July 3, 2018

Arkansas Department of Environmental Quality
NPDES Branch, Water Division
5301 Northshore Drive
North Little Rock, AR 72118-5317

Attn: Ms. Carrie McWilliams, P.E.
NPDES Branch, Water Division

RE: North Sedimentation Basin Construction
Waste Management of Arkansas
Eco Vista Class I Landfill
Eco-Vista, LLC
NPDES Permit ARG160045C
AFIN: 72-00144 Solid Waste Permit No: 0290-S1-R3

Dear Ms. McWilliams:

On behalf of our client, Eco Vista, LLC – Eco Vista Class I Landfill, Shepherd Engineering Design Co., Inc. (SEDCo) is submitting this construction certification for the North Sedimentation Basin as per Part 1.3.3 of ARG160045. Eco Vista, LLC recently completed the construction of Cell 12 North at the Eco Vista Class 1 Landfill, located in Tontitown, Arkansas. As part of the 5-acre Cell 12 North Cell construction, a 7.3-acre stormwater sedimentation basin was constructed in accordance with the requirements of the ARG160000 and Recommended Standards for Wastewater Facilities, commonly referred to as “10 State Standards”.

The design and plans for the North Sedimentation Basin were completed by Terracon Consultants, Inc. They were included in a major permit modification application that was submitted to the Solid Waste Management Division (SWMD) of the ADEQ. The SWMD approved the major permit modification on October 1, 2014. During this major permit application; Terracon also submitted a Notice of Intent (NOI) and the Arkansas Form 1 with the design, plans and specifications to the Water Division of the ADEQ on November 15, 2013. The Water Division approved the North Sedimentation Basin and issued a permit (ARG160045C) on April 25, 2014 (**Attachment J**).

The construction of the sedimentation basin was completed in phases as the current landfill cells at Eco Vista Landfill have been built. The subgrade, berms and inlet culvert were constructed in 2016 as part of Cell 10/11 North Cell construction and completed by the earthwork contractor. The construction of the remaining earthwork components were completed in 2018, as part of Cell 12 North Cell construction, which included the installation of the clay liner (seal), principle spillway, discharge pipe, emergency spillway, inlet/outlet treatments (riprap aprons), pond gauges and vegetation and was completed by CEG Construction, Inc. Construction Quality Assurance (CQA) observation, testing, and documentation was provided by Shepherd Engineering Design Co. Inc. (SEDCo). Earthwork activities for the North Sedimentation Basin began on March 26, 2018 and were finished on June 17, 2018. The placement of clay liner in the North Sedimentation Basin began on May 11, 2018 and was completed on June 10, 2018. Cell 12 North Cell construction drawings that show the North Sedimentation Basin are presented in **Attachment A**.

Design

- The basin shape was slightly modified to accommodate a new scale house location (**Attachment B**). The basin was reduced to approximately 7.3 acres in size. This reduced the capacity of the basin from approximately 2,704,024 ft^3 = 20,226,105 gallons to a capacity of 2,034,990 ft^3 = 15,221,725 gallons. This new volume was determined from the as built survey (shown in **Attachment C**) and are calculated from the basin floor elevation (approximately elevation = 1282 feet) to invert elevation of emergency spillway (elevation = 1290 feet). Therefore, the constructed basin can hold the run-off from both a 25-year, 24-hour (8,992,875 gallons) and a 100-year, 24-hour (10,991,292 gallons) storm event based on the calculation submitted by Terracon in the Stormwater Management Plan, Section 2.2 in November 2013.

Construction Summary

- Top of berm width: 24 feet wide to accommodate vehicles;
- Inner and outer berm slopes: Not steeper that 3:1 and not flatter than 4:1 (**Attachment C**);
- Approximately 2 feet of freeboard: At elevation = 1288 feet (top of principle spillway), approximate volume is 1,460,160 ft^3 = 10,921,966 gallons. The invert of the emergency spillway is at elevation 1290 feet;
- Design Depth: 6 feet;
- Erosion Control: The berms (interior and exterior) were seed and mulched to promote vegetative growth. Inlet and outlet riprap aprons as shown on construction drawings. The emergency spillway lined with geotextile and riprap;
- Seal: Clay liner was installed at 12" thick with a minimum permeability of less than 1 x 10^{-7} cm/sec; and
- Pond level gauge: 4 markers installed.

Construction Quality Assurance

The Construction Quality Assurance (CQA) activities performed by SEDCo were to confirm that the North Sedimentation Basin was constructed in accordance to the project drawings, specification and CQA Plan. SEDCo followed the CQA Plan that was approved by the SWMD *["Construction Quality Assurance Plan", Eco Vista Class I Landfill, Lateral Expansion Area, prepared by Terracon Consultants, Inc., December 2012 (Revised October 2013*)]. We realize the requirements based on a CQA Plan for landfill liner systems is probably more that what is needed, but we felt that it was appropriate to implement an approved CQA Plan for the site.

Construction activities observed by SEDCo's CQA personnel for the project included the following:

1. In 2016, the North Sedimentation Basin was cut and filled to achieve the required subgrade elevations. In fill locations, the subgrade material was placed and compacted to achieve the required elevations. The subgrade consisted of material from an on-site borrow source and it was placed in approximately 9-inch thick loose lift. In 2018, the subgrade was proofrolled with an osculating end dump truck to detect potentially soft or loose zones. There were no soft zones detected.

2. The Clay Liner (i.e., seal) was placed and compacted in the sedimentation basin area to achieve the required elevations. The Clay Liner consisted of clay material which was obtained from two (2) off-site borrow source and provided by WMAR. Based on the total quantity of Clay Liner to be placed, 11,777 CY, samples were collected to meet the frequency requirements of the CQA Plan. There were two (2) bucket samples collected (1 per site) and tested as preconstruction samples (**Attachment D**).

   During construction, three (3) construction samples were collected and tested, based on the sample frequency of one per 5,000 CY (**Attachment E**). The clay material was hauled and placed into a stockpile; which began prior to the start of construction and finished a couple of weeks into construction. The Clay Liner was placed in approximately 9-inch loose lifts (6-inch compacted lift thickness) and compacted to a minimum relative compaction of 95 percent of the maximum dry unit weight, as determined by the Standard Proctor Compaction Test i.e., ASTM D698.

   As part of CQA activities, geotechnical testing was performed on the Clay Liner components as described in the CQA Plan. Depending on the specific test, testing was performed in-place or at the off-site geotechnical laboratory. The following geotechnical tests were performed:

- In-place nuclear moisture/density tests were performed on compacted lifts of the Clay Liner material. The tests were performed in general accordance with ASTM D2922 and ASTM D3017.

  The CQA Plan requires one test sample per 10,000 square foot per lift. The approximate total area of the North Sedimentation Basin was 7.3 acres (317,998 SF), which is thirty-two (32) per lift based on the required one per 10,000 SF. A total of seventy-eight (78) field moisture/density tests or thirty-nine (39) per lift were performed for the Clay Liner in the North Sedimentation Basin. This total number of test exceeds the minimum required acceptable sample frequency of one per 10,000 SF required by the CQA Plan. The results of the in-place nuclear moisture/density tests and the testing locations per lift are presented in **Attachment F**.

- Soil classification, Atterberg limits, standard proctor, grain size analysis and percent passing the No. 200 sieve tests, were conducted on the soils used for the Secondary Clay Liner material. The tests were conducted in accordance with ASTM D2487, ASTM D4318, ASTM D698, ASTM D422, and ASTM D1140.

- Hydraulic conductivity and moisture content tests were performed on Shelby tube samples of material used for the Clay Liner. The hydraulic conductivity tests were performed in general accordance with ASTM D5084, and the moisture content tests were performed in accordance with ASTM D2216, and ASTM D698.

  The CQA Plan requires one Shelby tube sample per 40,000 square foot per lift. The approximate total area of the North Sedimentation Basin was 7.3 acres (317,998 SF)). Based on that area, the required number of Shelby tubes per lift would be eight (8). A total of twenty (20) Shelby tube samples (ten (10) per lift) for permeability tests were obtained from the newly constructed Clay Liner. The Shelby tube samples were sent to the TRI laboratory in Austin, Texas and were tested for permeability per ASTM D5084. The results of the Shelby tube samples are presented in **Attachment G**.

SEDCo supplied a nuclear gauge (i.e., CPN Corporation Model MC-1DRP, Serial No. M880904573), which was used to perform the moisture/density tests. A grid layout of the site was used to visually locate the in-place tests and sample locations. Since visual positioning of test locations was used, the locations and elevations of the tests and samples given in the appendices are only approximate.

The project photographs taken by the CQA technician and the CQA Technician daily reports are included in **Attachment H** and **Attachment I**.

If you should have any comments, please do not hesitate to contact me at (870) 391-1543 or Jeff Shepherd at (405) 823-7772.

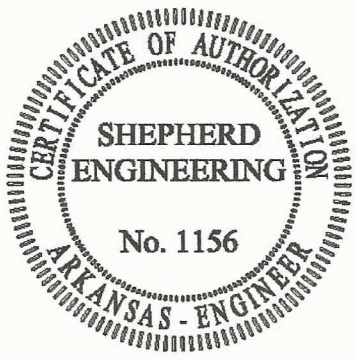
Sincerely,
Shepherd Engineering Design Co., Inc.

Bryan W. Bailey, P.E.
Project Engineer

Jeff A Shepherd, P.E.
Senior Engineer

Cc: Mr. David Conrad – Waste Management of Arkansas (1 Copy of Report)
Mr. Tim Murray – Eco Vista Class I Landfill (1 Copy of Report)
Ms. Jodi Reynolds – Environmental Protection Manager – Arkansas (1 Copy of Report)

Attachments: Attachment A – Construction Drawings
Attachment B – Construction Drawings: Relocated Scalehouse
Attachment C – Surveyor's As-Built Drawings
Attachment D – Clay Liner: Preconstruction Testing
Attachment E – Clay Liner: Construction Testing
Attachment F – Moisture/Density Test Results & Approximate Location of Field Tests of Clay Liner (Lifts 1 and 2)
Attachment G – In-Situ Permeability Testing
Attachment H – Construction Photographs
Attachment I – CQA Technician Daily Reports
Attachment J – ARG160045C (Complete Construction Application)



ATTACHMENT A
Construction Drawings

STORMWATER BASIN OUTLET STRUCTURE (36 / 1415)

EMERGENCY SPILLWAY (37 / 1415)

N 666,566.6
E 645,101.4

N 666,496.7
E 645,555.1

N 666,501.4
E 646,068.6

NORTH SED BASIN PERIMETER ROAD WITH CLASS 7 AGGREGATE

SEDIMENT MEASURING GAUGE (39 / 1415)

NORTH SEDIMENTATION BASIN

LANDFILL ENTRANCE ROAD

N 666,235.5
E 645,073.9

CULVERT OUTLET TREATMENT
EXISTING DUAL 42" CULVERTS (31 / 1415) (33 / 1415)

CULVERT INLET TREATMENT
EXISTING DUAL 42" CULVERTS (32 / 1415)

EXISTING WATER LINE
ASBUILT ELEVATIONS

12" DIA. DISCHARGE PIPE OUTLET
N 666,684.3; E 644,990.3
INVERT EL. = 1281.36'

12" DIA. DISCHARGE PIPE CROSSING OF EXISTING WATER LINE
PIPE (INVERT) EL. = 1281.4195'
WATER LINE (TOP OF PIPE) = 1279.72'
APPROX. SEPARATION = 1.6995'
(SEE NOTES 5 & 6)

12" DIA. DISCHARGE PIPE INLET
N 666,610.4; E 645,096.4
INVERT EL. = 1282.00'

EXISTING 18" RCP CULVERT
EXISTING 24" RCP CULVERT

38 / 1415
OUTLET DRAINAGE CHANNEL
NORTH SEDIMENTATION BASIN
LENGTH = 339.7'; SLOPE = 0.4%
(SEE NOTE 5)

12" DIA. DISCHARGE PIPE
SLOPE = 0.5%
LENGTH = 127.9'

N 666,671.4
E 645,271.0

N 666,670.9
E 645,286.0

N 666,640.1
E 645,269.6

N 666,639.1
E 645,284.6

NORTH SEDIMENTATION BASIN

LEGEND:

- PROPOSED CONTOUR
- AERIAL SURVEYED FENCE
- AERIAL SURVEYED ROAD (PAVED)
- AERIAL SURVEYED ROAD (UNPAVED)
- EXISTING CONTOUR
- LANDFILL PROPERTY BOUNDARY
- EXISTING CLASS I PERMIT
- CLOSED CLASS I FOOTPRINT
- NEW EXPANSION CLASS I FOOTPRINT
- LFM — EXISTING LEACHATE FORCE MAIN
- LFG — EXISTING LGF HEADER
- W — EXISTING WATERLINE
- FO — EXISTING FIBER OPTIC
- SS — EXISTING SANITARY SEWER
- UGE — EXISTING UNDERGROUND UTILITY
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING CULVERT
- EXISTING PIEZOMETER/WELL
- EXISTING GAS PROBE LOCATION
- EXISTING MONITORING WELL
- EXISTING SITE STRUCTURES

0 60' 120'
SCALE IN FEET

NOTES:

1. EXISTING AERIAL TOPOGRAPHIC MAP INFORMATION PROVIDED BY SOUTHERN RESOURCES MAPPING CORP., AND COMPLIED FROM AERIAL PHOTOGRAPHY DATED 20 DECEMBER 2016 AND COMPILED JANUARY 2017.
2. PROPERTY BOUNDARY SUPPLIED BY OWNER.
3. NORTH SEDIMENTATION BASIN TO BE LINED WITH 1-FOOT OF CLAY COMPACTED TO 95% STANDARD PROCTOR AT +0MC WITH K ≤ 1X10-7 CM/SEC.
4. NORTH SEDIMENTATION BASIN – AREA TO BE LINED WITH COMPACTED CLAY LINER = 8.83 AC.
5. THERE ARE EXISTING UNDERGROUND UTILITIES IN THIS LOCATION AND THE SITE SURVEYOR WILL NEED TO MARK THEM BEFORE ANY EXCAVATION CAN BE PERFORMED. ADDITIONALLY, THE OUTLET DRAINAGE CHANNEL AND 12" DISCHARGE PIPE MAY NEED TO BE ADJUSTED BASED ON FIELD CONDITIONS AND DEPTH OF EXISTING UNDERGROUND ELECTRIC, WATER LINE AND FORCEMAIN IN THIS AREA.
6. ASBUILT OF WATER LINE COMPLETED DURING GAS PLANT CONSTRUCTION.

0 30' 60'
SCALE IN FEET

SHEPHERD ENGINEERING CERTIFICATE OF AUTHORIZATION No. 1156 ARKANSAS – ENGINEER

STATE OF ARKANSAS
BRYAN W. BAILEY
REGISTERED PROFESSIONAL ENGINEER
No. 18899
02/05/2018

☐ CLIENT APPROVED: date

☐ CLIENT APPROVED AS NOTED: date

REVISIONS

NO.	DATE	DESCRIPTION

510 East Memorial Road
Suite C-1
Oklahoma City, OK 73114
Phone: (405) 996-5300
Fax: (405) 488-0229

DRN	BWB
DES	BWB
CHK	JAS
APP	JAS

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

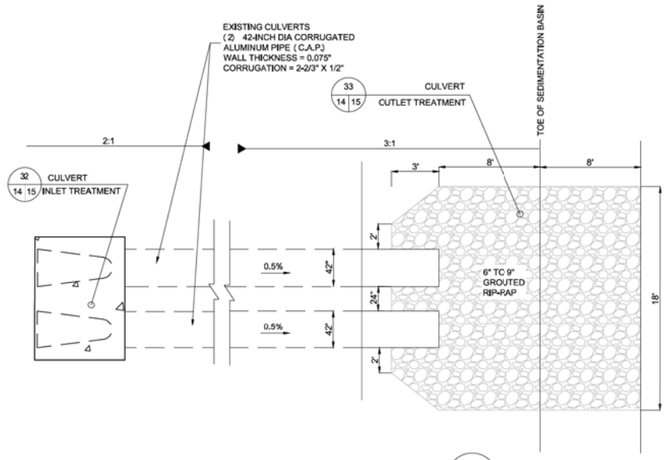
ECO-VISTA, LLC
ECO VISTA CLASS 1 LANDFILL
WASHINGTON COUNTY, ARKANSAS
PERMIT NO.: 0290-S1-R3

WASTE MANAGEMENT

CELL 12 NORTH CONSTRUCTION

NORTH SEDIMENTATION BASIN

DATE:	JUNE 2017
PROJECT NO.:	17029
FILE NAME:	17029C14.DWG
DRAWING NO:	14 OF 15



DOUBLE CULVERT INSTALLATION 31 / 14 15
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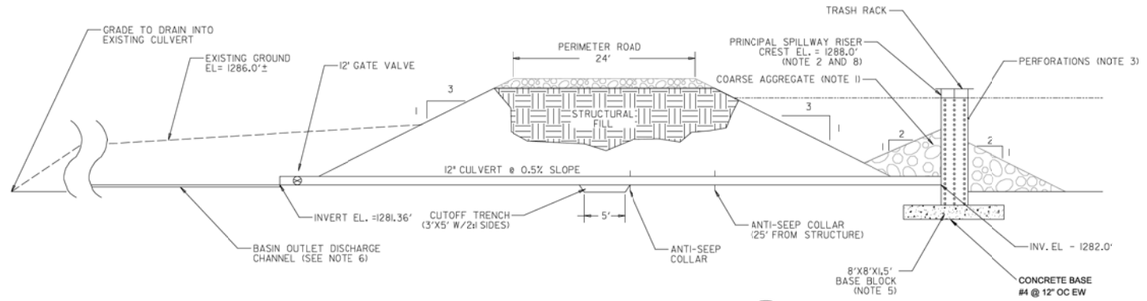
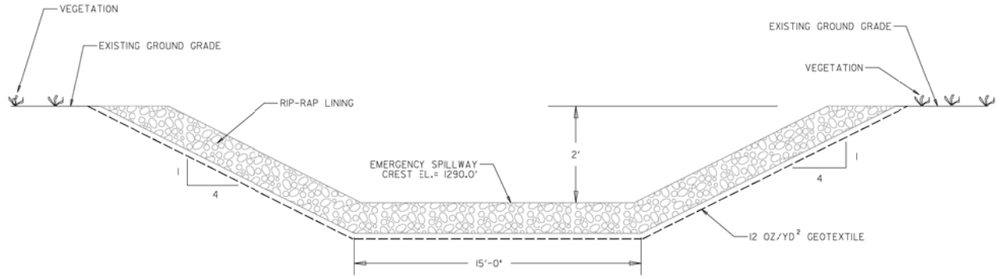


STORMWATER BASIN OUTLET STRUCTURE 36 / 14 15
SCALE: NOT TO SCALE



EMERGENCY SPILLWAY DETAIL 37 / 14 15
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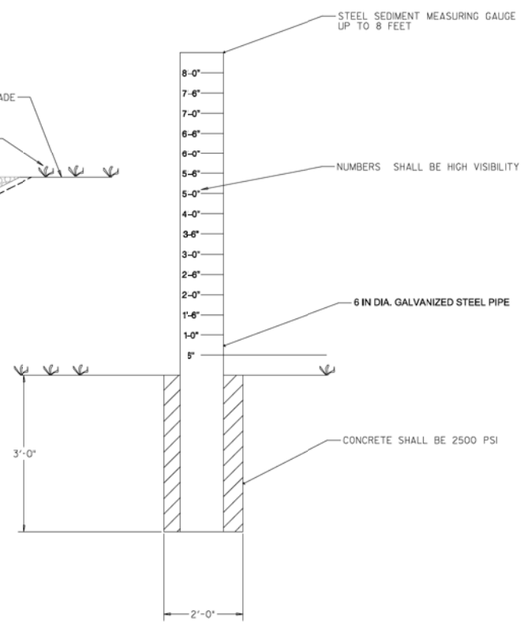
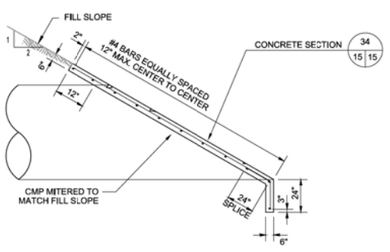
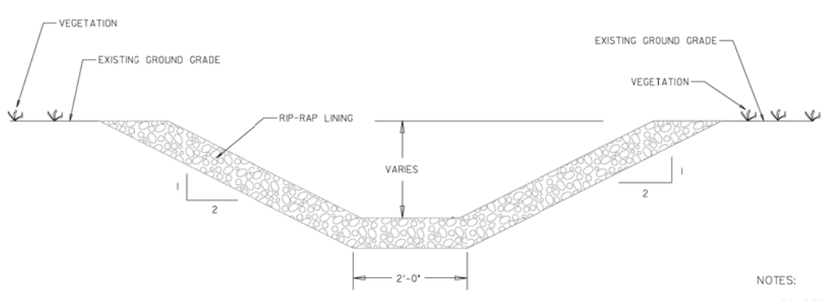


SEDIMENT MEASURING GAUGE 39 / 14 15
SCALE: NOT TO SCALE



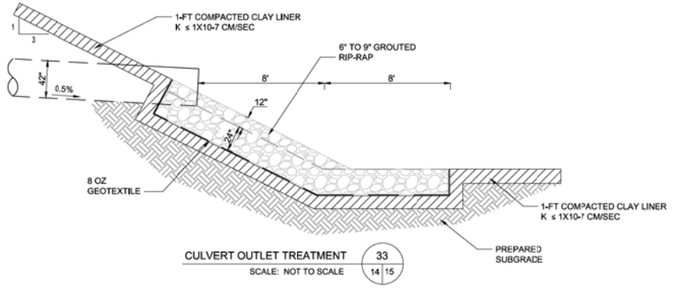
CULVERT INLET TREATMENT 32 / 14 15
SCALE: NOT TO SCALE



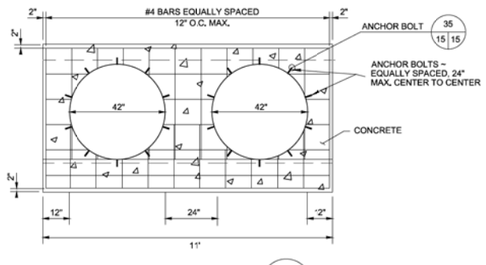
STORMWATER BASIN OUTLET DRAINAGE CHANNEL 38 / 14 15
SCALE: NOT TO SCALE

NOTES:

1. COARSE AGGREGATE FOR PROTECTION OF SEDIMENT BASIN PRINCIPLE SPILLWAY RISER SHALL BE STONE WITH $D_{85} > 1.2"$.
2. THE PRINCIPLE SPILLWAY RISER SHALL BE 36-INCH DIAMETER ALUMINUM COATED CORRUGATED METAL PIPE (ACCMP) OR GALVANIZED STEEL PIPE.
3. THE RISER PIPE SHALL BE PERFORATED WITH 1-INCH DIAMETER DEWATERING ORIFICES, PLACED IN 8 HOLES PER ROW HORIZONTALLY. VERTICAL SPACING BETWEEN ROWS SHALL BE 6-INCHES. DEWATERING ORIFICES NOT SHOWN TO SCALE FOR CLARITY.
4. DIMENSIONS AND ELEVATIONS ARE NOMINAL UNLESS OTHERWISE INDICATED AND MAY BE ADJUSTED BASED ON FIELD CONDITIONS.
5. EMBEDMENT OF PRINCIPAL SPILLWAY RISER IN REINFORCED CONCRETE BASE SHALL BE AT LEAST 0.75-FT.
6. RIPRAP FOR THE BASIN INLET AND OUTLET APRONS SHALL HAVE A D_{50} = 6" AND D_{max} = 9" AND MAY BE REPLACED WITH AN EQUIVALENT MATERIAL. RIPRAP APRON SHALL BE A MINIMUM OF 18-INCHES IN THICKNESS AND BE UNDERLAIN BY AN 8 OZ/YD² GEOTEXTILE SEPARATOR.
7. SEDIMENT CLEANOUT ELEVATION SHALL BE MARKED ON SILT GAUGE. WHEN SEDIMENT ACCUMULATION REACHES THE MARKER OR IF THE MARKER IS OBSCURED BY WATER FOR 90 DAYS. THE SEDIMENT BASIN SHALL BE CLEANED.
8. RIPRAP APRON SHALL HAVE D_{50} = 12" AND D_{max} = 18" AND MAY BE REPLACED WITH AN EQUIVALENT MATERIAL. INLET RIPRAP SHALL BE A MINIMUM OF 24-INCHES IN THICKNESS AND BE UNDERLAID BY A 12 OZ/YD² GEOTEXTILE SEPARATOR.
9. CULVERT (12-IN) SHALL BE A HEAVY DUTY AASHTO CORRUGATED HDPE PIPE WITH SMOOTH INTERIOR.



CULVERT OUTLET TREATMENT 33 / 14 15
SCALE: NOT TO SCALE



CONCRETE SECTION 34 / 15 15
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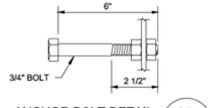

ANCHOR BOLT DETAIL 35 / 15 15
SCALE: NOT TO SCALE

CERTIFICATE OF AUTHORIZATION NUMBER
SHEPHERD ENGINEERING
No. 1156
ARKANSAS - ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 16899
BRYAN W. BAILEY
02/05/2018

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ECO VISTA CLASS 1 LANDFILL
WASHINGTON COUNTY, ARKANSAS
PERMIT NO.: 0290-S1-R3
CELL 12 NORTH CONSTRUCTION

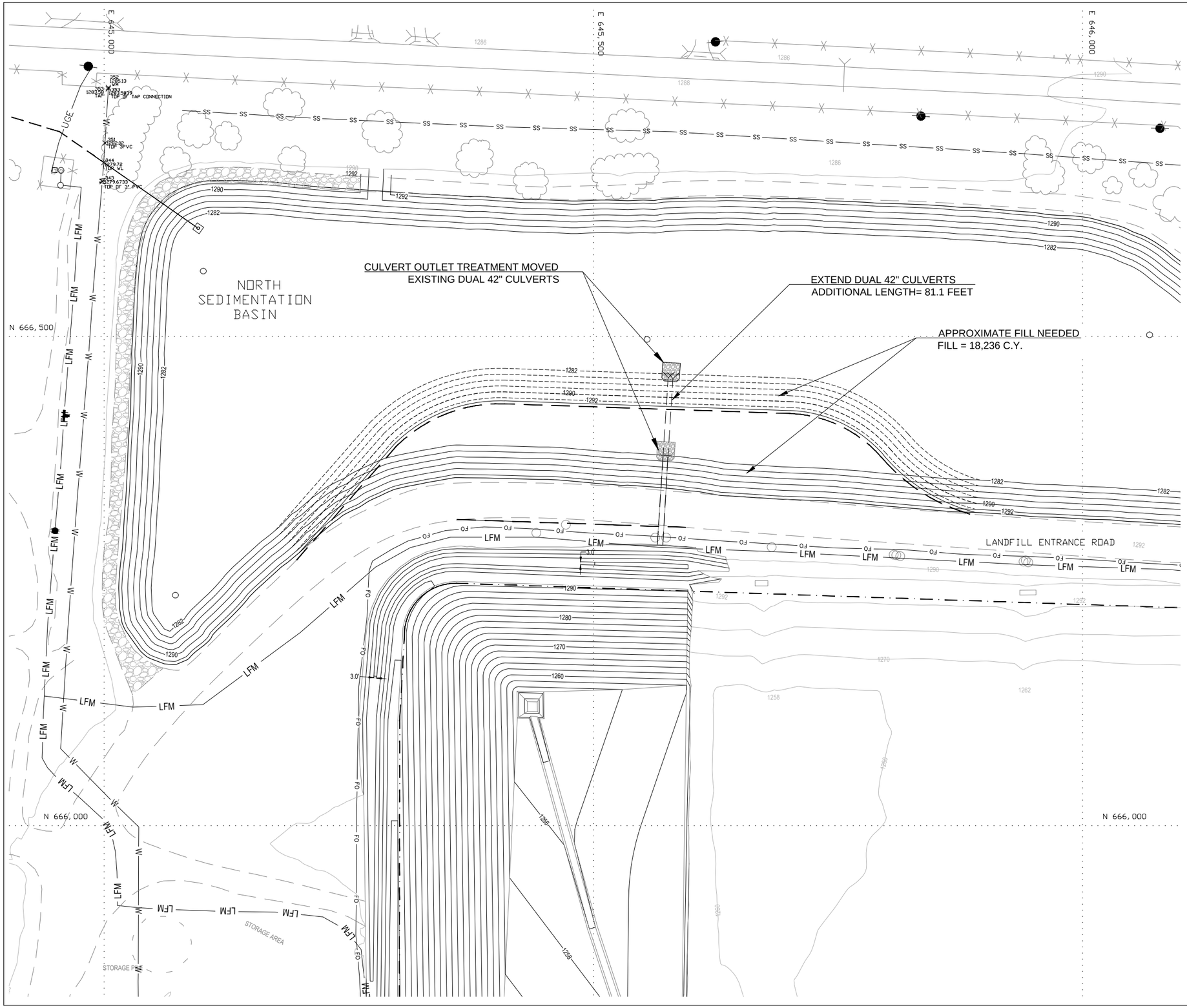
WASTE MANAGEMENT

NORTH SEDIMENTATION BASIN DETAILS

DATE: JUNE 2017
PROJECT NO.: 17029
FILE NAME: 17029C07-C12_C15

DRAWING NO:
15 OF 15

ATTACHMENT B
Construction Drawings – Relocated Scale house



LEGEND:

- PROPOSED CONTOUR
- AERIAL SURVEYED FENCE
- AERIAL SURVEYED ROAD (PAVED)
- AERIAL SURVEYED ROAD (UNPAVED)
- EXISTING CONTOUR
- LANDFILL PROPERTY BOUNDARY
- EXISTING CLASS I PERMIT
- CLOSED CLASS I FOOTPRINT
- NEW EXPANSION CLASS I FOOTPRINT
- LFM — EXISTING LEACHATE FORCE MAIN
- LFG — EXISTING LGF HEADER
- W — EXISTING WATERLINE
- FO — EXISTING FIBER OPTIC
- SS — EXISTING SANITARY SEWER
- UGE — EXISTING UNDERGROUND UTILITY
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING CULVERT
- EXISTING PIEZOMETER/WELL
- EXISTING GAS PROBE LOCATION
- EXISTING MONITORING WELL
- EXISTING SITE STRUCTURES

0 50' 100'
SCALE IN FEET

NOTES:

1. EXISTING AERIAL TOPOGRAPHIC MAP INFORMATION PROVIDED BY SOUTHERN RESOURCES MAPPING CORP., AND COMPILED FROM AERIAL PHOTOGRAPHY DATED 20 DECEMBER 2016 AND COMPILED JANUARY 2017.
2. PROPERTY BOUNDARY SUPPLIED BY OWNER.
3. NORTH SEDIMENTATION BASIN TO BE LINED WITH 1-FOOT OF CLAY COMPACTED TO 95% STANDARD PROCTOR AT +OMC WITH K ≤ 1X10-7 CM/SEC.
4. NORTH SEDIMENTATION BASIN CONTOURS ARE TOP OF CLAY LINER.
5. NEEDED FILL WAS CALCULATED BY VOLUME = [(AREA1+AREA2)/2] X DEPTH. 2 FOOT INTERVALS
6. FILL VOLUME WAS CALCULATED FROM ELEVATION = 1281-FT TO ELEVATION=1292-FT

CERTIFICATE OF AUTHORIZATION
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No. 1156
ARKANSAS - ENGINEER

☐ CLIENT APPROVED: _____ date

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DESIGN COMPANY INCORPORATED

ECO-VISTA, LLC
ECO VISTA CLASS 1 LANDFILL
WASHINGTON COUNTY, ARKANSAS
PERMIT NO.: 0290-S1-R3
SCALE HOUSE

WASTE MANAGEMENT

SITE LAYOUT

DATE: MARCH 2018
PROJECT NO.: ---
FILE NAME: SCALE HOUSE_3-2-18.DWG
DRAWING NO:
1 OF 2

NORTH
SEDIMENTATION
BASIN

INBOUND SCALE

OUTBOUND SCALE

SCALEHOUSE

OUTBOUND SCALE

RAMP

5" CONCRETE CLEANING PAD

EMPLOYEE PARKING

CELL 12

3:1

3.0'

1282

1290

1292

1280

1270

1260

1258

1262

1256

LFM

FO

LEGEND:

- PROPOSED CONTOUR
- AERIAL SURVEYED FENCE
- AERIAL SURVEYED ROAD (PAVED)
- AERIAL SURVEYED ROAD (UNPAVED)
- EXISTING CONTOUR
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- EXISTING CLASS I PERMIT
- CLOSED CLASS I FOOTPRINT
- NEW EXPANSION CLASS I FOOTPRINT
- EXISTING LEACHATE FORCE MAIN
- EXISTING LGF HEADER
- EXISTING WATERLINE
- EXISTING FIBER OPTIC
- EXISTING SANITARY SEWER
- EXISTING UNDERGROUND UTILITY
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING CULVERT
- EXISTING PIEZOMETER/WELL
- EXISTING GAS PROBE LOCATION
- EXISTING MONITORING WELL
- EXISTING SITE STRUCTURES

0 30' 60'
SCALE IN FEET

SHEPHERD ENGINEERING
CERTIFICATE OF AUTHORIZATION
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ARKANSAS - ENGINEER

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ECO-VISTA, LLC
ECO VISTA CLASS 1 LANDFILL
WASHINGTON COUNTY, ARKANSAS
PERMIT NO.: 0290-S1-R3

SCALE HOUSE

WASTE MANAGEMENT

SCALE HOUSE

DATE: MARCH 2018
PROJECT NO.: ---
FILE NAME: SCALE HOUSE_3-2-18.DWG
DRAWING NO:
2 OF 2

ATTACHMENT C
Surveyor's As-Built Drawings

12" ADS INV. = 1280.9

MW-16

TOP OF EMERGENCY SPILL WAY = 1290.0

MW-15

TOP OF 36" SPILLWAY RISER = 1288.0
12" ADS INV. = 1282.0

SEDIMENT MEA. GAUGE

SEDIMENT MEA. GAUGE

DUAL 42" CMP INV. = 1282.7

SEDIMENT MEA. GAUGE

DUAL 42" CMP INV. = 1284.1

SEDIMENT MEA. GAUGE

MW-17

SURVEYOR'S NOTES

1. All point data are as-built surveyed points.
2. Pond contours shown at top of as-built clay liner.
3. All locations and elevations are are based on NAD83 State Plane Projection System, Arkansas North Zone, and are relative to below Eco Vista Landfill control monuments:

NO.	NORTHING	EASTING	ELEVATION
2	666639.51	646397.86	1299.17
15	662821.94	645307.22	1219.38
16	664192.69	644248.73	1286.78

REGISTERED
STATE OF ARKANSAS
NO. 1579
SIGNATURE
06/16/2018
JOHNNY M. L. MASON
PROFESSIONAL LAND SURVEYOR

CERTIFICATE OF AUTHORIZATION
MASON SURVEYING & CONSULTING
No.2876
ARKANSAS

CERTIFICATION

I hereby certify this drawing and the information shown heron was taken from field surveys made by me or under my supervision and was completed on:

Top of Subgrade - 03/22/2018
Top of Clay Liner - 06/16/2018

Johnny M. L. Mason, Professional Land Surveyor #1579
Date: 06/16/2018

LEGEND:

- AERIAL SURVEYED ROAD (PAVED)
- AERIAL SURVEYED ROAD (UNPAVED)
- EXISTING CONTOUR
- LANDFILL PROPERTY BOUNDARY
- EXISTING CONSTRUCTED CLASS I FOOTPR
- FM — EXISTING LEACHATE FORCE MAIN
- LFG — EXISTING LGF HEADER
- W — EXISTING WATERLINE
- FO — FO — EXISTING FIBER OPTIC
- G — EXISTING GAS PROBE
- MW-15 — EXISTING MONITORING WELL
- +1.1 — MEASURED CLAY LINER THICKNESS

N

0 100' 200'
SCALE IN FEET

REVISIONS

NO.	DATE	DESCRIPTION

mason
SURVEYING & CONSULTING, INC.
PO BOX 571 • GENTRY, AR 72734 • (479)238-3109

ECO-VISTA, LLC
ECO VISTA CLASS 1 LANDFILL
2210 WASTE MANAGEMENT DRIVE, SPRINGDALE, AR 72762
NORTH SEDIMENTATION BASIN CONSTRUCTION

SOIL LINER THICKNESS VARIFICATION MAP

WASTE MANAGEMENT

DRN:	JMLM	APP:	JMLM
DATE:	JUNE 2018		
PROJECT NO.:	18009		

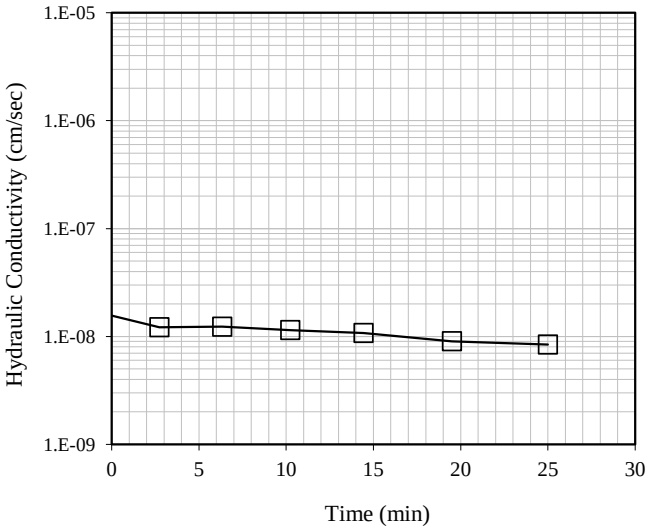
DRAWING
1 OF 1

ATTACHMENT D
Clay Liner – Preconstruction Testing

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: Clay-Baker-1 (S-C)

TRI Log #: 35739.1B
Test Method: ASTM D5084 Method F



Specimen Image

Initial Values	
Sample Condition	Remolded
Diameter (in)	2.80
Height (in)	1.50
Initial Mass (g)	302.7
Sample Area (in^2)	6.16
Water Content (%)	21.5
Total Unit Weight (pcf)	124.8
Dry Unit Weight (pcf)	102.7
Specific Gravity (Assumed)	2.65
Degree of Saturation	93.4
Void Ratio	0.61
Porosity	0.38
1 Pore Volume (cc)	57.4
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.98

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
10.2	1.1E-08
14.4	1.1E-08
19.5	9.0E-09
25.0	8.4E-09
Average, Last 2 Readings	**8.7E-09**

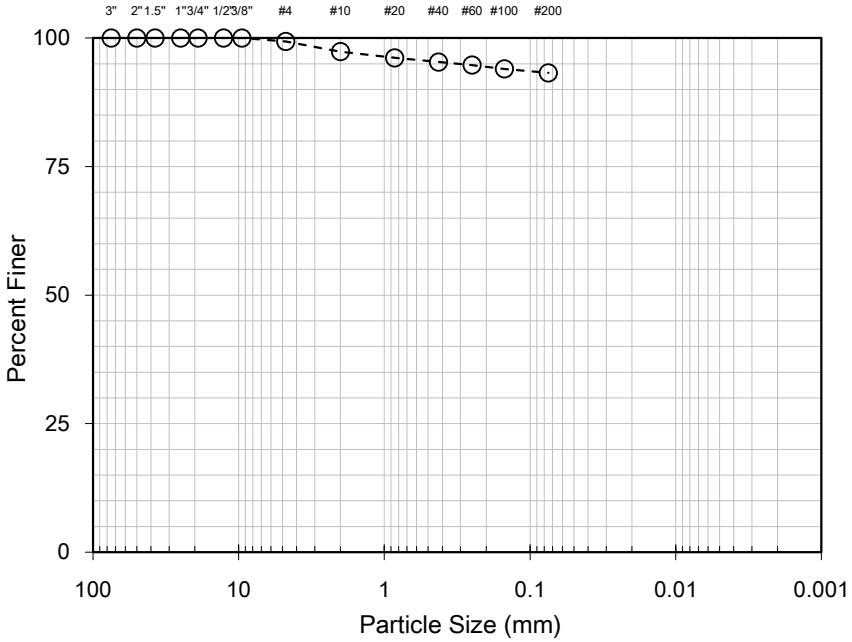
Jeffrey A. Kuhn, Ph.D., P.E., 4/4/2018
Analysis & Quality Review/Date

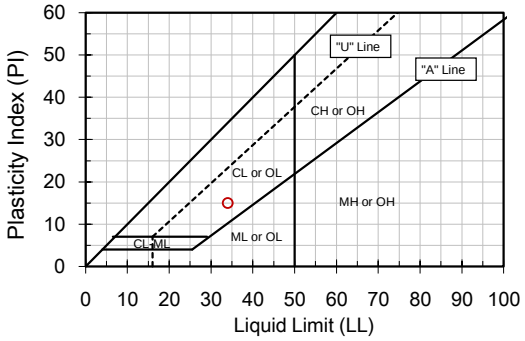
TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Particle Size, Atterberg Limit, and USCS Analyses for Soils

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: Clay-Baker-1 (S-C)

TRI Log #: 35739.1





Atterberg Limits	
(ASTM D4318, Method A : Multipoint, Air Dried)	
Liquid Limit	34
Plastic Limit	19
Plastic Index	15
(NL = No Liquid Limit, NP = No Plastic Limit)	

Mechanical Sieve (ASTM D422)		
Sieve Designation		Percent Passing
-	mm	
3 in.	76.2	100.0
2 in.	50.8	100.0
1.5 in.	38.1	100.0
1 in.	25.4	100.0
3/4 in.	19.0	100.0
1/2 in.	12.7	100.0
3/8 in.	9.51	100.0
No. 4	4.76	99.3
No. 10	2.00	97.4
No. 20	0.841	96.1
No. 40	0.420	95.3
No. 60	0.250	94.8
No. 100	0.149	94.0
No. 200	0.074	93.2

Hydrometer Analysis (ASTM D422)	
Particle Size	Percent Passing
mm	
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -

Log-Linear Interpolation	
Particle Size	Percent Passing
mm	
0.005	- -
0.002	- -

D_X (mm), Log-Linear Interpolation			
10	30	50	60
- -	- -	- -	- -

Cu	Cc
- -	- -

USCS Classification (ASTM D2487)
Lean clay (CL)

Moisture Content (%) (ASTM D2216)
22.6

Jeffrey A. Kuhn, Ph.D., P.E., 3/12/2018
Analysis & Quality Review/Date

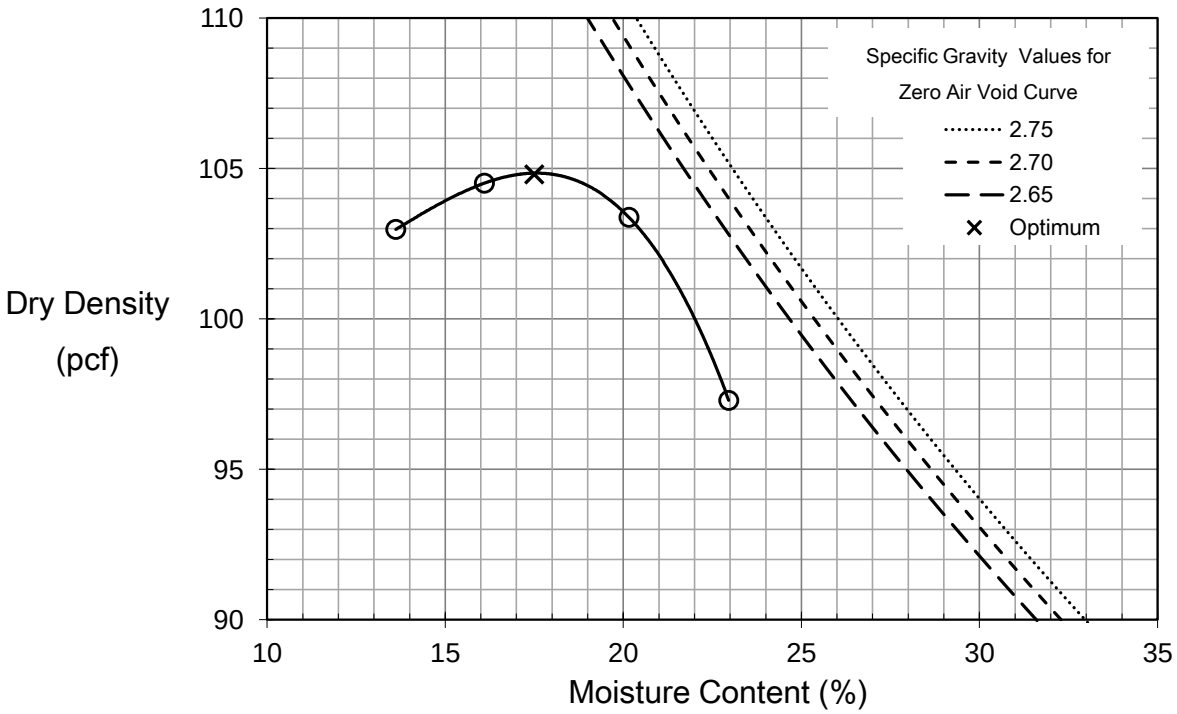
Laboratory Compaction Characteristics of Soil Using Standard Effort (ASTM D698)

Client: Waste Management, Inc.
Project: Eco Vista Lansfill Cell 12 North
Sample ID: Clay-Baker-1 (S-C)

TRI Log #: 35739.1

Compaction Effort	-	Standard
Method	-	A
Rammer Type	-	Automatic
Maximum Dry Density	pcf	104.8
Optimum Water Content	%	17.5

Oversize Particle / "Rock" Correction (ASTM D4718)		
Oversized Particles	%	- -
Maximum Dry Density	pcf	- -
Optimum Water Content	%	- -



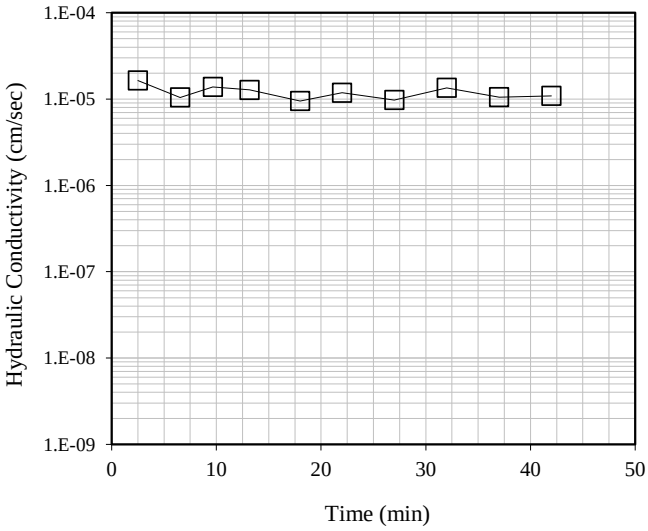
Jeffrey A. Kuhn, Ph.D, P.E., 3/7/2018
Quality Review / Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: Clay-Baker-1 (S-C)

TRI Log #: 35739.1
Test Method: ASTM D5084 Method C



Initial Values	
Sample Condition	Remolded
Diameter (in)	2.80
Height (in)	1.50
Initial Mass (g)	284.0
Sample Area (in^2)	6.16
Water Content (%)	17.5
Total Unit Weight (pcf)	117.0
Dry Unit Weight (pcf)	99.6
Specific Gravity (Assumed)	2.65
Degree of Saturation	70.2
Void Ratio	0.66
Porosity	0.40
1 Pore Volume (cc)	60.2
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.89

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
27.0	9.8E-06
32.0	1.4E-05
37.0	1.1E-05
42.0	1.1E-05
Average, Last 4 Readings	**1.1E-05**

Note - Secondary features were observed in the specimen following remolding as presented in the specimen image. Tabular values of water content are presented within the report body and below to achieve saturation values of 80, 85, and 90% given specific gravity values of 2.65 and 2.73. Assuming a specific gravity of 2.65, the saturation of the specimen was 70.2% following compaction. Please alert TRI if additional hydraulic conductivity testing is requested.

Jeffrey A. Kuhn, Ph.D., P.E., 3/26/2018
Analysis & Quality Review/Date

Dry Density	Saturation	w (%)	
pcf	%	Gs = 2.65	Gs = 2.73
99.6	80	19.9	20.8
99.6	85	21.2	22.1
99.6	90	22.4	23.4

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

GTS, Inc.
Geotechnical & Testing Services

1915 North Shiloh Drive
Fayetteville, Arkansas 72704

Office: (479) 521-7645
Fax: (479) 521-6232

Office Locations

Fayetteville, Arkansas
Fort Smith, Arkansas
Tulsa, Oklahoma

PROJECT Eco Vista Landfill

JOB NO. 18-11148 **DATE** 5/21/2018

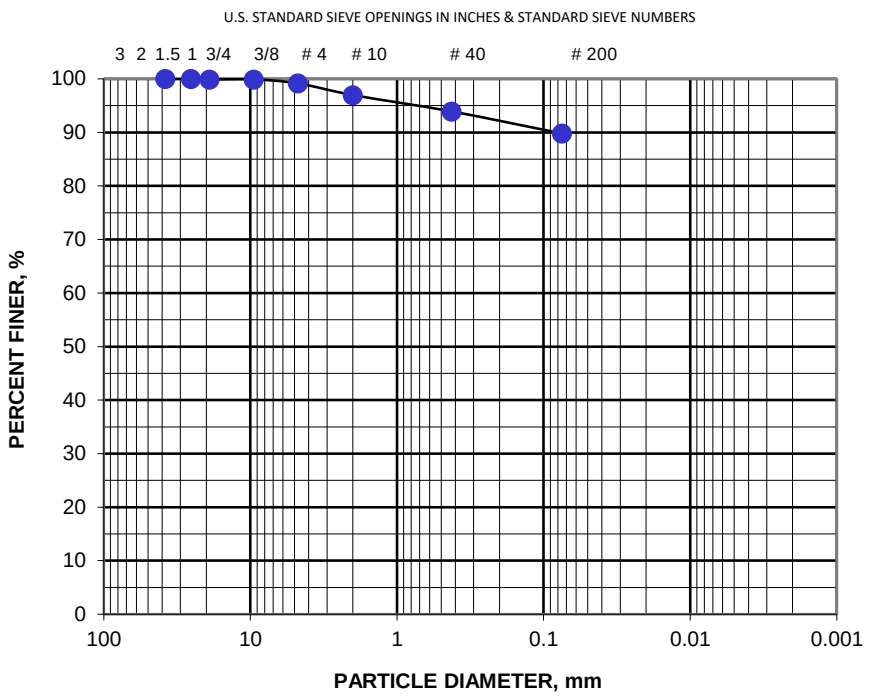
LOCATION	Beechwood Parking Lot
SAMPLE NO.	4986
DEPTH (FT)	2"-6" below surface grades
PLASTIC LIMIT	23
LIQUID LIMIT	52
PLASTICITY INDEX	29

SIEVE SIZE	PERCENT PASSING
3.00"	100.0%
1.50"	100.0%
1.00"	100.0%
3/4"	100.0%
3/8"	100.0%
No. 4	99.2%
No. 10	97.0%
No. 40	93.9%
No. 200	89.8%

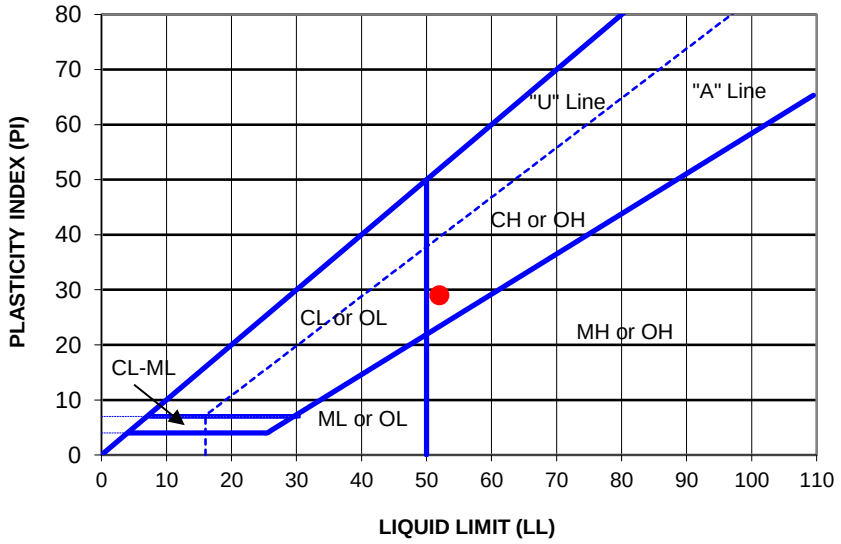
VISUAL CLASSIFICATION	Dark Brown Fat Clay

ASTM DESCRIPTION	AASHTO CLASSIFICATION	AASHTO GI
Fat Clay, CH	**A-7-6**	**29**

GRAIN SIZE DISTRIBUTION CURVE



PLASTICITY CHART

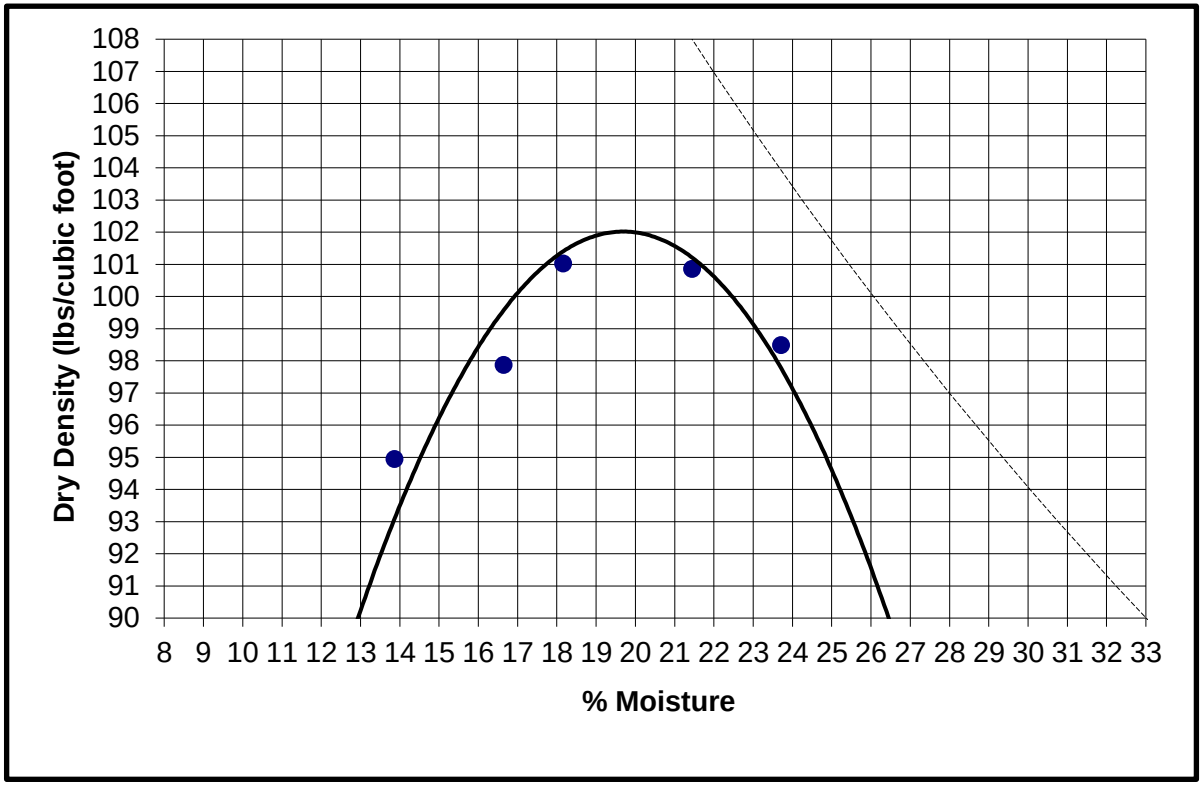


GTS, Inc.
Geotechnical & Testing Services

LABORATORY COMPACTION CHARACTERISTICS OF SOIL

CLIENT:	Choice Development	**DATE:**	5/21/18	**SAMPLE LOCATION:**	Beechwood Parking Lot	**LL=**	52
PROJECT NUMBER:	18-11148	**LAB NO.**	4986	**SAMPLE DESCRIPTION:**	Fat Clay, CH	**PL=**	23
PROJECT NAME:	Eco Vista Landfill	**TEST METHOD:**	ASTM D698	**AASHTO CLASS.:**	A-7-6	**PI=**	29
				VISUAL CLASSIFICATION:	**Dark Brown Fat Clay**		

Maximum Dry Density (lbs./cubic foot)	**102.0**
Optimum Moisture (percent)	**19.8**



1915 North Shiloh Drive, Suite 1
Fayetteville, Arkansas 72704
Office: (479) 521-7645
Fax: (479) 521-6232

GTS, Inc.
Geotechnical & Testing Services

Hydraulic Conductivity Test Procedures Performed
In Accordance With ASTM D 5084 Method C
Using De-aired Water

HYDRAULIC CONDUCTIVITY TEST RESULTS

PROJECT: Eco Vista Landfill

PROJECT NUMBER: 18-11148

SAMPLE NUMBER: 5059

SAMPLE LOCATION: Beechwood Parking Lot
West Center of Site

DEPTH: 2" - 6" below Surface Grades

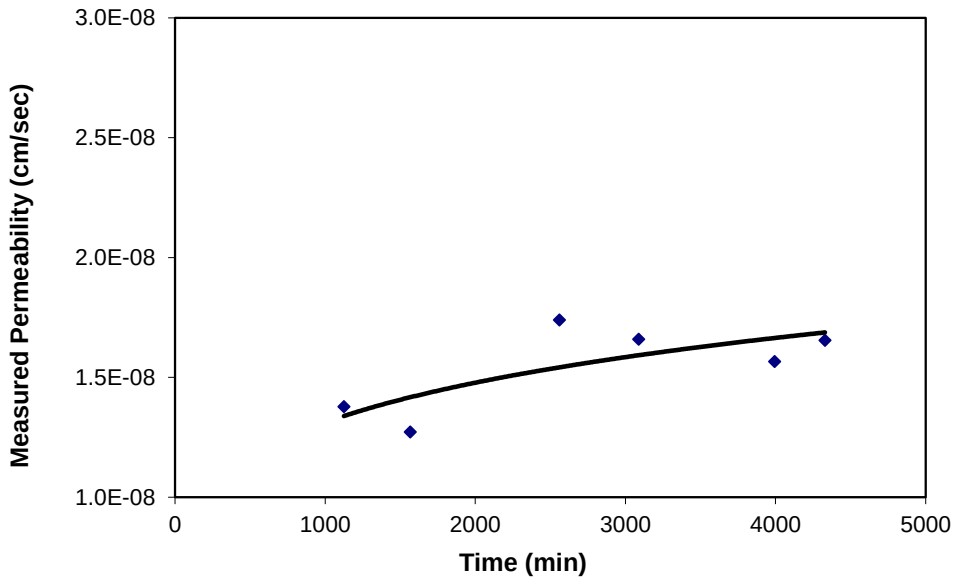
SAMPLE TYPE: Remolded Sample from Bulk Material

VISUAL CLASSIFICATION: Dark Brown Fat Clay

ASTM DESCRIPTION: Fat Clay, CH

Hyrdraulic Conductivity, k_{20}: 1.55E-08 cm/s

Test Parameters		*Initial Sample Data*		*Final Sample Data*	
Cell Pressure (psi):	34.5	**Diameter (in):**	2.85	**Diameter (in):**	2.86
Inflow Pressure (psi):	19.5	**Length (in):**	5.63	**Length (in):**	5.60
Back Pressure (psi):	19	**Moisture Content:**	20.1%	**Moisture Content:**	25.1%
Effective Confining Pressure (psi):	15	**Wet Unit Weight (pcf):**	119.3	**Wet Unit Weight (pcf):**	124.6
Reservior Area (cm^2):	0.89	**Dry Unit Weight (pcf):**	99.4	**Dry Unit Weight (pcf):**	99.6
Test Start Time:	5/29/18 1:40 PM	**Percent Compaction:**	97.5%	**Percent Compaction:**	97.6%
		Hydraulic Gradient:	4.03	**Hydraulic Gradient:**	3.92

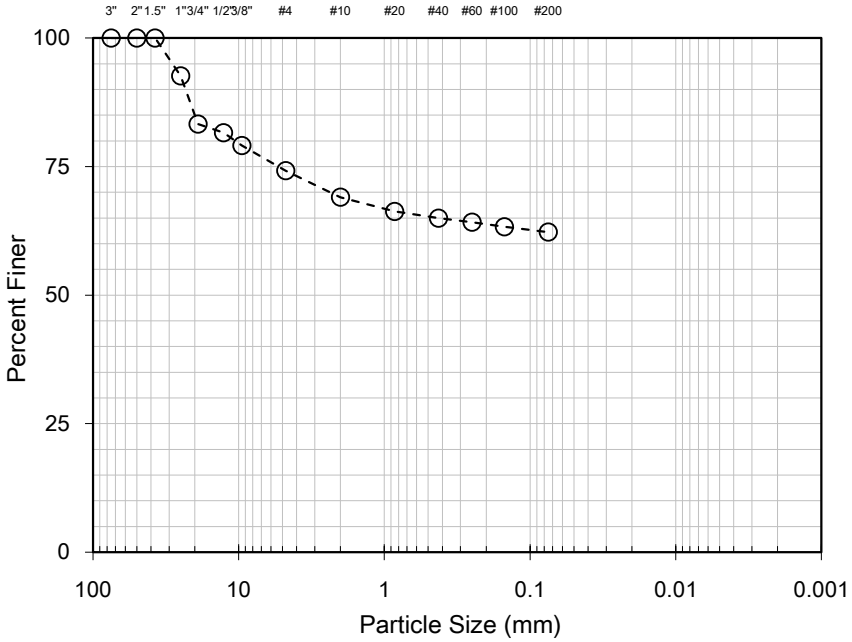


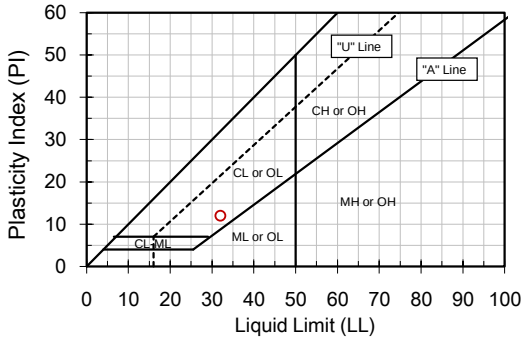
ATTACHMENT E
Clay Liner – Construction Testing

Particle Size, Atterberg Limit, and USCS Analyses for Soils

Client: Waste Management Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: Clay-CS-1

TRI Log #: 37747.1





Atterberg Limits	
(ASTM D4318, Method A : Multipoint, Air Dried)	
Liquid Limit	32
Plastic Limit	20
Plastic Index	12
(NL = No Liquid Limit, NP = No Plastic Limit)	

Mechanical Sieve (ASTM D422)		
Sieve Designation		Percent Passing
-	mm	
3 in.	76.2	100.0
2 in.	50.8	100.0
1.5 in.	38.1	100.0
1 in.	25.4	92.6
3/4 in.	19.0	83.3
1/2 in.	12.7	81.6
3/8 in.	9.51	79.1
No. 4	4.76	74.2
No. 10	2.00	69.1
No. 20	0.841	66.3
No. 40	0.420	65.0
No. 60	0.250	64.2
No. 100	0.149	63.3
No. 200	0.074	62.3

Hydrometer Analysis (ASTM D422)	
Particle Size	Percent Passing
mm	
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -

Log-Linear Interpolation	
Particle Size	Percent Passing
mm	
0.005	- -
0.002	- -

D_X (mm), Log-Linear Interpolation			
10	30	50	60
- -	- -	- -	- -

Cu	Cc
- -	- -

USCS Classification (ASTM D2487)
Gravelly lean clay with sand (CL)
Moisture Content (%) (ASTM D2216)
18.9

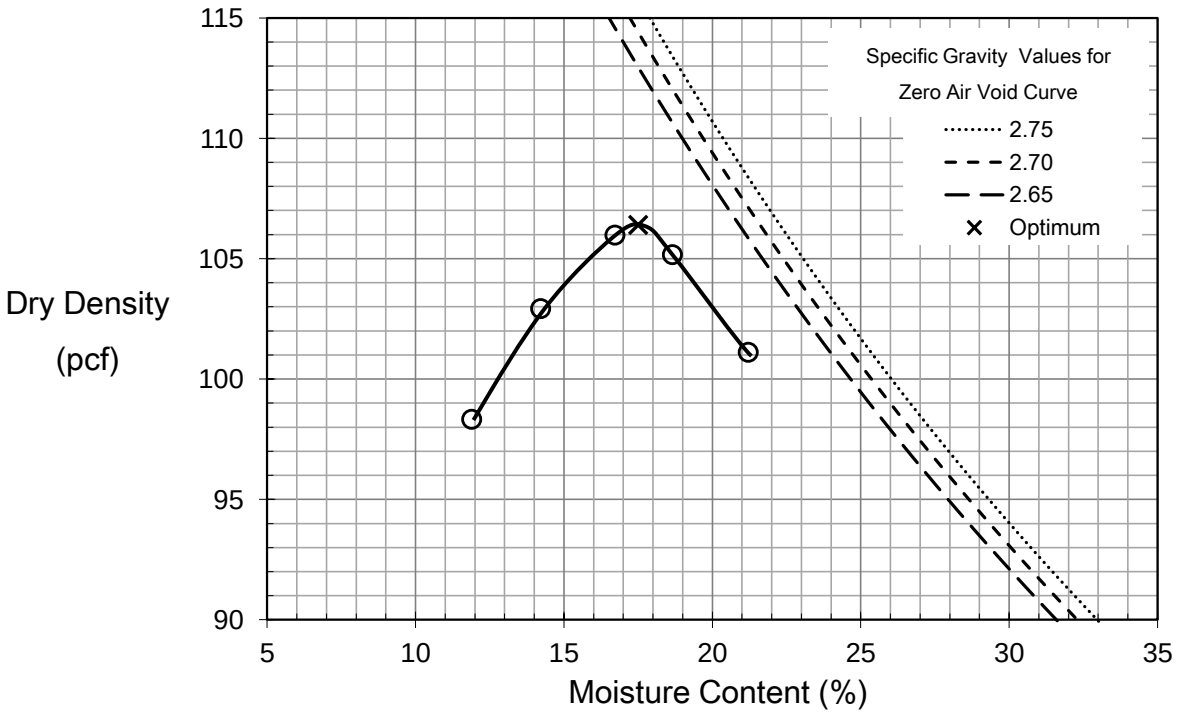
Jeffrey A. Kuhn, Ph.D., P.E., 5/25/2018
Analysis & Quality Review/Date

Laboratory Compaction Characteristics of Soil Using Standard Effort (ASTM D698)

Client: Waste Management Inc
Project: Eco Vista Landfill Cell 12 North
Sample ID: Clay-CS-1
TRI Log #: 37747.1

Compaction Effort	-	Standard
Method	-	A
Rammer Type	-	Automatic
Maximum Dry Density	pcf	106.4
Optimum Water Content	%	17.5

Oversize Particle / "Rock" Correction (ASTM D4718)		
Oversized Particles	%	- -
Maximum Dry Density	pcf	- -
Optimum Water Content	%	- -



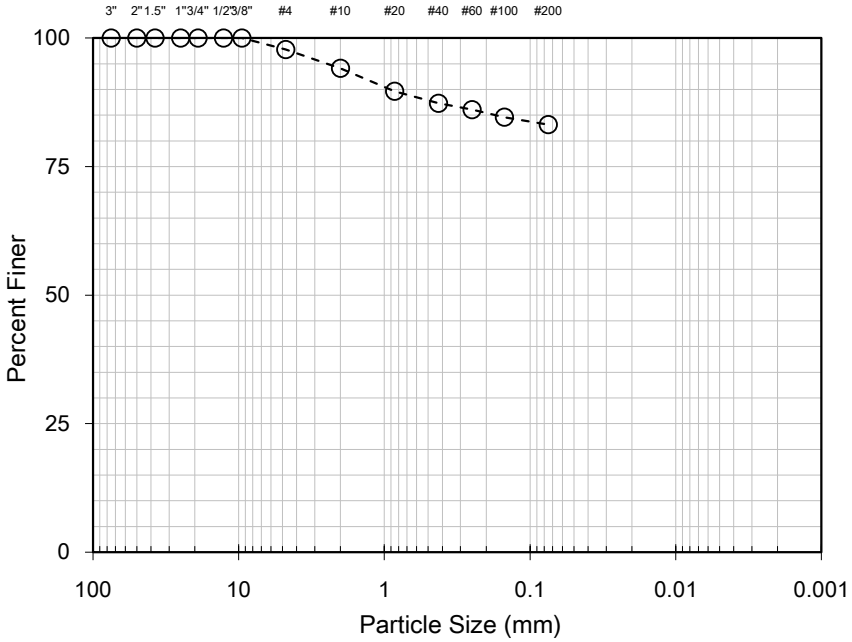
Jeffrey A. Kuhn, Ph.D, P.E., 5/25/2018
Quality Review / Date

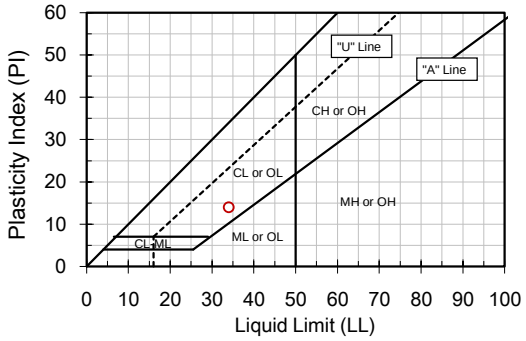
TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Particle Size, Atterberg Limit, and USCS Analyses for Soils

Client: Waste Management Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PC-CS-2

TRI Log #: 38245.3





Atterberg Limits	
(ASTM D4318, Method A : Multipoint, Air Dried)	
Liquid Limit	34
Plastic Limit	20
Plastic Index	14
(NL = No Liquid Limit, NP = No Plastic Limit)	

Mechanical Sieve (ASTM D422)		
Sieve Designation		Percent Passing
-	mm	
3 in.	76.2	100.0
2 in.	50.8	100.0
1.5 in.	38.1	100.0
1 in.	25.4	100.0
3/4 in.	19.0	100.0
1/2 in.	12.7	100.0
3/8 in.	9.51	100.0
No. 4	4.76	97.8
No. 10	2.00	94.1
No. 20	0.841	89.7
No. 40	0.420	87.3
No. 60	0.250	86.1
No. 100	0.149	84.6
No. 200	0.074	83.2

Hydrometer Analysis (ASTM D422)	
Particle Size	Percent Passing
mm	
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -

Log-Linear Interpolation	
Particle Size	Percent Passing
mm	
0.005	- -
0.002	- -

D_X (mm), Log-Linear Interpolation			
10	30	50	60
- -	- -	- -	- -

Cu	Cc
- -	- -

USCS Classification (ASTM D2487)
Lean clay with sand (CL)
Moisture Content (%) (ASTM D2216)
16.1

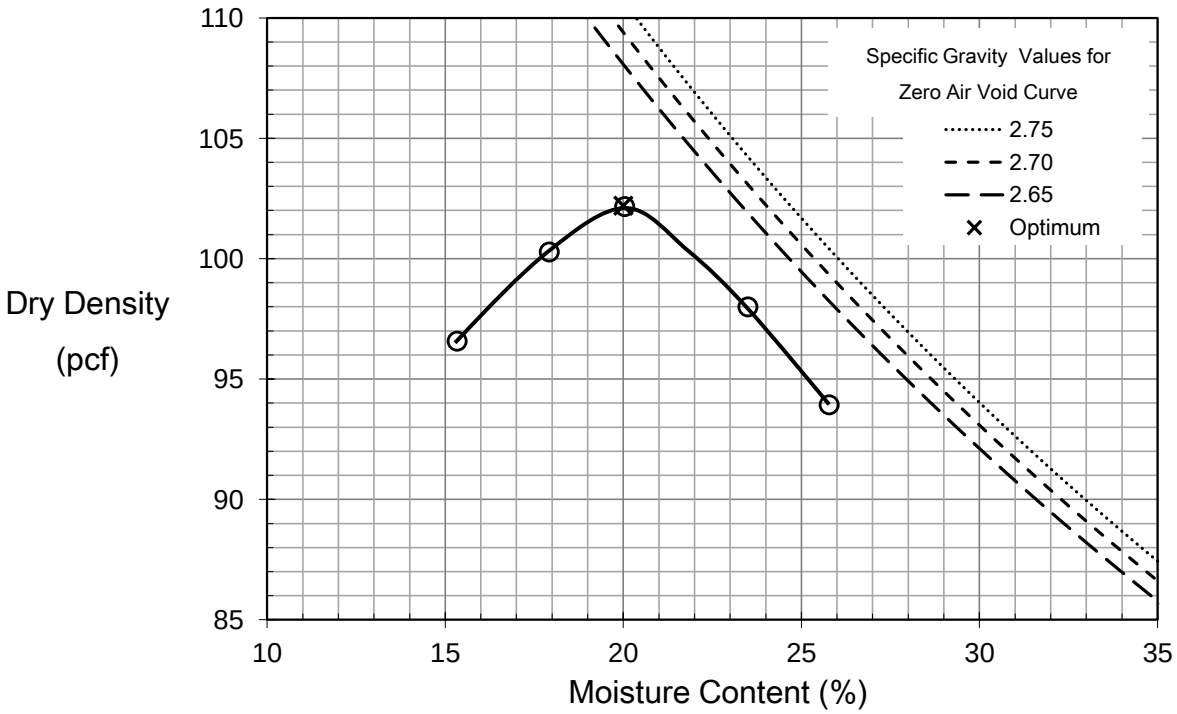
Jeffrey A. Kuhn, Ph.D., P.E., 6/18/2018
Analysis & Quality Review/Date

Laboratory Compaction Characteristics of Soil Using Standard Effort (ASTM D698)

Client: Waste Management Inc. TRI Log #: 38245.3
Project: Eco Vista Landfill Cell 12 North
Sample ID: PC-CS-2

Compaction Effort	-	Standard
Method	-	A
Rammer Type	-	Automatic
Maximum Dry Density	pcf	102.2
Optimum Water Content	%	20.0

Oversize Particle / "Rock" Correction (ASTM D4718)		
Oversized Particles	%	- -
Maximum Dry Density	pcf	- -
Optimum Water Content	%	- -



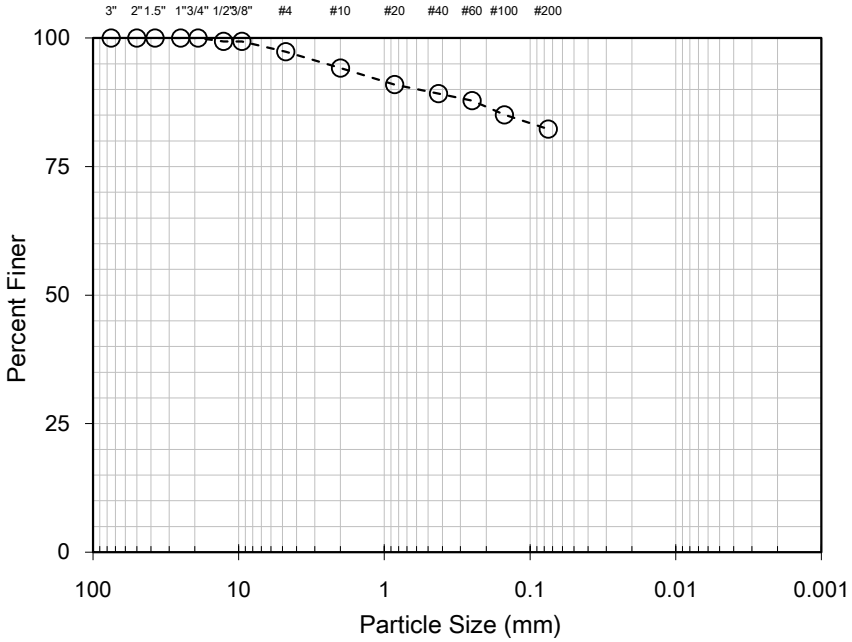
Jeffrey A. Kuhn, Ph.D, P.E., 6/18/2018
Quality Review / Date

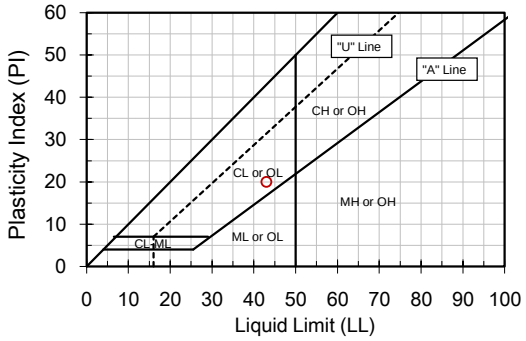
TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Particle Size, Atterberg Limit, and USCS Analyses for Soils

Client: Waste Management Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: P-CS-3

TRI Log #: 38351.11





Atterberg Limits	
(ASTM D4318, Method A : Multipoint, Air Dried)	
Liquid Limit	43
Plastic Limit	23
Plastic Index	20
(NL = No Liquid Limit, NP = No Plastic Limit)	

Mechanical Sieve (ASTM D422)		
Sieve Designation		Percent Passing
-	mm	
3 in.	76.2	100.0
2 in.	50.8	100.0
1.5 in.	38.1	100.0
1 in.	25.4	100.0
3/4 in.	19.0	100.0
1/2 in.	12.7	99.4
3/8 in.	9.51	99.4
No. 4	4.76	97.3
No. 10	2.00	94.2
No. 20	0.841	91.0
No. 40	0.420	89.2
No. 60	0.250	87.8
No. 100	0.149	85.1
No. 200	0.074	82.3

Hydrometer Analysis (ASTM D422)	
Particle Size	Percent Passing
mm	
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -
- -	- -

Log-Linear Interpolation	
Particle Size	Percent Passing
mm	
0.005	- -
0.002	- -

D_X (mm), Log-Linear Interpolation			
10	30	50	60
- -	- -	- -	- -

Cu	Cc
- -	- -

USCS Classification (ASTM D2487)
Lean clay with sand (CL)
Moisture Content (%) (ASTM D2216)
19.8

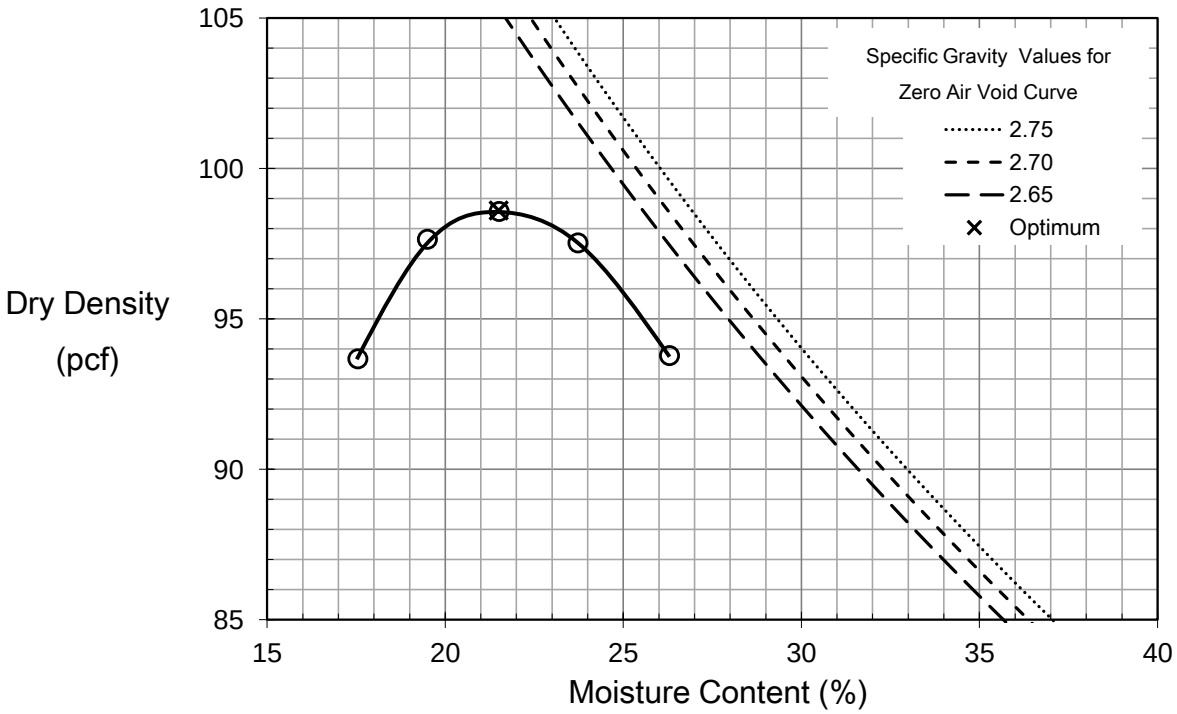
Jeffrey A. Kuhn, Ph.D., P.E., 6/18/2018
Analysis & Quality Review/Date

Laboratory Compaction Characteristics of Soil Using Standard Effort (ASTM D698)

Client: Waste Management Inc. TRI Log #: 38351.11
Project: Eco Vista Landfill Cell 12 North
Sample ID: P-CS-3

Compaction Effort	-	Standard
Method	-	A
Rammer Type	-	Automatic
Maximum Dry Density	pcf	98.6
Optimum Water Content	%	21.5

Oversize Particle / "Rock" Correction (ASTM D4718)		
Oversized Particles	%	- -
Maximum Dry Density	pcf	- -
Optimum Water Content	%	- -



Jeffrey A. Kuhn, Ph.D, P.E., 6/18/2018
Quality Review / Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

ATTACHMENT F
Moisture/Density Test Results for Clay Liner &
Approximate Location of Field Tests of Clay Liner (Lift 1 & 2)

Summary of Field Density Test Results

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Attn: Mr. David Conrad
Project Name: North Sedimentation Pond
Location: Eco Vista Class 1 Landfill
Datum: Clay Liner - LIFT 1

Project Number: 18024
Test Method: Nuclear
CQA Monitor: Joe Shepperd
CQA Engineer: Bryan W Bailey, P.E.

Date of Report: 06/12/18

Test No.	Date	Location		Lift or Elev.	Wet Unit Wt., pcf	Dry Unit Wt., pcf	Lab Max. Dry Unit Wt., pcf	% Lab Max Dry Unit Wt.	Req'd.% Lab Max Dry Unit Wt.	% Water Content	OMC	Req'd.% Water Content	% Over OMC	P or F	RETEST NO.	Shelby Tube Permeability Test No.	Lab No.
		Northing	Easting														
1	5/16/18	666,520	646,028	L-1	128.0	105.1	104.8	100+	≥ 98.0 %	21.8	17.5	OMC + 4%	4.3	P			BS-1
2	5/16/18	666,440	646,062	L-1	126.6	104.0	104.8	99.3	≥ 98.0 %	21.7	17.5	OMC + 4%	4.2	P		PL1-ST-1 PL1-BS-1	BS-1
3	5/16/18	666,532	645,923	L-1	126.5	104.1	104.8	99.3	≥ 98.0 %	21.5	17.5	OMC + 4%	4.0	P			BS-1
4	5/16/18	666,615	645,988	L-1	128.4	105.7	104.8	100+	≥ 98.0 %	21.5	17.5	OMC + 4%	4.0	P			BS-1
5	5/20/18	666,431	645,881	L-1	128.2	104.3	104.8	99.5	≥ 98.0 %	22.9	17.5	OMC + 4%	5.4	P		PL-1-BS-2	BS-1
6	5/20/18	666,535	645,835	L-1	128.9	106.8	108.7	98.2	≥ 98.0 %	20.7	16.4	OMC + 4%	4.3	P			L2CS1
7	5/20/18	666,556	645,734	L-1	127.5	103.1	104.8	98.4	≥ 98.0 %	23.7	17.5	OMC + 4%	6.2	P		PL-1-ST-2 PL-1-BS-3	BS-1
8	5/20/18	666,493	645,763	L-1	128.0	104.4	104.8	99.6	≥ 98.0 %	22.6	17.5	OMC + 4%	5.1	P		PL-1-ST-3	BS-1
9	5/20/18	666,491	645,649	L-1	127.5	104.0	104.8	99.2	≥ 98.0 %	22.6	17.5	OMC + 4%	5.1	P		PL-1-ST-4	BS-1
10	5/27/18	666,424	645,955	L-1	128.7	105.0	104.8	100+	≥ 98.0 %	22.6	17.5	OMC + 4%	5.1	P			BS-1
11	5/27/18	666,342	645,963	L-1	128.1	105.4	104.8	100+	≥ 98.0 %	21.5	17.5	OMC + 4%	4.0	P			BS-1
12	5/27/18	666,328	646,053	L-1	127.8	104.6	104.8	99.8	≥ 98.0 %	22.2	17.5	OMC + 4%	4.7	P		PL-1-ST-5	BS-1
13	5/30/18	666,330	645,037	L-1	123.5	100.2	102.0	98.3	≥ 98.0 %	23.2	19.8	OMC +1%	3.4	P		PL-1-ST-6	4986
14	5/30/18	666,348	645,142	L-1	125.4	101.3	102.0	99.3	≥ 98.0 %	23.8	19.8	OMC +1%	4.0	P			4986
15	5/30/18	666,232	645,033	L-1	124.9	101.1	102.0	99.1	≥ 98.0 %	23.6	19.8	OMC +1%	3.8	P		PL-1-BS-4	4986
16	5/30/18	666,223	645,119	L-1	123.5	100.7	102.0	98.7	≥ 98.0 %	22.7	19.8	OMC +1%	2.9	P			4986
17	5/30/18	666,315	645,217	L-1	124.5	100.6	102.0	98.6	≥ 98.0 %	23.8	19.8	OMC +1%	4.0	P		PL-1-ST-7 PL-1-BS-5	4986

Summary of Field Density Test Results

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Attn: Mr. David Conrad
Project Name: North Sedimentation Pond
Location: Eco Vista Class 1 Landfill
Datum: Clay Liner - LIFT 1

Project Number: 18024
Test Method: Nuclear
CQA Monitor: Joe Shepperd
CQA Engineer: Bryan W Bailey, P.E.

Date of Report: 06/12/18

Test No.	Date	Location		Lift or Elev.	Wet Unit Wt., pcf	Dry Unit Wt., pcf	Lab Max. Dry Unit Wt., pcf	% Lab Max Dry Unit Wt.	Req'd.% Lab Max Dry Unit Wt.	% Water Content	OMC	Req'd.% Water Content	% Over OMC	P or F	RETEST NO.	Shelby Tube Permeability Test No.	Lab No.
		Northing	Easting														
18	5/30/18	666,437	645,046	L-1	124.9	100.9	102.0	98.9	≥ 98.0 %	23.8	19.8	OMC +1%	4.0	P		PL-1-ST-8	4986
19	5/30/18	666,585	645,062	L-1	124.5	100.5	102.0	98.5	≥ 98.0 %	23.9	19.8	OMC +1%	4.1	P		PL-1-ST-9 PL-1-BS-6	4986
20	5/30/18	666,640	645,119	L-1	124.0	100.2	102.0	98.3	≥ 98.0 %	23.7	19.8	OMC +1%	3.9	P			4986
21	5/30/18	666,632	645,239	L-1	125.9	100.6	102.0	98.7	≥ 98.0 %	25.1	19.8	OMC +1%	5.3	P		PL-1-ST-10	4986
22	5/30/18	666,417	645,220	L-1	125.6	101.9	102.0	99.9	≥ 98.0 %	23.2	19.8	OMC +1%	3.4	P			4986
23	5/30/18	666,464	645,140	L-1	125.5	101.5	102.0	99.5	≥ 98.0 %	23.7	19.8	OMC +1%	3.9	P			4986
24	5/30/18	666,550	645,155	L-1	123.8	100.1	102.0	98.1	≥ 98.0 %	23.7	19.8	OMC +1%	3.9	P			4986
25	5/30/18	666,559	645,269	L-1	123.6	100.2	102.0	98.3	≥ 98.0 %	23.3	19.8	OMC +1%	3.5	P			4986
26	5/30/18	666,528	645,353	L-1	123.7	100.7	102.0	98.7	≥ 98.0 %	22.9	19.8	OMC +1%	3.1	P			4986
27	5/30/18	666,444	645,360	L-1	124.0	100.9	102.0	98.9	≥ 98.0 %	22.9	19.8	OMC +1%	3.1	P			4986
28	5/30/18	666,473	645,461	L-1	126.3	103.2	104.8	98.5	≥ 98.0 %	22.4	17.5	OMC + 4%	4.9	P			BS-1
29	5/31/18	666,530	645,430	L-1	126.4	104.0	104.8	99.3	≥ 98.0 %	21.5	17.5	OMC + 4%	4.0	P			BS-1
30	5/31/18	666,531	645,548	L-1	126.2	103.9	104.8	99.1	≥ 98.0 %	21.5	17.5	OMC + 4%	4.0	P			BS-1
31	5/31/18	666,481	645,557	L-1	126.7	103.3	104.8	98.6	≥ 98.0 %	22.6	17.5	OMC + 4%	5.1	P			BS-1
32	5/31/18	666,618	645,521	L-1	126.3	103.4	104.8	98.6	≥ 98.0 %	22.2	17.5	OMC + 4%	4.7	P			BS-1
33	5/31/18	666,623	645,622	L-1	126.2	103.0	104.8	98.3	≥ 98.0 %	22.5	17.5	OMC + 4%	5.0	P			BS-1

Summary of Field Density Test Results

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Attn: Mr. David Conrad
Project Name: North Sedimentation Pond
Location: Eco Vista Class 1 Landfill
Datum: Clay Liner - LIFT 2

Project Number: 18024
Test Method: Nuclear
CQA Monitor: Joe Shepperd
CQA Engineer: Bryan W Bailey, P.E.

Date of Report: 06/12/18

Test No.	Date	Location		Lift or Elev.	Wet Unit Wt., pcf	Dry Unit Wt., pcf	Lab Max. Dry Unit Wt., pcf	% Lab Max Dry Unit Wt.	Req'd.% Lab Max Dry Unit Wt.	% Water Content	OMC	Req'd.% Water Content	% Over OMC	P or F	RETEST NO.	Shelby Tube Permeability Test No.	Lab No.
		Northing	Easting														
1	6/6/18	666,360	646,127	L-2	126.4	104.6	102.0	100+	≥ 98.0 %	20.8	19.8	OMC + 1%	1.0	P			4986
2	6/6/18	666,458	646,145	L-2	126.0	102.6	102.0	100+	≥ 98.0 %	22.8	19.8	OMC +1%	3.0	P			4986
3	6/6/18	666,557	646,041	L-2	124.8	103.3	102.0	100+	≥ 98.0 %	20.8	19.8	OMC +1%	1.0	P			4986
4	6/7/18	666,429	646,017	L-2	125.0	102.5	102.0	100+	≥ 98.0 %	21.9	19.8	OMC +1%	2.1	P			4986
5	6/7/18	666,478	645,919	L-2	125.1	102.0	102.0	100+	≥ 98.0 %	22.6	19.8	OMC +1%	2.8	P		PL-2-ST-1 PL-2-BS-1	4986
6	6/7/18	666,611	645,948	L-2	124.1	100.8	102.0	98.8	≥ 98.0 %	23.1	19.8	OMC +1%	3.3	P			4986
7	6/7/18	666,615	645,822	L-2	124.7	101.1	102.0	99.1	≥ 98.0 %	23.4	19.8	OMC +1%	3.6	P			4986
8	6/7/18	666,341	645,985	L-2	124.5	101.3	102.0	99.3	≥ 98.0 %	22.9	19.8	OMC +1%	3.1	P			4986
9	6/7/18	666,619	645,709	L-2	123.2	100.7	102.0	98.8	≥ 98.0 %	22.3	19.8	OMC +1%	2.5	P			4986
10	6/7/18	666,564	645,854	L-2	122.4	101.0	102.0	99.0	≥ 98.0 %	21.2	19.8	OMC +1%	1.4	P			4986
11	6/7/18	666,447	645,812	L-2	122.7	101.6	102.0	99.6	≥ 98.0 %	20.8	19.8	OMC +1%	1.0	P			4986
12	6/7/18	666,341	645,870	L-2	124.8	100.7	102.0	98.8	≥ 98.0 %	23.9	19.8	OMC +1%	4.1	P			4986
13	6/7/18	666,439	645,717	L-2	125.0	102.1	102.0	100+	≥ 98.0 %	22.4	19.8	OMC +1%	2.6	P		PL-2-ST-2 PL-2-BS-2	4986
14	6/7/18	666,486	645,714	L-2	125.5	102.4	102.0	100+	≥ 98.0 %	22.6	19.8	OMC +1%	2.8	P			4986
15	6/7/18	666,538	645,760	L-2	125.2	102.3	102.0	100+	≥ 98.0 %	22.4	19.8	OMC +1%	2.6	P			4986
16	6/7/18	666,449	645,624	L-2	125.5	103.4	102.0	100+	≥ 98.0 %	21.4	19.8	OMC +1%	1.6	P			4986
17	6/7/18	666,535	645,626	L-2	124.9	102.5	102.0	100+	≥ 98.0 %	21.8	19.8	OMC +1%	2.0	P			4986

Summary of Field Density Test Results

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Attn: Mr. David Conrad
Project Name: North Sedimentation Pond
Location: Eco Vista Class 1 Landfill
Datum: Clay Liner - LIFT 2

Project Number: 18024
Test Method: Nuclear
CQA Monitor: Joe Shepperd
CQA Engineer: Bryan W Bailey, P.E.

Date of Report: 06/12/18

Test No.	Date	Location		Lift or Elev.	Wet Unit Wt., pcf	Dry Unit Wt., pcf	Lab Max. Dry Unit Wt., pcf	% Lab Max Dry Unit Wt.	Req'd.% Lab Max Dry Unit Wt.	% Water Content	OMC	Req'd.% Water Content	% Over OMC	P or F	RETEST NO.	Shelby Tube Permeability Test No.	Lab No.
		Northing	Easting														
18	6/8/18	666,447	645,510	L-2	125.6	103.6	102.0	100+	≥ 98.0 %	21.2	19.8	OMC +1%	1.4	P		PL-2-ST-3 PL-2-BS-3	4986
19	6/8/18	666,568	645,556	L-2	125.4	103.0	102.0	100+	≥ 98.0 %	21.8	19.8	OMC +1%	2.0	P			4986
20	6/8/18	666,472	645,424	L-2	125.8	102.4	102.0	100+	≥ 98.0 %	22.8	19.8	OMC +1%	3.0	P			4986
21	6/8/18	666,586	645,443	L-2	122.6	101.5	102.0	99.5	≥ 98.0 %	20.8	19.8	OMC +1%	1.0	P			4986
22	6/9/18	666,620	645,347	L-2	123.9	100.4	102.0	98.4	≥ 98.0 %	23.4	19.8	OMC +1%	3.6	P			4986
23	6/9/18	666,623	645,253	L-2	124.4	101.7	102.0	99.7	≥ 98.0 %	22.3	19.8	OMC +1%	2.5	P			4986
24	6/9/18	666,636	645,152	L-2	124.1	100.6	102.0	98.6	≥ 98.0 %	23.4	19.8	OMC +1%	3.6	P			4986
25	6/9/18	666,438	645,330	L-2	123.5	101.2	102.0	99.2	≥ 98.0 %	22.0	19.8	OMC +1%	2.2	P			4986
26	6/9/18	666,350	645,238	L-2	123.6	101.5	102.0	99.5	≥ 98.0 %	21.8	19.8	OMC +1%	2.0	P		PL-2-ST-4 PL-2-BS-4	4986
27	6/9/18	666,497	645,331	L-2	128.1	106.0	102.0	100+	≥ 98.0 %	20.9	19.8	OMC +1%	1.1	P			4986
28	6/9/18	666,572	645,325	L-2	127.5	105.3	102.0	100+	≥ 98.0 %	21.1	19.8	OMC +1%	1.3	P			4986
29	6/9/18	666,418	645,259	L-2	125.7	102.4	102.0	100+	≥ 98.0 %	22.7	19.8	OMC +1%	2.9	P		PL-2-ST-5 PL-2-BS-5	4986
30	6/9/18	666,568	645,219	L-2	126.7	104.1	102.0	100+	≥ 98.0 %	21.7	19.8	OMC +1%	1.9	P			4986
31	6/9/18	666,579	645,140	L-2	126.5	104.2	102.0	100+	≥ 98.0 %	21.4	19.8	OMC +1%	1.6	P		PL-2-ST-6 PL-2-BS-6	4986
32	6/9/18	666,478	645,175	L-2	127.3	104.9	102.0	100+	≥ 98.0 %	21.3	19.8	OMC +1%	1.5	P			4986
33	6/9/18	666,382	645,179	L-2	127.1	104.5	102.0	100+	≥ 98.0 %	21.6	19.8	OMC +1%	1.8	P		PL-2-ST-7	4986

APPROXIMATE TEST LOCATIONS (LIFT 1)

POINT	NORTHING	EASTING
1	666520	646028
2	666440	646062
3	666532	645923
4	666615	645988
5	666431	645881
6	666535	645835
7	666556	645734
8	666493	645763
9	666491	645649
10	666424	645955
11	666342	645963
12	666328	646053
13	666330	645037
14	666348	645142
15	666232	645033
16	666223	645119
17	666315	645217
18	666437	645046
19	666585	645062
20	666640	645119

POINT	NORTHING	EASTING
21	666632	645239
22	666417	645220
23	666464	645140
24	666550	645155
25	666559	645269
26	666528	645353
27	666444	645360
28	666473	645461
29	666530	645430
30	666531	645548
31	666481	645557
32	666618	645521
33	666623	645622
34	666614	645744
35	666611	645862
36	666440	645518
37	666435	645660
38	666422	645752
39	666340	645869

LEGEND:

APPROXIMATE LOCATION OF FIELD DENSITY TEST

LI- ST-# APPROXIMATE LOCATION OF SHELBY TUBE SAMPLE

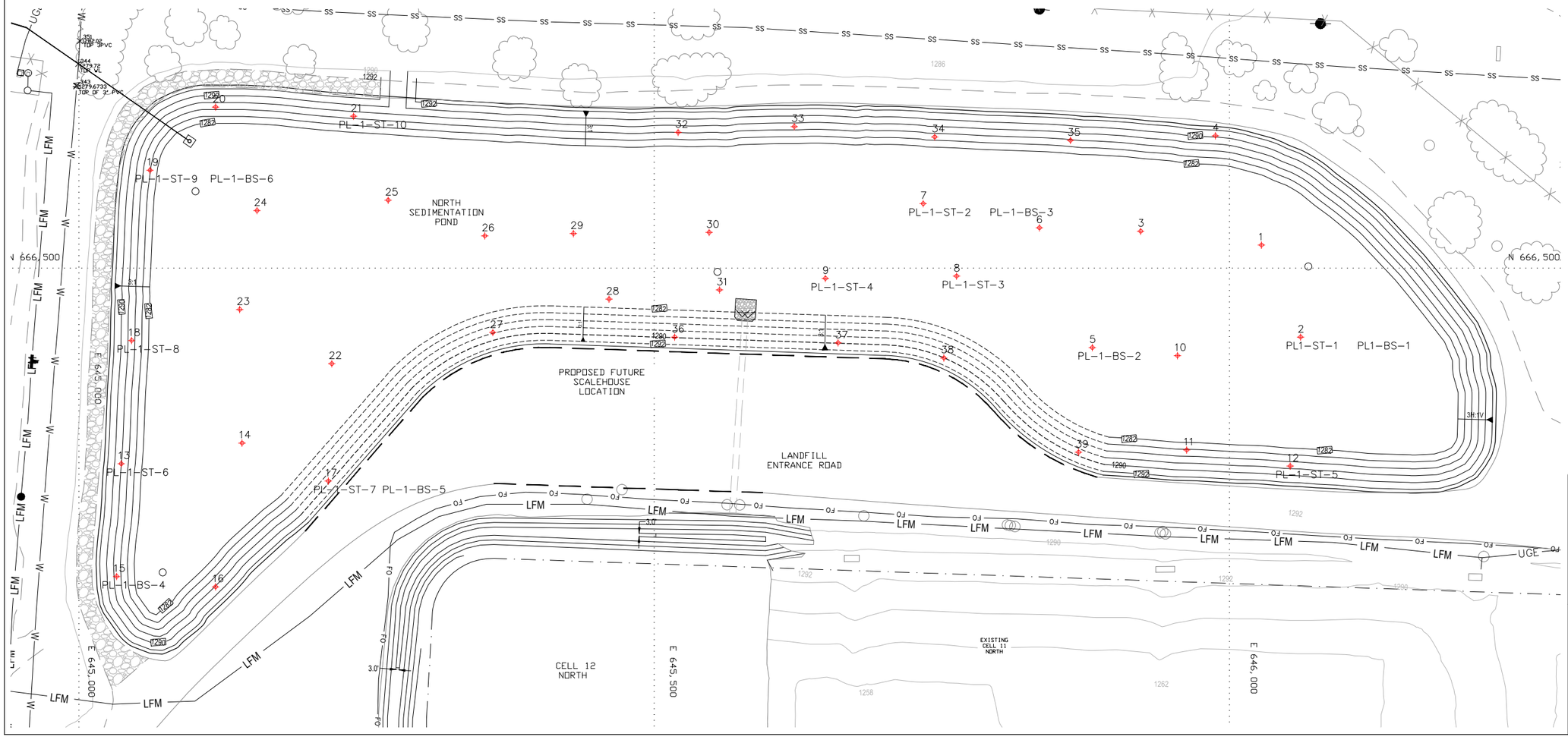
0 50' 100'
SCALE IN FEET

NOTES:

1. EXISTING AERIAL TOPOGRAPHIC MAP INFORMATION PROVIDED BY SOUTHERN RESOURCES MAPPING CORP., AND COMPILED FROM AERIAL PHOTOGRAPHY DATED 20 DECEMBER 2016 AND COMPILED JANUARY 2017.
2. PROPERTY BOUNDARY SUPPLIED BY OWNER.

LEGEND:

- PROPOSED CONTOUR
- AERIAL SURVEYED FENCE
- AERIAL SURVEYED ROAD (PAVED)
- AERIAL SURVEYED ROAD (UNPAVED)
- EXISTING CONTOUR
- LANDFILL PROPERTY BOUNDARY
- EXISTING CLASS I PERMIT
- CLOSED CLASS I FOOTPRINT
- NEW EXPANSION CLASS I FOOTPRINT
- LFM — EXISTING LEACHATE FORCE MAIN
- LFG — EXISTING LGF HEADER
- W — EXISTING WATERLINE
- FO — FO — EXISTING FIBER OPTIC
- SS — SS — EXISTING SANITARY SEWER
- UGE — EXISTING UNDERGROUND UTILITY
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING CULVERT
- EXISTING PIEZOMETER/WELL
- EXISTING GAS PROBE LOCATION
- EXISTING MONITORING WELL
- EXISTING SITE STRUCTURES



SHEPHERD ENGINEERING No. 1156 CERTIFICATE OF AUTHORIZATION ARKANSAS - ENGINEER

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 16899 BRYAN W. BAILEY
06/22/2018

☐ CLIENT APPROVED: date

☐ CLIENT APPROVED AS NOTED: date

REVISIONS

NO.	DATE	DESCRIPTION

510 East Memorial Road
Suite C-1
Oklahoma City, OK 73114
Phone: (405) 996-5300
Fax: (405) 488-0229

DRN	BWB
DES	BWB
CHK	JAS
APP	JAS

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

ECO-VISTA, LLC
ECO VISTA CLASS 1 LANDFILL
WASHINGTON COUNTY, ARKANSAS
PERMIT NO.: 0290-S1-R3

WASTE MANAGEMENT

NORTH SEDIMENTATION POND CONSTRUCTION

APPROXIMATE LOCATIONS OF FIELD TESTING: LIFT – 1

DATE: JUNE 2018
PROJECT NO.: 18024
FILE: 24-DENSITY TESTING L1.DWG
FIGURE NO: 1 OF 2

APPROXIMATE TEST LOCATIONS (LIFT 2)

POINT	NORTHING	EASTING
1	666360	646127
2	666458	646145
3	666557	646041
4	666429	646017
5	666478	645919
6	666611	645948
7	666615	645822
8	666341	645985
9	666619	645709
10	666564	645854
11	666447	645812
12	666341	645870
13	666439	645717
14	666486	645714
15	666538	645760
16	666449	645624
17	666535	645626
18	666447	645510
19	666568	645556
20	666472	645424

POINT	NORTHING	EASTING
21	666586	645443
22	666620	645347
23	666623	645253
24	666636	645152
25	666438	645330
26	666350	645238
27	666497	645331
28	666572	645325
29	666418	645259
30	666568	645219
31	666579	645140
32	666478	645175
33	666382	645179
34	666289	645109
35	666358	645089
36	666494	645054
37	666543	645072
38	666262	645038
39	666186	645078

LEGEND:

APPROXIMATE LOCATION OF FIELD DENSITY TEST

L2- ST-# APPROXIMATE LOCATION OF SHELBY TUBE SAMPLE

N

0 50' 100'

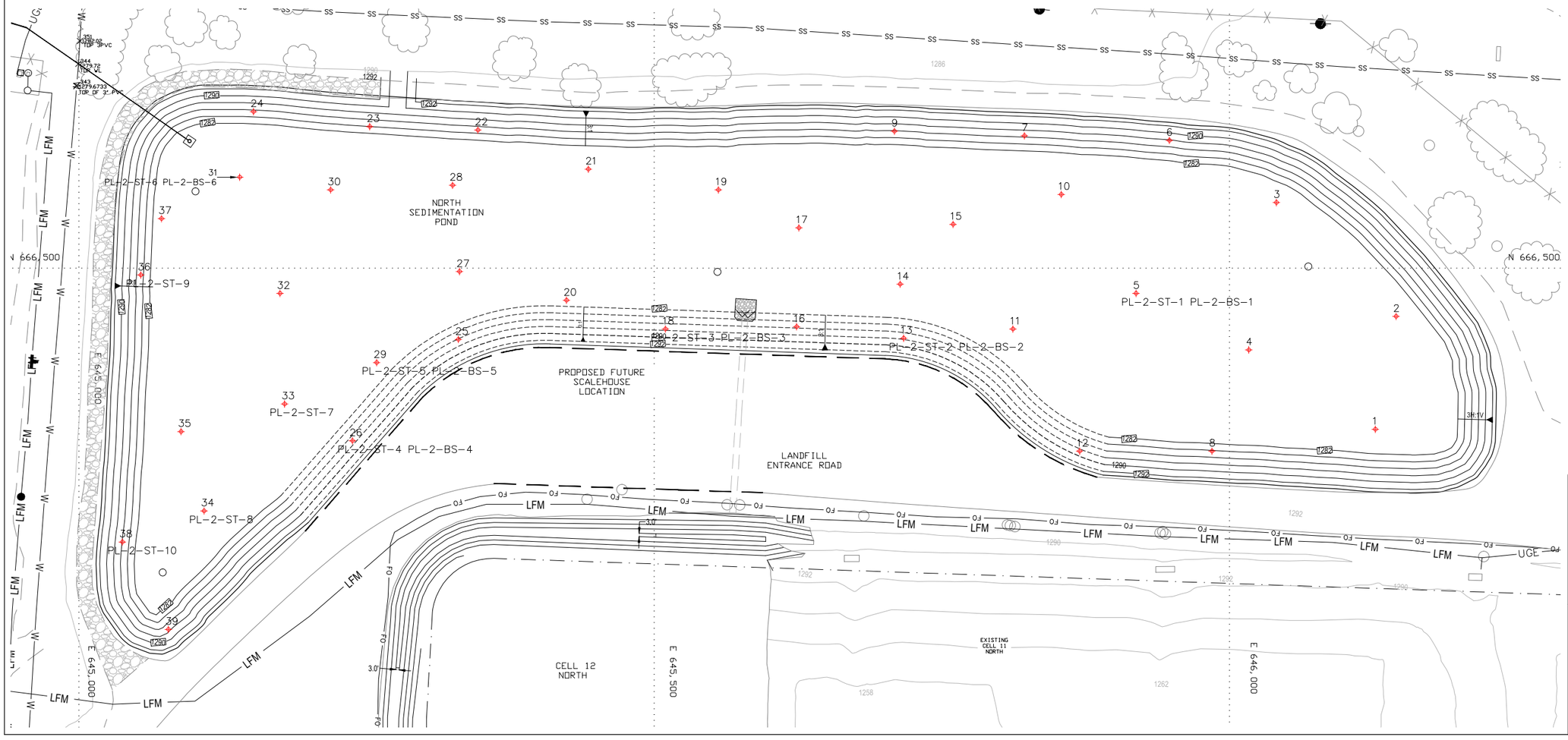
SCALE IN FEET

NOTES:

1. EXISTING AERIAL TOPOGRAPHIC MAP INFORMATION PROVIDED BY SOUTHERN RESOURCES MAPPING CORP., AND COMPILED FROM AERIAL PHOTOGRAPHY DATED 20 DECEMBER 2016 AND COMPILED JANUARY 2017.
2. PROPERTY BOUNDARY SUPPLIED BY OWNER.

LEGEND:

- PROPOSED CONTOUR
- AERIAL SURVEYED FENCE
- AERIAL SURVEYED ROAD (PAVED)
- AERIAL SURVEYED ROAD (UNPAVED)
- EXISTING CONTOUR
- LANDFILL PROPERTY BOUNDARY
- EXISTING CLASS I PERMIT
- CLOSED CLASS I FOOTPRINT
- NEW EXPANSION CLASS I FOOTPRINT
- LFM EXISTING LEACHATE FORCE MAIN
- LFG EXISTING LGF HEADER
- W EXISTING WATERLINE
- FO EXISTING FIBER OPTIC
- SS EXISTING SANITARY SEWER
- UGE EXISTING UNDERGROUND UTILITY
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING CULVERT
- EXISTING PIEZOMETER/WELL
- EXISTING GAS PROBE LOCATION
- EXISTING MONITORING WELL
- EXISTING SITE STRUCTURES



SHEPHERD ENGINEERING No. 1156 CERTIFICATE OF AUTHORIZATION ARKANSAS - ENGINEER

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 16899 BRYAN W. BAILEY 06/22/2018

☐ CLIENT APPROVED: date

☐ CLIENT APPROVED AS NOTED: date

REVISIONS

NO.	DATE	DESCRIPTION

510 East Memorial Road
Suite C-1
Oklahoma City, OK 73114
Phone: (405) 996-5300
Fax: (405) 488-0229

DRN	BWB
DES	BWB
CHK	JAS
APP	JAS

shepherd ENGINEERING DESIGN COMPANY INCORPORATED

ECO-VISTA, LLC
ECO VISTA CLASS 1 LANDFILL
WASHINGTON COUNTY, ARKANSAS
PERMIT NO.: 0290-S1-R3

WASTE MANAGEMENT

NORTH SEDIMENTATION POND CONSTRUCTION

APPROXIMATE LOCATIONS OF FIELD TESTING: LIFT – 2

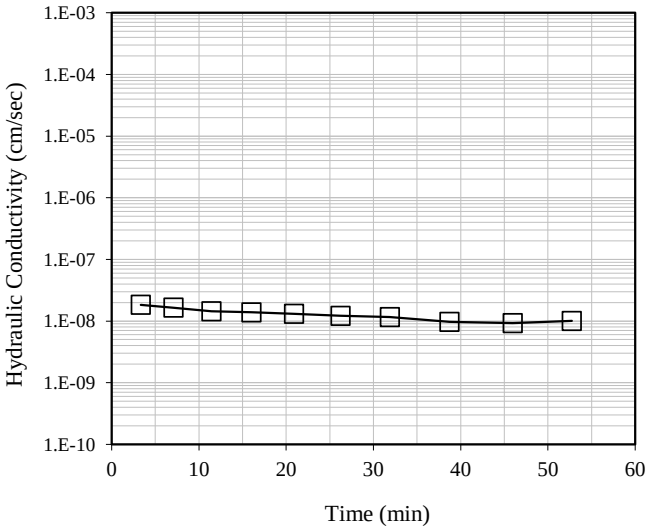
DATE: JUNE 2018
PROJECT NO.: 18024
FILE NAME: 18024-DENSITY TESTING L2 POND.DWG
FIGURE NO: 2 OF 2

ATTACHMENT G
In-Situ Permeability Testing

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL1-ST-1

TRI Log #: 37698.1
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.84
Height (in)	2.35
Initial Mass (g)	464.1
Sample Area (in^2)	6.33
Water Content (%)	23.5
Total Unit Weight (pcf)	118.9
Dry Unit Weight (pcf)	96.3
Specific Gravity (Assumed)	2.73
Degree of Saturation	83.3
Void Ratio	0.77
Porosity	0.43
1 Pore Volume (cc)	105.9
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.97

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
31.9	1.2E-08
38.7	9.7E-09
46.0	9.3E-09
52.7	1.0E-08
Average, Last 2 Readings	**9.6E-09**

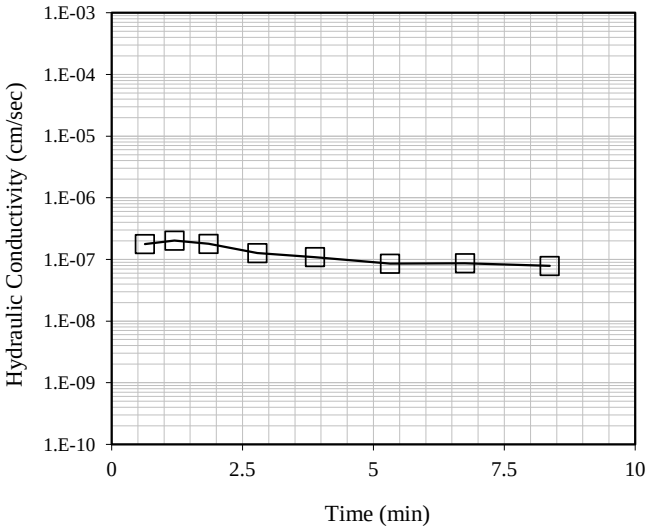
Jeffrey A. Kuhn, Ph.D., P.E., 5/21/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-1-ST-2

TRI Log #: 37856.3
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.85
Height (in)	2.97
Initial Mass (g)	591.2
Sample Area (in^2)	6.40
Water Content (%)	20.4
Total Unit Weight (pcf)	118.4
Dry Unit Weight (pcf)	98.4
Specific Gravity (Assumed)	2.73
Degree of Saturation	76.1
Void Ratio	0.73
Porosity	0.42
1 Pore Volume (cc)	131.6
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.98

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
3.9	1.1E-07
5.3	8.5E-08
6.8	8.7E-08
8.4	7.8E-08
Average, Last 2 Readings	**8.2E-08**

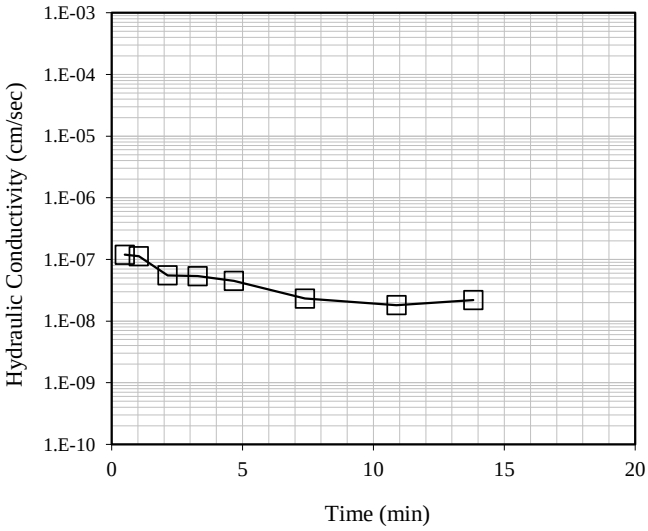
Jeffrey A. Kuhn, Ph.D., P.E., 5/26/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-1-ST-3

TRI Log #: 37856.4
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.74
Height (in)	2.14
Initial Mass (g)	408.8
Sample Area (in^2)	5.88
Water Content (%)	20.8
Total Unit Weight (pcf)	123.9
Dry Unit Weight (pcf)	102.6
Specific Gravity (Assumed)	2.73
Degree of Saturation	85.8
Void Ratio	0.66
Porosity	0.40
1 Pore Volume (cc)	81.9
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.97

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
4.7	4.5E-08
7.4	2.3E-08
10.9	1.8E-08
13.8	2.2E-08
Average, Last 2 Readings	**2.0E-08**

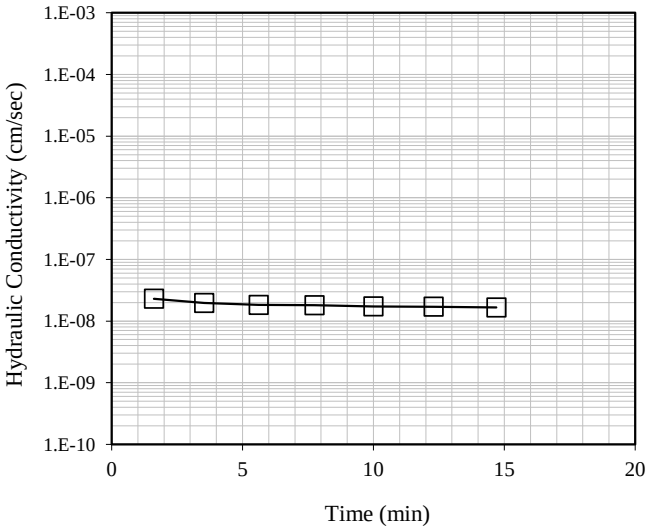
Jeffrey A. Kuhn, Ph.D., P.E., 5/26/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Mangement, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-1-ST-4

TRI Log #: 37856.5
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.73
Height (in)	1.34
Initial Mass (g)	244.3
Sample Area (in^2)	5.86
Water Content (%)	19.7
Total Unit Weight (pcf)	118.3
Dry Unit Weight (pcf)	98.9
Specific Gravity (Assumed)	2.73
Degree of Saturation	74.3
Void Ratio	0.72
Porosity	0.42
1 Pore Volume (cc)	54.1
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.98

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
7.8	1.8E-08
10.0	1.7E-08
12.3	1.7E-08
14.7	1.7E-08
Average, Last 2 Readings	**1.7E-08**

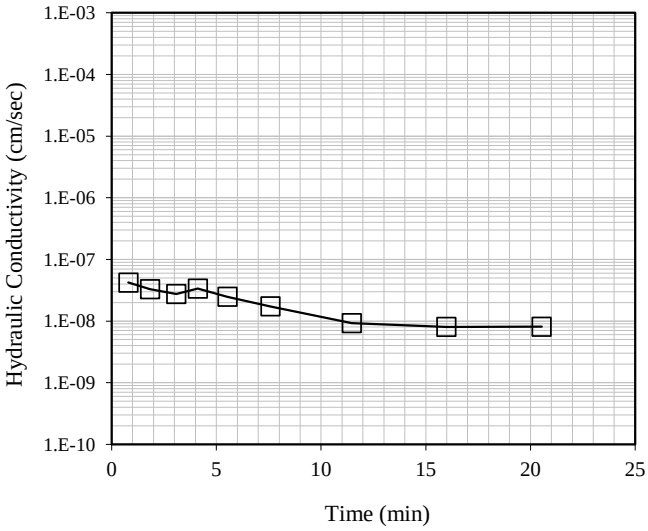
Jeffrey A. Kuhn, Ph.D., P.E., 5/26/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL1-ST-5

TRI Log #: 38015.1
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.85
Height (in)	1.26
Initial Mass (g)	258.3
Sample Area (in^2)	6.36
Water Content (%)	17.9
Total Unit Weight (pcf)	123.0
Dry Unit Weight (pcf)	104.3
Specific Gravity (Assumed)	2.73
Degree of Saturation	77.2
Void Ratio	0.63
Porosity	0.39
1 Pore Volume (cc)	50.8
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.98

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
7.6	1.7E-08
11.5	9.2E-09
16.0	8.0E-09
20.5	8.1E-09
Average, Last 2 Readings	**8.1E-09**

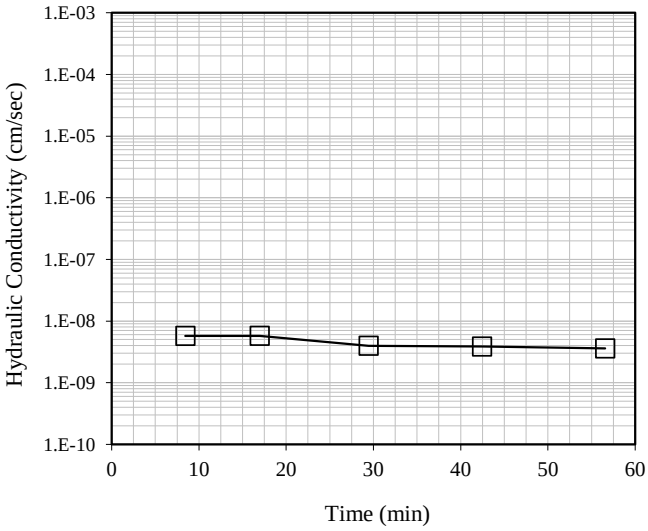
Jeffrey A. Kuhn, Ph.D., P.E., 6/4/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-1-ST-6

TRI Log #: 38165.1
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.84
Height (in)	1.86
Initial Mass (g)	388.2
Sample Area (in^2)	6.32
Water Content (%)	23.5
Total Unit Weight (pcf)	125.5
Dry Unit Weight (pcf)	101.6
Specific Gravity (Assumed)	2.73
Degree of Saturation	94.7
Void Ratio	0.68
Porosity	0.40
1 Pore Volume (cc)	77.9
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.95

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
17.0	5.8E-09
29.5	4.0E-09
42.5	3.9E-09
56.6	3.6E-09
Average, Last 2 Readings	**3.7E-09**

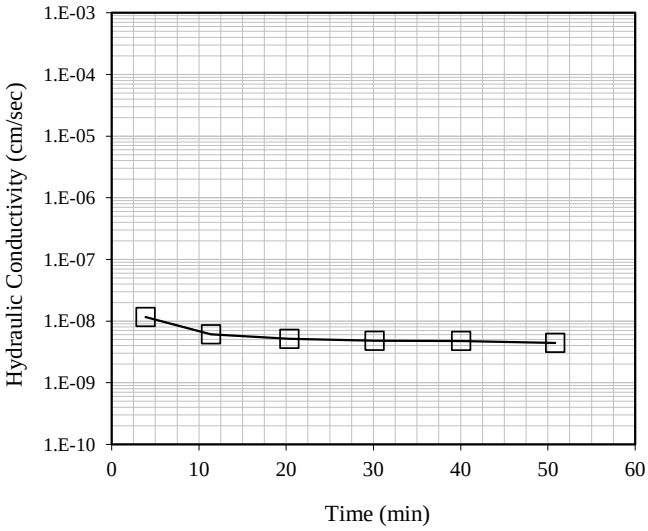
Jeffrey A. Kuhn, Ph.D., P.E., 6/6/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-1-ST-7

TRI Log #: 38165.2
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.84
Height (in)	1.74
Initial Mass (g)	360.6
Sample Area (in^2)	6.32
Water Content (%)	23.2
Total Unit Weight (pcf)	125.0
Dry Unit Weight (pcf)	101.5
Specific Gravity (Assumed)	2.73
Degree of Saturation	93.3
Void Ratio	0.68
Porosity	0.40
1 Pore Volume (cc)	72.7
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.94

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
20.4	5.1E-09
30.1	4.8E-09
40.0	4.8E-09
50.8	4.4E-09
Average, Last 2 Readings	**4.6E-09**

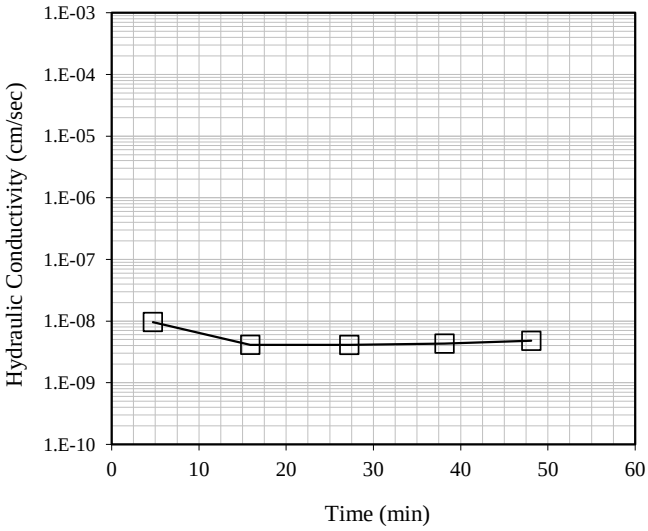
Jeffrey A. Kuhn, Ph.D., P.E., 6/6/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-1-ST-8

TRI Log #: 38165.3
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.85
Height (in)	1.77
Initial Mass (g)	372.9
Sample Area (in^2)	6.36
Water Content (%)	23.8
Total Unit Weight (pcf)	126.4
Dry Unit Weight (pcf)	102.1
Specific Gravity (Assumed)	2.73
Degree of Saturation	97.4
Void Ratio	0.67
Porosity	0.40
1 Pore Volume (cc)	73.7
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.97

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
15.9	4.1E-09
27.2	4.1E-09
38.2	4.3E-09
48.1	4.8E-09
Average, Last 2 Readings	**4.5E-09**

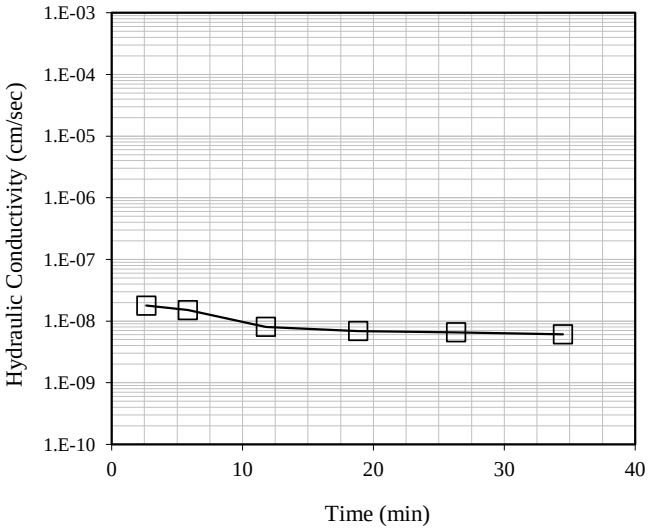
Jeffrey A. Kuhn, Ph.D., P.E., 6/7/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: EcoVista Landfill Cell 12 North
Sample ID: PL-1-ST-9

TRI Log #: 38165.4
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.88
Height (in)	1.87
Initial Mass (g)	388.4
Sample Area (in^2)	6.52
Water Content (%)	24.7
Total Unit Weight (pcf)	121.1
Dry Unit Weight (pcf)	97.1
Specific Gravity (Assumed)	2.73
Degree of Saturation	89.5
Void Ratio	0.75
Porosity	0.43
1 Pore Volume (cc)	86.0
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.97

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
11.8	8.1E-09
18.8	6.9E-09
26.3	6.6E-09
34.5	6.1E-09
Average, Last 2 Readings	**6.3E-09**

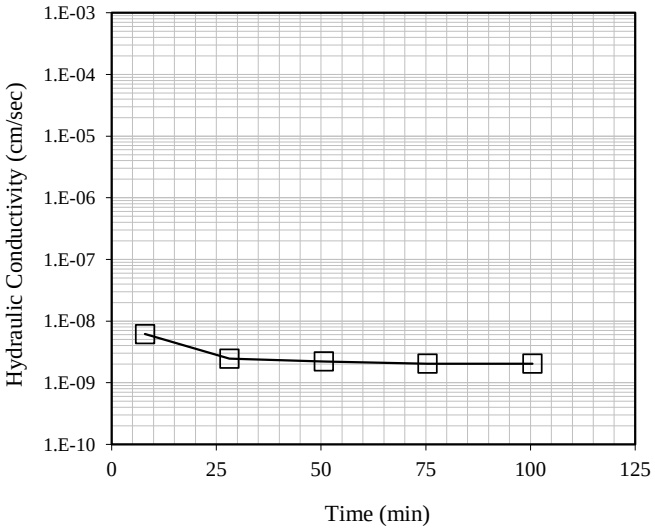
Jeffrey A. Kuhn, Ph.D., P.E., 6/7/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-1-ST-10

TRI Log #: 38165.5
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.85
Height (in)	1.89
Initial Mass (g)	399.0
Sample Area (in^2)	6.36
Water Content (%)	23.9
Total Unit Weight (pcf)	126.4
Dry Unit Weight (pcf)	102.1
Specific Gravity (Assumed)	2.73
Degree of Saturation	97.3
Void Ratio	0.67
Porosity	0.40
1 Pore Volume (cc)	79.0
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.97

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
28.1	2.5E-09
50.7	2.2E-09
75.4	2.0E-09
100.5	2.0E-09
Average, Last 2 Readings	**2.0E-09**

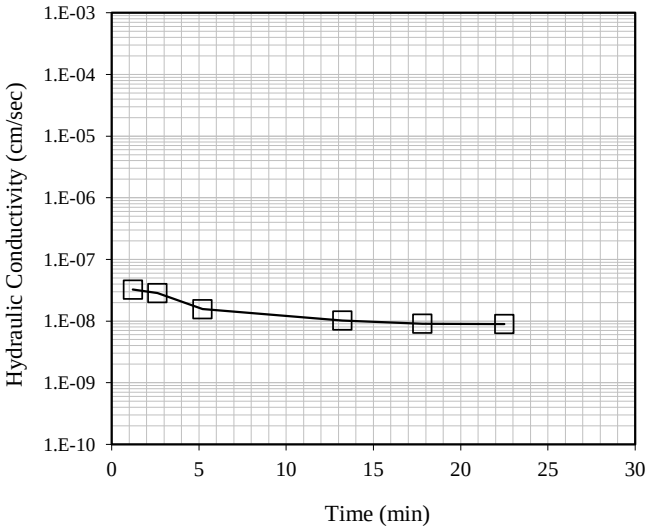
Jeffrey A. Kuhn, Ph.D., P.E., 6/6/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-2-ST-1

TRI Log #: 38316.1
Test Method: ASTM D5084 Method F



Specimen Image

Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.90
Height (in)	1.58
Initial Mass (g)	314.5
Sample Area (in^2)	6.62
Water Content (%)	17.0
Total Unit Weight (pcf)	114.6
Dry Unit Weight (pcf)	98.0
Specific Gravity (Assumed)	2.73
Degree of Saturation	62.9
Void Ratio	0.74
Porosity	0.43
1 Pore Volume (cc)	72.8
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.97

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
5.2	1.6E-08
13.2	1.0E-08
17.8	9.1E-09
22.5	9.0E-09
Average, Last 2 Readings	**9.0E-09**

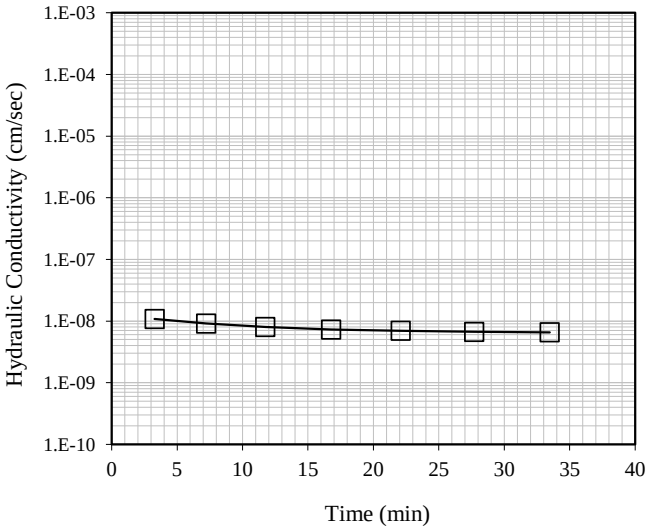
Jeffrey A. Kuhn, Ph.D., P.E., 6/13/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

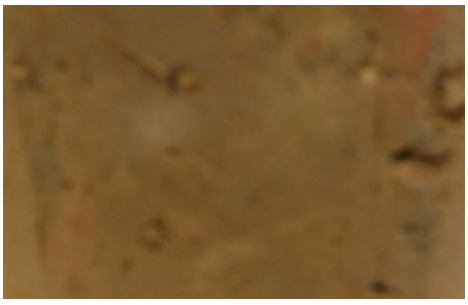
Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-2-ST-2

TRI Log #: 38316.2
Test Method: ASTM D5084 Method F



Specimen Image



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.89
Height (in)	1.41
Initial Mass (g)	300.9
Sample Area (in^2)	6.55
Water Content (%)	16.6
Total Unit Weight (pcf)	123.9
Dry Unit Weight (pcf)	106.3
Specific Gravity (Assumed)	2.73
Degree of Saturation	75.0
Void Ratio	0.60
Porosity	0.38
1 Pore Volume (cc)	57.0
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.96

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
16.8	7.3E-09
22.1	7.0E-09
27.7	6.7E-09
33.5	6.6E-09
Average, Last 2 Readings	**6.6E-09**

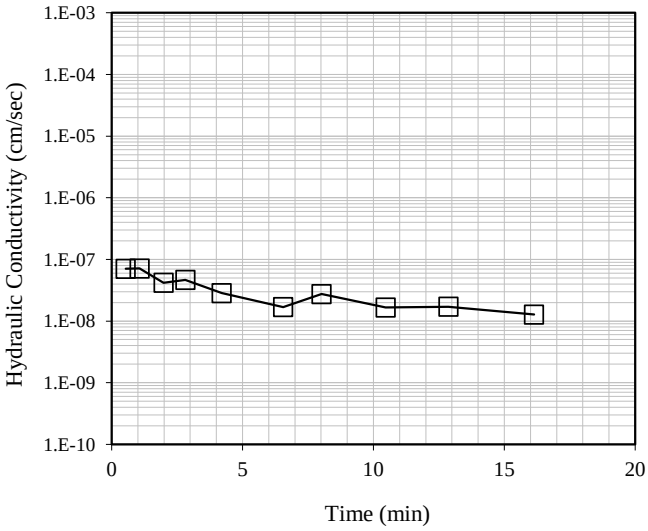
Jeffrey A. Kuhn, Ph.D., P.E., 6/18/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-2-ST-3

TRI Log #: 38316.3
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.85
Height (in)	1.46
Initial Mass (g)	309.7
Sample Area (in^2)	6.38
Water Content (%)	19.3
Total Unit Weight (pcf)	126.9
Dry Unit Weight (pcf)	106.4
Specific Gravity (Assumed)	2.73
Degree of Saturation	87.6
Void Ratio	0.60
Porosity	0.38
1 Pore Volume (cc)	57.1
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.97

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
8.0	2.7E-08
10.5	1.7E-08
12.9	1.7E-08
16.1	1.3E-08
Average, Last 2 Readings	**1.5E-08**

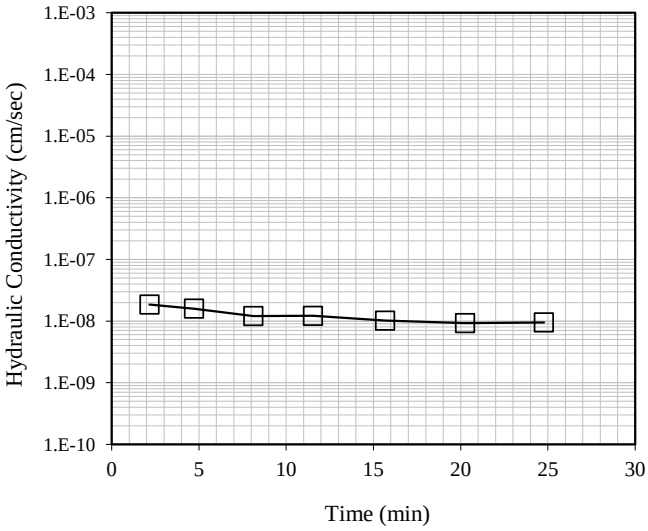
Jeffrey A. Kuhn, Ph.D., P.E., 6/18/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-2-ST-4

TRI Log #: 38351.1
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.84
Height (in)	1.55
Initial Mass (g)	321.1
Sample Area (in^2)	6.35
Water Content (%)	21.3
Total Unit Weight (pcf)	124.5
Dry Unit Weight (pcf)	102.6
Specific Gravity (Assumed)	2.73
Degree of Saturation	88.1
Void Ratio	0.66
Porosity	0.40
1 Pore Volume (cc)	64.0
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.98

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
11.5	1.2E-08
15.7	1.0E-08
20.3	9.3E-09
24.8	9.5E-09
Average, Last 2 Readings	**9.4E-09**

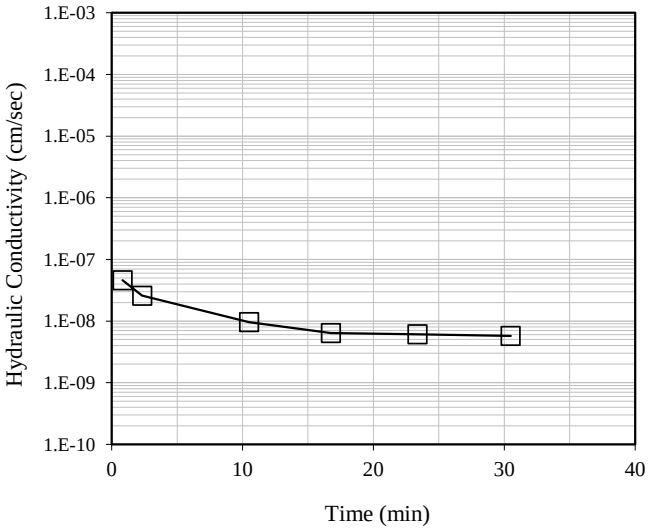
Jeffrey A. Kuhn, Ph.D., P.E., 6/13/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-2-ST-5

TRI Log #: 38351.2
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.86
Height (in)	1.50
Initial Mass (g)	302.7
Sample Area (in^2)	6.44
Water Content (%)	16.6
Total Unit Weight (pcf)	118.9
Dry Unit Weight (pcf)	102.0
Specific Gravity (Assumed)	2.73
Degree of Saturation	67.6
Void Ratio	0.67
Porosity	0.40
1 Pore Volume (cc)	63.7
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.97

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
10.5	9.6E-09
16.8	6.4E-09
23.4	6.1E-09
30.5	5.7E-09
Average, Last 2 Readings	**5.9E-09**

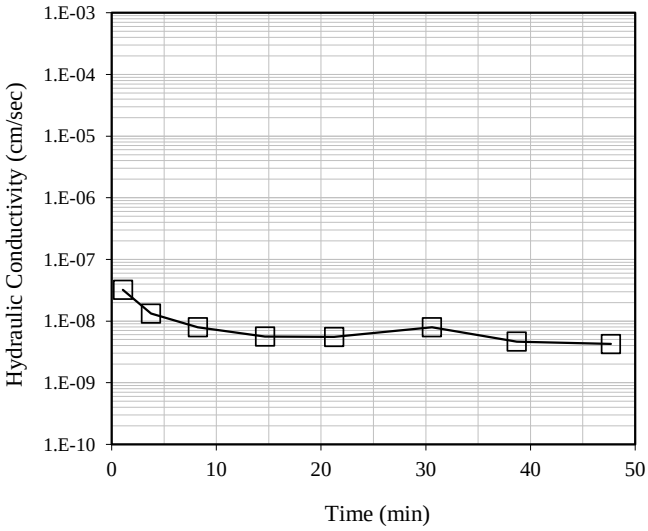
Jeffrey A. Kuhn, Ph.D., P.E., 6/18/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-2-ST-6

TRI Log #: 38351.3
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.80
Height (in)	1.30
Initial Mass (g)	255.3
Sample Area (in^2)	6.16
Water Content (%)	20.9
Total Unit Weight (pcf)	121.4
Dry Unit Weight (pcf)	100.5
Specific Gravity (Assumed)	2.73
Degree of Saturation	81.9
Void Ratio	0.70
Porosity	0.41
1 Pore Volume (cc)	53.8
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.97

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
21.3	5.5E-09
30.6	7.9E-09
38.7	4.7E-09
47.7	4.2E-09
Average, Last 2 Readings	**4.4E-09**

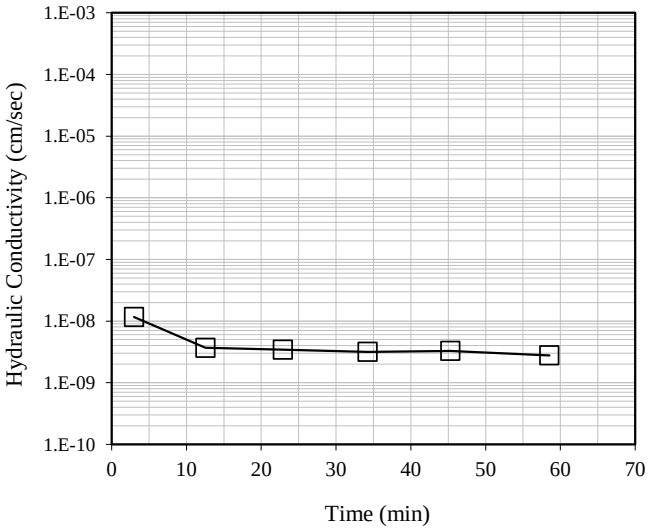
Jeffrey A. Kuhn, Ph.D., P.E., 6/18/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-2-ST-7

TRI Log #: 38351.4
Test Method: ASTM D5084 Method F



Specimen Image

Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.84
Height (in)	1.33
Initial Mass (g)	270.1
Sample Area (in^2)	6.32
Water Content (%)	22.1
Total Unit Weight (pcf)	122.0
Dry Unit Weight (pcf)	99.9
Specific Gravity (Assumed)	2.73
Degree of Saturation	85.5
Void Ratio	0.70
Porosity	0.41
1 Pore Volume (cc)	57.1
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.97

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
22.9	3.4E-09
34.2	3.2E-09
45.3	3.3E-09
58.5	2.8E-09
Average, Last 2 Readings	**3.0E-09**

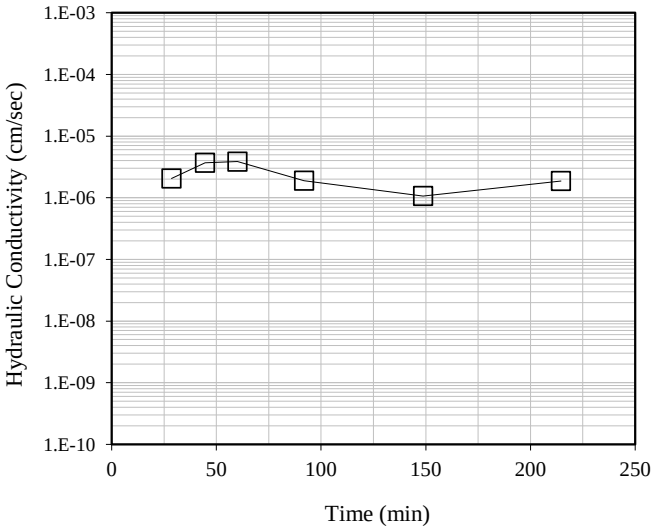
Jeffrey A. Kuhn, Ph.D., P.E., 6/13/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-2-ST-8

TRI Log #: 38351.5
Test Method: ASTM D5084 Method C



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.85
Height (in)	1.25
Initial Mass (g)	247.6
Sample Area (in^2)	6.37
Water Content (%)	16.6
Total Unit Weight (pcf)	118.5
Dry Unit Weight (pcf)	101.6
Specific Gravity (Assumed)	2.73
Degree of Saturation	67.0
Void Ratio	0.68
Porosity	0.40
1 Pore Volume (cc)	52.6
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.97

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
60.1	3.9E-06
91.9	1.9E-06
148.7	1.1E-06
214.6	1.9E-06
Average, Last 4 Readings	**2.2E-06**

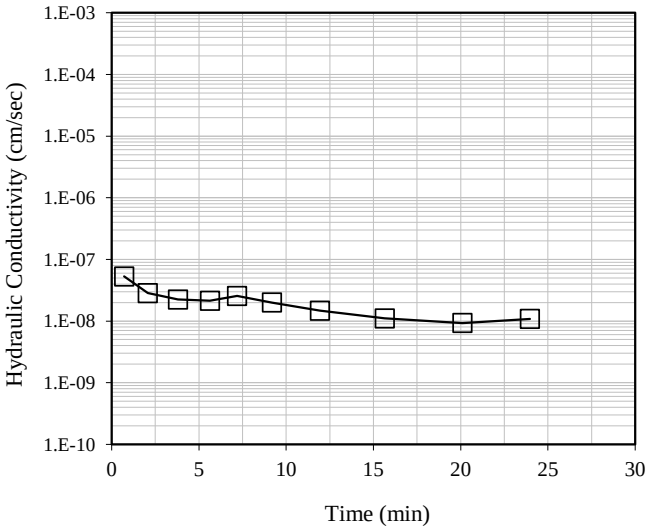
Jeffrey A. Kuhn, Ph.D., P.E., 6/18/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-2-ST-9

TRI Log #: 38351.6
Test Method: ASTM D5084 Method F



Specimen Image

Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.85
Height (in)	1.47
Initial Mass (g)	288.2
Sample Area (in^2)	6.36
Water Content (%)	20.1
Total Unit Weight (pcf)	117.0
Dry Unit Weight (pcf)	97.4
Specific Gravity (Assumed)	2.73
Degree of Saturation	73.4
Void Ratio	0.75
Porosity	0.43
1 Pore Volume (cc)	65.8
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.96

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
11.9	1.5E-08
15.7	1.1E-08
20.1	9.3E-09
24.0	1.1E-08
Average, Last 2 Readings	**1.0E-08**

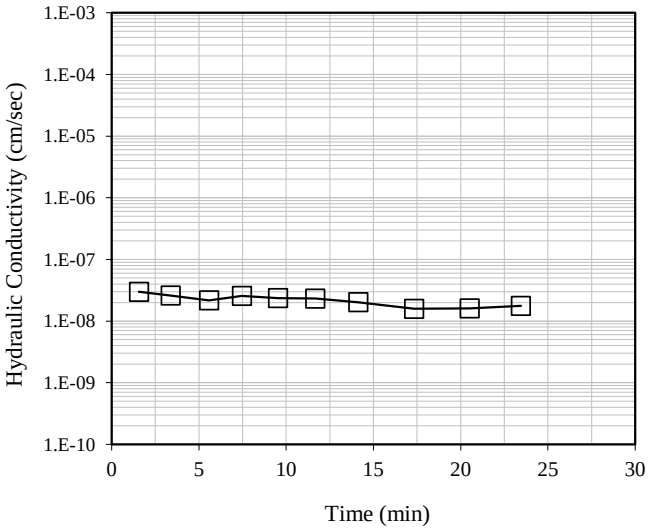
Jeffrey A. Kuhn, Ph.D., P.E., 6/18/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Hydraulic Conductivity

Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell 12 North
Sample ID: PL-2-ST-10

TRI Log #: 38351.7
Test Method: ASTM D5084 Method F



Initial Values	
Sample Condition	Undisturbed
Diameter (in)	2.84
Height (in)	1.80
Initial Mass (g)	359.3
Sample Area (in^2)	6.31
Water Content (%)	18.2
Total Unit Weight (pcf)	120.3
Dry Unit Weight (pcf)	101.8
Specific Gravity (Assumed)	2.73
Degree of Saturation	73.7
Void Ratio	0.67
Porosity	0.40
1 Pore Volume (cc)	75.1
Eff. Confining Stress (psi)	15.0
B-Value Prior to Permeation	0.98

Specimen Image

Time	Hydraulic Conductivity, K at 20° C
Min	cm/s
14.1	2.0E-08
17.3	1.6E-08
20.5	1.6E-08
23.5	1.8E-08
Average, Last 2 Readings	**1.7E-08**

Jeffrey A. Kuhn, Ph.D., P.E., 6/18/2018
Analysis & Quality Review/Date

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

ATTACHMENT H
Construction Photographs

Photo 1 – Watering and Placing Clay liner in Sedimentation Pond

Photo 2 – Density Testing Clay Liner

Photo 3 – Principle Spillway: 36" Riser Pipe

Photo 4 – Principle Spillway connected to discharge pipe

Photo 5 – Principle Spillway

Photo 6 – Principle Spillway: 36” riser with trash rack

Photo 7 – Emergency Spillway with Riprap lining

Photo 8 – Outfall Pipe with RipRap apron

Photo 9 – Outfall 12” pipe with outlet riprap apron

Photo 10 – Sedimentation Pond Markers

Photo 11 – Sedimentation Basin Inlet: Dual 42" CMP with RipRap Apron

Photo 12 – Placing and compacting Scalehouse pad

ATTACHMENT I
CQA Technician Daily Reports

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	March 26, 2018
PROJECT NO.:	18024	DAY:	S M X T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	40° - 62° Cloudy
CONTRACTOR:	CEG Construction		SW 10-15 mph med/~~high~~ humidity
REPORT BY:	Joe Sheppard	TIME ARRIVED:	07:00
		TIME DEPARTED:	19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
7	1-Excavator	
	1- Dump	
	1-Tractor w/ pan	
	1- Water truck	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Hauled material for scale house pad. Rolled north slope and North end of floor.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard
CQA TECHNICIAN

03-26-18
DATE

Ryan Baily
REVIEWED BY

3/27/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	March 27, 2018
PROJECT NO.:	18024	DAY:	S M T X W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	45°-60° Cloudy w/Rain
CONTRACTOR:	CEG Construction		Light breeze from West
REPORT BY:	Joe Shepperd	TIME ARRIVED: 09:00	TIME DEPARTED: 13:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Construction meeting and shipped out shelby tubes and bag samples L1-ST-1, L1-ST-2, L1-ST3 L1-BS-1, L1 BS-2

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

No work due to rain

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joe Shepperd
CQA TECHNICIAN

3/27/18
DATE

Bryan Bailey
REVIEWED BY

4/3/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	March 28, 2018
PROJECT NO.:	18024	DAY:	S M T W T F S — X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	45°-57° Cloudy (Off+on showers) N-10-15mph
CONTRACTOR:	CEG Construction		
REPORT BY:		TIME ARRIVED: 07:00	TIME DEPARTED: 16:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
7	1-Excavator	
	1-Dozer	
	1-Sheepsfoot	
	1-Dump 1-tractor w/ pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Hauled material for prod, placement and soil lime. CQA shipped bucket protective cover material. Pump water out of cell from tuesdays rain

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM: Rain stopped work early

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
PC				3-28-18	3-28-18	7802 9203 8040

Joseph Shepperd
CQA TECHNICIAN

3/28/2018
DATE

Bryce Brink
REVIEWED BY

4/3/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	March 29. 2018
PROJECT NO.:	18024	DAY:	S M T W T F S — X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	38°-55° Cloudy w/ Rain (AM+PM)
CONTRACTOR:	CEG Construction		NW 10-15 High humidity
REPORT BY:	Joe Sheppard	TIME ARRIVED:	12:00
		TIME DEPARTED:	16:30

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
7	1-Excavator	
	1-Dozer	
	1-Dump 1-Tractor w/ loader	
	1-Sheepsfoot	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Hauled material for pad ~~placed~~ installed and rolled
Received pipe and ~~set~~ installed under main scale house location

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard — CQA TECHNICIAN — 3/29/2018 — DATE

Bryan Beaty — REVIEWED BY — 4/3/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	March 30, 2018
PROJECT NO.:	18024	DAY:	S M T W T F X S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	50-72° Partly Cloudy
CONTRACTOR:	CEG Construction		N-10-15mph Medium Humidity
REPORT BY:	Joe Sheppard	TIME ARRIVED:	07:00
		TIME DEPARTED:	12100

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
5	1-Excavator	
	1-Dozer	
	1-Sheepsfoot	
	1-Dump	
	1-Tractor w/ pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Hauling and installing material for sediment pond

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard
CQA TECHNICIAN

03-30-2018
DATE

Bryan Bair
REVIEWED BY

4/3/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 2, 2018
PROJECT NO.:	18024	DAY:	S M X T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	35°-60° Sunny
CONTRACTOR:	CEG Construction		N 10-15 mph Low humidity
REPORT BY:	Joe Sheppard	TIME ARRIVED:	02:00
		TIME DEPARTED:	06:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
3	1- Excavator	
	1- Dump	
	1- Dozer	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Hauled and placed materials for pad

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joe Sheppard
CQA TECHNICIAN

04-02-2018
DATE

Bryan Smith
REVIEWED BY

4/3/2018
DATE

Shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 3, 2018
PROJECT NO.:	18024	DAY:	S M T X W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	34-73° Mostly Cloudy
CONTRACTOR:	CEG Construction		N-10-15 mph Low/mod humidity
REPORT BY:	Joe Shappard	TIME ARRIVED:	07:00
		TIME DEPARTED:	19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator	Recieved pipe for 12 inch Line out of Retention pond
	1-Sheepsfoot	
	1-Dozer	
	1-Tractor w/pan	
	1-Dump	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Hauling and pt installing material for scalehouse pad.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shappard — CQC TECHNICIAN — 04-03-18 — DATE

Ryan Baird — REVIEWED BY — 4/10/2018 — DATE

Shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 4, 2018
PROJECT NO.:	18024	DAY:	S M T W X T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	25°-50° Fair/Sunny
CONTRACTOR:	CEG Construction		SE 10-15 mph Medium humidity
REPORT BY:	Joseph Sheppard	TIME ARRIVED:	07:00
		TIME DEPARTED:	19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator	
	1-Dozer	
	1-Sheepsfoot	
	1-Dump	
	1-Tractor w/pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Still working on scalehouse pad. Hauling, placement and rolling

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard — CQA TECHNICIAN — 04/04/2018 — DATE

Ryan Smith — REVIEWED BY — 4/10/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 5 2018
PROJECT NO.:	18024	DAY:	S M T W T X F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	33°57°
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepard	TIME ARRIVED:	07:00
		TIME DEPARTED:	19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator	
	1-Dozer	
	1-Dump	
	1-Tractor w/pan	
	1-Sheeps foot	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Still working on getting scalehouse pad completed

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepard
COA TECHNICIAN

4/5/2018
DATE

REVIEWED BY

4/10/2018
DATE

Shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 6, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T F X S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	33°-57° Mostly Cloudy
CONTRACTOR:	CEG Construction		SE 10-15 mph Medium humidity
REPORT BY:	Joe Shepperd	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator	
	1-Dozer 1-Dump	
	1-Tractor w/ pan	
	1-Sheepsfoot	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Working on scalehouse pad. Had to rework cell floor in two Areas for Shelby tubes L1-ST1R, and L1-ST3R.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L1-ST-1R	1	665565	645459	4-6-208	4/6/18	7804 1641 6500
L1-ST 3R	1	665864	645509	4-6-208	4/6/18	7804 1641 6500

Joseph Shepperd
CQA TECHNICIAN

4/6/2018
DATE

REVIEWED BY

4/10/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 7. 2018
PROJECT NO.:	18024	DAY:	S M T W T F S — X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	25°-45° Cloudy
CONTRACTOR:	CEG Construction		E 5-10mph
REPORT BY:	Joe Sheppard	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator	
	1-Dozer 1-Dump	
	1-tractor w/ pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS
	Johnny Mason	Mason Surveying	~~Survey~~ Surveyed Scale house pad it's overbuilt

CONSTRUCTION ACTIVITIES: Finish hauling for scalehouse pad. ~~Installed on~~ Installed and rolled

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard
CQA TECHNICIAN

4-7-2018
DATE

REVIEWED BY

4/10/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 8 2018
PROJECT NO.:	18024	DAY:	S X M T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	26°-49° Partly Cloudy
CONTRACTOR:	CEG Construction		5-10 mph med humidity
REPORT BY:	Joe Sheppard	TIME ARRIVED:	07:00
		TIME DEPARTED:	19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator 1-Dozer	
	1-Dump	
	1-Tractor w/ pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Hauling out the excess from scalehouse pad. After Johnny surveyed yesterday, and found out it was overbuilt. After removing the excess material from pad, went over to (NW) corner of retention pond began digging trench for 12 inch pipe drain.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard
QA TECHNICIAN

4-8-2018
DATE

REVIEWED BY

4/10/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 9, 2018
PROJECT NO.:	18024	DAY:	S M X T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	31°-60° Cloudy w/Sunshine
CONTRACTOR:	CEG Construction		E-5-10 mph Medium humidity
REPORT BY:	Joe Sheppard	TIME ARRIVED:	07:00
		TIME DEPARTED:	19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
5	1-Excavator 1-Mini X	A load of rock delivered for leachate line.
	1-Dozer 1-Dump	Rip Rap Rock also delivered
	1-Sheepsfoot	
	1-Water Truck	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: NW corner of retention pond Drainage pipe installed. Concrete poured in the afternoon. Rip Rap installed @ the exit of the 12 inch drainage pipe.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joe Sheppard
CQA TECHNICIAN

4-9-2018
DATE

Bryan Burch
REVIEWED BY

4/10/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 10, 2018
PROJECT NO.:	18024	DAY:	S M T X W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	30°-65° Light variable wind low humidity
CONTRACTOR:	CEG Construction		Sunny
REPORT BY:	Joe Shepherd	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator	- Construction meeting 10:00 Am - 12:00 pm
	1- Dump	-CQA pulled Construction sample from borrow site.
	1- Mini X	
	1-Tractor w/pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Dug the trench for relocating water line.
North side of retention pond dug out spill way.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L1-CS-1	1	N-A	N-A	4-10-18	4-10-18	7804 6527 4425

Joseph Shepherd — CQA TECHNICIAN — 4-10-2018 — DATE

Ryan Burk — REVIEWED BY — 4/13/2018 — DATE

SHEPHERD ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 11, 2018
PROJECT NO.:	18024	DAY:	S M T W X T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	56°-74° Sunny
CONTRACTOR:	CEG Construction		SSE 20mph Low humidity
REPORT BY:	Joe Shepard	TIME ARRIVED:	07:00
		TIME DEPARTED:	20:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator	
	1-Dozer 1-Sheepsfoot	
	1-Dump 1-Water Truck	
	1-Tractor w/pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Started to place cloth (geotextile) and rip rap in the spillway (that was dug out yesterday). Lift one is water across the floor before hauling material down for lift 2. Started lift 2 ~~approximately~~ about 1/3 of the way North from South end. (Waiting on lab results of LI-ST-1R

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
RC-AGG-1	N/A	N/A	N/A	4-11-2018	4-11-2018	7804 8465 0089
LI-CS-2	N/A	N/A	N/A	4-11-2018	4-11-2018	7804 4846 5320

Joseph Shepard — CQA TECHNICIAN — 4-11-18 — DATE

Bryan Bass — REVIEWED BY — 4/13/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 12, 2018
PROJECT NO.:	18024	DAY:	S M T W T X F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	63°-78° Sunny
CONTRACTOR:	CEG Construction		5-15 mph Mod. humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 20:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
8	2-Excavators	Clinton and Grayson arrived today
	2-Dozers 1-Dump	
	1-Water Truck	1-Dozer down for maintenance (All day) 10:30 am
	1-Tractor w/ pan	
	1-Sheepsfoot	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Continuing to recieve material from borrowsite. And loading out red material going back to borrowsite.

CQA performs some preliminary testing to see where the material (clay) is naturally at.

Ben and I see some rocks coming over in the loads. (13:00)

We meet w/ DAVID Morris to discuss possibilities to eliminate foreign objects from coming over in the loads.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
Friction	Interface	shipped				780501519719

Joseph Shepperd
CQA TECHNICIAN

4-12-18
DATE

Ryan Bailey
REVIEWED BY

4/13/18
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 13 2018
PROJECT NO.:	18024	DAY:	S M T W T F X S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	South 60-72° Cloudy 15-25 mph med/high humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 17:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
8		Rain @ 16:45
		Water truck broke down

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Continue to recieved and haul material down into Cell for for lift 2. CQA performs some field tests
Stopped Recieving material from borrow site about 15:00

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd — CQA TECHNICIAN — 4-13-2018 — DATE

Ryan Bair — REVIEWED BY — 4/17/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 14, 2018
PROJECT NO.:	18024	DAY:	S M T W T F S: X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	36°-41° Partly Cloudy NW 10-15 mph
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 18:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
8	1-Excavator	
	1-Dozer	
	2-Dumps	
	1-Tractor w/pan	
	1-Sheepsfoot	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Plumber is here and water line is done. Hauling material for Lift 2 on the west slope.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd — CQA TECHNICIAN — 4-14-18 — DATE

Ben Burks — REVIEWED BY — 4/17/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 15, 2018
PROJECT NO.:	18024	DAY:	S X M T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	30°-42° Partly Sunny
CONTRACTOR:	CEG Construction		10-15 mph Low humidity
REPORT BY:	Joe Shepard	TIME ARRIVED:	07:00
		TIME DEPARTED:	18:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
8	2-Dozers 1-Dump	
	1-Excavator	
	1-Tractor w/pan	
	1-Sheepsfoot	
	1-Water Truck	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Finish using all available material on on west slope for lift 2. CQA Tested lift to 2 on the floor and pulled 2 shelby tubes on the floor L2-ST-1&2

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L2-ST-1				4-15-2018		
L2-ST-2				4-15-2018		

Joe L Shepard
CQA TECHNICIAN

4-15-2018
DATE

REVIEWED BY

4/17/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 16, 2018
PROJECT NO.:	18024	**DAY:**	S M X T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	25-57° Sunny 5-10mph Low humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepperd	**TIME ARRIVED:** 0700	**TIME DEPARTED:** 1700

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
8	2-Dozers	No Material Delivered
	1-Water truck	
	1-Tractor w/pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: CQA Tested lift 1 on (W) Slope. Shipped out FedEx
Maintaining moisture to the cell (watering)

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L1-ST-4	1	645891	645339	4-16		
L1-ST-5 (BS6)	1	665661	645356	4-16		
L1-ST-6 (BS7)	1	645527	645323	4-16		
L1-BS-4	1	665891	645339	4-16		
L1-BS-5	1	665707	645348	4-16		

Joseph Shepperd — CQA TECHNICIAN — 4/16/2018 — DATE

Bryan Beck — REVIEWED BY — 4/17/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 17. 2018
PROJECT NO.:	18024	**DAY:**	S M T X W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	36° ~~[illegible]~~ 75° Sunny
CONTRACTOR:	CEG Construction		10-15 mph ~~[illegible]~~ Low/Mod humidity
REPORT BY:	Joe Shepard	**TIME ARRIVED:**	0700
		TIME DEPARTED:	20:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
8	1-Excavator 1-Dump	L1-ST1R Failed
	2-Dozers 1-Sheepsfoot	Reworking area
	1-Water Truck	~~CA~~ CQA performed density tests to lift (1)
	1-Tractor w/ pan	after reworking area
	1-Tractor w/ disc	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Watering cell to maintain moisture and before applying lift 2 to the N slope
Placed lift 2 on (N) slope

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepard
CQA TECHNICIAN

4-17-2018
DATE

Bryan Bud
REVIEWED BY

4/20/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 18
PROJECT NO.:	18024	**DAY:**	S M T W X T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	43°-70° Sunny
CONTRACTOR:	CEG Construction		10-20 mph winds Low humidity
REPORT BY:	Joseph Shepherd	**TIME ARRIVED:**	07:00
		TIME DEPARTED:	

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
7	1-Excavator 1-Sheepsfoot	Recieved material Dark soil not sure if
	1-Tractor w/pan 1-Dump	Suitable for use
	1-Water truck 2 Dozers	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Processed N slope and tested. Back filled water line trench Water line was moved Saturday. CQA Tested lift area where Shelby tubes failed L1-ST1;ST1R Pulled Shelby L1-ST-1RA

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L1-ST1RA		665560	645412	4-18-2018	~~4-19-2018~~	
					4-19-2018	780598798768

Joseph Shepherd
CQA TECHNICIAN

4-18-18
DATE

Bryan Bruce
REVIEWED BY

4/20/18
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 19, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T X F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	36°-57° Sunny
CONTRACTOR:	CEG Construction		5-10 mph low ~~real~~ humidity
REPORT BY:	Joe Shepard	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
7	1-Excavator 2-Dozers	
	1-Dump 1-Water Truck	
	1-Tractor w/pan 1-sheepsfoot	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Tested lift 2 (N) slope, Received material throughout the day
Hauled and placed lift 2 on (W) slope. N → S about 50-65% of the way

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepard
CQA TECHNICIAN

4/19/2018
DATE

Bryan Bailey
REVIEWED BY

4/20/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 20, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T F X S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	55°-66° Sunny
CONTRACTOR:	CEG Construction		5-10 mph Low/mod humidity
REPORT BY:	Joe Shepperd	**TIME ARRIVED:**	07.00
		TIME DEPARTED:	19.00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
7	1-Excavator 1-Sheepsfoot	Loaded out Red material for borrow site
	1-Dozer 1-Tractor w/pan	
	1-Water truck	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Processed lift 2 on west slope. Moisture density test performed pulled 2 shelby tubes L2-ST 3 +4

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L2 ST-3	2	666		4-20-18	4-23-18	780652246372
L2-ST4	2	665 956	645 333	4-20-18	4-23-18	" "

Joseph Sherrel
CQA TECHNICIAN

DATE

Ryan Smith
REVIEWED BY

4/25/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 21, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T F S: X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	Cloudy w/rain
CONTRACTOR:	CEG Construction		
REPORT BY:	Joseph Sheppard	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 08:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
7		

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: No Work due to weather, ~~and~~

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard
CQA TECHNICIAN

4-21-18
DATE

REVIEWED BY

4/25/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 22, 2018
PROJECT NO.:	18024	**DAY:**	S: X; M; T; W; T; F; S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	Rain
CONTRACTOR:	CEG Construction		
REPORT BY:	Joseph Shoppa	**TIME ARRIVED:**	0.
		TIME DEPARTED:	—

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: No work, to wet

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shoppa
CQA TECHNICIAN

4-22-18
DATE

Ryan Baily
REVIEWED BY

4/25/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 23, 2018
PROJECT NO.:	18024	**DAY:**	S M X T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	50-75° Sunny
CONTRACTOR:	CEG Construction		5-15 mph Low humidity
REPORT BY:		**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 20:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
8	1-Excavator 1-Dozer	
	1-Tractor w/pan	
	1-Dump	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: ~~Hot~~ Hauled and place Lift 3 north half of floor

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L2-ST-3	2			4-20-18	4-23-18	7806 5224 6372
L2-ST-4	2			4-20-18	4-23-18	7806 5224 6372

Joseph Shepherd — QA TECHNICIAN — 4-23-18 — DATE

Ryan Bartz — REVIEWED BY — 4/25/2018 — DATE

Shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	April 24, 2018
PROJECT NO.:	18024	DAY:	S M T X W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	49-74° Sunny
CONTRACTOR:	CEG Construction		NNW 5-10 mph Low humidity
REPORT BY:	Joseph Shepperd	TIME ARRIVED:	07:00
		TIME DEPARTED:	20:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
8	1-Excavator 1-Dump	Recieved results on Shelby tubes
	1-Tractor w/ pan 1-Dozer	L1-ST6
	1-Sheepsfoot	L2-ST-2 Passed
		L1-ST1RA

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Haul and continue to place lift 3 on north half of the cell from. Processed and tested. Pulled sample (L3-ST-1) And pulled Bucket sample L2-CS-1

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L3-ST-1	1			4-24-18	4-24-18	7806 4724 4939
L2-CS-1	2			4-24-18	4-24-18	7806 4681 1715

Joseph Shepperd — CQA TECHNICIAN — 4-24-2018 — DATE

Bryan Davis — REVIEWED BY — 4/25/2018 — DATE

Shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 25, 2018
PROJECT NO.:	18024	**DAY:**	S M T W X T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	46°-56° Overcast/w Rain
CONTRACTOR:	CEG Construction		NNW 10mpL high humidity
REPORT BY:	Joseph Sheppard	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 10:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
8	1-Excavator 2-Dozers	
	1-Tractor w/pan 1-Dump	
	1sheepsfoot ~~Ex~~	
	1-Water truck	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Recieving material. Placing lift 2 on south end of cell, where LI STIRA passed. ~~on~~ Started lift 3 on the north slope

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard
CQA TECHNICIAN

4-25-2018
DATE

Ben Berry
REVIEWED BY

4/30/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 26, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T X F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	48-61° overcast
CONTRACTOR:	CEG Construction		5-10 mph med/high humidity
REPORT BY:	Joe Sheppard	**TIME ARRIVED:**	07:00
		TIME DEPARTED:	09:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
7	1-Dump	
	1-Dozer	
	1-Excavator	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: No work, need material to be delivered. CEG helped Landfill load and haul daily cover. Bladed off wet surface of staging area.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepard — CQA TECHNICIAN — 4-26-2018 — DATE

REVIEWED BY — 4/30/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 27, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T F X S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	50°-72° Sunny
CONTRACTOR:	CEG Construction		5-10 mph mod. humidity
REPORT BY:		**TIME ARRIVED:**	07:00
		TIME DEPARTED:	10:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
3	1-Dozer 1-Dump	Pipe and fitting delivered for leachate line
	1-Excavator	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Showed up waiting to see if we would be receiving any material for clay liner. About lunch time HDPE pipe was delivered

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepherd
CQA TECHNICIAN

4-27-2018
DATE

REVIEWED BY

4/30/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 28, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T F S — X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	50°-75° Sunny
CONTRACTOR:	CEG Construction		5-10mph Low humidity
REPORT BY:	Joe Shepperd	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 17:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
3	1-Excavator	
	1-Dump	
	1-Tractor w/ pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Completed lift 3 on the north slope. Recieving material from the borrow site off of Baker Street.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd
CQA TECHNICIAN

4-28-2018
DATE

Ryan Bank
REVIEWED BY

4/30/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 29, 2018
PROJECT NO.:	18024	**DAY:**	S X M T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	52°-76° Sunny
CONTRACTOR:	CEG Construction		5-10mph Low humidity
REPORT BY:	Joe Shepperd	**TIME ARRIVED:**	07:00
		TIME DEPARTED:	19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator 1-Dump	
	1-Dozer 1-Water truck	
	1-Tractor w/pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Recieving material from borrow site. Watering cell before placing lift 2 material, on the west slope. Maintaining cell moisture. Tested lift 3 on the north slope. pulled shelby tube (L3-ST-2) Second lift started midway to the south on the west slope.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L3-ST-2	3			4-29-18		

Joseph Sheppard
CQA TECHNICIAN

4-29-18
DATE

Ryan Smith
REVIEWED BY

4/30/2018
DATE

SHEPHERD ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	April 30 2018
PROJECT NO.:	18024	**DAY:**	S M X T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	52°-79° Sunny
CONTRACTOR:	CEG Construction		10-20 mph Low humidity
REPORT BY:	Joe Shepperd	**TIME ARRIVED:**	07:00
		TIME DEPARTED:	19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator 1-Dump	Need to test floor again and pull brig samples
	1-Tractor w/pan 2-Dozers	
	1-Water truck 1-Sheepsfoot	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Completed placing and processing lift 2 on West slope, midway to the south. CQA tested and pulled Shelby tube samples ST-5,6 of lift 2.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L2-ST-5	2			4-30-18		
L2-ST-6	2			4-30-18		

Joseph Shepperd — CQA TECHNICIAN — 4-30-18 — DATE

Ryan Burby — REVIEWED BY — 5/14/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 1, 2018
PROJECT NO.:	18024	**DAY:**	S M T X W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	72°-80° Cloudy
CONTRACTOR:	CEG Construction		SSE 10mph mod. humidity
REPORT BY:		**TIME ARRIVED:**	**TIME DEPARTED:**

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator - 1-mini X	Dropped samples @ fed Ex
	2-Dozers 1-Water truck	
	1-Dump 1-Tractor w/pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Cell seems to be a little thick. Digging holes to check depth. Cutting and relocating material to areas needed or spreading it across floor.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepherd — CQA TECHNICIAN — 05/01/2018 — DATE

REVIEWED BY — 5/4/2018 — DATE

SHEPHERD ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 2, 2018
PROJECT NO.:	18024	**DAY:**	S M T W X T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	72°-86° Partly Cloudy
CONTRACTOR:	CEG Construction		SSE 13mph med humidity
REPORT BY:	Joe Shepperd	**TIME ARRIVED:**	07:00
		TIME DEPARTED:	19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator 1-Dump	
	1-Tractor w/disc 1-mini X	
	1-Tractor w/pan 1-Water truck	
	2-Dozers	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Continue to thinning floor and moving material to the west slope. CQA tested lift 2 south end of cell floor. ~~Took~~ Took 3 bag samples for lift 2 and CS-1, for lift 3. Also dug out leachate line except a path across the cell ~~floor~~ from east to west.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L2-BS 1,2,3	2			05/02/18		
L3-CS-1				05/02/18		

Joseph Shepperd
CQA TECHNICIAN

05/02/18
DATE

Bruce Black
REVIEWED BY

5/4/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 3, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T X F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	Rain, No work
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepperd	**TIME ARRIVED:** N/A	**TIME DEPARTED:** N/A

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: No work due to weather

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L2-BS 1,2,3	2			05/02/18	05/03/18	7808 1425 7411
L3-CS-1	3			05/02/18	05/03/18	7808 1425 7422

Joseph Shepperd
QA TECHNICIAN

05/03/18
DATE

Ryan Brink
REVIEWED BY

5/14/2018
DATE

SHEPHERD ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 4, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T F X S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	68°-77° Fair
CONTRACTOR:	CEG Construction		10-15mph Low humidity
REPORT BY:	Joe Shepperd	**TIME ARRIVED:**	07:00
		TIME DEPARTED:	19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator 2-Dozers	
	~~1-Water truck~~ 1-Dump	
	1-Tractor w/pan	
	1-Dump	
	1-Water pump	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: 2 trucks deliver GCL (am). Pumping water out of the cell (am). Moved pump, after lunch to pump water out of the pond.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd
CQA TECHNICIAN

05/04/18
DATE

Ryan Beach
REVIEWED BY

5/8/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 5, 2018
PROJECT NO.:	18024	DAY:	S M T W T F S X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	53°-77° Sunny
CONTRACTOR:	CEG Construction		(NW) 5-10 mph Low humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED:	0700
		TIME DEPARTED:	1:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator 1-Dozer	
	1-Dump 1-Tractor w/pan	
	1-Sheepsfoot	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Cleaning out sump area of oversaturated material. ~~force~~ Finish pumping out the pond. Processed lift 3 north half of cell. COA tested Lift 3 west slope, pulled Shelby tube L3-ST-3. Lift 4 placed and tested on North slope. Sump is filled in with material. Hauling and placing the rest of lift 3 on west slope midway to the south.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L3-ST-3	3			05/05/2018		

Joseph Sheppard
QA TECHNICIAN

05/05/18
DATE

REVIEWED BY

5/8/2018
DATE

SHEPHERD ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 6, 2018
PROJECT NO.:	18024	**DAY:**	S: X / M / T / W / T / F / S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	66°-80° Sunny 5-10 mph Low humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Sheppard	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
8	1-Excavator 1-Dump	
	1-Dozer 1-miniX	
	1-tractor w/pan 1-sheepsfoot	
	1-Water truck	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Rolled and tested lift 3 midway to south end of cell. Mini X was digging north west corner on existing Cell 11 to try and prevent leachate from leaking into cell 12 construction. Water truck constantly watering throughout the day to maintain ~~so~~ moisture levels. End of day applied material to the slopes of scale house pad in pond area.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L3-ST4,5,6	3			05/06/18		

Joseph Sheppard — CQA TECHNICIAN — DATE 05/06/18

[signature] — REVIEWED BY — DATE 5/8/2018

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 7, 2018
PROJECT NO.:	18024	DAY:	S M X T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	61°-86° Sunny SSW 2-5 mph Med. humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Sheppard	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
		~~AGG~~ Aggregate and Sand delivered today
		CQA took AGG sample.

VISITORS

TIME	NAME	REPRESENTING	REMARKS
	Johnny Mason	Mason Surveying	Check grade for final lift

CONSTRUCTION ACTIVITIES: Johnny checks grade. CEG is cutting and filling as necessary. CQA performs moisture density tests. CQA pulls shelby tubes.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L4ST-1,2,3	4			5/07/18	05/07/18	7808 6267 6657
L4 BS 1+2	4			05/07/18	05/07/18	7808 6267 8581
AC-AGG 1				05/07/18	05/07/18	7808 6269 1718

Joseph Sheppard
CQA TECHNICIAN

05/07/18
DATE

Ben Daily
REVIEWED BY

5/8/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 08, 2018
PROJECT NO.:	18024	DAY:	S M T(X) W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	62°-85° Sunny
CONTRACTOR:	CEG Construction		10-15 mph med humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 17:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator 2-Dozers	
	1-Tractor w/pan 1-Dump	
	1-Tractor w/disc -Water truck	
	1-Sheepsfoot/Smooth Roller	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Processing lift 4. Continue to cut and fill where necessary.
CQA tests and pulled Shelby tubes 24-ST-4,5,6 and bucket sample 24-CS-1
Smooth rolling @ South end of floor and watering cell
Recieving material throughout the day for pond area.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
L4-CS-1	4			05/08/18	05/08/18	
L4 ST 4,5,6	4			05/08/18	05/08/18	

Joseph Shepperd
CQA TECHNICIAN

05/08/18
DATE

Roy Burt
REVIEWED BY

5/14/18
DATE

Shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 9, 2018
PROJECT NO.:	18024	DAY:	S M T W X T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	65°-88° Sunny
CONTRACTOR:	CEG Construction		SSE 5-10mph mod humidity
REPORT BY:	Joe Sheppard	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator	
	1-Smooth Roller	
	1-Water Truck	
	2-Dozers	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Recieving material in the pond area and hauling out Red material. Some grading and smooth rolling of cell 12. Also watering.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard
CQA TECHNICIAN

05/09/18
DATE

Ryan Baily
REVIEWED BY

5/14/2018
DATE

Shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 10, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T X F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	66°-86° Sunny SSE 5-15 mph med. humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepperd	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 17:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
6	1-Excavator 1-Dump	~~Contr~~ Construction meeting @ 10:00 am
	1-Tractor w/pan	Johnny Mason will be out tomorrow to for
	1-Smooth roller	Certification of ~~cell~~ cell
	1-Water Truck	

VISITORS

TIME	NAME	REPRESENTING	REMARKS
9:45 - 10:45	Bryan Bailey	Shepherd Engineering Design Co.	for construction meeting

CONSTRUCTION ACTIVITIES: Dug out leachate line. Material hauled to the top. Smooth rolling on the cell. Recieved material throughout the day

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd — CQA TECHNICIAN — 05/10/18 — DATE

Bryan Bailey — REVIEWED BY — 5/14/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 11, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T F X S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	65°-85° Sunny (South) 15-20mph mod. humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Sheppard	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 9:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
4	1-Excavator 2-Dozers	
	1-Dump 1-Tractor w/pan	
	1-mini X	

VISITORS

TIME	NAME	REPRESENTING	REMARKS
@	Johnny Mason	Mason Surveying	To Certify cell clay liner

CONSTRUCTION ACTIVITIES: Started placing material in the pond @ the east end working westward Continue to receive material from Baker str. borrow area. And returning sed material to borrow site. Clinton and Frank making necessary corrections to the cell as Johnny checks the grades of Cell (Clay liner). Certification not completed today Johnny will be back tomorrow.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard
CQA TECHNICIAN

05/11/2018
DATE

Ray Reich
REVIEWED BY

5/14/2018
DATE

Shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 12, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T F S: X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	65°-86° Pretty Cloudy, Fair
CONTRACTOR:	CEG Construction		South 15-20mph med. humidity
REPORT BY:	Joe Sheppard	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
5	1-Excavator 2-Dozers	Johnny gets cell certified around lunch time
	1-Dump 1-tractor/pan	
	1-Water Truck	

VISITORS

TIME	NAME	REPRESENTING	REMARKS
	Johnny Mason	Mason Surveying	

CONSTRUCTION ACTIVITIES: Cell is certified. ~~Start~~ Continue to place first lift on the pond floor. Working from east to west.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard
CQA TECHNICIAN

05/12/18
DATE

Bryan Bailey
REVIEWED BY

5/14/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 13, 2018
PROJECT NO.:	18024	**DAY:**	S X M T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	66°-88° Sunny
CONTRACTOR:	CEG Construction		5 mph mod humidity
REPORT BY:	Joseph Shepperd	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 17:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
7	1-Excavator 1-Dump	
Suzie, Dana, Frank, will, matt	1-Tractor w/ pan 1-Mini X	
clinton, Baylon	1-Water truck 2-Dozers	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Continue to place material on the floor of the pond, first lift. Mini X digging anchor trench, top of west slope. Smooth Rolling cell. CQA Bucket sample first left of the pond.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd
CQA TECHNICIAN

05/13/2018
DATE

REVIEWED BY

5/14/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 14, 2018
PROJECT NO.:	18024	**DAY:**	S: M: X T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	67°-88° Sunny
CONTRACTOR:	CEG Construction		5-10-15 mph Medium humidity
REPORT BY:	Joseph Sheppard	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 19:30

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 7	1-mini X 1-Dump 1-Excavator	Rock delivered for leachate line
TEP 34?	1-water truck 1-skytrack forklift	Pipe is being welded
	1-skid steer	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: CEG uses mini X to continue digging Anchor Trench on west slope. Liner crew arrives today and begins bagging sand and parking trailer. CEG is watering clay liner and continue smooth rolling entire cell. Liner crew deploys from 13:00 the end of the day. Panels 1-24 are deployed and welded. S(Secondary Liner) Also moved all material from the back of landfill, to construction area for use on the cell.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard — CQA TECHNICIAN — 05-14-18 — DATE

REVIEWED BY — 5/18/18 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	MAY 15, 2018
PROJECT NO.:	18024	**DAY:**	S M T X W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	65°-85° Partly Cloudy
CONTRACTOR:	CEG Construction		N-5-10mph med./high humidity
REPORT BY:	Joe Sheppard	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 20 ?	1-Excavator 2-Dozers	
TEP = ?30	1-Skytrack forklift 1-Dump	Rained monday night
	1-Skidsteer 1-water truck	Pipe for LCS & LDS being welded (continued)
		All geomembrane expected has been recieved.

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Moving material from boneyard to cell construction area for use in the cell. Sed. pond ~~was~~ watered ~~the~~ throughout the day. Received 2 Trucks of 60 mill. geomembrane. More leachate line rock delivered. DSS-1-14 pulled. No liner deployed

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard — CQA TECHNICIAN — 05-15-18 — DATE

Ben Bard — REVIEWED BY — 5/18/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 16, 2018
PROJECT NO.:	18024	**DAY:**	S M T W X T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	60°-82° Partly Cloudy
CONTRACTOR:	CEG Construction		NNW 3-5 mph High humidity
REPORT BY:	Joe Shepperd	**TIME ARRIVED:**	07.00
		TIME DEPARTED:	16.00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 6	2-Dozers 1-Excavator	Tested pond first lift, too dry.
TEP -	1-mini X 1-Skytrack forklift	
	1-Tractor w/ pan 1-water truck	
	1-Tractor w/ disc	
	1-skidsteer	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Anchor trench on North end of cell being dug out. TEP deployed panels 25-43 of secondary liner.

CQA ships destructs DSS-1-14 (off overlay due to rain.)

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
DSS-1-14@					05-16-18	781002485532
PL1-ST1						" "
BS-1						" "

Joseph Shepperd
CQA TECHNICIAN

05/16/18
DATE

REVIEWED BY

5/18/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 17, 2018
PROJECT NO.:	18024	DAY:	S M T W T X F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	58°-81° Sunny
CONTRACTOR:	CEG Construction		5mph SSW, high/mod. humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED:

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 6	1-miniX	
	1-Skytrack forklift	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Liner crew some cleanup. Too wet for them to deploy today. MiniX Continues North Anchor trench, completed. Continue to bring material up to cell for use in the cell.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd — CQA TECHNICIAN — 05/17/18 DATE

REVIEWED BY — 5/18/2018 DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 18 2018
PROJECT NO.:	18024	DAY:	S M T W T F X S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	65°-85° Sunny, SE 5mph medium humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 17:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 6	1-skidsteer 1-Dozer	
TEP ?	1-Excavator 1-Skytrack forklift	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Deploying 6-200-6 Geotextile. Pumping water out of the sump. Oversaturated soil in sump ~~and~~ area being pulled out and replaced. Cleaning liner from ~~rain~~ rain.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
DSS-15-18					05/18/18	781036051288

Joseph Shepperd
CQA TECHNICIAN

05/18/18
DATE

REVIEWED BY

5/22/18
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 19, 2018
PROJECT NO.:	18024	DAY:	S M T W T F S — X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	70°-85° Sunny, 5-10mph medium humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joseph Sheppard	TIME ARRIVED:	07:00
		TIME DEPARTED:	17:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 6	1-Excavator 1-Skytrack forklift	
TEP:	1-Skidsteer 2-Dozers	
	1-Dump 1-Tractor w/pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Panel 44 - laid out and welded. In the Sed. pond checking grade, It is a bit thick. Material being relocated to thinner areas.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard
CQA TECHNICIAN

05/19/18
DATE

REVIEWED BY

5/22/18
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 20, 2018
PROJECT NO.:	18024	DAY:	S X M T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	66°-81° Cloudy
CONTRACTOR:	CEG Construction		N 3mph High humidity
REPORT BY:	Joe Shepherd	TIME ARRIVED: 07:00	TIME (13:00 CREWS) DEPARTED: 16:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 5	1-Excavator 1-Dozer	
TEP:	1-Tractor w/pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Seal pond tested pulled samples PL-ST-2-4 and Bag samples PL-1-BS2-3. Tie in welds completed on Secondary Liner.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepherd
CQA TECHNICIAN

05/20/18
DATE

Bryan Burns
REVIEWED BY

5/22/18
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 21, 2018
PROJECT NO.:	18024	DAY:	S M X T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	70° 81° SSW 2-5 mph Partly Cloudy / Fair Mod. humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joseph Shoppard	TIME ARRIVED: 07:00	TIME DEPARTED: 17:00

NUMBER WORKING	LIST EQUIPMENT	~~Rip Rap~~ GENERAL NOTES
CEG: 5		Rip Rap delivered and installed in Sed pond
TEP:		@ 42" pipe ~~outlet~~ inlet.
		GCL moved from the back of Landfill

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Pumping water out of the Cell from yesterday afternoon rain. 2 trucks delivered 6-250-6 Geocomposite. Road Base delivered throughout ~~the day~~ day. Road Base installed for road on top of levy at West end of Sed. pond.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
DSS					05-21-18	781065518598

Joseph Shoppard
CQA TECHNICIAN

05/21/18
DATE

REVIEWED BY

5/22/18
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 22, 2018
PROJECT NO.:	18024	DAY:	S M T X W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	64°-85° Fair
CONTRACTOR:	CEG Construction		ESE 2-5 mph mod. humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 6	1-Excavator 2-Dozers	Waiting on 800 geocomposite to finish Cell.
TEP	1-Water Truck	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Material is being hauled in. Untested. And hauling Rad material offsite. Only stockpiling Clay material.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
PL1-ST-2-4						7810 5500 0028
PL1-BS-2a3						" "

Joseph Shepperd
CQA TECHNICIAN

5-22-18
DATE

REVIEWED BY

5/28/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 23, 2018
PROJECT NO.:	18024	DAY:	S M T W X T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	65°-81° Partly Cloudy
CONTRACTOR:	CEG Construction		E 2-5mph mod. humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED:	07:00
		TIME DEPARTED:	14:30

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 6	1-Excavator 1-skidsteer	2- Truck of geocomposite delivered
TEP: 21	1-Skytrack forklift	All destructs passed / ~~Assisting~~
	1-Water truck	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Continue to receive material for pond (untested) and stockpiling

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
DSS-28A+B						781105062381

Joseph Shepperd
CQA TECHNICIAN

05-23-2018
DATE

REVIEWED BY

5/28/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 24, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T X F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	65°-85° Mostly Cloudy
CONTRACTOR:	CEG Construction		SE 1emph med. humidity
REPORT BY:	Joe Shepherd	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 4	1-Excavator 1-mini X	
TEP: 25	1-skytrack forklift	
	1-Bobcat 1-Dump	
	1-smooth Roller	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: LDS pipe 6"winch installed and Riser pipe and installing rock.
Recieved 2 trucks w/ 6-200-6 geocomposite, And geotextile.
Liner guys here @ 13:00 and start to deploy geocomposite (200)

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph L Shepherd — CQA TECHNICIAN — 05/24/18 — DATE

REVIEWED BY — 5/28/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	May 25, 2018
PROJECT NO.:	18024	**DAY:**	S M T W T F X S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	65°-85° Partly Cloudy SSW - 10mph, Mod Humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepherd	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 19:00 (14:30)

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 3	1-Excavator 1-mini X	
TEP: 25	1-Skytrack forklift	
	1-Skidsteer 1-Dozer	
	1-Dump	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: LDS line finished. 200 geocomposite finished. Continue to recieve material for the pond. GCL and liner 60mil. deployed on top of GCL. Day for liners (crew) cut short due to Rain. CEG stayed full day working. Trucks stop bringing in material about 15:15 due to rain.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph L. Shepherd — CQA TECHNICIAN — 05-25-2018 — DATE

Ryan Reid — REVIEWED BY — 5/29/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 26 2018
PROJECT NO.:	18024	DAY:	S M T W T F S X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	64°-90° Sunny WSW 2-5mph med. humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepard	TIME ARRIVED:	07:00
		TIME DEPARTED:	17:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG : 3	1-Excavator 1-Dozer	
TEP : ~~20~~ 17-20	1-Dump 1-Skytrack forklift	
	1-skid steer	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Deploying GCL and 60 mil primary liner. CEG hauling and spreading Lift one of untested material. Road Base staged on Landfill road. To be spread tomorrow on the ~~road~~ road.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepard
CQA TECHNICIAN

05-26-18
DATE

REVIEWED BY

5/29/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 27. 2018
PROJECT NO.:	18024	DAY:	S X M T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	65°-85° Sunny
CONTRACTOR:	CEG Construction		5-10 mph mal. humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 18:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 3	1-Excavator 1-motograder	
	1-Dozer 1-Dump	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Processed and tested East End of pond. Was too dry yesterday. Water truck broke, borrowed landfill water truck. ~~Spread~~ Spread and compacted road gravel.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd
CQA TECHNICIAN

5/27/18
DATE

REVIEWED BY

5/29/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 29, 2018
PROJECT NO.:	18024	DAY:	S M T X W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	66°-89° Partly Cloudy ESE 4mph mod humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG : 3	2-Skidsteers 1-Excavator	
	1-mini X 1-Dozer	
	1-water truck	
	1-Skytrack forklift	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Recieving more clay material. Continue to lay GCL w/ primary liner over GCL Panels 16-28. Vacuum tests and repairs completed on primary liner. Dirt is placed around EB LDS riser pipes. And covered with liner to prevent it from getting wet and washing down into sump. Potential rain next day or so.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
DS-1-12					05/29/18	7811 7896 6104
					05/29/18	7811 7897 5462

Joseph Shepperd
CQA TECHNICIAN

05/29/2018
DATE

REVIEWED BY

6/1/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 30, 2018
PROJECT NO.:	18024	DAY:	S M T W X T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	66°, 90° Sunny
CONTRACTOR:	CEG Construction		ESE 5-10mph median humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 4	1-Excavator 1-water truck	
TEP: 20	1-Tractor w/pan	
	1-Skytrack forklift	
	1-skidsteer	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Pump water out of the sump. Processing lift one of new material West ~~end~~ end of SEO pond. Density tests performed. Shelby tubes pulled samples I.D PL1-ST-6-10 and bag samples PL1-BS-4-6 5 tubes and 3 bags liner crew starts deploying GCL and primary liner ontop. Seaming, and air tests are performed.

Shipped Destructs 9A & 9B and DS-13-15

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
~~DS-9A&9B~~					05-30-18	781199005301
DS-13-15						

Joseph Shepperd
CQA TECHNICIAN

05/30/18
DATE

REVIEWED BY

6/1/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	May 31 2018
PROJECT NO.:	18024	DAY:	S M T W T X F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	69°-88° Cloudy w/some sun SW 8 mph mod/high humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shoppard	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 3	1-Excavator 1-water truck	
TEP- 17	1-Sky track forklift	
	1-Dozer & mini X	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Hand dug out material in anchor trench, that fell in from putting the dirt around the risers pipes. Begin welding secondary to primary liner in Anchor trench starting at SW corner proceeding North. ~~Same~~

CEG is grading pond first lift. Liners crane started today @ at 12:00pm

~~Also~~ TEP deploying 250 geocomposite.

CQA finishes seam summary, air tests and vaccuum tests of primary liner. and marked last 3 destructs DS-25-27

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shoppard
CQA TECHNICIAN

05/31/18
DATE

REVIEWED BY

6/1/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 1, 2018
PROJECT NO.:	18024	DAY:	S M T W T F X S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	72°-92° Partly Cloudy
CONTRACTOR:	CEG Construction		E 3-10mph High to mod. humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED:	07:00
		TIME DEPARTED:	20:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 3	1-Excavator 1-Dozer	
TEP: 17	1-Water truck 1-skidsteer	
	1-Skytrack forklift	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: DS-16-21 cut out and repaired. Continue deploying GCL and primary liner. CEG working in the sed pond watering and continuing grade check on first lift.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
DS-16-21					06/01/18	

Joseph Shepperd — CQA TECHNICIAN — 06/01/18 — DATE

Bryan Berry — REVIEWED BY — 6/5/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 2, 2018
PROJECT NO.:	18024	DAY:	S M T W T F S X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	65°-88° Sunny / ∞ clouds
CONTRACTOR:	CEG Construction		5-10-20mph High/mod humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 18:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 2	1-Excavator 1-Dozer	
TEP: 17	1-Skytrack forklift	
	1-Water truck 1 skidsteer	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: GCL and primary liner completed today. Will continue deploying Geocomposite ~~for~~ from the east side of cell to line up the geocomposite deployed from the ~~Thursday~~ Thursday weston. Everything vaccuum tested and air tested.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd — CQA TECHNICIAN — 06/02/18 — DATE

REVIEWED BY — 6/5/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 3, 2018
PROJECT NO.:	18024	DAY:	S X M T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	60°-85° Sunny, N 5-15 mph, Low humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joseph Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 4	1-Excavator 1-Dozer	
TEP: off	1-Dump 1-Tractor w/ pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Place LCS pipe in leachate trench. Built a road ~~off~~ along leachate line. ~~was~~ Started protective cover on Southwest side of leachate line.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd — CQA TECHNICIAN — 06-03-2018 — DATE

Bryan Bailey — REVIEWED BY — 6/4/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 4, 2018
PROJECT NO.:	18024	DAY:	S M X T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	66°-85° Sunny NW - 5-10 mph, Medium humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joseph Shepherd	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 4	1-Excavator 1-Dump	Short approximately 4 rolls of 250 geocomposite. Northwest corner not complete.
TEP - 17	1-Dozer 1-Skytrack forklift	
	1-Backhoe/loader	
	1-Skidsteer	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Recieving clay material for the pond. Hauling and placing protective cover - Some of the bunsito completed from south to north.
All 250 geocomposite is used. Northwest corner not completed.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

Ran out of 250 geocomposite.

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepherd — CQA TECHNICIAN — 06-04-18 — DATE

Bryan Brady — REVIEWED BY — 6/8/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	June 5, 2018
PROJECT NO.:	18024	**DAY:**	S M T X W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	62°-87° Sunny
CONTRACTOR:	CEG Construction		SSW 5 mph medium humidity
REPORT BY:	Joe Shepperd	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG = 5	1-Excavator 1-Dump	10:00 am meeting
TEP - 17	1-Dozer 1-Tractor w/pan	
	1-Skytrack forklift	
	1-Skidsteer	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Rain flap installed over south berm and Extrusion welded to primary liner. TEP is cleaning up trash on around and within the cell. Sleeves welded to LDS pipe @ the top of North slope. Primary liner to secondary liner is being extrusions welded together in the Anchor trench. Spreading Lift 2 material within the Sed. pond.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
PC-PC-1				06-05-18	06-05-18	
PC-CS-1				06-05-18	06-05-18	

Joseph Shepperd
CQA TECHNICIAN

06-05-2018
DATE

REVIEWED BY

6/8/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	June 6, 2018
PROJECT NO.:	18024	**DAY:**	S M T W X T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	66°-89° Partly Cloudy
CONTRACTOR:	CEG Construction		SSE 6 mph Medium humidity
REPORT BY:	Joe Shappard	**TIME ARRIVED:** 07:00	**TIME DEPARTED:** 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 4	1-Dump 1-Excavator	Recieved 4 rolls of geocomposite to complete
TEP: 17	1-Tractor w/pan 2-Dozers	the Northwest corner. From another landfill
	1-Skytrench forklift	
	1-Water truck	
	1-Skidsteer	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Recieving material for pond clay liner. 1 Extrusion welded all primary to secondary liner in the Anchor trench and VACCUUM tested. Upper subsheet is being installed in the leachate line and extrusion welded to primary liner. CEG is digging out the burrito, ~~and~~ a road, and some of South berm in East corner so that upper sub sheet can be installed.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM Missed a detail in drawing. Upper Sub sheet on leachate line.

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shappard — CQA TECHNICIAN — 06-06-18 — DATE

Bryan Burch — REVIEWED BY — 6/8/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 7, 2018
PROJECT NO.:	18024	DAY:	S M T W T X F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 4	1-Excavator 2-Dozers	
TEP 17	1-Dump 1-Tractor w/pan	
	1-Water truck 1-Skidsteer	
	1-Skytrack fork lift	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: TEP finishes primary sub sheet in leachate line. Welds are vaccuum tested and is good. Leftover GCL moved and wrapped and sealed in HDPE liner to prevent damage due to weather.

CEG working second lift of clay liner in the pond. CQA performs density tests and pulls baggy samples of soil and 2 shelby tubes.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
PL2-ST-142				06-07-18	06-08-18	
PL2-BS-142				06-07-18	06-08-18	

Joseph Shepperd
CQA TECHNICIAN

06-07-18
DATE

Ryan Davis
REVIEWED BY

6/8/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 8. 2018
PROJECT NO.:	18024	DAY:	S M T W T F X S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	68°-86° Mostly Cloudy / Fair
CONTRACTOR:	CEG Construction		SSW 9 mph Medium humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG: 5	1-Excavator 1-Dump	
TEP - 17	1-Backhoe Loader	
	1-Watertruck 1-skidsteer	
	1-Skytrack forklift	
	1-Tractor w/pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS
	Johnny Mason	Mason Surveying	Marks perimeter ditch around cell and checks pond elevation/grade

CONSTRUCTION ACTIVITIES: TEP Flips geocomposite back after completing primary sub sheet yesterday. ~~on~~ It is seatbacked and listened together. TEP finished up around lunch and demobolized. Before demobolizing the lay ~~geoc~~ geotextile for LCS burrito. LCS burrito completed by the end of day. Riser pipe also in place.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
PL-2-ST-1-2	2			06-07-18	06-08-18	
PL-2-BS-1-2	2			06-07-18	06-08-18	
PL-2-ST-3	2			06-08-18	06-08-18	
PL-2 BS-3	2			06-08-18	06-08-18	

Joseph Shepperd
CQA TECHNICIAN

06-08-18
DATE

REVIEWED BY

6/11/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 9, 2018
PROJECT NO.:	18024	DAY:	S M T W T F S X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	68°-91° Sunny SSW 5-10 mph medium humidity
CONTRACTOR:	CEG Construction		
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 9:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 5	2-Dozers 1-Excavator	
	1-Dump 1-Tractor w/pan	
	1-Water truck	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Processing and testing lift 2 in the soil pond. Placing protective cover in the cell floor North end and starting up the slope.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
PL-2-ST-4-7	2			06-09-18		
PL-2 BS-4-6	2			06-09-18		
P-CS-3	2			06-09-18		

Joseph Shepperd
CQA TECHNICIAN

06-09-18
DATE

REVIEWED BY

6/11/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 10, 2018
PROJECT NO.:	18024	DAY:	S X M T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	67°-90° Sunny
CONTRACTOR:	CEG Construction		5-10 mph medium humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 17:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 5		

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Lift 2 is completed and tested by lunch. Continue to haul and place protective cover in the Cell. Touching up pond appearance.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
PL-2-ST-4-7	2			06-09-18	06-11-18	Delivered by
PL-2BS-4-6	2			06-09-18	06-11-18	Joe on Monday
P-CS-3	2			06-09-18	06-11-18	June 11, 2018
PL-2-ST-8-10	2			06-10-18	06-11-18*	7 shelby tubes
					*	3 baggie samples
					*	1 - Bucket

Joseph Shepperd — CQA TECHNICIAN — 06-10-18 — DATE

REVIEWED BY — 6/11/2018 — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	6/11/2018
PROJECT NO.:	18024	**DAY:**	S: ; M: x; T: ; W: ; T: ; F: ; S:
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	
CONTRACTOR:	CEG Construction		77-85 F (sunny)
REPORT BY:	Bryan Bailey	**TIME ARRIVED:** 7:00	**TIME DEPARTED:** 5:30PM

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 5	CAT 345 Excavator - 1	1 Water trucks
	Tractor with pan	
	D6 Dozer - 1	
	Off Road Dump Truck - 1	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

Cell 12 N: CEG is excavating, hauling and installing protective cover on west side slope.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Bryan W Bailey — CQA TECHNICIAN — 06/11/18 — DATE

Bryan W Bailey — REVIEWED BY — 11-Jun — DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	**DATE:**	6/12/2018
PROJECT NO.:	18024	**DAY:**	S: ; M: ; T: x ; W: ; T: ; F: ; S:
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	**WEATHER:**	
CONTRACTOR:	CEG Construction	77-85 F (sunny)	
REPORT BY:	Bryan Bailey	**TIME ARRIVED:** 7:00	**TIME DEPARTED:** 6:00PM

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 5	CAT 345 Excavator - 1	1 Water trucks
	Tractor with pan	
	D6 Dozer - 1	
	Off Road Dump Truck - 1	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

Cell 12 N: CEG is excavating, hauling and installing protective cover on west side slope. Dozer broke down around 3:00 pm. Continued hauling an dumping protective cover material at base of west slope.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Bryan W Bailey
CQA TECHNICIAN

06/12/18
DATE

Bryan W Bailey
REVIEWED BY

12-Jun
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 13, 2018
PROJECT NO.:	18024	DAY:	S M T W X T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	70°-73° Sunny
CONTRACTOR:	CEG Construction		5-10mph Medium humidity
REPORT BY:	Joe Sheppard	TIME ARRIVED: 07:00	TIME DEPARTED: 17:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG-5	1-Excavator 1-Dump	
	1-Dozer 1-Tractor w/pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Dug out perimeter trench, backfilled Anchor trench. Hauled some material for protective cover.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Sheppard
CQA TECHNICIAN

06-13-18
DATE

Baily
REVIEWED BY

6/14/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 14, 2018
PROJECT NO.:	18024	DAY:	S M T W T X F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	70°-93° Sunny, some clouds
CONTRACTOR:	CEG Construction		5-5-10 mph med. humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 4	1-Excavator 1-Dozer	
	1-Tractor/pan	
	1- Dump	

VISITORS

TIME	NAME	REPRESENTING	REMARKS
	Johnny Mason	Mason Surveying	Checking pond grade

CONSTRUCTION ACTIVITIES: ~~Contin~~ Continue to haul and place protective cover. ~~Frank~~ Frank working w/ Johnny on final grade of the pond.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd
CQA TECHNICIAN

6-14-18
DATE

REVIEWED BY

6/18/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 15, 2018
PROJECT NO.:	18024	DAY:	S M T W T F S: X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	71°-92° Sunny, Fair
CONTRACTOR:	CEG Construction		5-10-15 mph mod. humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED:	07:00
		TIME DEPARTED:	19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 4	1-Excavator 1-Dump	
	1-Dozer 1-Tractor w/pan	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Continue to grade pond. And hauling and placing protective cover.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
PCCS-2	2			06-15-18	06-15-18	7814480 11750

Joseph Shepperd
CQA TECHNICIAN

06-15-18
DATE

REVIEWED BY

6/18/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 16, 2018
PROJECT NO.:	18024	DAY:	S M T W T F S — X
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	72°-91° Fair Sunny
CONTRACTOR:	CEG Construction		SSW 10-15mph Mod Humidity
REPORT BY:	Joseph Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 4	2-Dumps 1-Excavator	
	1-Tractor w/ pan	
	1-Dozer	

VISITORS

TIME	NAME	REPRESENTING	REMARKS
	Johnny Mason	Mason Surveying	Surveying pond all afternoon

CONSTRUCTION ACTIVITIES: CEG Continue to haul and spread protective cover on the cell. All afternoon working grade in the pond. Needed fill.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd — CQA TECHNICIAN — 06-16-18 — DATE

REVIEWED BY — 6/18/2018 — DATE

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DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 12 North	DATE:	June 17, 2018
PROJECT NO.:	18024	DAY:	S X M T W T F S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:	70°-92° Fair w/ some clouds
CONTRACTOR:	CEG Construction		S-10-15 mph Medium humidity
REPORT BY:	Joe Shepperd	TIME ARRIVED: 07:00	TIME DEPARTED: 19:00

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 4	1-Seeding trailer 1-Dozer	
	1-mini X 1-Tractor w/ pan	
	1-Backhoe 1-Dump	

VISITORS

TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Seeded pond. & installed galvanized pipe in four locations (Depth meters) in the pond. Sump was covered w/ protective cover. It was uncovered. Finishing protective cover and checking depth by digging holes.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Joseph Shepperd
CQA TECHNICIAN

06-17-18
DATE

REVIEWED BY

6/18/2018
DATE

shepherd ENGINEERING
DESIGN COMPANY INCORPORATED

ATTACHMENT J
ARG160045C
(Complete Construction Application)

Arkansas Department of Environmental Quality
NPDES PERMIT APPLICATION
FORM 1

INSTRUCTIONS:

1. This form should be **typed or printed in ink**. If insufficient space is available to address any item please continue on an attached sheet of paper.

2. Please complete the following Section (s):

Sections	A	B	C	D	E	F	G	H	I
POTW	X	X	X	X					X
Industrial User	X	X	X	X	X	X	X		X
Construction Permit Only	X	X	*	X				X	X
Modification	X	X	X	X	X	*	*	X	X
All Other Applicants	X	X	X	X	X				X

* As necessary

3. If you need help on SIC or NAICS go to www.osha.gov/oshstats/sicser.html

4. If you have any questions about this form you may call NPDES Section at 501-682-0622 or go to www.adeq.state.ar.us/water. You may also contact :

Department	Information in Regard to	Telephone #
Arkansas Department of Health	Water Supply	501-661-2623

5. The following EPA Forms in addition to Form 1 is required for processing your application:

Form 2A - Municipal Dischargers
Form 2B - Concentrated Animal Feeding Operations
Form 2C - Existing Manufacturing, Commercial, Mining, and Silvicultural Operations
Form 2D - New Sources and New Dischargers Application for Permit to Discharge Process Wastewater
Form 2E - Facilities Which Do Not Discharge Process Wastewater (i.e. Domestic, Non contact cooling water)
Form 2F - Application for Permit to Discharge Storm Water Discharges Associated With Industrial Activity

6. Where to Submit

Return the completed form by mail to:

Arkansas Department of Environmental Quality
Permits Branch, Water Division
5301 Northshore Drive
North Little Rock, AR 72118

Or by email to:

Water-Permit-Application@adeq.state.ar.us

NPDES PERMIT APPLICATION

FORM 1

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER DIVISION
5301 Northshore Drive
North Little Rock, AR 72118-5317
www.adeq.state.ar.us/water

PURPOSE OF THIS APPLICATION

- ☐ INITIAL PERMIT APPLICATION FOR NEW FACILITY
- ☐ INITIAL PERMIT APPLICATION FOR EXISTING FACILITY
- ☐ MODIFICATION OF EXISTING PERMIT
- ☐ REISSUANCE (RENEWAL) OF EXISTING PERMIT
- ☐ MODIFICATION AND CONSTRUCTION OF EXISTING PERMIT
- ☒ CONSTRUCTION PERMIT

SECTION A- GENERAL INFORMATION

1. Operator (Legal) Applicant Name (who has ultimate decision making responsibility over the operation of a facility or activity):

   Eco-Vista, LLC

   Note: The legal name of the operator must be identical to the name listed with the Arkansas Secretary of State.

2. Operator Type: Private ☐ State ☐ Federal ☐ Partnership ☐ Corporation ☒ Other ☐

   State of Incorporation: DE

3. Facility Name: Eco-Vista, LLC

4. Is the operator identified in number 1 above, the owner of the facility? ☒ Yes ☐ No

5. NPDES Permit Number (If Applicable): AR00

6. NPDES General Permit Number (If Applicable): ARG160045

7. NPDES General Storm Water Permit Number (If Applicable): ARR000231

8. Permit Numbers and/or names of any permits issued by ADEQ or EPA for an activity located in Arkansas that is presently held by the applicant or its parent or subsidiary corporation which are not listed above:

Permit Name	Permit Number	Held by
See Attachment #1		

9. Give driving directions to the wastewater treatment plant with respect to known landmarks:

10. Facility Physical Location: (Attach a map with location marked; street, route no. or other specific identifier)

    Street: 2210 Waste Management Drive

    City: Springdale County: Washington State: AR Zip: 72762

11. Facility Mailing Address for permit, DMR, and Invoice (Street or Post Office Box):

Name: Ms. Jodi Taylor Title: Environmental Protection Mgr.

Street: 2210 Waste Management Drive P.O. Box

City: Springdale State: AR Zip: 72762

E-mail address*: jtaylo28@wm.com Fax:

* Is emailing all documents (permit, letters, DMRs, invoices, etc.) acceptable to the applicant? ☒ Yes ☐ No

12. Neighboring States Within 20 Miles of the permitted facility (Check all that apply):

Oklahoma ☒ Missouri ☐ Tennessee ☐ Louisiana ☐ Texas ☐ Mississippi ☐

13. Indicate applicable Standard Industrial Classification (SIC) Codes and NAICS codes for primary processes

4953/4212 SIC Facility Activity under this SIC or NAICS:

562212/325314 NAICS

14. Design Flow: 2.11 MGD Highest Monthly Average of the last two years Flow: NA MGD

15. Is Outfall equipped with a diffuser? ☐ Yes ☒ No

16. Responsible Official (as described on the last page of this application):

Name: Mr. David Conrad Title: Market Area Engineer

Address: 2210 Waste Management Drive Phone Number: 501-982-7336

E-mail Address:

City: Springdale State: AR Zip: 72762

17. Cognizant Official (Duly Authorized Representative of responsible official as describe on the last page of this application):

Name: Ms. Jodi Taylor Title: Environmental Protection Mgr.

Address: 2210 Waste Management Drive Phone Number: 501.993.8966

E-mail Address: jtaylo28@wm.com

City: Springdale State: AR Zip: 72762

18. Name, address and telephone number of active consulting engineer firm (If none, so state):

Contact Name: Jennifer Harmon

Company Name: Terracon Consultants, Inc.

Address: 25809 I-30 South Phone Number: 501-847-9292

E-mail Address: jkharmon@terracon.com

City: Bryant State: AR Zip: 72022

19. Wastewater Operator Information

Wastewater Operator Name: Jodi Taylor License number: 011266

Class of municipal wastewater operator: I ☐ II ☐ III ☐ IV ☐

Class of industrial wastewater operator: Basic ☒ Advanced ☐

SECTION B: FACILITY AND OUTFALL INFORMATION

1. Facility Location (All information must be based on **front door (Gate)** location of the facility):

Lat: 36 ° 8 ' 38.56 " Long: 94 ° 15 ' 20.84 " County: Washington Nearest Town: Tontitown

2. **Outfall** Location (The location of the end of the pipe Discharge point.):

Outfall No. 002:

Latitude: 36 ° 08 ' 39.09 " Longitude: 94 ° 15 ' 41.11 "

Where is the collection point? at outfall

Name of Receiving Stream (i.e. an unnamed tributary of Mill Creek, thence into Mill Creek; thence into Arkansas River):

Little Wildcat Creek, thence to Clear Creek, thence to the Illinois River, thence to the Arkansas River

Outfall No. _____:

Latitude: _____ ° _____ ' _____ " Longitude: _____ ° _____ ' _____ "

Where is the collection point? __________

Name of Receiving Stream (i.e. an unnamed tributary of Mill Creek, thence into Mill Creek; thence into Arkansas River):

____

3. **Monitoring** Location (If the monitoring is conducted at a location different than the above **Outfall** location):

Outfall No. _____:

Lat: _____ ° _____ ' _____ " Long: _____ ° _____ ' _____ "

Outfall No. _____:

Lat: _____ ° _____ ' _____ " Long: _____ ° _____ ' _____ "

Outfall No. _____:

Lat: _____ ° _____ ' _____ " Long: _____ ° _____ ' _____ "

4. Type of Treatment system (Included all components of treatment system and Attach the process flow diagram):

Sedimentation pond

5. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current:	Flow Metering ☐	Yes	Type: _____	☐	No	☐	N/A	☒
	Sampling Equipment	☐ Yes	Type: _____	☐	No	☐	N/A	☒
Planned:	Flow Metering ☐	Yes	Type: _____	☐	No	☐	N/A	☒
	Sampling Equipment	☐ Yes	Type: _____	☐	No	☐	N/A	☒

If yes, please indicate the present or future location of this equipment on the sewer schematic and describe the equipment below:

_____

_____

6. Is the proposed or existing facility located above the 100-year flood level? ☒ Yes ☐ No

NOTE: FEMA Map must be included with this application. Maps can be ordered at www.fema.gov .

If "No", what measures are (or will be) used to protect the facility? _____

7. Population for Municipal and Domestic Sewer Systems: NA

8. Backup Power Generation for Treatment Plants

Are there any permanent backup generators? Yes ☐ No ☒

If Yes, How many? _____ Total Horespower (hp)? _____

If No, Please explain? _____

SECTION C – WASTE STORAGE AND DISPOSAL INFORMATION

1. Sludge Disposal Method (Check as many as are applicable):

☒ **Landfill**

Landfill Site Name Eco-Vista, LLC ADEQ Solid Waste Permit No. 0290-S1-R2

☐ **Land Application:** ADEQ State Permit No. _____

☐ **Septic tank** Arkansas Department of Health Permit No.: _____

☐ **Distribution and Marketing**: Facility receiving sludge:

Name: _____ Address: _____

City: _____ State: _____ Zip: _____ Phone: _____

Rail: ☐ Pipe: ☐ Other: _____

☐ **Subsurface Disposal** (Lagooning):

Location of lagoon _____ How old is the lagoon? _____

Surface area of lagoon: _____ Acre Depth: _____ ft Does lagoon have a liner? ☐ Yes ☐ No

☐ **Incineration:** Location of incinerator _____

☐ **Remains in Treatment Lagoon(s):**

How old is the lagoon(s)? _____ Has sludge depth been measured? ☐ Yes ☐ No

If Yes, Date measured? _____ Sludge Depth? _____ ft If No, When will it be measured? _____

Has sludge ever been removed? Yes ☐ No ☐ If Yes, When was it removed? _____

☐ **Other** (Provide complete description): _____

SECTION D - WATER SUPPLY

Water Sources (check as many as are applicable):

☒ **Private Well** - Distance from Discharge point: ☒ Within 5 miles ☐ Within 50 miles

☐ **Municipal Water Utility** (Specify City): _____

Distance from Discharge point: ☐ Within 5 miles ☐ Within 50 miles

☒ **Surface Water**- Name of Surface Water Source: Beaver Lake is within approximately 16.5 miles

Distance from Discharge point: ☐ ☐☐Within 5 miles ☒ Within 50 miles

Lat: _____ ° _____ ' _____ " Long: _____ ° _____ ' _____ "

☐ **Other** (Specify): _____

Distance from Discharge point: ☐ ☐☐Within 5 miles ☐ Within 50 miles

SECTION E: FINANCIAL ASSURANCE AND DISCLOSURE STATEMENT

1. Act 409 of the 2009 Regular Session of the Arkansas Legislature (Act 409) provides for financial assurance requirements for permitting non-municipal domestic sewage treatment systems. Arkansas Code 8-4-203 (b)(1)(A)(i) – "The department shall not issue, modify, or renew a National Pollutant Discharge Elimination System permit or state permit for a non-municipal domestic sewage treatment works without the permit applicant first demonstrating to the department its financial ability to cover the estimated costs of operating and maintaining the non-municipal domestic sewage treatment works for a minimum period of five (5) years."

   The applicant must provide a detailed estimate of the operation and maintenance (O&M) costs for the facility for a five year period. Once the O&M estimate is approved, the applicant must provide **financial assurance** in order to show that the facility is able to cover the costs of operating and maintaining the treatment system for the next five years.

   The minimal financial assurance may be demonstrated to the department by using the following as outlined in Arkansas Code 8-4-203(b)(2):

   A. Obtaining insurance that specifically covers operation and maintenance costs
   B. Obtaining a letter of credit;
   C. Obtaining a surety/performance bond;
   D. Obtaining a trust fund or an escrow account; or
   E. Using a combination of insurance, letter of credit, surety bond, trust fund, or escrow account.

2. Disclosure Statement:

   Arkansas Code Annotated Section 8-1-106 requires that all applicants for any type of permit or transfer of any permit, license, certification or operational authority issued by the Arkansas Department of Environmental Quality (ADEQ) file a Disclosure Statement with their application. The filing of a Disclosure Statement is mandatory. No application can be considered administratively complete without a completed Disclosure Statement. The form may be obtained from the ADEQ web site at:

   http://www.adeq.state.ar.us/disclosure_stmt.pdf

SECTION F – INDUSTRIAL ACTIVITY

1. Does an effluent guideline limitation promulgated by EPA (Link to a Listing of the 40 CFR Effluent Limit Guidelines) under Section 304 of the Clean Water Act (CWA) apply to your facility?

   YES ☐ (Answer questions 2 and 3) NO ☐

2. What Part of 40 CFR? _____

3. What Subpart(s)? _____ _____

4. Give a brief description of all operations at this facility including primary products or services (attach additional sheets if necessary):

   _____

   _____

   _____

5. Production: (projected for new facilities)

Product(s) Manufactured	Last 12 Months lbs/day*		Highest Production Year of Last 5 Years lbs/day*	
(Brand name)	Highest Month	Days of Operation	Monthly Average	Days of Operation

* These units could be off-lbs, lbs quenched, lbs cleaned/etched/rinsed, lbs poured, lbs extruded, etc.

SECTION G - WASTEWATER DISCHARGE INFORMATION

Facilities that checked "Yes" in question 1 of Section F are considered Categorical Industrial Users and should skip to question 2.

1. **For Non-Categorical Users Only**: List average wastewater discharge, maximum discharge, and type of discharge (batch, continuous, or both), for each plant process. Include the reference number from the process flow schematic (reference Figure 1) that corresponds to each process. [New facilities should provide estimates for each discharge.]

No.	Process Description	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous, none)

If batch discharge occurs or will occur, indicate: [New facilities may estimate.]

Number of batch discharges: _____ per day Average discharge per batch: (GPD)

Time of batch discharges _____ (days of week) at _____ (hours of day)

Flow rate: _____ gallons/minute Percent of total discharge: _____

Answer questions 2, 3, and 4 only if you are subject to Categorical Standards.

2. For Categorical Users: Provide the wastewater discharge flows for each of your processes or proposed processes. Include the reference number from the process flow schematic (reference Figure 1) that corresponds to each process. [Note: 1) New facilities should provide estimates for each discharge and 2) Facilities should denote whether the flow was measured or estimated.]

No.	Regulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous, none)

No.	Unregulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous, none)

No.	Dilution (e.g., Cooling Water)	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous, none)

If batch discharge occurs or will occur, indicate: [New facilities may estimate.]

Number of batch discharges: _____ per day Average discharge per batch: (GPD)

Time of batch discharges _____ (days of week) at _____ (hours of day)

Flow rate: _____ gallons/minute Percent of total discharge: _____

3. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current:	Flow Metering	☐	Yes	Type: _____	☐	No	☐ N/A	☐
	Sampling Equipment	☐	Yes	Type: _____	☐	No	☐ N/A	☐
Planned:	Flow Metering	☐	Yes	Type: _____	☐	No	☐ N/A	☐
	Sampling Equipment	☐	Yes	Type: _____	☐	No	☐ N/A	☐

If yes, please indicate the present or future location of this equipment on the sewer schematic and describe the equipment below:

_____

_____

_____

4. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics?

☐ Yes ☐ No (If no, skip Question 5)

5. Briefly describe these changes and their effects on the wastewater volume and characteristics:

_____

_____

_____

SECTION H -TECHNICAL INFORMATION

Technical information to support this application shall be furnished in appropriate detail to understand the project. Information in this Part is required for obtaining a **construction permit** or for **modification** of the treatment system.

1. Describe the treatment system. Include the types of control equipment to be installed along with their methods of operation and control efficiency.

   Sedimentation pond. The outfall will be constructed of a 36 inch diameter vertical riser pipe with a trash rack inlet grate and a 12 inch diameter discharge pipe. The discharge will be controlled via a gate valve. The outlet will have a riprapped channel. The pond will also be constructed with an emergency spillway.

2. One set of construction plans and specifications, approved (Signed and stamped) by a **Professional Engineer** (PE) registered in **Arkansas**, must be submitted as follows:

   a. The plans must show flow rates in addition to pertinent dimensions so that detention times, overflow rates, and loadings per acre, etc. can be calculated.
   b. Specifications and complete design calculations.
   c. All treated wastewater discharges should have a flow measuring device such as a weir or Parshall flume installed. Where there is a significant difference between the flow rates of the raw and treated wastewater, a flow measuring device should be provided both before and after treatment.

3. If this application includes a construction permit disturbing five or more acres, a storm water construction permit must be obtained by submitting a notice of intent (NOI) to ADEQ.

SECTION I: SIGNATORY REQUIREMENTS

Cognizant Official (Duly Authorized Representative)

40 CFR 122.22(b) states that all reports required by the permit, or other information requested by the Director, shall be signed by the applicant (or person authorized by the applicant) or by a duly authorized representative of that person. A person is duly authorized representative only if:

(1) the authorization is made in writing by the applicant (or person authorized by the applicant);
(2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity responsibility, or an individual or position having overall responsibility for environmental matters for the company.

The applicant hereby designates the following person as a Cognizant Official, or duly authorized representative, for signing reports, etc., including Discharge Monitoring Reports (DMR) required by the permit, and other information requested by the Director:

Signature of Cognizant Official: _____ Date: 11.15.13

Printed name of Cognizant Official: Ms. Jodi Taylor

Official title of Cognizant Official: Environmental Protection Mgr. Telephone Number: 501.993.8966/501.982.7 336

Responsible Official

The information contained in this form must be certified by a ***responsible official*** as defined in the "signatory requirements for permit applications" (40 CFR 122.22).

Responsible official is defined as follows:

Corporation, a principal officer of at least the level of vice president
Partnership, a general partner
Sole proprietorship: the proprietor
Municipal, state, federal, or other public facility: principal executive officer, or ranking elected official.

_____ *(Initial)* "I certify that the cognizant official designated above is qualified to act as a duly authorized representative under the provisions of 40 CFR 122.22(b)." NOTE: If no duly authorized representative is designated in this section, the Department considers the applicant to be the responsible official for the facility and only reports, etc., signed by the applicant will be accepted by the Department.

_____ *(Initial)* "I certify that, if this facility is a corporation, it is registered with the Secretary of State in Arkansas. Please provide the full name of the corporation if different than that listed in Section A above."

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. I further certify under penalty of law that all analyses reported as less than detectable in this application or attachments thereto were performed using the EPA approved test method having the lowest detection limit for the substance tested."

Signature of Responsible Official: David Conrad Date: 11/15/2013

Printed name of Responsible Official: Mr. David Conrad

Official title of Responsible Official: Market Area Engineer Telephone Number: 501.804.0806/501.982.7 336

ADEQ

A R K A N S A S
Department of Environmental Quality

NOTICE OF INTENT
NPDES GENERAL PERMIT ARG160000
OPERATORS DISCHARGING SANITARY LANDFILL RUNOFF

The attached form can be used by all persons desiring coverage under NPDES general permit ARG160000 (Operators Discharging Sanitary Landfill Runoff). The form should be completed and submitted to this Department in accordance with Part 1.3 of the general permit.

Be sure to read the Permit No. ARG160000. It describes what constitutes coverage under this permit, effluent requirements, discharge limitations, and other standard conditions that are applicable to this permit. A copy of the permit, fact sheet and other information for this permit can obtained on the Department's website: http://www.adeq.state.ar.us/water/branch_permits/general_permits/default.htm

If you have any questions concerning the ARG160000 permit information or Notice of Intent, please contact General Permits Section of the Water Division at (501) 682-0623.

REMEMBER THE FOLLOWING:

1. The Notice of Intent (NOI) must be complete. Do not leave any question blank; use "NA" if a question is not applicable. Outfall information must be completed; it cannot be blank or "NA".
2. A Topographic map showing the location of the discharge points must be attached to the Notice of Intent at the time of submission.
3. Read the Certification.
4. A $400.00 Check payable to ADEQ (Re: ARG160000).
5. A Disclosure form. Arkansas Code Annotated Section 8-1-106 requires that all applicants for the issuance or transfer of any permit, license, certification or operational authority issued by the Arkansas Department of Environmental Quality (ADEQ) file a disclosure statement with their applications. The filing of a disclosure statement is mandatory. No application can be considered complete without one. A new disclosure statement must be submitted even if one is already on file with the Department. The form may be obtained from ADEQ web site at:http://www.adeq.state.ar.us/disclosure_stmt.pdf

Please call the following number if you have any questions on this Form:

Topic	Contact person	Phone Number
Area Map and USGS Hydrologic Unit Code	Department of the Interior United States Geological Survey	(501)296-1877
Domestic Drinking Water Supply Intake	Department of Health	(501)661-2623
General Information	Permits Branch	(501)682-0623

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
NOTICE OF INTENT
LANDFILL SANITARY DISCHARGE
NPDES GENERAL PERMIT ARG160000

Application Type: New ☐ Renewal ☐ (Permit # ARG16_____) Other ☒ **Additional Outfall**

I. PERMITTEE/OPERATOR INFORMATION

Permittee (Legal Name): Eco-Vista, LLC
Permittee Mailing Address: 2210 Waste Management Drive
Permittee City: Springdale
Permittee State: AR Zip: 72762
Permittee Telephone Number: 479-361-2069
Permittee Fax Number: 479-361-5934
Permittee E-mail Address: Jtaylo28@wm.com

Operator Type:
☐ State ☐ Partnership
☐ Federal ☒ Corporation*
☐ Sole Proprietorship/Private
*State of Incorporation: DE
The legal name of the Permittee must be identical to the name listed with the Arkansas Secretary of State.

II. INVOICE MAILING INFORMATION

Invoice Contact Person: Jodi Taylor
Invoice Mailing Company: Waste Management
Invoice Mailing Address: 100 Two Pine Drive
City: North Little Rock
State: AR Zip: 72117
Telephone: 501-982-7336

III. FACILITY INFORMATION

Facility Name: Eco-Vista Landfill
Facility Contact Person: Jodi Taylor
Facility Address: 2210 Waste Management Drive
Telephone Number: 501-982-7336
Driving Directions to Facility: From Hwy 412 West in Tontitown, south on South Barrington Road, west on Arbor Acres Road to facility entrance on the south side of Arbor Acres Road.
Facility County: Washington
Facility City, State & Zip: Springdale, AR 72762
Facility Latitude: 36 ° 08' 38.56 "
Facility Longitude: 94 °15 '20.84 "
Accuracy: _____ Method: _____ Datum: WGS84 Scale: NA Description: Entrance
Facility SIC Code: 4953
Facility NAICS: 562212

IV. DISCHARGE INFORMATION

Outfall Number: 002
Estimated Flow: 2.11 MGD (MillionGallons per Day)
Outfall Description: The outfall will be constructed of a 36 inch diameter vertical riser pipe with a trash rack inlet grate and a 12 inch diameter discharge pipe. The discharge will be controlled via a gate valve. The outlet will have a riprapped channel. The pond will also be constructed with an emergency spillway.
Stream Segment: _____
Hydrologic Basin Code: _____
Outfall Latitude: 36 ° 08 ' 39.09 "
Outfall Longitude: 94 °15 ' 41.11 "
Accuracy: _____ Method: _____ Datum: WGS84 Scale: NA Description: Outfall
Receiving Stream: Little Wildcat Creek, thence to Clear Creek, thence to the Illinois River, thence to the Arkansas River

V. FACILITY PERMIT INFORMATION

NPDES Individual Permit Number (If Applicable): AR00

NPDES General Permit Number (If Applicable): ARG160045

State Construction Permit Number: ARG16 C (application has been submitted along with this update)

NPDES General Construction Stormwater Permit Number (If Applicable): ARR15

NPDES Industrial Stormwater General Permit Number: ARR000231

Other Department Permits:

VI. OTHER INFORMATION:

Additional Location Description:

Additional Comments: This NOI is for the addition of a future pond outfall on the north portion of the facility.

Consultant Contact Name: Jennifer Harmon, Terracon Consultants, Inc.

Consultant Email Address: jkharmon@terracon.com

Consultant Address: 25809 I-30 S City: Bryant State: AR Zip: 72202

Consultant Phone Number: 501.847.9292 Consultant Fax Number: 501.847.9210

VII. CERTIFICATION OF OPERATOR

"I certify that, if this facility is a corporation, it is registered with the Secretary of the State of Arkansas. I certify that the cognizant official designated in this Application is qualified to act as a duly authorized representative under the provisions of 40 CFR 122.22(b). If no cognizant official has been designated, I understand that the Department will accept reports signed only by the Applicant. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Responsible Official Printed Name: Mr. David Conrad Title: Market Area Engineer

Responsible Official Signature: David Conrad Date: 11/15/2013

Responsible Official Email: dconrad@wm.com

Cognizant Official Printed Name: Ms. Jodi Taylor Title: Environmental Protection Mgr.

Cognizant Official Signature: Telephone: 501-982-7336

Cognizant Official Email: jtaylo28@wm.com

X. PERMIT REQUIREMENT VERIFICATION

Please check the following to verify completion of permit requirements. If you answer "NO" to any of questions below the application will be considered incomplete and cause a delay in the permitting process.

	Yes	No	
Submittal of Complete NOI?	☒	☐	
Submittal of Required Permit Fee?	☐	☒	**New Permittees Only** Check Number:
Submittal of Topographic Map?	☐	☒	Maps have been included with the Construction Permit Application
Submittal of Disclosure Statement?	☒	☐	

Industrial Operator's License Number: _____

ADEQ

A R K A N S A S
Department of Environmental Quality

INSTRUCTIONS

I. How to Determine Latitude and Longitude:

If a physical address is known go to www.terraserver-usa.com and proceed with the following steps:

1. Select Advanced Find
2. Select Address
3. Input address
4. Click on Aerial Photo
5. Click on the Info link at the top of the page
6. Note the Latitude and Longitude are in Decimal Coordinates.
7. Go to www.geology.enr.state.nc.us/gis/latlon.html to convert coordinates to Degrees, Minutes, and Seconds.

NOTE: If a physical address does not exist you may find the coordinates in the Legal Description of the property.

II. How to Determine the Accuracy, Method, Datum, Scale, and Description for the Facility/Outfall Latitude and Longitude:

Horizontal **Accuracy** Measure – This indicates the accuracy, **in meters**, of the latitude/longitude location, or how close the specific latitude/longitude location is guaranteed to be to the real-world location. It is typically a function of the method used to obtain the latitude/longitude.

Horizontal Collection **Method** - The text that describes the method used to determine the latitude and longitude coordinates for a point on the earth.

Address Matching-House Number	Public Land Survey-Quarter Section
Address Matching-Block Face	Public Land Survey-Section
Address Matching-Street Centerline	Classical Surveying Techniques
Address Matching-Nearest Intersection	Zip Code-Centroid
Address Matching-Digitized	Unknown
Address Matching-Other	GPS-Unspecified
Census Block-1990-Centroid	GPS with Canadian Active Control System
Census Block/Group-1990-Centroid	Interpolation-Digital Map Source (TIGER)
Census Block/Tract-1990-Centroid	Interpolation-SPOT
Census-Other	Interpolation-MSS
GPS Carrier Phase Static Relative Position	Interpolation-TM
GPS Carrier Phase Kinematic Relative Position	Public Land Survey-Eighth Section
GPS Code (Pseudo Range) Differential	Public Land Survey-Sixteenth Section
GPS Code (Pseudo Range) Precise Position	Public Land Survey-Footing
GPS Code (Pseudo Range) Standard Position (SA Off)	Zip+4 Centroid
GPS Code (Pseudo Range) Standard Position (SA On)	Zip+2 Centroid
Interpolation-Map	Loran C
Interpolation-Photo	Interpolation-Other
Interpolation-Satellite	

Horizontal Reference **Datum** - The code that represents the reference datum used in determining latitude and longitude coordinates.

Unknown	WGS84
NAD27	NAD83

Source Map **Scale** - The scale used to determine the latitude and longitude coordinates.

Not Applicable	1:62,500
Unknown	1:63,000
1:15,840	1:63,350
1:20,000	1:63,360
1:24,000 (1" = 2,000')	1:100,000
1:25,000	1:250,000

Reference Point **Description** - The place for which geographic coordinates were established.

Facility/Station Building Entrance or Street Address	Facility Center/Centroid
Boundary Point	Intake Point
Treatment/Storage Point	Release Point
Monitoring Point	Other

III. How to Determine your Hydrologic Basin Code for the Facility/Outfall:

1. Locate the county of your facility on the map on Page 7.
2. Find the numbered segment overlaying the county. For example 2C overlays most of Saline County.
3. Find the Eight Digit Hydrologic Basin Code located inside the numbered segment.

IV. How to Determine your Stream Segment for the Facility/Outfall:

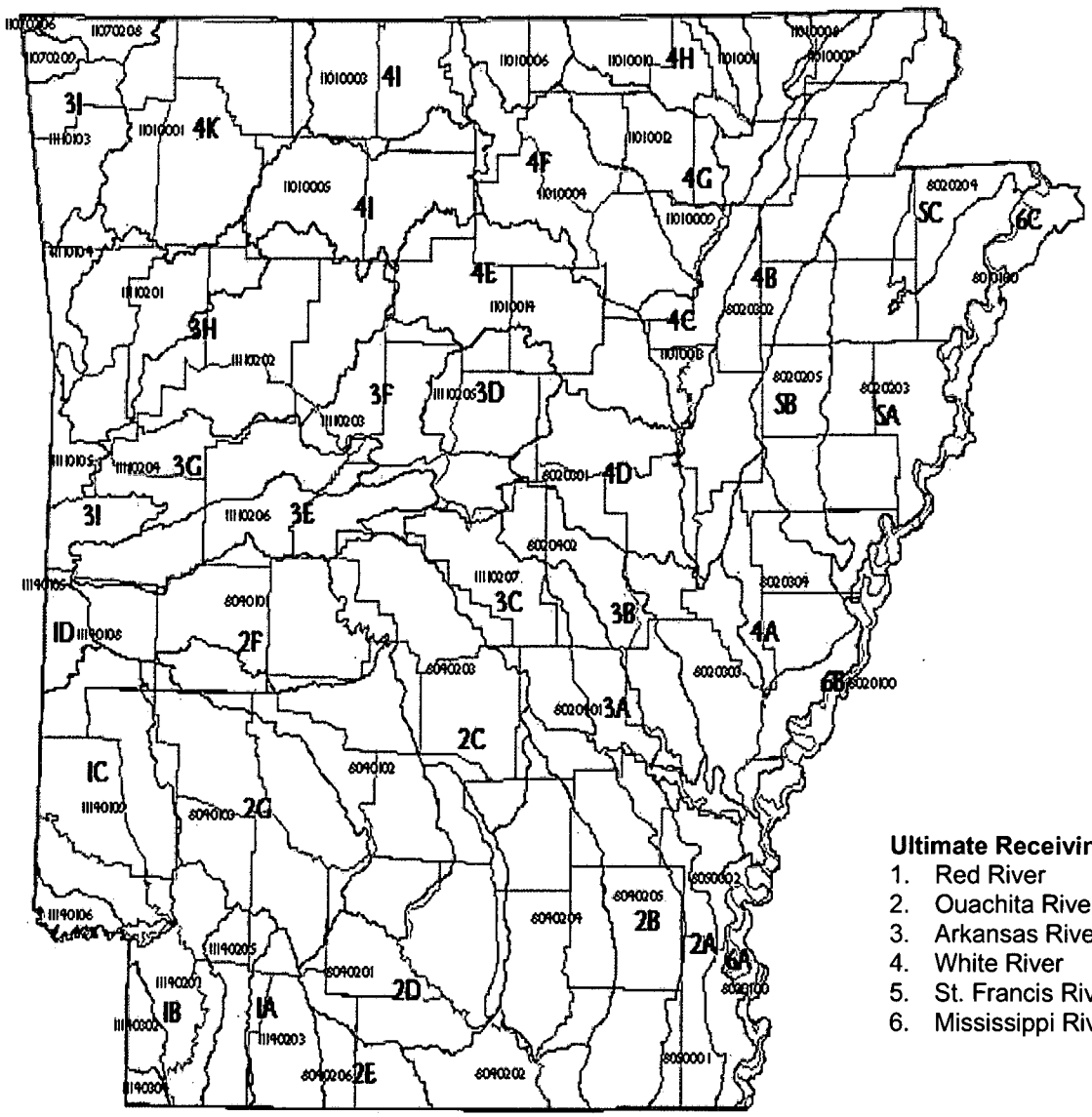
1. Locate the county of your facility on the map on Page 7.
2. Find the numbered Stream Segment overlaying the county. For example 2C overlays most of Saline County. 2C would be the Stream Segment for any facility located within that segment.

V. How to Determine your Ultimate Receiving Waters:

1. Locate the county of your facility on the map on Page 7.
2. Find the numbered segment overlaying the county. For example 2C overlays most of Saline County.
3. Match the number from the segment to one of the numbered Ultimate Receiving Waters. For example: A facility located in Western Saline County is in segment 2C. The "2" determines that the Ultimate Receiving Water for the project is the Ouachita River.

VI. Signatory Requirements: The information contained in this form must be certified by a ***responsible official*** as defined in the "signatory requirements for permit applications" (40 CFR 122.22).

Responsible official is defined as follows:
Corporation, a principal officer of at least the level of vice president, treasurer
Partnership, a general partner
Sole proprietorship: the proprietor/owner
Municipal, state, federal, or other public facility: principal executive officer, or ranking elected official



Ultimate Receiving Waters

1. Red River
2. Ouachita River
3. Arkansas River
4. White River
5. St. Francis River
6. Mississippi River

Stormwater Management Plan

Eco-Vista, LLC
ADEQ Permit No. 0290-S1-R2
AFIN: 72-00144

November 2013
Project No. 35097120

WM®
WASTE MANAGEMENT

PREPARED FOR:
Eco-Vista, LLC
2210 Waste Management Drive
Springdale, AR 72762
479.361.2063

PREPARED BY:
Terracon Consultants, Inc.
25809 Interstate 30 South
Bryant, Arkansas 72022
501.847.9292

TABLE OF CONTENTS

ATTACHMENTS

1.0 GENERAL

This Stormwater Management Plan presents site specific methods and procedures for the design, construction and operation of the Eco-Vista Class 1 Landfill (Facility) Stormwater North Retention Pond to be constructed in the fall of 2014 or spring of 2015 depending upon the timing of the solid waste permit expansion issuance. The Stormwater Management Plan has been developed to conform with applicable 10 State Standards and Arkansas State Regulations. The Stormwater Management Plan will be updated as required to reflect current operations and regulations. Revisions to the Stormwater Management Plan will be submitted to the Arkansas Department of Environmental Quality (ADEQ) for approval. The construction of the complete pond may be in phases as construction of the future cells progresses.

1.1 LOCATION

The north stormwater retention pond will be located on the northern portion of the facility, just to the west of the facility entrance road. This location has been cleared previously and used as a borrow area. The pond will collect stormwater from future cells. Please see **Attachment A – Drawing 8** for the site layout drawing.

1.2 GROUNDWATER SEPARATION

Stormwater routed to the pond will be runoff from the inactive cells of the landfill. Groundwater levels range from ELEV. 1230 to 1235 feet. The pond bottom is located at ELEV 1280 feet. Groundwater elevation was interpolated based on the Historic High Groundwater Elevation Map dated 10-30-13 (**Attachment A – Figure 4.6),** which was the most recent available potentiometric map available at the time of design. Based on the interpolation, the minimum separation distance has been met.

2.0 BASIS OF DESIGN

2.1 POND SHAPE

The northern pond is an "L" shape and has a capacity of approximately 2,704,024 ft^3 or 20,226,105 gallons.

2.2 CALCULATIONS

As required by the Boston Mountain Solid Waste Management District, the pond has been designed to contain the run-off from a 100-year, 24-hour storm event. NPDES Sanitary Landfills General Permit (ARG160000) requires that the pond be constructed for a minimum of a 25-year, 24-hour storm event. **Attachment B** contains the output file from the Civil Storm v8i computer modeling software for a 25-year, 24-hour storm and a 100-year, 24-hour

storm for the northern pond. Perimeter ditches will route landfill stormwater to the inlet structure as indicated in Drawing No. 17.

The drainage area for the north pond is approximately 37.4 acres size and the pond is 8.6 acres in size. The 25-year, 24-hour storm fall totals are 7.2 inches over the entire 46 acres from the Civil Storm output. This rainfall event amounts to approximately 1,202,256 ft^3 or 8,992,875 gallons of stormwater for the drainage area. The pond has been designed to accommodate approximately 20,226,105 gallons of stormwater which is more than adequate to contain a 25-year, 24-hour storm. The riser pipe will discharge stormwater only when the gate valve is opened.

The 100-year, 24-hour storm fall totals are 8.8 inches over the entire 46 acres from the Civil Storm output. This rainfall event amounts to approximately 1,469,424 ft^3 or 10,991,292 gallons of stormwater for the drainage area. The pond has been designed to accommodate approximately 20,226,105 gallons of stormwater which is more than adequate to contain a 100-year, 24-hour storm. The riser pipe will discharge stormwater only when the gate valve is opened.

3.0 POND CONSTRUCTION DETAILS

3.1 EMBANKMENTS AND DIKES

3.1.1 Material

The perimeter dikes will be constructed of relatively impervious soil and compacted to at least 95% Standard Proctor Density in order to form a stable structure. Vegetation and other unsuitable materials will be removed from the area where the embankment is to be placed to reduce the potential for dike failure due to decomposing vegetation.

3.1.2 Top Width

The top levee width will be twenty-four (24) feet wide to accommodate vehicles.

3.1.3 Minimum and Maximum Slopes

The inner and outer slopes will be constructed at a maximum of 3:1 (H:V) slope as shown on Detail BB on Drawing 16. Where necessary, the inner slope will not be flatter than a 4:1 slope and the outer slope will be sufficient to prevent surface runoff from entering the ponds.

3.1.4 Freeboard and Design Depth

The pond would need a capacity of 662,247 ft^3 for a 25-year, 24-hour rain event. At elevation 1,288 feet, the pond has a capacity of 2,704,024 ft^3. The levee's lowest elevation is at 1,290 feet, thus leaving a freeboard of approximately 2 feet. The pond is considered to

be a small system due to the footprint being approximately 8.6 acres. The bottom of the pond is at elevation 1,282 feet while the emergency spill way is at elevation 1,288 feet, thus leaving operating elevation of 6 feet.

3.1.6 Erosion Control

The dikes will have a covered layer of at least 4 inch of fertile soil to promote the establishment of vegetative cover. This vegetative cover will be established prior to prefilling (Section 3.2.2) the ponds in order to minimize erosion. The discharge and maintenance pipes will discharge into an area that has been lined with geotextile and riprap in order to prevent erosion. The emergency spillway will be lined with geotextile, concrete and rip-rap in order to prevent erosion.

3.2 POND BOTTOM

3.2.1 Soil

Soil used to construct the pond bottoms (not including the seal) and dike cores shall be relatively incompressible and tight and compacted at or up to 4% above the optimum water content to at least 95% Standard Proctor Density.

3.2.2 Seal

The pond shall be constructed with a minimum 16-inch thick compacted clay liner system that has a hydraulic conductivity of less than or equal to 1x10-7 cm/sec as measured by undisturbed hydraulic conductivity test or a soil liner system that meets the minimum requirements of Section 93.422 of "10 State Standards". Results of a testing program which substantiates the adequacy of the proposed seal must be incorporated into and/or accompany the engineering report and submitted to the ADEQ Water Division. Standard ASTM procedures or acceptable similar methods shall be used for all tests.

3.2.2 Prefilling

Prefilling the ponds should be considered in order to protect the liner, prevent weed growth, reduce odor and maintain moisture content of the seal. However, the dikes must be prepared as described in the preceding paragraphs before the introduction of water.

3.3 MISCELLANEOUS

3.3.1 Fencing, Access and Warning Signs

Trespassing onto Facility property is prevented by gates at the entrance to the landfill along the all-weather access from Arbor Acres Road. Signs at the entrance displays the hours of

operation. The public is only allowed access to the landfill during normal operating hours. Additional fencing and signs for the stormwater pond will not be necessary to prevent the entering of livestock or trespassers.

3.3.2 Pond Level Gauges

A pond level gauge will be provided in the pond that will allow easy assessment of the level of the pond water.

Terracon

Attachment A
Facility Drawings

EX. 18" RCP CULVERT
EX. 24" RCP CULVERT
NEW ARG16 OUTFALL
STORMWATER BASIN OUTLET DRAINAGE CHANNEL
EMERGENCY SPILLWAY
STORMWATER BASIN OUTLET STRUCTURE
PROPOSED STORMWATER BASIN
EX. 18" RCP CULVERT
DUAL 42"Ø HDPE CULVERTS TO STORMWATER BASIN
FINAL COVER DRAINAGE BENCH
EXISTING GAS TO ENERGY PLANT
BM-10
EXISTING FLARE STATION
PROPOSED 42"Ø HDPE CULVERTS (SEE NOTE 1)
DOWNDRAIN CHANNEL PERIMETER CHANNEL INTERSECTION
PERIMETER DRAINAGE DITCH
BM-11
BM-16
ACTIVE CLASS 4 LANDFILL
CLOSED CLASS 1 LANDFILL
CLOSED CLASS 4 LANDFILL
BM-15 438.71
BM-21 1170.49
EXISTING DISCHARGE STRUCTURE
TO OUTFALL ARG16-003A N = 662,288.42 E = 647,034.72
OUTFALL ARG16-001A

N

SCALE IN FEET

PERMANENT SITE MONUMENTS

NUMBER	NORTHING	EASTING	ELEVATION
BM -10	665515.18	644920.35	1296.09
BM -11	665311.08	647618.91	1268.23
BM -15	662821.94	645307.22	1219.38
BM -16	664192.89	644248.73	1286.78
BM -21	662089.19	647253.62	1195.07

LEGEND

- STORMWATER LETDOWNS
- STORMWATER DRAINAGE BENCH
- STORMWATER FLOW DIRECTION

NOTE

1. CULVERTS TO BE HEAVY DUTY AASHTO CORRUGATED HDPE WITH SMOOTH INTERIOR

FOR PERMITTING PURPOSES ONLY

REV.	DATE	BY	DESCRIPTION
1	10/18/13	JDW	REVISED PER N.O.D. COMMENTS FROM ADEQ ON 9.18.2013

CERTIFICATE OF AUTHORIZATION TERRACON CONSULTANTS, INC. No.223 ARKANSAS

STATE OF ARKANSAS 10/**/2013 REGISTERED PROFESSIONAL ENGINEER No. 14977 BRAD N. FURLEIGH

Terracon
Consulting Engineers and Scientists
25809 I-30 SOUTH BRYANT, AR 72022
PH. (501) 847-9292 FAX. (501) 847-9210

STORMWATER MANAGEMENT PLAN

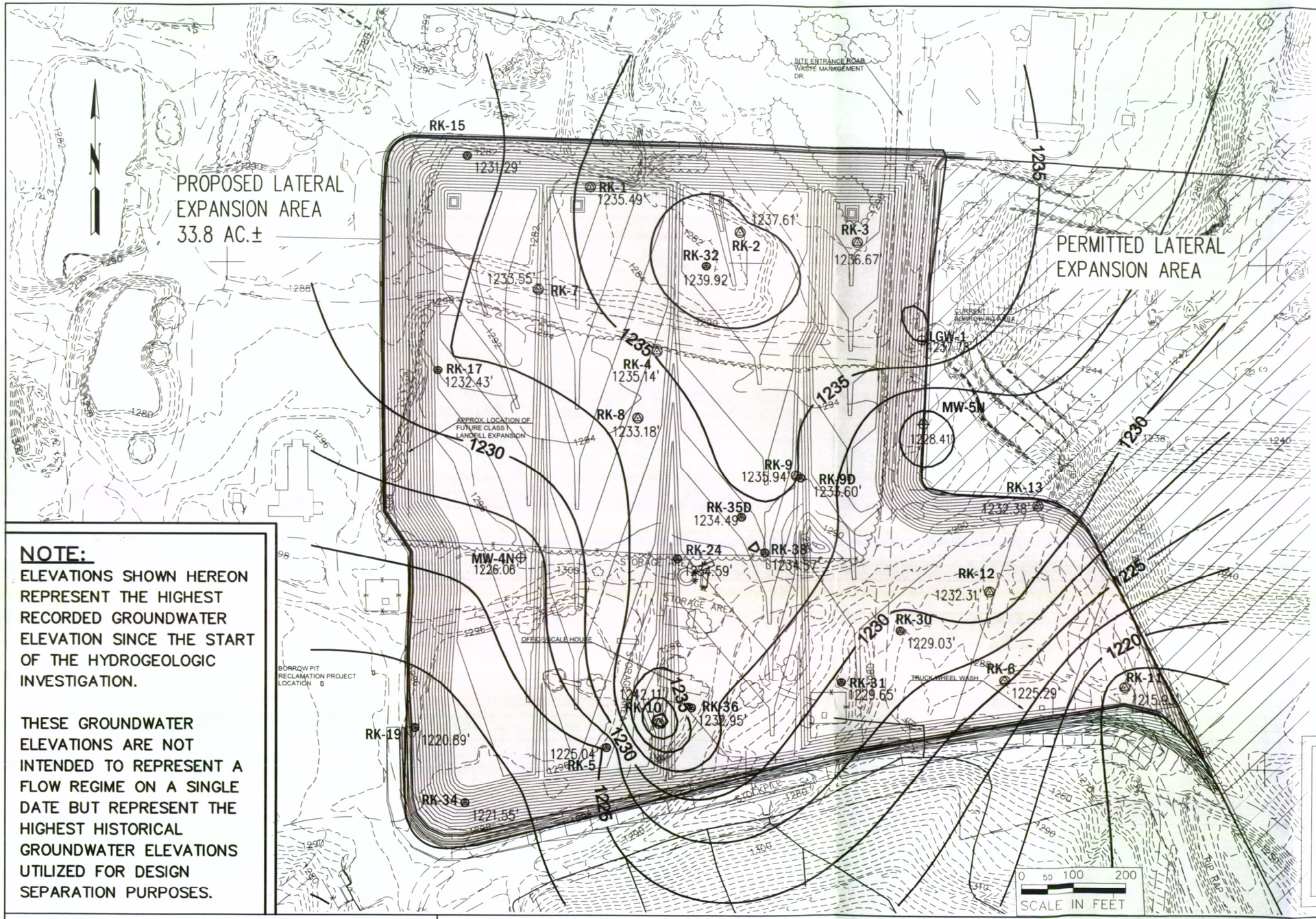
LATERAL EXPANSION PERMIT DRAWINGS

ECO-VISTA, LLC

ECO-VISTA CLASS 1 LANDFILL

SPRINGDALE ARKANSAS

DRAWING 8	
DESIGNED BY:	BNF
DRAWN BY:	TSW
APPV'D. BY:	BNF
SCALE:	SEE BARSCALE
DATE:	1/14/13
JOB NO.	062-014-35097120
ACAD NO.	032
SHEET NO.:	8 OF 18



Well	Highest Recorded Groundwater Elevation (FMSL)	Date Recorded
RK-1	1235.49	2/14/2012
RK-2	1237.61	2/14/2012
RK-3	1236.67	4/6/2012
RK-4	1235.14	4/6/2012
RK-5	1225.04	4/6/2012
RK-6	1225.29	2/14/2012
RK-7	1233.55	4/6/2012
RK-8	1233.18	4/6/2012
RK-9	1235.94	4/6/2012
RK-10	1242.11	3/6/2012
RK-11	1215.93	2/14/2012
RK-12	1232.31	5/2/2012
RK-13	1232.38	4/6/2012
MW-4N	*1226.06	7/13/2011
MW-5N	*1228.41	7/13/2011
LGW-1	**1237.78	6/1/2011
RK-9D	1233.60	8/23/2012
RK-15	1231.29	8/23/2012
RK-17	1232.43	7/18/2012
RK-19	1220.89	7/18/2012
RK-24	1234.59	7/18/2012
RK-30	1229.03	7/18/2012
RK-31	1229.65	7/18/2012
RK-32	1239.92	7/18/2012
RK-34	1221.55	7/18/2012
RK-35	1235.15	8/23/2012
RK-35D	1234.49	8/23/2012
RK-36	1232.95	8/23/2012
RK-38	1234.57	8/23/2012

NOTE:

ELEVATIONS SHOWN HEREON REPRESENT THE HIGHEST RECORDED GROUNDWATER ELEVATION SINCE THE START OF THE HYDROGEOLOGIC INVESTIGATION.

THESE GROUNDWATER ELEVATIONS ARE NOT INTENDED TO REPRESENT A FLOW REGIME ON A SINGLE DATE BUT REPRESENT THE HIGHEST HISTORICAL GROUNDWATER ELEVATIONS UTILIZED FOR DESIGN SEPARATION PURPOSES.

LEGEND

- PERMITTED LATERAL EXPANSION AREA
- PROPOSED LATERAL EXPANSION AREA
- NEW BORING
- EXISTING PIEZOMETER
- NEW PIEZOMETER
- PROPERTY LINE
- EXISTING INDEX CONTOURS

CHIMNEY ROCK CONSULTING
7529 Counts Massie Rd. N. Little Rock, AR 72113 Ph.: (501) 812-4551

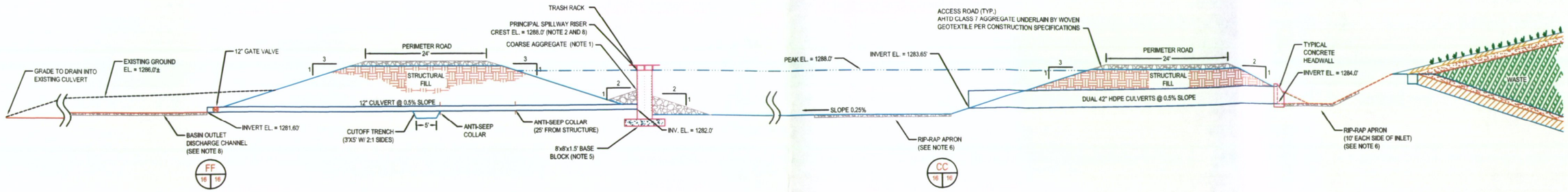
ECO VISTA LANDFILL FACILITY - HISTORIC HIGH GROUNDWATER ELEVATION MAP - FIGURE 4.6

ECO VISTA MAJOR MODIFICATION APPLICATION

ECO VISTA, LLC

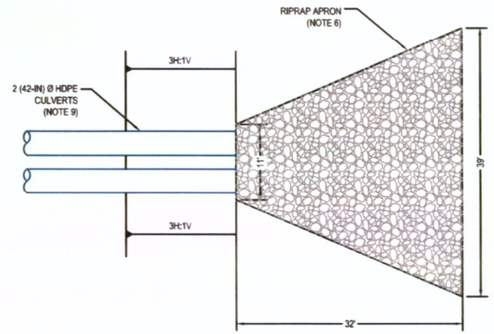
SPRINGDALE ARKANSAS

REVISED:	10/30/13	
JOB NO:	7-4005-0301	
ACAD NO:	037	
DWN.	JKP	11/12
SCALE:	1" = 200'	
DATE:	NOVEMBER 2012	



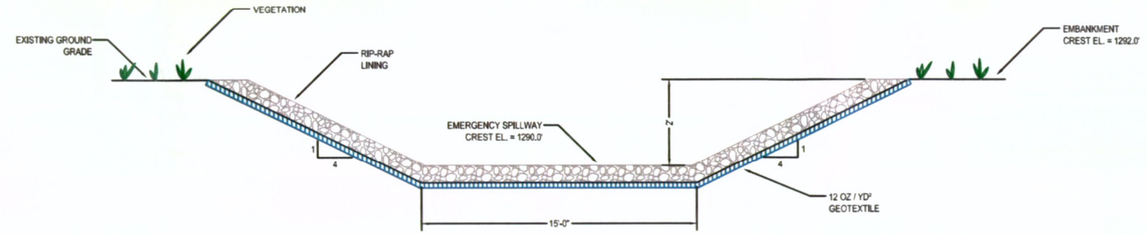
STORMWATER BASIN CROSS SECTION

DETAIL SCALE: N.T.S. — BB (8 | 16)



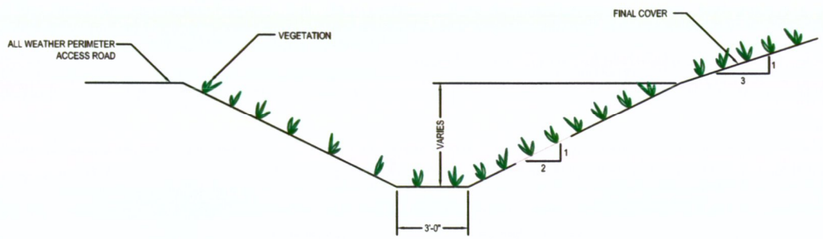
RIPRAP APRON FOR STORMWATER BASIN INLET

DETAIL SCALE: N.T.S. — CC (16 | 16)



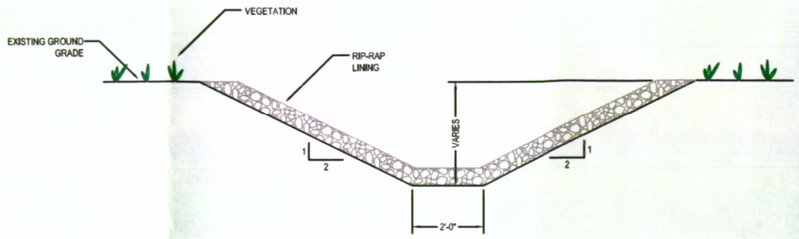
EMERGENCY SPILLWAY

DETAIL SCALE: N.T.S. — DD (8 | 16)



PERIMETER DRAINAGE CHANNEL

DETAIL SCALE: N.T.S. — EE (8 | 16)



STORMWATER BASIN OUTLET DRAINAGE CHANNEL

DETAIL SCALE: N.T.S. — FF (8 | 16)

NOTES:

1. COARSE AGGREGATE FOR PROTECTION OF SEDIMENT BASIN PRINCIPAL SPILLWAY RISER SHALL BE STONE WITH D_{85} > 1.2".
2. THE PRINCIPAL SPILLWAY RISER SHALL BE 36-INCH DIAMETER ALUMINUM COATED CORRUGATED METAL PIPE (ACCMP) OR GALVANIZED STEEL PIPE.
3. THE RISER PIPE SHALL BE PERFORATED WITH 1 INCH DIAMETER DEWATERING ORIFICES, PLACED IN 8 HOLES PER ROW HORIZONTALLY. VERTICAL SPACING BETWEEN ROWS SHALL BE 6 INCHES. DEWATERING ORIFICES NOT SHOWN TO SCALE FOR CLARITY.
4. DIMENSIONS AND ELEVATIONS ARE NOMINAL UNLESS OTHERWISE INDICATED AND MAY BE ADJUSTED BASED ON FIELD CONDITIONS.
5. EMBEDMENT OF PRINCIPAL SPILLWAY RISER IN REINFORCED CONCRETE BASE SHALL BE AT LEAST 0.75'.
6. RIPRAP FOR THE BASIN INLET AND OUTLET APRONS SHALL HAVE A D_{50} = 6" AND Dmax = 9" AND MAY BE REPLACED WITH AN EQUIVALENT MATERIAL. RIPRAP APRON SHALL BE A MINIMUM OF 18 INCHES IN THICKNESS AND BE UNDERLAIN BY AN 8 oz/yd² GEOTEXTILE SEPARATOR.
7. SEDIMENT CLEANOUT ELEVATION SHALL BE MARKED ON A SILT GAUGE. WHEN SEDIMENT ACCUMULATION REACHES THE MARKER OR IF THE MARKER IS OBSCURED BY WATER FOR 90 DAYS, THE SEDIMENTATION BASIN SHALL BE CLEANED.
8. RIPRAP APRON SHALL HAVE D_{50} = 12" AND Dmax = 18" AND MAY BE REPLACED WITH AN EQUIVALENT MATERIAL. INLET RIPRAP SHALL BE A MINIMUM OF 24 INCHES IN THICKNESS AND BE UNDERLAID BY A 12 oz/yd² GEOTEXTILE SEPARATOR.
9. CULVERTS SHALL BE HEAVY DUTY AASHTO CORRUGATED HDPE PIPE WITH SMOOTH INTERIOR.

FOR PERMITTING PURPOSES ONLY

REV.	DATE	BY	DESCRIPTION
1	10/18/13	JDW	REVISED PER N.O.D. COMMENTS FROM ADEQ ON 9.18.2013

CERTIFICATE OF AUTHORIZATION — TERRACON CONSULTANTS, INC. — No.223 — ARKANSAS

STATE OF ARKANSAS — 10 2013 — REGISTERED PROFESSIONAL ENGINEER — No. 14977 — BRAD N. FUREIGH

Terracon
Consulting Engineers and Scientists
25809 I-30 SOUTH BRYANT, AR 72022
PH. (501) 847-9292 FAX. (501) 847-9210

STORMWATER MANAGEMENT DETAILS - SHEET 1

LATERAL EXPANSION PERMIT DRAWINGS

ECO-VISTA, LLC.

CLASS 1 LANDFILL FACILITY

SPRINGDALE ARKANSAS

DRAWING 16

DESIGNED BY:	BNF
DRAWN BY:	JDW
APP'D. BY:	BNF
SCALE:	N.T.S.
DATE:	1/14/13
JOB NO.	062-014-35097120
ACAD NO.	055
SHEET NO.:	16 OF 18

Terracon

Attachment B
Pond Calculations

Project Inventory: Eco Vista Expansion Area 25 YR.csd

Title	Eco Vista Expansion Area Stormwater Design
Engineer	Heath Lockley
Company	Terracon Consultants, Inc.
Date	11/15/2012
Notes	

Scenario Summary

ID	88
Label	Scenario - 1
Notes	
Active Topology	<I> Base Active Topology
Physical	<I> Base Physical
Headloss	<I> Base Headloss
Boundary Condition	<I> Base Boundary Condition
Initial Settings	<I> Base Initial Settings
Hydrology	<I> Base Hydrology
Output	<I> Base Output
Inflow	<I> Base Inflow
Rainfall Runoff	<I> Base Rainfall Runoff
Water Quality	<I> Base Water Quality
Operational	<I> Base Operational
User Data Extensions	<I> Base User Data Extensions
Dynamic Solver Calculation Options	<I> Base Calculation Options

Network Inventory

Conduits	0	Pond Outlet Structures	0
Channels	3	Outfalls	1
Gutter Links	0	Wet Wells	0
Catch Basins	0	Pumps	0
Manholes	0	Catchments	6
Cross Sections	3	Ponds	1

Calculation Executive Summary

Scenario	
Label	Scenario - 1

Storm Event			
Label	Base Rainfall Runoff	Return Event	(N/A) years
Global Storm Event	<None>		

Calculation Executive Summary			
Total Inflow Volume	3,934,979.0 gal	Total System Volume Change	3,953,382.9 gal
Total System Outflow Volume	0.0 gal	Continuity Error	0.5 %
Total System Overflow Volume	377.3 gal	Total N-R Iterations	1610
Total Gutter Volume Change	(N/A) gal		

Calculation Detailed Summary

<General>			
Label	Base Calculation Options		
Inlets			
Neglect Side Flow?	False	Active Components for Combination Inlets In Sag	Grate and Curb
Neglect Gutter Cross Slope For Side Flow?	False	Active Components for Combination Inlets on Grade	Grate and Curb
Options			
Calculation Time Step	0.025 hours	Hydrologic Time Step	0.025 hours
Output Increment	0.050 hours	Total Simulation Time	24.000 hours
Options (Advanced)			
Virtual Flow Depth	0.040 ft	NR Weighting Coefficient	0.700
Y Iteration Tolerance	0.03 ft	Relaxation Weighting Coefficient	0.600
LPI Coefficient	1.000	Computation Distance	50.00 ft

Catchment Calculation Summary

Label	Runoff Method	Loss Method	Total Rainfall Depth (in)	Area (User Defined) (acres)	Volume (Total Runoff) (gal)	Flow (Peak) (ft^3/s)	Time To Peak (hours)
CM-1	Unit Hydrograph	SCS CN	7.2	3.307	369,320.7	14.07	12.100
CM-2	Unit Hydrograph	SCS CN	7.2	3.473	397,829.0	15.16	12.100
CM-3	Unit Hydrograph	SCS CN	7.2	6.876	786,629.0	29.98	12.100
CM-4	Unit Hydrograph	SCS CN	7.2	6.650	792,733.1	30.21	12.100
CM-5	Unit Hydrograph	SCS CN	7.2	7.895	535,021.7	20.39	12.100
CM-6	Unit Hydrograph	SCS CN	7.2	9.192	1,051,424.4	39.15	12.100

General Calculation Summary

Label	Element Type	Branch	Time to Maximum Flow (hours)	Flow (Maximum) (ft^3/s)
CH-1	Channel	2	12.100	51.94
CH-2	Channel	2	12.100	111.42
CH-3	Channel	1	12.100	27.69
CS-3	Cross Section	2	---	---
CS-4	Cross Section	2	---	---
CS-5	Cross Section	1	---	---

General Calculation Summary

Label	Element Type	Branch	Time to Maximum Flow (hours)	Flow (Maximum) (ft³/s)
PO-1	Pond	1	---	---

Velocity (Maximum) (ft/s)	Hydraulic Grade (Maximum) (ft)
4.45	1,290.97
6.47	1,285.78
1.99	1,285.52
---	1,295.77
---	1,286.41
---	1,286.11
---	1,283.69

Node Calculation Summary

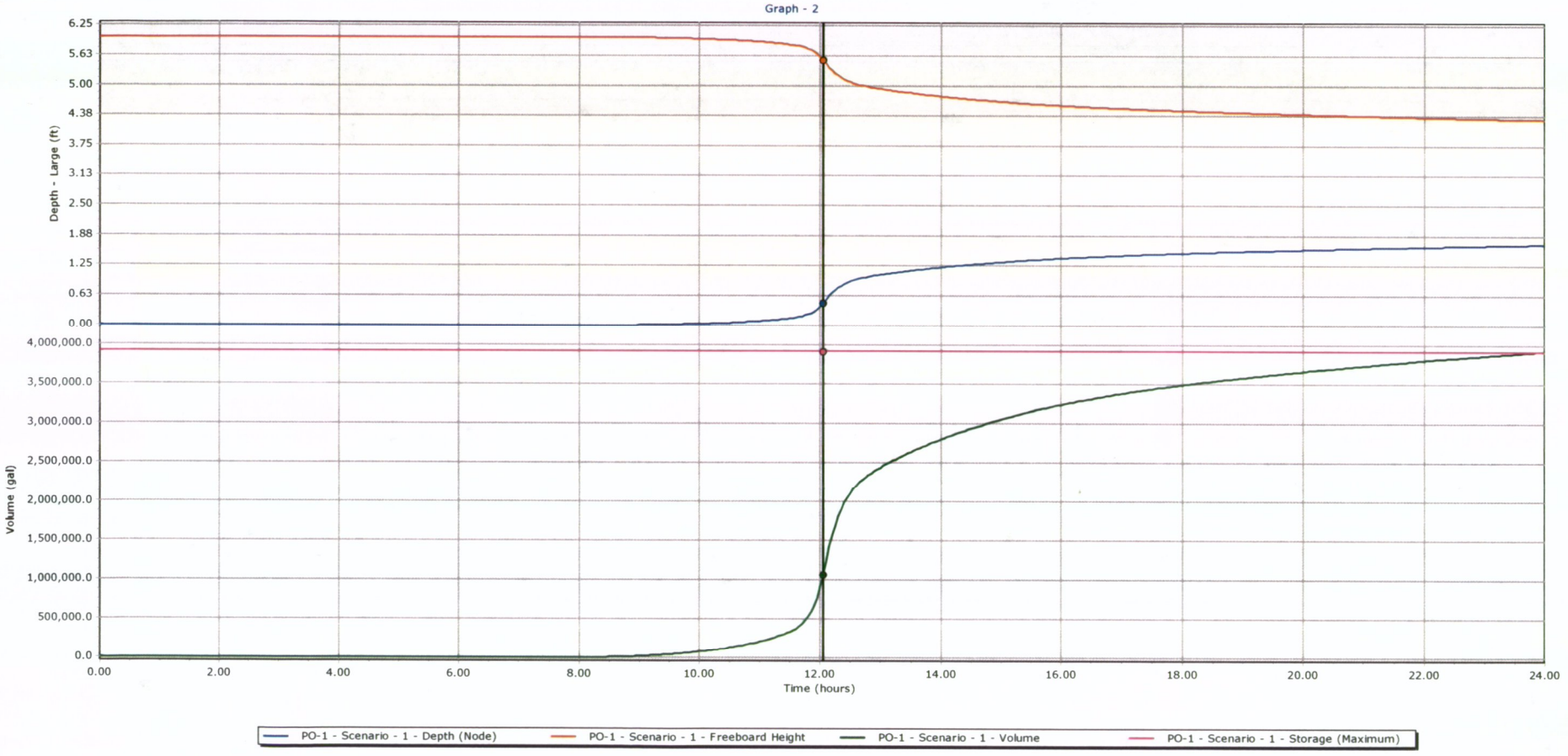
Label	Element Type	Branch	Time to Maximum Inflow (hours)	Flow (Total In Maximum) (ft³/s)
OF-2	Outfall	0	(N/A)	(N/A)
PO-1	Pond	1	12.100	136.75

Time To Maximum Inlet Flow (hours)	Flow (Surface Maximum) (ft³/s)	Time To Maximum Captured Flow (hours)	Flow (Captured Maximum) (ft³/s)	Time to Maximum Overflow (hours)
---	---	---	---	(N/A)
---	---	---	---	0.000

Flow (Overflow Maximum) (ft³/s)
(N/A)
0.00

Gutter Calculation Summary

Label	Open Cross Section	Flow (Maximum) (ft³/s)	Time to Maximum Flow (hours)	Velocity (Maximum) (ft/s)


Graph - 2
Depth - Large (ft)
6.25
5.63
5.00
4.38
3.75
3.13
2.50
1.88
1.25
0.63
0.00
Volume (gal)
4,000,000.0
3,500,000.0
3,000,000.0
2,500,000.0
2,000,000.0
1,500,000.0
1,000,000.0
500,000.0
0.0
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
18.00
20.00
22.00
24.00
Time (hours)
PO-1 - Scenario - 1 - Depth (Node)
PO-1 - Scenario - 1 - Freeboard Height
PO-1 - Scenario - 1 - Volume
PO-1 - Scenario - 1 - Storage (Maximum)

Project Inventory: Eco Vista Expansion Area 100 YR.csd

Title	Eco Vista Expansion Area Stormwater Design
Engineer	Heath Lockley
Company	Terracon Consultants, Inc.
Date	11/15/2012
Notes	

Scenario Summary

ID	1
Label	Base
Notes	
Active Topology	Base Active Topology
Physical	Base Physical
Headloss	Base Headloss
Boundary Condition	Base Boundary Condition
Initial Settings	Base Initial Settings
Hydrology	Base Hydrology
Output	Base Output
Inflow	Base Inflow
Rainfall Runoff	Base Rainfall Runoff
Water Quality	Base Water Quality
Operational	Base Operational
User Data Extensions	Base User Data Extensions
Dynamic Solver Calculation Options	Base Calculation Options

Network Inventory

Conduits	0	Pond Outlet Structures	0
Channels	3	Outfalls	1
Gutter Links	0	Wet Wells	0
Catch Basins	0	Pumps	0
Manholes	0	Catchments	6
Cross Sections	3	Ponds	1

Calculation Executive Summary

Scenario	
Label	Base

Storm Event			
Label	Base Rainfall Runoff	Return Event	(N/A) years
Global Storm Event	<None>		

Calculation Executive Summary			
Total Inflow Volume	5,281,983.5 gal	Total System Volume Change	5,298,323.8 gal
Total System Outflow Volume	0.0 gal	Continuity Error	0.3 %
Total System Overflow Volume	402.3 gal	Total N-R Iterations	1735
Total Gutter Volume Change	(N/A) gal		

Calculation Detailed Summary

<General>

Label	Base Calculation Options

Inlets			
Neglect Side Flow?	False	Active Components for Combination Inlets In Sag	Grate and Curb
Neglect Gutter Cross Slope For Side Flow?	False	Active Components for Combination Inlets on Grade	Grate and Curb

Options			
Calculation Time Step	0.025 hours	Hydrologic Time Step	0.025 hours
Output Increment	0.050 hours	Total Simulation Time	24.000 hours

Options (Advanced)			
Virtual Flow Depth	0.040 ft	NR Weighting Coefficient	0.700
Y Iteration Tolerance	0.03 ft	Relaxation Weighting Coefficient	0.600
LPI Coefficient	1.000	Computation Distance	50.00 ft

Catchment Calculation Summary

Label	Runoff Method	Loss Method	Total Rainfall Depth (in)	Area (User Defined) (acres)	Volume (Total Runoff) (gal)	Flow (Peak) (ft^3/s)	Time To Peak (hours)
CM-1	Unit Hydrograph	SCS CN	7.2	3.307	506,760.3	19.11	12.100
CM-2	Unit Hydrograph	SCS CN	7.2	3.473	532,770.1	20.09	12.100
CM-3	Unit Hydrograph	SCS CN	7.2	6.876	1,053,459.1	39.72	12.100
CM-4	Unit Hydrograph	SCS CN	7.2	6.650	1,061,627.8	40.03	12.100
CM-5	Unit Hydrograph	SCS CN	7.2	7.895	716,499.1	27.01	12.100
CM-6	Unit Hydrograph	SCS CN	7.2	9.192	1,408,088.1	52.01	12.100

General Calculation Summary

Label	Element Type	Branch	Time to Maximum Flow (hours)	Flow (Maximum) (ft^3/s)
CH-1	Channel	2	12.100	69.47
CH-2	Channel	2	12.100	148.86
CH-3	Channel	1	12.100	37.09
CS-3	Cross Section	2	---	---
CS-4	Cross Section	2	---	---
CS-5	Cross Section	1	---	---

General Calculation Summary

Label	Element Type	Branch	Time to Maximum Flow (hours)	Flow (Maximum) (ft³/s)
PO-1	Pond	1	---	---

Velocity (Maximum) (ft/s)	Hydraulic Grade (Maximum) (ft)
4.79	1,291.23
7.04	1,286.09
2.17	1,285.79
---	1,296.04
---	1,286.74
---	1,286.40
---	1,284.25

Node Calculation Summary

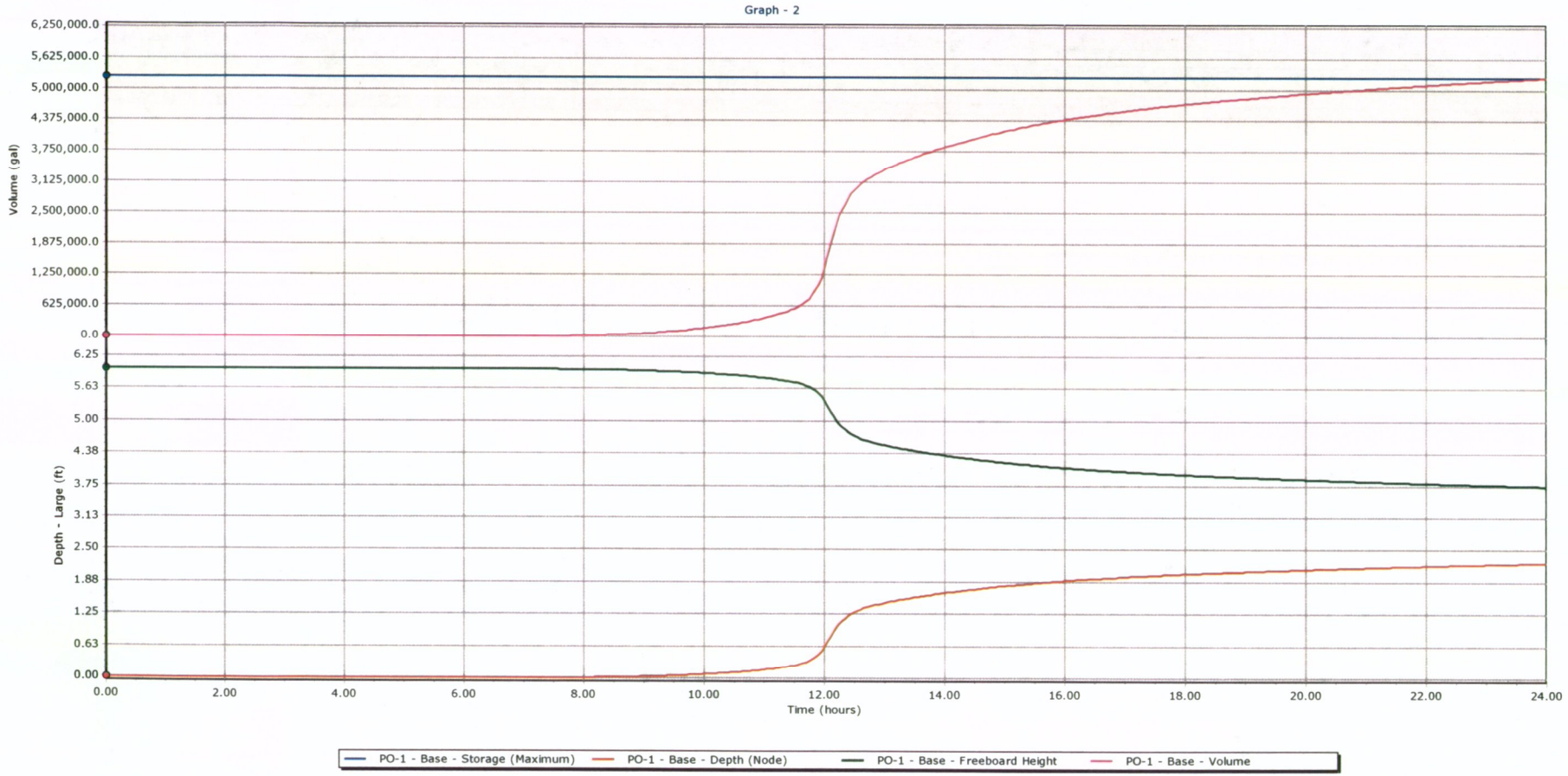
Label	Element Type	Branch	Time to Maximum Inflow (hours)	Flow (Total In Maximum) (ft³/s)
OF-2	Outfall	0	(N/A)	(N/A)
PO-1	Pond	1	12.100	183.76

Time To Maximum Inlet Flow (hours)	Flow (Surface Maximum) (ft³/s)	Time To Maximum Captured Flow (hours)	Flow (Captured Maximum) (ft³/s)	Time to Maximum Overflow (hours)
---	---	---	---	(N/A)
---	---	---	---	0.000

Flow (Overflow Maximum) (ft³/s)
(N/A)
0.00

Gutter Calculation Summary

Label	Open Cross Section	Flow (Maximum) (ft³/s)	Time to Maximum Flow (hours)	Velocity (Maximum) (ft/s)


Graph - 2
Volume (gal)
6,250,000.0
5,625,000.0
5,000,000.0
4,375,000.0
3,750,000.0
3,125,000.0
2,500,000.0
1,875,000.0
1,250,000.0
625,000.0
0.0
Depth - Large (ft)
6.25
5.63
5.00
4.38
3.75
3.13
2.50
1.88
1.25
0.63
0.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
18.00
20.00
22.00
24.00
Time (hours)
PO-1 - Base - Storage (Maximum)
PO-1 - Base - Depth (Node)
PO-1 - Base - Freeboard Height
PO-1 - Base - Volume

Worksheet for Mid-Slope Berm

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.03000	ft/ft
Normal Depth	18.00	in
Left Side Slope	2.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)

Results

Discharge	45.98	ft^3/s
Flow Area	6.75	ft^2
Wetted Perimeter	9.54	ft
Hydraulic Radius	8.49	in
Top Width	9.00	ft
Critical Depth	1.71	ft
Critical Slope	0.01493	ft/ft
Velocity	6.81	ft/s
Velocity Head	0.72	ft
Specific Energy	2.22	ft
Froude Number	1.39	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft

Worksheet for Mid-Slope Berm

GVF Input Data

Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	18.00	in
Critical Depth	1.71	ft
Channel Slope	0.03000	ft/ft
Critical Slope	0.01493	ft/ft

Cross Section for Mid-Slope Berm

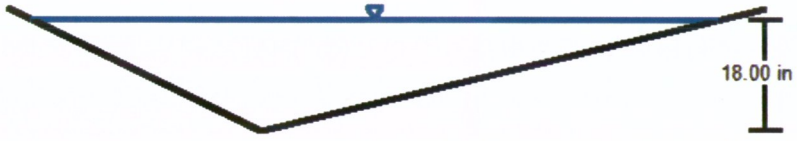
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.03000	ft/ft
Normal Depth	18.00	in
Left Side Slope	2.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Discharge	45.98	ft^3/s

Cross Section Image



V: 1
H: 1

Worksheet for Letdown

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.069	
Channel Slope	0.25000	ft/ft
Normal Depth	12.00	in
Left Side Slope	3.00	ft/ft (H:V)
Right Side Slope	3.00	ft/ft (H:V)
Bottom Width	5.00	ft

Results

Discharge	68.33	ft^3/s
Flow Area	8.00	ft^2
Wetted Perimeter	11.32	ft
Hydraulic Radius	8.48	in
Top Width	11.00	ft
Critical Depth	1.37	ft
Critical Slope	0.07398	ft/ft
Velocity	8.54	ft/s
Velocity Head	1.13	ft
Specific Energy	2.13	ft
Froude Number	1.77	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	in

Worksheet for Letdown

GVF Input Data

Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	12.00	in
Critical Depth	1.37	ft
Channel Slope	0.25000	ft/ft
Critical Slope	0.07398	ft/ft

Cross Section for Letdown

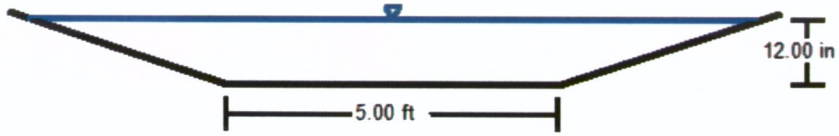
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.069	
Channel Slope	0.25000	ft/ft
Normal Depth	12.00	in
Left Side Slope	3.00	ft/ft (H:V)
Right Side Slope	3.00	ft/ft (H:V)
Bottom Width	5.00	ft
Discharge	68.33	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Perimeter Ditch

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.020	
Channel Slope	0.00600	ft/ft
Normal Depth	36.00	in
Left Side Slope	2.00	ft/ft (H:V)
Right Side Slope	2.00	ft/ft (H:V)
Bottom Width	3.00	ft

Results

Discharge	216.50	ft^3/s
Flow Area	27.00	ft^2
Wetted Perimeter	16.42	ft
Hydraulic Radius	19.74	in
Top Width	15.00	ft
Critical Depth	3.08	ft
Critical Slope	0.00537	ft/ft
Velocity	8.02	ft/s
Velocity Head	1.00	ft
Specific Energy	4.00	ft
Froude Number	1.05	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	in

Worksheet for Perimeter Ditch

GVF Input Data

Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	36.00	in
Critical Depth	3.08	ft
Channel Slope	0.00600	ft/ft
Critical Slope	0.00537	ft/ft

Cross Section for Perimeter Ditch

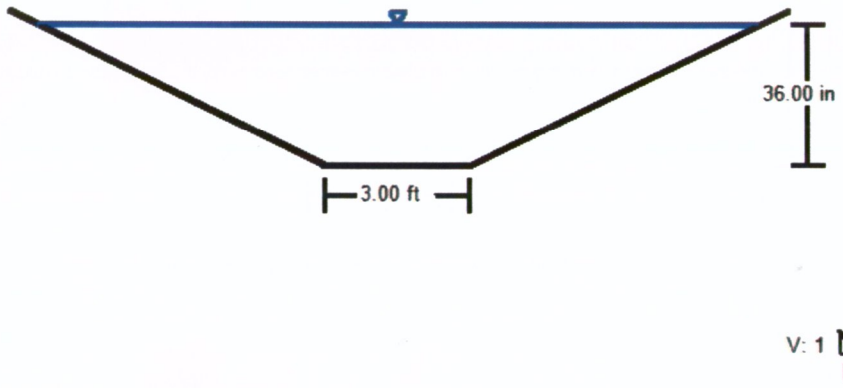
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.020	
Channel Slope	0.00600	ft/ft
Normal Depth	36.00	in
Left Side Slope	2.00	ft/ft (H:V)
Right Side Slope	2.00	ft/ft (H:V)
Bottom Width	3.00	ft
Discharge	216.50	ft³/s

Cross Section Image



Worksheet for Pond Inlet

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.02500	ft/ft
Normal Depth	42.00	in
Diameter	42.00	in
Discharge	206.79	ft^3/s

Results

Discharge	206.79	ft^3/s
Normal Depth	42.00	in
Flow Area	9.62	ft^2
Wetted Perimeter	11.00	ft
Hydraulic Radius	10.50	in
Top Width	0.00	ft
Critical Depth	3.47	ft
Percent Full	100.0	%
Critical Slope	0.02310	ft/ft
Velocity	21.49	ft/s
Velocity Head	7.18	ft
Specific Energy	10.68	ft
Froude Number	0.00	
Maximum Discharge	222.45	ft^3/s
Discharge Full	206.79	ft^3/s
Slope Full	0.02500	ft/ft

Worksheet for Pond Inlet

Results

Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	42.00	in
Critical Depth	3.47	ft
Channel Slope	0.02500	ft/ft
Critical Slope	0.02310	ft/ft

Cross Section for Pond Inlet

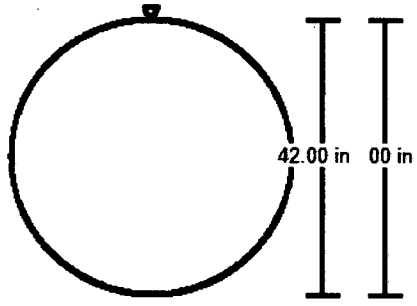
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.02500	ft/ft
Normal Depth	42.00	in
Diameter	42.00	in
Discharge	206.79	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Pond Discharge

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.00500	ft/ft
Normal Depth	12.00	in
Diameter	12.00	in
Discharge	3.27	ft^3/s

Results

Discharge	3.27	ft^3/s
Normal Depth	12.00	in
Flow Area	0.79	ft^2
Wetted Perimeter	3.14	ft
Hydraulic Radius	3.00	in
Top Width	0.00	ft
Critical Depth	0.77	ft
Percent Full	100.0	%
Critical Slope	0.00559	ft/ft
Velocity	4.17	ft/s
Velocity Head	0.27	ft
Specific Energy	1.27	ft
Froude Number	0.00	
Maximum Discharge	3.52	ft^3/s
Discharge Full	3.27	ft^3/s
Slope Full	0.00500	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Pond Discharge

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	12.00	in
Critical Depth	0.77	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.00559	ft/ft

Cross Section for Pond Discharge

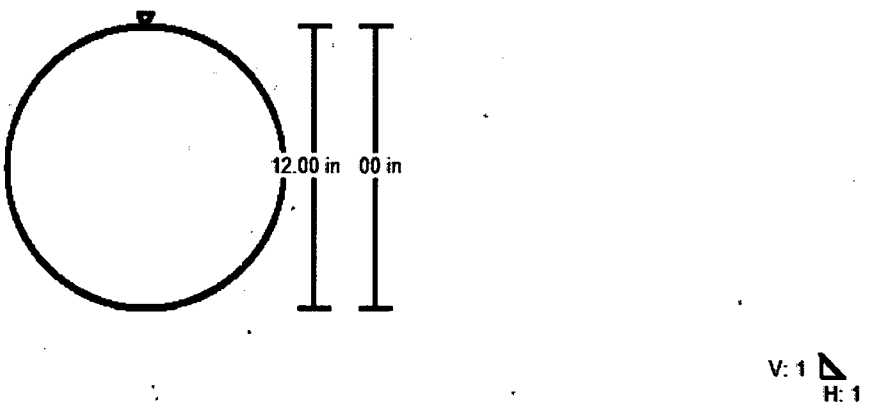
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.00500	ft/ft
Normal Depth	12.00	in
Diameter	12.00	in
Discharge	3.27	ft^3/s

Cross Section Image



ADEQ

ARKANSAS
Department of Environmental Quality

Hand Delivered Mail Receipt

Date	11/25/13
Division	NPDES
Sender	
Received By	Carrie Dallsen

Wilson, Tabatha

From: Taylor, Jodi <jtaylo28@wm.com>
Sent: Wednesday, December 18, 2013 12:34 PM
To: Peltier, Hannah
Cc: Wilson, Tabatha; Borgeson, J.D.; Fuller, Kim; Harmon, Jennifer K (jkharmon@terracon.com); Conrad, David
Subject: RE: Incomplete Letter for Construction Application - ARG160045C
Attachments: DOC.PDF

Attached please find Section I: Signatory Requirements. Please let me know if you need the original hardcopy as well, and I can hand deliver. Jennifer Harmon sent Forms 10Q and 10K to cover our disclosure information. I believe that should complete the application, but if not please let me know. Thank you very much!!!

Jodi

Jodi Taylor
Environmental Protection Manager – Arkansas
jtaylo28@wm.com

Waste Management of Arkansas, Inc.
Arkansas Tennessee Alabama Kentucky Market Area
100 Two Pine Drive
North Little Rock, AR 72117
Tel 501.982.7336
Cell 501.993.8966
Fax 501.982.2606

From: Peltier, Hannah [mailto:peltier@adeq.state.ar.us]
Sent: Wednesday, December 11, 2013 3:52 PM
To: Taylor, Jodi
Cc: Wilson, Tabatha; Borgeson, J.D.; Fuller, Kim
Subject: Incomplete Letter for Construction Application - ARG160045C

Good Afternoon,

Here is a copy of the letter and forms that were sent November 27. If you have any questions please let me know. Thank you!

Hannah Peltier
Water Division
501-682-0613

Recycling is a good thing. Please recycle any printed emails.

SECTION I: SIGNATORY REQUIREMENTS

Cognizant Official (Duly Authorized Representative)

40 CFR 122.22(b) states that all reports required by the permit, or other information requested by the Director, shall be signed by the applicant (or person authorized by the applicant) or by a duly authorized representative of that person. A person is duly authorized representative only if:

(1) the authorization is made in writing by the applicant (or person authorized by the applicant);
(2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity responsibility, or an individual or position having overall responsibility for environmental matters for the company.

The applicant hereby designates the following person as a Cognizant Official, or duly authorized representative, for signing reports, etc., including Discharge Monitoring Reports (DMR) required by the permit, and other information requested by the Director:

Signature of Cognizant Official: _____ Date: 12-17-13

Printed name of Cognizant Official: Jodi Taylor

Official title of Cognizant Official: Env Protection Mgr Telephone Number: 501-982-7336

Responsible Official

The information contained in this form must be certified by a ***responsible official*** as defined in the "signatory requirements for permit applications" (40 CFR 122.22).

Responsible official is defined as follows:

Initials

Corporation, a principal officer of at least the level of vice president
Partnership, a general partner
Sole proprietorship: the proprietor
Municipal, state, federal, or other public facility: principal executive officer, or ranking elected official.

→ _____ *(Initial)* "I certify that the cognizant official designated above is qualified to act as a duly authorized representative under the provisions of 40 CFR 122.22(b)." NOTE: If no duly authorized representative is designated in this section, the Department considers the applicant to be the responsible official for the facility and only reports, etc., signed by the applicant will be accepted by the Department.

→ _____ *(Initial)* "I certify that, if this facility is a corporation, it is registered with the Secretary of State in Arkansas. Please provide the full name of the corporation if different than that listed in Section A above."

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. I further certify under penalty of law that all analyses reported as less than detectable in this application or attachments thereto were performed using the EPA approved test method having the lowest detection limit for the substance tested."

Signature of Responsible Official: _____ Date: 12-17-13

Printed name of Responsible Official: Charles Gillian

Official title of Responsible Official: Director of Disposal Operations Telephone Number: 615-764-4745