MUNICIPAL SOLID WASTE PERMIT
MAJOR AMENDMENT

PART III-ATTACHMENT D6
CONTAMINATED WATER PLAN

NAME OF PROJECT: Beck Landfill

MSW PERMIT APPLICATION NO.: 1848A

OWNER: Nido, LTD (CN603075011)

OPERATOR: Beck Landfill (RN102310968)

CITY, COUNTY: Schertz, Guadalupe County

Major Amendment: Revised March 2023

Prepared by:

Civil & Environmental Consultants, Inc.

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30 TAC §§330.65(c), 330.177, 330.207, 330.227, 330.331(a)(2), 330.333, 330.337(d)

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1 INTRODUCTION

30 TAC§§330.65(c), 330.177, 330.207, 330.227, 330.331(a)(2), 330.333, 330.337(d)

1.1 Purpose

This Leachate and Contaminated Water Management Plan has been prepared for Beck Landfill consistent with 30 TAC §§330.65(c), 330.177, 330.207, 330.227, 330.331(a) (2), 330.333, and 330.337(d). Beck Landfill is a Type IV landfill and only accepts construction and demolition, and other inert wastes. The entire footprint of the landfill has been previously constructed and there is no requirement for a leachate collection system at this facility. This plan provides the details of the management of contaminated water that is generated during normal site operations.

1.2 Definitions

Contaminated water is defined in §330.3(36) as leachate, gas condensate, or water that has come into contact with waste.

2 CONTAMINATED WATER MANAGEMENT

30 TAC §330.207

2.1 Contaminated Water Generation

Surface water that comes into contact with waste, leachate, or gas condensate is considered to be contaminated water. Best management practices will be used to minimize contaminated water generation. Temporary diversion berms may be constructed around areas of exposed waste to minimize the amount of surface water that comes into contact with waste. Design calculations and typical details for temporary diversion berms are presented in Appendix D6-A -Containment/Diversion Berm Design. Daily cover and intermediate cover will be placed over filled areas to minimize the area of exposed waste. Procedures for verifying the adequacy of daily and intermediate cover placement are provided in Part IV -Site Operating Plan. If waste is exposed in areas where daily or intermediate cover has been previously placed, runoff from these areas will be considered contaminated water.

2.2 Contaminated Water Collection, Containment, and Storage

Temporary containment berms will be constructed as needed around the active face to collect and contain surface water that has come into contact with waste. In addition to the planned containment berms around the active face, temporary containment berms will be constructed wherever needed to collect contaminated water. The design calculations and typical details for containment berms for a 25-year, 24-hour storm event are provided in Appendix D6-A. All temporary containment berms shall be constructed of clay material and utilize the cross-section shown on Figure D6-A. Primary contaminated water storage will be provided by the containment berms, which will provide storage for the collected contaminated water, the 25-year, 24-hour storm event, and one additional foot of freeboard. Containment berms will be maintained until the contaminated water is removed.

Stormwater diversion and containment berms will also be placed around the processing and recovery areas to control run-on and run-off. The diversion and containment berms will be sized based off the calculations shown on Figure D6-A. The typical size for these areas is 150’x150’ and this area is included in the berm sizing chart shown on the drawing.

Any spills that occur at the processing and recovery areas will be collected and managed as contaminated water. Any soil impacted by the spill will be excavated and analyzed to determine the proper waste classification and sent to an offsite permitted disposal facility.

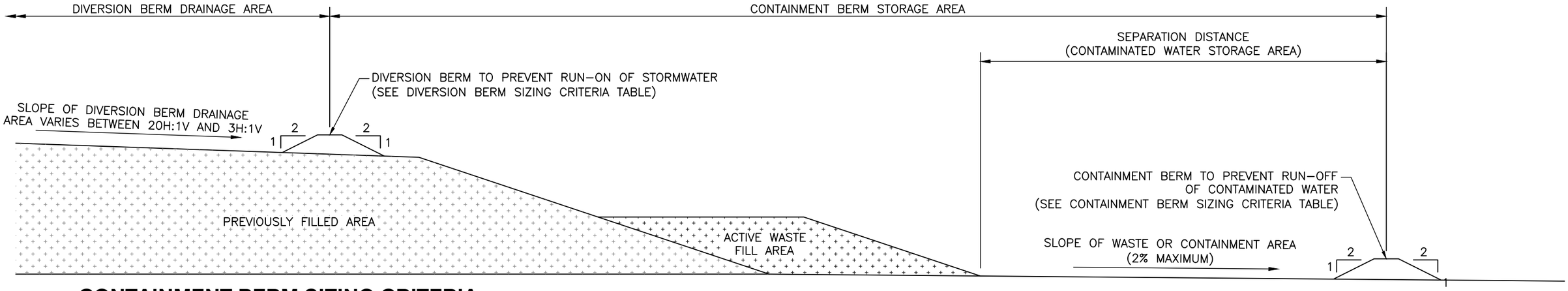
2.3 Contaminated Water Disposal

Contaminated water will not be allowed to discharge into waters of the United States. Contaminated water will be transported to an offsite POTW for treatment and disposal in accordance with §330.207. Sampling and analysis will meet the individual disposal facilities requirements.

BECK LANDFILL

APPENDIX D6-A
RUN-ON/RUN-OFF BERM DESIGN

Includes page D6-A-1



CONTAINMENT BERM SIZING CRITERIA

Active Area		Separation	Runoff	Depth	Freeboard	Design Berm
Length	Width	Distance	Volume			Height
(ft.)	(ft.)	(ft.)	($ft^{3)}$	(ft.)	(ft.)	(ft.)
100	100	45	10343	2.3	1.0	3.5
150	150	45	20865	3.1	1.0	4.5
200	200	45	34953	3.9	1.0	5.0
250	250	45	52608	4.7	1.0	6.0
300	300	45	73830	5.5	1.0	6.5
325	325	45	85778	5.9	1.0	7.0
100	100	50	10700	2.1	1.0	3.5
150	150	50	21400	2.9	1.0	4.0
200	200	50	35667	3.6	1.0	5.0
250	250	50	53500	4.3	1.0	5.5
300	300	50	74900	5.0	1.0	6.0
325	325	50	86938	5.4	1.0	6.5
100	100	55	11057	2.0	1.0	3.5
150	150	55	21935	2.7	1.0	4.0
200	200	55	36380	3.3	1.0	4.5
250	250	55	54392	4.0	1.0	5.0
300	300	55	75970	4.6	1.0	6.0
325	325	55	88097	4.9	1.0	6.0
100	100	60	11413	1.9	1.0	3.0
150	150	60	22470	2.5	1.0	3.5
200	200	60	37093	3.1	1.0	4.5
250	250	60	55283	3.7	1.0	5.0
300	300	60	77040	4.3	1.0	5.5
325	325	60	89256	4.6	1.0	6.0

25-Year, 24-Hour Depth= 8.56 in.
Percent Run-off of Rainfall= 100.0 %

Notes:
1. Separation distance refers to the length between the inside toe of the active area berm and the waste face.
2. Run-off is assumed to pond along the length of the active area, within the separation distance between waste and berm.
3. Percent Run-off conservatively assumed to be 100% of rainfall.
4. Using the same methodology, other options for the active area lengths, widths, and separation distances will yield acceptable design berm heights.

DIVERSION BERM SIZING CRITERIA

DIVERSION BERM DRAINAGE AREA (ACRES)	MINIMUM 5 %			MAXIMUM 33 %		
	FLOW RATE (CFS)	FLOW DEPTH (FEET)	REQ'D MIN. DIVERSION BERM HEIGHT (FEET)	FLOW RATE (CFS)	FLOW DEPTH (FEET)	REQ'D MIN. DIVERSION BERM HEIGHT (FEET)
0.5	3.2	0.3	1.5	3.2	0.6	1.5
1.0	6.4	0.4	1.5	6.4	0.7	2.0
1.5	9.5	0.5	1.5	9.5	0.8	2.0

NOTES:
1. FLOW RATE CALCULATED USING RATIONAL METHOD ASSUMING 10 MINUTE TIME OF CONCENTRATION, 0.7 RUN–OFF COEFFICIENT, AND INTENSITY CURVES FROM TxDOT HYDRAULIC MANUAL.

2. FLOW DEPTHS ALONG BERM CALCULATED USING FLOWMASTER SOFTWARE.

3. ONE FOOT MINIMUM FREEBOARD PROVIDED FOR BERMS.

SAMPLE CALCULATION FOR CONTAINMENT BERM HEIGHT

GIVEN: L=100', W=100', SEPARATION DISTANCE (SD)=45', RUNOFF DEPTH (RD)=8.56 INCHES
RUN–OFF VOLUME (FT^3) = (L+SD)*W*(RD/12)
RUN–OFF VOLUME = 10,343 FT^3

DEPTH= RUN–OFF VOLUME/L/SD
DEPTH= 10,343 FT^3/ 100 FT / 45 FEET
DEPTH=2.3 FT (ROUND UP TO 2.5 FEET)(ADD ONE FOOT FREEBOARD)
DEPTH=3.5 FT

STATE OF TEXAS
ADAM W. MEHEVEC
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LICENSED
PROFESSIONAL ENGINEER
3-17-2023

PERMIT DRAWINGS

REVISION RECORD

NO	DATE	DESCRIPTION
1	1/2/2022	TECHNICAL NOD 1
2	03/17/2023	TECH NOD 2
3		
4		
5		

REV. NO.	DATE	DESCRIPTION	DR. BY	APP. BY
1	--	--		

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GUADALUPE COUNTY, TEXAS

CEC REFERENCE NO. 311–653
DATE: AUGUST 2022
FILE: D6–A BERM SIZING

CONTAMINATED WATER RUN–ON\ RUN–OFF BERMS

D6–A

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