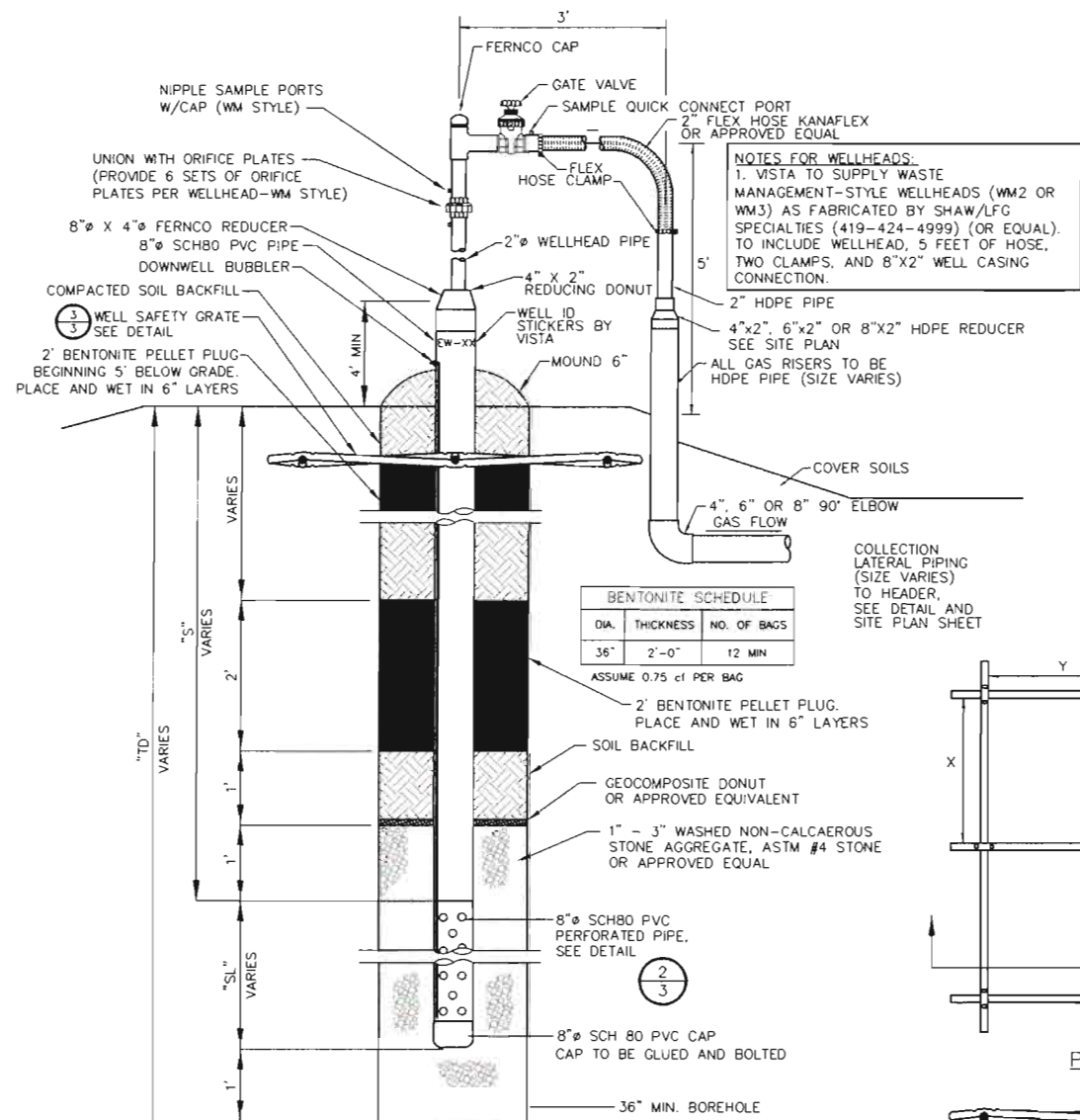
PROPOSED LFG 2013

- LFG HEADER/LATERAL
- LFG AIR SUPPLY LINE
- LFG CONDENSATE FORCEMAIN
- ⊕ LFG VERTICAL EXTRACTION WELL
- LFG CONDENSATE SUMP
- LFG AIR/FM STUB UP
- LFG HEADER SAMPLE PORT
- LFG AIR/FM VALVES

NOTES

1. AERIAL TOPOGRAPHY COMPILED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPH FLOWN ON JANUARY 14, 2013.
2. AS-BUILT SURVEY COMPLETED BY PEAVEY & ASSOCIATES DATED JULY 7, 2011.
3. NOTE THAT SOME LFG SYSTEM FEATURES MAY BE DIFFERENT THAN SHOWN HERE DUE TO MODIFICATIONS MADE BY WMIF OR THEIR CONTRACTORS.

DRAWING TITLE: PROPOSED LFG SITE PLAN		
PROJECT: LANDFILL GAS COLLECTION AND CONTROL SYSTEM 2012 LFG SYSTEM EXPANSION		
SITE: WASTE MANAGEMENT INC. OF FLORIDA VISTA LANDFILL APOPKA, FLORIDA		
CARLSON ENVIRONMENTAL CONSULTANTS, PC		
<small>305 SOUTH MAIN STREET MONROE, NORTH CAROLINA 28112 FLORIDA COA# 27045 (704) 283-9745 FAX (704) 283-9755</small>		
CEC PROJECT NO. 101.07.12	DWG. 2-VISTA.LFG.C.2013.SITE	REV. 0
SCALE 1" = 100'	SHEET 2 OF 5	
DATE APRIL 2013		



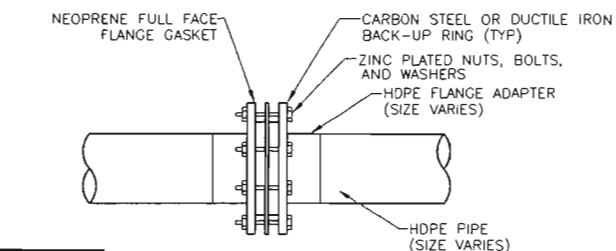
VERTICAL EXTRACTION WELL DETAIL
NOT TO SCALE

NOTES FOR VERTICAL EXTRACTION WELLS:

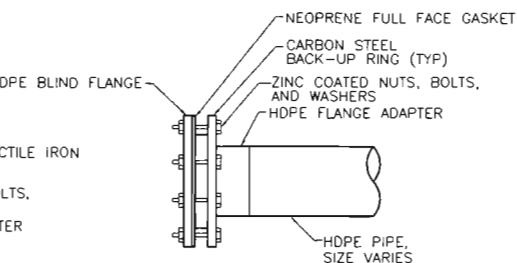
1. A WELL SCHEDULE IS PROVIDED AS PART OF THE BID DOCUMENTS. NO DRILLING IS TO TAKE PLACE WITHOUT A SIGNED WELL SCHEDULE.
2. VISTA WILL PROVIDE AND INSTALL WELL ID STICKERS ON THE WELLS. CONTRACTOR TO LABEL NEWLY INSTALLED WELLS WITH WELL ID IN GREASE PENCIL.
3. CONTRACTOR TO INSTALL BUBBLERS IN ALL WELLS DRILLED AS PART OF THIS CONSTRUCTION PROJECT. BUBBLER TO BE INSTALLED PER THE WM BMP. BUBBLER TO BE INSTALLED WITHIN 5 FEET FROM THE BOTTOM OF THE WELL. THE BUBBLER PARTS ARE TO BE SUPPLIED BY THE CONTRACTOR.

NOTES FOR FLANGE CONNECTIONS:

1. CONTRACTOR TO WRAP ALL BURIED FLANGE CONNECTIONS IN 5-MIL PLASTIC SHEETING AND DUCT TAPE TO SEAL OUT DIRT, WATER, AND DEBRIS. CONTRACTOR TO PROVIDE THE PLASTIC SHEETING AND DUCT TAPE NEEDED.



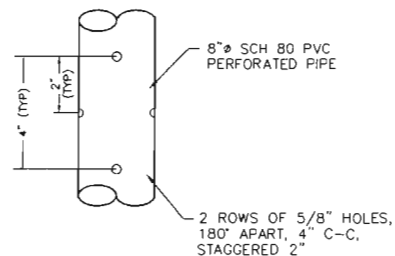
FLANGE CONNECTION
NOT TO SCALE



BLIND FLANGE
NOT TO SCALE

NOTES FOR BLIND FLANGES:

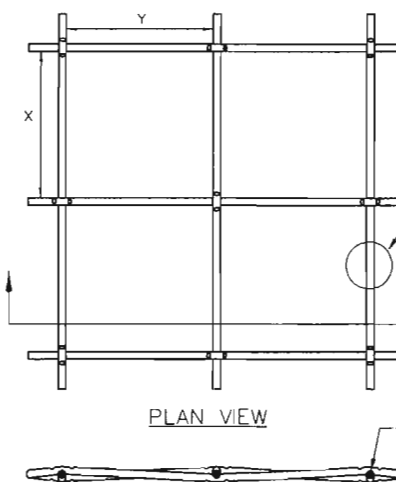
1. CONTRACTOR TO WRAP ALL BURIED BLIND FLANGES IN 5-MIL PLASTIC SHEETING AND DUCT TAPE TO SEAL OUT DIRT, WATER, AND DEBRIS. CONTRACTOR TO PROVIDE THE PLASTIC SHEETING AND DUCT TAPE NEEDED.



PERFORATED PIPE FOR VERTICAL WELLS DETAIL
NOT TO SCALE

NOTES:

1. CONTRACTOR TO USE FACTORY PERFORATED PVC ONLY. FIELD PERFORATIONS WILL NOT BE ALLOWED.



SECTION VIEW

WELL SAFETY GATE
NOT TO SCALE

ALLOWABLE OPENING SIZES

"X"	"Y"	MIN. WIRE DIAMETER	WWR PANEL DESIGNATION
4"	2"	0.25"	W5 x W5
4"	4"	0.299"	W7 x W7
4"	6"	0.309"	W7.5 x W7.5
6"	6"	0.309"	W7.5 x W7.5

WELDED WIRE REINFORCEMENT (WWR)

SEE SECTION BELOW

NOTES FOR WELL SAFETY GATE:

1. CONTRACTOR TO SUPPLY WELL SAFETY GRATES.
2. WELL SAFETY GATE TO BE INSTALLED 6" TO 24" BELOW GRADE, ABOVE THE TOP 2 FOOT BENTONITE PLUG.
3. OVERALL DIMENSIONS OF THE WELL SAFETY GATE ARE 4 FEET BY 4 FEET.
4. WELL GRATES TO BE INSTALLED BY THE DRILLER PRIOR TO DRILLER DEMOBILIZATION.

NOTES:

1. CONTRACTOR SHALL BE PREPARED TO HAUL AND DISPOSE OF ALL WASTE MATERIALS AT THE LANDFILL'S ACTIVE WORKING FACE INCLUDING MUNICIPAL SOLID WASTE EXCAVATED DURING THE INSTALLATION OF THE CONSTRUCTION DEPICTED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL ALSO HAVE EQUIPMENT AND MANPOWER NECESSARY TO MOVE AND STAGE SOIL, PIPE, BENTONITE, AND OTHER MATERIALS WHILE ON-SITE.
2. ALL BOLTS, NUTS AND WASHERS SHALL BE ZINC COATED STEEL AND COATED WITH A RUST PREVENTATIVE PRIMER OR AS APPROVED BY CIRL.
3. **FOR WELL DRILLING:** VISTA WILL PROVIDE BACKFILL SOIL. CONTRACTOR TO PROVIDE ALL STONE, PVC PIPE, PVC FITTINGS, BENTONITE, GEOTEXTILE RING, WELL SAFETY GRATE, EQUIPMENT, MANPOWER, AND OTHER INCIDENTALS RELATED TO WELL DRILLING.
FOR GCS WORK: VISTA WILL PROVIDE ALL HDPE PIPE, HDPE FITTINGS, WELLHEADS, VALVES, GASKETS, FASTENERS, BOLTS, SUMPS, PUMPS, PUMP FITTINGS, AND BACKFILL SOIL. CONTRACTOR TO PROVIDE ALL BENTONITE, CONCRETE, WOODEN POSTS, SS SAMPLE PORT PARTS, BUBBLER PARTS, EQUIPMENT, MANPOWER, AND OTHER INCIDENTALS TO COMPLETE THE WORK DEPICTED AND DESCRIBED IN THESE DRAWINGS AND BID PACKAGE.
4. CONTRACTOR RESPONSIBLE FOR DAMAGES INCURRED TO LANDFILL COVER SYSTEM DURING CONSTRUCTION ACTIVITIES AND SHALL RESTORE THE COVER TO PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF VISTA PRIOR TO FINAL PAYMENT BEING MADE TO THE CONTRACTOR. CONTRACTOR SHALL ASSIST VISTA IN QUANTIFYING SOD REQUIRED FOR REVEGETATION AS WELL AS DIRECTING SOD COMPANY AS TO SOD PLACEMENT (AS NECESSARY).
5. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE HEALTH AND SAFETY OF HIS EMPLOYEES AND SUBCONTRACTORS. CONTRACTOR TO PROVIDE SERVICES IN ACCORDANCE WITH APPLICABLE OSHA, FEDERAL, STATE, AND LOCAL HEALTH AND SAFETY REGULATIONS. CONTRACTOR IS ASSUMED TO BE EXPERIENCED IN WORKING WITH LANDFILL GAS AND IN A POTENTIALLY HAZARDOUS LANDFILL ENVIRONMENT. CONTRACTOR TO PROVIDE A SITE-SPECIFIC HEALTH AND SAFETY PLAN TO VISTA PRIOR TO BEGINNING WORK. CONTRACTOR TO NOTIFY VISTA OF ANY UNSAFE CONDITIONS DURING CONSTRUCTION. CONTRACTOR IS MADE AWARE THAT HYDROGEN SULFIDE GAS MAY BE PRESENT IN THE LANDFILL GAS. ALL CONTRACTOR PERSONNEL TO HAVE A PORTABLE HYDROGEN SULFIDE METER ON THEIR PERSON DURING ALL LFG-RELATED WORK ON-SITE. ALL CONTRACTOR EMPLOYEES REQUIRED TO PASS WM LFG SAFETY TRAINING COURSE PRIOR TO BEGINNING WORK AT THE SITE.
6. CONTRACTOR ACTIVITIES TO REMAIN A MINIMUM OF 10 FEET ABOVE THE LANDFILL'S LINER SYSTEM AT ALL TIMES.
7. VISTA WILL PROVIDE SURVEYING SERVICES, UNLESS OTHERWISE NOTED, INCLUDING A WELL STAKING SURVEY, AS-BUILT SURVEY, AND ANY REQUIRED SURVEYS FOR INSTALLATION AND/OR PAYMENT PURPOSES.
8. VISTA MAY MAKE MODIFICATIONS TO THE DESIGN DETAILS SHOWN ON THESE PLAN SHEETS TO COMPLY WITH LANDFILL OPERATIONS, LANDFILL GAS RECOVERY, AND/OR COMPLIANCE OBJECTIVES. CONTRACTOR TO COORDINATE WITH AND FOLLOW ALL VISTA INSTRUCTIONS ON LFG SYSTEM INSTALLATION.
9. ALL LATERAL DAYLIGHTS AND CONNECTIONS NEED TO BE PLUMB WITH UNIFORM INSTALLATION DISTANCE. ALL WELL CONNECTIONS, UPSLOPE WELLS, REMOTES AND HORIZONTALS WITH TEES AND 90'S NEED TO HAVE PLUMB AND STRAIGHT CONNECTIONS.
10. ALL WELLS, ABOVE GRADE PIPES, STUB UPS, VALVES, ETC. INSTALLED BY THE CONTRACTOR ARE TO BE LABELED USING VISTA SUPPLIED STICKERS OR GREASE PENCIL.
11. ALL HDPE PIPE 12" AND ABOVE MUST BE SDR 26 HDPE 471D RESIN. IN ADDITION, IT IS IMPORTANT TO NOTE THAT THE TRANSITION BETWEEN SDR 17 AND SDR 26 PIPE REQUIRES SPECIAL TREATMENT. ALL HDPE FITTINGS WITH A PIPE END OF 12" AND ABOVE MUST BE BEVELED PER MANUFACTURER'S GUIDELINES TO ACCOMMODATE A BUTT FUSED HDPE WELD TO A SDR 26 PIPE. THE MATERIAL SUPPLIER MUST BEVEL FITTINGS PRIOR TO SHIPMENT. NO FIELD BEVELING WILL BE ALLOWED.

COPY

ISSUED FOR CONSTRUCTION

DRAWING TITLE:

DETAILS

PROJECT:

**LANDFILL GAS COLLECTION AND CONTROL SYSTEM
2013 LFG SYSTEM EXPANSION**

SITE:

**VISTA LANDFILL, LLC
VISTA LANDFILL
APOPKA, FLORIDA**

**CARLSON ENVIRONMENTAL
CONSULTANTS, PC**

305 SOUTH MAIN STREET
MONROE, NORTH CAROLINA 28112

FLORIDA COA# 27045

(704) 283-9765
FAX (704) 283-9755

CEC PROJECT NO. 101.07.12

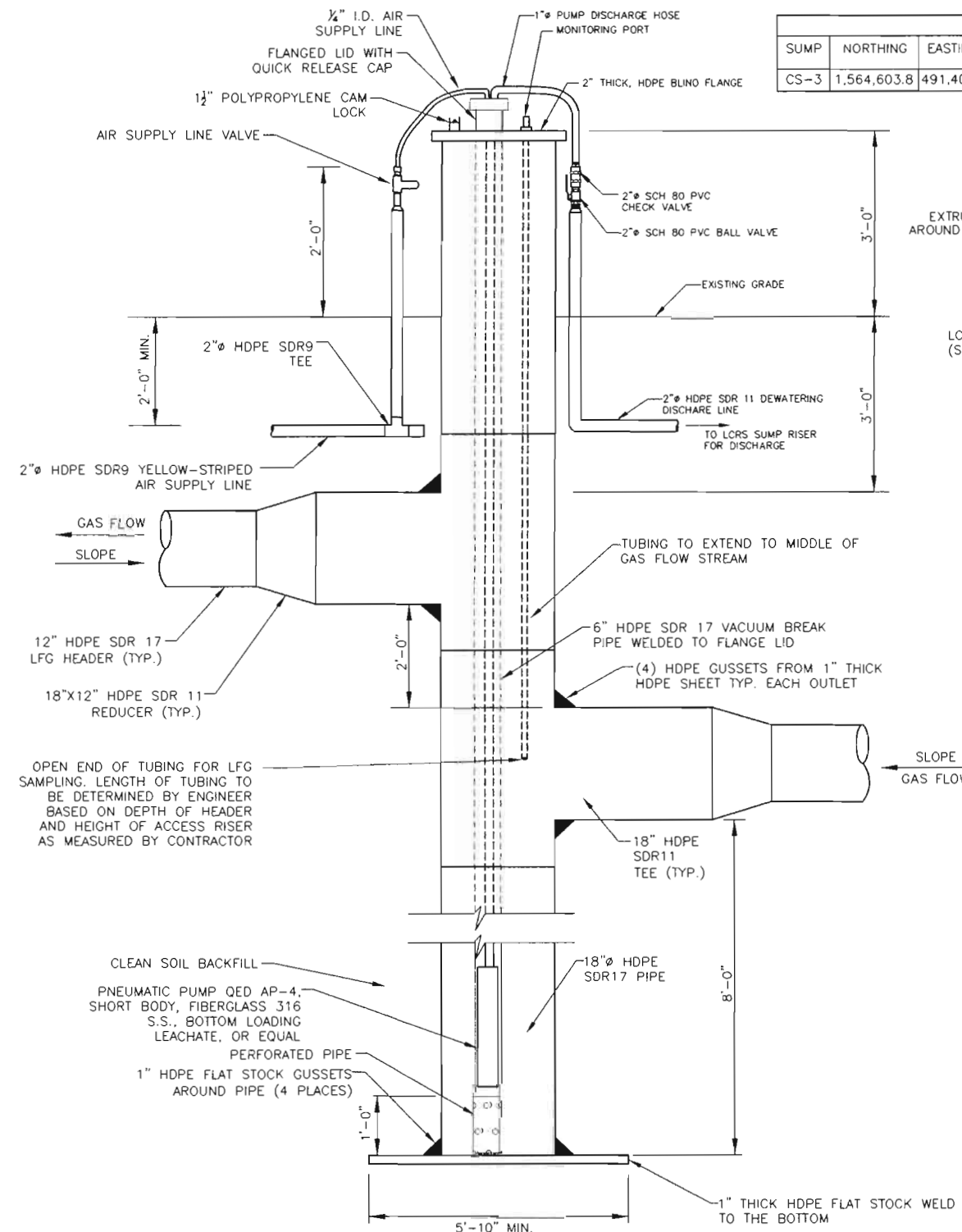
DWG. VISTA.LFG.C.2013.DETAIL

REV. 0

SCALE NO SCALE

DATE APRIL 2013

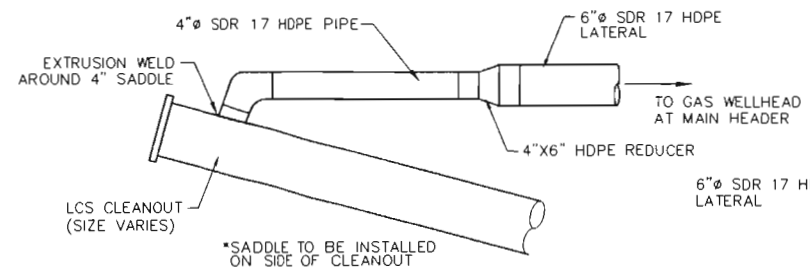
SHEET 3 OF 5



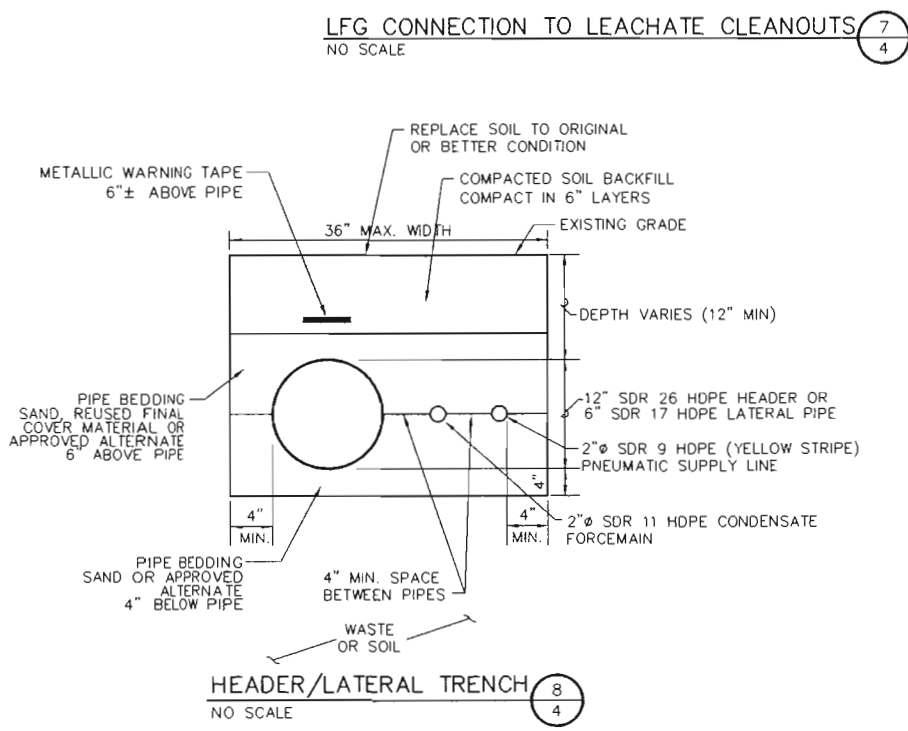
CONDENSATE SUMP DETAIL
NOT TO SCALE

- NOTES FOR SUMP:
- ONE SUMP IS SCHEDULED FOR INSTALLATION AS PART OF THIS PROJECT, CS-3. THE SUMP WILL BE FABRICATED BY THE CONTRACTOR IN THE FIELD.
 - CONTRACTOR TO INSTALL SUMP, INSTALL SUMP PUMP, AND MAKE ALL NECESSARY CONNECTIONS SO SUMP OPERATES AS INTENDED. CONTRACTOR TO TEST THE OPERATION OF THE SUMP PUMP. SUMP PUMP SCHEDULED FOR INSTALLATION WILL BE PNEUMATIC WITH THE DISCHARGE CONNECTION TO THE CONDENSATE FORCEMAIN.
 - CONDENSATE SUMP TO BE INSTALLED VERTICAL AND PLUMB ON LANDFILL SIDESLOPE. CONTRACTOR TO USE CLEAN SOIL TO MOUND AND GRADE.
 - SUMP PUMP AND FITTINGS WILL BE PROVIDED BY VISTA.
 - CONTRACTOR TO HAVE PROVISIONS AND PROCEDURES IN PLACE FOR HANDLING ANY LEACHATE ENCOUNTERED DURING CONDENSATE SUMP INSTALLATION.
 - THE SEPARATION ANGLE OF THE INLET AND OUTLET TO BE DETERMINED IN THE FIELD BASED ON THE CONSTRUCTED LOCATIONS OF THE HEADER PIPING.

SUMP SCHEDULE							
SUMP	NORTHING	EASTING	SUMP DIA.	INLET DIA.	OUTLET DIA.	APPROX. SURFACE ELEVATION	SUMP LENGTH BELOW GRADE
CS-3	1,564,603.8	491,403.2	18"	18"	18"	~111 FT	16 FT

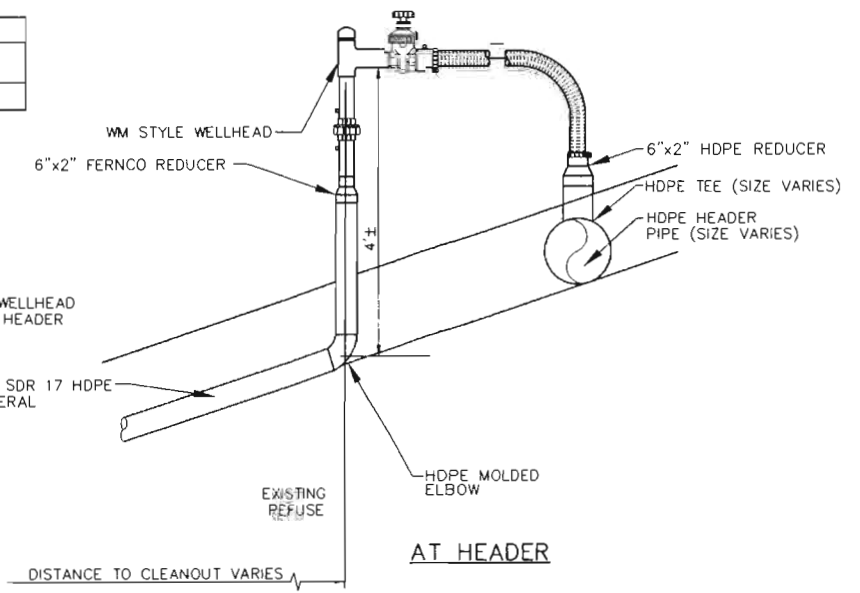


AT CLEANOUT
VIEW FROM ABOVE



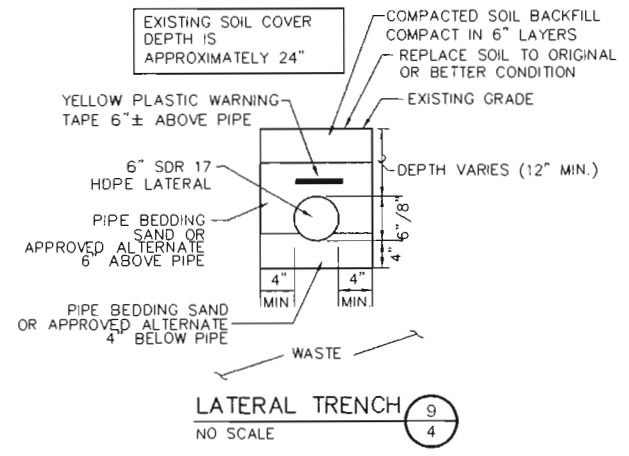
HEADER/LATERAL TRENCH
NO SCALE

- NOTES FOR ALL TRENCHES:
- CONTRACTOR TO RESTORE GRADE TO CONDITION PRIOR TO CONSTRUCTION (I.E., REGRADING, ETC.)
 - BEDDING MATERIAL MUST BE SUITABLE TO PROVIDE A STABLE FOUNDATION FOR PIPE GRADE AND IS TO BE FREE OF ROCKS (>2"). WASTE, AND VEGETATIVE MATTER.
 - SAND OR APPROVED ALTERNATE MATERIAL REQUIRED FOR PIPE BEDDING, APPROXIMATELY 4" BELOW PIPE AND 6" ABOVE PIPE FOR ALL BURIED LFG PIPING.
 - MULTIPLE PIPES MAY BE PLACED IN THE SAME TRENCH. SEE THE SITE PLANS FOR PIPES TO BE LOCATED IN EACH HEADER/LATERAL TRENCH.
 - THE MINIMUM SLOPE FOR ALL BURIED LFG PIPING INSIDE THE LIMITS OF WASTE IS 5%.



AT HEADER

- NOTES FOR LFG CONNECTIONS TO LCS SYSTEM:
- CONNECTION TO ONE (1) SETS OF LEACHATE CLEANOUT RISERS IS PROPOSED AS PART OF THIS CONSTRUCTION PROJECT.
 - LFG WELLHEAD WILL BE INSTALLED REMOTELY ALONG THE 12" HEADER (AS APPLICABLE) FOR LFG COLLECTION FROM THE LCS CLEANOUTS.
 - WELLHEADS ARE NOT TO BE INSTALLED ON THE REMOTE LEACHATE CLEANOUT CONNECTIONS WITHOUT AUTHORIZATION FROM VISTA. THESE REMOTE CONNECTIONS ARE TO BE CAPPED WITH FUSED CAPS UNLESS OTHERWISE DIRECTED BY VISTA.
 - ELECTROFUSION SADDLES MAY NOT BE USED.



LATERAL TRENCH
NO SCALE

DRAWING TITLE:			
DETAILS			
PROJECT:			
LANDFILL GAS COLLECTION AND CONTROL SYSTEM 2013 LFG SYSTEM EXPANSION			
SITE:			
VISTA LANDFILL, LLC VISTA LANDFILL APOPKA, FLORIDA			
CARLSON ENVIRONMENTAL CONSULTANTS, PC			
305 SOUTH MAIN STREET MONROE, NORTH CAROLINA 28112 FLORIDA COA# 27045 (704) 283-9765 FAX (704) 283-9755			
CEC PROJECT NO.	101.07.12	DWG. VISTA.LFG.C.2013.DETAIL	REV. 0
SCALE	NO SCALE	SHEET 4 OF 5	
DATE	APRIL 2013		

COPY

ISSUED FOR CONSTRUCTION

Certificate of Completion

CERTIFICATE OF COMPLETION

Substantial ☐

Final ☒

Project: 2013 GCCS Expansion

Date: April 26, 2013

Site: Vista Landfill

Description of Work Completed:

Installation of initial gas system including gas wells, condensate sump, gas header piping, air and forcemain.

Submitted by:

CONTRACTOR'S Representative

Signature:



Date: April 26, 2013

Name (print): D. Vince Coleman

Title: Project Director

Representing: Carlson Environmental Consultants, PC

I hereby certify that the above identified work has been inspected and that it has been properly installed.

I further certify that all required testing has been completed and that the results have been deemed acceptable. Also, the Work is in compliance with the drawings and specifications and is suitable for its intended use. Any identified exceptions to this Certificate of Completion are attached.

Certified by:



CQA ENGINEER/ENGINEER (if applicable)

Signature:

Date: April 26, 2013

Name (print): Seth A. Nunes

Title: Vice President

Representing: Carlson Environmental Consultants, PC

Certified/Accepted by:

OWNER'S REPRESENTATIVE

(strike one)

Signature:



Date: 4/26/13

Name (print): Deborah Perez

Title: District Manager

Representing: Vista Landfill, LLC

END OF CERTIFICATE OF COMPLETION

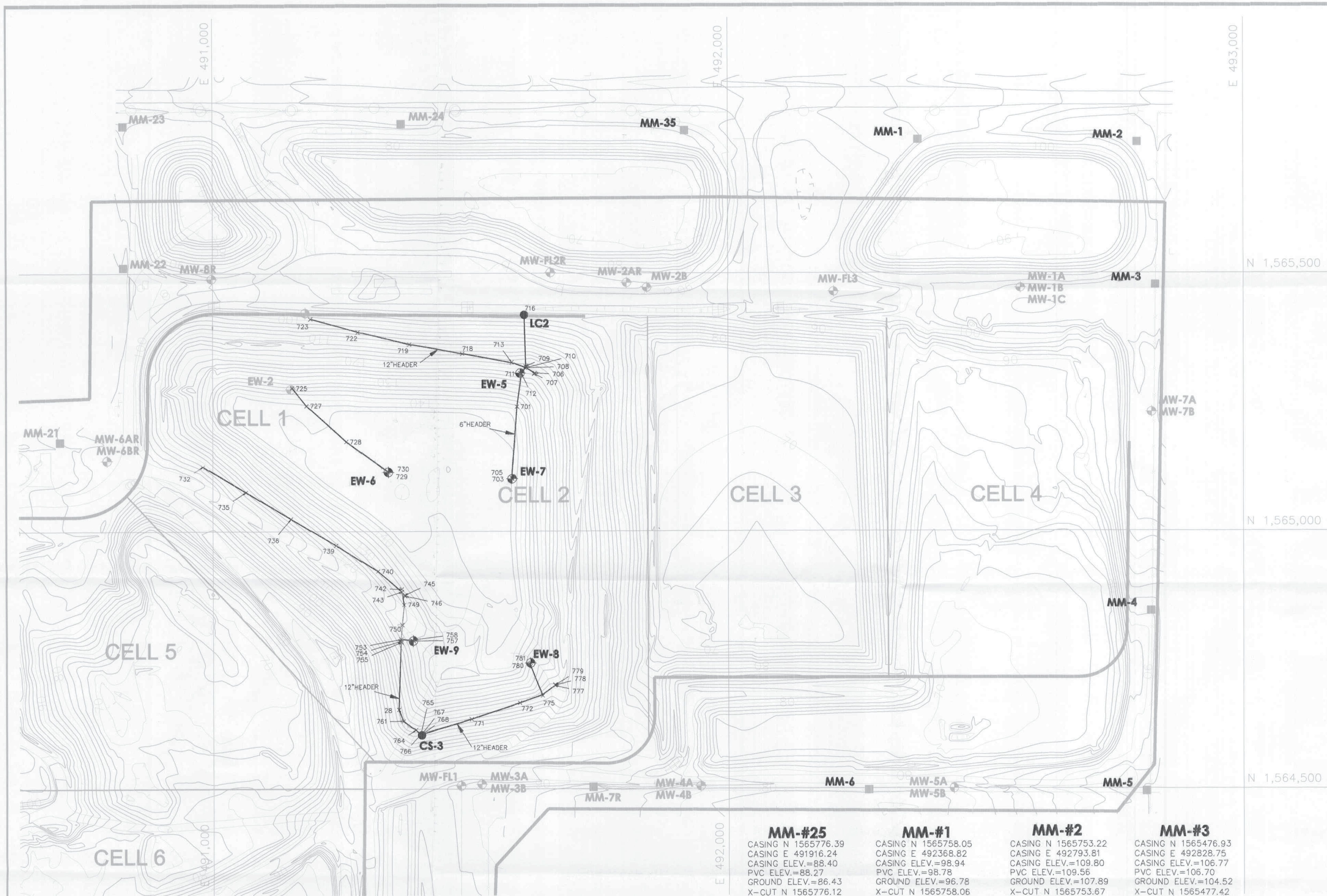
OR

CHECK HERE IF ATTACHMENTS ☐



APPENDIX F
AS-BUILT DRAWINGS

Peavey & Associates, Inc.



AS-BUILT POINT TABLE					
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION	GROUND ELEVATION
28	1564653.7	491358.9	111.80	top 12" header	114.32
701	1565240.4	491590.7	135.09	top 6" header	136.60
703	1565101.7	491581.4	147.48	ew7	142.71
705	1565104.1	491580.5	146.56	ew7 lat	142.71
706	1565305.3	491626.0	118.28	12" blind	
707	1565304.0	491624.1	121.45	air	
708	1565315.4	491606.7	117.42	12x6 tee	119.5
709	1565318.3	491607.9	123.77	12x6 riser	119.5
710	1565315.5	491608.8		riser	
711	1565305.2	491597.0	126.33	ew5	122.1
712	1565304.6	491599.6	124.87	ew5 lat	122.5
713	1565326.4	491580.6	115.69	top 12" header	116.28
716	1565418.0	491605.2	90.0	tie in lc2	92.91
718	1565343.3	491484.6	110.44	top 12" header	111.73
719	1565361.5	491381.0	105.52	top 12" header	107.28
722	1565385.2	491281.1	101.47	top 12" header	103.62
723	1565410.1	491189.2	96.68	12" Flange to flange	98.16
725	1565277.2	491153.8	129.56	6" tie-in at EW-2	132.56
727	1565242.8	491181.4	133.10	6" jumper	141.35
728	1565173.5	491258.3	137.20	6" jumper	145.00
729	1565114.6	491339.8	148.24	ew6 well	143.99
730	1565116.3	491337.8	148.24	ew6 lat	143.99
732	1565126.0	490980.6	102.06	12" 90	107.79
735	1565075.9	491063.8	110.23	top 12" header	112.54
736	1565083.8	491151.1	114.42	top 12" header	115.65
739	1564972.4	491238.2	119.56	top 12" header	120.87
740	1564921.5	491319.4	124.66	top 12" header	126.33
742	1564886.2	491365.1	127.16	2" fm valve	129.08
743	1564880.9	491365.3	133.42	4" header sample port	129.08
745	1564874.7	491371.2	133.43	2" air valve	129.36
746	1564872.7	491371.8	133.21	2" air valve	129.36
749	1564855.7	491369.7	125.08	18"x6" sleeve	127.09
750	1564816.4	491365.8	123.42	18"x6" sleeve	127.19
753	1564788.4	491363.6	122.52	12x6 tee	125.60
754	1564784.9	491363.8	125.74	air	125.60
755	1564783.1	491364.0	125.50	air	125.60
757	1564785.6	491387.2	135.78	ew9	130.12
758	1564787.0	491384.9	134.15	ew9 lat	130.12
761	1564631.3	491367.7	110.36	18"x6" sleeve	114.45
764	1564613.8	491391.8	109.82	18"x6" sleeve	114.30
765	1564605.3	491401.2	115.99	cs3 top	110.77
766	1564605.1	491401.0	109.86	top 12" header	110.77
767	1564606.2	491403.1	111.17	air	110.77
768	1564605.8	491403.4	111.05	air	110.77
771	1564634.8	491501.2	112.72	top 12" header	114.18
772	1564666.0	491595.1	117.56	top 12" header	119.67
775	1564679.9	491639.3	119.71	12x6 tee	121.75
777	1564699.7	491664.1	121.35	12" blind	122.28
778	1564700.3	491663.9	122.27	2" airline	122.28
779	1564700.8	491663.8	122.42	2"fm	122.28
780	1564742.2	491616.2	141.60	ew8	137.89
781	1564740.4	491614.8	140.63	ew8 lat	137.89

LEGEND

EXISTING FEATURES

- PROPERTY BOUNDARY
- PERMITTED LIMITS OF WASTE
- 10-FOOT CONTOUR LINE
- 2-FOOT CONTOUR LINE
- CELL BOUNDARY
- GROUNDWATER MONITORING WELL
- METHANE MONITORING DATA
- LFG HEADER/LATERAL
- LFG AIR SUPPLY LINE
- LFG CONDENSATE FORCEMAIN
- LFG HORIZONTAL COLLECTOR
- LFG WELLHEAD
- HORIZONTAL COLLECTOR SUMP

PROPOSED LFG 2013

- LFG HEADER/LATERAL
- LFG AIR SUPPLY LINE
- LFG CONDENSATE FORCEMAIN
- LFG VERTICAL EXTRACTION WELL
- LFG CONDENSATE SUMP
- LFG AIR/FM STUB UP
- LFG HEADER SAMPLE PORT
- LFG AIR/FM VALVES

MM-#25

CASING N 1565776.39
CASING E 491916.24
CASING ELEV.=88.40
PVC ELEV.=88.27
GROUND ELEV.=86.43
X-CUT N 1565776.12
X-CUT E 491916.39
X-CUT ELEV.=86.72

MM-#1

CASING N 1565758.05
CASING E 492368.82
CASING ELEV.=98.94
PVC ELEV.=98.78
GROUND ELEV.=96.78
X-CUT N 1565758.06
X-CUT E 492369.11
X-CUT ELEV.=96.92

MM-#2

CASING N 1565753.22
CASING E 492793.81
CASING ELEV.=109.80
PVC ELEV.=109.56
GROUND ELEV.=107.89
X-CUT N 1565753.67
X-CUT E 492793.76
X-CUT ELEV.=108.04

MM-#3

CASING N 1565476.93
CASING E 492828.75
CASING ELEV.=106.77
PVC ELEV.=106.70
GROUND ELEV.=104.52
X-CUT N 1565477.42
X-CUT E 492828.49
X-CUT ELEV.=105.05

MM-#4

CASING N 1564843.2628
CASING E 492819.7961
CASING ELEV.=94.15
PVC ELEV.=93.98
GROUND ELEV.=92.25
X-CUT N 1564843.77
X-CUT E 492819.67
X-CUT ELEV.=92.00

MM-#5

CASING N 1564495.24
CASING E 492810.89
CASING ELEV.=98.11
PVC ELEV.=97.95
GROUND ELEV.=96.23
X-CUT N 1564495.68
X-CUT E 492810.98
X-CUT ELEV.=96.61

MM-#6

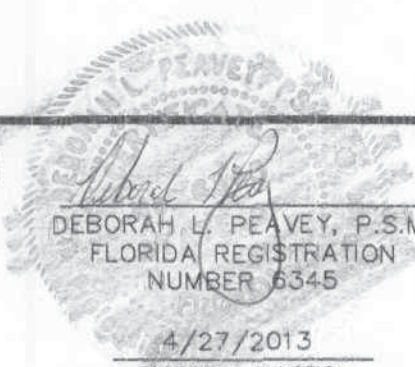
CASING N 1564497.73
CASING E 492271.64
CASING ELEV.=80.41
PVC ELEV.=80.09
GROUND ELEV.=78.88
X-CUT N 1564498.28
X-CUT E 492271.75
X-CUT ELEV.=78.89

NOTES

- AERIAL TOPOGRAPHY COMPILED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPH FLOWN ON JANUARY 14, 2013.
- AS-BUILT SURVEY COMPLETED BY PEAVEY & ASSOCIATES DATED MARCH 27, 2013.
- NOTE THAT SOME LFG SYSTEM FEATURES MAY BE DIFFERENT THAN SHOWN HERE DUE TO MODIFICATIONS MADE BY WMIF OR THEIR CONTRACTORS.

Peavey & Associates

SURVEYING & MAPPING PA
9399 N LAKE BUFFUM RD
FORT MEADE, FL 33841
PHONE: 863-738-4960
FLORIDA BUSINESS NO.7779



DRAWING TITLE:

AS-BUILT LFG SITE PLAN

PROJECT:

LANDFILL GAS COLLECTION AND CONTROL SYSTEM
2012 LFG SYSTEM EXPANSION

SITE:

WASTE MANAGEMENT INC. OF FLORIDA
VISTA LANDFILL
APOPKA, FLORIDA

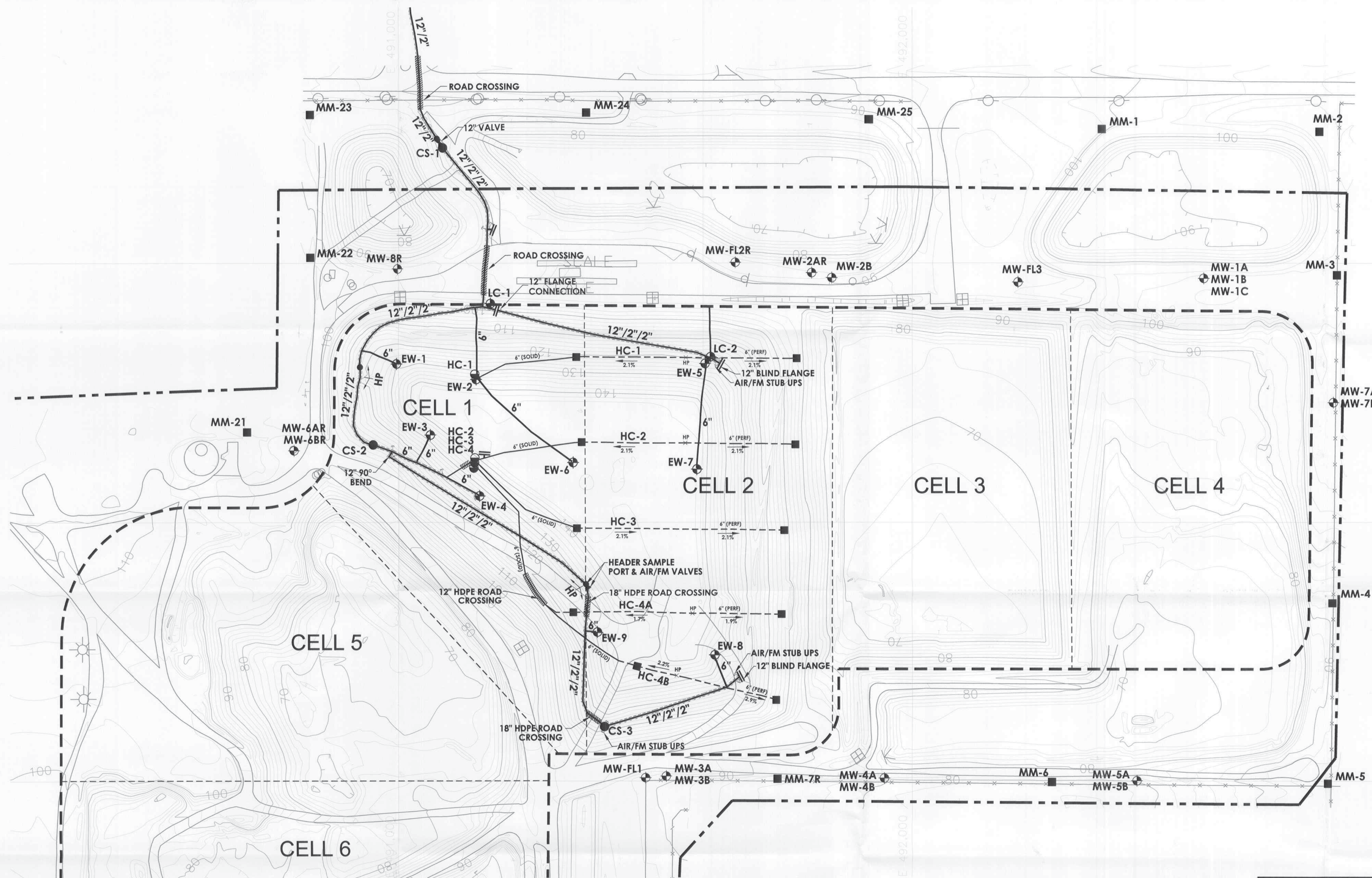
DWG. VISTA.LFG.2013.CONSTR.SITE-asbuilt.dwg

REV. 0

SCALE 1" = 100'

DESIGN DATE APRIL 2013

SHEET 1 OF 1



LEGEND

- | | | |
|--------------------------|-----------------------------|----------------------------|
| EXISTING FEATURES | | |
| --- | PROPERTY BOUNDARY | |
| --- | PERMITTED LIMITS OF WASTE | |
| --- | 10-FOOT CONTOUR LINE | |
| --- | 2-FOOT CONTOUR LINE | |
| --- | CELL BOUNDARY | |
| ⊕ | GROUNDWATER MONITORING WELL | CS-3 ● LFG CONDENSATE SUMP |
| ■ | METHANE MONITORING DATA | ● LFG AIR/FM STUB UP |
| --- | LFG HEADER/LATERAL | ● LFG HEADER SAMPLE PORT |
| --- | LFG AIR SUPPLY LINE | ▲ LFG AIR/FM VALVES |
| --- | LFG CONDENSATE FORCEMAIN | |
| --- | LFG HORIZONTAL COLLECTOR | |
| ⊕ | LFG WELLHEAD | |
| ■ | HORIZONTAL COLLECTOR SUMP | |



NOTES

1. AERIAL TOPOGRAPHY COMPILED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPH FLOWN ON JANUARY 14, 2013.
2. AS-BUILT SURVEY COMPLETED BY PEAVEY & ASSOCIATES DATED MARCH 27, 2013.
3. NOTE THAT SOME LFG SYSTEM FEATURES MAY BE DIFFERENT THAN SHOWN HERE DUE TO MODIFICATIONS MADE BY WMIF OR THEIR CONTRACTORS.

DRAWING TITLE: AS-BUILT LFG SITE PLAN (MARCH 27, 2013)		
PROJECT: LANDFILL GAS COLLECTION AND CONTROL SYSTEM 2012 LFG SYSTEM EXPANSION		
SITE: WASTE MANAGEMENT INC. OF FLORIDA VISTA LANDFILL APOPKA, FLORIDA		
CARLSON ENVIRONMENTAL CONSULTANTS, PC		
305 SOUTH MAIN STREET MONROE, NORTH CAROLINA 28112	FLORIDA COA# 27045	(704) 283-9765 FAX (704) 283-9755
CEC PROJECT NO. 101.07.14	DWG. VISTA.LFG.2013.ASBUILT	REV. 0
SCALE 1" = 100'	SHEET 1 OF 1	
DATE JULY 2013		