

EXHIBIT C

CERTIFICATE OF LIMITED PARTNERSHIP

FILED
In the Office of the
Secretary of State of Texas

OF

NOV 29 2004

TJFA, L.P.

Corporations Section

The undersigned general partner, being desirous of forming a limited partnership pursuant and subject to the Texas Revised Limited Partnership Act, does hereby certify as follows:

1. The name of the limited partnership is TJFA, L.P. (the "Partnership").
2. The address of the Partnership's registered office and the principal office shall be 100 Congress Avenue, Suite 1300, Austin, Texas 78701-2744.
3. The name and address of the Partnership's registered agent for service of process is as follows:

Kimberly S. Beckham
100 Congress Avenue, Suite 1300
Austin, Texas 78701-2744

4. The books and records of the Partnership are kept at its principal office for purposes of inspection.

5. The name, mailing address and street address of the business of the general partner are as follows:

Garra de Aguila, Inc.
100 Congress Avenue, Suite 1300
Austin, Texas 78701-2744

IN WITNESS WHEREOF, the undersigned have signed this Certificate of Limited Partnership this 19th day of November, 2004.

GENERAL PARTNER:

GARRA de AGUILA, INC., a Texas corporation

By:



Bob E. Gregory, President

3333

Filing Number: 800302914

05160240490

a. T Code ■ 13196

**TEXAS FRANCHISE TAX
 PUBLIC INFORMATION REPORT**
 MUST be filed to satisfy franchise tax requirements

Corporation name and address

GARRA DE AGUILA, INC.
 P.O. BOX 17126
 AUSTIN, TX 78760

Do not write in the space above

c. Taxpayer identification number 32014363744	d. Report year 2005
--	------------------------

e. PIR / IND 1, 2, 3, 4	Secretary of State file number or, if none, Comptroller unchartered number
Item k on Franchise Tax Report, Form 05-142	0800302914

If the preprinted information is not correct, please type or print the correct information.

The following information MUST be provided for the Secretary of State (S.O.S.) by each corporation or limited liability company that files a Texas Corporation Franchise Tax Report. Use additional sheets for Sections A, B, and C, if necessary. The information will be available for public inspection.

Please sign below! Officer and director information is reported as of the date a Public Information Report is completed. The information is updated annually as part of the franchise tax report. There is no requirement or procedure for supplementing the information as officers and directors change throughout the year.

Blacken this circle completely if there are currently no changes to the information preprinted in Section A of this report. Then, complete Sections B and C.

Corporation's principal office
P.O. BOX 17126, AUSTIN, TX 78760

Principal place of business
P.O. BOX 17126, AUSTIN, TX 78760

SECTION A. Name, title and mailing address of each officer and director.

NAME	TITLE	DIRECTOR	Term expiration (mm-dd-yyyy)
BOB E. GREGORY	PRESIDENT	<input type="checkbox"/> YES	
MAILING ADDRESS P.O. BOX 17126, AUSTIN, TX 78760			
DENNIS HOBBS	EXECUTIVE VP	<input type="checkbox"/> YES	
MAILING ADDRESS P.O. BOX 17126, AUSTIN, TX 78760			
		<input type="checkbox"/> YES	
MAILING ADDRESS			
		<input type="checkbox"/> YES	
MAILING ADDRESS			
		<input type="checkbox"/> YES	
MAILING ADDRESS			

SECTION B. List each corporation or limited liability company, if any, in which this reporting corporation or limited liability company owns an interest of ten percent (10%) or more. Enter the information requested for each corporation or limited liability company.

Name of owned (subsidiary) corporation	State of incorporation	Texas SOS file number	Percentage interest
NONE			
Name of owned (subsidiary) corporation	State of incorporation	Texas SOS file number	Percentage interest

SECTION C. List each corporation or limited liability company, if any, that owns an interest of ten percent (10%) or more in this reporting corporation or limited liability company. Enter the information requested for each corporation or limited liability company.

Name of owning (parent) corporation	State of incorporation	Texas SOS file number	Percentage interest
NONE			

Registered agent and registered office currently on file. (See instructions if you need to make changes.)
 Agent: **KIMBERLY S. BECKHAM**
 Office: **100 CONGRESS AVENUE, SUITE 1300
 AUSTIN, TX 78701**

Blacken this circle if you need forms to change this information. Changes can also be made online at <http://www.sos.state.tx.us/corp/soada/index.shtml>

I declare that the information in this document and any attachments is true and correct to the best of my knowledge and belief, as of the date below, and that a copy of this report has been mailed to each person named in this report who is an officer or director and who is not currently employed by this corporation or limited liability company or a related corporation.

sign here Dennis Hobbs	Officer, director, or other authorized person	Title VP	Date 5-1-05	Daytime phone (Area code and number) 512-421-1300
----------------------------------	---	--------------------	-----------------------	---

EXHIBIT D

5
T

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

WARRANTY DEED

THE STATE OF TEXAS §
 § KNOW ALL MEN BY THESE PRESENTS: THAT
COUNTY OF COMAL §

GREGORIO P. PEREZ and HILARIA R. PEREZ, a married couple (collectively, "Grantor"), for and in consideration of the sum of TEN AND NO/100 DOLLARS (\$10.00) and other good and valuable consideration to Grantor in hand paid by TJFA, L.P., a Texas limited partnership ("Grantee"), the receipt and sufficiency of which consideration are hereby acknowledged and confessed, has GRANTED, SOLD AND CONVEYED, and by these presents does GRANT, SELL AND CONVEY, unto Grantee, subject to all of the reservations, exceptions and other matters set forth or referred to herein, the following described property:

- (i) That certain real property in Comal County, Texas, which is described on Exhibit "A" attached hereto and incorporated herein by reference, together with all oil, gas, and other minerals in or under the surface thereof, and all executory leasing rights with respect thereto (the "Land");
- (ii) All buildings, structures, parking areas, utility lines, utility facilities, utility improvements, street and drainage improvements, and other improvements of any kind or nature located in, on, or under the Land (all of the foregoing being referred to herein collectively as the "Improvements");
- (iii) All equipment, fixtures, and other items of any kind or nature which are attached or affixed to the Land or the Improvements, including, without limitation, all electrical, gas, plumbing, air conditioning, and heating installations and equipment, and all built-in appliances and other items of equipment (all of the foregoing being referred to herein collectively as the "Fixtures"); and
- (iv) All appurtenances benefitting or pertaining to the Land or the Improvements, including, without limitation, all of Grantor's right, title, and interest in and to all streets, alleys, rights-of-way, or easements adjacent to or benefitting the Land, and all strips or pieces of land abutting, bounding, or adjacent to the Land (all of the foregoing being referred to herein collectively as the "Appurtenances").

The Land, Improvements, Fixtures, and Appurtenances are collectively referred to herein as the "Property."

TO HAVE AND TO HOLD the Property, together with all and singular the rights and appurtenances thereto in anywise belonging unto Grantee, and Grantee's successors or assigns, forever; and, subject to all of the matters set forth or referred to herein, Grantor does hereby bind itself and its successors to **WARRANT AND FOREVER DEFEND** all and singular the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming or to claim the same, or any part thereof; provided, however that this conveyance is made by Grantor and accepted by Grantee subject to: (a) all of the title exceptions revealed in or by the recorded documents and other

matters listed on Exhibit "B" attached hereto and incorporated herein by reference; and (b) all standby fees, taxes and assessments by any taxing authority for the current and all subsequent years, and all liens securing the payment of any of the foregoing.

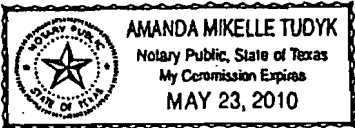
EXECUTED AND DELIVERED as of the 22nd day of September, 2006.

Gregorio P. Perez
GREGORIO P. PEREZ

Hilaria R. Perez
HILARIA R. PEREZ

STATE OF TEXAS §
COUNTY OF COMAL §

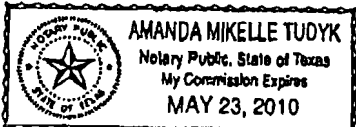
This instrument was acknowledged before me on Sept. 22nd, 2006, by Gregorio P. Perez.

(SEAL) 

Amanda Mikelle Tudyk
Notary Public Signature

STATE OF TEXAS §
COUNTY OF COMAL §

This instrument was acknowledged before me on Sept. 22nd, 2006, by Hilaria R. Perez.

(SEAL) 

Amanda Mikelle Tudyk
Notary Public Signature

AFTER RECORDING,
PLEASE RETURN TO:

Kristofer Kasper
Armbrust & Brown, L.L.P.
100 Congress Ave., Suite 1300
Austin, Texas 78701
Grantee Address:
5185 FM 1101
New Braunfels, TX 78130

S. CRAIG HOLLMIG, INC.
 CONSULTING ENGINEERS - SURVEYORS
 410 N. BROWN STREET
 NEW BRAUNFELS, TEXAS 78130-8088

TEXAS SOCIETY OF PROFESSIONAL ENGINEERS
 AMERICAN SOCIETY OF CIVIL ENGINEERS

EXHIBIT "A"

TEXAS SURVEYORS ASSOCIATION
 TELEPHONE: (530) 625-8385 • FAX: (530) 626-8868

WATER SYSTEMS • SEWER SYSTEMS • SUBDIVISIONS • LAND PLANNING • STREETS • SURVEYING

**FIELD NOTES
 FOR
 A 2.318 ACRE TRACT**

Being a 2.318 acre tract of land situated in the A. M. Esnaurizar Eleven League Grant, Abstract One, Comal County, Texas, being the same tract called 2.301 acres described in Volume 341, Page 63 of the Deed Records of Comal County, Texas, and all bearings referred to in this description are referenced to a bearing of N 39° 24' 19" W between monumentation found or set along the Southwest line of the above referenced 2.301 acre tract, said 2.318 acre tract of land surveyed under the supervision of Richard A. Goodwin, RPLS #4069, S. Craig Hollmig, Inc., and being more particularly described as follows:

BEGINNING: At a bent ½" iron pin found in the Northwest line of F.M. Highway 1101, for the South corner of a tract of land called 125.571 acres recorded in Volume 744, Page 126 of the Official Public Records of Comal County, Texas, for the East corner of the above referenced 2.301 acre tract, for the East corner and Point of Beginning of this tract;

THENCE: Along the Northwest line of F.M. Highway 1101, the South line of the above referenced 2.301 acre tract, along the arc of a curve to the right, having a radius of 3769.80 feet, an arc length of 291.29 feet and a chord bearing and distance of S 71° 44' 33" W 291.22 feet to a ½" iron pin found in same, for the East corner of tract of land called 2.0 acres recorded in Volume 157, Pages 239-240 of the Deed Records of Comal County, Texas, for the South corner of this tract;

THENCE: Along the Northeast line of said 2.0 acre tract, the Southwest line of the above referenced 2.301 acre tract, N 39° 24' 19" W 335.51 feet to a ½" iron pin set at the end of an existing fence, for the West corner of the above referenced 2.301 acre tract, for the West corner of this tract;

THENCE: Along the Northwest line of the above referenced 2.301 acre tract, N 44° 32' 05" E 235.04 feet to a 3/8" iron pin found for a corner of a tract of land called 1015.410 acres recorded in Doc# 200506041691 of the Official Public Records of Comal County, Texas, said point lying in the Southwest line of said 125.571 acre tract, for the North corner of the above referenced 2.301 acre tract, for the North corner of this tract;

THENCE: Along the Southwest line of said 125.571 acre tract, the Northeast line of the above referenced 2.301 acre tract, S 44° 03' 31" E 466.92 feet to the Point of Beginning and containing 2.318 acres of land, more or less.

Page 2: 2.318 Acre Tract

The foregoing field notes represent the results of an on-the-ground survey made under my supervision, September 18, 2006. Reference plat prepared this same date of this 2.318 acre tract.

Job #06-91B




Richard A. Goodwin, RPLS #4069

EXHIBIT "B"

PERMITTED ENCUMBRANCES

1. Restrictions as set forth in the instrument recorded in Volume 341, Page 63 of the Deed Records of Comal County, Texas.
2. Electric Line Right of Way dated 6/17/83, in favor of New Braunfels Utilities recorded in Volume 347, Page 81, of the Deed Records of Comal County, Texas.

Doc# 200606041143
Pages 5
09/25/2006 3:34PM
Official Records of
COMAL COUNTY
JOY STREATER
COUNTY CLERK
Fees \$32.00



Joy Streater

Doc# 200606041143

EXHIBIT E

ARMBRUST & BROWN, L.L.P.

ATTORNEYS AND COUNSELORS

100 CONGRESS AVENUE, SUITE 1300
AUSTIN, TEXAS 78701-2744
512-435-2300

FACSIMILE 512-435-2380

DAVID B. ARMBRUST
(512) 435-2301
darmbrus@abainstin.com

September 28, 2006

Via Facsimile: (512) 239-3311
and Federal Express

LaDonna Castañuela
Office of the Chief Clerk, MC 105
Texas Commission for Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753

rsels
msw
OPA PM
OCT 02 2006
BY js

CHIEF CLERKS OFFICE

2006 SEP 29 PM 2:50

TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY

Re: Proposed MSW Permit No. 66B

Dear Ms. Castañuela:

Attached are comments submitted on behalf of our client TJFA, L.P. TJFA owns real property approximately ½ mile from the Mesquite Creek Landfill operated under current TCEQ MSW Permit No. 66A. It is our opinion that the operation of this facility and the proposed facility permit amendment referenced above have an adverse impact on the use and value of TJFA and its property in a way that is not common to the general public because of such proximity.

A public notice (Attachment 1) of an Application and Preliminary Decision on Proposed MSW Permit No. 66B was published in the Seguin Gazette-Enterprise on August 29, 2006. Public comments are due September 28, 2006. We are submitting the attached public comments (Attachment 2) on behalf of our client in response to this public notice. It is our understanding the permit amendment application was processed under the MSW regulations in effect prior to March 29, 2006. In our opinion, under those regulations, the proposed permit amendment does not adequately address the attached list of relevant and material issues. On behalf of our client, we request the Executive Director return the proposed permit amendment to the applicant for further changes consistent with the attached comments and resubmit when corrected. Furthermore, as a "person" affected by the current and proposed facility, TJFA respectfully requests that a contested case hearing be held on the disputed relevant and material issues contained in the attached comments. Our client believes there is a significant degree of public interest in the application, and therefore, requests a public meeting for other members of the public to submit comments or to ask questions about the application.


ARMBRUST & BROWN, L.L.P.

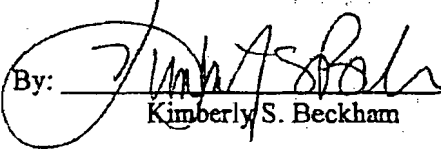
Page 2

If you have any questions on these public comments or requests, you may reach us at (512) 435-2300.

Very truly yours,

ARMBRUST & BROWN, L.L.P.

By: 
David B. Armbrust

By: 
Kimberly S. Beckham

Enclosures

EXHIBIT F

Mailing List
Juliff Gardens, L.L.C.
SOAH Docket No. 582-02-1595
TCEQ Docket No. 2002-0117-MSW

Craig R. Bennett, Administrative Law Judge
Tommy L. Broyles, Administrative Law Judge
State Office of Administrative Hearings
P.O. Box 13025
Austin, Texas 78711-3025
Tel. 512/936-0731
Fax 512/936-0730

Scott A. Humphrey
Texas Commission on Environmental Quality
Assistant Public Interest Counsel
PO Box 13087, MC-103
Austin, Texas 78711-3087
Tel. 512/239-6363
Fax 512/239-6377

Molly Cagle
Aric Short
Vinson & Elkins L.L.P.
2801 Via Fortuna, Suite 100
Austin, TX 78746
Tel. 512/542-8552
Fax 512/236-3280

Representing Juliff Gardens, L.L.C.

Mary W. Carter
Attorney
2900 Wesleyan
Houston, Texas 77027
Tel. 713/524-1012
Fax 713/524-5165

Representing Citizens Against the Dump

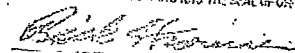
Jim Wiginton
Asst. District Attorney
111 East Locust, Ste. 408A
Angleton, Texas 77515
Tel. 281/756-1233
Fax 979/849-8914

Representing Brazoria County

STATE OF TEXAS
COUNTY OF TRAVIS
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF
A TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)

DEC 10 2001

DOCUMENT, WHICH IS FILED IN THE RECORDS OF THE COM-
MISSION, WITH UPON HER HAND AND THE SEAL OF OFFICE


BILL THOMAS
ALTERNATE CLERK OF RECORDS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Andy Hogan
President of the Board
Brazoria County Drainage District #5
P. O. Box 1
Rosharon, Texas 77583
Tel. 281/369-0071
Fax 281/595-3199

Representing Brazoria County Drainage
District No. 5

Christy Keller
9600 Scanlan Trace West
Missouri City, TX 77459
Tel. 281/980-5255
Fax 281/980-0307

Representing Sienna Point Homeowners' Assoc.

Joe W. Stuckey
Attorney
P. O. Box 550
Rosharon, Texas 77583
Tel. 281/369-0000
Fax. 281/369-0333

Maurice Angly
21912 Ernest Lane
Spicewood, Texas 78669
Tel. 512/913-0411
Fax 512/264-2742

David Grissom
707 CR 56
Rosharon, Texas 77583
Tel. 713/697-9491
Fax

Ramone Bingham
P. O. Box 389
Fresno, Texas 77545
Tel. 713/748-5340
Fax 713/842-7318

Don R. Irvin
9230 FM 521
Rosharon, Texas 77583
Tel. 281/744-5707
Fax

STATE OF TEXAS . 6
COUNTY OF TRAVIS . 5
I HEREBY CERTIFY THIS TO BE A TRUE AND CORRECT COPY OF
A TEXAS OPEN SPACE PLAN UNDER CHAPTER 205B, (2002)

DEC 10 2001

DOCUMENT FORWARDED TO THE RECORDS OF THE COMMISSION
MISSION STATE OF TEXAS AND THE SEAL OF OFFICE

David Grissom
DAVID GRISSOM
COUNTY CLERK

ALTERNATE COUNTY CLERK RECORDS
TEXAS OPEN SPACE PLAN UNDER CHAPTER 205B, (2002)

SOAH Docket No. 582-02-1595
TNRCC Docket No. 2002-0117-MSW

Mailing List

Page 3

John Craig
9377 FM 521
Rosharon, Texas 77583
Tel. 281/431-2558
Fax

◆Docket Clerk
Office of the Chief Clerk - MC 105
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087
Tel. 512/239-3300
Fax 512/239-3311

STATE OF TEXAS §
COUNTY OF TRAVIS §
I HEREBY CERTIFY THIS IS A TRUE AND CORRECT COPY OF
A TEXAS ENVIRONMENTAL QUALITY (TEQ)

DEC 10 2003

DELETED FROM PUBLIC RECORDS OF THE COM-
MISSION. BEEN FILED BY CLERK AND THE CLERK OF DISTRICT

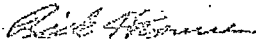
Richard H. ...

STATE OF TEXAS
PUBLIC RECORDS
TEXAS ENVIRONMENTAL QUALITY

STATE OF TEXAS
COUNTY OF TRAVIS
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF
A TEXAS COMMISSION ON FEDERAL RESERVE BANKS

DEC 10 2001

RECORDED BY THE CLERK OF THE COUNTY OF TRAVIS
MISSOURI COUNTY RECORDS AND THE DEPT. OF OFFICE



REX THOMPSON
ATTORNEY AT LAW
TEXAS COUNTY OF TRAVIS

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STATE OF TEXAS 5
COUNTY OF TRAVIS 4
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF
A TEXAS COMPACTION (SEE TEXAS ENVIRONMENTAL QUALITY ACT)

DEC 10 2007

DOCUMENT SEARCHED BY THE RECORDS OF THE COM-
MISSION. CIVIL DIVISION AND THE SEAL OF OFFICE

Bill Starnes

BILL STARNES
ALTERNATE COMMISSIONER OF RECORDS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SOAH DOCKET NO. 582-02-1595
TCEQ DOCKET NO. 2002-0117-MSW

APPLICATION OF JULIFF GARDENS,	§	BEFORE THE STATE OFFICE
L.L.C. FOR NEW PERMIT TO	§	
OPERATE A TYPE IV MUNICIPAL	§	OF
SOLID WASTE LANDFILL FACILITY;	§	
(PERMIT NO. MSW-2282)	§	ADMINISTRATIVE HEARINGS

PROPOSAL FOR DECISION

I. INTRODUCTION AND OVERVIEW

Juliff Gardens, L.L.C. (Juliff or Applicant) applied to the Texas Commission on Environmental Quality (TCEQ or the Commission) for Permit No. MSW-2282 to construct a Type IV municipal solid waste landfill (Landfill or Facility) in Brazoria County, Texas. The Landfill site is located on the east side of Farm-to-Market Road 521, approximately 2,500 feet south of the intersection with County Road 56 (the proposed Landfill site is referred to as the "Site"). When completed, the Facility would encompass approximately 253 acres with an aerial height of 140 feet.¹

The following were designated as the parties to this proceeding: (1) Applicant; (2) Citizens Against the Dump (CAD); (3) the Office of Public Interest Counsel (OPIC); (4) Brazoria County; (5) Sienna Point Homeowner's Association (Sienna Point); (6) Brazoria County Drainage District No. 5 (BCDD #5); (7) Joe W. Stuckey; (8) Maurice Angly; (9) David Grissom; (10) Ramone Bingham; (11) Don R. Irvin; (12) John Craig and (13) Chocolate Bayou Water Company (Chocolate Bayou). Prior to the hearing, Chocolate Bayou withdrew as a party. Numerous other parties failed to participate after being granted party status. In fact, only Applicant, CAD, OPIC, and Brazoria County participated in the hearing and filed post-hearing written arguments.

After considering the issues and evidence presented, the Administrative Law Judges (ALJs) recommend that the Commission deny the requested permit. This recommendation is based on numerous grounds, which are set forth in detail below in this Proposal for Decision (PFD).

¹ Ex. A-2, at 8; Transcript (Tr.) at 228.

II. PROCEDURAL HISTORY

On December 13, 1999, Juliff initially filed its application to build a Type IV landfill in Brazoria County. Public meetings were held on May 2, 2000 and February 15, 2001. Following these meetings, a permit amendment was filed by Juliff on August 29, 2001. This prompted a third public meeting, which was held on April 2, 2002 one day prior to the preliminary hearing for the contested case. After the preliminary hearing, this case was set for the hearing on the merits to commence on October 21, 2002.

On October 1, 2002, Applicant filed a lawsuit against the Commission, the State Office of Administrative Hearings (SOAH), and others seeking a declaratory judgment that TEX. HEALTH & SAFETY CODE § 361.122 is unconstitutional and void as a special law. That statute provides that the Commission may not issue a permit for a Type IV landfill if the proposed site is within 100 feet of a canal used as a public drinking source or for irrigation of crops in a county with a population of more than 225,000, located adjacent to the Gulf of Mexico, and where the commissioners of the county have adopted a resolution recommending denial of the application.

On October 8, 2002, Applicant sought and received an abatement of this contested case, pending outcome of the declaratory judgment action in state district court. Thereafter, on February 27, 2003, the 200th District Court of Travis County dismissed Applicant's claims and granted summary judgment to the Commission. Juliff appealed the District Court's determination and requested that the administrative action remain abated pending the appeal.

Six months later, on September 3, 2003, Applicant requested that the abatement be lifted and the case proceed. In its motion, Applicant argued that the Legislature had defined "canal" in recent legislation (HB 1378)² so as to exclude the waterway adjacent to the Site. While not reaching a

² Acts 2003, 78th Leg., ch. 1057, § 8 (effective June 20, 2003).

decision on the definition of "canal," the ALJs lifted the abatement, set a procedural schedule, and instructed the parties to include the definition of "canal" as one of the contested case issues to be addressed.

The hearing on the merits convened on January 26-30, 2004, at the Iowa Colony City Hall in Iowa Colony, Texas. The record closed on May 10, 2004, after final written arguments were filed. After the evidentiary hearing, but before the record closed, the Third Court of Appeals determined that TEX. HEALTH & SAFETY CODE § 361.122 is not an impermissible local or special law.³

III. JURISDICTION

The ALJs conclude the Commission has jurisdiction to consider and act on Juliff's application (the Application) under TEX. HEALTH & SAFETY CODE § 361.061. Moreover, SOAH ALJs have jurisdiction to conduct a hearing and prepare a PFD in contested cases referred to SOAH by the Commission.⁴ Early in this proceeding, Protestant Joe Stuckey challenged the Commission's jurisdiction to grant the requested permit, arguing Applicant did not have "sufficient interest in or right to the use of the property" at the Site, as required by 30 TEX. ADMIN. CODE § 330.62(a). The ALJs determined that Mr. Stuckey's challenge was not jurisdictional in nature, but rather went to the merits of the Application and was more properly addressed as one of the contested issues in the hearing.

IV. THRESHOLD LEGAL/POLICY ISSUES

Protestants raised many issues in opposition to the Application. Two of these issues primarily involve legal/policy determinations to be made by the Commission. Specifically,

³ *Juliff Gardens, L.L.C. v. Texas Commission on Environmental Quality*, No. 03-03-00174-CV, slip op. 2004 WL 393178 (Tex. App.-Austin March 4, 2004).

⁴ TEX. GOV'T CODE § 2003.047.

Protestants assert that the Commission is barred by TEX. HEALTH & SAFETY CODE § 361.122 from issuing the permit because the Landfill is located within 100 feet of a canal used for irrigation. Second, as noted above, Protestants contend the Commission may not issue the permit because Applicant does not have a sufficient interest in the property at the Site, as required by 30 TEX. ADMIN. CODE § 330.62(a). The Commission, based on purely legal interpretations of that statute and rule, may find it necessary to deny the Application, so the ALJs address these arguments first.

A. Is the Landfill Prohibited by TEX. HEALTH & SAFETY CODE § 361.122?

1. Parties' Arguments

Protestants assert the requested permit cannot be issued because it is specifically prohibited by TEX. HEALTH & SAFETY CODE § 361.122; which states "the Commission may not issue a permit for a Type IV landfill if:

- (1) the proposed site is located within 100 feet of a canal that is used as a public drinking water source or for irrigation of crops used for human or animal consumption;
- (2) the proposed site is located in a county with a population of more than 225,000 that is located adjacent to the Gulf of Mexico; and
- (3) prior to final consideration of the application by the commission, the commissioners of the county in which the facility is located have adopted a resolution recommending denial of the application."

In this case, it is undisputed that Brazoria County—where the Site is located—is a county with a population of more than 225,000 that is adjacent to the Gulf of Mexico. Further, it is undisputed that the Brazoria County Commissioners Court adopted a resolution recommending denial of the Application. So, the only disputed issue is whether the Landfill is located within 100 feet of a canal that is used as a public drinking water source or for irrigation of crops used for human or animal consumption. Protestants argue it is, while Applicant contends it is not.

Protestants point to a feature located on property owned by the Texas Department of Criminal Justice (TDCJ) that runs adjacent to the southern boundary of the Site and that is tied into the Chocolate Bayou main water canal that runs along the eastern boundary of the Site. Protestants argue this feature is a “canal,” while Applicant asserts it is merely a “ditch.” To avoid prejudging the dispute, the ALJs refer to the feature simply as a “draw.”⁵

The center of the draw is approximately 18-25 feet from the southern property line of the Site. Protestants presented evidence showing that the draw was mapped as part of Chocolate Bayou’s canal system and was identified as a lateral canal, labeled the “Prison Canal.”⁶ Protestants also note the draw is supplied with water from the Chocolate Bayou main canal through a 24-inch pipe and control gate located at the intersection of the draw and the Chocolate Bayou main canal. The draw is approximately 3-4 feet above grade and 12 feet wide at the intersection with the Chocolate Bayou main canal. Water delivered into the draw is transported by gravity the length of the draw, which is essentially the entire length of the northern boundary of the TDCJ property. At its narrowest point, the draw is approximately 7 feet wide.

Water delivered through the draw is used by TDCJ to irrigate crops that are grown mainly for animal consumption, although some crops have also been used for human consumption. TDCJ has grown crops on the property since the 1960s. The crops grown include corn, rice, grain sorghum, and cotton. The draw has been used sporadically, and the record reflects it has received the following volumes of water in recent years:

- 1,300 acre feet of water in 1990;
- 1,250 acre feet of water in 1991;
- 471 acre feet of water in 1998; and
- measurable, but unknown, quantities of water in 2003.

The water received in 2003 was used to irrigate corn crops on the TDCJ property.

⁵ “Draw” is the term used by the Third Court of Appeals in its decision related to this case.

⁶ Ex. CAD-31, attached exhibits 3 and 5.

Based on these facts, Protestants contend the draw is a canal used “for irrigation of crops used for human or animal consumption” as discussed in TEX. HEALTH & SAFETY CODE § 361.122(1). Patrick Hammond, a 17-year employee of TDCJ who is classified as an “Agriculture Specialist IV Field Crops” (*i.e.*, a crop manager), considers the draw a “lateral” or “canal.”⁷

Applicant disagrees, arguing the draw is nothing more than an “elevated ditch.” Applicant relies on the testimony of James Kowis, a professional engineer and member of the Texas Water Conservation Association. Mr. Kowis worked for approximately 27 years for the TCEQ and its predecessor agencies. He testified that, within the irrigation community, a canal is generally used to move a large quantity and rate of water while a ditch is used to supply an individual farmer or farming operation. Mr. Kowis noted that the United States Department of Agriculture’s Natural Resource Conservation Service (NRCS) uses the term “field irrigation ditch” to describe features such as the draw in this case when they have a capacity of 25 cubic feet per second (cfs) or less.⁸ He determined the draw has a capacity of slightly less than 18 cfs. Given this, and other factors related to his personal observation of the draw, he concluded it was a ditch and not a canal.⁹

However, Mr. Kowis also testified that:

- most irrigation companies have a main canal that they use to transport water, and then lateral and sublateral canals that flow from the main canal.
- individual ditches then often flow off lateral or sublateral canals.
- canals are often elevated, and water is often transported by gravity flow.
- canals are more permanent in nature.

Protestants point out that, in light of these elements, it is proper to classify the draw as a lateral canal tied directly into the Chocolate Bayou main canal.

⁷ Ex. CAD-30, at 4.

⁸ Tr. at 887.

⁹ Tr. at 891-893.

STATE OF TEXAS §
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ORDERED AND DECREED IN THE OFFICES OF THE COMMISSIONER OF THE DEPARTMENT OF WATER RESOURCES AND THE SECRETARY OF THE TEXAS DEPARTMENT OF AGRICULTURE

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RICK THOMAS
ALTERNATE CHIEF OF BUREAU
TEXAS DEPARTMENT OF AGRICULTURE

Despite this, Applicant also notes the Legislature has defined the term "canal" in other recent environmental legislation. In HB 1378, adopted in the last legislative session, the Legislature adopted a definition for the term "canal," as used in Chapter 30 of the Texas Water Code. In particular, the Legislature defined canal as "a man-made navigable channel or waterway of at least two miles in length." Absent a contrary definition elsewhere, Applicant contends it is appropriate to use this definition of "canal" in interpreting TEX. HEALTH & SAFETY CODE § 361.122(1), because both Chapter 361 of the Health & Safety Code and Chapter 30 of the Water Code address "the same or similar subjects." Applicant points out that it is undisputed that the draw in issue does not meet the definition of canal in Chapter 30 of the Water Code.

2. ALJs' Analysis

At the outset, the ALJs point out that the issue is not determining whether the draw is a ditch or a canal. Rather, under the statute, the Commission is only concerned with determining whether the draw *is or is not* a "canal."

The ALJs readily admit that, prior to considering the evidence in this case, the 3-foot high and 12-foot wide draw *looked* more like a ditch than what the ALJs might have considered a canal. After considering the issue, however, the ALJs conclude that there is little objective basis for distinguishing a ditch from a canal when both are used for irrigation; ultimately, the draw likely qualifies as both. As such, the ALJs recommend the Commission conclude that the draw is a canal, for purposes of TEX. HEALTH & SAFETY CODE § 361.122, and that the requested permit may not be issued. However, the ALJs recognize that the Commission has authority to interpret this statute and, given the dearth of precedent on the issue, likely could decide the issue either way within its discretion.

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COUNTY OF TARRANT
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Paul Thomas

PAUL THOMAS
ALTERNATE COMMISSIONER
TEXAS LABORERS' UNION

When not specifically defined, words in a statute should be interpreted according to their common usage or, if applicable, technical meanings.¹⁰ In both common usage and within the irrigation community there appears to be little objective basis for distinguishing between a “ditch” and a “canal,” when both are used to transport water for irrigation purposes. A “ditch” has been alternately defined as “a long narrow excavation dug in the earth” or “a trench for conveying water for drainage or irrigation,” while a canal has been defined as “an artificial waterway for navigation or for draining or irrigating land.”¹¹ The parties have presented the testimony of those knowledgeable in the irrigation community, and these witnesses reach contrary conclusions on whether the draw is a ditch or a canal and they concede that reasonable experts can differ on their opinions. So, apparently there is no commonly accepted technical meaning of canal.

In fact, the draw has characteristics commonly associated with both a “ditch” and a “canal.” It is relatively permanent, having existed for approximately 50 years. It is connected directly into Chocolate Bayou’s main canal, in the manner of a lateral canal. It is fed from Chocolate Bayou’s main canal by a 24-inch pipe, which is controlled by a control valve. It is used to transport water that is then pumped out into the TDCJ property to irrigate crops grown on the property. Each of these might lead one to conclude that the feature is more akin to a canal. Alternately, though, the draw is relatively small and supplies water to only one field.

In this case, we are concerned with the definition of “canal” in the context of the statute, namely in regard to the environmental concerns addressed by Chapter 361 of the Health & Safety Code. In that statute, the term “canal” has no obvious link to navigation but is instead linked to irrigation and drinking water. Although Applicant contends that Chapter 30 of the Water Code is persuasive in interpreting “canal” in this context, the ALJs disagree. First, Chapter 30 of the Water Code addresses entirely different environmental issues and regulatory matters than Chapter 361 of

¹⁰ TEX. GOV’T CODE § 311.011.

¹¹ WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY 661 and 324 (1986).

the Health & Safety Code. Chapter 30 of the Water Code concerns contracts between public agencies and the issuance of bonds for cooperative management of waste. In Chapter 30 of the Water Code, canals are used to dispose of waste as part of a sewer system and not for irrigation or drinking water. On the other hand, the canals referred to in TEX. HEALTH & SAFETY CODE § 361.122 are specifically for irrigation or drinking water.

Given the vast differences in the subject matter regulated by each statute, the ALJs do not believe that the definition of "canal" used in Chapter 30 of the Water Code should be applied to TEX. HEALTH & SAFETY CODE § 361.122. This conclusion is supported by a letter from the Executive Director of the Commission, indicating that the definition of canal in the Water Code is not controlling in regard to the interpretation of the Health & Safety Code.¹² In reaching this conclusion, the Executive Director stated that the two statutes "have little else in common, certainly nothing suggesting any implicit intent of the legislature to apply one's definitions to the other."¹³

The ALJs recognize that the Executive Director's views do not reflect an interpretation by the Commission. In litigation related to this matter, however, the Commission has given some insight on its understanding of the term "canal," as used in TEX. HEALTH & SAFETY CODE § 361.122. Specifically, in *Juliff Gardens, L.L.C. v. Texas Commission on Environmental Quality*, the Third Court of Appeals noted that the Commission, in distinguishing canals from other water features, described canals as "characterized by low pressure, low flow, and low circulation, and are isolated systems that are open at one end and closed elsewhere."¹⁴ Because of these factors, the Commission asserted that canals are worthy of special environmental protections. The draw in this case would appear to exhibit those characteristics of concern expressed by the Commission. More importantly,

¹² Ex. CAD-42.

¹³ *Id.*

¹⁴ 2004 Tex.App. LEXIS 2036, at *33 (Tex.App.—Austin March 4, 2004). The ALJs take official notice of the Court of Appeals' decision in that case and its recitation of the pleadings and admissions contained therein. TEX. R. OF EVID. 201(c). Any objection to this should be filed as an exception to this PFD.

the environmental purpose behind TEX. HEALTH & SAFETY CODE § 361.122—*i.e.*, to protect such features which are more susceptible to harm from pollution—logically extends to the draw in this case, which appears to have the identified characteristics of concern.

The definition used by NRCS for field irrigation ditches is not persuasive because the evidence is conflicting on whether the draw's capacity is actually 25 cfs or less, even if the definition were helpful to the issue at hand.¹⁵ Moreover, even Applicant's expert conceded that reasonable experts could disagree on whether a feature would be considered a ditch simply because its flow was less than 25 cfs.¹⁶ Therefore, the ALJs do not find the NRCS definition helpful.

Ultimately, the ALJs believe that the draw in question would qualify as a canal within the meaning of TEX. HEALTH & SAFETY CODE § 361.122, given the environmental concerns addressed by the statute and the lack of a meaningful difference between a "ditch" and a "canal" when both are used for irrigation of crops used for human or animal consumption and are tied into a mainline canal. If the Commission agrees with this conclusion, then the Landfill is prohibited by TEX. HEALTH & SAFETY CODE § 361.122.

B. Does Applicant have a Sufficient Interest in the Property?

Numerous protesting parties have also challenged the Application on the basis that Applicant does not own a sufficient interest in the property at the Site, as required by 30 TEX. ADMIN. CODE

¹⁵ Mr. Kowis did not actually conduct an independent analysis, but merely used another witness's testimony about the daily capacity (35 acre-feet) of the draw to determine what the flow rate would be. When questioned in detail, Mr. Kowis admitted he did not understand how the other person determined the 35-acre feet and he conceded that there were a lot of factors that would affect the capacity and flow rate—none of which he looked at. Moreover, some of those factors, such as the size of the pipe supplying the draw and the capacity of the irrigation equipment to pull water out of the draw are conditions that are easily changed and that do not actually effect the size of the draw itself. Ultimately, because of the ambiguous testimony he relied on, and his failure to conduct a detailed underlying analysis, the ALJs simply cannot find Mr. Kowis' testimony to be reliable. Tr. 920-928.

¹⁶ Tr. at 920.

§ 330.62(a). As set out in more detail below, the ALJs recommend that the Commission find that Applicant has not shown that it has a sufficient interest in the property in issue. However, the ALJs also conclude that this issue hinges on the interpretation of a rule not previously addressed by the Commission and, thus, the Commission may decide the matter differently as a matter of policy.

1. Parties' Arguments

The Commission's rules provide that "it is the responsibility of an owner or operator to possess or acquire a sufficient interest in or right to the use of the property for which a permit is issued."¹⁷ No parties dispute that Applicant (or its related entities) owns the surface estate in the property at the Site. Similarly, the parties agree that the surface estate and the mineral estate have been severed. Applicant has a waiver of surface use by 58% of the mineral estate owners.¹⁸ As to the other 42% of the mineral estate owners, Applicant has not acquired their consent or any waiver by them allowing Applicant's intended use of the property.

Given these facts, Protestants contend that Applicant has not shown that it has a "sufficient interest in or right to the use of the property" at the Site. Protestants note that the well-settled law in Texas is that the mineral estate is the dominant estate, and the mineral estate owner has the right to use so much of the surface as is reasonably necessary for activity related to exploration and development of minerals.¹⁹ Therefore, Protestants contend that the mineral estate owners can come in and demand the use of the surface for mineral development, and Applicant would be relatively powerless to stop them.

¹⁷ 30 TEX. ADMIN. CODE § 330.62(a).

¹⁸ See Applicant's Response to Order No. 24 Regarding the Scope of Contested Issues, at 1.

¹⁹ *Getty Oil Co. v. Jones*, 470 S.W.2d 618 (Tex. 1971); *Santana Oil Co. v. Henderson*, 855 S.W.2d 888 (Tex.App.—El Paso 1993).

In response, Applicant asserts there is no requirement or precedent establishing that a landfill operator must own 100% of the mineral estate in the property at which the landfill will be located. Applicant points out that the Commission has not addressed this in its extensive rules regarding landfills, nor has the Legislature required this in regard to this type of landfill. Applicant asserts that, if the Legislature intended such a requirement to exist, it could have clearly included such a statutory requirement. Applicant cites to other permit statutes containing language regarding the protection of mineral interests. Specifically, Applicant notes that TEX. HEALTH & SAFETY CODE § 401.204, related to low-level radioactive waste facilities, requires (1) the applicant to own the mineral estate, (2) the applicant to obtain a surface waiver from the mineral estate owners, or (3) the TCEQ to have the Attorney General condemn the mineral interest in fee simple. Further, in regard to disposal well permits and shaft permits, the Water Code requires the applicant to show that mineral rights will not be impaired.²⁰ In light of this, Applicant argues that the absence of any similar requirement is tantamount to a determination by the Legislature and the TCEQ to not impose such a requirement on landfill permit applicants.

Further, Applicant contends there is no regulatory mechanism to decide mineral interest owners' claims in contested cases; rather, because private property rights are involved, the protection of such ownership interests are properly addressed through civil court actions addressing property rights and the law of accommodation. In such actions, Applicant points out that, although the mineral estate is dominant, the mineral estate rights must be exercised with due regard for the rights of the surface owner.²¹ Because Applicant owns the property adjacent to the Site, it asserts it could accommodate any mineral owner's efforts to drill or otherwise explore under the surface of the Site, through directional drilling or other methods.

²⁰ TEX. WATER CODE §§ 27.015(c) and 28.031(a)(2).

²¹ *Tarrant County Water Control and Improvement Dist. No. 1 v. Haupt*, 854 S.W.2d 909, 911 (Tex. 1993); *Getty Oil Co.*, 470 S.W.2d at 621.

Finally, Applicant points out that no mineral owners have participated in this proceeding or challenged the Application. Given the waiver by 58% of the mineral estate owners, and the “economic realities of oil and gas exploration,” Applicant argues it is unlikely that any mineral owners will seek to engage in mineral exploration in the area. Thus, Applicant asserts it has a “sufficient interest in or the right to the use of the property” at the Site.

2. ALJs’ Analysis

After considering these arguments, the ALJs conclude that Applicant has not met its burden of proving it has a sufficient interest in or right to the use of the property. At the outset, the ALJs note they have been unable to locate any direct precedent on this issue. The law regarding mineral interests is clear, though, in establishing that the mineral estate is the dominant estate and that, if there is only one means by which to access minerals, the mineral estate owner may use that means even if it damages the surface estate.²² If there is more than one means to explore and obtain the minerals, the accommodation doctrine applies and resolves any dispute between the surface estate owner and the mineral estate owner. Under the accommodation doctrine, the courts look to whether a reasonable alternative that is not destructive to the surface estate is available to the mineral owner to use in producing minerals under the surface of the land.²³ When the accommodation doctrine is invoked, the burden of proof is on the *surface owner* to show that the mineral interests can be explored and developed through alternate means.²⁴

In regard to 30 TEX. ADMIN. CODE § 330.62(a), the Commission has not given guidance on what constitutes a “sufficient interest in or the right to the use of” the property. In looking at this issue in the context of this case, the ALJs find the accommodation doctrine to be a persuasive test

²² *Tarrant Co. Water Control & Improvement Dist. No. 1 v. Haupt*, 854 S.W.2d 909, 911-912 (Tex. 1993); *Getty Oil Co. v. Jones*, 470 S.W.2d 618, 622-623 (Tex. 1971).

²³ *Id.*

²⁴ *Tarrant Co. Water Control & Improvement Dist. No. 1*, 854 S.W.2d at 911.

to use in analyzing the question. Essentially, the ALJs believe that if an applicant does not establish its complete ownership interest in both the surface and mineral estates, or a waiver or other contractual agreement by the owners of those estates allowing development of the landfill, then it should present evidence sufficient to allow the Commission to determine that the integrity of the environment and the landfill permit requirements will not be adversely impacted if the mineral estate owners demanded their legal right to use the surface estate to develop minerals. Such may consist of evidence, consistent with the accommodation doctrine, showing that the mineral estate owners have alternative means to engage in mineral exploration and development that would not affect the landfill's operation and the integrity of the environment.

In this case, Applicant has made allegations that the mineral estate interests can be accommodated, but has not presented persuasive evidence showing this to be true. Rather, Applicant argues that such issues cannot be decided by this Commission, but can be addressed only through an action in the civil courts of the state. Applicant misses the point on this, though. The ALJs agree that the Commission cannot determine property rights *per se*. But, that is not what the Commission would be doing. Rather, if an applicant does not own the entirety of the mineral and surface estates at the site, it is important to look at the interplay between the mineral and surface estates in order to determine whether the applicant's interest in or right to the use of the property is "sufficient" as required by the Commission's rules. In conducting such an analysis, the Commission is not conclusively deciding private property rights, but simply determining a prerequisite (*i.e.*, the "sufficiency" of the interest or right to the use of the property) established by the Commission's own rules.

Applicant would essentially have the Commission turn a blind eye to the 42% mineral interest owners who have not executed a surface waiver or given any consent to Applicant's proposed use of the site. The ALJs cannot recommend such a course of action, particularly in light

of precedent from Oklahoma holding that mineral interest owners have a federal constitutionally-protected property interest that requires they be given notice and opportunity for a hearing before a landfill permit can be granted on the property subject to their mineral interest.²⁵

In *Dulaney v. Oklahoma Dept. of Health*, the Oklahoma Department of Health issued a landfill permit after denying the request by mineral interest owners and adjacent landowners for an evidentiary hearing. The Oklahoma Supreme Court held the permit was not lawfully issued, and found that the right to enter land to prospect for and to take minerals is a property right. After discussing the interplay between mineral rights and surface rights and the potential problems a landfill could create for mineral exploration, the court stated:

The permit granted by the Department of Health allows the use of the surface estate in a manner which may impair recognized and well-defined property rights of the mineral interest owner. Due process requires that the mineral interest owner be given notice and an opportunity to contest the permit at the administrative level. The due process clauses of the United States and the Oklahoma Constitutions provide that certain substantive rights—life, liberty, and property—cannot be deprived except by constitutionally adequate procedures. . . . The due process clauses of both the federal and Oklahoma constitutions require at a minimum *notice and a hearing* prior to the issuance of the permit *in the case of mineral interest owners*.²⁶

The ALJs recognize that in Texas, under TEX. HEALTH & SAFETY CODE § 361.081, landfill permit applicants are not required to provide direct, mailed notice to mineral interest owners. Rather, that type of notice must only be sent to:

[E]ach residential or business address located within one-half mile of a new solid waste management facility and to each owner of real property located within one-half mile of a new

²⁵ *Dulaney v. Oklahoma Dept. of Health*, 868 P.2d 676 (Okla. 1993). The ALJs have been unable to find any authority from Texas on this issue. Given the similarity between Texas and Oklahoma in the application of oil and gas law and property rights, and the fact that federal Constitutional protections are not limited by state, the ALJs find the Oklahoma precedent to be persuasive. Moreover, the ALJs have not found any authority from other jurisdictions reaching decisions contrary to this Oklahoma precedent.

²⁶ *Id.* at 681 (emphasis added).

solid waste management facility listed in the real property appraisal records of the appraisal district in which the solid waste management facility is sought to be permitted as of the date the commission determines the permit application is administratively complete.²⁷

In following this statute, the ALJs did not require direct, mailed notice to mineral interest owners in this case. However, this does not diminish the Oklahoma Supreme Court's acknowledgment of significant, federal Constitutional property rights that mineral interest owners have in the property at which the site will be located, nor does it relieve Applicant from showing that it has a "sufficient interest in or right to the use of the property for which a permit is issued." Moreover, in light of the fact that Applicant was not required to show proof of direct, mailed notice to mineral estate owners, Applicant's contention that none of the mineral estate owners have opposed the permit is of little consequence. Ultimately, the ALJs do not know whether such mineral estate owners are even aware of this proceeding.

Given the analysis presented above, the ALJs conclude that Applicant has not established that it has a sufficient interest in or the right to the use of the property at the Site. Because this is a case of first impression, the ALJs might ordinarily recommend a remand of this case to allow Applicant to address this issue more fully with some guidance from the Commission. However, because there are other significant reasons discussed in this PFD for denying the Application, the ALJs do not make such a recommendation. If, however, the Commission were to find that this is the only factor preventing issuance of the requested permit, then it might be appropriate to remand for further proceedings.

V. FLOODING AND DRAINAGE ISSUES

TCEQ rules require an applicant to determine drainage and flooding characteristics at a landfill site, including whether a site is located in a 100-year floodplain. CAD asserts that Applicant

²⁷ TEX. HEALTH & SAFETY CODE § 361.081(a).

failed to show compliance with numerous Commission rules related to flooding and drainage concerns. CAD asserts that this failure by Applicant leaves unresolved the significant concern, raised by the evidence, that the Site will be subject to flooding and the washout of solid waste into the surrounding environment, including waters of the state.

In summary, CAD asserts that (1) the Site is not protected from flooding, (2) the Application fails to demonstrate that natural drainage patterns will not be significantly altered, and (3) the Application fails to demonstrate that the 100-year-frequency flood will not be restricted and that the temporary water storage capacity of the 100-year floodplain will not be significantly reduced. In support of these broad assertions, CAD more specifically asserts that Applicant:

- did not correctly determine whether the Site is within the 100-year floodplain;
- did not provide for the Site to be protected by flood protection levees;
- did not show that adequate provisions have been made in the landfill design for safe passage of any internal or externally adjacent floodwaters;
- did not account for the 100-year flood level and other flooding factors that must be considered in protecting the proposed facility from a washout from the 100-year flood;
- was incorrect in stating that no surface water drainage enters the Site; and
- did not provide calculations to show that existing drainage patterns will not be significantly altered when compared to final conditions.

Many of the parties' disagreements begin with, and flow from, Applicant's determination that the Site is not within the 100-year floodplain. The ALJs address that first, and then address the other, related issues below.

STATE OF TEXAS
COUNTY OF TARRANT
TARRANT COUNTY CLERK
A TEXAS APPROVED CLERK OF COURSE AND QUALITY (TCOQ)

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A. Did Applicant Correctly Determine Whether the Site is in the 100-Year Floodplain?

1. Parties' Arguments

In determining whether the proposed Site is located in a floodplain, Applicant points to the relevant Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA). In particular, the FIRM for the area of the Site does not specifically identify the Site as being within the 100-year floodplain.²⁸ [To be clear, the ALJs note it does not specifically identify the Site as being outside the 100-year floodplain either. Rather, it contains no specific floodplain designation for the area at which the Site is located.] On the map, the Hayes Creek floodplain is the floodplain closest to the Site.²⁹ Applicant's expert, Gary Horwitch, determined that the highest ground level shown on the FIRM to be inundated by the 100-year flood is 54.6 feet msl.³⁰ He also testified that the Site ranges in height from 55 to 60 feet msl, all of which is above the highest elevation reflected on the FIRM as being inundated by the 100-year flood.³¹ Based on these considerations, Mr. Horwitch concluded that the site is not within the 100-year floodplain and is not subject to flooding from 100-year flood waters.

CAD challenges Applicant's contention that the Site is not within the 100-year floodplain, noting that the FEMA map indicates the floodplain analysis stopped before reaching the precise area of the proposed Site. CAD notes the proposed Site is located on the west side of the Chocolate Bayou canal, in an area which FEMA's flood insurance study indicates it did not actually analyze.

²⁸ Ex. A-14, at 39; Ex. A-1, at 0461. A copy of relevant portions of the FIRM are attached to this PFD as Attachment A.

²⁹ Ex. A-14, at 39; Ex. A-1, at 0461; *also* Ex. CAD-36.

³⁰ Ex. A-14, at 40.

³¹ *Id.*

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Moreover, the floodplain administrator for Brazoria County confirmed that the specific area of the Site had not been studied and, therefore, a drainage study would be required for development in accordance with the Brazoria County Drainage Criteria Manual.³²

CAD agrees that the 100-year flood level within the 100-year floodplain identified by FEMA along Hayes Creek was 54.6 feet msl. CAD disagrees with Mr. Horwitch's testimony that the flood level would be the same at the Site, believing instead that flood levels at the Site will be higher, because it is upstream on Hayes Creek. Regardless, even with a 100-year flood level of 54.6 feet msl, CAD argues that significant parts of the Site would be inundated during the 100-year flood, because they sit below that level.³³

CAD points out that the ultimate flaw in Applicant's analysis is that it relies solely on FEMA maps (that purportedly do not address the area of the Site) to conclude that the Site is not within the 100-year floodplain, thus avoiding the requirement of engaging in a detailed analysis of the flood characteristics and flooding factors at the site. Because of this, and because the FEMA maps do not actually address the area of the Site, CAD argues that Applicant's analysis is inadequate and does not properly comply with the Commission's rules regarding flood analysis.

Applicant disagrees with CAD's assessment of the FEMA maps and whether the area of the Site was studied. Applicant asserts that the FEMA maps use specific designators (namely "Zone D") to indicate areas not studied, and the FEMA FIRM relied on by Applicant did not characterize the area of the Site as being within "Zone D," thus indicating that it was properly studied by FEMA.

³² Ex. CAD-29, lines 369-380, and Exhibit 8.

³³ See Ex. CAD-34.

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Richard M. ...
COUNTY CLERK

AT TEST: ...
TEXAS ...

2. ALJs' Analysis

After considering the evidence and the arguments of the parties, the ALJs conclude that Applicant has not properly determined whether the site is located within the 100-year floodplain.

As required by 30 TEX. ADMIN. CODE § 330.56(f)(4)(B)(i), Applicant is required to “identify whether the site is located within a 100-year floodplain.” Applicant may choose to rely upon a FEMA map or, if a FEMA map is not available, Applicant is to include the “calculations and maps used” to make the determination.³⁴

In this case, Applicant relied on the FEMA map for the area in making its determination. However, the FEMA map does not appear to make a floodplain designation as to the area of the Site. Specifically, the map itself and the relevant FEMA flood insurance study reflect that the limit of study was at “mile 7.1” of Hayes Creek upstream, approximately 3,000 feet away from the Site.³⁵ It appears that the 100-year floodplain would continue to some extent up Hayes Creek, but for the “limit of study” designated by cross-section line O.³⁶ While it is appropriate for Applicant to rely upon FEMA maps, the maps must be shown to actually address the area in issue. In this case, the ALJs conclude that the FEMA map relied on by Applicant does not purport to analyze the precise area of the Site.

The ALJs are not persuaded by Applicant's contention that the Site would be marked as “Zone D” on the FEMA map if no flood hazard analysis had been conducted for the area. While it is true that the FEMA map legend indicates that such areas will be designated by “Zone D,” it also indicates that areas outside the 500-year floodplain will be unshaded on the map and designated as

³⁴ 30 TEX. ADMIN. CODE § 330.56(f)(4)(B)(i).

³⁵ Ex. CAD-36; Ex. CAD-37, at 9.

³⁶ Essentially, the floodplain's shaded area stops abruptly at the straight line marked by the limit of study cross-section line. Ex. CAD-36.

“Zone X.”³⁷ While numerous unshaded parts of the map are designated with Zone X, the area of the Site is not so marked. If the Site was not within the 500-year floodplain, as Applicant alleges, it should have been marked as “Zone X.” This supports CAD’s contention that the area simply was not studied.

Moreover, a letter from Penny Goode, Brazoria County Floodplain Administrator, seems to confirm that the area was not studied.³⁸ While Ms. Goode is not the person who prepared the FEMA map of study, her position as the Floodplain Administrator in that area certainly gives her some level of expertise on the matter. Her correspondence reflects her belief that the area of the Site was not addressed by the FEMA map relied on by Applicant and, as such, a detailed drainage study would be required for development of the Site under Brazoria County drainage rules.³⁹

Further, Andy Hogan testified that Brazoria County has had at least three 100-year storm events in recent years and, during such storm events, approximately two-thirds of the Site was flooded.⁴⁰ Mr. Hogan’s testimony is corroborated by that of Strom Duke, who testified that he had seen the Site flooded by water in the past.⁴¹ Although the testimony by Mr. Hogan and Mr. Duke is not conclusive, it is additional evidence the Site has not been properly analyzed to determine if it is within the 100-year floodplain. Moreover, their testimony is supported by documentation from Brazoria County Drainage District #5 and Chocolate Bayou reflecting that the area of the Site is “floodprone.”⁴² This is also consistent with the drainage pattern chart in the Application showing,

³⁷ *Id.*

³⁸ Ex. CAD-29, attached Exhibit 8.

³⁹ Ex. CAD-29, lines 369-380, and attached Exhibit 8.

⁴⁰ Ex. A-64, at 57.

⁴¹ Tr. at 526-527.

⁴² Ex. CAD-12, see pp. 23 and 27 (of 44). The ALJs recognize the documents were prepared by entities that have opposed the requested permit. However, the documents were prepared prior to the contested case hearing process and relate to matters within the general knowledge and areas of responsibility of the entities.

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ALLEN THOMAS
TEXAS DEPARTMENT OF PUBLIC UTILITY

contrary to Applicant's contention, that a significant portion of the southeast area of the Site is below 54.6 feet msl, which is the 100-year flood level in the area according to Applicant's expert.⁴³ This part of the Site also is the portion closest to Hayes Creek and nearest to where FEMA's designation of the 100-year floodplain ended because of the limit of study.⁴⁴

After considering the totality of the evidence, the ALJs conclude that there is significant uncertainty as to whether the FEMA map actually addresses the area of the Site. At a minimum, the uncertainty creates enough doubt to cause the ALJs to conclude that (1) the FEMA map is unreliable for purposes of determining whether the Site is within the 100-year floodplain, and (2) Applicant has not met its burden of proving that it properly identified whether the area is in the 100-year floodplain.

B. Did Applicant Properly Conduct a Flood Analysis and Design Flood Controls?

Parties' Arguments

Because Applicant concluded the site was not within the 100-year floodplain, it similarly concluded that it was not required to specifically address the 100-year flood levels for the site nor any other special flooding concerns that might need to be protected against. Further, it determined that it was not necessary to design any flood protection levees for the site. Even without flood protection levees, though, Applicant argues the Landfill would be protected by the maintenance levee and proposed perimeter berm for the site.

CAD points out that 30 TEX. ADMIN. CODE § 330.55(b)(1) requires an applicant to adequately show that the proposed landfill will not cause a discharge of solid wastes or pollutants

⁴³ Ex. CAD-34 (showing portions of the landfill site at 54 feet msl); Ex. A-14, at 40 (reflecting Applicant's expert's testimony that the highest level inundated by the 100-year flood is 54.6 feet msl).

⁴⁴ Compare Ex. CAD-34 to Ex. CAD-36.

adjacent to or into the water of the state in violation of TEX. WATER CODE § 26.121. As part of this, 30 TEX. ADMIN. CODE § 330.55(b)(7) provides that a site “shall be protected from flooding by suitable levees constructed to provide protection from a 100-year-frequency flood.” Such levees “shall not significantly restrict the flow of the 100-year-frequency flood nor significantly reduce the temporary water storage capacity of the 100-year floodplain.”⁴⁵ Furthermore, 30 TEX. ADMIN. CODE § 330.56(f)(4)(B)(i) requires an Applicant to provide information “identifying the 100-year flood level and any other special flooding factors that must be considered in designing, constructing, operating, or maintaining the proposed facility to withstand washout from a 100-year flood.”

CAD asserts that Applicant has not properly studied and identified the 100-year flood level, identified other flooding concerns, or proposed any flood protection levees. CAD alleges Applicant has not made any effort to satisfy these requirements because it has instead simply relied on its conclusion that the site was not within the 100-year floodplain. Because CAD disagrees with this determination, it contends Applicant should have done a more detailed flood analysis and is required to implement flood-control measures, including the development of flood-protection levees. Applicant’s assertion that berms or other levees at the site will protect the Landfill from flooding and washout is insufficient, argues CAD, because Applicant has not engaged in the analysis necessary to properly evaluate flood characteristics and also to ensure that such levees and berms would satisfy the requirement to not significantly restrict the flow of the 100-year flood or reduce the water storage capacity of the 100-year floodplain.

Further, CAD alleges that Applicant’s expert presented contradictory testimony on the issue of flood-control levees. In response to discovery requests, in prefiled testimony and during cross-examination at the hearing, Mr. Horwitch stated the Site was protected by flood-control levees.⁴⁶ However, after it became clear at the hearing that the levees were not designed as flood-control

⁴⁵ 30 TEX. ADMIN. CODE § 330.55(b)(7)(C):

⁴⁶ Ex. CAD-35, RFA No. 14(l), at 44; Ex. A-14, at 35 (lines 30-31); Tr. at 95-99.

levees, Mr. Horwitch changed his testimony on rebuttal and indicated the levees were “maintenance levees” and not flood-control levees.⁴⁷ CAD contends that this contradiction shows Mr. Horwitch’s lack of credibility as an expert testifying on the issue of flood control.

CAD asserts its own expert, Lawrence Dunbar, is more credible in regard to the flooding analysis and flood-control issues. Mr. Dunbar has many years of experience in studying drainage and flooding issues and was involved in preparing the drainage criteria for Fort Bend County, which was also used and substantially followed by other counties, including Brazoria County the county in which the Landfill is sited. Mr. Dunbar testified that he believed the Site would be inundated during the 100-year flood, although he conceded he had not calculated the 100-year-flood levels for the Site.⁴⁸ He further testified that, because of Applicant’s failure to properly analyze flooding in the area and make a correct determination of the floodplain in the area of the Site, he believed it was possible for flood waters to wash pollutants out of the Landfill and into surrounding areas, including waters in the state.⁴⁹

In its written closing arguments, Applicant essentially admits that its conclusion that the Site is not within the 100-year floodplain dictated the level of flood analysis. Because of its floodplain determination, Applicant argues it is not necessary to design levees or other flood-protection measures at the Site. Applicant concedes that water will occasionally pond at the Site, where rice levees remain from its former agricultural use, but asserts that such ponding does not reflect the flooding and inundation that would be necessary for a washout to occur. Applicant argues its internal channels and retention ponds will prevent washout. Because the Site is allegedly not within the 100-year floodplain, Applicant asserts construction of the Landfill cannot possibly reduce the floodplain storage capacity nor restrict the flow of the 100-year flood.

⁴⁷ Tr. at 854.

⁴⁸ Tr. at 669 and 682-683.

⁴⁹ Tr. at 657-658.

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DAVID H. [Name]
CLERK OF THE CLERK
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As for the credibility of its expert, Applicant argues that Mr. Horwitch was merely confused in his testimony, and such confusion does not detract from his credibility. Applicant notes that CAD did not attempt to cross-examine Mr. Horwitch on rebuttal in response to his clarifying testimony. Regardless of the characterization of the levees, Applicant argues that they will provide flood protection because they will be at a height of 59 feet msl. Applicant contends that, with 100-year flood levels at 54.6 msl in the nearby Hayes Creek floodplain, it is not reasonable to assume that floodwaters would get as high as 59 feet at the Site.

2. ALJs' Analysis

The ALJs find that Applicant has not adequately shown that the proposed Landfill will not cause a discharge of solid wastes or pollutants adjacent to or into water in the state in violation of TEX. WATER CODE § 26.121, as is required under 30 TEX. ADMIN. CODE § 330.55(b)(1). As noted above, Applicant relies mostly on the FEMA floodplain map in concluding the Site is not within the 100-year floodplain. Based on this, Applicant asserts it was not required to engage in the more detailed flood analysis required by the Commission's rules, nor to develop levees or other flood control devices. In the ALJs' view, Applicant was mistaken in this regard.

First, as noted above, the ALJs conclude that the FEMA floodplain map does not adequately identify whether the Site is within the 100-year floodplain. Therefore, it is incumbent on Applicant to conduct a detailed analysis of the flood conditions at the Site and to properly identify the 100-year-flood level and other special flooding concerns that might exist. Applicant did not do this. Rather, Applicant simply concluded from the FEMA floodplain map that the 100-year-flood level in the area was 54.6 feet msl. Because Applicant also determined the area of the Site is at 55 feet msl or above,⁵⁰ Applicant concluded there were no flood concerns to be addressed.

⁵⁰ Applicant's determination is questionable because portions of the Site are apparently at 54 feet msl, as shown by Ex. CAD-34, discussed above.

However, even in its own closing briefs, Applicant seems to acknowledge the existence of special flooding issues that should be addressed. For example, in its closing arguments, Applicant states:

Ditches throughout Brazoria County are not supposed to overflow during a 100-year rainfall event, but, because of design flows, obstructions, and poor maintenance, they sometimes do. Indeed, if any or all of the drainage ditches in and around the site are blocked, or clogged, that action would result in localized and even major flooding.⁵¹

Applicant refers to such overflows as “spillage,” and does not consider them to be run-on that would have to be analyzed and addressed. Further, Applicant concludes that such potential overflows are not considerations that should be addressed as special flooding concerns, even though Applicant acknowledges that such overflows occur and can result in flooding in the area. Rather, Applicant seems to believe these potential flood concerns should only be addressed by the local drainage district. Specifically, Applicant states in its closing argument that “the issues raised by CAD in this regard may indeed be flooding issues that Applicant may be required to evaluate to secure the authorizations required from the Drainage District.”⁵²

The ALJs agree that the concerns presented by CAD are supported by the evidence and reflect flooding issues that need to be addressed by Applicant, but disagree with Applicant’s conclusion that it is not required to address them in this proceeding. As noted, 30 TEX. ADMIN. CODE § 330.55(b)(1) requires an applicant to demonstrate that there will not be a washout of waste from the landfill. Furthermore, 30 TEX. ADMIN. CODE § 330.56(f)(1)(B)(i) requires an Applicant to identify any special flooding factors that must be considered in designing, constructing, operating or maintaining the proposed facility to withstand washout from the 100-year flood. Therefore, to ensure that there will not be a washout of waste from the landfill, Applicant must address special flooding factors that exist or have a significant potential to occur. The ALJs believe that known and

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⁵¹ Applicant’s Closing Arguments, at 33 (citing Tr. 162-164, 177, and 627-628).

⁵² Applicant’s Reply to Closing Arguments, at 16.

expected overflows of local drainage ditches (that have not been designed to carry the water from the 100-year flood) that will likely result in flooding in the area are factors that must be considered and properly addressed by Applicant in designing its facility.

In this case, the evidence clearly establishes that drainage ditches around the Site are known to overflow. As discussed in more detail below in the drainage discussion, at least two separate drainage areas adjacent to the site have experienced overflows in recent years resulting in the backup, or flow, of water onto the site. Applicant has not addressed these special flooding concerns with any level of specificity or detailed analysis so as to assuage the ALJs' concerns about flooding at the Site and ensure that there will not be a washout of waste in violation of the applicable rules and statutes.

The ALJs also are not persuaded by Applicant's contention that flooding is not a concern because levees will surround the Site. In response to discovery in this case, Applicant indicated that the Site was protected by flood-protection levees from inundation by the 100-year flood.⁵³ Applicant's expert, Mr. Horwitch, then filed testimony prior to the hearing indicating the Site was properly protected from flooding by flood-protection levees, even stating the flood-protection levees were designed to meet the Commission's rules and regulations.⁵⁴ When questioned at the hearing, Mr. Horwitch again reiterated that Applicant had designed flood-protection levees to protect the Site from the 100-year flood.⁵⁵ However, when questioned on rebuttal, Mr. Horwitch completely reversed his prior testimony and indicated the levees around the Site were not flood-protection levees, but were instead "maintenance-type" levees for controlling internal drainage and for other internal maintenance and design features.⁵⁶

⁵³ Ex. CAD-35, RFA No. 14(l), at 44

⁵⁴ Ex. A-14, at 35 (lines 30-31).

⁵⁵ Tr. at 95-99.

⁵⁶ Tr. at 854-855.

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In closing arguments, Applicant agrees the levees are not flood-protection levees and asserts that Mr. Horwitch just became “confused” during cross-examination.⁵⁷ However, such does not explain Applicant’s pre-hearing discovery responses or Mr. Horwitch’s prefiled testimony that indicated the levees were flood-protection levees and were compliant with the Commission’s rules for such types of levees. In light of that, Applicant’s contention that Mr. Horwitch was confused is simply not tenable. At a minimum, this raises a concern as to the reliability of Mr. Horwitch’s testimony regarding flooding issues. Regardless, the evidence is clear that the levees are not designed to be flood-control levees. So, while it is true that Applicant has designed levees to be included at the site, it has not conducted the analysis necessary to ensure the levees meet all the requirements of the Commission’s rules at 30 TEX. ADMIN. CODE § 330.55(b)(7). This creates two potential problems.

First, there is not sufficient evidence to conclude that the “maintenance levees” at the site are “designed and constructed to prevent the washout of solid waste from the site” as required by 30 TEX. ADMIN. CODE § 330.55(b)(7)(A). Applicant did not design the levees for this purpose and has not provided the analytical support to show that they could satisfy such a purpose. Second, Applicant did not show that such levees will not restrict the flow of the 100-year-frequency flood nor significantly reduce the temporary water storage capacity of the 100-year floodplain as required by 30 TEX. ADMIN. CODE § 330.55(b)(7)(C). Applicant engaged in no such analysis because the levees are not flood protection levees and because it does not believe the Site is within the 100-year floodplain. However, because the ALJs disagree that the FEMA map conclusively makes any floodplain determination about the Site, it is important for Applicant to show that the levees will not adversely impact flood flows and storage capacity in the area. Applicant’s failure to do this leaves open the possibility not only that the levees will not protect the Landfill from washout, but that they may also have a deleterious effect on flooding in the area.

⁵⁷ Applicant’s Reply to Closing Arguments, at 10.

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RECORDS MANAGEMENT DIVISION
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The ALJs found CAD's expert, Mr. Dunbar, to be a credible and persuasive witness. Mr. Dunbar acknowledged that he has not performed the analysis necessary to show precisely how the Landfill would adversely impact flooding. But, he also expressed his reasonable opinion that such an analysis must be done by Applicant to ensure the Landfill will not have a washout or otherwise negatively impact flooding and drainage in the area. Given the flat, low-lying topography in the area, and the extensive rainfall received, flooding is a serious concern. This is evidenced by the concerns raised not only by Mr. Dunbar, but also by Chocolate Bayou Water Company and Brazoria County Drainage District #5, that the site is prone to flooding. Given such serious concerns, it is all the more important for Applicant to engage in detailed flooding and drainage analysis. However, Applicant did not do this. Instead, it relied on an ambiguous FEMA map to conclude the Site is not within the 100-year floodplain, and then it provided only a cursory flood analysis.

Given the weight of the evidence, the ALJs conclude that Applicant has not shown compliance with:

- 30 TEX. ADMIN. CODE § 330.55(b)(1) (requiring Applicant to adequately show that the Landfill will not cause a discharge of solid wastes or pollutants adjacent to or into the water of the state in violation of TEX. WATER CODE § 26.121);
- 30 TEX. ADMIN. CODE § 330.55(b)(7) (providing that the site shall be protected from flooding by suitable levees constructed to provide protection from a 100-year frequency flood that, among other things, shall not significantly restrict the flow of the 100-year frequency flood nor significantly reduce the temporary water storage capacity of the 100-year floodplain); or
- 30 TEX. ADMIN. CODE § 330.56(f)(4)(B)(i) (requiring Applicant to provide information "identifying the 100-year flood level and any other special flooding factors that must be considered in designing, constructing, operating, or maintaining the proposed facility to withstand washout from a 100-year flood").

As such, the ALJs recommend the permit be denied.

C. Has Applicant Properly Analyzed Pre- and Post-Development Drainage?

As part of its application, Applicant must attach an existing contour map showing the location and quantities of surface drainage entering, exiting, or internal to the site,⁵⁸ and a final contour map showing the same information for the site once the landfill has been developed.⁵⁹ Further, Applicant must provide calculations to verify that natural drainage patterns will not be significantly altered as a result of the proposed landfill development.⁶⁰

1. Parties' Arguments

Applicant contends that pre- and post-development drainage patterns at the Site will not be impacted by the Landfill. This analysis includes two main components of drainage: run-on and run-off. As to run-on, Applicant concluded there was none, because the Site is surrounded on all upgradient sides by man-made barriers (namely, a raised highway and ditch to the west, and a ditch and roadway to the north) preventing surface water from entering the site. As to run-off, Applicant used the Soil Conservation Service (SCS) method for determining and comparing pre- and post-development run-off. Using the SCS method, Applicant calculated the peak flow rate pre-development as 106 cfs for the 25-year storm event, and post-development as 49 cfs for the 25-year storm event.⁶¹ Therefore, because peak flows are expected to *decline* with the Landfill's development, Applicant concluded that the Landfill will not "significantly alter drainage patterns" and, thus, is compliant with the Commission's rules.⁶²

⁵⁸ 30 TEX. ADMIN. CODE § 330.56(c).

⁵⁹ 30 TEX. ADMIN. CODE § 330.56(g).

⁶⁰ 30 TEX. ADMIN. CODE § 330.55(5)(D); 30 TEX. ADMIN. CODE § 330.56(f)(4)(A)(iv).

⁶¹ Ex. CAD-29 at 6-7, Tr. at 598-599.

⁶² As required by 30 TEX. ADMIN. CODE § 330.55(b)(5).

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ACTING DEPUTY COMMISSIONER
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CAD disagrees with Applicant's conclusions, arguing they are flawed for a number of reasons. First, CAD asserts there is run-on at the Site, because (1) a drainage ditch to the west of the Site occasionally drains through a culvert and onto the Site and (2) a drainage ditch to the east of the Site occasionally overflows, causing water to drain onto the Site.⁶³ CAD asserts that Applicant should have accounted for these known conditions and analyzed the overflow drainage as run-on and included the additional drainage in its run-off calculations. CAD argues the Landfill will block this drainage, thus increasing run-off and off-site flooding.

As to run-off, CAD argues that Applicant overestimated pre-development flow rates by using the SCS method. CAD asserts Applicant should have used the hydrologic method contained in Brazoria County's Drainage Criteria Manual based on the HEC-1 computer program for calculating flow rates, because it results in more accurate calculations for run-off in the area where the Landfill is to be located.⁶⁴ According to CAD's expert, the SCS method overestimated peak flows by at least 300% in this case. Mr. Dunbar then goes on to state that, by making adjustments for this overestimation, he concludes that peak flows will actually increase by approximately 40%, from pre-development rates of 35 cfs to post-development rates of 49 cfs.

Moreover, CAD alleges that Applicant has not analyzed and presented calculations regarding changes in run-off *volumes* (as opposed to *flow rates*). CAD notes that 30 TEX. ADMIN. CODE § 330.56(f)(4)(A)(i) requires an Applicant to calculate run-off volumes, and this requirement was confirmed by the Commission in its final order regarding the permit application filed by Blue Flats Disposal, L.L.C.⁶⁵ At the hearing, Applicant's expert testified that he could not recall whether any

⁶³ Ex. CAD-29, at 6, attachments 3 and 4.

⁶⁴ Ex. CAD-29, at 11; Ex. CAD-40, at 2-4.

⁶⁵ SOAH Docket No. 582-98-1390; TNRCC Docket No. 1998-0415-MSW ("*Blue Flats*").

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calculations had been made regarding run-off volumes and he could not identify any calculations at that point.⁶⁶ CAD asserts that it has been unable to locate and verify any such calculations.

2. ALJs' Analysis

As noted above, under the Commission's rules, an applicant is required to provide contour maps showing the location and quantities of "surface drainage" entering the site. Further, an applicant is required to show that "natural drainage patterns" will not be significantly altered. The primary issue disputed by the parties in regard to "run-on" drainage patterns is whether overflows from drainage ditches adjacent to the site should be included as surface drainage entering the site (*i.e.*, run-on), or otherwise accounted for in analyzing natural drainage patterns.

The evidence shows that natural drainage patterns involve drainage flowing from the north and west of the Site, across the Site, and into Hayes Creek. However, these natural drainage patterns have been altered by the addition of man-made structures in the vicinity, particularly FM 521 and the Chocolate Bayou main water canal. With the existence of these man-made barriers, drainage generally flows from the north and west to drainage ditches adjacent to these barriers; then, drainage flows in the ditches around the perimeter of the Site to the south and the east, ending up in Hayes Creek southeast of the Site. Sometimes, though, the ditches overflow, changing these drainage patterns. Video footage taken of the Site during and/or after recent storm events clearly shows that drainage has, in some instances, flowed from a ditch located to the west of the Site through a culvert and onto the Site.⁶⁷ This has resulted in the ponding of water on the Site. Applicant contends that, under natural drainage patterns, water ordinarily flows from the Site through the culvert into the western ditch but, because of blockages or other factors, overflows have occurred in limited

⁶⁶ Tr. at 148.

⁶⁷ Ex. CAD-17 is a videotape containing footage shot on different dates in 2002 showing significant flows of water onto the Site from adjacent drainage ditches. In the video it can easily be seen that the water is flowing from the west side of FM 521, through a culvert in an eastward direction, and directly onto the Site.

situations. Applicant refers to these overflows as "spillage" and contends that such limited spillage is not considered a part of run-on, nor is it included when determining drainage patterns.

Both Applicant's expert and CAD's expert consider such drainage to be "overflows" from the drainage ditch on the west side of FM 521. Applicant's expert contends it is simply the result of the local drainage district failing to properly maintain the drainage ditches and keep them free from debris or other materials that block the flow of drainage. CAD's expert testified that overflows could also result simply from heavy rainfall and the inadequacy of the ditches for handling larger amounts of rain. Neither expert has quantified the extent that such overflows drain onto the Site, nor the precise circumstances under which such overflows will occur. CAD claims that it is Applicant's responsibility to analyze and account for these overflows that occur.

From reviewing depictions of the physical structure of the drainage ditches and the culvert on the west side of the Site, the ALJs believe that Applicant is probably correct in its determination that, according to topography and the structure of the drainage system, drainage flows normally should not come onto the Site, but rather move adjacent to or away from the Site. However, many conditions can contribute to exceptions to that ordinary drainage pattern. As evidenced by the video footage presented at the hearing, there were at least a few times in 2002 alone when the drainage ditch across FM 521 on the west side of the Site was so inundated as to cause drainage to back-up or flow through a culvert and onto the Site, causing ponding on the Site. Ultimately, the videotape and the testimony showing that water has drained onto the Site as a result of heavy rainfall events conflicts with Applicant's determination that no run-on enters the Site. The ALJs disagree with Applicant's contention that such spillage is not considered run-on. Under the Commission's rules, "run-on" is considered "any rainwater, leachate, or other liquid that drains over land onto any part of a facility."⁶⁸ This definition would appear to encompass the overflows in dispute.

⁶⁸ 30 TEX. ADMIN. CODE § 330.2(124).

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ROBERT S. WILLIAMS
ATTORNEY AT LAW
TEXAS COMMISSIONER'S OFFICE

The ALJs agree that, to the extent such overflows are clearly attributable to a blocked drainage ditch or other unusual factors that can be remedied and are outside the ordinary course of drainage patterns, then such overflows might not have to be calculated and included as part of the surface water drainage analysis in the landfill design and application. However, in such a case it is incumbent on Applicant to show that the run-on is an exceptional circumstance that is not part of the drainage patterns. In this case, Applicant has made no effort to clearly resolve the cause of the overflows from the drainage ditch onto the Site. Applicant has presented speculation about possible causes, but no detailed analysis that would allow the ALJs to make conclusive findings regarding such overflows and run-on. In contrast, CAD's expert has provided calculations showing that such run-on will occur in heavy rainfall events because the drainage ditches are not designed to handle high volumes of drainage.

Faced with (1) an application that affirmatively indicates there is no run-on entering the Site, (2) video footage and testimony showing that there are times when drainage comes onto the Site, and (3) an absence of any definitive analysis and explanation from Applicant as to the cause of the run-on demonstrated in the video and testimony, the ALJs conclude that Applicant failed to prove its surface drainage analysis is adequate and reliable. More specifically, Applicant has failed to adequately identify the location and quantities of "surface drainage" entering the site. Further, by failing to address this run-on (*i.e.*, how it will impact run-off, and also the effect the Landfill will have on the drainage patterns causing this run-on), Applicant's conclusion that the Landfill will not significantly alter natural drainage patterns is called into question.

As to run-off, the ALJs conclude that Applicant has generally analyzed flow rates correctly (with the exception of any impact that the run-on discussed above might have on such flow rates). The ALJs find that Applicant has complied with the Commission's rules in calculating the rates and that the measurements provide a reasonable basis for concluding that the Landfill will not significantly alter drainage flow rates. Although CAD challenges the SCS method used by Applicant, this is the method the Executive Director's staff approved and requested. While there is

some basis for concluding that the SCS method may overstate flow rates, this overstatement should be consistent across both pre- and post-development calculations, thus allowing a reasonable comparison between the two. Because the concern is not necessarily the actual flow rates themselves, but rather a comparison between the pre- and post-development rates so as to determine whether the Landfill has resulted in "significant alteration" of drainage, potential overstatement is acceptable, so long as the method is valid and applied consistently in both pre- and post-development calculations. The evidence reflects that Applicant did this. On the other hand, in making his calculations, CAD's expert adjusted pre-development flow rates to reflect the potential overstatement, but did not make any adjustment for post-development rates, thus resulting in an unequal and invalid comparison.

However, the ALJs are concerned that Applicant has not adequately identified pre- and post-development run-off volumes, as required by 30 TEX. ADMIN. CODE § 330.56(f)(4)(A)(i). As noted, Applicant's expert could not verify whether such calculations were made.⁶⁹ The testimony indicates that such calculations are not separately included in the Application or the evidence but could be derived from the drainage modeling information. Regardless, the information is not presented in the record in any form that the ALJs could identify and determine is sufficient. In the absence of such information, the ALJs cannot adequately analyze and determine what impact, if any, the Landfill will have on run-off volumes and how that impact will affect drainage to off-site locations.

Applicant seems to believe that any changes to overall run-off volumes are irrelevant, because post-development peak flow rates are less than pre-development flow rates. In particular, Applicant states in its closing arguments that:

If the water is draining off of a site at a slower rate after development than before, down stream properties cannot logically be adversely affected by the development. This is true even if run-off volume is increased.⁷⁰

⁶⁹ Tr. at 148.

⁷⁰ Applicant's Reply to Closing Arguments, at 17 (emphasis added).

Elsewhere, Applicant states that even if there were a volume increase in run-off, "any increase in volume would not be released at a rate that adversely affects the downstream receiving body."⁷¹ If these statements by Applicant reflect a belief that so long as run-off flow rates are decreased, an increase in run-off volumes will *never* result in adverse effects downstream, the ALJs disagree.

It is conceivable that run-off peak flow rates could decrease but, because of overall increased flow volume, drainage could still be significantly altered and downstream locations could be adversely impacted. This would be true if downstream locations were such that they had a limited capacity to handle larger overall volumes of drainage, regardless of the flow rates. The Commission's draft technical guidance related to surface water drainage recognizes that the specific features of the downstream receiving body must be considered along with flow rates when analyzing the impact of increased drainage volume. In regard to changes in volume of water drained at a site, the guidance states that it is the applicant's responsibility to demonstrate that any volume increase is not "significant."⁷² A method for showing this is to "demonstrate that the additional volume will be released at a rate that will not significantly affect the downstream receiving water body."⁷³ It is pertinent that the guidance does not simply state that an applicant can make its demonstration by showing that run-off flow rates will decrease after development. Rather, the guidance points out that the flow rates must be considered in light of the specific downstream receiving body. Therefore, it is not enough for Applicant to simply assert that flow rates will decrease and therefore, "logically," even increased drainage volume will not significantly alter drainage.

This conclusion is supported by the Commission's final order in the *Blue Flats* case. There, the presiding ALJs expressed concerns about the applicant's failure to present calculations about run-off volume before and after development. The ALJs noted that the applicant's expert had testified

⁷¹ Applicant's Closing Argument, at 31.

⁷² Ex. A-37, at 3.

⁷³ Ex. A-37, at 3.

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that his HEC-1 models calculated volume, but the applicant had not presented the information “in a meaningful way, either in the application or in the evidence offered at hearing.”⁷⁴ In its final order, the Commission ultimately made a finding of fact that the “application does not include any calculations or analyses of existing or post-development runoff volumes to the northwest or northeast.”⁷⁵ Citing this finding, among others, the Commission also concluded that the applicant had “failed to comply with 30 TEX. ADMIN. CODE § 330.56(f)(4)(A), which requires demonstration that natural drainage patterns will not be significantly altered by proposed landfill development.”⁷⁶ In light of this past determination by the Commission, the ALJs believe it is important for Applicant to actually demonstrate pre- and post-development run-off volumes as part of its application. In this case, Applicant has not done this in a manner that would allow the ALJs to verify and analyze the information to ensure no significant alteration of drainage patterns.

For the reasons stated above, the ALJs conclude that Applicant has not properly identified drainage patterns at and adjacent to the site nor demonstrated that the Landfill will not significantly alter natural drainage patterns.

VI. SUBSURFACE GEOLOGICAL ISSUES

A. Parties' Arguments

Sections 330.55(b)(1)(A) and (B) of the Commission's rules prohibit discharge of solid waste or pollutants adjacent to or into waters in the state.⁷⁷ To comply with this requirement, and other portions of the Commission's rules, Applicant: (1) investigated the subsurface strata and identified

⁷⁴ SOAH Docket No. 582-98-1390, *Proposal for Decision*, at 33 (October 2, 2000).

⁷⁵ TNRCC Docket No. 1998-0415-MSW, *Final Order*, at 5, Finding of Fact No. 40 (January 2, 2001).

⁷⁶ TNRCC Docket No. 1998-0415-MSW, *Final Order*, at Conclusion of Law No. 4 (January 2, 2001).

⁷⁷ See also TEX. WATER CODE § 26.121.

the uppermost aquifer as Stratum II;⁷⁸ (2) determined that the geological strata underneath the Site are not interconnected; and (3) prepared a groundwater monitoring system based on these determinations.

Protestants assert that piezometer measurements supplied by Applicant during discovery, but compiled after the Application was filed with the Commission, suggests that groundwater is found at significantly higher elevations than indicated in the Application.⁷⁹ This is of significant concern to Protestants because a cross-section depiction of the Site found in the Application indicates the landfill's detention pond is designed to cut into Stratum II, at a level several feet *below* recent groundwater levels.⁸⁰ This creates the potential for contaminated groundwater to flow into the detention pond and be released without detection. A perpetual pump system used by Applicant to keep the water level in the detention pond exacerbates the problem, creating a suction that could pull groundwater into the detention pond and away from the groundwater monitoring wells. Because water collected in the detention pond is released as surface water, Protestants fear any contaminated groundwater making its way into the detention pond will be released undetected into waters in the state. Protestants assert that Applicant ignored this potential pathway and, thus, failed to comply with 30 TEX. ADMIN. CODE § 330.56(d)(5)(C)(iv) which requires an analysis of the most likely pathway(s) for pollutant migration if the primary barrier liner system is penetrated.

After the hearing, in its closing brief, Applicant offered to line the detention pond to help prevent the possibility of groundwater entering it. Protestants allege that this offer is inadequate because there is no method for Protestants to verify the adequacy of any purported liner to ensure it will provide reliable environmental protection. Instead, Protestants argue Applicant must provide

⁷⁸ Ex. A-1, at 853.

⁷⁹ Ex. CAD-25.

⁸⁰ Ex. A-1, at 799. Protestants note that Commission rules require cross-sections to demonstrate the relationship of the soil borings and to interpret the strata, thus rejecting any suggestion that the cross-sections are imprecise and not intended to be used in this manner. 30 TEX. ADMIN. CODE § 330.56(d)(5)(A)(viii)

the detention pond with the same evaluations, calculations, and care as that used to protect liner stability in the fill area, where six pages of the Application are devoted to this determination along with additional discussions of the potential need for dewatering wells to draw down water where the fill area will penetrate Stratum II. Without such detail, Protestants contend the Application must be denied.

Applicant responds that it properly identified surface elevations and direction of groundwater flow for each Stratum, as applicable, pursuant to its ED-approved Soil Boring Plan.⁸¹ Pursuant to Commission guidance, Applicant relied on eight months of data when it determined the seasonal high water table now disputed by Protestants.⁸² Accordingly, Applicant maintains the subsurface characterizations contained in the Application are accurate, and Applicant disagrees with Protestants' contention that additional groundwater measurements suggesting higher groundwater are significant. Although it does not dispute that it supplied the groundwater data to Protestants in discovery, Applicant notes that there is no evidence regarding the accuracy of the piezometer measurements taken, the qualifications of the person performing the sampling, or whether the results were verified.⁸³ For this reason, Applicant maintains no weight should be given to this groundwater data relied on by Protestants.

⁸¹ Several pages of Applicant's closing brief addressed whether the underground water-bearing strata were interconnected. Protestants did not offer significant argument on this issue so it is addressed only in this footnote. Dr. Clark raised this issue in his prefiled testimony when he opined that similar trending in the groundwater levels of the different strata indicated that they may be connected. While this is true, the ALJs conclude that the preponderant evidence suggests otherwise. In particular, the water in Stratum II flows in a different direction than that in the other strata. All experts testified that a number of explanations, other than interconnectivity, could explain the trending water levels. Protestants did not offer argument on this issue, so it is not addressed.

⁸² See guidance document titled Liner Construction and Testing where the TCEQ instructs that, "[g]roundwater level measurements used for the determination of the seasonal high water table should be performed through at least 1 cycle of seasonal change (usually a period of 8 months to 1 year) to insure that seasonal variations of the groundwater table are considered." Ex. A-32, at 28-29; Tr. at 306.

⁸³ The groundwater data was offered by Protestants in a graph based on information gathered from Applicant during discovery. The actual data, maintained by Applicant, was not offered into the record.

Even assuming Protestants' groundwater data is accurate, Applicant asserts that no one knows precisely where groundwater will be encountered. Therefore, it proposed in the Application to use the groundwater readings at the time of excavation to determine whether dewatering is needed and believes this sufficiently addresses all groundwater issues.

Further, Applicant alleges that Protestants' concerns result from misunderstandings and an oversimplification of the relevant geology and groundwater conditions at the site. Applicant charges that Protestants incorrectly believe that spring flows result whenever a water-bearing stratum is penetrated, regardless of the stratum's water level, the depth of the excavation, or the characteristics of the soil encountered during excavation. Applicant alleges that Wesley McCoy, an ED staff member and technical expert, testified to the contrary, indicating that it is scientifically unreasonable and insupportable to equate the top of Stratum II with the top of the geological formation that will yield significant amounts of water.⁸⁴ Applicant adds that specific soil layers must be analyzed to determine whether they will transmit water or act as an impermeable liner around an excavation, even if found in the stratum identified as the uppermost aquifer.

Turning specifically to the detention pond, Applicant contests Protestants' position that its excavation will penetrate into Stratum II, arguing that the cross-section relied upon by Protestants was never intended to precisely identify the locations of the landfill or geological features. Rather, the strata boundaries were estimated based on professional judgement and results of soil borings. Moreover, the "x" and "y" axes were not drawn to the same scale, distorting the appearance of the landfill. Given these limitations, Applicant asserts that the most that can be gathered from the cross-section is that the pilot channel of the detention pond will be in the general vicinity of the top of Stratum II.

⁸⁴ The ALJs were unable to verify Applicant's description of Mr. McCoy's testimony, finding Mr. McCoy only went so far as to testify that parts of an uppermost aquifer may not necessarily yield water. Tr. at 405-406.

Even if the detention pond were to penetrate Stratum II, Applicant maintains that the boring logs at the level of intersection must be reviewed to determine if the soil will yield water. Applicant notes that these logs indicate the top of Stratum II is an impermeable clay and, thus, incapable of yielding water.⁸⁵ For this reason, Applicant concludes no spring flow will be created even if the detention-pond excavation reaches the top of Stratum II. Rather, the soils at that level will act as a natural liner. Despite this, Applicant offers to line the detention pond to eliminate all groundwater concerns if such a requirement were included in the Commission's final order.

B. ALJs' Analysis

The ALJs conclude the evidence reflects an apparent conflict in groundwater data; therefore, it is prudent to adopt a more conservative approach one that accepts the highest reflected depths for the water tables indicated by the piezometer measurements relied on by Protestants. While Applicant argues the information is not reliable because it was not scrutinized in more detail at the hearing and additional background information regarding the data was not provided, it is pertinent to note that Applicant provided the data in discovery. Moreover, at no time has Applicant contended that the Protestants' evidence is inconsistent with the data supplied by Applicant or offered any evidence that the piezometer readings are not accurate. If Applicant truly found the data unreliable, the ALJs would expect it to provide information showing this, given that the piezometer readings originated with it and were prepared by it. So, under the circumstances, the ALJs find the data to be reliable and find it appropriate to conclude that groundwater is found at levels higher than reflected in the Application.

In many respects, this is similar to the issues addressed by the Commission in a 1994 case involving Sentry Environmental, L.P. (Sentry).⁸⁶ In that case, Sentry maintained that the soils were impermeable and lacked groundwater despite numerous piezometers evidencing the contrary. Also

⁸⁵ Tr. at 406.

⁸⁶ Sentry Environmental, L.P.'s Application for Permit No. 2171 (the case predates the Commission's and SOAH's use of docket numbers). The application was denied by order of the Commission, dated March 31, 1994. For the ease of the Commission and the parties, the Final Order in that case is included as attachment B to this PFD.

similar to this case, the Executive Director initially approved the application but did so without knowledge of the high groundwater readings in the piezometers.⁸⁷ The Commission overturned the Examiner's determination that there was no deep groundwater as against the preponderance of the evidence when the Examiner relied on a variety of soil tests but discounted the piezometer readings. In particular, the Commission found that proper characterization of the groundwater required accurate and sufficient piezometer data.⁸⁸

However, there is a major distinction that separates this case from the Sentry case. There, Sentry designed the landfill based only on its anticipated groundwater levels. Here, Juliff has submitted calculations supporting a liner design sufficient to withstand groundwater levels higher than it has calculated, up to 52 feet msl. Interestingly enough, 52 feet msl corresponds to the new seasonal high water table indicated in the updated piezometer data relied on by Protestants. As far as the excavation for the fill area is concerned, Applicant has characterized the soils impacted as impermeable but prepared for encountering groundwater at only 2.7 feet below surface. Although the Commission found in Sentry that proper characterization of groundwater is a critical fact upon which landfill design is based, the ALJs propose that characterizing the groundwater in one manner but conservatively planning a design that is adequate for even higher levels is acceptable, as long as those design specifications may be reviewed and tested by the parties to the proceeding.⁸⁹

In this case, Applicant's design plans were available for testing and challenge by Protestants—with one exception: Applicant's post-hearing offer to line the detention pond. Given the Sentry decision, the updated piezometer readings, and the testimony of Dr. Clark and Mr. McCoy, the ALJs conclude that the preponderant evidence suggests the soils up to 52 feet msl

⁸⁷ Applicants in both cases argued the piezometers either were not or might not be reliable but failed to prove same. The ED changed his position in Sentry, eventually opposing the application after reviewing the evidence at the hearing.

⁸⁸ Sentry Order, FOF No. 67.

⁸⁹ Sentry Order, FOF No. 62.

in Stratum II may be water-bearing. Around the detention pond in particular, Piezometer No. 8 establishes a seasonal high water table of over 49 feet msl, or almost 4 feet above the level of the pilot channel in the detention pond. The detention pond bottom elevation is indicated in the Application as 46.5 to 47 feet msl with a pilot channel and sump at 45.5 feet msl.⁹⁰ Mr. McCoy testified that, because of the very shallow clay separation and the water levels observed, he was seriously concerned about discharge of groundwater into the detention pond.⁹¹

Despite the piezometer readings and Mr. McCoy's testimony, Applicant continued to maintain that it properly characterized the groundwater, and failed to offer more conservative plans and calculations for the detention pond (unlike what it originally had done for the fill liner). In the face of mounting evidence, Applicant now offers to bring in a liner for the detention pond, without such proposed liner being reviewed by Protestants, the ALJs, or the Commissioners, to determine compliance with the relevant regulations. To overcome this shortcoming, Applicant assures that whatever groundwater levels are encountered, they will be dealt with properly and with the ED's oversight and approval.

But the rules require more than just an agreement to work it out with the ED at the time of construction. As noted by Protestants, the rules require an analysis of the potential for contaminated groundwater to be released through the detention pond. This analysis was provided during the hearing by Protestants, at least to the extent of proving that the detention pond design contained in the Application had the potential to release contaminated groundwater in violation of Commission

⁹⁰ Ex. A-1, at 798. Piezometer P-8.

⁹¹ Applicant notes that Mr. McCoy agreed that the pond would bottom out in clay and be stable. However, this testimony was limited to his conclusion at the end of technical review and the information he had available at that time. When asked if he had any concerns about the detention pond, he clearly was referring to his conclusion at the end of technical review and stated: "[n]ot at that time, based on the reported water level information." Mr McCoy changed his opinion based on the new groundwater data entered into the record by Protestants and discussed significant concerns about the discharge of contaminated groundwater.

rules.⁹² Beyond this, and Applicant's subsequent agreement to include a liner, there is no analysis. No analysis of the size or type of the liner, of the anticipated impact of hydrostatic forces on the liner, on the potential need to de-water, on the type of ballasting to be used, and on whether a cone of depression will be created by the pump proposed to be used to evacuate the pond. The ballasting issues are of particular importance—given the lack of waste to use as a ballast, the variable water levels maintained in the detention pond, and the potential for a cone of depression to be created by the evacuation pump. All of these are significant issues that the ALJs believe must be addressed during the evidentiary hearing to comply with Commission rules.⁹³

In conclusion, the ALJs find that there exists a potential for contaminated groundwater to be released from the detention pond without detection under the current design of the Landfill, and that it would not be appropriate to allow Applicant to line the pond without having the liner specifications subject to review in a contested case proceeding. This presents another reason why the Application should be denied.

VII. LAND USE COMPATIBILITY

A. Applicable Law and Issues

The Protestants also have challenged the landfill on land-use compatibility grounds. The Texas Health and Safety Code and the Commission's rules require consideration of land-use issues in permit application cases.⁹⁴ Relevant inquiries include :

- existing zoning at the site and in the vicinity;
- character of surrounding land uses within one mile of the proposed landfill;

⁹² 30 TEX. ADMIN. CODE §§ 330.5(a) and 330.55(b)(1)(A).

⁹³ 30 TEX. ADMIN. CODE §§ 330.56, 330.200, 330.203; and 330.205.

⁹⁴ TEX. HEALTH & SAFETY CODE §§ 361.069 and 361.089; 30 TEX. ADMIN. CODE § 330.53.

- growth trends of the nearest community with directions of major development;
- proximity to residences and other uses; and
- a description of all known wells within 500 feet of the site.

Further, the Commission's rules require landfill applicants to include the following in site layout plans:

. . . fencing; sequence of excavations, filling, maximum waste elevations and final cover; provisions for the maintenance of natural windbreaks, such as greenbelts, where they will improve the appearance and operation of the site; and, where appropriate, plans for screening the site from public view.⁹⁵

The two primary issues concerning land use compatibility for the Site are growth trends and the visual impact of the height of the Landfill, which was proposed without screening. There is no zoning in the area and the primary use around the Landfill is agricultural with 43 residences within a one-mile radius.⁹⁶ There are no churches, schools, day care centers, hospitals, parks or recreational areas within that same radius.⁹⁷ One cemetery is located within a mile of the Landfill.⁹⁸

B. Parties' Arguments

As noted, Protestants' primary land-use objections are the Landfill's height and lack of screening. As currently designed, the Landfill would rise 140 feet above ground level—equivalent to a 10 to 12 story building.⁹⁹ The evidence is undisputed that there is no structure over a single story

⁹⁵ 30 TEX. ADMIN. CODE § 330.56(a)(1).

⁹⁶ Ex. A-12, at 3 and 11.

⁹⁷ The number of known wells around the site was provided by Applicant and was not a contested issue. Ex. A-1, at 60-61.

⁹⁸ Ex. CAD-1, at 6.

⁹⁹ Tr. at 222.

in the vicinity of the Site, and the Landfill would impose a much taller land use than all other uses in the area. Given this height and the flat topography, Applicant's own expert agreed it might be seen from 2-3 miles away and would be noticed by prospective home buyers.¹⁰⁰

Given the visual impact the Landfill would have on the surrounding area, Protestants insist that screening should have been included. Peter Brown, CAD's land-use expert, testified that the future trend for predominant land use within a two-mile radius of the site is residential.¹⁰¹ He testified that numerous large residential developments were planned for the area, including Sienna Plantation, which will have a subdivision (Sienna Point) located only two miles from the landfill. William Douglas Goff, General Manager of Sienna Plantation, testified that over 5,000 people currently reside in Sienna Plantation and, upon completion, the community will contain more than 20,000 single-family homes and 75,000 residents.¹⁰² Mr. Goff described numerous planned communities located within 15 miles of the Landfill with a total projection of over 170,000 residents upon completion.¹⁰³ Mr. Brown added that the most likely route for the Grand Parkway, a new loop around Houston, is slated to pass within one-half mile of the Landfill and, in his opinion, new commercial and residential development is sure to follow.¹⁰⁴ Even if the final path of Grand Parkway is not that close to the Landfill, Mr Brown opined that residential developments and commercial uses will still migrate south, along State Highway 288, which is located within two miles of the Landfill.¹⁰⁵

¹⁰⁰ Tr. at 224.

¹⁰¹ Ex. CAD-1, at 5.

¹⁰² Ex. CAD-3, at 3.

¹⁰³ The total number of projected residents by Mr. Goff was 221,000 people but this included First Colony in Sugar Land which is greater than 15 miles away from the Landfill.

¹⁰⁴ Ex. CAD -1, at 6 and 14. See also the testimony of Mr. Brown indicating that the latest alignment for the Grand Parkway is south of the Landfill by one-half of a mile. Tr. at 218.

¹⁰⁵ Ex. CAD-1, at 8.

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Kay Mudd, Iowa Colony Councilwoman, testified that Iowa Colony had entered into a contract with a developer to build a development known as "Canyon Gate at Iowa Colony," which will have residential and commercial development within 1.5 miles of the Landfill.¹⁰⁶ She added that the developer agreed to provide land for a school and to build a fire and emergency medical station for Iowa Colony as part of the development.

Given this rapid growth, the height of the Landfill, the lack of screening and the extraordinarily flat terrain in the area of the Landfill, Protestants argue the Landfill is not a compatible land use. Summing up their arguments, Protestants quote Doug Goff's testimony:

Construction and operation of a landfill in an area experiencing major development does not constitute compatible use of such land. Although the density of the residential use surrounding the propose landfill varies, the surroundings are virtually all agricultural, residential or planned residential in character and amenities. Since the proposed landfill would constitute imposition of a new use in the area, it must be scrutinized for its compatibility and in the proposed location, the Juliff Gardens Landfill would not be a compatible land use.¹⁰⁷

In response, Applicant relies on the testimony of Vernon Henry, its land-use expert. He testified that the land use around the Site will not change measurably over the next five years, but may start to develop over the next 20-30 years because of improvements in traffic patterns.¹⁰⁸ He described the Landfill vicinity as "entirely rural with no signs of urban or even suburban development."¹⁰⁹ Applicant notes that commercial, industrial, and other non-residential operations

¹⁰⁶ Ex. A-63, at 25.

¹⁰⁷ Ex. CAD-3, at 7.

¹⁰⁸ Tr. at 238-239.

¹⁰⁹ Ex. A-12, at 3.

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located within one mile of the Landfill include a bar, a tank-testing facility, a vacant commercial building, a prison, a storage facility for industrial materials and equipment and, until recently, an injection well and sewage-sludge disposal facility.¹¹⁰

Applicant finds it equally important that the land use within a one-mile radius has changed only marginally and insignificantly over the past 30 years, reflecting almost no development. Mr. Henry believes the same may be said for future development in the nearby area. He explained that the two closest communities, Arcola and Iowa Colony, were experiencing population increases but not major development because neither provided basic services such as fire-protection, emergency-medical, water, or wastewater.¹¹¹ Applicant emphasized that neither community would be able to annex additional land if they are unable to provide basic services.¹¹²

Applicant contends that Mr. Brown's assertion of rapid growth is not substantiated because the land within a two-mile radius of the Landfill is mostly vacant or agricultural. Instead, Applicant asserts Protestants rely on a patchwork of scattered master-planned communities that are as far away as 10 miles from the Landfill, without explaining how these isolated residential developments reflect a direction of major development pursuant to Commission rules.¹¹³ Applicant urges that the growth trends generated by Houston-Galveston Area Council (H-GAC) are a more accurate reflection of whether major development will occur in the vicinity of the landfill. In the H-GAC 2025 Regional Growth Forecast, H-GAC predicted that between 10,001 and 20,000 people would reside in regional analysis zone (RAZ) 169—which includes the Landfill and surrounding Brazoria County areas—in both 2000 and 2025.¹¹⁴ Applicant argues that this area will have one of the slowest growth patterns

¹¹⁰ Ex. A-12, at 11; Tr. at 425, 426, and 437.

¹¹¹ Ex. A-12, at 6.

¹¹² *Applicant Juliff Gardens, L.L.C.'s Closing Argument*, at 43.

¹¹³ 30 TEX. ADMIN. CODE § 330.53(b)(8)(C).

¹¹⁴ Ex. A-60; Tr. at 805.

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in the Houston vicinity, while areas to the north and east of Houston will have high growth. Therefore, Applicant concludes the Landfill is perfectly situated to service the high-growth areas while remaining in a low-growth area.

Applicant argues in the alternative that, even if significant residential growth will occur around the Landfill, the two are not incompatible. In Mr. Henry's opinion, permitted landfills are compatible with single-family residences.¹¹⁵ He disagrees with his college training that industrial uses must be separated from residential uses and that landfills are something that need to be isolated far away from urban development, as he has not found that necessary.¹¹⁶ Rather, Mr. Henry offered numerous examples of residential communities developing in close proximity to landfills.¹¹⁷ Applicant asserts that developers often choose to plan communities knowing that landfills are nearby and people choose to live in those communities, proving that landfills and residential uses are compatible.

Applicant alleges that Mr. Brown's assertion that residential communities do not develop toward landfills is disproved by his own testimony. Mr. Brown provided numerous examples of residential development in the vicinity of the Site, even though this application was pending. Yet, Mr. Brown offered no evidence that the proposed Landfill had adversely impacted these developments or even the housing prices in any of these areas.¹¹⁸ Instead, Mr. Brown admitted that development continues in these communities and that people are buying homes and choosing to live in them, despite the possibility of the Landfill being permitted.¹¹⁹ Applicant insists that Mr. Brown

¹¹⁵ Tr. at 240 and 247.

¹¹⁶ Tr. at 248.

¹¹⁷ Ex. A-12, at 17; Tr. at 802-803.

¹¹⁸ Tr. at 453-457.

¹¹⁹ Tr. at 457-458.

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is biased against landfills and does not have evidence to support his conclusions. Because he has never found a landfill to be compatible with surrounding land uses, Applicant argues Mr. Brown's testimony should be given little, if any, weight.

Regarding the height of the landfill, Applicant points out that it has included significant buffers on all sides: over 900 feet to the West; 159 feet to the north; 569 feet to the east; and 169 feet to the south.¹²⁰ The slope of the fill area is five horizontal to one vertical, which Applicant claims will provide additional buffer for the upper regions of the landfill. Applicant concludes that the landfill's proposed height with no screening is appropriate given (1) the trees surrounding the property, (2) the significant amount of buffer, (3) the gentle slope of the landfill, and (4) the fact that the surrounding land is overwhelmingly vacant and agricultural.¹²¹ However, Applicant agrees to "additional" screening of the Landfill if the Commission so orders.

C. ALJs' Analysis

After reviewing the evidence, the ALJs conclude that major residential development and general growth is occurring and will occur in the vicinity of the Landfill, including a planned community within two miles of the site. However, the ALJs do not find that this growth, the projected height of the Landfill, or the lack of proposed screening should compel a denial of the Application on land use compatibility grounds. Rather, the ALJs conclude that the Landfill is appropriately sited in what is currently an agricultural area. However, to lessen the impact of the Landfill's height, if it were permitted, the ALJs recommend that screening measures be required.

As a preliminary matter, the ALJs find Mr. Henry's assessment that all properly managed landfills are not incompatible with residential uses to be contrary to prior Commission findings in

¹²⁰ Ex. A-1, at 8 and 784.

¹²¹ Applicant Juliff Gardens, L.L.C.'s Reply to Closing Arguments, at 32.

BMFS, Inc., where the Commission found the proposed Spring-Cypress Landfill incompatible with surrounding residential land uses pursuant to 30 TEX. ADMIN. CODE § 330.53(b)(8).¹²² In fact, if the Texas Legislature or Commission agreed with Mr. Henry's sweeping conclusions on this issue, the applicable statutes and rules would be pointless, particularly as they relate to green-fields development. It is well-settled law that the courts should not interpret statutory language to be pointless but instead are to presume that the entire statute is effective.¹²³

Turning to the credibility of the land-use experts, the ALJs agree with Protestants' candid admission that, "[M]r. Henry never met a landfill that could not be compatible with the surrounding land uses, and Mr. Brown never met a landfill that was compatible with its surrounding uses." Because of this, the ALJs find that neither land-use expert was particularly persuasive. As asserted by Applicant, Mr. Brown's bias is that he appears opposed to landfills of any height or kind, sited even remotely near residential uses. In all of the cases on which he has worked and formulated an opinion, he has never found a landfill to be compatible with surrounding land uses.¹²⁴ Given his biases, the ALJs give Mr. Brown's testimony limited weight.

But the ALJs are even more troubled by the testimony of Mr. Henry, Applicant's expert. In his direct testimony, Mr. Henry described the Landfill's vicinity as "entirely rural with no signs of urban or even suburban development" and testified that he did not expect to see much, if any, change in the land use in the area near the Landfill.¹²⁵ However, on cross-examination, Mr. Henry later admitted that his firm (Vernon G. Henry & Associates) worked as the planning consultants for a

¹²² *An Order Denying the application of BMFS, Inc.*, SOAH Docket No. 582-96-1760; TCEQ Docket No. 96-1634-MSW at Conclusion of Law No. 4, pg. 15. A copy of the Final Order is attached to this PFD as Attachment C.

¹²³ TEX. GOV'T CODE § 311.021(2); *City of LaPorte v. Barfield*, 898 S.W.2d 288, 291-92 (Tex. 1995).

¹²⁴ Tr. at 463.

¹²⁵ Tr. at 239.

large residential development to be located within one mile of the Landfill.¹²⁶ This development, Canyon Gate At Iowa Colony (Canyon Gate), is planned to have nearly 3,000 lots, an elementary school, and commercial uses to support the residents. Councilwoman Mudd testified that Iowa Colony has given its final approval to this development and received a commitment from the developer. Although he acknowledged that he was aware of the development at the time he testified, Mr. Henry stated that he did not mention it because it was not “a totally approved project.” His failure to identify it, while at the same time testifying that the Landfill’s vicinity is “entirely rural with no signs of urban or even suburban development” and that he did not expect to see much, if any, change in the land use in the nearby area of the Landfill, lead the ALJs to conclude that his testimony is totally lacking in credibility and has no persuasive weight. Therefore, the ALJs instead rely on the other evidence as a basis for their recommendation.

Additional facts suggest that the Landfill is in the path of significant growth. Applicant argued that no evidence was introduced into the record demonstrating that either Iowa Colony or Arcola is planning to provide basic municipal services, a primary limiting factor on development in the area.¹²⁷ However, Councilwoman Mudd testified that, as a part of the approval process for Canyon Gate, the developer agreed to provide Iowa Colony with a fire station and an EMS station, thus eliminating this restraint.¹²⁸ Moreover, Mr. Brown explained that within two miles of the facility to the north is Sienna Point, part of the 10,000 acre Sienna Plantation project which will have hospitals, shopping centers, schools, parks, churches—all the things expected of a developing suburban community.¹²⁹ He testified that homes have already been built within a two-mile radius of the Landfill.¹³⁰ And, although the Landfill is in RAZ 169, an area with minimal growth predicted,

¹²⁶ Tr. at 807-809; See Ex. CAD-41.

¹²⁷ Applicant *Juliff Gardens, L.L.C.’s Closing Argument*, at 43.

¹²⁸ Ex. A-63, at 25-26.

¹²⁹ Tr. at 441-42.

¹³⁰ Tr. at 442.

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it is in the far north section of this RAZ. The RAZ immediately north and close to the Landfill site is predicted to encounter some of the most dramatic growth in the region, from a minimum of 30,000 people in year 2000 to an undefined amount of over 75,000 in 2025.¹³¹

Nevertheless, in this instance, the ALJs do not find that residential uses are so entrenched or planned in the vicinity of the Landfill so as to indicate significant, negative impacts. Rather, the evidence establishes that the developer of Canyon Gate, the residential development in closest proximity to the Landfill, does not object to it. With one exception, the other developments, noted by Protestants to be moving in the direction of the Landfill, are from 6.2 to 16.9 miles away from the Site, a distance the ALJs find is not close enough to be considered consequential. The only other development the ALJs expect to be significantly impacted by the Landfill is Sienna Plantation, which only has one small portion within two miles of the Landfill. Most importantly, almost all of the current land uses within this area remain agricultural. Given these factors, the ALJs do not believe that the projected growth trends render the Landfill an incompatible land use.

The ALJs acknowledge that the Landfill, at 140 feet, would tower above the nearby uses. Given the Landfill's height, the flat terrain, and the agricultural uses in the vicinity, the evidence establishes that the completed Landfill might be seen from 2-3 miles away, thus some impact from this distance inward should be anticipated and evaluated.¹³² However, given the existing agricultural uses and limited projected development in the immediate vicinity, the Landfill's height does not make it incompatible. If the Landfill were permitted, though, any and all reasonable screening should be implemented in anticipation of residential and commercial growth. The ALJs note that Applicant conceded to including screening but neither Applicant nor Protestants offered proposed screening in any detail.

¹³¹ Ex. A-60.

¹³² Tr. at 224.

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DEPARTMENT OF PUBLIC SAFETY
MISSOURI COUNTY CLERK AND THE SEAL OF OFFICE

Robert Thomas

ALICE THOMAS
MISSOURI COUNTY CLERK

MISSOURI COUNTY CLERK

VIII. CONFORMANCE WITH REGIONAL SOLID WASTE PLAN

The applicable statutes and Commission rules require that applications for landfill permits must conform with regional or local solid waste plans. Specifically, TEX. HEALTH AND SAFETY CODE ANN. § 363.066 provides that:

- (a) On the adoption of a regional or local solid waste management plan by commission rule, public and private solid waste management activities and state regulatory activities must conform to that plan.
- (b) The commission may grant a variance from the adopted plan under procedures and criteria adopted by the commission.¹³³

In this case, Protestants assert that the Landfill does not comport with the regional plan, as evidenced by a determination by the Houston-Galveston Area Council (HGAC) that the landfill is not consistent with the Solid Waste Management Plan for the H-GAC Region (HGAC.Plan). In consideration of this issue, the ALJs turn first to the history of the regional-planning review for the Application.

A. Regional Planning Review History

The following is a review of the relevant dates and actions concerning HGAC's review of Juliff's application:

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¹³³ See also 30 TEX. ADMIN. CODE §§ 330.51(b)(10), where Commission rules require that, “[T]he applicant shall submit demonstration of compliance with regional solid waste plan.”

- April-September 2000 The following governmental entities passed resolutions in opposition to the Application: City of Arcola, Brazoria County, City of Iowa Colony, City of Missouri City, and Brazoria County Drainage District #5.
- October 17, 2000 HGAC Projects Review Committee met and heard from Applicant, Protestants, and HGAC Staff. The Projects Review Committee found the Application inconsistent with the HGAC Regional Solid Waste Management Plan (HGAC Plan), based on four categories of inconsistency: 1) lack of need, 2) lack of screening and inappropriate aerial buildup for area, 3) poor past operations, and 4) failure to properly consider drainage or flooding.
- October 17, 2000 Applicant appealed decision of Projects Review Committee to HGAC Board of Directors. Representatives for 10 counties, 7 cities, 2 representatives each for home rule and general law cities, and a representative for school districts were present. The HGAC Board of Directors found by a unanimous vote that the Landfill was inconsistent with the HGAC Plan.
- February 27, 2001 Brazoria County adopted an "Ordinance Prohibiting Solid Waste Disposal in Brazoria County" (Landfill Ordinance). The Landfill Ordinance specified where solid waste facilities were permitted and included the Site as a permissible area.¹³⁴
- March 13, 2001 Brazoria County adopted an amendment to the Landfill Ordinance, noting that if a landfill application was pending before the TCEQ on the date the Landfill Ordinance was adopted, but the application is later withdrawn or returned to the applicant, the area in question is removed from the approved sites for municipal solid waste. This amendment would encompass Juliff's application.¹³⁵
- January 22, 2002 TCEQ provided HGAC with a permit amendment filed by Applicant. After evaluating the proposed amendment, HGAC found the revisions were not significant enough to alter its finding that the Landfill was inconsistent with regional planning.¹³⁶
- February 2002 Applicant amended its application.

¹³⁴ Ex. A-54, at 3 (although the transcript is silent as to A-54's admission into the record, the ALJs' exhibit records indicated it was offered and admitted).

¹³⁵ Ex. A-54, at 7.

¹³⁶ Ex. A-52, tab 22.

B. Impact of Brazoria County Ordinance on the HGAC Determination

Applicant argues that, between HGAC's initial review of the Application and its subsequent refusal to review the amended application, Brazoria County passed the Landfill Ordinance which did not prohibit a landfill at the Site. Ms. Mergo, the Solid Waste Program Manager for HGAC and the staff person who made the recommendation to HGAC that the Landfill be found inconsistent with regional planning, testified on cross-examination that if a county has a siting ordinance, HGAC defers to that ordinance. When confronted with the Landfill Ordinance, Ms. Mergo admitted that she probably would have changed her determination, deferred to the county ordinance, and found it consistent, perhaps with comments, if the ordinance had been in effect.¹³⁷ Applicant argues that, in light of the Landfill Ordinance, HGAC's finding of inconsistency was made without consideration of all relevant information. Applicant contends the Commission should consider this information and, in accordance with the Landfill Ordinance, find the Landfill consistent with regional planning.

Protestants respond that Applicant waived its opportunity to have the finding of inconsistency reviewed. The Landfill Ordinance and its amendment were passed after the Application was filed with the TCEQ and after HGAC made its determination. So, if the Landfill Ordinance should have precluded a finding of inconsistency, it would have been after the Application was amended. Ms. Mergo testified that HGAC declined to again review the Application, and Protestants note that all the issues identified as areas of concern by HGAC in its determination of inconsistency remained after the amendment. Nevertheless, if Applicant wanted to have HGAC re-review the Application in light of the Landfill Ordinance, it was given an opportunity to do so but declined. In his letter to the TCEQ declining to re-review HGAC's determination, Steve Howard, HGAC's Director of Program Operations, stated:

¹³⁷ Tr. at 792.

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ALTERNATE COMMISSIONER OF ENVIRONMENTAL QUALITY
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

After evaluating the proposed amendment, we find that the revisions are not significant enough for the Houston-Galveston Area Council (H-GAC) to alter its finding of inconsistency with regional planning.

If the Applicant would like to appeal this determination, they may request an opportunity for the proposed revisions to be considered by the HGAC project review committee. They may contact me at (713) 993-4550 to discuss scheduling.¹³⁸

Because Applicant did not request an appeal after receiving this letter, Protestants assert it missed its opportunity to appeal HGAC's determination.

The ALJs disagree that Applicant waived its opportunity to have the ordinance considered. Rather, the ALJs find it appropriate to make their recommendation after full consideration of *all* evidence offered into the record, including the Landfill Ordinance. But prior to discussing their recommendation, the ALJs note that they disagree with: (1) Applicant's portrayal of HGAC's actions as a "refusal to review the amended application" and (2) Applicant's insinuation that HGAC was determined to make a finding of inconsistency in spite of the TCEQ's request that HGAC re-review the Application pursuant to the amendment and the implementation of the Landfill Ordinance. To the contrary, Mr. Howard's letter establishes that HGAC *did review* the amendment and found that the changes were not significant enough for HGAC to alter its finding of inconsistency.¹³⁹ There is no indication that HGAC Staff was aware of the ordinance and its potential impact on the Application. In fact, Ms. Mergo initially testified during the hearing that she believed the ordinance did not include the area concerning the Application.¹⁴⁰ The ALJs conclude HGAC staff made a reasonable determination not to alter its finding based on the information it had before it, including the amended application.

¹³⁸ Ex. A-52, Tab 22.

¹³⁹ Ms. Ms. Mergo's testimony was the same, indicating that HGAC advised the TCEQ that it would not "re-review its determination." Tr. at 792.

¹⁴⁰ Tr. at 790.

Turning to whether the Landfill Ordinance should lead to a finding of consistency, the ALJs find that it should not. Applicant relies on Ms. Mergo's testimony that she would probably have deferred to the county ordinance and have listed other comments or issues, if the HGAC determination had been re-reviewed. But, this testimony came on the heels of her first learning that the ordinance did not prohibit a landfill at the Site. After carefully reviewing her testimony and other evidence in the record, the ALJs conclude that she was relying more on HGAC's standard process of deferring to county ordinances than offering a reasoned analysis for this application. This is particularly true when considering the full circumstances of the ordinance.

It is reasonable for HGAC to defer to a county ordinance, but an ordinance should not be considered without also reviewing any amendments and other related facts. Ms. Mergo testified that HGAC defers to county ordinances and city zoning so as to remain consistent with the local government's determination.¹⁴¹ In spite of the Landfill Ordinance, the record is clear: Brazoria County does not find this application to be compliant with regional planning and is formally opposed to its construction. By resolution dated April 17, 2000, Brazoria County listed numerous concerns with the Application and noted its formal opposition.¹⁴²

Further, it is clear from reviewing the Landfill Ordinance that Brazoria County was not expressing a view in favor of the Landfill. Rather, the ordinance generally prohibits landfills in Brazoria County. However, the statute authorizing counties to establish locations for municipal solid waste prohibits a county from restricting areas where a landfill application has already been filed with, and is pending before, the TCEQ.¹⁴³ Because Juliff's application was on file at the time Brazoria County adopted the Landfill ordinance, it is reasonable to infer that the identification of the Site as a location where a landfill was not prohibited was simply an effort by Brazoria County to

¹⁴¹ Tr. at 774.

¹⁴² Ex. A-52, Attachment 20, at 13 of 44.

¹⁴³ TEX. HEALTH AND SAFETY CODE ANN. § 364.012(E)(1)

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follow the statute. By passing the later amendment to the Landfill Ordinance (which would remove the Site from approved areas if the application is withdrawn or returned by the Commission), the ALJs find Brazoria County made it clear that they do not approve of the Site but, rather, had to include the Site in the order to comply with the statute.

While not making a determination on what HGAC may have done if it had known about the Landfill Ordinance, the ALJs find HGAC's deference to county ordinances should not include instances where the county is required by the filing date of the application to include the site in approved areas. As such, the Landfill Ordinance does not preclude HGAC's finding of inconsistency with regional planning. Moreover, even if HGAC would have deferred to the Landfill Ordinance in this instance, the ALJs do not recommend that the Commission do the same. As explained below, the Commission makes its own independent determination, based on the record evidence in the contested case, regarding compliance with the regional plan, and should not defer this responsibility to HGAC or any particular county.

Protestants argue that the Commission should simply decide if there is a reasonable basis for HGAC's determination of inconsistency and, if so, should defer to HGAC's determination. The ALJs find this level of review similar to the civil appellate review standard: abuse of discretion.¹⁴⁴ On the other hand, Applicant insists that the HGAC findings are merely a recommendation to the Commission and nothing more. In support of this position, Applicant insists that it is not required to prove that *HGAC finds* the Landfill to be consistent with regional planning; but rather, that the Landfill *is* consistent with regional planning.

The ALJs note that, unlike appellate courts, the Commission is acting as the fact finder in this case, thus suggesting that the Commission's decision is based on a *de novo* review of the evidence

¹⁴⁴ As long as a rational basis for an agency's action exist, it is not considered an abuse of discretion by appellate courts. *Wright v. U.S.*, 164 F.3rd 267, 268-69 (5th Cir. 1999).

and not merely a review of HGAC's decision. So, in this regard, the ALJs tend to agree with Applicant in concluding that the HGAC determination is essentially a "recommendation."

However, the ALJs would give significant weight to that recommendation. Evidence in general may be given more or less weight depending upon the expertise or special knowledge of the person or entity offering it. In the area of regional solid waste management plans, it appears appropriate to give the decisions made by councils of governments (COGs) significant weight, given their increased knowledge of local issues and their responsibility to draft and implement the plans, albeit it with the Commission's approval. Of course, the determination of how much weight to give any evidence is made on a case-by-case basis depending upon the particular facts of the case.¹⁴⁵

Therefore, the ALJs conclude that the Commission should make its own independent determination of consistency with the regional plan, but should give significant weight to the HGAC findings in making such determination. In reviewing the evidence in this manner, the ALJs conclude that the Application does not conform to the regional solid waste plan. This determination is based on drainage, flooding, and visual impact concerns. Having established the level of review, the ALJs now turn to the four areas of concern regarding consistency with the HGAC plan: (1) drainage and flooding (2) need; (3) visual impact and screening; and (4) operational history.

C. Regarding Drainage and Flooding, does the Application Conform to the Regional Solid Waste Plan?

The HGAC Plan provides the following goal and objectives in regard to drainage and flooding concerns:

Goal: Provide for appropriate environmental protection in the siting, operation, and closure of solid waste management facilities.

¹⁴⁵ Obviously, if the COG's determination is impeached by a showing of bias, political motivation, etc., less weight would be given to the decision.

Objectives: Provide adequate run-off control to eliminate uncontrolled surface water run-off. Avoid areas that flood.¹⁴⁶

Applicant limits its discussion to the two bases cited by HGAC in the Staff Comments & Recommendations section of the Project Review Committee's Summary of Comments and Actions. These are: 1) Brazoria County Drainage District #5 has concerns about the accuracy of the methodology used to formulate the drainage plan, and 2) Chocolate Bayou Water Company contends that the potential for contamination of the their fresh water channel has not been adequately addressed. Applicant insists that the sole relevant question is whether these concerns are sufficient to find the Landfill inconsistent with regional planning. More specifically, Applicant rejects consideration of the testimony of Larry Dunbar and the other related issues he raised as irrelevant and an improper attempt to bolster HGAC's position.

According to Applicant, neither of the bases cited by HGAC is substantive. First, Applicant contends that HGAC simply "rubber-stamped" the comments offered by these entities without providing any technical review whatsoever. Since HGAC has no way of knowing whether the comments have any validity, Applicant insists they must be disregarded in the context of HGAC's conformity evaluation. HGAC could include the comments as a part of its submission to the TCEQ but must base its conformance decision on factors it can review. Further, Applicant submits that HGAC's total reliance on the presumed validity of the comments for its finding of nonconformance erodes any confidence that the HGAC review process was fair and objective.

Second, on a substantive level, Applicant urges that the comments from the drainage district are not relevant because it is not required to show compliance with the drainage district's rules at this

¹⁴⁶This objective was not included in the HGAC determination but the flooding issue was addressed in comments submitted by Brazoria County Drainage District #5 and the Chocolate Bayou Water Company. The ALJs do not find that the Commission is limited to HGAC's findings when considering whether the Landfill conforms to the HGAC Plan.

time.¹⁴⁷ Moreover, Applicant contends that the TCEQ is without authority to enforce the drainage district rules, thus it would be improper to consider them during this proceeding. Instead, Applicant urges that once the Application is approved, it will proceed pursuant to a separate process to make sure it is in compliance with local rules.

Finally, Applicant maintains the concerns raised by Chocolate Bayou were addressed appropriately with the amended application, which moved the landfill footprint over 100 feet away from the Chocolate Bayou main canal. This action, along with Chocolate Bayou's subsequent withdrawal of its party status, suggests to Applicant that this comment is no longer at issue.

Protestants respond that, for the same reasons Mr. Dunbar had concerns regarding flooding and drainage, the Application fails to comply with the HGAC Plan. Specifically, Protestants urge that Applicant failed to demonstrate that: (1) adequate provision was made for the safe passage of floodwaters; (2) no significant alteration of drainage patterns will occur; and (3) the proposed facility is designed to withstand washout from a 100-year flood.

Addressing the non-technical issues first, the ALJs find it entirely consistent for HGAC to rely on other local governmental entities for expertise when making its findings. HGAC does not have technical staff qualified to evaluate each issue. Rather, HGAC is a council of local governments expected to consider local issues and factors when evaluating an application through some reliance on the expertise maintained by these local governments. On issues related to flooding and drainage, HGAC would naturally defer to the expertise held by the drainage district. This is no different than HGAC's general deference to county ordinances.

In any event, HGAC's processes and procedures are not the real issue, except to the extent they suggest bias or otherwise impeach HGAC's credibility, thereby limiting the weight given

¹⁴⁷ Ex. A-39.

Similar concerns were stated by Chocolate Bayou: “[T]he site is in a “flood prone” area and drainage will clearly be a problem.”¹⁵¹ Nevertheless, Applicant failed to address these issues, instead relying on a FEMA map which, in this instance, does not indicate whether the facility is in the 100-year floodplain.¹⁵² Additionally, Applicant did not include and analyze pre- and post-development run-off volumes which may contribute to downstream flooding. These are not local drainage district issues that should be addressed during a later process. Rather, these are issues to be addressed by the TCEQ in accordance with the Texas Water Code, the TCEQ Rules, and the HGAC Plan.¹⁵³

While Chocolate Bayou’s withdrawal may be offered by Applicant as an indication that the amended application resolved Chocolate Bayou’s issues, that would be nothing more than speculation. The record simply does not indicate the reasons for Chocolate Bayou’s withdrawal.

In summary, the ALJs find that Applicant briefed the wrong question for this issue, that Applicant’s attacks on the processes and procedures of HGAC are without merit, and that Applicant’s arguments concerning the lack of technical bases for a finding of non-conformance are incorrect. Given the importance of this issue to the environmental health of the area, the evidence regarding Applicant’s failure to properly address flooding and drainage issues (discussed in more detail previously in this PFD), and HGAC’s determination that the Landfill is not consistent with regional planning goals and objectives, the ALJs recommend the Commission find the Application does not conform to the HGAC Plan regarding drainage and flooding.

¹⁵¹ *Id.* at 27.

¹⁵² Both of these issues are discussed in Section V of this PFD.

¹⁵³ These include TEX. WATER CODE § 26.121 and 30 TEX. ADMIN. CODE §§ 330.55(b)(1), 330.55(b)(7) and 330.56(f)(4)(B)(i).

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D. Regarding Need, does the Application Conform to the Regional Solid Waste Plan?

The HGAC Plan provides the following in regard to need:

Goal: Provide adequate solid waste capacity throughout the H-GAC region.

Objectives: Encourage development of facilities for which there is an apparent need.

Ms. Mergo testified that this objective aims to encourage development of facilities in areas that have limited or no disposal capacity, thus minimizing the distance for transportation. She added that facilities should not be concentrated in one area so as to cause the area to bear a disproportionate share of the negative community impacts associated with landfills.¹⁵⁴

The ALJs decline to provide a substantive review of the evidence on this issue, because they determine, as a matter of law, that need should not be considered when making findings on conformance with the HGAC Plan.¹⁵⁵ The goals and objectives in the HGAC Plan do not suggest HGAC should discourage siting a landfill in an area bearing a disproportionate share of the purported negative community impacts associated with landfills. Rather, the HGAC Plan defines HGAC's role as limited to ensuring adequate capacity and *encouraging the development of facilities in areas with need*. Encouraging development in areas with need is very different from discouraging development in areas without a need. From reviewing the language of the HGAC Plan, the ALJs conclude that need is only considered as a positive factor for permitting facilities in an area lacking sufficient landfill capacity. The ALJs further note that the Commission has addressed this in a prior decision, finding that, "no statute or rule authorizes the Commission to consider need in making a final determination to grant or deny" an application.¹⁵⁶

¹⁵⁴ Ex. CAD-13, at 10.

¹⁵⁵ Even Ms. Mergo testified that the role this issue should play in the HGAC's determination is not entirely clear, noting that the Solid Waste Management in Texas Strategic Plan 2001-2005 states: "[L]ocal or regional need for capacity should not, by itself, be a factor in the conformance decision." She added that the ED sent out a letter this past year explaining that need should not be used as the one criteria for making a determination on conformance with a regional plan. Ex. A-46, at 25 and Tr. at 777.

¹⁵⁶ An Order Denying the Application of BMFS, Inc. for Permit No. MSW2249; TCEQ Docket No. 96-1634-MSW; FOF No. 23. See Attachment C to this PFD.

E. Regarding Visual Impact and Screening, does the Application Conform to the Regional Solid Waste Plan?

The HGAC Plan provides the following in regard to screening:

Goal: Minimize the negative visual impacts of solid waste disposal, handling, and management facilities.

*Objectives: Encourage landscaping and visual screening of sites.
Allow aerial buildup appropriate to surrounding topography and screening.*

HGAC found that the height of the Landfill (140 feet above ground) is not appropriate for the surrounding flat and relatively treeless terrain. As noted above in the land-use section, the height of the landfill will be equivalent to that of a 10-12 story building, in an area with no structure over a single story and few trees. Protestants charge that, because the Landfill's aerial buildup may be seen from miles away, it should have been more properly screened.

Applicant insists that HGAC ignored important facts about the Landfill and is treating this application differently than it has treated similar applications in the past. Applicant reiterates that tall trees, greenbelts, and buffers will surround the Site. According to Applicant, if HGAC found the proposed screening deficient, HGAC had the burden of proposing something different rather than simply finding the Application inconsistent.¹⁵⁷ Helpful suggestions were proposed by HGAC on previous reviews where HGAC did not make a finding of nonconformance, so Applicant asserts its treatment was arbitrary and unreasonable. Similarly, Applicant notes that other landfills with similar permitted heights were not opposed by HGAC. Finally, Applicant states that it will agree to implement "additional" screening.

¹⁵⁷ Applicant Juliff Garden's Closing Argument, at 70.

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After considering the evidence, the ALJs conclude that, in regard to screening and the visual impact of the Landfill, the Application is not consistent with the HGAC Plan. In reaching this conclusion, the ALJs note that the analysis of the Landfill's height and screening is different in regard to the HGAC Plan than it is in regard to the Commission's land-use compatibility analysis. Specifically, the HGAC Plan's goal to "minimize the negative visual impacts of solid waste disposal, handling, and management facilities" and its objective of allowing "aerial buildup appropriate to surrounding topography and screening" are not tied to specific types of surrounding land uses (*i.e.*, residential versus commercial). Instead of focusing simply on compatibility with surrounding residential uses, the HGAC Plan appears more focused on whether the Landfill's design is compatible with the surrounding topography and the potential impact on *any* uses. As such, the ALJs review the Application with this in mind.

The evidence is clear that the Landfill will tower over all other features in the area. The height of the Landfill will be equivalent to that of a 10-12 story building, in an area with no structure over a single story and few trees. Further, Applicant proposes no screening measures. Curiously, in its closing arguments, Applicant contradicts its own land-use expert by referring to screening for the Site as "additional" screening, despite Mr. Henry's testimony that there is no screening or specific tree cover in the area.¹⁵⁸ Presumably, Applicant is referring to buffer zones as screening, an interpretation the ALJs do not share.¹⁵⁹ Given the height, flat topography, lack of natural screening (*i.e.*, heavily wooded areas, etc.), and lack of proposed screening, the ALJs agree with HGAC's determination that the Landfill is not consistent with the HGAC Plan's objective of allowing "aerial buildup appropriate to surrounding topography and screening."

In reaching this conclusion, the ALJs do not suggest that there is any maximum height for landfills, nor that landfills must be invisible to surrounding properties. Rather, the HGAC Plan

¹⁵⁸ Tr. at 229.

¹⁵⁹ Buffers and setbacks are addressed separately by the HGAC Plan pursuant to the goal, "[M]aintain appropriate buffers and setbacks from sensitive land uses." Ex. CAD-8, at 33.

simply indicates that the aerial buildup of landfills should be appropriate to surrounding topography and screening. Such an assessment, therefore, is always dependent on the nature of the surrounding topography and existing man-made or other structures that might have a visual impact. In this case, there is nothing in the area either in the way of topography, screening, or man-made structures—which would limit the negative visual impact of the Landfill. This, taken with the projected height of the Landfill, is the basis of the ALJs' recommendation.

In regard to other landfills with significant proposed heights that HGAC found consistent with its plan, the ALJs find such situations mostly distinguishable. It is important to note, though, that the ALJs are unable to evaluate all of the particulars of the other landfill sites because they do not have all of the necessary information related to those sites before them. With the information that is available, however, and the evidence offered in this case, the ALJs find a few factors relevant.

First, Ms. Mergo testified in this case that the ultimate determination by HGAC regarding consistency with the regional plan is made based on all factors and not upon one factor alone. So, it is possible that HGAC has found other landfills consistent with the HGAC Plan even when those landfills were higher than proposed in this case, provided that HGAC did not have the same level of concerns about other issues that it does with the Landfill in this case. From reviewing the limited information in the record regarding the other landfills cited by Applicant (of which there are less than 10), the ALJs agree that HGAC has found consistent with regional planning other landfills that are higher than that proposed by Applicant. However, of those landfills cited, many were expansions of existing facilities, with the expansions being mostly less than 100 feet total, one of which was only 25 additional feet and another which was approximately 50 additional feet.¹⁶⁰ Further, in many of those cases, HGAC noted concerns about the height and visual impact of the landfills,¹⁶¹ and

¹⁶⁰ See, e.g., Ex. CAD-52, tabs 8 and 16.

¹⁶¹ See, e.g., Ex. CAD-52, tabs 14 and 23.

STATE OF TEXAS
COUNTY OF TRAVIS
IN REBY CERTAIN MATTERS IN THE AND SUBJECT MATTER OF
A TEXAS COUNTY AND THE TEXAS COUNTY

DEC 10 2007

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FRANK F. GILMAN
COMMISSIONER OF ENVIRONMENTAL QUALITY
TEXAS DEPARTMENT OF ENVIRONMENTAL QUALITY

sometimes requested additional screening.¹⁶² In some instances, HGAC noted that the surrounding topography was heavily wooded,¹⁶³ which provided screening.

The situations in which HGAC made suggestions to other landfill applicants regarding screening were also distinguishable. In those instances, HGAC found that the applications conformed with the regional plan, but "with comments." The use of comments is what led to the additional suggestions offered by HGAC. In this case, HGAC found the Application to be inconsistent with the HGAC Plan; in such instances, Ms. Mergo testified that HGAC does not provide suggestions on how to better comply with the HGAC Plan.¹⁶⁴ Rather, HGAC simply provides the reasons why the application is inconsistent. Moreover, the ALJs do not find that giving Applicant additional comments would have been productive. The Application was amended after HGAC determined that it was inconsistent with the Plan and recommended additional screening. Yet, no additional screening was offered in the amended application. So, the ALJs do not find evidence that Applicant was treated arbitrarily or unreasonably, but instead note that Applicant passed up an opportunity to improve screening at the time of the amended application.

From reviewing the limited records available, the ALJs are convinced that HGAC has regularly expressed concerns about landfill heights and has not treated Applicant arbitrarily. Rather, as Ms. Mergo testified, each application is reviewed on its merits and decided based on the totality of the issues. This is the same approach the ALJs recommend in this case. Although the ALJs analyze each issue separately in this PFD, the ALJs do not suggest that a finding of concern regarding one issue necessary leads to a determination of nonconformance with the regional plan. Rather, the Commission should make an overall determination of consistency based upon the totality of the factors and issues raised.

¹⁶² See, e.g., Ex. CAD-52, tabs 24 and 25.

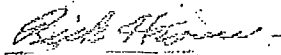
¹⁶³ See, e.g., Ex. CAD-52, tab 16.

¹⁶⁴ Tr. at 764.

STATE OF TEXAS, §
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F. Regarding the Operational History of Applicant, does the Application Conform to the Regional Solid Waste Plan?

The HGAC Regional Solid Waste Plan provides the following in regard to the operational history of applicants:

Goal: Require sound operational practices for solid waste disposal, handling and management facilities to eliminate adverse health and aesthetics impacts.

Objectives: Consider past operational record of facility developer in application process.

Based on a notice of violation (NOV), HGAC found that Applicant, under the name of Sentinel Resources Corporation, was operating an illegal transfer station without proper registration in 1999. Protestants explain that Sentinel operated a transfer facility for waste while only authorized to chip wood and crush rock under a standard exemption. Ms. Mergo was informed of this concern by Fort Bend County and followed up on it by talking with the TCEQ Region 12 inspectors. According to Mr. McCoy of the TCEQ, this is acceptable procedure for inquiry about an NOV.¹⁶⁵ Protestants add that Sentinel also received an NOV in 2001 for construction of a concrete pad, an NOV in 2002 for a standby trust for a letter of credit, and another NOV in 2003 for a sump at the southeast corner of the slab.

Eduardo Pupo is part owner of both Sentinel and Juliff Gardens. Following an inspection in 1999, he received a Notice of Violation (NOV) and was told he needed to obtain a transfer station registration, which Sentinel did on January 4, 2001. Prior to the commencement of operations, Mr. Pupo explained to the Commission that Sentinel hauled trash to landfills that could be used, sold, or ground up into other things and sold.¹⁶⁶ According to Mr. Pupo, he was advised that he could proceed pursuant to two standard exemptions and did so. Mr. Pupo blames Sentinel's initial

¹⁶⁵ Tr. at 353.

¹⁶⁶ Ex. A-2, at 4.; Tr. at 22.

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failure to obtain the correct authorization on confusion caused by the Commission's staff.¹⁶⁷

Applicant contends that it has no compliance history to review, because Sentinel and Juliff Gardens, L.L.C., are separate legal entities and, thus, the operations of Sentinel are not relevant to whether Juliff's Application is consistent with the HGAC Plan. In the alternative, Applicant faults the TCEQ for Sentinel's 1999 NOV, stating that it resulted from a change in regulatory interpretation by the ED after five years of operations.¹⁶⁸ Nevertheless, Applicant notes that Sentinel took all necessary steps to address the issues raised in the NOV and satisfied the TCEQ, regardless of the merit of the NOV.

Turning to HGAC's review of the issue, Applicant asserts it was cursory, sloppy, and random. Applicant insists that more than just a phone call to the regional office should have been undertaken to research the issues. Other actions that should have been undertaken include communication with the central enforcement section at the TCEQ; an in-depth analysis by the TCEQ of the facts surrounding the NOV and what steps would be taken; and a telephone call to Sentinel to clear up what steps were being taken to respond to the NOV. Further, Applicant charges that HGAC has selectively evaluated compliance history for a number of facilities, pointing out other applications that were approved after receiving NOVs.

After considering the evidence and arguments presented, the ALJs find Sentinel's compliance history relevant. But, the ALJs conclude that history is not significant enough to justify a finding of non-conformance with the HGAC Plan. The ALJs agree with Ms. Mergo's determination that, "[T]o state that Juliff Gardens has no compliance history is a technical distinction without any merit."¹⁶⁹ In fact, Eduardo A. Pupo, in an affidavit sent to HGAC before its determination of non-

¹⁶⁷ Tr. at 24.

¹⁶⁸ Applicant maintains seven years of operations with regular inspections by the TCEQ but no citations. The cite offered by Applicant did not support these contentions, nor did the other evidence reviewed by the ALJs.

¹⁶⁹ Ex. CAD-13, at 16.

compliance referred to Sentinel as the applicant for the landfill stating: “[S]entinel expects to receive waste at *its* Juliff Gardens Landfill . . .”¹⁷⁰

Turning to the 1999 NOV, the evidence indicates that it was issued after an inspection, where most likely the ED learned Sentinel was transferring waste. It is one thing to bring in recycling material and process it, but another to bring in recycling material and trash, sort it, and then transfer the trash to a landfill while processing the recycling material. The evidence suggests this distinction and a misunderstanding between Sentinel and the TCEQ are the most likely scenario leading up to the 1999 NOV. But even considering Sentinel in the worst light, the ALJs find that each time an NOV was issued, Sentinel complied in a timely manner. As noted by Applicant, none of the waste companies owned by the Pupo family have ever been the subject of a formal enforcement action brought by a state or federal agency.¹⁷¹ To the contrary, their compliance history reveals they are responsive to the appropriate regulatory agencies, with one significant and three minor misunderstandings of the regulations leading to NOVs that were timely corrected. The ALJs do not believe that this minor history of non-compliance would justify a finding of inconsistency with the HGAC Plan.

G. Recommendation Regarding Overall Conformance with Regional Solid Waste Plan

The ALJs conclude that the Application is not consistent with the HGAC Plan in regard to (1) drainage and flooding, and (2) visual impact and screening. The ALJs do not find the “need” issue to be relevant, and conclude that the compliance history of Sentinel is relevant, but acceptable. Because of the significance of the concerns regarding flooding and drainage, with lesser consideration given to the visual impact/screening issue, the ALJs recommend the Commission find the Application does not conform to the HGAC Plan.¹⁷²

¹⁷⁰ Ex. A-49, Attachment A.

¹⁷¹ Ex. A-2, at 3.

¹⁷² Because the ALJs find the flooding and drainage issues so troubling, they would recommend a finding of nonconformance with the HGAC Plan on this issue alone.

IX. CONCLUSION

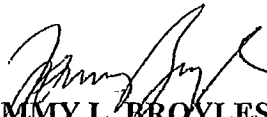
In conclusion, many of the concerns raised by the Protestants are justified by the evidence and raise serious questions about the operation of the Landfill, particularly in regard to flooding and drainage. Given the topography of the area, and the relatively low elevation, it is very important for landfill operators to fully and properly conduct flood analyses and address flooding concerns. In this case, Applicant did not do that. Moreover, Applicant does not have a sufficient interest in the property as required by 30 TEX. ADMIN. CODE § 330.62(a), and the Landfill also appears prohibited by TEX. HEALTH & SAFETY CODE § 361.122. Finally, it appears inconsistent with regional planning goals, and is opposed by the county in which it will be sited, the local council of governments, and the local drainage district. For all of these reasons, the ALJs recommend the permit be denied.

Accordingly, the ALJs recommend the Commission issue the attached Proposed Order denying the Application. The Proposed Order contains findings of fact and conclusions of law discussed above, and others that are not in dispute.

SIGNED June 24, 2004.



CRAIG R. BENNETT
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS

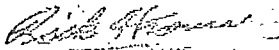


TOMMY L. BROYLES
ADMINISTRATIVE LAW JUDGE
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STATE OF TEXAS §
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EXHIBIT G



State Office of Administrative Hearings



Shelia Bailey Taylor
Chief Administrative Law Judge

January 17, 2005

Derek Seal
General Counsel
Texas Commission on Environmental Quality
PO Box 13087
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CHIEF CLERK'S OFFICE

JAN 17 11 11 07

Re: SOAH Docket No. 582-05-0868; TCEQ Docket No. 2004-0746-MSW; In Re:
**APPLICATION OF TAN TERRA ENVIRONMENTAL SERVICES INC FOR
MSW PERMIT NO. 2305**

Dear Mr. Seal:

The above-referenced matter will be considered by the Texas Commission on Environmental Quality on a date and time to be determined by the Chief Clerk's Office in Room 201S of Building E, 12118 N. Interstate 35, Austin, Texas.

Enclosed are copies of the Proposal for Decision and Order that have been recommended to the Commission for approval. Any party may file exceptions or briefs by filing the original documents with the Chief Clerk of the Texas Commission on Environmental Quality no later than February 9, 2005. Any replies to exceptions or briefs must be filed in the same manner no later than February 19, 2005.

This matter has been designated TCEQ Docket No. 2004-0746-MSW; SOAH Docket No. 582-05-0868. All documents to be filed must clearly reference these assigned docket numbers. Copies of all exceptions, briefs and replies must be served promptly on the State Office of Administrative Hearings and all parties. Certification of service to the above parties and an original and eleven copies shall be furnished to the Chief Clerk of the Commission. Failure to provide copies may be grounds for withholding consideration of the pleadings.

Sincerely,

A handwritten signature in cursive script that reads "Sarah G. Ramos".

Sarah G. Ramos
Administrative Law Judge

SGR/trp
Enclosures
cc: Mailing List

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**AGENCY: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
(TCEQ)**

**STYLE/CASE: APPLICATION OF TAN TERRA ENVIRONMENTAL
SERVICES, INC. FOR MSW PERMIT NO. 2305**

**SOAH DOCKET NUMBER: 582-05-0868
TCEQ DOCKET NUMBER: 2004-0743-MSW**

**STATE OFFICE OF ADMINISTRATIVE
HEARINGS**

**SARAH G. RAMOS
ADMINISTRATIVE LAW JUDGE**

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Docket Clerk, Office of the Chief Clerk, TCEQ, Fax No. (512) 239-3311

SOAH DOCKET NO. 582-05-0868
TCEQ DOCKET NO. 2004-0743-MSW

APPLICATION OF § BEFORE THE STATE OFFICE
§
TAN TERRA ENVIRONMENTAL § OF
SERVICES, INC., §
FOR MSW PERMIT NO. 2305 § ADMINISTRATIVE HEARINGS

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TEXAS
COMMISSION ON ENVIRONMENTAL QUALITY
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SOAH DOCKET NO. 582-05-0868
TCEQ DOCKET NO. 2004-0743-MSW CHIEF CLERK'S OFFICE

APPLICATION OF § BEFORE THE STATE OFFICE
TAN TERRA ENVIRONMENTAL §
SERVICES, INC., § OF
FOR MSW PERMIT NO. 2305 § ADMINISTRATIVE HEARINGS

PROPOSAL FOR DECISION

I. INTRODUCTION

Tan Terra Environmental Services, Inc., ("Tan Terra" or the "Applicant") applied for a Type I municipal solid waste ("MSW") permit to construct and operate a new landfill facility in Willacy County, Texas, ("Facility" and/or "landfill") to serve as a regional landfill for the Lower Rio Grande Valley area, including Willacy County and the surrounding counties. After persons protested the application, the Texas Commission on Environmental Quality ("TCEQ" or "Commission") referred certain issues to the State Office of Administrative Hearings ("SOAH") for consideration in a contested case hearing.

Based on the record developed in that hearing, the Administrative Law Judge ("ALJ") finds that the biological assessment for endangered species and the wetland delineation report were inadequate. Further, the ALJ finds the Applicant has not developed an adequate plan to minimize animal scavenging.

II. PROCEDURAL HISTORY

On January 14, 2003, Applicant submitted its application for a new MSW Type I landfill, permit number MSW-2305. On March 5, 2003, TCEQ's Executive Director ("ED") found the application was administratively complete, and on March 12, 2003, the Notice of Receipt of Application and Intent to Obtain Permit was published in the *Raymondville Chronicle and Willacy County News*. The ED completed the application's technical review and recommended issuance of

the permit on October 16, 2003. On November 26, 2003, the Notice of Application and Preliminary Decision was published in the *Raymondville Chronicle and Willacy County News*. The comment period closed on December 29, 2003. The ED's Response to Comment was filed on April 23, 2004, and mailed by the Office of the Chief Clerk on April 30, 2004. The deadline to request a contested case hearing was June 1, 2004.

Arnoldo Cantu, Russell Burdette, and the North Alamo Water Supply Corporation ("North Alamo") timely filed hearing requests, but North Alamo subsequently withdrew its hearing request. On August 11, 2004, the Commission considered the hearing requests during its open meeting and determined that Arnoldo Cantu and Russell Burdette and family were affected persons.¹

At the preliminary hearing on December 16, 2004, the following persons were recognized or admitted as parties:

Party	Represented by:
Applicant	Brent W. Ryan, attorney
Office of Public Interest Counsel ("OPIC")	Anne Rowland, followed by Mary Alice C. Boehm-Mckaughan, attorneys
Yolanda Cantu and Nora Garcia	Enrique Valdivia, attorney
Ray and Monica Burdette	Richard Lowerre and Eric Allmon, attorneys
Delta Lake Irrigation District ("the District")	Dr. Allie Blair, District Engineer, and Troy Allen, General Manager
Arnoldo and Angelita Cantu, David Hoelscher, Arnoldo Cantu, Jr., Raul Chapa, Dana Kiefer, Ricardo Chapa, Rio Farms, Inc.	David Cantu

¹ TCEQ Interim Order Concerning the application by Tan Terra Environmental Services, Inc. For MSW Permit No. 2305; TCEQ Docket No. 2004-0743-MSW, issued August 16, 2004.

Lasara I.S.D., ² including Juan M. Pena, father of a Lasara I.S.D. student	Scott McLain and Kristin Gaston, attorneys
Garcia and Yturria family members and other mineral interest owners for the property on which the Applicant proposes to build the landfill; William J. Thomas; Mitchell H. Thomas; Billie C. Pickard	Tonnyre Thomas Joe, Helen Currie Foster, and John B. McFarland, attorneys

The Commission referred these issues to SOAH:

- a. Did the Applicant adequately identify whether wetlands exist within the proposed waste footprint?
- b. Is the Applicant's plan for the management of surface water adequate?³
- c. Did the Applicant identify and adequately consider impacts on all relevant endangered and threatened species?
- d. Does the Applicant propose adequate control measures for avian and mammalian scavengers?

The ALJ expanded the second issue to include this question, "how would the gas wells on the property affect surface water management?" She also added two issues:

- e. Should the permit include special conditions to deal with other issues?
- f. How should the transcript costs be apportioned?

The evidentiary hearing on the application was held on July 25-27, 2005, in Raymondville, Texas. On August 12, 2005, the ALJ suspended the post-hearing briefing schedule to reopen the hearing record to receive evidence concerning recently drilled and producing gas wells on the proposed Facility site. The hearing reconvened at SOAH's offices in Austin, Texas, on October 13-14, 2005. All parties were represented and participated on either the July or October hearing dates.

² The I.S.D. was provisionally admitted as a party, pending the filing of a school-board resolution authorizing the I.S.D.'s participation. The resolution was later filed, and the school district was recognized as a party.

³ *Id.* at pp. 1-2.

III. OVERVIEW

The Facility's site is about seven miles west of Raymondville, one-and-a-half miles northeast of Lasara, Texas, and a one-fourth mile northeast of the intersection of State Highway 186 and Farm-to-Market Road 1015. The proposed landfill site has 629.867 acres with a footprint area of approximately 450 acres. As planned, the Facility, would have an above-grade aerial fill (height) of approximately 193 feet and an estimated capacity of about 45 years. Accepting waste at a rate of approximately 800 tons per day at opening with a potential increase to 2,300 tons per day, the Facility would be authorized to accept municipal solid waste resulting from, or incidental to, municipal, community, residential, commercial, institutional, industrial, and recreational activities (garbage, putrescible wastes, rubbish, ashes, brush, street cleanings, dead animals, abandoned automobiles, construction demolition debris, inert material, and properly-identified special wastes).

Applicant plans to have two separate disposal areas separated by the North Hargill Drain (a.k.a. "Main Drain" or "Drain"), an agricultural earthen drainage ditch that bisects the property into a northern disposal area ("North Area") and a southern disposal area ("South Area").⁴ The Drain's length through the site is approximately 8,500 feet, and its width ranges from about 20 to 30 feet. The North Area would have 396 acres and receive household, commercial, and non-hazardous industrial waste. It would be constructed sequentially in 10-acre cell blocks or sectors, each with a separate bottom liner and leachate collection system. Once a sector was filled to final grade, that sector would be covered with final cover and closed. The South Area would have 48 acres and would receive only Type IV waste, *i.e.*, construction and demolition, yard, and other non-putrescible wastes. No leachate collection system or liner is planned for the South Area, other than the naturally-occurring clay soil.⁵

To drain surface water from both the North and South Areas, Applicant plans to use the

⁴ David E. Poe, P.E., prefiled testimony; App. Ex. 7, pp. 4-5.

⁵ App. Ex. 7, pp. 5-8 (Poe).

North Hargill Drain.⁶ The North Area's surface water would be routed into a perimeter detention reservoir that would wrap around almost the entire landfill perimeter. The reservoir would hold the surface water draining from the landfill until it could be discharged into the Drain through culverts constructed between the reservoir and the Drain. The South Area's surface water would flow down chutes to two perimeter channels and then into the Drain.⁷

The District controls, operates, and maintains the Drain and holds an easement on the property. The Drain is used for irrigation water and agricultural drainage; it also is used for water for North Alamo and the Cities of Raymondville, Monte Alto, Lasara, Hargill, and Lyford. Although the District has an easement through Applicant's property for the Drain, the property is not within the District's boundaries; therefore, the District cannot tax Tan Terra.

Originally constructed in the 1940s and deepened and widened in 1967 after Hurricane Beulah,⁸ the Drain is designed to carry approximately 1,200 cubic feet per second ("cfs") for a 24-hour storm event.⁹ Its bottom and sides are composed of soil and vegetation of various types, and the bottom is generally covered with water, algae, or aquatic plants.¹⁰

The Drain begins southwest of the proposed facility, where the South Main Drain and the West Hargill Drain meet. The Drain runs alongside and through the site, flowing in a northeasterly direction. As it exits Applicant's property, the water flowing through the Drain continues through Raymondville into the East Main Drain, through Estacas Lake and El Sauz Ranch, and ultimately into the Laguna Madre. The Laguna Madre is a large body of salt water between the Texas mainland

⁶ App. Ex. 7, p. 19 (Poe); *see also*, App. Ex. 16 Tan Terra's Surface Drainage Design Plan.

⁷ App. Ex. 7, p. 19.

⁸ Homer Fraseler prefiled testimony, App. Ex. 37, pp. 11, 18.

⁹ Burdette Ex. 6, p. 12. (Blair).

¹⁰ Tr. 499 (Blair).

and Padre Island.¹¹

The area surrounding the Facility is predominantly flat and used for agriculture, with some residential and commercial uses to the west, south, and east, including ten residences and two businesses within a mile of the property. A part of the Lower Rio Grande Valley National Wildlife Refuge ("wildlife refuge"), the Teniente Tract, is located northwest of the site. The Teniente Tract provides habitat for endangered and threatened species.

IV. DID THE APPLICANT ADEQUATELY IDENTIFY WHETHER WETLANDS EXIST WITHIN THE PROPOSED WASTE FOOTPRINT?

A. Applicable Law

As specified in TCEQ's rules, an applicant must provide sufficient information for the ED to make a reasonable determination regarding whether a landfill is located within wetlands and whether it meets these requirements.¹² Also, a landfill cannot be located in wetlands unless an applicant demonstrates that: (1) a practical alternative to the proposed landfill is not available; (2) the construction of the landfill will not adversely affect the water quality, jeopardize the existence of an endangered or threatened species, or result in the destruction, or adverse modification, of critical habitat; and (3) the landfill will not cause or contribute to the wetlands' degradation.¹³

As defined in Commission rule 30 TAC § 307.3(a)(69), a wetland is an area (including a swamp, marsh, bog, prairie pothole, or similar area) having a predominance of hydric soils¹⁴ that are

¹¹ Burdette Ex. 6, p. 4 (Blair).

¹² 30 TEX. ADMIN. CODE ("TAC") § 330.302(5).

¹³ 30 TAC § 330.302.

¹⁴ The term hydric soil means soil that, in its undrained condition, is saturated, flooded, or ponded long enough during a growing season to develop an anaerobic condition that supports the growth and regeneration of hydrophytic vegetation. 30 TAC § 307.3(a)(69).

inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, the growth and regeneration of hydrophytic vegetation.¹⁵ Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas.¹⁶ The term "wetland" does not include irrigated acreage used as farmland; a man-made wetland of less than one acre; or a man-made wetland for which construction or creation commenced on or after August 28, 1989, and which was not constructed with wetland creation as a stated objective, including but not limited to an impoundment made for the purpose of soil and water conservation which has been approved or requested by soil and water conservation districts.¹⁷ The rules also provide that if the Commission's definition of wetland conflicts with the federal definition, the federal definition prevails.¹⁸ Federal law defines wetlands as land that

(A) has a predominance of hydric soils;

(B) is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions; and

(C) under normal circumstances does support a prevalence of such vegetation.¹⁹

Also, a site development plan must include sufficient information to document that a facility will not cause a discharge of pollutants into wetlands.²⁰

¹⁵ Hydrophytic vegetation means a plant growing in water or in a substrate that is at least periodically deficient in oxygen during a growing season as a result of excessive water content. 30 TAC § 307.3(a)(69).

¹⁶ 30 TAC 330.2(167).

¹⁷ 30 TAC § 307.3(a)(69).

¹⁸ *Id.*

¹⁹ 16 U.S.C. § 3801(a)(18).

²⁰ 30 TAC § 330.55(b).

B. Evidence**1. Keith Bradley**

Applicant's witness, Mr. Bradley, is a registered environmental professional and the principal of KBA EnviroScience, Inc., a Texas environmental consulting firm.²¹ He holds a B.S. in biology from the University of West Florida and a M.S. degree in environmental science from the University of Texas at Dallas.²² Mr. Bradley said he is familiar with the TCEQ's regulations in 30 TAC Chapter 330 governing landfill development and operations and the rules governing wetlands. He is also familiar with the landfill's proposed development and operation.²³

Mr. Bradley directed the preparation of a May 2002 wetland delineation report for the project, based on field work done on February 25, 2002.²⁴ He also performed a supplemental wetland delineation report after a November 12, 2004, trip to the site.²⁵ Mr. Bradley collected and evaluated soil samples at five locations, two of which he considered unlikely to exhibit hydric conditions and three of which appeared to have hydric soils. None of the locations had hydrologic connections to interstate water or other surface water, and Mr. Bradley did not observe hydrophytic vegetation at the tested locations. Even though he determined some of the hydric soils were likely to hold water for several days after a rain, they were unlikely to hold water long enough to support hydrophytic vegetation, he said.²⁶ Since the only regulatory definition of wetlands requires all three characteristics (hydric soils, wetland hydrology, and hydrophytic vegetation), none of the locations

²¹ App. Ex. 26, p.1.

²² Mr. Bradley also has almost 30 years experience working for environmental consulting and engineering firms and government agencies, including seven years at EPA Region VI, where he performed wetland delineations and assessments. Also, he has been involved in more than 500 wetlands projects in his career. App. Ex. 26, pp.1-2.

²³ App. Ex. 26, pp. 2-3.

²⁴ App. Ex. 26 p. 3; App. Ex. 28.

²⁵ App. Ex. 26 p. 6; App. Ex. 30.

²⁶ App. Ex. 30, Appen. D.

could be considered wetlands by regulatory classification.²⁷ Mr. Bradley concluded that no waste footprint area, *i.e.*, the area within the landfill site that will actually be used for the placement and disposal of waste, is proposed to be located in wetlands.²⁸

Even though Mr. Bradley recognized that “[t]he [D]rain functions as a wetland”²⁹ and is permanently inundated, he did not identify the Drain as containing wetlands and did not take samples from it. In the wetland delineation report, Mr. Bradley noted that the Drain is not considered jurisdictional waters of the United States as defined by the Clean Water Act. Instead, the Drain is a man-made drainage channel with two sources of water: stormwater and dewatering systems of citrus growing operations, he said. The U.S. Fish and Wildlife Service’s (“USFWS’s”) National Wetland Inventory map designates the Drain as “Riverine, Lower Perennial, Permanently Flooded, Excavated.”³⁰ Mr. Bradley also noted that the U.S. Army Corps of Engineers (“USACE”) District Office in Galveston had classified the Drain as a man-made upland feature without tidal influences and not subject to USACE jurisdiction.³¹

2. Fred C. Bryant

Dr. Bryant, holds a B.S in wildlife management, M.S. in wildlife biology, and a Ph.D. in range science. He is the Director of Wildlife Research for the Ceasar Kleberg Wildlife Research Institute, Texas A&M University, in Kingsville.³²

Dr. Bryant characterized the Drain as a “functioning riparian zone,” and specified that the

²⁷ App. Ex. 30, p. 3.

²⁸ App. Ex. 26.

²⁹ Tr. 229.

³⁰ App. Ex. 28, p. 2.

³¹ App. Ex. 28, pp. 6-7.

³² Burdette Ex. 9.

Main Drain contains hydric soils, wetlands hydrology, and hydrophytic vegetation (such as cattails, a plant that grows up and down the Main Drain), which are indicators of an established riparian ecosystem.³³

3. Russell Ray Burdette

Protestant Mr. Burdette has a B.S. in animal and veterinary science and a M.A. in health care administration. His wife's family once owned the proposed Facility site and now owns a birdwatching and hunting business on property that is part of the wildlife refuge and other properties. He has been familiar with the area since 1973 and has resided there since 1990.³⁴

Although not identified as an expert, Protestant Mr. Burdette testified that he has been quite familiar with the proposed landfill site since 1980. He has owned property adjacent to the site since 1973, and his wife's family used to own property adjacent to it. He is also one of the mineral owners.³⁵ Mr. Burdette identified four areas of "seasonal wetlands" on the site. "I just know from year to year those sites hold water and they attract migratory birds and are resting places for migratory birds" he explained.³⁶ When the water pools during these seasonal periods, it supports wetland-type plants and wildlife, Mr. Burdette stated.³⁷

Mr. Burdette also noted the Facility site is lower than the surrounding properties, such as Guadalupe Farms, the Cantu property, and the Yturria property. Water sometimes runs off from those areas onto the site. Also, after rain, water sometimes seeps onto the surface and has a depth

³³ Burdette Ex. 9, p. 7.

³⁴ Burdette Ex. 1.

³⁵ Burdette Ex. 1, p. 12.

³⁶ Burdette Ex. 24, p. 71.

³⁷ Burdette Ex. 24, pp. 14- 15, 71, 81; Burdette Ex. 1, p. 12.

of six to nine inches.³⁸

C. Arguments

1. Applicant's Arguments

Applicant considers neither the Drain nor any other part of the site to include wetlands. Also, Applicant asserted, coastal wetland management does not relate to the issue the Commission referred, which focuses on whether wetlands exist within the proposed waste footprint.

Applicant criticized the Protestants' arguments to the extent they relied on Mr. Burdette's testimony as to the existence of wetlands, because Mr. Burdette was not qualified as an expert witness and readily admitted he is not an expert on TCEQ's regulations.

2. Protestants' Arguments

According to Protestants, Mr. Burdette's description of traditional wetland areas on the site supports a finding of sufficient water to sustain "a prevalence of vegetation typically adapted for life in saturated soil conditions." Protestants also rely on Dr. Bryant's testimony, in which he characterized the Drain as a functioning riparian zone and specified that it contains hydric soils, wetlands hydrology, and hydrophytic vegetation, such as cattails.

Protestants also argued there are no plans in the application or elsewhere to protect wetlands, avoid discharge of pollutants into wetlands, or replace destroyed wetlands. Thus, according to Protestants, there will be a net loss of wetlands and wetland functions if the permit is issued. Thus, Protestants asserted that Applicant failed to submit a wetlands determination, as required under

³⁸ Burdette Ex. 23, p. 99-100; Burdette Ex. 1, Appens. A and B; *see also* pp. 25-28 (describing flooding at proposed landfill site and surrounding areas).

applicable federal, state, and local laws³⁹ or a “wetlands statement” that discussed wetlands in accordance with 30 TAC § 330.302,⁴⁰ which requires a demonstration of practical alternative to the landfill; no adverse impacts on water quality or endangered or threatened species; and no wetlands degradation.

3. OPIC’s Arguments

When the Applicant failed to identify the Drain as a wetland, Applicant effectively took away the ED’s opportunity to determine whether the Drain was protected by state law, OPIC argued. Applicant did not meet its burden of proving there is no practicable alternative to the proposed landfill that does not involve wetlands. The TCEQ requirement to identify wetlands on a landfill site is not limited to identifying only federally-protected wetlands, *i.e.*, those located in the “waters of the United States.”⁴¹ The Drain is a wetland under TCEQ’s rules, OPIC added.

OPIC noted the Drain should also be considered a wetland under the 30 TAC Chapter 307 definition of wetland because the Drain was constructed in the 1940s, long before August 28, 1989. While the Commission’s Chapter 307 definition says the federal definition prevails, the Drain should also be defined as a wetland under the federal definition of wetlands because the federal definition does not make the distinction that Applicant asserted between a wetland that is part of “waters of the United States,” and therefore, is federally protected, versus a wetland that is only state-protected.⁴² Under the federal definition of wetlands, both state and federally protected wetlands are considered wetlands, OPIC argued. Therefore, Applicant’s rationale to exclude the identification of the Drain

³⁹ 30 TAC § 330.51

⁴⁰ 30 TAC § 330.53(b)(12).

⁴¹ 30 TAC § 330.3(169); see also, *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, 531 U.S. 159 (2001) and 33 CFR 328(a)(3).

⁴² 16 U.S.C. § 3801(a)(18) defines a wetland as “land that (A) has a predominance of hydric soils; (B) is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions; and (C) under normal circumstances does support a prevalence of such vegetation.”

as a wetland in its application has no basis in the Commission's rules. Even so, the primary issue is whether the wetland is a Texas-protected wetland, not a federally protected wetland, OPIC concluded.

D. Analysis

While the Drain is not classified as a federally protected wetland under the Clean Water Act, the evidence shows it may well be a wetland and subject to TCEQ oversight to the extent that a MSW site may impact it.

The Drain was constructed long before 1989; thus, the fact that it was constructed for irrigation does not exclude it from being considered a wetland under 30 TAC § 307.3(a)(69). As a result, while the Commission's definition of wetlands is slightly different than the federal definition, the Drain would also be classified as a wetland under the federal definition which requires a predominance of hydric soils; inundation or saturation by surface or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions, a prevalence of such vegetation under normal circumstances. Conversely, the evidence did not prove the Facility land outside the Drain may constitute wetlands. Migratory birds rest there when the soil is saturated after a rain, but such evidence did not prove the soil is so saturated that it typically produces hydrophytic vegetation.

The Commission's rules require an applicant to provide sufficient information for the ED to make a reasonable determination regarding whether a landfill is located within wetlands and whether it meets these requirements.⁴³ As Mr. Bradley's wetlands delineation report shows, there are hydric soils on the property, and the Drain is permanently inundated. Furthermore, Dr. Bryant's testimony clearly proved hydrophytic vegetation, such as cattails, grow in the Drain.

The preponderance of the evidence proved that the Drain falls within the Commission's and

⁴³ 30 TAC § 330.302(5).

federal definitions of wetlands. The application did not identify it as such, and the ED was thus prevented from making a reasonable determination regarding whether the site was located within wetlands.

V. IS THE APPLICANT'S PLAN FOR THE MANAGEMENT OF SURFACE WATER ADEQUATE?

A. Background

The landfill design incorporates a system to transport surface water off the landfill system and into the North Hargill Drain.⁴⁴ OPIC and Protestants argued that Applicant is not authorized to use the Drain for this purpose. Also, they asserted, surface water management will be inadequate because the Applicant's calculations rely on the Drain's capacity as it was designed, not as it currently functions. Finally, they argue, surface water management will be inadequate because of existing and planned gas wells within the landfill footprint and proposed detention pond area.

The North Hargill Drain is an earthen-lined drainage ditch, originally dug in the late 1930s or early 1940s.⁴⁵ It has a berm along its perimeter and a number of culverts that flow into it. The Drain is used to keep the groundwater under irrigated farmland at a level that does not harm agricultural production, convey subsurface drainage from irrigated farmland, convey storm run-off from agricultural lands, and carry drained waters to ranches for agricultural and wildlife uses.⁴⁶ The Drain also provides water to the El Sauz Ranch, which is not within the District's boundaries. When the District constructed its Drain over the Ranch to get to the Laguna Madre, it agreed to provide water to the Ranch for irrigation, livestock, and wildlife.⁴⁷ Applicant's proposed landfill is likewise located outside the District.

⁴⁴ App. Ex. 7; p. 19 (Poe).

⁴⁵ Burdette Ex. 5, p. 10 (Allen).

⁴⁶ *Id.* at p. 12.

⁴⁷ *Id.*, p. 6.

The District was established more than 80 years ago as a water control and improvement district and is now an irrigation district. As previously mentioned, it controls the use, operation, and maintenance of the North Hargill Drain.⁴⁸ The District serves about 4,000 irrigation accounts on about 4,000 different properties, mostly within its boundaries.⁴⁹

The part of the Drain on the landfill site was improved pursuant to an easement granted by Applicant's predecessor in title.⁵⁰ Through the easement, the District obtained the right to construct, maintain, and operate the Drain and to install and maintain the culverts that pass through the earthen berms created during the Drain's construction.⁵¹ In granting the easement and allowing a later expansion of it, the grantor reserved the rights to:

- ◆ discharge surface water into the Drain, provided the discharge is through culverts installed into the Drain;
- ◆ excavate and remove soils previously cast on banks of the Drain during 1970s improvements, if surface water is not allowed to sheet flow over the banks into the Drain;
- ◆ remove water from the Drain for domestic, irrigation, and other beneficial uses, but this right to divert water is subordinate to the District's right to the water. Also, it may not cause damage to the ditch or its banks, interfere with the District's operation and maintenance, or reduce or impair the Drain's efficiency;
- ◆ block water backflow from the Drain onto Applicant's property during high-flow conditions.⁵²

Finally, the easement requires the District to install and maintain culverts for discharging surface water from the Applicant's property into the Drain. The easement does not specifically mention the grantor's right to construct, modify, or maintain culverts into the Drain.

⁴⁸ Burdette Ex. 6, p. 4.

⁴⁹ *Id.*, p. 4.

⁵⁰ App. Ex. 16, p.10 & Appen. 6A-B.

⁵¹ *Id.*

⁵² App. Ex. 16, p. 10; App. Ex. 18, pp. 6A-B9 through 6A-B12.

The District claims that any modification or use of the North Hargill Drain, including discharge of stormwater into the drain from the proposed landfill site, would require prior approval from, and an agreement with, the District's Board of Directors. Tan Terra has not sought or obtained such an agreement.⁵³ In June 2005, the District adopted a resolution making it policy "not [to] allow any non-agricultural storm run-off or industrial effluent to be discharged into the District's drains, canals, or other facilities."⁵⁴ The District has filed suit for a declaratory judgement against Applicant, seeking a determination as to whether Applicant has the right to discharge water into the Drain without the District's permission.⁵⁵ This suit is pending.

The District accepts some non-agricultural discharges into the Drain. Some communities surrounding or in the District have historically conveyed stormwater to the Laguna Madre through the District's drains since before the District was created and obtained control of the drains.⁵⁶ In addition, the District has allowed non-agricultural discharges from North Alamo's potable water plant north of Lasara on Highway 186,⁵⁷ treated sewage effluent from Raymondville's wastewater treatment plants, and stormwater run-off from Raymondville and Hidalgo County Drainage District No. 1.⁵⁸

If the application were granted, Applicant plans to install seven 48-inch culverts running to the Drain – five from the North Area and two from the South Area. In addition, Applicant plans to construct three 60-inch culverts in the South Area.⁵⁹ The culverts will run through the Drain's berm

⁵³ Tr. 714 (Allen).

⁵⁴ Burdette Ex. 6C: Resolution of Delta Lake Irrigation District; Burdette Ex. 6, p. 6 (Blair).

⁵⁵ Tr. 453 (Blair).

⁵⁶ *Id.*, p. 6.

⁵⁷ The water supply corporation operates a desalination plant immediately south of the Facility where it pumps groundwater and then processes the water through reverse osmosis to create drinking water. Brine created from the desalination process is pumped back into the Drain. App. Ex. 7, p. 4.

⁵⁸ Burdette Ex. 6, p.6.

⁵⁹ Tr. 77-78.

below the natural grade. A concrete apron would be placed on the side of the berm inside the Drain where each pipe goes through.⁶⁰

B. Applicable Law

TCEQ's rule 30 TAC § 330.55(b) provides in part:

(5) Drainage calculations are as follows . . .

(D) Sample calculations shall be provided to verify that natural drainage patterns will not be significantly altered.

Another Commission rule, 30 TAC § 330.56, states:

(f) Attachment 6 - groundwater and surface water protection plan and drainage plan. These plans must reflect locations, details, and typical sections of levees, dikes, drainage channels, culverts, holding ponds, trench liners, storm sewers, leachate collection systems, or any other facilities relating to the protection of groundwater and surface water. Adequacy of provisions for safe passage of any internal or externally adjacent floodwaters should be reflected here.

(1) A drawing(s) showing the drainage areas and drainage calculations shall be provided.

(2) Cross-sections or elevations of levees should be shown tied into contours. **Natural drainage patterns shall not be significantly altered .**

(4) As part of the attachment, the following information and analyses must be submitted for review, as applicable.

(A) Drainage and run-off control analyses: . . .

(iv) discussion and analyses to demonstrate that natural drainage patterns will not be significantly altered as a

⁶⁰ Tr. 75-76, 82-83 157-161; App. Ex. 16, Attach. 6A-12, Detail C.

result of the proposed landfill development. (Emphasis added.)

A drainage analysis must be based upon a 24-hour, 25-year storm.⁶¹

C. Drainage Conditions

1. David E. Poe, P.E.

Applicant's expert, David Poe, holds a M.S. in civil engineering. He has over 18 years experience in the permitting, design, and construction of landfills, landfill gas systems, and geotechnical-related projects. He has prepared a number of TCEQ landfill permit amendment and greenfield landfill applications.⁶²

Mr. Poe said the application includes provisions to address ponded water on the landfill's surface.⁶³ The practices for ponded water management satisfy the requirements in 30 TAC §§ 330.125(b) (requiring odor control) and 330.134 (prohibiting ponded water).⁶⁴ Also, Mr. Poe testified that the Facility's design adequately addresses surface water quality, stormwater management, contaminated water storage and management, and run-on and run-off control.⁶⁵

⁶¹ 30 TAC §§ 330.55(b)(3) and 330.56(f)(4).

⁶² App. Ex. 8.

⁶³ Ex. 25, § 4.19; Ex. 14, Attach. 15.

⁶⁴ App. Ex. 7, pp.32-33.

⁶⁵ App. Ex.7, p. 13; Ex. 14, Part III, Attach 15 (Leachate and Contaminated Water Plan), Appen. 15 (design data on diversion berms) and §§ 4-5 (storage and management of contaminated water).

The Facility's surface water management plan ("SWMP") describes a system designed to keep contaminated surface water separated from uncontaminated stormwater run-off. The contaminated water will be contained and disposed of in accordance with TCEQ rules, Mr. Poe testified. The South Area will receive only Type IV, non-putrescible waste and will be lined on the bottom only with the clay soils and on the sideslopes with re-compacted clay soils.⁶⁶ For the North Area, the bottom liner and leachate collection systems will have a two-to-three-foot thick compacted clay layer with a permeability not to exceed 1×10^{-7} centimeters per second, or approximately 0.1 feet per year, and a 60-millimeter thick continuous-membrane layer made of high density polyethylene (HDPE). The HDPE seams will be welded together with heat and fusion. The leachate collection system will have a synthetic drainage layer installed over the entire HDPE membrane, and perforated pipes with porous stone backfill will facilitate the draining of liquids to a low area within the disposal cell, referred to as a leachate sump. The sump will be lined with compacted clay and membrane of the same type as the remaining bottom of the waste cell. Leachate pumped from each cell will be transported to the leachate evaporation basin where it will be evaporated, solidified, and disposed of in the landfill or transported to a publicly-owned treatment plant for disposal. According to Mr. Poe, leachate will not be discharged directly to the surface water or groundwater.⁶⁷

Further, Mr. Poe said, the North Area will be covered daily with a six-inch layer of clean soil or an alternate daily cover material.⁶⁸ Once a sector is filled with waste to final grade, portions of that sector will be covered with final cover material and closed. Applicant will conduct evaluations of various soil veneer thicknesses and vegetation types to ensure that an adequate vegetation cover is established.⁶⁹

⁶⁶ *Id.*, p. 6.

⁶⁷ App. Ex. 7, pp. 5-6.

⁶⁸ *Id.*, p. 7.

⁶⁹ *Id.*, pp. 8-9.

A very small percentage of rainfall will come into contact with waste because only a small area, generally an acre or less, will be open to the atmosphere at any time. Contaminated water from the working face will be collected so that it will not come into contact with the Drain or flow onto adjacent property.⁷⁰ For stormwater that falls on buffer zones and other areas that have been finally covered, the rainfall will not be in contact with waste. For that uncontaminated water, the issues are the amount and timing of water leaving the site, according to Mr. Poe.⁷¹

Uncontaminated surface water from the North Area will move through a series of swales on the sideslopes, in a horizontal direction to one of several downchutes, and then to the perimeter detention reservoir. The reservoir will have approximately 206 acre-feet normal storage capacity and 246 acre-feet peak storage capacity.⁷² From the South Area, water would flow down chutes to one of the perimeter channels and then into the Drain.⁷³

Mr. Poe outlined three different drainage scenarios and described the bases for the scenario selected for the detailed analyses he performed. First, he considered Willacy County's and the landfill site's drainage in its undisturbed condition, *i.e.*, prior to the Drain's installation and before any grading, excavation, and/or filling operations on the site.⁷⁴ Second, he considered conditions similar to those at the site today. At present, four culverts have been installed on the North Area into the Drain. Additionally, surface flow into the Drain is blocked by a soil pile, referred to as a cast pile, that was placed on the property within the drainage easement when the Drain was expanded in the 1970s. During the design storm event, the current conditions could cause water ponding over part or all of the property, extending onto adjacent properties north of the Drain, according to Mr.

⁷⁰ *Id.*, p. 12.

⁷¹ *Id.*, p. 13.

⁷² App. Ex. 7, p. 19.

⁷³ *Id.*

⁷⁴ 30 TAC § 330.56(c).

Poe.⁷⁵ For the third scenario, Mr. Poe assumed “that [post-development] onsite lateral drains or culverts had been installed to allow surface water flowing onto and across the permit property to discharge freely into the North Hargill Drain.”⁷⁶

Mr. Poe said there will be more than enough capacity in the Drain system to accommodate the stormwater discharges from a 24-hour, 25-year storm. The Drain has an approximately 40-foot wide bottom, 2:1 side slopes, and a top width of about 90 feet. The estimated design flow capacity is 1200 cfs when water is flowing near the top of its bank.⁷⁷

According to Mr. Poe, the system will discharge water at a peak rate lower than the Drain’s design, and in light of the extended lag times and the slow draining nature of the overall drainage basin, within a time frame that further reduces the impact to the system. The Bureau of Reclamation study regarding the Drain system showed a lag time (the time between the peak of the rainfall in the storm event and the peak of the run-off from the storm) of 80 hours.⁷⁸ The Drain near Raymondville typically does not reach peak flows until a day or more after the storm. Mr. Poe used a conservative lag time of 24-hours. After the peak of the storm event the Drain will fill and begin flowing at its reported peak flow rate of 1200 cfs. The onsite drainage system at the landfill site will route water off the landfill area very quickly, and because the site is adjacent to the North Hargill Drain, run-off from the landfill site will reach the Drain within a few hours after the peak of the rainfall, according to Mr. Poe. In fact, only four hours and 40 minutes after the peak of the rainfall event, storage capacity in the North Area perimeter detention reservoir will be sufficient to store all of the

⁷⁵ App. Ex.7, p. 30/15-24; Tr. 69.

⁷⁶ Ex. 7, pp. 29-31.

⁷⁷ App. Ex.7, pp. 25-26.

⁷⁸ App. Ex. 7, pp. 24, 26, and 32.

remaining run-off that will enter the reservoir, Mr. Poe said. The South Area will be almost completely drained in only one hour, he added.⁷⁹

Mr. Poe's calculations for the site show a pre-development (second scenario) peak discharge rate of 1410 cfs at the demonstration point, *i.e.*, where water leaves Applicant's property.⁸⁰ Post-development, the discharge rate at the demonstration point would be approximately 1175 cfs, resulting in a 17% reduction in the peak discharge rate from pre-development conditions. Incorporating a large detention reservoir to be built on the North Area allowed this reduction.⁸¹

In his analysis, Mr. Poe used a base flow amount of 300 cfs. He expected this flow would initially consist of groundwater seepage that slowly would be replaced with stormwater run-off from upstream areas.⁸² He also calculated a channel capacity of 1200 cfs for the North Hargill Drain, a number that represents the Drain's design capacity at a flow depth of eight feet.⁸³ The Drain's actual capacity in a maintained condition is at least 1700 cfs at a depth of 12 feet, he said.

In extreme backwater conditions, *i.e.*, when the water flow into the Drain exceeds the Drain's capacity to flow downstream, a portion of run-off from the site may flow through the North Hargill Drain to the nearby Salt Lake Drain, which discharges into the La Sal Vieja, or Salt Lake, located north of the landfill property. The proximity of the site to the Salt Lake Drain nearly doubles the drain system's effective capacity, according to Mr. Poe.⁸⁴ He added that the SWMP is designed to control surface water not only from the 630-acre site but also from the 922 acres of surrounding

⁷⁹ App. Ex. 7, pp. 24-28; App. Ex. 24.

⁸⁰ Burdette Ex. 5C.

⁸¹ App. Ex. 7, p. 31.

⁸² Tr. 58 and 111-112.

⁸³ App. Ex. 7, p. 26/17-31.

⁸⁴ *Id.*, pp. 14, 32.

property that discharges water onto the site.⁸⁵ When the Salt Lake Drain is included, the channel's capacity is over 2150 cubic feet per second ("cfs"), he testified.⁸⁶

When Mr. Poe determined pre-development conditions, he relied on design drawings of the Drain.⁸⁷ Relying on these designs, Mr. Poe assumed there would be no restriction on flow to the Drain,⁸⁸ but he did not inspect the Drain to see whether it was actually constructed in accordance with the design.⁸⁹

On the other hand, Mr. Poe said he considered brush and undergrowth when he evaluated the Drain's capacity.⁹⁰ A Manning's coefficient value corresponds to the roughness or the friction-loss of a channel based on the presence of vegetation in it. Water will not move through a channel that includes trees and shrubs at the same rate as it will through a smooth and concrete channel. In determining the flow capacity of the Drain, Mr. Poe said it would be appropriate to use a Manning's value between .025 and .05.⁹¹

The peak discharge volumes shown in Applicant's exhibits⁹² are the maximums that will occur once the landfill is completed. In the interim period, especially in the first few years of

⁸⁵ *Id.*, p. 21..

⁸⁶ App. Ex. 7, p. 25-27; Exs. 23 and 24.

⁸⁷ Tr. 68; App. Ex. 7, pp. 30-31.

⁸⁸ Tr. 73-87.

⁸⁹ Tr. 69.

⁹⁰ Tr. 71-72.

⁹¹ Tr. 108-110.

⁹² App. Exs. 23 and 24

operations, the needed capacity will be less, Mr. Poe testified. The post-development drainage patterns typically have the greatest flows of stormwater, he added.⁹³

Mr. Poe also said the Facility's development and operation will not adversely impact water availability for downstream users. All of the uncontaminated stormwater run-off from the property will still enter the Drain within the property and then flow downstream.

2. Allie Blair, P.E., Ph.D.

Dr. Blair holds a Ph.D. in civil engineering from the University of Texas at Austin. He has designed irrigation and drainage systems in Texas and New Mexico. He is the district engineer for Delta Lake Irrigation District and serves as district or consulting engineer for numerous other water and irrigation districts.

According to Dr. Blair, in its current condition with the existing culverts, the site acts like a detention pond and has a peak flow into the Drain of about 150 cfs. Applicant proposes to increase the peak discharge into the Drain to 873 cfs, with a base flow in the Drain of 300 cfs, to create a total of 1,173 cfs flow in the Drain. The North Hargill Drain's actual capacity is 500 cfs, not its design capacity of 1,200 cfs, which Mr. Poe relied upon. Once Applicant replaces the 24-inch culverts with seven 48-inch culverts and three 60-inch culverts, the system Applicant has designed will have 900% more flow area than the existing culverts, Dr. Blair testified.⁹⁴

⁹³ App. Ex. 7, p.18/16-18.

⁹⁴ Burdette Ex. 6, pp. 9-12.

As Dr. Blair explained, the Drain carries not only the water that drains from the adjacent land, but also the water flowing from the West Hargill Drain and the South Main Drain, two drains that flow into the North Hargill Drain.⁹⁵

During a ten-year storm event or greater, the flow in the Drain will be at or greater than its design capacity, and any increase in the discharge rate would increase the depth of flow both upstream and downstream. The increased depth of flow may erode the Drain's banks, causing structural damage. Similarly, excess water from agricultural fields adjacent to the Drain will be impeded from draining into the Drain; this will cause the water to spread out over the land surface and result in flooding, Dr. Blair stated.

Similarly, Dr. Blair said Mr. Poe used a Manning's coefficient value of .08, which is too large a value given the Drain's current state. He would have used a value of no more than 0.5 to account for the Drain's roughness. A Manning's coefficient of .05 produces a flow rate of less than 500 cfs. In Dr. Blair's opinion, 500 cfs is not enough capacity to accommodate the landfill's post-development surface water run-off.⁹⁶

Further, Dr. Blair said, when the gates to the Salt Lake Drain are closed, water cannot flow there through the Drain. Vegetation, including carrizo and other reeds and some woody vegetation, grows in front of the gates. This vegetation affects the ability of the drains to move water, primarily when the drains are close to design capacity.⁹⁷ The area around the gates has not been maintained in at least two years, if not longer.

⁹⁵ Tr. 483.

⁹⁶ Tr. 478-480.

⁹⁷ Tr. 468-471.

3. Troy Allen

Mr. Allen has been employed by the District since 1988 and is currently the District Superintendent. He agreed with Applicant that the District is responsible for properly maintaining the Drain.⁹⁸ However, because of lack of resources, the District has not able to maintain the Drain to allow it to function fully, and the Drain is not operating at its design capacity due its deteriorated, earthen nature and the vegetation that grows in it.⁹⁹ Within the next few months the District expects to make equipment available for regular maintenance work on the Drains, and the District intends to maintain its drains in good condition. Vegetation removal from the "bad areas" of the system will be completed within a year or two; after that, removal of vegetation will be a regular part of the District's maintenance operations, Mr. Allen testified.¹⁰⁰

But, at present, even though the Drain is able to handle run-off from an average rainfall, it cannot handle a heavy rainfall. Even if the Drain were maintained in perfect condition, it is unclear whether it could carry water resulting from a significant rainfall without flooding.¹⁰¹ Flooding is caused not only by water flowing over the levees at low spots, such as the bridge over the Drain on Applicant's property, but also by water that is already in the Drain. It reduces the ability to drain adjacent lands and backs up water for longer times on these agricultural lands.¹⁰² Moreover, the Salt Lake Drain has not been used since the 1960s,¹⁰³ and the Salt Lake Drain is 35 feet above sea level; only in a severe storm event would it be high enough to be used.

⁹⁸ Tr. 693.

⁹⁹ Burdette Ex. 5, p. 10.

¹⁰⁰ Tr. 692-694.

¹⁰¹ In addition to Mr. Allen, other witnesses recounted episodes of flooding in the area, and Mr. Allen said the City of Raymondville floods regularly. Burdette Ex. 5, pp. 8 and 11.

¹⁰² See Burdette Ex. 5, p.11.

¹⁰³ App. Ex. 40, p. 53/2-15. It is his understanding that the last time the ditch was used was during Beulah in the 1960s.

Further, Mr. Allen testified that Applicant does not have the District's permission to use the Drain for industrial discharge. On May 4, 2005, the District passed a resolution by which it adopted a policy to not allow any non-agricultural storm run-off or industrial waste to be discharged into its drains, canals, or other facilities.¹⁰⁴

4. Lawrence G. Dunbar

Mr. Dunbar holds a B.S. in civil engineering, an M.S. in environmental engineering, and a J.D. In Mr. Dunbar's law practice, he focuses on drainage law. He has worked for the U.S. Army Corps of Engineers where he spent almost six years in its hydrology and hydraulics branch performing floodplain analyses and studies. He later worked for Espey, Huston & Associates, Inc., as a senior water resources engineer and was responsible for dozens of drainage and floodplain studies.

Mr. Dunbar visited the site and confirmed that under existing conditions, stormwater run-off cannot freely flow into the Drain because of the Drain's high banks. Run-off generally flows through the banks via the existing 24-inch culverts, and the size of the culverts limits the stormwater-discharge rate.¹⁰⁵ They have a combined flow area of about 16 square feet, and each culvert can discharge no more than about 20 cfs. Additionally, Mr. Dunbar said the application failed to demonstrate the actual amount of water that will be in the Drain when the landfill will be discharging stormwater run-off. Increasing the run-off rate into the Drain from about 100 cfs to about 1,000 cfs would result in adverse impacts, Mr. Dunbar concluded.¹⁰⁶

¹⁰⁴ Burdette Ex. 5C.

¹⁰⁵ *Id.* p. 9, App. Ex. 7, p. 30.

¹⁰⁶ Burdette Ex. 7, pp. 8-10 and 14-15.

D. Arguments

1. Applicant's Arguments

Relying on Mr. Poe's testimony and exhibits, Applicant argued that the proposed Facility would not result in adverse impacts to drainage patterns or water availability. The North Hargill Drain system has adequate capacity to convey the uncontaminated stormwater run-off from the Facility. Neither the Protestants nor OPIC disputed Mr. Poe's calculations and modeling of post-development hydrographs regarding the timing of discharges from the facility in a 25-year, 24-hour storm event, Applicant asserted. In any event, the potential impact of a discharge into the North Hargill Drain would be, at most, only a temporary, short-term issue during the significant storm event.

Also, Applicant argued, it is reasonable to assume that the Drain's proper maintenance will be occurring well before run-off from the landfill site reaches the levels evaluated in the post-development scenario. In the meantime, stormwater conveyance will be significantly less than when the landfill generates peak flow rates.

Finally, Applicant asserted, this is not an appropriate forum in which to determine property rights; thus, the Commission cannot decide the issue of Applicant's right to use the North Hargill Drain. State courts, not administrative agencies, are authorized to adjudicate title rights or rights of possession in real property, Applicant reasoned.¹⁰⁷

¹⁰⁷ Citing *Magnolia Petroleum Co. v. Railroad Commission et al.*, 170 S.W.2d 189, 191 (Tex.1943).

2. Protestants' Arguments

Applicant failed to examine the existing drainage patterns to ensure they will not be significantly altered, Protestants argued. Instead, Applicant compared post-development drainage conditions to what Applicant assumed the pre-development conditions should be, based on the construction design of a 40-year-old system.

Applicant relied on a base flow rate of 300 cfs in the Drain as it enters Applicant's property rather than calculating the actual flow in the Drain, Protestants added. Thus, it remains unclear how much water will be in the Drain when it enters the property, and accordingly, it is also unclear how much capacity the Drain will have for run-off from Applicant's property. Protestants argued that the Drain will actually fill up quickly during a large storm event because of its current capacity to handle only a small amount of run-off. Protestants also noted that under Applicant's proposal, the Drain will be expected to handle a flow rate of about 75% to 80% of its total design capacity coming from only about 2% of its drainage area.¹⁰⁸

Furthermore, Protestants asserted, Applicant did not consider the Drain's actual conditions, including the vegetation that affects the flow rate. Once Applicant constructs the ten larger culverts, the Drain will not have the capacity to accept the high run-off volume. Also, the area at and around the landfill site is flat, and except for the Drain, has no streams or rivers for surface water to drain into.¹⁰⁹ Applicant's proposed SWMP has the potential to diminish the Drain's ability to drain neighboring agricultural lands, harm agricultural production, increase the potential for flooding, and cause structural damage to the Drain, Protestants contended.

¹⁰⁸ Citing *Burdette Ex. 7*, p. 14 (*Dunbar*) and *Burdette Ex. 6*, p. 12 (*Blair*).

¹⁰⁹ *App. Ex. 7*, p. 22.

In order to implement its proposed SWMP, Applicant must install much larger culverts into the Drain, which means it must encroach upon the District's easement, Protestants argued. However, Applicant does not have the right to construct culverts on the District's easement, nor can it acquire the requisite property interests over the District's objection. Thus, Protestants assert, Applicant cannot satisfy Commission rule 30 TAC § 330.62(a), which requires an applicant to have sufficient interest in a property in order to operate its facility.

In the easement documents, the grantors agreed not to impair the banks of the Drain or inlets into it, and in Protestants' view, the grantor's successor, Applicant, can divert water for irrigation or domestic use only in such a manner as will not injure the Drain or its banks. As a result, Applicant cannot implement the SWMP.

Finally, if the District allowed Applicant to use the Drain, it, as a governmental entity, would have to let any other industries, including refineries and chemical plants, discharge water into the Drain, Protestants concluded.

3. OPIC's Arguments

The application should be denied, OPIC asserted, because Applicant has not shown that the landfill's development would not significantly alter natural drainage patterns by impacting water quality, water availability, and flooding. OPIC highlighted the fact the Applicant does not have permission to use either the North Hargill Drain or the Salt Lake Drain to discharge excess surface water, even though the Drain is on Applicant's property.

Further, OPIC characterized the application as inaccurate because it relied, in error, on the Drain's operating at design capacity, when the evidence showed that it is over fifty years old,

impeded by vegetative growth and lack of maintenance, and made of nothing but earth. It currently floods during rain events. Because the Drain does not have sufficient capacity to carry the surface water from the Facility, the increased discharge will damage agricultural land and impede appropriate agricultural discharges.

E. Analysis

The Applicant was required to show that natural drainage patterns would not be significantly altered by the landfill, and the Applicant has met its burden of proof on this issue. It is true that if a permit is granted and the Facility is constructed as designed, Applicant will have the capacity to discharge a significantly larger volume of water and with the swales, chutes, and culverts, to move water off the site more quickly. But the source of the water, uncontaminated stormwater, will be the same as it is presently.

Witnesses disagreed about the Drain's capacity to carry water at the level Mr. Poe calculated, and testimony about the difference between the design capacity and current conditions was striking. Nevertheless, Applicant's SWMP provides for construction of a detention reservoir around the property's perimeter; the reservoir will have approximately 206 acre-feet normal storage capacity and 246 acre-feet peak storage capacity. Having the ability to hold this amount of water should give Applicant the opportunity to discharge water when it is less likely to cause flooding or other significant impacts.

Even accepting that the Drain cannot carry water from significant storms at present and that the Salt Lake Drain could be used only in extreme backwater conditions, the high demand on the Drain would be only for the 24-hour storm event, which should be an infrequent occurrence. At present the property ponds, and because Willacy County is generally flat, other areas flood during significant storms. Yet, based on the calculated lag time for run-off from a storm to peak,

Applicant's ability to discharge its surface water prior to the peak should minimize the impact on downstream properties and also lessen the potential for flooding. Therefore, the ALJ finds Applicant's plan for surface water management is adequate.

In evaluating the evidence, the ALJ has not discussed the issue of whether Applicant has any right to use the Drain and cross over the District's easements to construct larger culverts. It is possible that those issues may be resolved in the declaratory judgment. Apart from the easement, the Applicant has an unencumbered interest in the surface estate where waste will be deposited. Whether it has any right to construct the planned culverts and use the easement for industrial purposes cannot be resolved in this forum.

F. Impact of Gas Wells on Surface Water Management

Applicant holds no mineral interests underlying the site. There are presently two producing natural gas wells in the site's North Area. One of the wells is located in the North Area's proposed reservoir area that would drain into the North Hargill Drain.¹¹⁰ Eight more wells are planned for the site. Testimony focused on whether existing and proposed gas wells on the landfill site would impact Applicant's SWMP.

At least four acres of the surface is used for a drill site, and each existing well requires at least a one-to-two-acre pad and an estimated four-to-eight acres for roads, pipelines and other facilities. According to a BlakEnergy witness, it is not technologically feasible to drill the wells from a location off the landfill site.¹¹¹

¹¹⁰ Mineral Owners Ex. 7 (Blake).

¹¹¹ *Id.*

1. **David Blake**

Mr. Blake is president of BlakEnergy, Inc., the oil and gas lessee of Applicant's tract. He testified about the two producing wells on the property, the 1RR and the 5CRR. Also, he said, BlakEnergy has obtained Texas Railroad Commission permits to drill four more, T-2, T-3, T-4, and T-5. Mr. Blake identified four additional well locations, 6, 7, 8, and T-6, that have not yet been permitted but may be drilled. He said BlakEnergy has signed contracts with two drilling rigs to drill Wells T-3, T-4, and T-5; one of those rigs will also drill the T-2 if the previous wells are productive. The other rig will drill the T-6 if another well, the T-1, is successful.¹¹²

The existing wells and proposed well sites are shown on Mineral Owners' Exhibits 7 and 12. Well T-5, if drilled and producing, is in the eastern third and on the boundary of the North Area's south side.¹¹³

Mineral Owners' Exhibit 6 shows the approximate locations of the pipelines for the existing wells. The pipelines for Wells 1 and C-5 run north from the wells to the site's boundary. The pipelines for the four permitted but undrilled wells would also run north to the boundary. According to Mr. Blake, the proposed pipeline locations would provide the most direct route for the gas to tie into the existing line and use the least amount of acreage. Pipelines must be buried at least 36 inches. The roads and pipeline easement would need to be 18-20 feet wide, Mr. Blake said.¹¹⁴

¹¹² Tr. 1031.

¹¹³ Mineral Owners Ex. 6.

¹¹⁴ Mineral Owners Ex. 4, p. 2.

2. Dr. Blair

"Applicant will need to make major revisions to its [SWMP] to accommodate the permitted wells and associated service roads," even if the wells only temporarily disrupt Applicant's plans, Dr. Blair testified.¹¹⁵ Some landfill cells must be eliminated, service roads and pipeline gathering systems must be accommodated, and new drainage chutes and channels must be created. Dr. Blair said those changes would affect the amount of water that can be stored in the perimeter detention reservoir and the timing of when surface water goes to the reservoir. One or more drainage culverts would need to accommodate surface water flow that would otherwise be blocked by the well service roads and site pads, Dr. Blair stated.¹¹⁶ One of the proposed wells, the T-5, would require relocation of the proposed surface water detention area.¹¹⁷ It would not be advisable to bury pipelines beneath landfill sectors because it then would be impossible to access the lines if they were leaking or had other problems. Also, each well must be accessed by a road, and the pipeline more logically should follow the road.¹¹⁸

Two of the wells drilled thus far have contained significant quantities of hydrogen sulfide. The gas from both the wells must be treated to remove the hydrogen sulfide before the gas can leave the leased premises which requires more space for treatment facilities.¹¹⁹

¹¹⁵ *Id.*, p. 5/9-17.

¹¹⁶ Mineral Owners Ex. 8, p. 4.

¹¹⁷ *Id.*, p. 4.

¹¹⁸ Mineral Owners Ex. 4, pp. 3-4.

¹¹⁹ Mineral Owners Ex. 4, p. 4.

3. David Poe

Mr. Poe cited many reasons why gas wells on the facility property should not adversely affect Applicant's surface water management. First, he said, for many years, the well locations would be outside the developed areas, based on the sequential infilling. Also, the two-to-four-surface acres needed to drill a well and the even smaller area needed for an established well will not be significantly different for the well sites than for other non-landfill use areas. Even if wells were placed in perimeter or permanent landfill-related areas, landfill facilities could be re-routed to avoid the well sites. Third, gathering lines (piping) used to transport gas are generally below ground surface, and they can also be routed to avoid landfill facilities. Fourth, the landfill is estimated to have a life of at least 45 years, while an oil or gas well is a temporary activity of variable duration, depending on whether minerals are present and the life-span of their economic production. Given that the estimated life of these wells is 20 years or less, Mr. Poe said the wells may be plugged and abandoned when Applicant is ready to developed sectors where the wells are located.¹²⁰

Even if the Applicant was ready to fill a sector when a well was still producing, the well could be taken off production and plugged and abandoned by agreement. Another possibility Mr. Poe mentioned would be for the Applicant to permanently reconfigure the landfill with a revised sequence of landfill development, to avoid the area where a well was located.¹²¹ The landfill property includes approximately 630 acres with individual cells averaging 10-to-13 acres; therefore, Applicant could be very flexible in its design, Mr. Poe testified.¹²²

Also, drainage ditches would have to be constructed around the perimeter of each area excluded for a well, and sideslopes would have to be constructed. Modifications such as these could

¹²⁰ App. Ex. 58, pp. 2-4.

¹²¹ Id., pp. 4-5.

¹²² Tr. 1068-1069, 1079-1081, and 1095-1096; Ex. 58 p. 2-3.

be accomplished as wells were drilled and after the MSW permit for the landfill was granted.¹²³ Because it is impossible to predict what wells will be drilled and completed, it is impossible at this time to know exactly what SWMP modifications will be necessary, Mr. Poe said.¹²⁴

In Mr. Poe's opinion, landfill development and operation with the reconfigurations would not significantly alter natural drainage patterns because the perimeter detention reservoir's size would not decrease. The perimeter detention reservoir would be moved so the two wells would be outside the reservoir.¹²⁵ But the total and peak flows from the North Area into the North Hargill Drain would be no greater.¹²⁶

4. Applicant's Arguments

Applicant relied on a Commission rule that specifically authorizes permit modifications for:

changes in the drainage control plan that significantly alter internal stormwater run-on/run-off control without impacting offsite drainage or increasing landfill disposal capacity. Changes may include revisions to topslopes and sideslopes of landfills which may cause adjustment to approved final contours.¹²⁷

In Applicant's opinion, the gas wells on the property will not affect the management of surface water related to the landfill facility in any adverse way. Such modifications could be accomplished, and when viewed in the context of TCEQ's regulatory provisions, the changes do not present reasons to deny the application.

¹²³ Tr. 1081.

¹²⁴ Tr 1089.

¹²⁵ App. Ex. 58, pp. 7-8; App. Exs. 64-65.

¹²⁶ App. Ex. 58, pp. 7-8.

¹²⁷ 30 TAC § 305.70(j)(11).

As long as the well locations are on areas of the site where no landfill-related development or construction is occurring, the presence of the wells and their associated facilities will have a negligible effect on surface water run-off, Applicant argued. The surface area affected for a well is small enough and the changes to the surface (placement of caliche pads, pits, berms, tanks and other equipment on pads, etc.) would not significantly alter surface water run-off any more than other non-landfill use areas of the site. Even with a reconfiguration peak flows from the landfill area would stay the same or decrease.

It is certainly possible that the wells would not be producing by the time the landfill development reached a particular area of the site. Then, use of the surface for landfill development could proceed in the area of the plugged and abandoned well. If Applicant was ready to fill a sector where a well was producing, the parties could either agree for a well to be abandoned or the landfill could be permanently reconfigured, Applicant contended.

5. Protestants' Arguments

Protestants argued that Applicant should be required to show in detail how its SWMP would be modified to account for each of the permitted wells, as well as for the two existing wells, with detailed engineering drawings and calculations for the final, as-built plans. As Protestants view the evidence, elimination of the areas Mr. Poe described would reduce the footprint of the landfill by some 100 to 120 acres, in addition to the 36 acres eliminated for the two wells already completed. Each well would require the footprint to be reduced, associated roads and pipelines to be constructed, and slopes to be redesigned. Consequently, the reduction in landfill height and volume would be

significant, and Applicant should be required to account for these changes before a permit is issued.¹²⁸

6. OPIC's Arguments

OPIC argued that Applicant failed to adequately address how it will deal with the eight additional gas wells planned for the North Area. According to OPIC, it is doubtful that Applicant could sufficiently modify its plan to accommodate eight more wells that would cover more than 10% of the North Area.¹²⁹ Also, use of the site's surface estate for gas exploration conflicts with its use as a landfill, and the Commission has recognized that gas wells may affect or hamper landfill operations.¹³⁰ Moreover, according to OPIC, Applicant failed to show the reconfiguration will not exacerbate the flooding problems caused by the North Hargill Drain's insufficient capacity.

7. Analysis

The ALJ agrees with Applicant's arguments that while the gas wells will require changes in SWMP, those modifications can be accomplished. The two existing wells had not been drilled when the site plan was submitted, but now that the wells are drilled, the plan should be revised before landfill construction begins, assuming the Commission grants the permit.

If all planned wells are drilled and produce, they could require a significant part of the North Area's surface; however, the remaining area could be used for infilling. As Applicant has

¹²⁸ Mineral Owners' Exhibit 11.

¹²⁹ Based upon Mr. Blake's statement that the eight additional wells will require approximately 40 acres of land which is over 10% of the 396-acre North Area.

¹³⁰ 30 TAC § 330.131 (b).

committed, it can fill the site sequentially to avoid the wells while they are producing. And the Commission's site operating rules allow concurrent operation with natural gas wells that do not affect or hamper landfill operations.¹³¹

The Commission did not refer to SOAH the issue of whether Applicant holds sufficient interest in this property. In a prehearing ruling, the ALJ declined to expand the issues to include this inquiry, and it is not further discussed in this PFD.

G. Floodplain

1. Applicable Law

TCEQ's rules direct a permit applicant to:

(i) Identify whether the site is located within a 100-year floodplain. Indicate the source of all data for such determination and include a copy of the relevant Federal Emergency Management Agency (FEMA) flood map, if used, or the calculations and maps used where a FEMA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e. g., wave action) that must be considered in designing, constructing, operating, or maintaining the proposed facility to withstand washout from a 100-year flood. The boundaries of the proposed landfill facility should be shown on the floodplain map.¹³²

If a landfill site is within the floodplain an applicant must provide additional protections against flooding and secure approval from various governmental entities.¹³³

¹³¹ 30 TAC § 330.131 (b).

¹³² 30 TAC § 330.56(f)(4)(B)(i).

¹³³ See 30 TAC §§ 330.51(b)(4); 330.55(b)(7).

2. David Poe

In preparing the application's hydrological information, Mr. Poe relied on the map identified as Applicant's Exhibit 13, page 6B.1. According to Mr. Poe, the FEMA map shows whether the landfill area to be located is in a 100-year floodplain by using different codes to show the particular zones. As Mr. Poe explained, the area shown on a FEMA flood map is divided into smaller areas, or "panels," so that more detailed information, like the boundary lines of various zones, can be shown on enlarged flood maps. However, where such detail is unnecessary, such as when panel areas are entirely outside flood areas, FEMA does not print all enlarged panels for a county.

The landfill site is located within the panel area marked with an asterisk. As shown by the note at the bottom of the exhibit, this means the area within the panel is in Zone C, Mr. Poe stated. Zone C is not a 100-year flood area; it is described in the map key as an area of minimal flooding. Based on this information, Mr. Poe concluded that the proposed landfill site is not located within a 100-year floodplain.¹³⁴

3. Lawrence G. Dunbar

Relying on his 30 years of experience with FEMA floodplain maps, Mr. Dunbar said Applicant Exhibit 13 is not actually a FEMA floodplain map but, instead, is a map index. The map index reveals only what floodplains FEMA has calculated and mapped. When FEMA studies a particular floodplain, Mr. Dunbar said, it prepares a map of the floodplain, and the map index, such as the one attached to Applicant's permit application, indicates that FEMA has studied that particular floodplain and produced a map for it. If, however, FEMA has not studied a particular floodplain, no map of the area is prepared, and the map index indicates there is no FEMA floodplain map by

¹³⁴ App. Ex.7, pp.10-11.

signifying: "Panel not printed." In either case, a map index does not show floodplains, he testified.¹³⁵

4. Applicant's Arguments

Applicant argued that the document included in Applicant's Exhibit 13 is the relevant FEMA floodplain map for the unincorporated areas of Willacy County, Texas, including the area where the landfill site is located.¹³⁶ As directed by TCEQ rule, Applicant used this map as its source to determine the proposed landfill site is not located within a 100-year floodplain.¹³⁷ Also, Applicant noted, the map shows only two areas for which flood information was not provided, and they are identified with the label, "AREA NOT INCLUDED." These are the Cities of Raymondville and Lyford. However, Applicant contended, the map does provide a FEMA flood-hazard determination for the proposed landfill site.

5. Protestants' Arguments

A map index cannot substitute for a FEMA map, and since there is no FEMA map in the record, Applicant failed to meet its burden on this issue, Protestants reasoned. Further, Protestants asserted, Applicant did not determine the 100-year floodplain or flood level by use of calculations; therefore, it did not take the steps required to protect its facilities, roads, surface water controls, and weighing station from flooding, as required by the Commission's rules.

¹³⁵ Tr. 582; *See also* Burdette Ex. 7, pp. 5-6.

¹³⁶ App. Ex. 7 p. 11/1-5.

¹³⁷ *Id.*, p. 11/28-31.

6. Analysis

While the Protestants may be quite correct in saying there is not an actual FEMA map for the property, Applicant's Exhibit 13 clearly shows the site is not in a floodplain. Apparently, FEMA has not found it necessary to create a detailed map since the entire panel is outside the floodplain. Thus, even though witnesses confirmed that the area floods, the ALJ finds Applicant adequately complied with the Commission's requirement of providing a floodplain map.

VI. DID THE APPLICANT IDENTIFY AND ADEQUATELY CONSIDER IMPACTS ON ALL RELEVANT ENDANGERED AND THREATENED SPECIES?

Parties arguments on this point focused on whether the Commission's rules protect a species that is not listed as an endangered and threatened species under federal law, Applicant's biological assessment and site operating plan ("SOP") were sufficient to protect endangered and threatened species, and the site includes critical habitat for endangered and threatened species that will be impacted by the landfill.

The following species could be impacted by the landfill project if suitable habitat was present on the property.¹³⁸ Witnesses discussed the species in bold letters in some detail:

Species	Federal Listing	State Listing
jaguarundi	endangered	endangered
ocelot	endangered	endangered
northern aplomado falcon	endangered	endangered
South Texas siren	not listed	threatened

¹³⁸ Burdette Ex. 17; App. Ex. 29; App. Ex. 30, Attach. C..

Texas Botteri's sparrow	rare	threatened
cactus ferruginous pygmy owl	not listed	threatened
interior least terns	endangered	endangered
white-tailed hawk	not listed	threatened
piping plover	threatened	threatened
American peregrine falcon	not listed	endangered
brown pelican	endangered	endangered
sheep frog	not listed	threatened
black-spotted newt	rare	threatened
Coues' rice rat	rare	threatened
black-striped snake	not listed	threatened
indigo snake	not listed	threatened
Texas tortoise	not listed	threatened
northern cat-eyed snake	not listed	threatened
Texas horned lizard	rare	threatened

A. Applicable Law

As specified in Commission rules 30 TAC §§ 330.53(b)(13)(B) and 330.129, an MSW facility and its operation must not result in the destruction or adverse modification of critical habitat for endangered or threatened species or cause or contribute to the taking of any endangered or threatened species. The Commission has defined an endangered or threatened species as any species listed as such under Federal Endangered Species Act, 16 U.S.C. 1536 § (4)(a)(1), as amended, or under the Texas Endangered Species Act.¹³⁹ Thus, the rule raises the issue of whether a species

¹³⁹ 30 TAC § 333.2(41).

listed only as threatened under state law and not under federal law, such as the indigo snake, must be protected.

The Commission has also defined other terms applicable to this case:

Taking - Harassing, harming, . . . an endangered or threatened species or attempting to engage in such conduct.

Harassing - An intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns that include, but are not limited to, breeding, feeding, or sheltering.

Harming - An act of omission that actually injures or kills wildlife, including acts that annoy it to such an extent as to significantly disrupt essential behavioral patterns, that include, but are not limited to, breeding, feeding, or sheltering; significant environmental modification or degradation that has such effects is included within the meaning of harming.¹⁴⁰

With its application, Applicant was required to submit an Endangered Species Act ("ESA") compliance demonstration under state and federal law.¹⁴¹ Also, the Commission has indicated that an MSW permit applicant should consult with the ED to determine the need for specific information relating to protection of endangered species. If a facility will be located in the range of an endangered or threatened species, a qualified biologist's biological assessment may be required in accordance with standard procedures of the USFWS and Texas Parks and Wildlife Department ("TPWD") to determine a facility's effect on the endangered or threatened species.¹⁴²

¹⁴⁰ 30 § 330.53(b)(13)(A)(ii), (iii), (iv).

¹⁴¹ 30 TAC § 330.51(b)(8).

¹⁴² 30 TAC § 330.53(b)(13)(C).

B. Evidence**1. Edward Myers**

Mr. Myers, a project manager for RJR Engineering, Ltd, L.L.P., holds a B.S. in construction engineering. Earlier in his career, he was a field inspector in the solid waste program for the Texas Department of Health ("TDH"), the state agency that oversaw the Texas MSW management program before the Texas Water Commission (now TCEQ) assumed that role.¹⁴³ After reviewing Applicant's endangered-and-threatened-species materials, including the reports prepared by KBA EnviroScience, Inc., regarding the species,¹⁴⁴ Mr. Myers concluded that the information was comparable to and, in most cases, more detailed than other permit application materials regarding those species. With one exception, the Panama Road Landfill, Mr. Myers did not know of any MSW landfills in Texas that have any special operating provisions or procedures related to endangered or threatened species.¹⁴⁵

2. Keith Bradley

Although he is not an expert on any particular species,¹⁴⁶ Mr. Bradley has been involved with more than 200 endangered and threatened species evaluations.¹⁴⁷ On February 25, 2002, a biologist with Mr. Bradley's firm visited the site and performed a habitat evaluation. On February 12, 2004, Mr. Bradley himself visited the site to evaluate habitat and gather information to develop a protected-

¹⁴³ For TDH, Mr. Myers inspected landfills for regulatory compliance and investigated solid waste complaints for ten years. Later, he was employed by Waste Management of Texas, Inc., for seven years as a compliance manager, landfill manager, and engineering manager. In Mr. Myers' past seven years in the consulting business, his work has focused on solid waste applications. App. Ex. 32, p. 2.

¹⁴⁴ Applicant's Exhibits 28 and 29.

¹⁴⁵ Ex. 32, p. 5..

¹⁴⁶ Tr. 233/16-19.

¹⁴⁷ App. Ex. 26, p. 2/11-14.

species-mitigation plan.¹⁴⁸ As he noted, the landfill site is under cultivation for cotton, and surrounding properties to the east, west, and south are also primarily farmland. In Mr. Bradley's opinion, the proposed landfill and most properties to the east, west, and south (with the possible exception of the drainage ditches) do not provide suitable habitat for endangered or threatened species.¹⁴⁹

Nevertheless, Mr. Bradley acknowledged, the Teniente Tract of the wildlife refuge, which, is approximately ½ mile north of the landfill site at its closest, includes highly valuable habitat. The wildlife sanctuary includes dense thickets of shrubs intermixed with open grassy areas; trees vary in size and structure. Compared to the Facility site, the property directly north of the site provides quality habitat, but it has not yet developed the vegetative structure present in the Teniente Tract, he said.¹⁵⁰ That property to the north and northeast was once farmed, but now has sparse herbaceous, and woody vegetation.

Mr. Bradley testified that "critical habitat" is one or more specifically described locations that have been designated by the USFWS as essential to the conservation of a threatened or endangered species. In his opinion, no critical habitat exists on the landfill site, and the proposed Facility and its operation will neither destroy nor adversely modify the critical habitat of any endangered or threatened species. In addition, the Facility and its operation will not cause or contribute to the taking of any species listed by either USFWS or TPWD as endangered or threatened species.¹⁵¹

TPWD maintains the Texas Biological and Conservation Data System ("TXBCD") database, a compilation, by county, of plant and animal species listed by either the USFWS or the TPWD as

¹⁴⁸ App. Exs. 29 and 30.

¹⁴⁹ App. Ex. 30, p. 1-2.

¹⁵⁰ *Id.*, p. 2.

¹⁵¹ App. Ex. 26, p. 7.

endangered, threatened, or rare. Even when an animal is listed for a particular county, Mr. Bradley said, that does not necessarily mean the animal is found throughout or even in the county. It simply means that the species has been or may be present somewhere in the county. So, Mr. Bradley concluded, the chance of a listed species being present at a given location is very small, even if the species is included in the TXBCD for a county. The actual presence of a species at a particular location is dependent on many factors, including whether that location provides suitable habitat for the species and the availability of other suitable habitat, he explained.¹⁵²

The TXBCD, updated as of September 2004, lists 38 threatened or endangered species for Willacy County.¹⁵³ Following the table in Applicant's Exhibit 30, Attachment C, there is a discussion of each of the listed species, including information on its range, habitat, and food preferences, whether it has been identified as occurring on the Teniente Tract, and notes regarding suitability of habitat and other factors that would affect the likelihood of its occurring on the landfill site and being adversely impacted by its operation.¹⁵⁴

In Mr. Bradley's opinion, 21 of the 38 species are not likely to use the area in the vicinity of the proposed landfill. Ten of the species could potentially use the Drain near the landfill, but even if they did, the landfill operation will not disturb the area adjacent to the Drain, he stated. Seven of the species on TPWD's list could use areas near the site away from the Drain; however, he expects none of those species to be adversely affected by landfill operations. Four of the seven species are birds (American and Arctic peregrine falcons, gray hawk, and white-tailed hawk). In Mr. Bradley's opinion, the birds could be present temporarily for feeding but not for a longer-term, such as when nesting. Most of the potential sources of adverse impact on the landfill site (trucks, compactors, bulldozers, etc.) are very noticeable and slow moving, so the birds could easily avoid them. Also,

¹⁵² *Id.*, p. 5/11-22.

¹⁵³ App. Ex. 30, Attach. C, p. 2-3; App. Ex. 26, p. 7/32-36; App. Ex. 31; App. Ex. 26, p. 6/4-15.

¹⁵⁴ App. Ex. 30, Attach. C, pp. 3-11.

the listed birds are rare, and there are no unique or unusual features of the site that would tend to make it a preferred location for any of them, he added, especially when compared to other areas in the vicinity that offer more attractive habitat.¹⁵⁵

The landfill site is potentially suitable for three other listed species: the black-striped snake, the Texas horned lizard, and the Texas tortoise, but nearby non-agricultural areas and the wildlife refuge offer better habitat. The black-striped snake prefers to hide during the day under layers of moist vegetation. The Texas horned lizard prefers to eat harvester ants that feed on plant seeds, and plants seeds would be scarce on the developed landfill. The Texas tortoise prefers to rest during the hot portions of the day under clumped vegetation and eats prickly pear and other vegetation. Suitable habitat and food exists for these species offsite, and in those other areas would be expected to hold any of these reptile species if they do, in fact, reside in the vicinity.¹⁵⁶ Also, Mr. Bradley recognized that the North Hargill Drain provides prey, cover, and a dependable source of moisture for the indigo snake.¹⁵⁷ But, he emphasized his opinion that landfill construction and operation will not disturb the Drain.¹⁵⁸

To address any concern about these species, the Applicant has proposed a threatened and endangered species management plan.¹⁵⁹ In Mr. Bradley's opinion, implementing this plan would further reduce the chances for any adverse impact to these species and would make the operations no more likely to adversely impact them than the current agricultural operations in the area. The plan has several components, including education, observation, and notification programs for site

¹⁵⁵ App. Ex. 26, pp. 7-8.

¹⁵⁶ *Id.*, p. 8.

¹⁵⁷ Tr. 261/20-25.

¹⁵⁸ App. Ex. 29, p. 11.

¹⁵⁹ App. Ex. 43.

personnel; a survey; and for the horned lizard only, a removal/relocation program to be implemented by a qualified biologist.¹⁶⁰

3. Texas Parks and Wildlife Department

TPWD also indicated that the South Texas siren had been documented within a mile of the site. One of the agency's habitat review assistants recommended that the wildlife refuge manager be contacted before project activities began. That agency also recommended the use of precautions to avoid harming endangered and threatened species.¹⁶¹

4. U.S. Fish and Wildlife Service

Ernesto Reyes, Jr., Senior Fish and Wildlife Biologist for the USFWS, filed a letter on behalf of the service, dated July 18, 2003. Mr. Reyes said the USFWS was not opposed to construction of a new landfill to serve the waste generated by the growing Rio Grande Valley population. However, he stated:

Our concern is the location of the site. To the North of the landfill site are three Lower Rio Grande Valley National Wildlife Refuge tracts (Teniente, Payne, and East Lake). [O]ne is adjacent and two are within ½ mile of the proposed site. These three tracts are part of La Sal Vieja ecosystem. One of our main concerns will be the tremendous increase of Laughing Gulls, racoons and coyotes at the three lakes near the proposed site. Gulls, racoons and coyotes are predators to and will have a negative impact to the migratory birds at La Sal Vieja. Wintering piping plovers (Federally-threatened) and nesting interior least terns (Federally-endangered) are found at all three lakes. Other migratory bird species of concern are the Audubon's oriole, Brownsville common yellowthroat, Cerulean warbler, Ferruginous hawk, Loggerhead shrike, Reddish egret, Sennett's hooded oriole, Texas Botteri's sparrow,

¹⁶⁰ App. Ex. 26, p. 9.

¹⁶¹ Burdette Ex. 17.

Texas olive sparrow, and White-faced ibis[.] [A]ll could be impacted by the Laughing Gulls.

...

Containment of wind blown trash bags flying out of the landfill and littering the northern refuge tracts is another major concern. Will there be high fencing surrounding the landfill to catch some of the flying debris?

... as a Federal agency responsible for the protection of migratory birds, the Service recommends vegetation disturbances potentially associated with these activities to avoid the general nesting period of March through August or that areas proposed for disturbances be surveyed first for nesting birds, in order to avoid the inadvertent destruction of nests, eggs, etc.¹⁶²

Mr. Reyes also expressed concern about protection of surface water.

5. Issues Regarding Particular Species

a. Ocelot

Linda Laack has an M.S. in range and wildlife management. For her masters thesis, she wrote, "Ecology of the Ocelot in South Texas." For five years, Ms. Laack managed field operations for a study on ocelot ecology and distribution in south Texas. Also, for many years, she was a wildlife biologist for the USFWS, where she coordinated studies on ocelots.¹⁶³

Ms. Laack identified a potential ocelot travel corridor along a drain within ½ mile of the proposed site.¹⁶⁴ The USFWS list shows ocelots as being present in the Teniente tract of the wildlife

¹⁶² Burdette Ex. 14. Emphasis in original.

¹⁶³ Burdette Ex.12, p. 6/24-26.

¹⁶⁴ Id., p. 6/28-30. Another witness, Jerry Taylor, also testified to having seen an ocelot in the area. Burdette Ex. 6, p. 3/31.

refuge,¹⁶⁵ and possibly, in Kenedy, Cameron, and other parts of Willacy County.¹⁶⁶ Because Willacy County is centrally located, it is particularly important to preserve the Willacy County habitat.¹⁶⁷ Landfill construction will fragment the ocelot habitat, she added.¹⁶⁸

b. Texas Horned Lizards

Scott E. Henke, Ph.D., holds a Ph.D. in wildlife science from Texas Tech University. He is a professor at Texas A&M University in Kingsville in the Department of Animal and Wildlife Science. For the past ten years, he has conducted research concerning the biology and ecology of Texas horned lizards in southern Texas.¹⁶⁹ Like Ms. Laack, Dr. Henke expressed concern about fragmentation and degradation of the lizard's habitat if the landfill is constructed.¹⁷⁰ Even though it is under cultivation, the site could presently shelter Texas horned lizards, he said.¹⁷¹ Also, Dr. Henke noted, Applicant's site visits took place in November and February, when the Texas horned lizard would have been hibernating; consequently, its observation at that time would have been precluded.¹⁷²

¹⁶⁵ App. Ex. 30, Attach. C, p. 8.

¹⁶⁶ Burdette Ex. 12, p. 7/41-42.

¹⁶⁷ Burdette Ex. 12, p. 8/6-8.

¹⁶⁸ *Id.*, p. 8/3-8.

¹⁶⁹ Burdette Ex. 10, p. 5.

¹⁷⁰ Burdette Ex. 10, p. 2/23-25.

¹⁷¹ Tr. 737-739.

¹⁷² *Id.*, p. 4/16-18.

Texas horned lizards consume mainly harvester ants.¹⁷³ During his site visit in May 2005, Dr. Henke observed several active harvester ant mounds in the vicinity of the proposed site.¹⁷⁴ Ray Burdette and John Kupek both observed Texas horned lizards when visiting land near the proposed site on June 17, 2005.¹⁷⁵ Other witnesses also testified to having seen the lizards in the area.¹⁷⁶

c. Interior Least Terns

William P. Kuvlesky, Jr., holds a Ph.D. in wildlife and fisheries science. He has worked as a chief refuge wildlife biologist for the USFWS and currently is an associate professor and research scientist at the Caesar Kleberg Wildlife Research Institute at Texas A&M University in Kingsville.

There is a breeding colony of least terns at the wildlife refuge near the site, and in Dr. Kuvlesky's opinion, it likely includes the endangered interior least terns. In order to conclusively determine whether interior least terns are present, it would be necessary to capture the birds and collect morphological and plumage coloration data.¹⁷⁷

d. White-Tailed Hawk

Mr. Burdette has observed white-tailed hawks on the site and on property adjacent to the site, but it has been some years since he saw them.¹⁷⁸ Ms. Laack said she has observed the white-tailed

¹⁷³ *Id.*, p. 3/27-28.

¹⁷⁴ *Id.*, p.4/10-12; Burdette Ex 13, p. 10/28-31; Tr. 738/5-8.

¹⁷⁵ Burdette Ex 1, p. 22/37-40; Burdette Ex 13, p. 10/10-13.

¹⁷⁶ Burdette Ex 4, p. 3/31-32; Burdette Ex. 8, p. 2/1-11.

¹⁷⁷ Burdette Ex. 11, p. 9.

¹⁷⁸ Burdette Ex. 1, pp. 11 and 18.

hawk on the Teniente Tract.¹⁷⁹ Dr. Kuvlesky noted that white-tailed hawks are often seen in agricultural areas and are present in the Rio Grande Valley. The hawks are sensitive to human presence and may abandon their nests when disturbed by humans.¹⁸⁰

e. Ferruginous Pygmy Owls

Dr. Kuvlesky is aware of ferruginous pygmy owl breeding grounds within five to ten miles of the proposed site, and the owls likely use the wildlife refuge property near the site as dispersal habitat.¹⁸¹

f. Indigo Snake

Dr. Henke said the Drain is a good riparian habitat for indigo snakes, and they would likely use the Drain as corridor from the neighboring USFWS property. According to Dr. Henke, Applicant's use of the Drain for surface water management may result in the destruction or adverse modification of the critical habitat of this species. In addition, Dr. Henke said the proposed stormwater run-off from the landfill will likely harm the Drain's wetlands and the habitat of the indigo snake by increasing sediment in the Drain's water, increasing the quantity and flow of water in the Drain, and possibly contaminating the water that enters the Drain from the landfill.¹⁸²

¹⁷⁹ Burdette Ex. 12, p. 4/31-33 ("I observed the indigo snake, the Texas tortoise, and white-tailed hawk on several of the Lower Rio Grande Valley National Wildlife Refuge units, including the Teniente Tract.")

¹⁸⁰ Burdette Ex. 11, pp. 4-5.

¹⁸¹ Burdette Ex. 11, p. 5/24-28.

¹⁸² Tr. 766; Burdette Ex. 10, pp. 2, 5.

A Protestant and area landowner, David Hoelscher has seen the snakes in his fields and irrigation drain, and has seen them feeding on frogs around the Drain.¹⁸³ Witnesses Carla Haynes, Linda Laack, and Ray Burdette also have seen the indigo snake in the landfill-site area,¹⁸⁴ and another witness provided a recent photograph to confirm the presence of the indigo snake on her nearby property.¹⁸⁵

6. Scavengers

Protestants' witnesses addressed impacts that scavengers drawn to the site could have upon endangered and threatened species. Linda Laack noted, "unusually large concentrations of birds, such as gulls artificially drawn to a large food source, are also more likely to spread disease, which may pass to other nearby species."¹⁸⁶ She added, "[i]f the landfill attracts scavengers and predators such as coyotes, feral dogs, and raccoons, any ocelots in the vicinity could be exposed to increased risk of predation and spread of disease. Those diseases could include rabies, feline leukemia, mange, etc."¹⁸⁷

Dr. Henke also expressed concern about avian scavengers, noting, "landfills entice avian predators, such as Laughing Gulls, to the area, which can be a direct mortality source, especially of hatchling and juvenile [Texas horned lizards]."¹⁸⁸

¹⁸³ Tr. 661-663 (Hoelscher).

¹⁸⁴ Burdette Ex. 8, p. 2/13-18; Burdette Ex. 12, p. 4/31-32; Tr. 661/23-25; Burdette Ex. 46, p. 79 (Burdette).

¹⁸⁵ Burdette Ex. 25.

¹⁸⁶ Ex. 12, p. 13/32-34.

¹⁸⁷ Ex. 12, pp. 6/40-42 and 10/31-32, Tr. 807/7-12

¹⁸⁸ Ex. 10, p. 4/35-37.

As for the interior least terns, seagulls would also be the greatest scavenger threat, Dr. Kuvlesky testified. In his opinion, gulls would be abundant on a daily basis and would represent almost a constant predatory threat to an interior least term breeding colony. Likewise, he said, raccoons, opossums, and feral hogs, cats, and dogs would be attracted the site and consume the eggs and chicks. Scavengers will impact rodents, reptiles, birds, invertebrates, and small mammals.¹⁸⁹

Dr. Bryant agreed with these concerns about scavengers, noting "mortality will increase for species near the site along the North Hargill Drain because of predation. Gulls will feed on fish and reptiles using the riparian corridor. Coyotes, feral pigs, and raccoons will also feed on fauna that use habitats within the riparian system." Control of scavengers will be difficult if not impossible, Dr. Bryant stated because of the refuge provided in nearby landscapes. Dr. Bryant advised using a different location for the landfill as the only effective way to prevent detrimental impacts on endangered and threatened species.¹⁹⁰

7. Chemicals

Insecticide and pesticide use at the Facility would be another threat to the Texas horned lizard, Dr. Henke said.¹⁹¹ Pesticides kill harvester ants, the main prey of Texas horned lizards¹⁹² John Kupek, has had a pest control business since 1992, is certified by the Texas State Board of Structural Pest Control and has a B.S. in biology. Mr. Kupek said integrated pest management to control pests could make it unnecessary to use pesticides at the landfill.¹⁹³

¹⁸⁹ Ex. 11, pp. 10/44-11/8; 6/30-39.

¹⁹⁰ Burdette Ex. 9, pp. 6-9.

¹⁹¹ Burdette Ex. 10, p. 4/37-40.

¹⁹² *Id.*, 10, p. 4/40-42.

¹⁹³ Burdette Ex. 13; Tr. 965/10-14.

8. Roadway Mortality

A landfill will increase the amount of truck use in the area (*i.e.*, trucks dumping refuse), which potentially will create greater risks to Texas horned lizard, Dr. Henke testified.¹⁹⁴ Similarly, as Ms. Laack testified, roadway mortality is the most significant documented cause of death for ocelots. Ocelots are known to travel down drainage ditches, which may put them at increased risk of mortality due to increased traffic in the area. She referenced an irrigation ditch running to the west of the site that has suitable habitat for ocelots and could be used as an ocelot-movement corridor.¹⁹⁵

C. Arguments

1. Applicant's Arguments

The Applicant argued that its endangered and threatened species information was comparable to or more thorough and detailed than similar information presented for other MSW landfill facilities in Texas. This is significant, according to Applicant, because an applicant for a permit in an administrative proceeding must be treated similarly and subjected to the same application requirements as other applicants.¹⁹⁶ Further, it asserted, it was not required to address biological impacts to species listed as threatened only on the state's list.

Pursuant to the federal Endangered Species Act ("ESA"), USFWS is authorized to list both endangered and threatened species. Therefore, any such species listed by USFWS comes within the

¹⁹⁴ Burdette Ex. 10, p. 4/30-33.

¹⁹⁵ Burdette Ex. 12, p. 6/44-7/2.

¹⁹⁶ Citing *Starr County v. Starr Indus. Servs. Inc.*, 584 S.W.2d 352, 355-56 (Tex. Civ. App. – Austin 1979, writ ref'd n.r.e.).

scope of TCEQ's rules. The situation for state listing is different, according to Applicant. Under the Texas ESA (Parks and Wildlife Code Chapter 68, "Endangered Species"), the TPWD's Director is authorized only to list **endangered** species of animal wildlife. In Texas, threatened animal species are identified not through the listing process described in § 68.003 of the Texas ESA, but through a rulemaking process authorized in another chapter of the Parks and Wildlife Code, Chapter 67, "Nongame Species." Because the Texas ESA authorizes only the listing endangered species, Applicant asserted that TCEQ's MSW requirements do not extend to state-listed threatened species.

In response to Protestants' arguments that Applicant should have made more detailed investigations, including capturing and collecting physical data from individual birds that may be present at the wildlife refuge, Applicant argued there is no legal basis for requiring such actions. The evidence in the record tends to indicate the presence of an unknown subspecies of least terns at La Sal Vieja, but Applicant was not required to investigate whether those birds are interior least terns.

In fact, the Applicant argued, the evidence does not support a finding that any endangered or threatened species inhabits Applicant's property. Three of Protestants' expert witnesses (Drs. Bryant, Kuvlesky, and Henke) and another expert who did not testify in this proceeding, Dr. Fulbright, made an investigative site visit in May of 2005.¹⁹⁷ Another of Protestants' experts, Ms. Laack, has spent time in the vicinity, including site visits to the wildlife refuge located ½ mile to the north and to the Applicant's property.¹⁹⁸ In addition, Applicant's expert, Mr. Bradley, obtained information related to potential occurrences of endangered and threatened species from several sources, including TPWD, USFWS, and the wildlife refuge's staff.¹⁹⁹ None of these experts saw an endangered or threatened species on the property, Applicant noted.

¹⁹⁷ Tr. 855-857.

¹⁹⁸ Burdette Ex. 12.

¹⁹⁹ App. Ex. 26.

As for Mr. Burdette's testimony that he had seen a white-tailed hawk, Applicant indicated his direct knowledge of the Applicant's property is more than five years old, and he did not identify the times of any of his observations. As a result, Mr. Burdette's testimony cannot be relied on to establish any current conditions on the site.

Even to the extent that the evidence suggests the presence of species near the site, those facts do not meet the threshold test under endangered and threatened species law that the species be present at the location of the activity under consideration.²⁰⁰ Protestants complained about construction activities on the landfill property and in the North Hargill Drain and also said they were concerned about habitat destruction and fragmentation, predation, scavengers, reduced prey base, spread of disease, roadway mortality, and toxic chemicals that they allege will occur as a result of the landfill. Even if the facts alleged by Protestants were true, they have not shown them to be legally relevant to any standard applicable to this issue, Applicant argued.

Applicant asserts its consideration of state-listed threatened species went beyond what is required by TCEQ rules. Six of the 13 species are aquatic animals (the manatee and five sea turtles) that would not occur on or near the Applicant's tract, and two are mammals (gulf coast jaguarundi and ocelot) for which no nearby habitat exists, except for the wildlife refuge.

Five of the 13 species are birds and Applicant argues that the Facility's development will not adversely impact them. Again, except for the wildlife refuge, the Applicant does not expect three of the bird species to be in landfill's vicinity.²⁰¹ Even though the interior least tern could occur within the wildlife refuge and even in the West Main Drain, Applicant says the landfill will not

²⁰⁰ Citing especially, *Defenders of Wildlife v. Bernal*, 204 F.3d 920 (9th Cir. 2000).

²⁰¹ The brown pelican, northern aplomado falcon, and piping plover. Ex. 30, Attach. C, pp. 4, 6.

adversely impact that species.²⁰² And the American peregrine falcon could occur on the site only during migration because it is highly mobile.²⁰³

The indigo snake is not listed as endangered by either USFWS or TPWD, and it is listed as threatened only by TPWD, not by USFWS, Applicant noted.²⁰⁴ In addition, Applicant emphasized that the Commission's rule prohibits the "destruction or adverse modification of critical habitat." Applicant asserts that the site does not include critical habitat for any federal or state listed endangered or threatened species, including the indigo snake.²⁰⁵ Further, the Facility will neither cause nor contribute to the taking of any endangered or threatened species.²⁰⁶

The federal ESA requires a degree of certainty regarding the presence of species of concern before a permit can be denied, Applicant added.²⁰⁷ Even under the broader federal rules, denying a permit based on endangered or threatened species issues requires more than speculative testimony that a species may be present on a site or impacted by the proposed activity.

As Applicant views the evidence, the site's run-off will have less potential for impacting species than run-off from other properties. The only water it proposes to discharge will be similar in quality

²⁰² Ex. 30, Attach. C, p. 5.

²⁰³ Ex. 30, Attach. C p. 4; Ex. 26 p. 8/7-15.

²⁰⁴ Exhibit 30, Attach. C, p. 3.

²⁰⁵ Ex. 26, p. 7/8-23.

²⁰⁶ *Id.*, p. 7/25-9/13.

²⁰⁷ The Secretary of the Interior could include within the prohibitions of the ESA "signification habitat modification or degradation where it actually kills or injures wildlife, but not a ruling that such actions must be or necessarily are prohibited under the ESA. *Babbitt v. Sweet Home Chapter, Communities for Great Ore.*, 515 U.S. 687, 703, 705 (1995). Applicant also cited *Forest Conservation Council v. Rosboro Lumber Company*, 50 F.3d 78 (9th Cir. 1995), (an imminent threat of injury to wildlife) justified an injunction; *Marbled Murrelet v. Babbitt*, 83 F.3d 1060, 1066 (9th Cir. 1996), (a reasonably certain threat of imminent harm to a protected species is sufficient for issuance of an injunction); and *Defenders of Wildlife v. Bernal*, 204 F.3d 920 (9th Cir. 2000), (insufficient evidence to prove that a pygmy-owl used any portion of the 60 acre parcel upon which the school complex was to be built.)

to other stormwater run-off. In addition, the Applicant site represents only a small percentage of the watershed that drains to the North Hargill Drain; thus, other properties will discharge a greater volume of water.

2. Protestants' Arguments

According to Protestants, Applicant has failed to adequately investigate, identify, and address relevant impacts upon the relevant endangered and threatened species. A thorough evaluation of birds requires observations in at least two seasons, spring and fall, Protestants argued, and small mammals and reptiles also must be observed in two seasons, summer and winter. Because the area is "a funnel for migrating birds in North America," a biological impact study should be more exhaustive than the one Applicant conducted.²⁰⁸ As Protestants noted, Applicant's expert witness testified that the habitat in the Drain and on the rest of the property would be very different, but Applicant did not address species that might inhabit the Drain. Applicant did not outline any integrated pest management practice to control pests without harming other species.

Protestants cited the Commission's decision in the Blue Flats case in which the Commission found the SOP was inadequate to address impacts on threatened and endangered species.²⁰⁹ *Blue Flats'* plan set forth that it would notify the TPWD of any specimens observed, contact TPWD for any necessary permits to handle the species, and relocate any Texas horned lizards found to areas outside of the landfill development.²¹⁰ However, the Commission concluded that *Blue Flats* did not

²⁰⁸ Tr. 883/5-20.

²⁰⁹ SOAH Docket No. 582-98-1390, TNRCC Docket No. 98-0415-MSW, *Application by Blue Flats Disposal, LLC for Permit No. 2260*.

²¹⁰ *Blue Flats* PFD at p. 41.

have an adequate foundation for its plan since *Blue Flats* had failed to perform an adequate investigation to characterize the on-site population of Texas horned lizards.²¹¹

Applicant's expert did not even enter the or evaluate the Drain, Protestants noted. The availability of favorable habitat in the North Hargill Drain within the site means that the indigo snake is likely to use the drain as a corridor,²¹² and the area surrounding this drain is now a functioning riparian ecosystem.²¹³

The significant environmental modification and degradation from construction of the footprint itself will result in the injury and killing of endangered and threatened species due to fatalities during the construction process, and potentially due to the significant disruption of essential behavioral patterns including feeding, breeding, and sheltering. Also, Protestants maintained, construction of the planned culverts and accompanying aprons in the North Hargill Drain would destroy habitat where several species currently seek shelter and feed.

Scavengers and predators attracted to the landfill would spread disease and impact prey for the native, endangered, and threatened species. Pesticides and herbicides would further negatively impact the species, as would increased truck traffic.²¹⁴ Protestants also asserted that the SOP does not include the measures mentioned by TPWD such as contact with the wildlife refuge manager before construction begins and not beginning construction during bird nesting seasons. Further, the SOP does not include measures for minimizing risk to endangered and threatened species.

²¹¹ *Blue Flats* Order, Finding of Fact No. 50, Conclusion of Law No. 5.

²¹² App. Ex. 10, p. 5/23-25; Tr. 809/12-810/1-2; Tr. 765/3-20.

²¹³ Burdette Ex. 11, p. 12/43-46; Burdette Ex. 9, p. 7/18-20.

²¹⁴ Citing Tr. 807/4-6.

3. OPIC's Arguments

Contrary to Applicant's view, OPIC asserts that Texas state threatened species, and in particular, indigo snakes, must be protected under the Commission rules.²¹⁵ Like the Protestants, OPIC argued that the Commission's decision in the *Blue Flats* case stands as precedent for the Commission's view that species listed only in Texas as threatened species should be protected.²¹⁶

As a result, Applicant's proposed threatened and endangered species management plan is deficient in protecting the indigo snake because the survey and relocation program only applies to the Texas horned lizard. However, OPIC asserted, the evidence shows that the indigo snake will use the Drain as a habitat or a corridor from the nearby refuge. The landfill's stormwater run-off will likely harm the Drain's wetlands and the habitat of the indigo snake by increasing sediment in the Drain's water, increasing the quantity and flow of the water in the Drain, and possibly contaminating the water entering the Drain from the landfill.²¹⁷

OPIC also noted the deleterious effect upon species by constructing seven 48-inch culverts and three 60-inch culverts into the Drain below the natural grade. Applicant's assertions that it will not disturb the area near or within the Drain are inconsistent with Applicant's plan to increase the peak discharge 150 cfs to 873 cfs with a base flow of 300 cfs for a total of 1,173 cfs of flow.²¹⁸ This large increase in amount of flow, irrespective of the planned construction activities, would likely disturb the habitat in the North Hargill Drain, OPIC argued.

²¹⁵ Citing 30 TAC §§ 330.51(b)(8), 330.53(b)(13)(B), and 330.129 and *Blue Flats*.

²¹⁶ Id.; Citing Finding of Fact No. 46 on page 6 of the Order.

²¹⁷ Tr. 766/1-21 (Henke).

²¹⁸ Burdette Ex. 6, p. 12-13 (Blair).

OPIC argued that the application should be denied, or at minimum, the Applicant should be required to implement a survey and removal/relocation program for the indigo snake, protect the Drain habitat, and operate the Facility in conformance with an approved plan.

D. Analysis

The Commission's definition of endangered and threatened species cites the federal law and the Texas ESA. Thus, Applicant's arguments that the Commission intended to protect only those species listed under federal law as endangered or threatened and those listed in Texas as endangered may be well-taken. Nevertheless, in its *Blue Flats* decision, the Commission expressed an intent to require at least that permit applicants present sufficient biological information for proper consideration of species listed only as threatened under state law. For several reasons, the ALJ finds the Applicant's biological assessment and its measures to protect endangered and threatened species was deficient.

First, the presence of endangered interior least terns at the wildlife refuge is likely, and a white-tailed hawk has been seen there. A corridor for endangered ocelots also is within ½ mile of the site. Even though the site is under cultivation for cotton, it is a suitable habitat for the Texas horned lizard. The presence of indigo snakes was clearly documented by the several witnesses who had seen them near there, including one who had seen the snakes feeding on frogs in the Drain.

Applicant's experts were qualified to make a biological assessment; however, their visits were in November and February when Texas horned lizards hibernate. Also, a landfill upon the property

would dramatically change the conditions there, including in the Drain. Yet, Applicant's experts did not evaluate the Drain to determine whether species requiring legal protection were there.

Without a detailed evaluation of the Drain, it is impossible to determine whether the Facility's construction and operation would constitute a taking of species that may nest, feed, and pass there. Even if the Commission accepted Applicant's definition of the term "critical habitat" as one so designated by federal law, the Commission's rules also prohibit the taking of any endangered or threatened species. Taking a species includes disrupting a species' normal behavioral patterns that include breeding, feeding, or sheltering or significantly modifying or degrading its environment to the extent that it creates the likelihood of injury.

Accepting waste at a rate of 800 tons per day at opening with a potential increase to 2,300 tons per day, constructing new culverts and a concrete apron in the Drain, and affecting vector controls mentioned in the SOP all could create the likelihood of injury to federally endangered and threatened species, and if the Commission takes a broader view of its definition, to the Texas-threatened species. For these reasons, the ALJ find the Applicant's biological assessment was inadequate.

VII. DOES THE APPLICANT PROPOSE ADEQUATE CONTROL MEASURES FOR AVIAN AND MAMMALIAN SCAVENGERS?

Applicant contends it is required to protect the MSW site against human scavenging only, while Protestants and OPIC ask the Commission to impose requirements regarding animal scavenging at the site.

A. Applicable Law

TCEQ's rule 30 TAC § 330.128 prohibits scavenging, defined as the "uncontrolled and unauthorized removal of materials at any point in the solid waste management system."²¹⁹ The same rule restricts salvaging,²²⁰ *i.e.*, the "controlled removal of waste materials for utilization, recycling, or sale."²²¹ The rule regarding daily cover also specifically mentions scavenging.²²² The first sentence of that rule requires,

. . . six-inches of well-compacted earthen material not previously mixed with garbage, rubbish, or other solid waste at the end of each operating day to control disease vectors, fires, odors, windblown litter or waste and scavenging, unless the executive director requires a more frequent interval to control [those factors].

Alternate daily cover, such as tarps or sprayed materials, may be used to cover the deposited waste instead of soil.

A site operator must take appropriate steps to prevent and control on-site populations of disease vectors using proper compaction, daily cover procedures, and (when needed) other approved methods.²²³ A vector is an agent, such as an insect, snake, rodent, bird, or animal capable of mechanically or biologically transferring a pathogen from one organism to another.²²⁴

²¹⁹ 30 TAC § 330.2(125).

²²⁰ 30 TAC § 330.128.

²²¹ 30 TAC § 330.2(123).

²²² 30 TAC § 330.133(a)

²²³ 30 TAC § 330.126.

²²⁴ 30 TAC § 330.2(159).

Public access must be controlled by means of artificial barriers, natural barriers, or a combination of both, appropriate to protect human health and safety and the environment.²²⁵ Further, the site development plan must contain the type and location of fences or other suitable means of access control to protect the public from exposure to potential health and safety hazards.²²⁶

B. Applicant's Evidence

As Mr. Myers noted, the application includes a provision for the use of alternative daily cover at the landfill.²²⁷ Both Mr. Myers and Mr. Bradley testified that the daily-cover rule requires Applicant to use proper compaction, cover procedures, and "other approved methods when needed" to control on-site populations of disease vectors.²²⁸

Mr. Myers reviewed the permit applications related to scavengers from each of 19 Type I MSW facilities located in South Texas and/or in coastal counties (like the proposed Facility). He testified that none of those materials specifically address scavengers except to discuss humans and

birds. Only four applications specifically addressed bird control or birds as scavengers, and at least two of those dealt with bird control based on proximity to airports.²²⁹

²²⁵ 30 TAC § 330.116.

²²⁶ 30 TAC § 330.55(a)(3).

²²⁷ 30 TAC § 330.133(b); Ex. 32 p. 6/19-21.

²²⁸ Ex. 26, p. 10/23-32; Ex. 32, p. 6/23-33.

²²⁹ App. Ex. 32, p. 8; App. Ex. 36.

Mr. Myers reviewed Tan Terra's application provisions regarding scavengers, including information about airports, access control, vectors, salvaging/scavenging, and landfill cover. He said the application's information is comparable to that for the 19 permitted landfills that he reviewed. Mr. Myers also testified that Tan Terra's permit application proposes adequate control measures for avian and mammalian scavengers.²³⁰

Mr. Bradley also testified that the Tan Terra permit application proposes adequate control measures for avian and mammalian scavengers.²³¹ The landfill site is not located within five miles of an airport; therefore, rule 30 TAC § 330.300 regarding birds as scavengers near airports does not apply.²³² If additional control of scavengers (disease vectors) should become needed after operations commence, Applicant can implement additional measures or TCEQ can require them in accordance with 30 TAC § 330.126. Until it is shown that the standard control measures (compaction and cover) are not satisfactory, there is no basis upon which to impose additional requirements, he stated.²³³

C. Protestants' Evidence

Dr. Kuvlesky testified that a diversity of scavengers will be attracted to the proposed landfill by the food and other wastes. He expects the site to attract coyotes, raccoons, opossums, feral hogs, domestic and feral cats and dogs, undesirable rodents, gulls, caracaras, and probably, turkey vultures.²³⁴ Further, not only will large numbers of mammalian scavengers be attracted to the

²³⁰ Ex. 32, p. 8.

²³¹ Ex. 26, p. 11/27-30.

²³² *Id.*, p.11/3-4; Ex. 32 p. 7/5-7.

²³³ App. Ex. 26, p.11/31-35; *see also* App. Ex. 32, p. 9/3-8 (Myers).

²³⁴ Burdette Ex. 11, p. 6/17-22. Protestants also cited Burdette Ex. 13 p. 3/37-40 (Kupek); Burdette Ex. 10, p. 4/35-37 (Henke); Burdette Ex. 12, p. 14/21-22(Laack); Burdette Ex.14, p. 2 (July 15, 2003 letter from USFWS).

landfill, but those scavengers will remain in the landfill's vicinity and multiply, Dr. Kuvlesky, said.²³⁵

According to John Kupek, pest control applicator, avian scavengers will carry trash out of the landfill and deposit those materials in the surrounding areas, and feral hogs have the ability to dig into a landfill and destroy the cover for wastes.²³⁶ Furthermore, Mr. Kupek noted, water sources such as the nearby Salt Lake can serve as gull roosting places.²³⁷ The attraction of gulls to such landfills is confirmed by the large gull populations at other landfills in South Texas, he added.²³⁸

Ms. Laack testified that mammalian predators/scavengers such as coyotes, raccoons, feral dogs, feral cats, skunks, opossums, and feral hogs, are likely to increase in the area if the proposed landfill is created. They will be attracted to the permanent food source, including the waste itself and the large population of rats that will likely develop rapidly.²³⁹ Because of the food supply in the proposed landfill, the water supply in the irrigation ditch that runs through the landfill, and the brushy cover that the irrigation ditch provides, the numbers of the mammalian predators will likely multiply markedly.²⁴⁰

The Applicant purposes to use existing barbed wire fencing, but Ms. Laack said barbed wire fencing would not keep out coyotes, dogs, or raccoons from the site.²⁴¹ Similarly, Mr. Kupek

²³⁵ See e.g., Ex. 11, p. 6/28-35.

²³⁶ Burdette Ex. 13, pp. 3, 5, and 8.

²³⁷ *Id.*, p. 5/39-40.

²³⁸ *Id.*, pp. 4-5, Burdette Ex. 12, p. 5.

²³⁹ Burdette Ex. 12, p. 10/13-17.

²⁴⁰ Burdette Ex. 12, p. 10/19-21.

²⁴¹ Burdette Ex. 12, p. 11/26-27; see also Burdette Ex. 13, pp. 8/23-9/7.

confirmed that such a fence would not prevent entry by feral hogs, coyotes, and raccoons.²⁴² As he noted, “[c]oyotes will go under it, around it, or through it, and sometimes even jump over it.”²⁴³ Also, “[i]t would have to be a chain link fence that would have to go around the entire landfill, and be deeply buried under the ground and the gate would have to be tightly controlled.”²⁴⁴ Likewise, Ms. Laack observed, “A six-foot high chain-link fence that goes one foot underground (five feet above ground) would be more likely to deter mammalian scavengers and predators from access to the proposed landfill.”²⁴⁵ Other witness testified that a barbed wire fence exists only on a small northeastern portion of the site,²⁴⁶ and no fence separates the property from the North Hargill Drain.²⁴⁷

D. Applicant’s Arguments

Applicant argued that 30 TAC § 330.128 applies only to human scavenging because the rules have other, specific provisions that relate to birds as scavengers (the 30 TAC § 330.300 airport-location-restriction rule) and to rodents, birds, and other animals as scavengers (the 30 TAC § 330.126 disease-vector-control rule).²⁴⁸ Otherwise the disease vector control provisions in 30 TAC § 330.126 are the only provisions directed at birds, rodents, and other animals, and that rule specifies the control methods to be used – proper compaction, daily cover, and “other measures when needed.”

²⁴² Burdette Ex. 13, pp. 8/23-9/7.

²⁴³ *Id.*, p. 8/43-44.

²⁴⁴ *Id.*, p. 9/12-14.

²⁴⁵ Burdette Ex. 12, p. 11/32-34.

²⁴⁶ Burdette Ex. 1, p. 34/15 (Burdette).

²⁴⁷ Burdette Ex. 4, p. 2 (Taylor).

²⁴⁸ App. Ex. 26, p.11/6-12(Kuvlesky); Ex. 32 p.11/6-12.

Applicant has provided the same types and quality of information regarding avian and mammalian scavengers as was provided by applicants for 19 similar landfill facilities, all of which received permits based, in part, on the information they submitted related to avian and mammalian scavengers.²⁴⁹ To impose other or different requirements on Tan Terra's efforts to obtain a permit would run afoul of the protections described in *Starr County v. Starr Indus. Servs. Inc.*, 584 S.W.2d 352, 355-56 (Tex. Civ. App. – Austin 1979, writ ref'd n.r.e.), which prohibits inequitable treatment of permit applications.

E. Protestants' Arguments

According to Protestants, Applicant has not shown it has adequate control measures to control avian and mammalian scavengers. Without proper controls these scavengers will be present in great numbers at the landfill. The fencing Applicant proposed to use will not control access by scavengers, as necessary to meet 30 TAC § 330.55(a)(3). Further, the SOP does not contain the necessary operational measures to control them.

Avian and mammalian scavengers are vectors for diseases. In order to protect the health and safety of area residents, the fencing at the landfill must be substantial to prevent mammalian scavengers from easily entering and exiting the facility, Protestants argue. Moreover, Protestants argue, the SOP says the working face will be "minimized," but this characteristic is not quantified in any manner. Site operators are directed to conduct checks for rodents and insects, but no direction is given on when these inspections should occur, what the operator should be looking for, or how the inspections should be documented. And, the SOP only sets forth that a licensed professional exterminator will be called "if necessary." This level of detail is inadequate, Protestants argued.

²⁴⁹ Ex. 32 p. 8/45-9/3.

A detailed, enforceable SOP is important because permits are normally granted for the life of the landfill.²⁵⁰ The SOP must therefore provide specific, enforceable procedures to govern the daily operation of a landfill.

F. OPIC's Arguments

In OPIC's opinion, Applicant's characterization of 30 TAC § 330.128 as applying only to human scavenging is erroneous.²⁵¹ The definition of scavenging is not limited to humans, and an animal may cause an uncontrolled and unauthorized removal of waste through feeding at a landfill. To prevent scavenging, Applicant should be required to fence the entire perimeter of the landfill with material sufficient to keep out mammalian scavengers such as feral hogs and coyotes.

G. Analysis

The evidence indicates the Facility will attract animal scavengers that will change the character of the property. The steps proposed by Applicant are the minimum established in the Commission's rules. Given that the property is so near a wildlife refuge and bird nesting area and that the Drain serves as a riparian habitat, Applicant's proposed control measures for avian and mammalian scavengers are inadequate.

Neither the Commission's rule nor the referred issue limits the term "scavenging" to human beings. Even if the rule were so limited, the Commission also requires protection against on-site disease vectors. As the evidence demonstrated, food and other wastes will attract gulls and other animals that can transmit pathogens. OPIC suggested a fence of the type Ms. Laack and Mr. Kupek

²⁵⁰ Citing *BFJ Waste Systems of North America, Inc. v. Martinez Environmental Group*, 93 S.W.3d 570, 579-580 (Tex. App. – Austin 2002, pet. denied).

²⁵¹ App. Ex. 26, p. 11 (Bradley).

described if the permit were granted. However, with the Drain running through the property, it is unclear how the fencing would keep out scavengers that entered the Facility through the Drain. Based on the evidence, the ALJ finds the Applicant failed to demonstrate that the application includes adequate control measures for scavengers.

VIII. SHOULD THE PERMIT INCLUDE SPECIAL CONDITIONS TO DEAL WITH OTHER ISSUES?

Tan Terra recommends the following special provision related to its proposed Threatened and Endangered Species Management Plan (Ex. 43):

The permittee shall comply with the terms of its Threatened and Endangered Species Management Plan, Exhibit 43, which is hereby incorporated into and made a part of this permit.

Both Protestants and OPIC recommended denial of the application. Protestant stated that no special conditions could cure the application to make it compliant with applicable law. OPIC requested the Commission to impose three special conditions if the Commission disagreed with the denial recommendation.

The first special condition would require Applicant implement a SOP protocol to protect its employees, the public, and the environment in case of a hydrogen sulfide gas leak from one of the gas wells. The leaking gas could have serious health impacts on Applicant's employees, the surrounding environment, the wildlife refuge, and the people who reside in the ten residences near the proposed landfill. Second, OPIC recommended that Applicant be required to completely enclose the perimeter of the landfill property with sufficient fencing to repel scavengers such as rodents, feral hogs, and coyotes. Third, OPIC recommends that the Commission require Tan Terra to implement a survey and removal/relocation program for indigo snakes.

IX. HOW SHOULD TRANSCRIPTION COSTS BE APPORTIONED?

Tan Terra recommended that transcription costs be apportioned fifty percent (50%) to Tan Terra and fifty percent (50%) to Protestants, specifically 25% to Russell Burdette and 25% to the mineral owners, for the reason that those parties participated most significantly in the hearing.

With the exception of a few land and mineral owners, Protestants note they are low-income residents of the area or local governments with very limited budgets. Protestants asked that their ability to pay be considered. Moreover, Protestants did everything possible to coordinate and make the hearing as efficient as possible. They participated jointly and have even worked together to file one closing argument.

Also, because Applicant had the burden of proof and would experience financial gain if the permit is granted, Protestants ask that all transcription costs be imposed upon Applicant.

The Commission's rule at 30 TAC § 80.23 provides that transcript costs should be assessed after considering:

- (A) the party who requested the transcript;
- (B) the financial ability of the party to pay the costs;
- (C) the extent to which the party participated in the hearing;
- (D) the relative benefits to the various parties of having a transcript;
- ...
- and
- (G) any other factor which is relevant to a just and reasonable assessment of costs.

The hearing was initiated when objections were filed to the application. Thus, all parties had a role in initiating the hearing. As Protestants correctly note, the record demonstrates that some Protestants have limited personal means or are entities with budget constraints. Mr. Burdette and the Mineral Interest Owners were active in the hearing process, but all parties were represented in the hearing, and all the named representatives questioned witnesses.

Those parties who filed briefs benefitted from having a transcript. In addition to OPIC, a statutory party against whom transcript costs cannot be assessed, Applicant filed a brief, and all Protestants joined together to file a brief that combined their arguments. As for other factors that would lead to a just and equitable assessment of costs, Applicant would benefit significantly if the permit is granted. For other parties, by contrast, the best outcome that could occur under any circumstances would merely be a continuation of the status quo.

Based on these factors, the ALJ find that Applicant should bear the significant share of the transcript costs, and any party that requested an expedited transcript must pay the difference between an expedited transcript and one produced on a regular time schedule. After the amount is deducted for the cost of expediting, the remaining cost of the transcript should be assessed 80% to Applicant, 10% to Mr. Burdette, and 10% to the Mineral Interest Owners.

X. SUMMARY

The SWMP will not alter drainage patterns because the detention reservoir will allow Applicant to hold significant amounts of water and then discharge water when it will have less impact on other properties, and the lag time between a significant rain event and the peak flow will allow Applicant to discharge its stormwater before the flow peaks. However, the ALJ finds the Applicant did not meet its burden of proof as to whether the Drain was properly evaluated as a

wetland, the Facility's construction and operation would harm endangered or threatened species that may use the Drain, and the plan for preventing scavenging is adequate.

SIGNED January 17, 2006.



SARAH G. RAMOS

ADMINISTRATIVE LAW JUDGE

STATE OFFICE OF ADMINISTRATIVE HEARINGS

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



AN ORDER

Regarding the Application by
Tan Terra Environmental Services, Inc., L.L.C.,
for a Permit to Operate a Type I Municipal Solid
Waste Facility (Permit No. MSW-2305);
TCEQ Docket No. 2004-0743-MSW;
SOAH Docket No. 582-05-0868

On _____, the Texas Commission on Environmental Quality ("Commission" or "TCEQ") considered the application of Tan Terra Environmental Services, Inc., ("Tan Terra or Applicant") for Permit No. MSW-2305 to authorize Applicant to operate a Type I Municipal Solid Waste Facility in Willacy County, Texas. Sarah G. Ramos, Administrative Law Judge ("ALJ") with the State Office of Administrative Hearings ("SOAH"), presented a Proposal for Decision on specified issues the Commission had referred to SOAH for consideration. After considering the application and the Proposal for Decision, the Commission adopts the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

Procedural History

1. On January 14, 2003, Tan Terra Environmental Services, Inc. ("Tan Terra" or the "Applicant") applied to the Texas Commission on Environmental Quality ("TCEQ" or "Commission") for a Type I Municipal Solid Waste ("MSW") permit to construct and

operate a new landfill facility in Willacy County, Texas, ("Facility" or "landfill") about seven miles west of Raymondville and one and a half miles northeast of Lasara, Texas.

2. On March 5, 2003, the Executive Director of the TCEQ ("ED") found the application to be administratively complete, and on March 12, 2003, Applicant had the Notice of Receipt of Application and Intent to Obtain Permit published in the *Raymondville Chronicle and Willacy County News*.
3. On April 29, 2003, TCEQ conducted a public meeting on the permit in Raymondville.
4. On October 16, 2003, the ED completed technical review of the application and recommended issuance of the permit.
5. On November 26, 2003, the Notice of Application and Preliminary Decision was published in the *Raymondville Chronicle and Willacy County News*.
6. The comment period closed on December 29, 2003.
7. The ED's Response To Comment was filed on April 23, 2004, and mailed by the Office of the Chief Clerk on April 30, 2004.
8. The deadline to request a contested case hearing on this application was June 1, 2004.
9. Three timely hearing requests were received on Tan Terra's application from Arnoldo Cantu, Russell Burdette and North Alamo Water Supply Corporation ("North Alamo"), but North Alamo subsequently withdrew its hearing request.

10. On August 11, 2004, the remaining hearing requests were considered by the Commission during its open meeting, and the Commission found that Arnoldo Cantu and Russell Ray Burdette and family were affected persons.
11. The Commission referred designated issues to the State Office of Administrative Hearings ("SOAH") for a contested case hearing.
12. The following persons were admitted as parties: Applicant, Office of Public Interest Counsel ("OPIC"), Yolanda Cantu and Nora Garcia; Russell Ray and Monica Burdette ("Burdette"); Delta Lake Irrigation District ("the District"); Arnoldo and Angelita Cantu, *et. al*; the Lasara Independent School District, including Juan M. Pena, father of a Lasara I.S.D. student; Garcia and Yturria family members and other mineral interest owners for the property on which the Applicant proposes to build the landfill ("Mineral Owners"); William J. Thomas; Mitchell H. Thomas; Billie C. Pickard.
13. An evidentiary hearing on the application was held on July 25 through July 27, 2005, in Raymondville, Texas, and then concluded on October 13 and 14, 2005, in Austin, Texas.
14. The Facility would serve as a regional landfill for the Lower Rio Grande Valley area, including Willacy County and the surrounding counties.
15. The total acreage of the Facility would encompass 629.867 acres with a footprint of approximately 450 acres.
16. The landfill would have an above-grade aerial fill (height) of approximately 193 feet above ground level.

17. The landfill would have an estimated capacity of about 45 years and would accept waste at a rate of approximately 800 tons per day at opening with a potential increase to 2,300 tons per day.
18. The Facility would be authorized to accept municipal solid waste resulting from, or incidental to, municipal, community, residential, commercial, institutional, industrial and recreational activities, including garbage, putrescible wastes, rubbish, ashes, brush, street cleanings, dead animals, abandoned automobiles, construction demolition debris, inert material, and special wastes that are properly identified.
19. The Facility property includes two separate disposal areas separated by the North Hargill Drain ("Drain"), an agricultural earthen drainage ditch.
20. The northern disposal area ("North Area") is a 396-acre municipal solid waste disposal area that would receive household, commercial, and non-hazardous industrial waste.
21. The North Area would be constructed sequentially in 10-acre cell blocks or sectors, each with a separate bottom liner and leachate collection system.
22. Once a Facility cell block, or sector, was filled to final grade, that sector would be covered with final cover and closed.
23. The southern disposal area ("South Area") consists of 48 acres and would receive only Type IV wastes which consists of construction and demolition wastes, yard waste, and other non-putrescible wastes.
24. The South Area would not have a leachate collection system or a liner other than that provided by the naturally-occurring clay soil.

25. The area surrounding the Facility is predominantly flat and used for agriculture, with some residential and commercial uses to the west, south, and east. There are ten residences and two businesses within a mile of the Facility.
26. A part of the Lower Rio Grande Valley National Wildlife Refuge ("the wildlife refuge"), the Teniente Tract, is located ½ mile northwest of the proposed Facility site.

Wetlands May Exist Within the Proposed Waste Footprint

27. An MSW application permit must include sufficient information for the ED to make a reasonable determination regarding whether a proposed landfill site is located within wetlands. 30 TEX. ADMIN. CODE ("TAC") § 330.302(5).
28. Wetlands are those properties that have a predominance of hydric soils, and that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support (and under normal circumstances do support) the growth and regeneration of hydrophytic vegetation. 30 TAC § 330.128; 16 U.S.C. § 3801(a)(18).
29. Neither the Commission's nor the federal definition of wetlands limits their classification to only those waters designated as jurisdictional waters of the United States.
30. The term "wetland" does not include irrigated acreage used as farmland; a man-made wetland of less than one acre; or a man-made wetland for which construction or creation commenced on or after August 28, 1989, and which was not constructed with wetland creation as a stated objective, including but not limited to an impoundment made for the purpose of soil and water conservation which has been approved or requested by soil and water conservation districts. 30 TAC § 307.3(a)(69).

31. The Drain was constructed long before 1989; thus, the fact that it was constructed for irrigation does not exclude it from being considered a wetland.
32. The Drain on the proposed site has hydric soils, is permanently inundated, and has hydrophytic vegetation, such as cattails, in it.
33. In its biological assessment, Applicant did not identify the Drain as a potential wetland, and Applicant indicated the Drain would not be disturbed by the landfill's construction and operations.
34. Since the Applicant did not identify the Drain as a possible wetland, the ED was prevented from making a reasonable determination regarding whether the site was located within wetlands.

Applicant's Plan for Management of Surface Water Is Adequate

35. The Applicant was required to show natural drainage patterns would not be significantly altered by the landfill. 30 TAC §§ 330.55 and 330.56.
36. The Facility's surface water management plan ("SWMP") describes a system designed to keep contaminated surface water separated from uncontaminated stormwater run-off.
37. Contaminated water would be collected in the leachate collection system.
38. Leachate pumped from each cell would be transported to the leachate evaporation basin where it would be evaporated, solidified, and disposed of in the landfill or transported to a publicly-owned treatment plant for disposal.
39. Leachate would not be discharged directly to the surface water or groundwater.

40. The North Area would be covered daily with a six-inch layer of clean soil or an alternate daily cover material.
41. Once a sector was filled with waste to final grade, portions of that sector would be covered with final cover material and closed.
42. Applicant would conduct evaluations of various soil veneer thicknesses and vegetation types to ensure that an adequate vegetation cover is established.
43. A very small percentage of rainfall will come into contact with waste because only a small area, generally an acre or less, will be open to the atmosphere at any time.
44. Presently, there are four 24-inch culverts from the North Area into the Drain.
45. The Drain is lined with earthen berms.
46. To replace the existing culverts, Applicant plans to install seven 48-inch culverts running to the Drain – five from the North Area and two from the South Area.
47. Applicant also plans to construct three 60-inch culverts in the South Area.
48. The culverts would run through the Drain's berm below the natural grade. A concrete apron would be placed on the side of the berm inside the Drain where each pipe goes through.
49. On the South Area, water would flow down chutes to one of the perimeter channels and then into the Drain.

50. Through the new culverts, uncontaminated surface water from the North Area would move through a series of swales on the sideslopes and move in a horizontal direction to one of several down-chutes, and then to the perimeter detention reservoir.
51. The reservoir will have approximately 206 acre-feet normal storage capacity and 246 acre-feet peak storage capacity.
52. The Drain has an approximately 40-foot wide bottom, 2:1 side slopes, and a top width of about 90 feet. The estimated design flow capacity is 1200 cfs when water is flowing near the top of its bank.
53. The lag time from a storm event until the peak of the rainfall run-off is between 24 and 80 hours.
54. Applicant calculated drainage capacity using a 24-hour lag time.
55. The onsite drainage system at the landfill site will route water off of the landfill area very quickly, and because the site is adjacent to the North Hargill Drain, run-off from the landfill site will reach the Drain within a few hours after the peak of the rainfall.
56. Four hours and 40 minutes after the peak of the rainfall event, storage capacity in the North Area perimeter detention reservoir will be sufficient to store all of the remaining run-off that will enter the reservoir.
57. The South Area will be almost completely drained in only one hour.
58. Under existing conditions, the peak discharge rate from the property is 1410 cfs.

59. After development as planned by Applicant, the discharge rate would be approximately 1175 cfs, resulting in a 17% reduction in the peak discharge rate from pre-development conditions.
60. The reduction is due to the large detention reservoir to be constructed.
61. Even though the Drain is not functioning at its design capacity, the proposed detention reservoir would minimize the potential adverse impacts for downstream properties.
62. Applicant owns no mineral rights to the property upon which it proposes to build the Facility.
63. The Mineral Owners and BlakEnergy have entered into a lease for exploration and development of the minerals in the property.
64. BlakEnergy has already completed two producing gas wells on the property.
65. Both wells are located in the North Area of the proposed landfill.
66. One well is located in a portion of the proposed reservoir for the North Area that would drain into the Drain.
67. A landfill reconfiguration to accommodate the drilling of the additional eight gas wells would require elimination of many landfill cells, incorporation of sloping sides into the design of the remaining landfill cells, the accommodation of service roads to the wells, the accommodation of the natural gas pipelines, the creation of new drainage chutes, and the creation of new drainage channels within the site.
68. The landfill property includes approximately 630 acres with individual cells averaging 10-to-13 acres; therefore, Applicant could be very flexible in its re-design to accommodate mineral development.

69. Applicant can fill the site sequentially to avoid wells that are producing.
70. Applicant can also permanently reconfigure its site development plan to avoid the location of the wells.
71. The Commission's site operating rules allow a MSW facility to operate concurrently with natural gas wells that do not affect or hamper landfill operations. 30 TAC § 330.131 (b).

**The Applicant Did Not Identify and Adequately Consider Impacts on All Relevant
Endangered and Threatened Species**

72. An MSW facility and its operation must not result in the destruction or adverse modification of critical habitat for endangered or threatened species or cause or contribute to the taking of any endangered or threatened species. 30 TAC §§ 330.53(b)(13)(B) and 330.129.
73. The Facility site is under cultivation for cotton, and surrounding properties to east, west, and south are also primarily farmland.
74. The Teniente Tract of the wildlife refuge includes highly valuable wildlife habitat for threatened and endangered species.
75. The wildlife refuge includes dense thickets of shrubs intermixed with open grassy areas; trees vary in size and structure.
76. The Texas Biological and Conservation Data System lists 38 threatened or endangered species for Willacy County.

77. The South Texas siren is listed as a Texas-threatened species and had been documented within a mile of the site.
78. A potential ocelot travel corridor is along a drain within ½ mile of the site.
79. Endangered wintering piping plovers and endangered nesting interior least terns have been documented at three nearby salt lakes.
80. There is a breeding colony of least terns at the wildlife refuge near the site.
81. In order to conclusively determine whether the least terns are indeed endangered interior least terns, it would be necessary to capture the birds and collect morphological and plumage coloration data.
82. An increased presence of laughing gulls at the proposed site would threaten endangered and threatened species, such as the piping plovers and interior least terns.
83. Taking a species includes disrupting a species' normal behavioral patterns that include breeding, feeding, or sheltering or significantly modifying or degrading its environment to the extent that it creates the likelihood of injury.
84. The Drain is a good riparian habitat for the Texas-threatened indigo snake, and the snakes, which are present near the property and in the Drain, would likely use the Drain as corridor from the neighboring U. S. Fish and Wildlife Service property.
85. Applicant did not make a detailed evaluation of the Drain on its property to determine whether endangered and threatened species use it for nesting, a food source, or a travel corridor.

86. Applicant's SOP does not specifically address construction activities within the Drain, including the protection of endangered species that may reside in the Drain.
87. Without a detailed biological study of the Drain and specific procedures to protect endangered and threatened species in its SOP, the Applicant cannot show that the Facility's construction and operation will not harm endangered or threatened species.

**Applicant Did Not Propose Adequate Control Measures
For Avian and Mammalian Scavengers**

88. A diversity of scavengers will be attracted to the proposed landfill by the food and other wastes.
89. Water sources such as the Drain and nearby salt lakes also would make the Facility's site attractive to scavengers.
90. Scavengers such as the following would be attracted to the landfill: coyotes, raccoons, opossums, feral hogs, domestic and feral cats and dogs, undesirable rodents, gulls, and caracaras, and probably turkey vultures.
91. Control of scavengers will be difficult if not impossible, because of the refuge provided in nearby landscapes.

Apportionment of Transcription Costs

92. With the exception of a few land and mineral owners, Protestants are low-income residents of Willacy County or local governments with limited budgets.

93. The hearing was initiated when comments were filed upon the application; thus, all parties had a role in initiating the hearing.
94. Mr. Burdette and the Mineral Owners were particularly active in the hearing process, but all parties were represented in the hearing, and all the named representatives questioned witnesses.
95. Those parties who filed briefs (the Applicant, Protestants, and OPIC) benefitted from having a transcript.
96. OPIC was a statutory party against whom transcript costs cannot be assessed.
97. Among the parties, Applicant would benefit most if the permit were granted.
98. Any party that requested an expedited transcript should bear the additional cost for expediting.

CONCLUSIONS OF LAW

1. TCEQ has jurisdiction over the disposal of municipal solid waste and the authority to issue municipal solid waste permits. TEX. HEALTH & SAFETY CODE ANN. Ch. 361 (Vernon 2005).
2. SOAH ALJs have jurisdiction to conduct a hearing and prepare a Proposal for Decision in contested cases referred by the TCEQ. TEX. GOV'T CODE ANN. § 2003.47 (Vernon 2005).
3. Notice of the application was provided in accordance with TEX. HEALTH & SAFETY CODE ANN. § 361.0665, 30 TEX. ADMIN. CODE ("TAC") § 39.5 and 39.101, and TEX. GOV'T CODE ANN. §§ 2003.051 and 2003.052 (Vernon 2005).

4. Applicant failed to provide sufficient information for the ED to make a reasonable determination regarding whether the landfill site is located within wetlands. 30 TAC §§ 330.302(5) and 30 TAC § 330.55(b).
5. Applicant's SWMP will not significantly alter natural drainage patterns. 30 TAC §§ 330.55(b) and 330.56.
6. Applicant failed to demonstrate that the proposed MSW facility and its operation will not result in the destruction or adverse modification of critical habitat for endangered or threatened species or cause or contribute to the taking of any endangered or threatened species. 30 TAC §§ 330.53(b)(13)(B) and 330.129.
7. The term scavenging, defined in 30 TAC § 330.2(125), applies to animal scavengers as well as human scavengers.
8. Applicant has not demonstrated that the proposed Facility's SOP would prevent scavenging, as required by 30 TAC § 330.128.
9. Any party that requested an expedited transcript must pay the cost difference between an expedited transcript and one produced on a regular time schedule.
10. After the amount is deducted for the cost of expediting, the remaining cost of the transcript should be assessed 80% to Applicant, 10% to Mr. Burdette, and 10% to the Mineral Interest Owners. 30 TAC § 80.23.

EXHIBIT H

MSW/2290

State Office of Administrative Hearings



Shelia Bailey Taylor
Chief Administrative Law Judge
July 18, 2003

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
2003 JUL 21 PM 12:39
CHIEF CLERKS OFFICE

Duncan Norton
General Counsel
Texas Commission on Environmental Quality
MC-101
PO Box 13087
Austin Texas 78711-3087

Re: SOAH Docket No. 582-02-3386; TCEQ Docket No. 2002-0745-MSW; Application of North Texas Municipal Water District for Municipal Solid Waste Permit No. MSW-2294

Dear Mr. Norton:

The above-referenced matter is set to be considered by the Texas Commission on Environmental Quality at 1:00 p. m. on **October 8, 2003** in Room 201S of Building E, 12118 N. Interstate 35, Austin, Texas. Enclosed are copies of the Proposal for Decision and Order which have been recommended to the Commission for approval.

Any party may file exceptions or briefs by filing the original documents with the Chief Clerk of the Texas Commission on Environmental Quality no later than **August 11, 2003**. Any replies to exceptions or briefs must be filed in the same manner no later than **August 21, 2003**.

This matter has been designated **TCEQ Docket No. 2002-0745-MSW; SOAH Docket No. 582-02-3386**. All documents to be filed must clearly reference these assigned docket numbers. Copies of all exceptions, briefs and replies must be served promptly on the State Office of Administrative Hearings and all parties. Certification of service to the above parties and an **original and eleven copies** shall be furnished to the Chief Clerk of the Commission. Failure to provide copies may be grounds for withholding consideration of the pleadings.

Sincerely,

Robert F. Jones Jr.
Administrative Law Judge

Enclosures
cc: Mailing List

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SOAH DOCKET NO. 582-02-3838
TCEQ DOCKET NO. 2002-0834-UCR

LETTER OF JULY 18, 2003

PAGE 2

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Richard W. Lowerre
DIRECTOR, TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SOAH DOCKET NO. 582-02-3386
TCEQ DOCKET NO. 2002-0745-MSW

APPLICATION OF NORTH TEXAS
MUNICIPAL WATER DISTRICT FOR
MUNICIPAL SOLID WASTE PERMIT
NO. MSW-2294

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BEFORE THE STATE OFFICE
OF
ADMINISTRATIVE HEARINGS

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DOCUMENT NO. 2002-0745-MSW-0001
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COUNTY OF TARRANT, TEXAS
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CLERK OF THE COURT
COUNTY OF TARRANT, TEXAS

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SOAH DOCKET NO. 582-02-3386
TCEQ DOCKET NO. 2002-0745-MSW

APPLICATION OF NORTH TEXAS
MUNICIPAL WATER DISTRICT FOR
MUNICIPAL SOLID WASTE PERMIT
NO. MSW-2294

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BEFORE THE STATE OFFICE
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AT DALLAS, TEXAS
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PROPOSAL FOR DECISION

I. Introduction

North Texas Municipal Water District (NTMWD) filed an application for Municipal Solid Waste Permit No. MSW-2294 (the Application). NTMWD seeks authority to construct and operate a municipal solid waste landfill, called the 121 Regional Disposal Facility (the landfill or 121 RDF), to be located in Collin County, Texas. The Executive Director (ED) of the Texas Commission on Environmental Quality (the Commission or TCEQ) found the Application to be administratively and technically complete, and issued a draft permit to authorize NTMWD to operate 121 RDF as requested in the Application. A local nonprofit organization, Defenders of Americans' Voice in Decision-Making, Inc. (D.A.V.I.D.), and some individual local residents (collectively, D.A.V.I.D. and the other protesting parties are referred to as "Protestants") have protested the application. The Office of the Public Interest Counsel (OPIC) is participating and recommends denial of the permit.

After considering the evidence and arguments presented, the Administrative Law Judge (ALJ) concludes the Application does not satisfy the Commission's rules in a number of regards, because (1) the Site Operating Plan (SOP) is insufficiently detailed with respect to equipment size and personnel fire fighting training; and (2) the Application does not provide for a groundwater monitoring system that meets the requirements of the Commission's rules. Except for these deficiencies, the evidence establishes that there is a need for the 121 RDF landfill in Collin County, and that the Application meets all other statutory and regulatory criteria. If the Commission accepts the ALJ's conclusions, it should deny the requested permit. In the alternative, the Commission could provide a means by which NTMWD may correct the relatively technical deficiencies. If the

Commission disagrees with the ALJ's legal conclusions on the deficiencies noted above, then the permit should be issued.

II. Jurisdiction and Procedural History

On April 30, 2001, NTMWD filed its permit application with the TCEQ. On May 10, 2001, the application was declared by the ED to be administratively complete. Notice of Receipt of Application and Intent to Obtain a Municipal Solid Waste Permit was published on May 31, 2001 in the *Plano Star Courier*, the *McKinney Courier Gazette*, and the *Dallas Morning News*. On August 14, 2001, the TCEQ held a public meeting on the application. On May 24, 2002, the application was declared technically complete. The Amended Notice of Application and Preliminary Decision and Notice Of Contested Case Hearing was published in the *Plano Star Courier* and the *McKinney Courier Gazette* on July 10, 2002, and in the *Dallas Morning News* on July 11, 2002. Public comments were accepted until August 12, 2002. The application was then direct-referred to the State Office of Administrative Hearings (SOAH) under 30 TEX. ADMIN. CODE § 55.201. On March 7, 2003, the ED filed a response to public comments and recommended the permit be issued.

The Application was protested by approximately 20 individuals and organizations from the local area. NTMWD reached settlement agreements with some of the parties, while other parties withdrew from the proceeding without reaching a settlement with NTMWD. Currently, the remaining protestants to this action are: (1) D.A.V.I.D. and its members (2) Rebecca Rollins Bona, Individually and for the Rollins Family Trust; (4) AB Roper, Individually and for the Roper Family; (5) John Airhart, Individually and for Kimberly Airhart Monk and Modene Carroll; (6) Susan Clark, Individually and for the Helen Clark Family Trust.

On March 10, 2003, a public hearing was convened before ALJ Robert F. Jones, Jr. in the courtroom of County Court at Law No. 7, McKinney, Collin County, Texas. The hearing ended on March 13, 2003, and the record closed on April 18, 2003, after the parties submitted closing written

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arguments and reply briefs.

II. Background

NTMWD seeks a Type-I municipal solid waste (MSW) permit to construct and operate 121 RDF, a landfill to be located on State Highway 121 (SH 121), roughly 1.7 miles northeast of the intersection of SH 121 and Farm to Market Road 545 (FM 545), in Collin County, Texas. The entrance to 121 RDF would be on SH 121. NTMWD owns approximately 1,460 acres at the proposed landfill site. The permit boundary of the site encloses 673.49 acres, of which the disposal area encompasses approximately 450 acres. The landfill will have a below-grade excavation of up to 50 feet and an above-grade aerial fill (height) of approximately 300 feet, with a total expected volume of 142 million cubic yards.¹ Under the proposed permit, 121 RDF would be authorized to accept waste at an initial rate of approximately 1,700 tons per day and is expected to initially receive 500,000 tons of solid waste per year. Using the "area fill" method, the landfill is expected to have a site life of approximately 40 years.²

121 RDF would contain a landfill liner, a leachate collection system, a final cover system, a surface water drainage system, a gas collection system, and subsurface water and gas monitoring systems.³ It would also have a gatehouse, scales, a citizen convenience center, recycling area, maintenance area perimeter drainage ditches around the disposal area, three detention ponds, 13 groundwater monitoring wells, and 18 gas monitor probes. It would be authorized to accept municipal solid waste resulting from, or incidental to, municipal, community, residential, commercial, institutional, agricultural and recreational activities including street cleanings, rubbish, yard waste, brush, construction demolition debris from municipal projects, inert material, Class Two

¹ Applicant Exhibit 103, Prefiled Testimony of Pierce L. Chandler, Jr., P.E. (*Chandler Prefiled Testimony*), pp. 12-15, 29.

² *Chandler Prefiled Testimony*, pp. 12-15.

³ *Id.*, pp. 70-71.

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and Three nonhazardous industrial waste, and certain special wastes identified in the draft permit. The Application proposes to accept nonhazardous Class I Industrial Waste on later TCEQ approval.

121 RDF is expected to have no effect on, and is not subject to location restrictions because of, airport safety. There are no active faults on or within 200 feet of the proposed site that have had displacement in recent geologic time. The site is not located in a seismic impact risk zone or an unstable area. Approximately 50 acres of wetlands lie inside the landfill footprint. The US Army Corps of Engineers (USACE) has authorized 121 RDF, pursuant to Nationwide Permit 39, and has approved NTMWD's mitigation plan for the site. No federal- or state-listed endangered or threatened species are present on the site, nor is it a critical habitat for such species.⁴

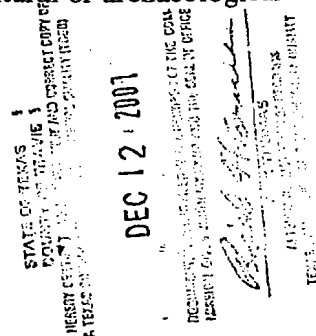
121 RDF was designed to be operated in wet weather and will include all-weather roads of either concrete or Austin Chalk. Access will be limited to the entrance. A perimeter fence will be used. Entry to the active portion of landfill site will be restricted to designated personnel, approved waste haulers, and persons whose entry is authorized by specific NTMWD personnel. Signs or NTMWD employees will provide traffic control.⁵ The Site Development Plan identifies easements associated with—and buffer zones around—the site. The plan requires large buffer zones between the permit boundary and the landfill footprint. The existing trees and vegetation in the buffer zones will be kept and additional vegetation will be planted or earthen berms constructed where needed. The design components are intended to prevent leachate buildup and to protect drinking, surface, and subsurface water.⁶

There are no historic properties within the proposed 121 RDF site or on property owned by NTMWD in the area. Moreover, the landfill will not affect any site of cultural or archaeological

⁴ *Chandler Prefiled Testimony*, pp. 30-31; 32-34; 36-40; 42.

⁵ *Id.*, pp. 72-73.

⁶ *Id.*, pp. 73-74.



significance.⁷ NTMWD has properly estimated the cost for third-party closure and post-closure care of 121 RDF at a time in the development when the costs are expected to be greatest. It has also adequately demonstrated that it can be financially responsible for those costs.⁸

The Site Development Plan describes the design components for storm water management intended to prevent discharge of pollutants into surrounding waters.⁹ It describes how storm water that comes into contact with solid waste will be treated. Any water that comes in contact with waste at 121 RDF will be confined at the working face by berms high enough to contain the runoff from a 25-year, 24-hour storm event. The final cover has been designed to minimize rainfall infiltration and surface erosion and to provide stability. Peak runoff velocity is less than five feet per second. Watershed sediment due to erosion is nil.¹⁰ Further, the Site Development Plan provides that NTMWD will obtain permit coverage from the EPA and TCEQ for storm water discharges, under the agencies' general permitting process. It notes that 121 RDF will not violate any area- or state-wide water quality management plan, and will not violate Section 404 of the CWA.¹¹ Erosion is also not a concern at 121 RDF. The soils are thin and previous erosion has removed loose soils. Austin Chalk bedrock is exposed over most of the 121 RDF site. The soil that is on-site is clay-rich and cohesive and does not erode easily.¹²

Except as otherwise discussed below, NTMWD has satisfied all of the technical requirements for the proposed landfill site.

⁷ Applicant Exhibit 104, Prefiled Testimony of Duane Peter (*Peter Prefiled Testimony*) 9-10.

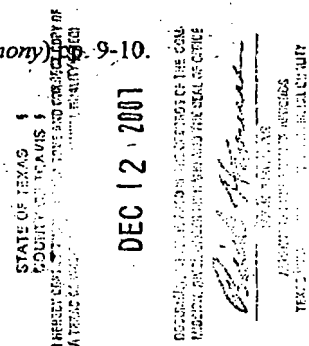
⁸ *Chandler Prefiled Testimony*, pp. 122-23.

⁹ *Id.*, p. 76.

¹⁰ *Chandler Prefiled Testimony*, pp. 1-4; 79-80.

¹¹ *Id.*, pp. 76-77.

¹² Applicant Exhibit 111, Prefiled Testimony of Robert S. Kier, Ph.D. (*Kier Prefiled Testimony*) pp. 18-19.



IV. Issues Presented

A. Is the Site Operating Plan (SOP) sufficiently detailed?

Protestants and OPIC argue that the SOP for 121 RDF does not conform with the applicable Commission rules.¹³ NTMWD argues that Protestants do not understand the complexity of running a landfill and the need for some flexibility in daily operations. While agreeing that SOPs are necessary and useful, NTMWD argues that SOPs cannot—and should not be expected to—cover every operational detail. NTMWD asserts that tying the hands of landfill personnel with overly specific provisions is undesirable and unworkable.

As set out below, the ALJ finds that NTMWD's SOP is sufficiently detailed in all respects, except in regard to equipment size and personnel fire fighting training.

1. SOP Standards

The SOP is an on-site reference to "provide operating procedures for the site management and the site operating personnel in sufficient detail to enable them to conduct the day-to-day operations of the facility."¹⁴ At a minimum, the SOP is to include "specific guidance, procedures, instructions, and schedules" describing:

- (1) a description of functions for each category of personnel to be employed at the facility and for the supervisory personnel in the chain-of-command;
- (2) a description, including size, type, and function, of the equipment to be utilized at the facility;
- (3) a detailed description of the procedures that the operating personnel shall follow

¹³ The SOP is found in Applicant's Exhibit 100, Vol. IV, Bates pages APP2008 to APP2046. References will be to "SOP, Bates page."

¹⁴ 30 TAC § 330.114.

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concerning the operational requirements of this subchapter;

(4) other instructions as necessary to ensure that operating personnel comply with any other local, state, or federal regulation for the operational standards of the type of work involved at the facility; and

(5) procedures for the detection and prevention of the disposal of regulated hazardous waste as defined in 40 Code of Federal Regulations Part 261 and of polychlorinated biphenyls (PCB) wastes as defined in 40 Code of Federal Regulations Part 761. The detection and prevention program shall include the following:

(A) random inspections of incoming loads unless the owner or operator takes other steps to ensure that the incoming loads do not contain regulated hazardous waste or PCB wastes. The inspection procedures shall be identified in the plan along with a backup procedure if hazardous waste is identified. The procedure shall include the inspection of compactor vehicles;

(B) records of all inspections;

(C) training for appropriate facility personnel responsible for inspecting loads to recognize regulated hazardous waste or PCB waste;

(D) notification of the executive director of any incident involving the disposal of a regulated hazardous waste or a PCB waste at the landfill; and

(E) provisions for the remediation of the incident;

(6) a Fire Protection Plan that shall identify the fire protection standards to be used at the facility and the training of personnel in fire-fighting techniques.¹⁵

The Commission's rules in chapter 30 of the Texas Administrative Code set out operational standards for landfills that are required to be in the SOP. These include fire protection (§ 330.115); access control (§ 330.116); unloading waste (§ 330.117); hours of operation (§ 330.118); site sign

¹⁵ 30 TAC § 330.114(1)-(6).

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(§ 330.119); control of windblown waste and litter (§ 330.120); salvaging or scavenging (§ 330.128); landfill (daily) cover (§ 330.133); and screening of deposited waste (§ 330.138).

A recent court case also addresses the requirements for SOPs. In *BFI Waste Systems of North America, Inc. v. Martinez Environmental Group*,¹⁶ the Austin Court of Appeals held that SOPs must be sufficiently specific so as to form an enforceable set of rules. Specifically, the court stated:

Each site operating plan must . . . provide specific, enforceable procedures to govern the daily operation of a specific landfill. The exact level of detail required of each individual section of a plan is a matter of agency discretion – but, at a minimum, a plan must set out enforceable procedures and be more detailed than the general rules that it implements.

Essentially, the court made clear that the normal operating procedures for a landfill must be contained in a detailed site operation plan and noted that "deviation from an approved site operation plan will be deemed a violation of the administrative code."¹⁷

2. Parties' General Arguments¹⁸

Protestants argue that many of the provisions of the SOP for 121 RDF do nothing more than parrot the Commission's rules, and do not provide adequate specificity to allow an operator to know how to conduct site operations nor provide enough detail so as to form enforceable requirements which could form the basis of an administrative violation. OPIC agrees with Protestants, although OPIC concedes that portions of the Application do provide substance, detail, and procedures for operating the landfill. But, OPIC points out that these are not included in the SOP as required by the Commission's rules and the *BFI* case.

¹⁶ 93 S.W.3d 570 (Tex.App.–Austin 2002, pet. filed 02/03/03).

¹⁷ *BFI* at 579-80. The court noted the SOP is to be used to "maintain some oversight of these large landfills."

¹⁸ In this section, the ALJ presents the broadly applicable arguments of the parties. A more detailed discussion of the parties' arguments is presented below in regard to the specific SOP requirements in issue.

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NTMWD contends that Protestants and OPIC's reliance on the *BFI* case is misplaced, asserting that their reading of the decision is incorrect. NTMWD denies that the *BFI* case requires each provision of an SOP to be more detailed than the corresponding TCEQ rule. In fact, NTMWD notes that such would be impossible, because many of the Commission's SOP rules are so specific that no SOP could realistically be written to be more specific.¹⁹ Rather, NTMWD asserts that the *BFI* case merely stands for the proposition that SOPs, *as a whole*, must do more than parrot the Commission's rules. It argues that the TCEQ has discretion to determine the level of detail required for any particular site. NTMWD asserts that its SOP satisfies a "performance-based approach," in that it provides sufficient guidance for operations but also allows flexibility to meet the needs of all situations. NTMWD argues that the operators' experience and training (as mandated by TCEQ rules) will further ensure that the Commission's standards are met in the site's daily operations.

NTMWD also notes that other portions of the Application will guide day-to-day operations at the landfill: the Subsurface Water and Surface Water Protection Plans and Drainage Plan, the Soil and Liner Quality Control Plan, the Ground (Subsurface) Water Sampling and Analysis Plan, the Landfill Gas Management Plan, and the Leachate and Contaminated Water Plan.

Because the parties' arguments are more specific in relation to the different requirements of the Commission's SOP rules, these different requirements are discussed individually below.

3. Equipment

Commission rule 30 TAC § 330.114(2) requires "a description, including size, type, and function, of the equipment to be utilized at the facility." Protestants argue that the SOP for RDF

¹⁹ NTMWD uses the example of 30 TAC § 330.119, concerning the specific lettering and size for the site sign; it also notes other examples: §§ 330.114(1)[a description of functions for each category of personnel to be employed at the facility and for the supervisory personnel in the chain-of-command] & (5)[procedures for the detection and prevention of the disposal of regulated hazardous waste. . . and of PCB wastes], 330.115[fire protection], 330.120[control of windblown waste and litter], 330.121[easements and buffer zones], & 330.122[landfill markers and benchmark]. See NTMWD's Reply p. 4, fn. 16.

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does not include any information concerning size or function of the equipment that NTMWD will use at the landfill.

Generally, NTMWD's SOP does list the *types* of equipment that will be used at its facility, such as "water truck, motor grader, bulldozer, landfill compactor, self-loading scraper, fuel storage tank, and portable water pumps." It also references additional "miscellaneous pick-ups, vans, and other light utility vehicles as well as various pumps, instruments, and safety and training equipment."²⁰ The SOP notes that "equipment requirements will vary" from time to time, and that "additional or different units of equipment may be provided."²¹

Additionally, the SOP indicates the *functions* of the various types of equipment. Frequently, the name of the equipment listed also reflects its function. For example, a "water truck" carries water, a "fuel storage tank" stores fuel, and a "portable water pump" pumps water. The names of other pieces of equipment—such as motor grader, bulldozer, landfill compactor, and self-loading scraper—at least imply their functions. Read in the context of the SOP and the Application, a landfill compactor compacts or compresses the fill. A self-loading scraper scrapes up and carries solid waste. Graders and bulldozers are common pieces of equipment whose function is no mystery. The SOP notes that haul roads will be regraded periodically.²² The bulldozer is designated as a part of the firefighting equipment; it is used to move stockpiled soil to the working face to smother a fire.²³ The water truck functions are described in the SOP as firefighting and suppression of dust on roadways.²⁴

²⁰ SOP, APP2016.

²¹ SOP, APP2015.

²² SOP, APP2035.

²³ SOP, APP02025.

²⁴ SOP, APP2027-28; APP2035.

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However, the SOP does not indicate the *size* of each piece of equipment. It states "equipment requirements will vary" from time to time, and that "additional or different units of equipment may be provided." Because the Commission's rules clearly require a "description, *including size*" of the equipment to be used at the facility, NTMWD's failure to include size information for the equipment appears to make the SOP inadequate.²⁵ In trying to understand what the Commission's rule means in placing that requirement for SOPs, the ALJ has little guidance to go on. One item which is instructive is the ED's Draft Technical Guidance.²⁶ The Draft Technical Guidance indicates that the SOP should state the size of the equipment by class. For example, the bulldozers on site could be stated as a "CAT D7, D8, or equivalent; the water truck should indicate the number of gallons carried; scrapers could be 10 to 20 cubic yard; and excavators could be described as "various makes."²⁷

In light of the *BFI* case and the clear wording of the Commission's rules, the ALJ concludes that, because NTMWD has simply identified the type and function for most of its equipment *and not the size*, its SOP fails to meet the Commission's standards. Therefore, the ALJ recommends that the Commission find that NTMWD's SOP for the landfill is inadequate with respect to equipment size.

4. Salvaging

Commission rule 30 TAC § 330.128 provides that "[s]alvaging shall not be allowed to interfere with prompt sanitary disposal of solid waste or to create public health nuisances." The Commission's Draft Technical Guidance indicates that the SOP should describe "how the

²⁵ 30 TAC § 330.114(2) (emphasis added).

²⁶ *Protestants' Final Written Argument*, Appendix E, TCEQ Draft Technical Guidance, Subject: Site Operating Plan (*Draft Guidance*), p. 3. NTMWD objected to the use of the Draft Guidance on the basis that it was not available at the time of the hearing, and terming its use "improper." The ALJ notes NTMWD's objection, but choose to take official notice of the Draft Guidance. TEX. R. OF EVID. 201(c). The ALJ recognizes that the guidance is only a draft, and is subject to change, but still find it somewhat helpful in construing the Commission's rules.

²⁷ *Draft Guidance*, p. 3.

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restrictions on salvaging and the prohibition on scavenging shall be implemented. The salvaged materials should be addressed as to storage location, amount allowed to accumulate, and maximum storage time." The SOP should disallow salvaging of special waste and prohibit scavenging.²⁸

Again, Protestants complain that NTMWD's SOP merely parrots the rule and does not provide any specificity as what salvaging will be allowed nor what procedures will be used for restricting salvaging. NTMWD disagrees, pointing out that its SOP provides specific times, places, and restrictions on salvaging.

NTMWD's SOP provides that salvaging "will not be allowed to interfere with prompt sanitary disposal of solid waste or to create public health nuisance." It states that salvaging is limited to NTMWD employees, that salvaged goods will be collected at the designated white goods recycling area, and that salvaged goods must be removed monthly.²⁹ Additionally, the SOP does not allow the salvaging of special wastes, pesticides, rodenticides, fungicides, and herbicide containers, or Class I industrial waste. The SOP provides for prevention of unauthorized access to the site, and requires personnel to "regularly watch for unauthorized persons in the vicinity of the working face and at the 121 RDF entrance, as well as other areas of the site."³⁰

As NTMWD notes, the SOP covers the where, when, and how salvaging will be conducted and includes appropriate restrictions. The ALJ finds that the salvaging and scavenging portion of the SOP complies with the Commission's rules.

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²⁸ Draft Guidance, p. 13.

²⁹ SOP, APP02035.

³⁰ SOP, APP02029.

5. Windblown Waste

Commission rule 30 TAC § 330.120 requires that "[w]indblown material and litter shall be collected and returned to the active disposal area or working face as necessary to minimize unhealthy, unsafe, or unsightly conditions." A portable fence or other suitable practices may be used to confine windblown litter. The regulation requires at least weekly pick-up of windblown litter scattered throughout the site, along fences and access roads, and at the gate. The Draft Technical Guidance states that the SOP should discuss "procedural and physical means for controlling windblown waste," such as covers on transportation vehicles, screening for adequate covers on vehicles, and appropriate signage.³¹

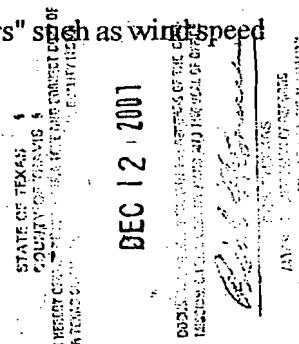
NTMWD's SOP states that windblown litter will be controlled through "proper unloading, compaction, and cover procedures. The use of portable litter control fences, the orientation of the working face relative to the prevailing wind direction, the placement of screening berms, stockpiles and landscaping, and adequate staffing." Earthen berms, called "push walls," and the height of the adjacent active lift will also aid in controlling windblown waste at the working face. The site will be policed "at least once a week," windblown litter will be "collected on a regular basis," and "litter scattered about site, along fences, across roads, and at the gate will be picked up at least once per week."³² The SOP also provides for entrance signs warning that "all vehicles shall be covered or entrance will be refused" and that "the Gate Attendant will not permit improperly covered vehicles to enter 121 RDF."³³

Protestants fault NTMWD's SOP for failing to provide an actual schedule for regular collection of windblown matter, failing to offer practical guidance for "triggers" such as wind speed

³¹ Draft Guidance, pp. 8-9.

³² SOP, APP02032.

³³ SOP, APP02033.



or direction or other conditions requiring the use of a portable fence, and failing to regulate the size of the crews to be dispatched to collect windblown waste. Protestants argue that the SOP or the TCEQ rules should require specificity similar to that contained in the technical construction plans required for applications. In Protestants' view, the SOP contains no enforceable provisions, leaving NTMWD free to decide when and how it will deal with windblown waste without risk of penalties. Protestants contend that this is contrary to the *BFI* decision.

NTMWD asserts that its SOP measures will control windblown wastes and that it will be subject to sanctions if it does not follow them. NTMWD also argues that construction plans are based upon fixed things such as geography and the composition of materials. On the other hand, windblown waste handling and collection are subject to changing conditions: weather, the amount of waste to be disposed, changes in equipment, *etc.* NTMWD contends that it cannot reasonably set such fixed factors as the precise days for collection of windblown waste and the size of the crews for such collection at this point in time, when the requirements for such will be dictated by conditions existing in the future. For example, changed conditions (such as an ice storm) might make it impossible to collect windblown waste on a specific date.

The ALJ generally agrees with NTMWD and find that the windblown waste provisions of the SOP meet the requirements of the Commission's rules. The level of detail suggested by Protestants goes beyond what is required or reasonable. Crew allocation and scheduling to deal with windblown waste depends on many variables. Fixed specifications for such would be inefficient and would too easily subject NTMWD to technical violations. Therefore, the ALJ recommends the Commission find that the SOP complies with the Commission's rules in regard to windblown waste.

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6. Fire Protection

The SOP must contain a "Fire Protection Plan that shall identify the fire protection standards to be used at the facility and the training of personnel in fire-fighting techniques."³⁴ Additionally, 30 TAC § 330.115 requires the owner or operator to:

maintain a stockpile of earth within 2,500 feet of the working face or active disposal area. The stockpile shall be sized to cover the entire working face or active disposal area. Sufficient on-site equipment for movement of that earth shall be provided at all landfill sites. The executive director may approve alternate methods of fire protection. Accidental fires shall be promptly extinguished. The potential for accidental fires shall be minimized by use of proper compaction and earth cover.

The Fire Prevention portion of NTMWD's SOP includes rules for "hot loads," smoking prohibitions, separation of equipment from fuel storage, clean-up of fuel spills, parking equipment at the working face overnight, and control of combustibles such as trees, brush, and vegetation.³⁵ The fire control rules discuss containing a fire to a vehicle, using smothering, water spray or an extinguisher to put out the fire, and separating or localizing a fire at the working face.³⁶ There are general rules for personnel to follow in contacting other emergency personnel such as the City of Melissa Fire Department.³⁷

Protestants fault NTMWD for not posting the Melissa Fire Department's telephone number,³⁸ for failing to account for fires at the site when a telephone is not accessible, and for failing to account for fires when no personnel are present at the site, such as after the site is closed. The ALJ finds:

³⁴ 30 TAC § 330.114(6).

³⁵ SOP, APP02026.

³⁶ SOP, APP02027.

³⁷ SOP, APP02027-28.

³⁸ It should be noted that Section 5.1.3 of the SOP references the "list of posted emergency numbers." SOP, APP2020. The ALJ wonders if a 911 call would be sufficient, and whether 911 would even need to be posted. The ALJ also notes that the "Site Safety Plan," App. Ex. 100, APP01739, provides for the posting of emergency telephone numbers.

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these criticisms to be without merit, however, as Protestants are seeking more than the Commission's rules require. The ALJ finds that the fire protection standards of the SOP are already more detailed than the general rule that the SOP implements.

However, the rules do require specific information regarding the fire-fighting training of site personnel.³⁹ As to training, the Commission's Draft Technical Guidance indicates that "firefighting training requirements and methods of training for all site personnel," should be included, the "method used to document each personnel's training" should be stated, and the documentation should be kept on site, for review by TCEQ inspectors.⁴⁰ The SOP details personnel training with respect to inspecting for and excluding regulated hazardous waste but does not specifically deal with fire-fighting training.⁴¹ The SOP simply directs that the Melissa Fire Department (MFD) should always be called in the case of a fire of any size, but also states that if "the fire can be safely fought with available fire fighting devices until arrival of the [MFD], attempt to contain or extinguish the fire." The SOP admonishes NTMWD personnel to use "adequate personal protective equipment," and to "be familiar with the use and limitation of fire fighting equipment."⁴² The SOP contemplates that the District's employees are expected to fight some fires, but does not "identify . . . the training of personnel in fire-fighting techniques."

In considering the Commission's rules regarding fire protection, the ALJ concludes that the SOP *meets* the requirements of such rules with respect to fire prevention, rules for fire control by site personnel, stockpiling and availability of fire fighting materials and equipment, and rules for personnel to follow in contacting emergency personnel; but the SOP *does not meet* the requirements

³⁹ 30 TAC § 330.114(6) (requiring a "fire protection plan that shall identify . . . the training of personnel in fire-fighting techniques.)

⁴⁰ *Draft Guidance*, p. 5.

⁴¹ SOP, APP02012-15.

⁴² SOP, APP02027-28.

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of the Commission's rules regarding the fire-fighting training requirements, methods of training for all site personnel, and the method that will be used to document such training; nor does it require that documentation be kept on site, for review by TCEQ inspectors.

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ALLEN MESSINGER, EXPERT
TESTIMONY

7. Excluded Wastes

The SOP provides that NTMWD will not take radioactive wastes at 121 RDF.⁴³ There is no specific SOP rule applicable to radioactive wastes in Subchapter F, Chapter 330, of the Commission's regulations. The Draft Technical Guidance does not discuss radioactive wastes. Despite this, Protestants complain that the SOP describes no process to adequately identify and exclude radioactive waste. NTMWD responds that its SOP is adequately detailed regarding the exclusion of waste and the method of enforcement, and that the TCEQ's rules do not require more.⁴⁴

Protestants' expert, Allen Messenger,⁴⁵ testified that the SOP is not consistent with standards of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO), which recommends use of multi-channel analyzers to detect radioactive materials. Mr. Messenger opined that the SOP should provide for an automatic radiation detection system rather than a spot check program and should also provide a response process.⁴⁶ However, Mr. Messenger was unable to point to any regulatory requirement for such radiation detection equipment at landfills. Nor could he identify any Type I landfill in North Texas that had radiation detection equipment.⁴⁷

⁴³ SOP, APP02017.

⁴⁴ One percent of non-NTMWD transporters will be subject to inspection on a spot basis. SOP, APP02018-20.

⁴⁵ Allen L. Messenger, P.E., is employed by A M Environmental, LLP. He is a principal of the firm, and provides environmental engineering services. He has a B.S. in Biology, and a M.S. in Civil Engineering. He has 24 years of experience pertinent to this case. Mr. Messenger offered expert opinions with respect to the Site Operating Plan (SOP). D.A.V.I.D. Exhibit #1, Prefiled Testimony of Allen L. Messenger, P.E., pp. 1-3.

⁴⁶ D.A.V.I.D. Exhibit #1, p. 6; D.A.V.I.D. Exhibit #1B. Mr. Messenger believed that a reading of twice the background radiation count should be used for alarm purposes.

⁴⁷ Tr., Vol. 3, pp. 735; 738-39.

The ASTSWMO recommendation indicated that only 42 percent of states have regulations regarding radioactive waste at landfills. Most states, including Texas, rely on regulation of radioactive waste generators to insure proper disposal of those wastes and to keep them from entering the solid-waste stream.⁴⁸ States that require monitoring mostly discover "short-lived medical waste" such as Iodine 131, which ASTSWMO indicates should be buried and allowed to decay.⁴⁹ The monitoring recommended by ASTSWMO is intended to protect workers inspecting the load, not to exclude the radioactive material from the landfill.⁵⁰

NTMWD's witness, Mr. Pierce Chandler testified that he is not aware of radioactive waste being dumped at landfills, not even by "some nefarious person" as suggested by Protestants.⁵¹ Most dumping of radioactive waste, according to Mr. Chandler, took place in "preregulatory days before we had modern regulations and controls in place. I'm not aware of any recent instances that I've read about."⁵² He explained that landfills screen for radioactive waste by looking for obvious containers, such as heavy objects with radiation stickers displayed on them. If radioactive waste was stolen and the thief was attempting to dispose of it, Mr. Chandler stated he would expect to receive a warning from the police, which would allow landfill personnel to look for such containers.⁵³

After considering the arguments of the parties, the ALJ concludes that there is no justifiable basis for placing additional requirements for NTMWD's SOP in regard to radioactive waste.

⁴⁸ D.A.V.I.D. Exhibit 1B, p.1.

⁴⁹ D.A.V.I.D. Exhibit 1B, pp.2-3.

⁵⁰ D.A.V.I.D. Exhibit 1B, p. 3.

⁵¹ Mr. Chandler, a licensed professional engineer in the State of Texas, was appointed by the District as the Engineer of Record for the Application. Mr. Chandler has over twenty-five years of experience in MSW landfill design and permitting. App. Ex. Prefiled Testimony of Pierce L. Chandler, Jr., P.E. (*Chandler Prefiled Testimony*) pp. 1-4.

⁵² Tr., Vol. 2, p. 356.

⁵³ Tr., Vol. 2, pp. 380-81.

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Therefore, the ALJ recommends the Commission find that the SOP provides sufficient details concerning the screening and exclusion of radioactive waste as required by the Commission's rules.

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8. Composting and Recycling

OPIC complains that the SOP does not provide any day-to-day guidance to landfill operators for composting or recycling of waste. Mr. Chandler explained that composting or recycling were contemplated in the future at 121 RDF, but not under its current design. If composting or recycling are added, he stated the SOP would have to be modified under the applicable TCEQ rules.⁵⁴

Composting and recycling are not covered in the SOP, aside from being briefly described as "facilities" which "may" be constructed at 121 RDF.⁵⁵ An examination of 30 TAC Chapter 330, Subchapter F, does not reveal any specific regulation concerning composting and recycling. Moreover, the Draft Technical Guidance does not mention composting and recycling. Therefore, the ALJ concludes that there is no basis for concluding that the SOP is deficient for failure to provide specific procedures for composting and recycling.

9. Odor, Poned Water, and Disease Vector Control

Commission rule 30 TAC § 330.125(b) requires that "any ponded water at the site shall be controlled to avoid its becoming a nuisance. In the event objectionable odors do occur, appropriate measures shall be taken to alleviate the condition."⁵⁶ Further, a "site operator shall take the appropriate steps to prevent and control on-site populations of disease vectors using proper

⁵⁴ Tr., Vol. 2, pp. 395-96.

⁵⁵ SOP, APP02011; Tr., Vol.2, pp 395-96. *But see* App. Ex. 100, Attachment 1, Facilities, APP00921, showing a "citizens drop-off and recycling area."

⁵⁶ 30 TAC § 330.2(86) defines a nuisance as "municipal solid waste that is stored, processed, or disposed of in a manner that causes the pollution of the surrounding land, the contamination of groundwater or surface water, the breeding of insects or rodents, or the creation of odors adverse to human health, safety, or welfare."

compaction and daily cover procedures, and the use of other approved methods when needed."⁵⁷

OPIC agrees the SOP requires periodic inspections to be made to detect odor sources, but complains that the SOP does not provide any information about the inspection schedule that will be used. OPIC has a similar complaint with respect to disease vector control. NTMWD disagrees that its SOP is inadequate regarding these operational concerns.

NTMWD's SOP specifically includes operational standards to control odors from ponded waster. It states:

[T]he ponding of water over waste at the 121 RDF, regardless of its origin, will be prevented. Ponding water that occurs in the active portion of a landfill unit or on a closed unit will be eliminated as quickly as possible, and the area in which the ponding occurred will be filled and/or re-graded within seven days of occurrence, weather permitting.⁵⁸

The SOP and application include other odor-control operational standards as well. They provide for the application of daily and intermediate cover as required by 30 TAC § 330.133(a)-(b), the maintenance of a small working face, and the elimination of ponded water inside the landfill through the gravity drain system that is part of the basic design of the 121 RDF.⁵⁹ NTMWD argues that these provisions, when read as a whole, exceed the Commission's limited regulatory requirements for odor control, are enforceable by the Commission, and clearly comply with the holding in the *BFI* case. Additionally, design features at 121 RDF will minimize odor concerns. These include large buffer zones between the waste footprint and neighboring properties and both the natural vegetation and the vegetation to be planted around the perimeter of the landfill.⁶⁰

⁵⁷ 30 TAC § 220.126.

⁵⁸ SOP, APP02039.

⁵⁹ Tr., Vol. 2, pp. 406-07; 497.

⁶⁰ Tr., Vol. 2, p. 497.

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As to disease vectors, the Commission's rules require a site operator to take appropriate steps to prevent and control on-site populations of disease vectors using proper compaction and daily cover procedures, and the use of other approved methods when needed.⁶¹ The SOP provides specific practices to meet the regulation. It specifies that the active working face will be minimized. Waste will be compacted evenly by a defined amount of force, to a depth of two feet. A uniform cover of six inches of earthen material will be applied daily. The SOP also provides for the use of pesticides as needed, with application rates, amounts and times subject to operator discretion.⁶²

With respect to odor and disease vector control, the ALJ concludes that the earlier discussion of the impracticality of setting definite schedules in the SOP applies here as well. The ALJ does not believe that the *BFI* case requires the SOP to be that specific. Accordingly, the ALJ recommends that the Commission find that the SOP complies with applicable Commission rules with respect to odors, ponded water, and disease vector control.

10. Summary

The ALJ generally concludes that the SOP is sufficiently detailed to comply with the Commission's rules as interpreted in the *BFI* case. However, there are two areas where the SOP fails to meet the requirements of the Commission's rules, namely regarding: (1) equipment size; and (2) fire-fighting training of personnel.

B. Are Portions of 121 RDF's Surface Water Controls Improperly Located Outside the Proposed Permit Boundary?

Protestants contend the Application violates general Commission requirements for permit boundaries. The Commission's rules at 30 TAC § 330.2(48) and (133) define a facility or site as "all

⁶¹ 30 TAC § 330.126.

⁶² SOP, APP02035-37.

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contiguous land and structures, other appurtenances, and improvements on the land used for the storage, processing, or disposal of solid waste." Further, 30 TAC § 330.55(b)(4) states the Site Development Plan has to contain sufficient information to document the "dikes, embankments, drainage structures, or diversion channels sized and graded to handle the design run-off." 30 TAC § 330.55(b)(5)(C) requires that the "designs of all drainage facilities within the site area shall include such features as typical cross-sectional areas, ditch grades, flow rates, water surface elevation, velocities, and flowline elevations along the entire length of the ditch."

Protestants argue that these rules prohibit surface water controls for the proposed facility from being located outside of the permit boundary. Protestants contend that the perimeter of drainage Channel B-2 impermissibly crosses the permit boundary, and that certain other drainage areas are located outside of the permit boundary. As for Channel B-2, the evidence shows that it flows east and then turns southeast to an outfall. Channel B-2 lies within drainage area FDB-5, a 22.3 acre tract in the upper right quadrant of Plate 6B, the Fully Developed Conditions Drainage Map.⁶³ Plate 6B shows the dashed line marking the approximate limit of Channel B-2 crossing the permit boundary, just before it reaches the outfall at Design Point 3. Similar crossovers occur on Channels S-1 and S-2 in drainage areas FDS-1 and FDT-3A along the southern permit boundary of the landfill. Protestants assert that the Commission's rules require drainage channels and areas to be part of the landfill; hence they must be within the permit boundary. By allegedly placing the channels and drainage areas outside of the permit boundary, Protestants assert that NTMWD has removed them from TCEQ control, especially after the landfill is closed.

NTMWD responds that no structures, appurtenances, or improvements that would be used for the storage, processing, or disposal of solid waste are outside the permit boundary of 121 RDF. NTMWD disputes that any drainage channels are located outside of the permit boundary, but concedes that some designated drainage areas are. NTMWD points out that the Commission has issued landfill permits in the past in situations where designated drainage areas were located outside

⁶³ App. Ex. 100, Plate 6B (Plate 6B), APP01644.

of the permit boundary, so long as the areas are deed-restricted for that purpose.⁶⁴ NTMWD notes that the drainage areas in issue are only used to prohibit future development to assure that any increased flood flows at certain design points will not have flooding impacts on adjacent properties, and are not actually part of the landfill's operations.⁶⁵

The drainage channels, such as B-2, are trapezoidal in shape, and (in B-2's case) are 100 feet in width. A small trapezoidal "pilot channel" two feet wide and one foot deep, runs along the edge of the drainage channel closest to the toe of the landfill. From reviewing the evidence, the ALJ is not persuaded that Protestants are correct in their contention that the drainage channels are outside of the permit boundary.⁶⁶ Rather, the ALJ concludes from the evidence that the perimeter drainage channels are not outside of the permit boundary.⁶⁷ Moreover, Channels B-2, S-1, and S-2 are not used to store, process, or dispose of solid waste; they, like all perimeter channels, simply route clean water off the landfill and do not contain polluted water.⁶⁸

As for the designated drainage areas, the ALJ agrees that they are partially located outside of the permit boundary. However, they are in deed-restricted areas that satisfy the purposes for which they are designated. They are not areas involving activities requiring construction, operations

⁶⁴ Citing Permit No. MSW-1745B (July 20, 1999), issued to Ellis County Landfill T.X. C.P.

⁶⁵ APP. Ex. 100 at APP01334 and APP01644; also App. Exhibit 109, Prefiled Testimony of Robert J. Brandes, Ph.D., P.E., (*Brandes Prefiled Testimony*), pp. 16-17, 24.

⁶⁶ The evidence was controverted on this. In an effort to determine the validity of Protestants' claim, ALJ Jones closely reviewed the maps of the site. On Plate 6B's scale, 1 inch equals 400 feet, so ¼ inch equals 100 feet. The centerline of the channel is depicted on Plate 6B. The ALJ measured the width of Channels B-2, S-1, and S-2 using a standard ruler, to determine if a mark ⅙ (⅙ = ½ x ¼) inch on the outside of the centerline crossed the permit boundary on Channels B-2, S-1, and S-2. The mark did not, thus indicating that the map did not reflect the drainage channel being outside the permit boundary. App Exhibit 100, Plate 6B; APP01326; APP01386.

⁶⁷ Because Protestants used the markings on Plate 6B to assert the channel was outside the permit boundary, the ALJ believes measurements made on Plate 6B are appropriate to settle the issue.

⁶⁸ App. Ex. 100, Attachment 6, APP01339-01342; Plate 6B; *Brandes Prefiled Testimony*, pp. 25-26.

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or maintenance, nor are they part of the "facility" as it is defined in the Commission's rules.⁶⁹ Given the Commission's past orders allowing drainage features to be located offsite, the ALJ concludes that Protestants have not presented a justifiable basis for denying the permit on this ground.

C. Would Construction of the Proposed Facility Significantly Alter Natural Drainage Patterns?

1. The Requirements of the Rules

Under 30 TAC § 330.56(f)(4)(A), an application must include a drainage and run-off control analysis that includes:

(i) a description of the hydrologic method and calculations used to estimate peak flow rates and runoff volumes including justification of necessary assumptions;

(ii) the 25-year rainfall intensity used for facility design including the source of the data; all other data and necessary input parameters used in conjunction with the selected hydrologic method and their sources should be documented and described;

(iii) hydraulic calculations and designs for sizing the necessary collection, drainage, and/or detention facilities shall be provided.

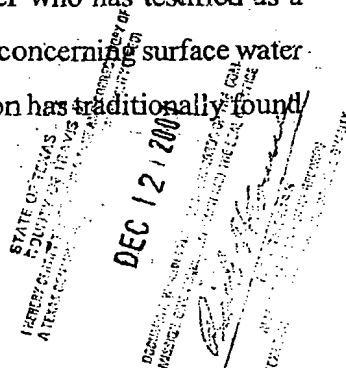
(iv) discussion and analyses to demonstrate that natural drainage patterns will not be significantly altered as a result of the proposed landfill development.

2. The Parties' Arguments

Robert J. Brandes, Ph.D., P.E., is a licensed professional engineer who has testified as a hydrology expert in many Commission hearings. He testified for NTMWD concerning surface water hydrology and drainage issues.⁷⁰ Dr. Brandes indicated that the Commission has traditionally found/

⁶⁹ 30 TAC § 330.2(48).

⁷⁰ Brandes Prefiled Testimony, pp. 1-4.



that a facility will not significantly impact natural drainage patterns if it would not increase flooding or erosion on adjacent properties.⁷¹ In some instances, a reduction in water downstream has also been seen as a significant impact. Under those standards, Dr. Brandes testified that the natural drainage pattern will not be significantly altered as a result of building 121 RDF.⁷²

Protestants argue that NTMWD has failed to make the necessary showing that natural drainage patterns will not be significantly altered. They contend that NTMWD: (1) improperly considered the natural drainage impact offsite, rather than at the permit boundary; and (2) used incorrect lag time calculations in calculating the drainage impact.

Wade Wheatley is the Director of the Waste Permits Division of the TCEQ.⁷³ Under subpoena, he testified as the "designated representative of the Executive Director of the Texas Commission on Environmental Quality as it relates to this application."⁷⁴ Mr. Wheatley had personal knowledge of some parts, but not all, of the Application.⁷⁵ Mr. Wheatley was personally involved in regard to this Application because of disagreements between the ED's staff and NTMWD personnel.⁷⁶ In his view, "when this application was declared technically complete, it was the Commission's position, based on the information provided by the applicant, that this application met all of the regulatory requirements of the TCEQ."⁷⁷

⁷¹ App. Ex. 100, Attachment 6, APP01312.

⁷² *Brandes Prefiled Testimony*, p. 11; Tr., Vol. 4, p. 901.

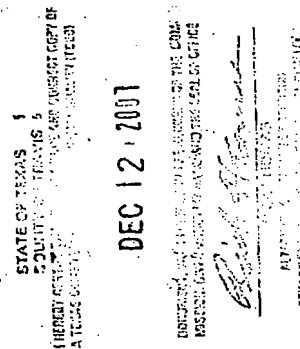
⁷³ Tr., Vol. 3, p. 552.

⁷⁴ Tr., Vol. 3, pp. 552; 564-65.

⁷⁵ Tr., Vol. 3, pp. 552-53.

⁷⁶ Tr., Vol. 3, pp. 620-21.

⁷⁷ Tr., Vol. 3, pp. 556-57. Technical completeness "is a guarantee that we've reviewed it, and, to the best of our knowledge, it meets all regulatory requirements." Tr., Vol. 3, p. 582.



Mr. Wheatley testified that the Staff's practice is to check some, but not all, of the calculations provided in an application. In this case, a more thorough check was made, in light of the *Blue Flats* case. Mr. Wheatley disagreed with Protestants' contention that NTMWD had not complied with the *Blue Flats* requirement of determining drainage issues at the permit boundary.⁷⁸ Stating that his staff had determined that NTMWD had "met all the requirements,"⁷⁹ Mr. Wheatley testified that all applications for landfills are receiving "additional scrutiny on drainage calculations."⁸⁰ Mr. Wheatley concluded that when the Application was declared technically complete, the ED had determined there were no adverse impacts to downstream property owners.⁸¹

3. Existing Drainage and Proposed Alterations

Almost all of the runoff from the 121 RDF site currently moves into the Brinlee Branch to the north or into the South Tributary to the south. After the Brinlee Branch and South Tributary join, the Brinlee flows to the east into Sister Grove Creek, a tributary of Lake Lavon on the East Fork of the Trinity River.⁸² In the southwest corner of the 121 RDF site, runoff flows west into Stiff Creek, and then into Sister Grove Creek. In the Panhandle of the 121 RDF site, runoff flows into Stiff Creek, and then into Sister Grove Creek.⁸³

As the Facility is constructed, perimeter and diversion berms will prevent run-on to the active disposal area. The perimeter berm will be higher than the existing ground surface and this will

⁷⁸ Tr., Vol. 3, pp. 627-28.

⁷⁹ Tr., Vol. 3, p. 629.

⁸⁰ Tr., Vol. 3, p. 680. Mr. Wheatley was apparently not aware of the "lag time" discrepancy discussed below. It was not brought to his attention during his testimony.

⁸¹ Tr., Vol. 3, pp. 671-72.

⁸² *Brandes Prefiled Testimony*, p. 13.

⁸³ *Id.*, p. 14.

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prevent run-on to the landfill. Final cover drainage systems will be constructed to collect surface water runoff from the final cover and transfer it to the perimeter drainage system.⁸⁴ Surface water controls have been designed along the perimeter of the landfill footprint. They will include perimeter drainage channels outside the perimeter berm, and detention ponds to collect runoff and direct it to outfalls. These outfalls will discharge the water into the Brinlee, the South Tributary, the smaller drainage outlets to the west and south located at the southwest corner of the site (using two small detention ponds), and a main detention pond located on the eastern end of the site.⁸⁵ The outfalls are designed to minimize erosion and allow water to flow into the natural stream channels. Each outfall is associated with a Design Point, which are the locations where NTMWD's expert witness measured peak flow, volume, velocity, and direction to determine the Facility's impact on drainage patterns.⁸⁶

4. Overview of Methodology Used to Determine Drainage Impact

Mr. Wheatley testified that determining a proposed facility's impact on drainage is a two-step process. First the criteria are examined pre- and post-development. If no significant change has been made, the inquiry need not consider downstream impacts. If significant change has been made, then impacts downstream have to be reviewed to determine if they are adverse.⁸⁷

NTMWD performed such an analysis. To determine 121 RDF's impact on drainage, the watersheds were divided into subareas, and runoff hydrographs were simulated using standard SCS procedures for describing existing watershed hydrologic characteristics and rainfall patterns.⁸⁸ For

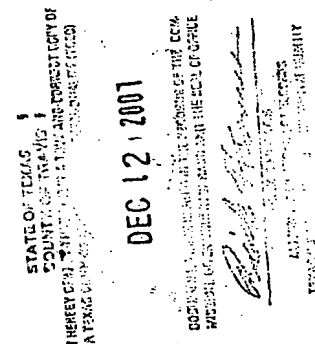
⁸⁴ *Id.*, pp. 25-26.

⁸⁵ App. Ex. 100, Attachment 6 (*Attachment 6*), APP01324.

⁸⁶ App. Ex. 100, Plate 6B.

⁸⁷ Tr., Vol. 3, pp. 627-29.

⁸⁸ *Brandes Prefiled Testimony*, pp. 18-19.



smaller watersheds (*i.e.*, less than 200 acres), 30 TAC § 330.56(f)(4)(A) requires the use of the "Rational Method," which is "a simple equation that relates the peak flow rate for a particular watershed to the size of its drainage area, the condition of its land surface relative to generating runoff, and the intensity of rainfall on the watershed."⁸⁹ Dr. Brandes followed this procedure for pre- and post-development drainage.⁹⁰

Rainfall events with different amounts were simulated. Under 30 TAC § 330.56(f)(4)(A)(ii), an applicant must consider a 25-year rainfall event. In an effort to be conservative, Dr. Brandes also performed 100-year and 2-year storm event analyses. The 100-year event is often considered by regulatory agencies to be the standard for evaluating flood conditions. The 2-year event is often considered as a measure of erosion potential of a stream.⁹¹

The duration of the rainfall event must also be considered. A "critical storm event" has to be determined for pre- and post-development.⁹² The "critical storm event" is unique for each watershed. For 121 RDF, the "critical storm event" was determined by running HEC-1, a standard hydrological analytical model, for a range of storm events with different durations.⁹³ A storm event with a two-hour duration was determined to be the "critical storm event" for both the Brinlee and the South Tributary.⁹⁴ Dr. Brandes testified that the methods and assumptions used to prepare the calculations presented in the Application were reasonable, and the results were accurate and

⁸⁹ *Id.*, pp. 22-23.

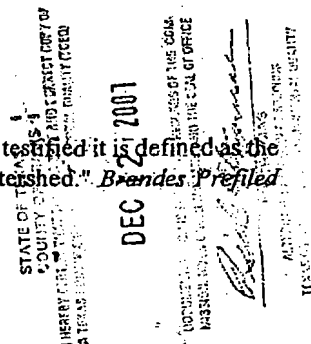
⁹⁰ *Id.*, p. 23.

⁹¹ *Id.*, pp. 19-20.

⁹² Although TCEQ regulations do not define a "critical storm event," Dr. Brandes testified it is defined as the "the duration of rainfall that produces the maximum rate of runoff from a particular watershed." *Brandes Prefiled Testimony*, p. 20.

⁹³ See Attachment 6, Table 6.1, APP01320.

⁹⁴ *Brandes Prefiled Testimony*, pp. 20-21.



conservative.⁹⁵ According to Dr. Brandes, all of the simulations indicated that 121 RDF will not significantly alter natural drainage patterns.⁹⁶

5. Permit-Boundary vs. Offsite Impact

In *Blue Flats*,⁹⁷ the Commission held that an MSW-permit applicant must evaluate the impact on natural drainage patterns at the permit boundary, not offsite. In that case, the Commission omitted findings proposed by the ALJs that dealt with flow offsite away from the boundary. Several conclusions can be drawn from the *Blue Flats* Order. First, calculations and analyses of off-site drainage patterns are wasted motion,⁹⁸ at least as far as the analysis of significant alteration at the permit boundary is concerned. Second, an application that contains such an off-site analysis should not be denied simply because the information is included. Third, the drainage impact analysis need not be performed for any particular point along the boundary.⁹⁹

In this case, Protestants maintain that NTMWD has simply ignored the permit boundary and examined the drainage impact at specific Design Points that lie offsite, albeit on property that is contiguous to the landfill and which NTMWD owns. D.A.V.I.D. witness Larry G. Dunbar is an engineer and lawyer with 25 years of experience in civil and environmental engineering, including

⁹⁵ *Id.*, pp. 32-33.

⁹⁶ *Id.*, p. 18.

⁹⁷ Order Denying the Application of Blue Flats Disposal, L.L.C., For Proposed Permit No. MSW-2262, TCEQ Docket No. 98-0415-MSW; SOAH Docket No. 582-98-1390; pp. 7-8.

⁹⁸ That is the effect of the Commission's statement "impacts measured off-site . . . have been omitted." The measurements off-site may have other uses, as noted below. *Blue Flats* Order, p. 7-8.

⁹⁹ For example, Finding 28 states, "Under existing conditions, 9.55 acres drain northeast of the proposed landfill site, and the existing peak flow rate to the northeast during a 100-year storm is 31.1 cfs." Since the Commission adopted this Finding, the ALJ infers that it was, at least, unobjectionable in describing peak flow at the permit boundary. Nothing in the Order indicates that a particular point could not be used, so long as it was at the boundary. See *Blue Flats* Order.

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flood control, drainage, storm water management, and flood plain management.¹⁰⁰ He testified that NTMWD did not make the required demonstrations for existing conditions or volume at the permit boundary but at the Design Points.¹⁰¹ NTMWD admits that it calculated the impacts at Design Points, but still maintains it correctly analyzed the drainage impact. The measured impacts include peak flow, runoff volume, runoff velocity, and 25-year rainfall event calculations.¹⁰²

There are 12 Design Points, designated 1 through 12.¹⁰³ Design Points 1 and 2 are clearly offsite, beyond the permit boundary, and not on property owned by NTMWD. Though Dr. Brandes considered them and found that no significant drainage impact would occur at them, they are irrelevant under the Commission's holding in *Blue Flats*. Design Points 10, 11, and 12 are on the permit boundary and, under *Blue Flats*, are appropriate for consideration. The remaining Design Points, 3 through 9, are not on the permit boundary, but are located in Designated Drainage Areas. NTMWD maintains that these Design Points within the Designated Drainage Areas for 121 RDF are not "offsite." Dr. Brandes testified that the Designated Drainage Areas will be deed-recorded to restrict future development that might be affected by increased flooding due to the development of 121 RDF.¹⁰⁴ The Draft Permit requires the Designated Areas to be deed-recorded.¹⁰⁵ NTMWD argues that the Designated Drainage Areas are "part and parcel" of the site, and that calculations performed for Design Points within those areas can be considered under the *Blue Flats* Order.

Hydrologically, the Design Points validly represent the landfill's drainage impact at the permit boundary. The values at the Design Points are cumulations of individual runoff hydrographs.

¹⁰⁰ D.A.V.I.D. Exhibit #2, Prefiled Testimony of Larry Dunbar, pp. 2-3.

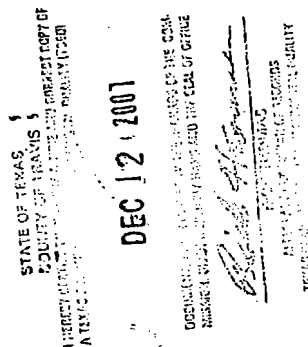
¹⁰¹ Tr., Vol.3, pp. 839-840.

¹⁰² Tr., Vol. 4, pp. 953-55.

¹⁰³ App Exhibit 100, APP01321; Plate 6B.

¹⁰⁴ Brandes Prefiled Testimony, pp. 17-18.

¹⁰⁵ Exhibit F, Draft Permit, at 10.



For example, predevelopment Design Point 5 receives runoff from subwatersheds XB-8, XB-9, XB-10, and XB-11.¹⁰⁶ Calculation 6.17a, the HEC-1 for existing conditions, 100-year storm, 2-hour duration, provides the runoff hydrograph for each of the four subwatersheds.¹⁰⁷ The four hydrographs are combined at Design Point 5, and a hydrograph for the combined subwatershed is run at Design Point 5.¹⁰⁸ The peak flow of 737 cubic feet per second was calculated for Design Point 5, and that number is reflected in Calculation 6.1a, which describes the critical storm runoff volumes for the various Design Points.¹⁰⁹ Since the individual runoff hydrographs simulate runoff for each area toward and across the permit boundary, the ALJ believes it is appropriate to consider the measurements from those Design Points.

The *Blue Flats* Order, which requires demonstrations to be made at the permit boundary, can be understood in the context of the TCEQ's jurisdiction. The Commission has authority over the permitted area, and can require modifications of a proposed landfill to assure elimination of adverse impacts. In this case, where Designated Drainage Areas are established, and made a part of the permit, the Commission has authority over the areas. Based on this consideration, the prior usage established by NTMWD concerning the Ellis County Landfill, and the source of data for the Design Points, the ALJ finds that Design Points 3 through 9 can be considered in determining the landfill's impact on natural drainage. Therefore, the ALJ concludes that NTMWD properly examined the impact that the proposed landfill would have on natural drainage patterns at the permit boundary.

6. Lag time Inputs

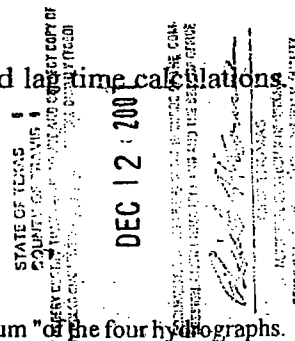
As part of its natural drainage impact analysis, NTMWD submitted lag time calculations

¹⁰⁶ See App. Ex. 100, Plate 6A, APP01643.

¹⁰⁷ Attachment 6, APP01482-1487.

¹⁰⁸ Attachment 6, APP01487-88. In fact, the combined hydrograph refers to the "sum" of the four hydrographs.

¹⁰⁹ Compare Attachment 6, APP01488 with APP01354.



Lag time is a factor used to determine the "time of concentration," which is "the time required for a particle of water to flow overland from the farthest upstream point within a watershed to the outlet or discharge point of the watershed."¹¹⁰ Lag time was not defined in the Application or in the testimony, but it is understood to be "the difference in hours between the peak of the rainfall event and the peak of the subsequent flow event in a surface-water stream."¹¹¹ Lag times are used as inputs to the hydrologic model, HEC-1, that Dr. Brandes used to determine the impact that constructing the proposed landfill would have on natural drainage patterns.¹¹²

The Application contains two sets of lag time calculations. One set was used to run the HEC-1 model for existing conditions and the 100-year, 2-hour storm event,¹¹³ and the second set was included in a summary of other calculations for existing conditions.¹¹⁴ Those two sets of lag time calculations differ. However, the Parties disagree over whether the discrepancies matter.

Protestants contend that using a different set of lag times for the HEC-1 model is a large error, undermining the entire basis for NTMWD's evaluation of the changes in flows before and after landfill construction. They argue that the size of the flow changes cannot be known and assert that the calculations and models need to be run again. Protestants also complain of other "errors" in calculations, but do not elaborate.¹¹⁵ NTMWD responds that lag time variations had no significant

¹¹⁰ Tr., Vol. 4, p. 990; *Attachment 6*, APP01319, note 5.

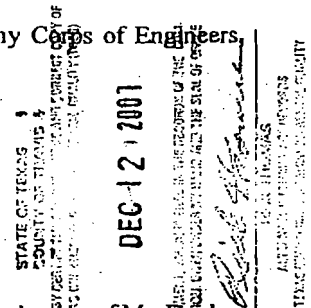
¹¹¹ HEC-1 Flood Hydrograph Package User's Manual Version 4.1, p. 23 (US Army Corps of Engineers Hydrologic Engineering Center, 1998).

¹¹² *Attachment 6*, APP01319.

¹¹³ *Attachment 6*, APP01477.

¹¹⁴ *Attachment 6*, APP1451, Calculation 6.13.

¹¹⁵ In general, Protestants assert that the cross-examination of Dr. Brandes and the examination of Mr. Duhbar led to the revelation of more "errors" in the Application's calculations, which Protestants "presume" Dr. Brandes cannot explain. However, Protestants did not provide record references and did not brief the "errors." Building on this, Protestants state, "the entire basis for NTMWD's evaluation of the changes in flows before and after landfill construction are wrong." Because Protestants did not address these alleged errors more fully, this PFD will not either.



impact on the overall area analysis. Ultimately, the ALJ agrees with the Applicant.

Below are the two different sets of lag times for subwatersheds near the proposed Facility:¹¹⁶

Area	Lag Time HEC-1	Lag Time Calc. 6.13
XB-11	.509	.509
XB-10	.739	.719
XB-09	.507	.507
XB-08	.688	.687
XB-07	.835	1.113
XB-06	.917	.927
XB-05	.572	.540
XB-04	.955	.924
XB-03	.275	.275
XB-02	.849	.849
XB-01	1.00	.954

Dr. Brandes prepared the lag times for the HEC-1 model.¹¹⁷ Dr. Brandes wrote that the time of concentration (TOC) for each sub-area in the HEC-1 model of existing conditions was determined using standard SCS procedures. The HEC-1 was run on February 25, 2002, and the TOC calculations were made on April 20, 2001.¹¹⁸ He was unable to explain why different lag times were

¹¹⁶ Compare App. Ex. 100, Site Development Plan, Calculation 6.17a, APP01477-78 with App. Ex. 100, Site Development Plan, Calculation 6.13, APP01451-52.

¹¹⁷ Tr. V. 4, pp. 991-92.

¹¹⁸ App. Ex. 100, Site Development Plan, Calculation 6.17a, APP01476; App. Ex. 100, Site Development Plan, Calculation 6.13, APP01451.

included in the Application under Calculation 6.13, but speculated that it was a typographical error.¹¹⁹ He doubted that lag time differences would have much effect on the design of the detention pond. He further testified that, if there was a difference in lag time, it simply contributed to the final calculation, but was not the totality of the final result.¹²⁰ Dr. Brandes could not testify at the hearing that the lag times he used to run HEC-1 were accurate,¹²¹ contrary to his prefiled testimony.¹²²

Protestants assert the change was deliberately made to reduce the perceived impact that the landfill would have on natural drainage. There is no direct evidence to support this assertion;¹²³ nevertheless, the lag times may well have been deliberately changed. There is a 10-month time difference between the two sets of figures, and some unaccounted-for process may have required an adjustment. There is *no* evidence that any such adjustment was made with the intent to deceive the Commission. Moreover, the weight of the evidence shows that the changes are not significant.

Dr. Brandes testified that peak flow increases as lag time decreases. He was asked about the differences in lag time values for XB-10 and XB-07 in particular. The lag time that he used for XB-07 was lower. If the lag time at XB-07 was higher, Dr. Brandes testified that would "give you the advantage of being able to release more water, if you're just looking at that one issue."¹²⁴ The XB-10

¹¹⁹ Tr., Vol. 4, p. 993.

¹²⁰ Tr., Vol. 4, 1001-02.

¹²¹ Dr. Brandes testified, "There might be a typo in one place or the other. I'm not real sure." Tr. Vol. 4, p. 993. The "one place or the other" he refers to are the HEC-1 model for existing conditions and the 100-year 2-hour storm and the summary of time of concentration and reach routing calculations.

¹²² Brandes Prefiled Testimony, pp. 32-33.

¹²³ One of the developed sub-areas, FDB-10B roughly corresponds to pre-development sub-area XB-10. Compare Plate 6B with Plate 6A. As was the case with sub-area XB-10, the lag time used in the developed conditions HEC-1 model for FDB-10B, 0.421, is less than the lag time contained in the corresponding the TOC calculations, which is 0.719. Compare App. Ex. 100, Site Development Plan, Calculation 6.17b, APP01526, with App. Ex. 100, Site Development Plan, Calculation 6.14, APP01455. Calculation 6.17b is the HEC-1 model. Calculation 6.14 summarizes the TOC calculations. The HEC-1 was run on February 25, 2002. The TOC calculations were made on April 20, 2001.

¹²⁴ Tr., Vol. 4, p. 995.

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lag time that Dr. Brandes used for the HEC-1 model was two percent higher than the lag time value for XB-10 that was included in the Application, a difference described as "slight" by Dr. Brandes.¹²⁵

While he could not precisely quantify the changes that the difference in lag times might cause on peak flow, etc., Dr. Brandes doubted that they would have very much effect. The variations are in subwatersheds that contribute in part to the total flow in a detention pond or at a design point. He indicated that a change at a design point would be significant, but not variations in subwatersheds.¹²⁶ He qualified that statement, however, noting: (1) "It depends on how this particular watershed is phased timing-wise with the overall hydrograph that comes off of this site," and (2) "that's not the only watershed that contributes, so I don't know if it makes any difference or not."¹²⁷ There is no evidence to contradict Dr. Brandes concerning the potential impact of these lag time differences.

While it is disconcerting that there are different lag times indicated in the Application, the greater weight of the evidence indicates that such discrepancies make little difference. Moreover, because there is no expert or other qualified testimony contradicting Dr. Brandes' assertion that the lag time change is not significant, the ALJ is unwilling to make a finding to the contrary. Accordingly, the ALJ recommends the Commission find that NTMWD has adequately described and justified the reliability of its lag time calculations used by Dr. Brandes to determine the impact that the landfill would have on natural drainage patterns as required by 30 TAC § 330.56(f)(4)(A).

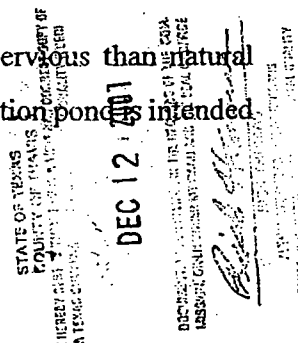
7. Facility's Impact on Peak Flows

Dr. Brandes opined that since the landfill is, by design, more impervious than natural conditions, increased runoff from the landfill is to be expected. The east detention ponds intended

¹²⁵ Tr., Vol. 4., p. 993.

¹²⁶ Tr., Vol. 4, 1001-03.

¹²⁷ Tr., Vol. 4, pp. 994-95.



to control the increased runoff. Runoff from the detention pond will be discharged into the South Tributary, at Design Point 6.¹²⁸ The pond's dimensions and outlet structure were designed using the HEC-1 model. The pond is designed to limit peak flows into the South Tributary to levels consistent with those under pre-development conditions.¹²⁹ Ultimately, Dr. Brandes concluded that peak runoff rates are projected to increase at only Design Points 4 and 5 on Brinlee Branch as a result of the landfill. Design Points 4 and 5 are in Designated Drainage Areas.¹³⁰

Dr. Brandes testified that peak flow rates provide information regarding changes in flooding, and that increased peak flow rates equate to increased flood depths and flooding. Increased velocity of runoff means increased erosion. If the peak flow is not increased then velocity will generally not be increased.¹³¹ Increased volume of runoff was analyzed at the Design Points to examine the effect of the impervious cover, and Dr. Brandes presented a before-and-after study of the volume at the design points.¹³² Depending on the Design Point, volume increases or decreases. None of the increases are significant when considered with the associated changes in peak flow rates and velocities. The proposed detention ponds will allow slowed release of the increased volumes. NTMWD points out that the designated drainage areas are places where slight increases in peak flows and potentially increased flooding are projected to occur.¹³³

a. Dr. Brandes' Calculations

To better understand this issue, it is helpful to look at Dr. Brandes' calculations. As shown

¹²⁸ Attachment 6, APP01325; Plate 6B.

¹²⁹ Attachment 6, APP01326-27.

¹³⁰ Attachment 6, APP01334.

¹³¹ Brandes Prefiled Testimony, p. 16.

¹³² Attachment 6, APP01356.

¹³³ *Id.*, pp. 17-18.

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below, peak flows (in cubic feet per second, for the critical 2 hour storm event) for developed conditions are *less* than for existing conditions at all Design Points, except 4 and 5:

Location	Existing 2-year	Developed 2-year	Existing 25-year	Developed 25-year	Existing 100-year	Developed 100-year
Design Point 3	372	358	1,061	1,006	1,489	1,404
Design Point 4	296	307	840	867	1,178	1,210
Design Point 5	179	251	523	716	737	1,002
Design Point 6	172	118	481	353	672	529
Design Point 7	149	67	414	218	578	316
Design Point 8	81	15	214	48	293	68

Four areas are not included in the above chart. They are the four smaller watersheds that are treated separately because they are less than 200 acres in size, and the calculations for them were derived using a different method, *i.e.*, the "rational method" discussed previously.¹³⁵ The four areas are XW-1 and XS-1, which are inside the landfill, and XP-1 and XP-2, which are in the "panhandle" on the west end of the site. They correspond to FDW-1 and FDS-1, and FDP-1 and FDP-2 on Plate

¹³⁴ App. Ex. 100, Vol. 3, Attachment 6, Calculation 6.1a. The values for Design Points 9 through 12 are discussed below. The values for Design Points 1 and 2 were omitted.

¹³⁵ Attachment 6, APP01336; 30 TAC § 330.55(b)(5)(A).

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6B.¹³⁶ The peak flows for these four areas are:¹³⁷

Location	Existing 2-year	Developed 2-year	Existing 25-year	Developed 25-year	Existing 100-year	Developed 100-year
XW-1	104		0		222	
FDW-1		103		0		221
XS-1	59		0		127	
FDS-1		56		0		120
XP-1	55		0		118	
FDP-1		90		0		192
XP-2	101		0		218	
FDP-2		141		0		303

b. Analysis

The percentage increase in peak flow at Design Point 4 is 3 % for the 2-year storm, 25-year storm, and 100-year storm. The percentage increase in peak flow at Design Point 5 is 40 % for the two year storm, 36 % for the 25 year storm, and 35 % for the 100 year storm. The increase at Design Point 4 appears insignificant, while the increase at Design Point 5 is significant. The inquiry then becomes whether any impact from the increase in peak flow at Design Point 5 is adverse. Increased peak flow rates equate to increased flood depths and flooding. The increased flooding potential should be balanced by the existence of a Designated Drainage Area at Design Point 5, and the preexisting dam which will serve to control flooding. Mr. Wheatley testified that if significant change has been made, then impacts downstream have to be considered to determine if they are adverse. The Application supplies information about downstream impacts at Design Point 2, at the

¹³⁶ See Attachment 6, Plate 6A, APP01643(Plate 6A), and Attachment 6, Calculation 6.7, APP01384.

¹³⁷ See Attachment 6, Calculation 6.7, APP01384.

confluence of the Brinlee with the South Tributary, and Design Point 1, on the Brinlee downstream of the confluence. As shown in Calculation 6.1a, those impacts are as follows:

Location	Existing 2-year	Developed 2-year	Existing 25-year	Developed 25-year	Existing 100-year	Developed 100-year
Design Point 2	638	554	1,808	1,586	2,533	2,250
Design Point 1	647	565	1,832	1,615	2,565	2,291

The peak flows under all three rainfall events are lowered at Design Points 2 and 1. Because the peak flows are lowered, the potential for increased flood depths and flooding are reduced. And, because the flood depths and flood potential are reduced, increased peak flows at Design Point 5 do not have an adverse impact downstream. Therefore, the ALJ concludes the increase of peak flows at Design Points 4 and 5 will not cause an adverse impact downstream.

With respect to XW-1/FDW-1 and XS-1/FDS-1, the chart reflects that the developed peak flows are actually less, by as little as 1 cfs to as much as 7 cfs, than the pre-developed peak flows. Therefore, the developed conditions essentially maintain the *status quo*. However, with respect to XP-1/FDP-1 and XP-2/FDP-2, in the "panhandle" on the west end of the site, the peak flows increase after development. Dr. Brandes noted that the panhandle area was assumed to have been completely paved.¹³⁹ To remedy the increased peak flows, two detention ponds were designed: Pond P-1 in the southeast corner of the panhandle at Design Point 11, and Pond P-2 in the southwest corner of the panhandle at Design Point 12. The ponds are designed to reduce peak flows back to levels consistent

¹³⁸ Attachment 6, APP01354.

¹³⁹ Attachment 6, APP01337. According to the site layout plans, various buildings and roadways as well as screening berms will be constructed in the panhandle. App. Ex. 100, Attachment1, APP00919-21.

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with existing conditions.¹⁴⁰ To design the ponds, the HEC-1 model was run on the developed watersheds FDP-1 and FDP-2, calibrated to the results from the rational method. With the ponds in place, the peak flows for the 100-year storm for the two watersheds are 99 cfs and 203 cfs, or just below the existing condition values of 118 cfs and 218 cfs, respectively.¹⁴¹ So, the introduction of the two detention ponds in the panhandle reduce peak flow to pre-development conditions.

In light of all of the evidence, therefore, the ALJ concludes that peak flow analysis shows that natural drainage patterns will not be significantly altered as a result of the landfill.

8. Facility's Impact on Runoff Volumes

NTMWD concedes that, due to the impervious nature of the 121 RDF final cover, runoff volume will not be reduced. Rather, the issue for a landfill designer is "how much and where are you going to increase the volume, and is it acceptable as far as those increases are concerned."¹⁴²

a. Dr. Brandes' Calculations

Dr. Brandes has provided runoff volume calculations for the relevant design points, aside from Design Points 9 and 10. The following chart shows volume in acre-feet, for the 100-year, 2-hour storm event.¹⁴³ The amounts represent the volume of runoff passing each of the Design Points during the critical storm event from the time runoff begins until it stops.¹⁴⁴

¹⁴⁰ Attachment 6, pp. APP01337-38; Plate 6B.

¹⁴¹ Attachment 6, APP01338.

¹⁴² Tr., Vol. 4, *Id.* pp. 898-99.

¹⁴³ Attachment 6, Calculation 6.1b, APP01356. The values for Design Points 1 and 2 have been omitted.

¹⁴⁴ Attachment 6, APP01323.

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Location	Existing Volume	Developed Volume	Change in Volume (%)
Design Point 3	190	173	- 9 %
Design Point 4	147	138	- 6 %
Design Point 5	80	96	+20 %
Design Point 6	93	121	+30 %
Design Point 7	78	26	- 67 %
Design Point 8	39	5	- 87 %
Design Point 11	8	10	+25 %
Design Point 12	17	21	+24 %

Dr. Brandes noted that some runoff volumes are increased and some are decreased. He attributes these changes to changes in drainage area size and runoff coefficient caused by the landfill. At locations where runoff volume increases 20 % or more (such as Design Points 5, 6, 11, and 12), adverse effects in the form of increased flooding are mitigated because the "corresponding peak flow rates . . . will be controlled by the proposed detention ponds, and will not exceed those for existing watershed conditions." In other words, "the additional volumes of runoff will produce longer periods of low-flow conditions at the end of flood events," the proposed detention ponds will allow slowed release of the increased volumes.¹⁴⁵ This will not result in a risk of erosion, since the velocity of the streams will be too low to cause erosion.¹⁴⁶ Dr. Brandes concludes that drainage will not be altered, as the volumes at downstream Design Points are decreased as a result of the engineering of the landfill.¹⁴⁷ The increased volumes at Design Points 5 and 6 are also compensated by the Designated Drainage Areas and the dams. The peak flows at Design Points 11 and 12 have been decreased by use of the detention ponds, even though the volume runoff increased.

¹⁴⁵ Attachment 6, APP01335; Brandes Prefiled Testimony, pp. 16-17.

¹⁴⁶ Velocity is discussed below.

¹⁴⁷ Attachment 6, APP01335-36.

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With respect to volume at Design Points 9 and 10, Dr. Brandes explained that the runoff volumes at these two points have the same peak flow for undeveloped and developed conditions, because they have been "sized" to produce the same peak flows. Further, no water is being detained on the two subwatersheds, XW-1/FDW-1 and XS-1/FDS-1. He concluded, without contradiction from any other witness, that "the volumes have to be similar, because there's no detention."¹⁴⁸ He agreed that the volumes for XW-1/FDW-1 and XS-1/FDS-1 are not presented in the Application.¹⁴⁹

b. Analysis

Ultimately, the ALJ finds persuasive the testimony of Dr. Brandes regarding the landfill's anticipated impact on runoff volumes. Given his testimony, it appears that runoff volumes are not expected to increase significantly for any locations except Design Points 5, 6, 11 and 12. As to Design Points 11 and 12, the ALJ concludes that the increase in runoff volume is insignificant given that the volumes involved are fairly small and that the peak flows at those Design Points will actually be decreased through the use of the detention ponds. Moreover, the ALJ also accepts as being reliable Dr. Brandes' assertion that increased runoff volume at Design Points 5 and 6 is due in part to changes in drainage area size. Design Point 5, prior to development, drains 287.9 acres; after development it drains 335.8 acres.¹⁵⁰ Design Point 6, prior to development, drains 60.2 acres. Post-development, subareas FDT-1A, FDT-2A, FDT-3A, and FDT-4 (comprising a total of 305 acres) drain into the detention pond, and then to Design Point 6.¹⁵¹ Given the increases in drainage area size, it is naturally expected that runoff volume will increase. But, as Dr. Brandes testified, such increased volumes do not present a danger of increased erosion or flooding given the use of detention ponds and other drainage tools reflected in the site development plans.

¹⁴⁸ Tr., Vol. 4, pp. 957-58, 958-59.

¹⁴⁹ Tr., Vol. 4, p. 959.

¹⁵⁰ See Plate 6A and Plate 6B. In contrast, Design Point 4 drains 87.6 less acres after development.

¹⁵¹ App. Ex. 100, Site Development Plan, APP01331; Plate 6A and 6B.

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c. Are reductions in volume significant?

Protestants assert that nothing in Texas law requires only increases in volume to be significant or adverse, and they argue that a reduction in runoff volume can also be significant to the adjoining landowner.

For example, at Design Point 8, the evidence indicates an expected 87 % reduction in runoff volume (from 39 acre-feet to 5 acre-feet) for the 100-year, 2-hour storm.¹⁵² Dr. Brandes testified this was not significant, especially since Design Point 8 is in a Designated Drainage Area.¹⁵³ The reduction comes from routing the water to the main detention pond for release at another design point.¹⁵⁴ Similarly, Design Point 7 has a 67 % reduction. It is on the boundary of a Designated Drainage Area.¹⁵⁵ Dr. Brandes did not characterize this as a significant change in drainage patterns with regard to volume and for the 100-year flood.¹⁵⁶

The property along the South Tributary at Design Point 7 is owned in part by a third party (who is allegedly opposed to the landfill) and in part by NTMWD. Dr. Brandes could not state whether the landowner at Design Point 7 had agreed to the reduction.¹⁵⁷ Protestants argue that this adjoining landowner has protected water rights in the flow of a stream. They contend that, because NTMWD did not go through the appropriate water rights permitting process, the reduction is prohibited by TCEQ rules and, therefore, is "significant."

¹⁵² Attachment 6, APP01356.

¹⁵³ Tr., Vol. 4, pp. 942-43; Plate 6B.

¹⁵⁴ Tr., Vol. 4, pp. 944.

¹⁵⁵ Tr., Vol. 4, pp. 945; Plate 6B.

¹⁵⁶ Tr., Vol. 4, pp. 943.

¹⁵⁷ Tr., Vol. 4, pp. 946-47.

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In response, NTMWD asserts that Protestants have failed to identify the landowner at Design Point 7. From consulting the Land Owners Map, NTMWD notes that the landowner appears to be Albert Fuller, who did not request to be a party and did not participate in the hearing.¹⁵⁸ As NTMWD states, there is no evidence in the record concerning Mr. Fuller's opinions on the landfill, whether for or against. Further, NTMWD notes that the ED representative, Mr. Wheatley, defined the "significant alteration" inquiry as a determination of "adverse impacts."¹⁵⁹ This determination is site-specific. Because there is no evidence that a reduction in runoff flow will adversely impact Mr. Fuller, NTMWD argues that there is simply no significant alteration resulting from decreased runoff flows. As further support, NTMWD points out that the ED found no "adverse impacts" and, hence, no "significant alteration" caused by the landfill.

The ALJ assumes, as the evidence appears to indicate, that property at Design Point 7 is owned by Mr. Fuller at least in part.¹⁶⁰ Although there are water rights procedures to protect downstream users, the record amply demonstrates that Mr. Fuller never utilized such procedures despite having ample, personal notice of the Application and the contested case hearing.¹⁶¹ Notice of the reduction in the volume of runoff for the 100-year flood at his property was available to him at NTMWD's offices in McKinney, Texas. Mr. Fuller, for whatever reasons, did not avail himself of the mechanism provided by the hearing to protest the reduction in volume and there is no evidence in the record showing any actual adverse impacts to Mr. Fuller's property from such reduction.

¹⁵⁸ Applicant Exhibit 100, APP01644, APP00169.

¹⁵⁹ Tr., Vol.3, p. 618.

¹⁶⁰ App. Ex. 100, Vol. II, Appendix I & II-C, APP00167-169, APP00343-358.

¹⁶¹ Mr. Fuller was mailed a Notice of Public Meeting for the August 14, 2001, public meeting about the Application. Exhibit K. Mr. Fuller's name does not appear in the ED's Response to Comment. See Exhibit ED-1 Executive Director's Response to Public Comment, Application by North Texas Municipal Water District for Municipal Solid Waste Permit No. MSW-2294, TCEQ Proposed Permit Application No. MSW-2294 (Mar. 10, 2003). It appears that Mr. Fuller's signature is not contained on any of the petitions contained in the exhibit. Mr. Fuller was mailed a copy of the Notice of Application, Preliminary Decision and Contested Case Hearing and the Amended Notice of Application, Preliminary Decision and Contested Case Hearing, for the August 13, 2002, preliminary hearing. Exhibits B & N. Mr. Fuller did not register with the ALJ at the preliminary hearing held in McKinney, Texas, on August 13, 2002, according to a review of the registration cards.

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Protestants essentially concede that the volume reduction at Design Point 7 will not lead to an increased danger of flooding or erosion with respect to the 100-year flood. Since the impermeable nature of the landfill cover ordinarily causes concern over increased flooding and/or erosion, a reduction in volume and its diversion to other areas for slower release appears to be beneficial in avoiding these concerns and is not obviously an adverse impact. Without specific evidence showing an adverse impact to the specific property owner in issue, the ALJ ultimately concludes that volume analysis shows that natural drainage patterns will not be significantly altered as a result of the landfill.

9. Facility's Impact on Drainage Velocity

The third *Blue Flats* criterion is drainage velocity. Velocity, or speed of runoff, is usually calculated with respect to runoff in confined areas such as channels or ditches. Mathematically, velocity is a function of peak flow.¹⁶² Peak flow is measured in cubic feet per second. If water is moving down a channel of known dimensions and at a known depth, the area of the water flow's cross-section can be determined. The water's velocity in feet per second is then determined by dividing the peak flow by the cross section. As Dr. Brandes testified, "if you do not increase the peak flow, you automatically do not increase the peak velocity."¹⁶³ Dr. Brandes explained that "velocity is not calculated in HEC-1."¹⁶⁴ Rather, the HEC-1 simulates the time-varying distribution of runoff from a given watershed (volume and flow rate) in response to a specified time-varying distribution of rainfall.¹⁶⁵

¹⁶² Tr., Vol. 4, p. 999.

¹⁶³ Tr., Vol. 4, pp. 899; 952.

¹⁶⁴ Tr., Vol. 4, p. 952. Indeed, velocity of water moving off the site, where it is not confined in a channel of some type, and is distributed to varying portions of an area at varying times, would be difficult to calculate because the area of the conveying mechanism (the land or landfill cover) and the water flow depth would be difficult to calculate.

¹⁶⁵ Attachment 6, APP01320.

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According to the Application and Dr. Chandler, "estimated peak run-off velocities on the final cover system [that is, the velocities in the interior drainage system for the completed cover] are less than five feet per second." These velocities are within permissible, non-erosive velocities under similar conditions for overland sheet flows.¹⁶⁶ The velocity values of the four "rational method" areas—XW-1, XS-1, XP-1, and XP-2—will not increase.¹⁶⁷ Also, velocities in the drainage channels to the outflows were calculated for the 100-year flood.¹⁶⁸ Channels B-1 and T-1 both flow to the east detention pond. Channel B-1 has a velocity of 4.8 feet per second (fps) and Channel T-1 has a velocity of 6.5 fps. The other perimeter channels have velocities of 2.3 to 6.3 fps. Based on the testimony of Dr. Brandes, the ALJ infers that the velocity of runoff under pre-developed conditions at the Design Points served by the perimeter channels is no greater than 2.3 to 6.3 fps. So, the evidence supports the conclusion that the peak run-off velocities will not increase for these channels. Therefore, the ALJ concludes that analysis of the velocity of runoff shows that natural drainage patterns will not be significantly altered as a result of the landfill.

10. Facility's Impact on Direction of Drainage

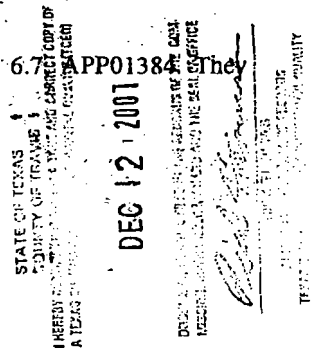
At the hearing, Dr. Brandes testified that the "direction of runoff" analysis focuses on whether runoff moves in essentially the same pattern under the developed condition as it does under the existing, undeveloped condition. Dr. Brandes asserted that this was the case under the Application for 121 RDF. When the pattern remains essentially the same, Dr. Brandes concluded "that pretty much satisfies the direction condition."¹⁶⁹

¹⁶⁶ App. Ex. 100, Site Development Plan, APP00829; APP01340-41; Calculation 6.16, APP01461-74; App. Ex. 103, Prefiled Testimony of Pierce L. Chandler, Jr., P.E., p. 80, 82-83.

¹⁶⁷ Attachment 6, Plate 6A, APP01643(Plate 6A), and Attachment 6, Calculation 6.7, APP01386. They correspond to FDW-1, FDS-1, FDP-1, and FDP-2 on Plate 6B.

¹⁶⁸ App. Ex. 100, Site Development Plan, Calculation 6.8, APP01386; Plate 6B.

¹⁶⁹ Tr., Vol.4, pp. 860-61; compare Plate 6A with Plate 6B.



As noted above, almost all of the runoff from 121 RDF currently moves into the Brinlee Branch on the north, or into the South Tributary on the south. After the Brinlee Branch and South Tributary join, the Brinlee flows to the east into Sister Grove Creek, a tributary of Lake Lavon on the East Fork of the Trinity River.¹⁷⁰ In the southwest corner of the 121 RDF site, runoff flows west into Stiff Creek, and then into Sister Grove Creek. In the Panhandle of the 121 RDF site, runoff flows into Stiff Creek and then into Sister Grove Creek. Ultimately, when reviewing the technical runoff data and other evidence, it becomes clear that these natural drainage patterns will not be significantly altered as a result of the landfill, and that post-development runoff will drain in patterns similar to pre-development runoff.¹⁷¹

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11. Overall Drainage Impact Conclusion

The Application satisfies the requirements of the *Blue Flats* Order. It analyzes pre- and post-development drainage patterns with respect to peak flow, volume, velocity, and direction. The evidence admitted into the record provide sufficient information to make a reasoned determination that 121 RDF will not significantly alter natural drainage patterns. The Application (1) provides the method and calculations used to estimate peak flow rates and runoff volumes; (2) defines the 25-year rainfall intensity used for facility design; and (3) sets out the hydraulic calculations and designs for

¹⁷⁰ Brandes Prefiled Testimony, p. 13.

¹⁷¹ App. Ex. 100, Site Development Plan, APP01331. Compare Plate 6B with Plate 6A. Under developed conditions, as depicted on Plate 6B, the drainage sub-areas FDB-1, FDB-2, FDB-3, FDB-4, FDB-5, FDB-6, FDB-7, FDB-8, FDB-9, FDB-10A, FDB-10B, and FDB-11, drain into the Brinlee. These sub-areas correspond to undeveloped sub-areas XB-1, XB-2, XB-3, XB-4, XB-5, XB-6, XB-7, XB-8, XB-9, XB-10, and XB-11, on Plate 6A, which also drain into the Brinlee. Runoff from developed sub-areas FDT-1B, FDT-2B, and FDT-3B, drain into the south Tributary. These sub-areas correspond to portions of undeveloped sub-areas XT-1B, XT-2, and X-3B which also drain into the South Tributary. App. Ex. 100, Site Development Plan, APP01331. Compare Plate 6B with Plate 6A. Runoff from developed sub-areas FDT-1A, FDT-2A, FDT-3A, and FDT-4, which comprise the top, east, and south of the final cover, is collected by the final cover drainage system, and routed to the east detention pond. In turn, the detention pond drains into the South Tributary. App. Ex. 100, Site Development Plan, APP01331; Plate 6B. Pre-development sub-area XW-1 drains to the west and sub-area XS-1 drains to the south. Their two progeny, FDW-1 and FDS-1, drain in the same respective directions. Undeveloped sub-areas XP-1 and XP-2, which are in the "panhandle," drain each to the south. Two small detention ponds are provided for FDP-1 and FDP-2 which drain at Design Points 11 and 12, respectively, to the south. Plate 6A; Attachment 6, Calculation 6.7, APP01384.

the necessary collection, drainage, and/or detention facilities.¹⁷² After considering all of the evidence, the ALJ recommends that the Commission find that construction of the proposed facility will not significantly alter natural drainage patterns.

D. Would the proposed facility be located in the 100-year floodplain, restrict the flow of a 100-year flood, reduce the temporary storage capacity of the floodplain, or allow the washout of solid waste?

Protestants question whether 121 RDF, as proposed, would be located in the 100-year floodplain for the Brinlee Branch. This issue was vigorously disputed between the parties. After considering the arguments and evidence, the ALJ concludes that, if constructed according to the Application, the landfill will not be located in, and will have no deleterious effect on, the 100-year floodplain.

1. Legal Authority and the Parties' Arguments

The Commission's rule, 30 TAC §330.56(f)(4)(B)(i), requires the Application to:

Identify whether the site is located within a 100-year floodplain. Indicate the source of all data for such determination and include a copy of the relevant Federal Emergency Management Agency (FEMA) flood map, if used, or the calculations and maps used where a FEMA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e. g., wave action) that must be considered in designing, constructing, operating, or maintaining the proposed facility to withstand washout from a 100-year flood. The boundaries of the proposed landfill facility should be shown on the floodplain map.

Protestants allege that 121 RDF is within the 100-year floodplain. They rely on the map offered by their witness, Mr. Dunbar, as evidence supporting this assertion.¹⁷³ In his map (the

¹⁷² 30 TAC § 330.56(f)(4)(A).

¹⁷³ D.A.V.I.D. Exhibit 2, pp. 4-6, D.A.V.I.D. Exhibit 2B.

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Dunbar Map), Mr Dunbar overlaid the two 100-year flood levels identified by Mr. Brandes' calculations on the permit boundary and claimed that part of the 100-year floodplain is within the permit boundary.¹⁷⁴ Mr. Dunbar further testified that a portion of the floodplain would be filled in as a part of the construction of 121 RDF.¹⁷⁵

NTMWD relies on the testimony of both Dr. Brandes and Mr. Wheatley, each of whom testified that 121 RDF is not within the 100-year floodplain as correctly identified by use of a FEMA Flood Insurance Rate Map (the FEMA Map).¹⁷⁶ NTNWD notes that TCEQ rules require identification of whether the site is located within a 100-year floodplain by relying on a FEMA Map or other calculations and maps where a FEMA Map is not available.¹⁷⁷ Mr. Wheatley testified the use of the FEMA Map satisfied the TCEQ requirement, and he provided a list of 18 permitting actions in the last 36 months where a FEMA Map was the sole source used to establish the 100-year floodplain.¹⁷⁸ To require an additional showing in this case, according to NTMWD, would be an improper change in Commission rules.

Protestants disagree with NTMWD's position that it may rely *entirely* upon the FEMA Map to determine if the proposed landfill is within a 100-year floodplain. Protestants assert that all parties know that FEMA Maps are often inaccurate and urge that if NTMWD's position is adopted, a map demonstrably known to be wrong could be used and that applicants could simply ignore valid and scientific data showing errors on FEMA maps. OPIC agrees with Protestants that the landfill is within the floodplain, and recommends that the permit be denied. Alternately, OPIC recommends

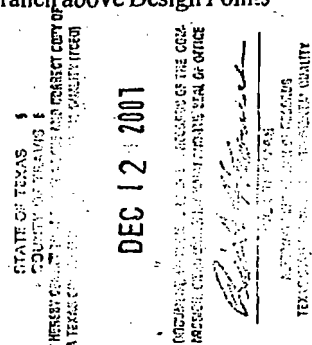
¹⁷⁴ The two 100-year flood levels noted by Mr. Dunbar allegedly run along Brinlee Branch above Design Points 4 and 5. D.A.V.I.D. Exhibit 2B.

¹⁷⁵ D.A.V.I.D. Exhibit 2, p. 6.

¹⁷⁶ Brandes Prefiled Testimony, p. 27; Tr., Vol. 3, 650-51.

¹⁷⁷ 30 TAC § 330.56(f)(4)(B)(I).

¹⁷⁸ Tr., Vol. 3, pp. 559-61; 677; Applicant Exhibit 115.



that NTMWD be required to amend its permit in accordance with 30 TAC 330.56(f)(4)(B)(ii) concerning the requirements for detailing of flooding if a site is located in a floodplain.

The Application also provided data on the 100-year flood *level* and demonstrated that the landfill will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.¹⁷⁹ Both OPIC and Mr. Wheatley agree that NTMWD has demonstrated this much.¹⁸⁰

NTMWD relies on its proof that the peak 100-year flows along the Brinlee and the South Tributary with 121 RDF in place will be less than the peak 100-year flows along the two streams without the landfill, except with respect to two Design Points. There will be no increased flooding. NTMWD asserts this shows any restrictions caused by 121 RDF on the flood levels or flood storage have been mitigated. 121 RDF is designed to drain, collect, convey, store, and release storm water to maintain the predevelopment conditions. The design and use of perimeter berms and drainage channels prevent washout of waste during a 100-year flood. They are above the 100-year flood levels of the Brinlee and the South Tributary, and are between the landfill and the watercourses. Accordingly, they provide protection against the washout of solid waste by floodwaters flowing in either the Brinlee Branch or the South Tributary.¹⁸¹

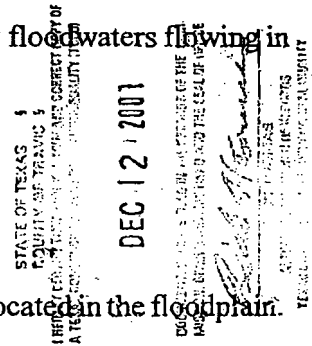
2. Analysis

The greater weight of evidence suggests the proposed landfill is not located in the floodplain.

¹⁷⁹ 30 TAC § 330.301. Applicant asserted it made proof of compliance with 30 TAC § 330.301, even though the proof was not necessary. § 330.301 applies to "new MSWLF units . . . located in 100-year floodplains." NTMWD asserts the additional calculations were provided to "ensure additional protection." Dr. Brandes testified a demonstration under this section was necessary if the landfill was "in the vicinity" of the 100-year floodplain. Tr., Vol. 4, p. 853.

¹⁸⁰ Tr., Vol. 3, pp 655-56.

¹⁸¹ Brandes Prefiled Testimony, pp. 30-31.



The FEMA Map and written statement of Reuben Delgado are proof.¹⁸² The weight of authority concerning the use of the FEMA Map to satisfy the § 330.56(f)(B)(i) requirement supports NTMWD's position. Both the plain language of the rule, and Mr. Wheatley's authoritative statement, authorize NTMWD to rely on the FEMA Map. Protestants' belief that "all parties know that FEMA maps are often not accurate," is apparently not shared by the TCEQ, the EPA, and the USACE, as the record demonstrates.¹⁸³ As Mr. Wheatley pointed out, the issuance of the USACE permit also supports the ED's decision regarding the designation of the 100-year floodplain.¹⁸⁴

Both the Protestants and OPIC describe the 100-year regulatory floodplain and the 100-year flood level on any watercourse as being one and the same; this is incorrect. Rather, the floodplain is defined as the "lowland and relatively flat areas adjoining inland and coastal waters. . . that are inundated by the 100-year flood."¹⁸⁵ Mr. Wheatley testified there are three main reasons for designating and protecting floodplains in regard to landfills. First, waste may be washed out and carried downstream. Second, if the floodplain is filled in—thus restricting the flow of floodwaters—higher flooding may occur *upstream*. Finally, if the floodplain is filled in its temporary water storage capacity may be reduced, leading to faster flow, which leads to higher flooding and greater damage *downstream*. Mr. Wheatley testified the Application addresses all of these concerns.¹⁸⁶

The two areas highlighted as concerns on the Dunbar map encompass the two pre-existing

¹⁸²The floodplain administrator for the area, Mr. Reuben Delgado, confirmed the demonstration provided by the FEMA Map. App. Ex. 100, Vol. I, APP00728.

¹⁸³ App. Ex. 100, Vol. I, APP00728. See OPIC EX. 1, 56 Fed. Reg. at 50,978, 51,044 (Oct. 9, 1991) (ERA); App. Ex. 100, Vol I, APP00416, APP00426 (USACE Nationwide Permit 39).

¹⁸⁴ Tr., Vol. 3, p. 673.

¹⁸⁵ 30 TAC 330.2(51)

¹⁸⁶ Tr., Vol. 3, pp 655-56.

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ponds behind the dams at Design Points 4 and 5. These areas do not require the protection accorded to floodplains even though the evidence reflects that the water that would be caught in the two basins would constitute 100-year flood levels. This is because not all areas where a 100-year flood falls, or where water from a 100-year flood collects, is necessarily a 100-year floodplain. As noted above, 30 TAC 330.2(51) defines the floodplain as "lowland and relatively flat areas adjoining inland and coastal waters" which will be inundated with 100-year flood waters. Topographically, the areas at Design Point 4 and 5 are not "lowland" or relatively flat and do not fall within the definition of a floodplain. This is further evidenced by the fact that the concerns associated with floodplains and landfills do not exist at these locations. Waste will not be washed out of these areas. The dams at Design Point 4 and 5 are intended to capture and hold run-off and hardly could be considered to constitute a means of conveying flood waters. The preexisting ponds will not cause any higher flooding "upstream." The water released from the areas will not cause faster flow, higher floods or greater damage downstream.

Similarly, the peak flows and volumes at Design Points 1 and 2 demonstrate that the landfill will not restrict the flow of the 100-year flood, or reduce the temporary water storage capacity of the floodplain, thus satisfying 30 TAC § 330.301. The level of the perimeter channels is lower than the elevation of the toe of the landfill. The perimeter berms enclose the perimeter channels, which are designed to contain the 100-year flood waters at depths of less than one and one-half feet. Accordingly, there will be no washout of solid waste so as to pose a hazard to human health and the environment.

In summary, the ALJ finds that 121 RDF is not located in the 100-year floodplain and will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or allow washout of solid waste posing a hazard to human health or the environment.

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E. Has NTMWD proposed a sufficient groundwater monitoring system?

Groundwater must be protected so that it is not polluted by leakage from landfills. Groundwater in the form of aquifers is protected by the requirements of Subchapter I, chapter 330, of the Commission's rules, which require active monitoring of any aquifer below the site of a landfill. NTMWD's Application adequately identifies and characterizes the aquifer below the landfill, but does not propose a groundwater monitoring system that meets the Commission's rules.

1. The Woodbine Aquifer

An aquifer is a "geological formation, group of formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs."¹⁸⁷ Groundwater is "water below the land surface in a zone of saturation."¹⁸⁸ The Commission's rules require the Application's Geology Report to provide a description of the aquifers in the area of the proposed landfill, including the name, composition, hydraulic properties, hydraulic interconnection with other aquifers, rate of flow, chemistry, recharge areas, and present use. The report must contain a water-table contour map and a map of all existing wells drawing on the aquifer located within one mile of the facility.¹⁸⁹ The Geology Report must also contain a subsurface investigation report, which is required to include borings into the aquifer. If the aquifer is 300 feet below the lowest excavation of the proposed fill and the "estimated travel times for constituents to the aquifer are in excess of 30 years plus the estimated life of the site," the aquifer does not have to be explored through boring.¹⁹⁰

The Woodbine Aquifer is the only aquifer located beneath the landfill site. The Application's

¹⁸⁷ 30 TAC § 330.2(6).

¹⁸⁸ 30 TAC § 330.2(55).

¹⁸⁹ 30 TAC § 330.56(d)(4).

¹⁹⁰ 30 TAC § 330.56(d)(5)(A)(ii).

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Geology Report describes the Woodbine Aquifer consistent with the Commission's rules. The Woodbine is located 1,300 feet below the landfill site.¹⁹¹ The nearest outcrop of the formation is twenty miles "updip" (northwest) from 121 RDF. There are two wells, each about 1,750 feet deep, into the Woodbine southeast (downdip) of the site, at the Stoney Point Feedlot. There are five shallow wells, each about 50 feet deep, located within one mile of the site that tap "pockets of subsurface water in alluvium and weathered Austin Chalk."¹⁹²

Dr. Clark testified he developed the Site Boring Plan.¹⁹³ The Site Boring Plan did not propose drilling into the Woodbine at all. The characteristics of the Woodbine Aquifer were established, instead, through literature sources and with available water well logs. The intervening formations—the Austin Chalk and the Eagle Ford Shale—act as aquicludes, and "travel times to [the Woodbine] would easily exceed thirty years plus the projected life of the landfill."¹⁹⁴ In the subsurface investigation, cores and samples were taken, and observations were made during drilling. A program of geophysical logging provided data on stratigraphic correlations.¹⁹⁵ The subsurface stratigraphy of the Austin Chalk is uniform, homogeneous, isotropic, and appropriate to the construction of the landfill.¹⁹⁶

The Subsurface Water Investigation Report, a part of the Geology Report, provided data regarding the nature and occurrence of subsurface water beneath 121 RDF, characterized the water setting, provided a hydrogeologic interpretation of the site, and aided in designing the water monitoring system. There is only limited and scattered occurrences of subsurface water in the Austin

¹⁹¹ *Kier Prefiled Testimony*, p. 32.

¹⁹² *Attachment 4*, APP00969-APP00972.

¹⁹³ *Clark Prefiled Testimony*, pp. 15-16.

¹⁹⁴ App. Ex. 100, APP01204.

¹⁹⁵ *Clark Prefiled Testimony*, pp. 15-16.

¹⁹⁶ *Clark Prefiled Testimony*, pp. 17-18.

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Chalk.¹⁹⁷ Although subsurface water occurs in scattered and isolated pockets within the Austin Chalk under 121 RDF, the Austin Chalk is essentially unsaturated. It does not contain ground water.¹⁹⁸ The Austin Chalk is "too impermeable to transmit fluids via advective [*i.e.*, horizontal] flow."¹⁹⁹ In essence, 121 RDF will be built within a single block of stone that will form the bottom and sidewalls of the fill.²⁰⁰ Dr. Kier termed it "impossible" for pollution from the 121 RDF to reach the Woodbine, because the material intervening between the landfill and the Woodbine is essentially impermeable.²⁰¹

NTMWD describes the site as an ideal geologic location and alleges there is no realistic potential for water or any other fluids to move downward from the landfill to the Woodbine Aquifer. In response, Protestants assert that NTMWD did not even look at the uppermost aquifer to characterize it, relying on the fact that NTMWD did not make borings into the aquifer. According to Protestants, NTMWD did not adequately characterize the geology and groundwater systems. However, on reviewing the Geology Report, the ALJ disagrees and finds that it more than adequately defines the geology of the site and the Woodbine Aquifer. The ALJ notes that the Commission's rules specifically provide that borings are unnecessary if the aquifer is 300 feet below the lowest excavation of the proposed fill and the estimated travel times for constituents to the aquifer are in excess of 30 years plus the estimated life of the site. In this case, NTMWD has conclusively shown these elements, and borings were not required for purposes of the Geology Report.

¹⁹⁷ *Kier Prefiled Testimony*, p. 31.

¹⁹⁸ *Kier Prefiled Testimony*, p. 32.

¹⁹⁹ App. Ex. 100, APP01003-APP01004.

²⁰⁰ App. Ex. 100, *Attachment 4*, APP00996.

²⁰¹ *Kier Prefiled Testimony*, p. 32.

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2. The Groundwater Monitoring Rules

The TCEQ rules state that:

A ground-water monitoring system shall be installed that consists of a sufficient number of monitoring wells, installed at appropriate locations and depths, to yield representative ground-water samples from the uppermost aquifer as defined in §330.2 of this title (relating to Definitions). Background wells shall be installed to allow determination of the quality of background ground water that has not been affected by leakage from a unit. The downgradient monitoring system shall include monitoring wells installed to allow determination of the quality of ground water passing the relevant point of compliance as defined in §330.2 of this title (relating to Definitions).²⁰²

An exemption or exception is appropriate where the applicant:

can demonstrate that there is no potential for migration of hazardous constituents from that MSWLF unit to the uppermost aquifer as defined in §330.2 of this title (relating to Definitions) during the active life and the closure and post-closure care period of the unit. This demonstration shall be certified by a qualified ground-water scientist and approved by the executive director, and shall be based upon: (1) site-specific field-collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport; and (2) contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and the environment.²⁰³

The ED may also approve:

an alternative design for a ground-water monitoring system that uses other means in conjunction with monitoring wells to ensure detection of ground-water contamination in the uppermost aquifer from a MSWLF unit. The alternative design shall be at least

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²⁰² 30 TAC § 320.231(a).

²⁰³ 30 TAC § 320.230(b).

as protective of human health and the environment as a monitoring-well system as specified in §330.231(a) of this title (relating to Ground-Water Monitoring Systems).²⁰⁴

3. The Groundwater Monitoring System

In this case, the proposed subsurface water monitoring system consists of 13 wells arrayed around the 121 RDF footprint. They were placed to detect any lateral release, considering "existing topography, landfill design, subsurface conditions, and the absence of any aquifer closer than 1,300 feet below the landfill excavation."²⁰⁵ Monitoring Wells 5, 6, and 7 are definitely upgradient from 121 RDF, being on a line outside the west permit boundary. Monitoring Wells 2, 1, 3, 12, and 11 are downgradient of 121 RDF in a rough arc around the eastern end of the site, with wells 1, 13, and 12 in a line east of the toe of the landfill (the wells are 'inside' the detention pond). Monitoring Wells 8, 9, and 10 are inside the permit boundary on the north side of the site, between the site and the Brinlee Branch. Monitoring Wells 4, 3, and 5 are inside the permit boundary on the south side of the site, between the site and the South Tributary. The Point of Compliance runs from Monitoring Well 7 in the northeast through Wells 8, 9, and 10, then roughly south through Wells 11, 12, 3, 1, and 2, then west through Wells 3, 4, and 5.²⁰⁶ The wells are roughly 100 feet from the footprint of the landfill.²⁰⁷ They are screened or opened so that they monitor at the level of the bottom of the landfill, aside from the eastern wells which are below the level of the landfill.²⁰⁸ None of the wells

²⁰⁴ 30 TAC § 320.231(c).

²⁰⁵ App. Ex. 100, APP01005-APP01006. The system is shown in diagram in Figure 5.1. App. Ex. 100, Attachment 5, APP01302. The proposed Point of Compliance is also set out in the diagram. Point of compliance means a "vertical surface located no more than 500 feet from the hydraulically downgradient limit of the waste management unit boundary, extending down through the uppermost aquifer underlying the regulated units, and located on land owned by the owner of the permitted facility. 30 TAC § 330.2(99). The point of compliance under the Application is no deeper than the deepest monitoring well, and does not extend down to the Woodbine.

²⁰⁶ App. Ex. 100, Attachment 5, APP01302.

²⁰⁷ Tr., Vol. 2, p. 500.

²⁰⁸ Tr., Vol. 2, pp. 503-04.

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is drilled to a depth sufficient to monitor the Woodbine Aquifer.

4. The Parties' Contentions

Protestants complain that the Application neither proposes a groundwater monitoring system sufficient to protect the uppermost aquifer nor requests an exception to the groundwater monitoring system requirements of the Commission's rules. As a consequence, Protestants assert the Application should be denied. As Protestants point out, the groundwater (or, more appropriately, the subsurface water) monitoring system does not yield representative groundwater samples from the Woodbine.²⁰⁹

Protestants note that NTMWD did not seek an exemption under 30 TAC § 330.230(b), or propose an alternative design under 30 TAC § 330.231(c). Instead, Protestants argue, NTMWD chose just to use a "sham" monitoring system. This "sham" system allegedly saves NTMWD money by allowing NTMWD to not drill monitoring wells into the Woodbine or prove that there is no potential for migration of pollution from 121 RDF to the Woodbine. Protestants urge that it is the public policy of Texas to protect and preserve the State's ground waters, "almost without regard to costs or impacts." NTMWD's plan supposedly violates that policy because it does not ensure leaks into the Woodbine will be detected.

Protestants and OPIC jointly question that *if* the Woodbine aquifer is so far below ground, and *if* the intervening formations are so impermeable, and *if* the Woodbine is in no danger from contamination by 121 RDF, why did NTMWD not seek an exemption under 30 TAC § 330.230(b)? According to them, the answer is that the Austin Chalk underlying the site is not as impermeable as NTMWD asserts, which NTMWD is supposedly concealing from the Commission. Accordingly, both Protestants and OPIC condemn NTMWD's failure to have any of its monitoring wells penetrate

²⁰⁹ See App. Ex. 100, Vol. II, Attachment 4, Geology Report, Section 9.0, APP01005-06.

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the Woodbine and monitor it as required by 30 TAC § 330.231(a). On this basis, Protestants and OPIC recommend that the permit be denied. In the alternative, OPIC recommends that NTMWD be required to amend the Application to conform with the Commission's rules.

In response, NTMWD argues that the 121 RDF groundwater monitoring system complies with 30 TAC §§ 330.230 and 330.231. NTMWD admits that the system does not monitor the Woodbine, but states that it need not under the terms of § 330.231(c), which provides for an alternative design that uses "other means in conjunction with monitoring wells," subject to ED approval. NTMWD asserts that its groundwater monitoring system meets the applicable requirements of 30 TAC § 330.21(a) and (c), and was approved by the ED through the issuance of the Draft Permit.²¹⁰ The proposed plan, says NTMWD, is to detect contaminants moving off-site prior to the time that they might reach the uppermost aquifer. Early detection is, in NTMWD's view, at least as protective of human health and the environment as drilling useless monitoring wells into the Woodbine.

5. Analysis

The parties all agree that the monitoring system will not monitor the Woodbine Aquifer, which is separated from the site by 1,300 feet of virtually impermeable rock. The site was chosen precisely for that reason, to be protective of the waters of the state. It was with that in mind that NTMWD designed its groundwater monitoring system. The proposed monitoring system provides for "background wells" as required by rule.²¹¹ It also provides for a point of compliance, of a sort, and establishes a downgradient monitoring system to determine "the quality of groundwater passing

²¹⁰ NTMWD cites the Skyline Landfill, Permit No. MSW-42C, and NTMWD's McKinney landfill as having similar groundwater monitoring systems and as constituting agency precedent for its system. *NTMWD's Reply* pp. 35-36.

²¹¹ § 330.231(a)(1).

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the relevant point of compliance."²¹² The system also includes a monitoring and sampling system, that is allegedly as protective of human health and the environment as a monitoring-well system as specified in 30 TAC § 330.231(a).

Moreover, Dr. Kier's testimony is that any contamination that escapes the liner system will migrate to the eastern toe of the landfill. The next most likely route of migration is laterally through the fractures in the upper level of the Austin Chalk. The least likely route of contaminant is down through the Austin Chalk and the Eagle Ford Shale. The location is not the scene of geologic movement or earthquakes, and new fracturing by those agencies is unlikely. The penetration of the aquifer by contamination from 121 RDF is unlikely within 70 years of the beginning of its operation.²¹³

Dr. Kier testified that it might have been possible to obtain a waiver under 30 TAC § 330.230(b). That task would, according to Dr. Kier, require proving a negative, *i.e.*, that there was no potential for migration of pollution to the aquifer. Under Dr. Kier's interpretation of the rule, to obtain a waiver, NTMWD would have to prove that pollutants would not move into the Austin Chalk. Since the groundwater investigation showed that there were "pockets of water" and the fractures associated with them (a potential pathway for movement off of the 121 RDF site), NTMWD could not demonstrate no potential of movement through the Austin Chalk, even though "it would be fairly simple to demonstrate through calculations that there is no potential for a hazardous constituent to get to the Woodbine."²¹⁴ He testified, "could I demonstrate that [any

²¹² § 330.231(a)(2).

²¹³ The "fastest" vertical permeability rate for Austin Chalk was 2.62×10^{-8} cm/sec. The ALJ assumed the Austin Chalk is 600 feet thick (it is in fact thicker): 600 feet is 18,288 centimeters. 1.8288×10^8 cm divided by 2.62×10^{-8} is $(1.8288 \div 2.62) \times 10^{12}$ seconds or 6.9×10^{11} seconds. There are 3.1536×10^7 seconds in one year. Assuming the migration downward is a straight-line motion under the influence of gravity, the ALJ calculated movement downward through the Austin Chalk, just to get to the Eagle Ford Shale, would take 21,800 years.

²¹⁴ Tr., Vol. 2, pp. 469-73.

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contaminant] couldn't get 100 feet away [from the landfill]? No, I could not."²¹⁵

The ALJ notes that the ED approved the Site Boring Plan, which disposed of the requirement of drilling to the Woodbine Aquifer. The ED also approved of the GWSAP, to the extent that it did not require NTMWD to provide for actual monitoring of the aquifer.²¹⁶ The ALJ believes that many of the elements needed to demonstrate an exception under § 330.230(b) are present in the record. However, the record does not contain, and Dr. Kier did not express, any "certification" of such a demonstration, as required by 30 TAC § 330.230(b). The monitoring wells set out in the plan are designed to detect any contaminants leaving the 121 RDF by the most likely routes, an escape from the liner system or a lateral movement through the fractures in the upper ten feet of the Austin Chalk. Because of the specific characteristics of the 121 RDF site and the Austin chalk, the plan is as protective of human health and the environment as a system designed to conform with § 330.321(a).

Nevertheless, given that NTMWD does not propose to monitor the nearest aquifer, nor did it obtain an exemption, then it must show that its alternative plan is acceptable within the meaning of the Commission's rules. In this regard, the ALJ cannot simply ignore the language of 30 TAC § 330.231(c) requiring that any alternative plan use "other means in conjunction with monitoring wells to ensure detection of ground-water contamination in the uppermost aquifer." The Application does not suggest the use of any "other means" different from the 13 monitoring wells. Moreover, the monitoring wells will not ensure detection of groundwater contamination in the uppermost aquifer, as required by the Commission's rule.

In the ALJ's opinion, monitoring wells into the Woodbine aquifer are not necessary because the evidence shows that pollutants will not migrate from 121 RDF into the Woodbine in 70 or 700 years. Regardless of the ALJ's opinion, though, the clear wording of 30 TAC § 330.231(c) requires

²¹⁵ Tr., Vol. 2, p. 502

²¹⁶ Mr. Wheatley was not questioned about the GWSAP.

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monitoring of the Woodbine aquifer. Ignoring that requirement would in effect grant NTMWD an exemption without it meeting the Commission's rules in making the requisite, formal demonstration for such an exemption. While the Commission may choose to grant such an exemption as a matter of policy, the ALJ is constrained to make his recommendation based on the clear reading of the Commission's rules and the evidence before him. Ultimately, based on the evidence, the ALJ can only conclude that the monitoring system proposed by NTMWD does not comply with 30 TAC §§ 330.230 and 330.231(c). In light of this, the ALJ's analysis leads to the absurd—but required—conclusion that the groundwater monitoring system is not in compliance with the Commission's rules because it lacks monitoring wells that it does not really need.

F. Is NTMWD's proposal for a 300-foot high landfill at 121 RDF compatible with surrounding land uses?

Protestants complain that, as 121 RDF grows to its final height of 300 feet, its waste disposal practices will affect the local residents' use and enjoyment of their property. They contend that the 300-foot height of the landfill is not compatible with surrounding land uses. The Commission's rules provide that land use compatibility is a primary concern in the permitting process. Specifically, the Commission's rules provide:

A primary concern is that the use of any land for a municipal solid waste site not adversely impact human health or the environment. The impact of the site upon a city, community, group of property owners, or individuals shall be considered in terms of compatibility of land use, zoning in the vicinity, community growth patterns, and other factors associated with the public interest. To assist the executive director in evaluating the impact of the site on the surrounding area, the applicant shall provide the following:

- (A) zoning at the site and in the vicinity.
- (B) character of surrounding land uses within one mile of the proposed facility;
- (C) growth trends of the nearest community with directions of major

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development;

(D) proximity to residences and other uses (e.g., schools, churches, cemeteries, historic structures and sites, archaeologically significant sites, sites having exceptional aesthetic quality, etc.).

(E) description and discussion of all known wells within 500 feet of the proposed site.²¹⁷

1. Existing Land Use and Landfill Specifications

The proposed landfill is expected to rise to a level no more than 300 feet over existing ground.²¹⁸ John A. Worrall testified that the vast majority of 121 RDF is outside the corporate limits of any city and the site is not subject to municipal zoning.²¹⁹ The City of Melissa abandoned its right-of-way to CR 416 where it crosses the site's panhandle. Collin County does not exercise zoning in the area.²²⁰ Land uses within one mile of 121 RDF are agricultural and vacant (91%), with some influence of suburban development to the west and south. NTMWD is the largest property owner within one mile.²²¹ In April 2000, there were 85 residences within one mile of 121 RDF. The nearest residence is 200 feet northwest of the boundary, and the residence nearest to the limit of fill is 500 feet northeast. There are six commercial operations within one mile of 121 RDF, including two quarries, a composting operation, and a feedlot.²²² There are no known schools, licensed day

²¹⁷ 30 TAC § 330.53(b)(8).

²¹⁸ Tr., Vol. 2, p. 325.

²¹⁹ Mr. Worrall is a land planning consultant. He has done park and recreation planning, comprehensive planning, reclamation and aesthetics analysis, and landfill related activities. Mr. Worrall has performed land use compatibility evaluations for twelve MSWs. Mr. Worrall prepared the Land Use Analysis portion of the Application. App. Exhibit 106, Prefiled Testimony of John A. Worrall (*Worrall Prefiled Testimony*), pp. 1-3.

²²⁰ *Worrall Prefiled Testimony*, pp. 6-7.

²²¹ *Worrall Prefiled Testimony*, p. 7.

²²² *Id.*, p. 8.

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care facilities, recreational sites, or sites having exceptional aesthetic qualities within one mile of the site. Two churches and two cemeteries are within one mile of the site, with the churches being more than one-half mile away.²²³

Between 1990 and 1999, Collin County's population rose from 265,000 to 450,000. Melissa's population grew from 550 to 950 in the same time period. There is low density residential growth in unincorporated portions of Collin County though.²²⁴

The minimum buffer required by the Commission is 50 feet.²²⁵ The buffer zone at 121 RDF is a minimum of 300-feet wide where the permit boundary and the property boundary coincide—along public highways, for example. The buffer zone is a minimum of 150-feet wide when the permit boundary is inside the property boundary. If Dedicated Drainage Areas are included, the effective width of the buffer is even more.²²⁶ The Site Development Plan requires large buffer zones between the permit boundary and the landfill footprint. Existing trees and vegetation in the buffer zones will be kept, additional vegetation planted, and natural topography will be used or earthen berms constructed as needed. Screening berms will be as high as 15 feet with a 10-foot level crest.²²⁷

The SOP provides that push wall berms (used to control the active face laterally) will screen the active face from view. The push wall berms are described as enclosing the active face and the entire perimeter of the highest active lift. They are planned to be 4- to 15-foot high (the same as the adjacent active lift).²²⁸ The SOP further states:

²²³ *Id.*, p. 9.

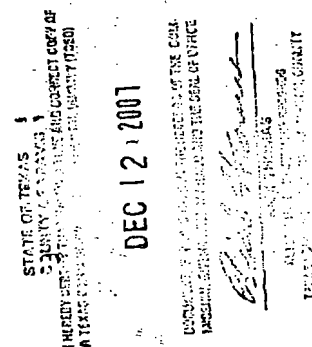
²²⁴ *Id.*, pp. 7-8.

²²⁵ 30 TAC § 330.121(b).

²²⁶ App. Ex. 100, Site Development Plan, APP00821.

²²⁷ App. Ex. 100, Drawing 2.3, APP00941.

²²⁸ SOP, APP02032.



Measures will be taken during the development of the site to prevent, as much as possible, the visibility of waste from SH 121 and FM 545 during site development. In addition, to the expansive buffer zones, a system of permanent berms and perimeter landscaping has been provided for use along public roads throughout the development of the 121 RDF.²²⁹

2. The Dispute

Protestants' primary complaint is that screening is provided for the benefit of only the drivers who pass by the landfill, and not for the residents living around the site. Protestants complain there are no design drawings or expert opinions in the Application to support NTMWD's proposal for screening. While the SOP provides for push wall screening berms around the working face to hide solid waste from view, it also provides no more specific details which might be enforceable. Protestants point out that NTMWD did not prove that residences would be screened from the view of waste disposal activities. Further, Protestants complain that "there is no explanation of how NTMWD intended screening to respond to 'design requirements,' since NTMWD never bothered explaining how its design affects the residents in the area." Protestants contend that 121 RDF will be the highest point in the county, causing a serious compatibility problem.

NTMWD responds that the evidence is uncontroverted that 91 % of the land within one mile of the 121 RDF site is agricultural and vacant, and only three percent is residential. The rest of the surrounding land use is given to quarries, composting, and a feedlot. NTMWD asserts that the site landscaping and its large size will minimize appearance of the height of the landfill. Mr. Worrall testified that the buffers around 121 RDF will make views of the site "distant" and that some views will be obscured by vegetation, trees, and topography.²³⁰

²²⁹ SOP, APP 02045.

²³⁰ *Worrall Prefiled Testimony*, p. 18.

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3. Discussion

121 RDF will not adversely affect the public interest with respect to land use. The proposed site has substantial buffers, and future land users can take the site into account.²³¹ The site is compatible with respect to land use, zoning, and community growth trends. 121 RDF will not have an adverse impact on a city, community, group of property owners, or individuals, nor on human health or the environment.²³²

The Land Use Report and the testimony of Mr. Worrall supply the information required by rule 30 TAC § 330.53(b)(8). A survey was conducted and the appropriate authorities have concluded that there are no historic structures and sites, archaeologically significant sites, or sites having exceptional aesthetic quality in the area.²³³ The impact of 121 RDF on the closest city, Melissa, is generally beneficial and the city is in favor of the landfill.²³⁴ Two land uses in the area—quarrying and a feedlot—are entirely compatible with the landfill. Similarly, the existing agricultural use of surrounding land is compatible with the landfill. Neither Mr. Worrall nor Protestants have identified any other specific land uses incompatible with 121 RDF.

The SOP provides sufficient detail with respect to the push wall berms for an inspector to examine the working face, and determine if they are being employed. They offer a screen of the waste handling and compaction. The entire waste disposal plan is set out in the Site Development Plan, as are the screening berms around the perimeter, the use of foliage, and the large buffer zones. The ALJ has reviewed Mr. Worrall's videotape of the area surrounding the 121 RDF site, and the

²³¹ *Id.*, pp. 9-10.

²³² *Id.*, pp. 10-11.

²³³ App. Ex. 100, Appendix I & II-B, APP00159 to APP00165; App. Ex. 100, Parts I & II, Appendix I & II-A, APP00079 to APP00158, the "Intensive Pedestrian Survey of a 1,460-Acre Parcel near Melissa, Collin County, Texas" (Final Report); Applicant Exhibit 104, Prefiled Testimony of Duane Peter, pp. 5-10.

²³⁴ App. Ex. 100, Parts I & II, Appendix I & II-N, APP00806.

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photosimulations included with his prefiled testimony.²³⁵ The videotape supports Mr. Worrall's analysis of the land use around this site. It is mainly agricultural and vacant (in the sense of an absence of residences).²³⁶

The "worst views" from residences are probably from property owned by the Sims, Winburns, and John Stewart. As noted, neither the Sims nor the Winburns protested the Application. Mr. Stewart was a protestant in this case, but withdrew and was dismissed on January 23, 2003.²³⁷ Accordingly, none of these local landowners have participated in the hearing or presented any evidence regarding the alleged incompatibility of the landfill with the use of their property. Albert Fuller, mentioned above with respect to the runoff volume at his property near Design Point 7, is northeast of View 3, and southwest of View 2. As noted, Mr. Fuller has not participated in this proceeding. Amon Roper is east of the landfill between it and View 2.²³⁸ Unlike the Sims, Winburns, and Fullers, the Ropers *are* parties to this case, although Mr. Roper and his family members did not offer any testimony.

²³⁵ See App. Exhibit 106, Attachments JAW-2 and JAW-3.

²³⁶ Specifically, the photosimulations show the following: (a) View 1 (4,500 feet to the north of the site) shows local vegetation screening most of the site. There are no current residences within 1,500 feet of the site; (b) View 2 (4,600 feet east of the site) shows a small portion of the eastern face of the site. There are several residences near the site, but further east; (c) View 3 (2,700 feet to the southeast of the site) shows a great portion of the southern side of the site. There are no nearby residences. This is the view from the Stoney Point Feedlot, and the composting operation; (d) View 4 (6,500 feet to the southwest of the site) shows the site from location of a number of residences near the junction of FM 545 and CR 415. The southwestern flank of 121 RDF appears as a low, flat elevation across the north; (e) View 5 (5,000 feet to the west of the site) shows the site from location of a number of residences west of SH 121. The western facade of 121 RDF appears as a low, flat elevation across the eastern horizon; (f) View 6 (4,000 feet to the west-northwest of the site) shows the site from SH 121 where there are commercial or industrial uses. The appears as a flat elevation across the eastern horizon, sloping down to the south; (g) View 7 (2,100 feet to the northwest of the site) shows the site from SH 121 at the location of the Sims and Winburn residences, across the road from the proposed entrance to the site. The landfill appears as a high elevation, sloping down on the east and west ends. The Sims and Winburns are not parties; (h) View 8 (2,500 feet to the northwest to the site) shows the site from SH 121 on NTMWD's property northeast of the Sims' and Winburn's. The landfill appears as a high elevation, sloping down on the east end. See App. Exhibit 106, Attachment JAW-3; App. Ex. 100, Land Use Map, APP00051.

²³⁷ See Order No. 10 dismissing John Stewart and Deby Stewart as Protestants.

²³⁸ See App. Ex. 100, APP00167-169.

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The residents in the area are not unanimous in condemning or praising 121 RDF. Some persons living within a close range of the site have never been active in the case, some started as protestants and withdrew their protest, and some have remained adamantly opposed. The ALJ recognizes that those remaining in the case are arguing against the height of the landfill. The ALJ also recognizes that simply because a protestant withdraws (or a resident does not become a protestant), that action (or inaction) is not necessarily evidence of approval of the entire Application. Nevertheless, these things are indicative of the mood of the residents. In the least, it can be said the Sims, Winburns, and Fullers do not consider the landfill worth fighting over.

Most of the residences within one mile of 121 RDF are located to the west and southwest, in the direction of the growth trend for the area. Approximately 16 residences are scattered across the north and east of the site. The distance of most residences are at least one-half mile or more from the landfill, at which distance the height of the landfill will appear much less than at closer ranges. There is no doubt that at closer ranges, and to the extent the site is not screened by localized vegetation, such as Views 6, 7, and 8, the landfill will tend to loom over the neighbors. By fate or by planning, areas such as Views 6, 7, and 8 are locations of commercial development, resident disinterest, or NTMWD's own property. So, the property areas most likely impacted have owners who have not presented any significant concerns over the landfill.

Ultimately, the ALJ concludes that NTMWD's Application complies with the requirements of the Commission's rules with respect to land use compatibility. NTMWD has demonstrated how buffer zones and screening of various types will be used to reduce the impact of the height of 121 RDF. Moreover, despite Protestants' generalized complaints about the height of the landfill, there is simply no evidence in the record sufficient to establish that the intended landfill will be incompatible with land uses in the area. Therefore, the ALJ recommends that the Commission find that NTMWD's proposal for a 300-foot high landfill at 121 RDF is compatible with surrounding land uses.

G. Is NTMWD's proposal to operate 24 hours a day compatible with surrounding land uses?

1. The Dispute

The Application's SOP proposes that 121 RDF will operate up to 24 hours a day, Monday through Saturday, and be open to the public 8:00 a.m. to 5:00 p.m., Monday through Saturday.²³⁹ Protestants except to this, stating neither the Application nor the evidence justifies these operating hours. The Commission's rule on the subject states:

The operating hours of a municipal solid waste facility shall be any time between the hours of 7 a.m. and 7 p.m., unless otherwise approved in the permit or the Site Development Plan. Operating hours within the 7 a.m. to 7 p.m. span do not require other specific approval.²⁴⁰

Protestants argue that NTMWD has offered no evidence to justify hours of operation that extend beyond what the Commission's rules ordinarily allow. D.A.V.I.D.'s expert, Mr. Messenger, testified that the Application offers no basis for extended hours. Moreover, he opined the proximity of homes to the site required NTMWD to provide a justification for 24-hour-a-day operations. Because the area is rural, there is little industrial activity and the noise from 121 RDF would carry farther than in a more-developed urban area. The lights necessary for night operations also would have the potential to disturb the evening and sleeping hours of residents. Mr. Messenger stated the SOP should reflect specific and limited hours for each of the many activities that would take place at 121 RDF, although he admitted that he was not familiar with the operating hours of other north Texas landfills.²⁴¹

²³⁹ SOP, APP2031.

²⁴⁰ 30 TAC §330.118.

²⁴¹ *Messenger Prefiled Testimony*, pp.5-6; Tr., Vol. 3, p. 734.

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OPIC agrees that the 24-hour, six-day schedule is not compatible with the surrounding, residential land use. The surrounding residents would be disturbed by noise and lights during night operations. There would be the potential for truck traffic into and out of 121 RDF all night. Traffic hazards would increase. Therefore, OPIC recommends that either the permit be denied or the landfill operations be limited to the default times of daylight hours recommended in the TCEQ rules.

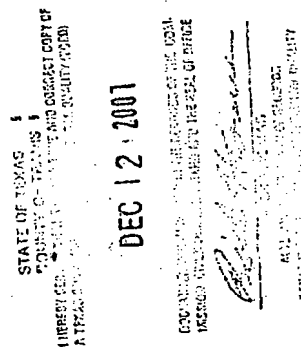
NTMWD points out there is no regulatory prohibition against the proposed operating hours for 121 RDF. Mr. Chandler testified that middle-of-the-night operations at landfills were not a concern to surrounding land owners, because light and noise can be screened by the push walls at the active face, perimeter berms and vegetation, and the site's buffer zones. He also pointed to the experience at NTMWD's McKinney landfill, which had no complaints about late night operations.²⁴²

Mr. Parks provided a number of reasons for 24-hour operations. NTMWD's three transfer stations will supply a great deal of the solid waste transported to 121 RDF. The operating hours at the transfer stations depend on collections by various cities. As a result, the schedules and timing are somewhat out of NTMWD's control, and are affected by traffic and weather. NTMWD is required to move all waste collected at the transfer stations on the same day. That need requires flexible hours of operation.²⁴³ Further, NTMWD might be restricted in the number of hours it can operate its various types of equipment under the Clean Air Act.²⁴⁴

²⁴² Tr., Vol. 2, pp. 387-91.

²⁴³ Tr., Vol. 1, pp. 159-61.

²⁴⁴ Tr., Vol. 1, p.113.



2. Analysis

Contrary to Protestants' assertion, NTMWD has offered reasonable grounds for a 24-hour, six-day permit. Mr. Parks' explanation of the means by which a great deal of the waste intended for 121 RDF will arrive makes the case for hours of operation later than 7:00 p.m. The waste must be collected by member cities and transported to transfer stations. Once processed at the transfer stations, the waste must be moved that day. Transport from the stations to the 121 RDF takes time. The opportunities for delay due to weather, traffic, strikes, and other problems are evident. In the future, NTMWD may have to restrict the hours of operation of its equipment to meet clean air attainment measures. It is entirely foreseeable that operating uses may have to be staggered throughout a longer period than 7:00 a.m. to 7:00 p.m.

Moreover, late night operations will not harm agricultural or commercial land uses. The record clearly demonstrates that late night operations—at least the type to which Mr. Chandler testified—are not incompatible with the surrounding residential land uses. The fears expressed by Protestants and OPIC concerning operations "all night" have no evidentiary basis in the record. Therefore, the ALJ recommends the Commission find that NTMWD's proposal to operate 24 hours a day is compatible with surrounding land uses.

H. Should the proposed permit be limited to less than the life of the landfill?

1. The Commission's Rules

The Commission's rules provide that, as a general rule:

Conditions to be determined on a case-by-case basis according to the criteria set forth herein, and when applicable, incorporated into the permit expressly or by reference, are:

- (B) Solid waste permits.

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[Signature]

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(i) Hazardous waste permits shall be for a fixed term not to exceed ten years.

(ii) Other solid waste permits may be for the life of the project.

(iii) Each permit for a land disposal facility used to manage hazardous waste shall be reviewed by the executive director five years from the date of permit issuance or reissuance and shall be modified as necessary by the commission, as provided in §305.62(e) of this title (relating to Amendment).²⁴⁵

With respect to landfills, the Commission's rule states:

(a) A permit is normally issued for the life of the site but may be revoked at any time if the operating conditions do not meet the minimum standards set forth in this chapter or for any other good cause.

(b) When deemed appropriate by the executive director a permit may be issued for a specific period of time. When an owner or operator has made timely and sufficient application for the renewal of a permit, the existing permit does not expire until the application has been finally determined by the commission.²⁴⁶

2. Evidence of NTMWD's Compliance History

Protestants offered the work of Nathan Loftice as bearing on the appropriate term for the proposed permit. Mr. Loftice is a TCEQ-certified Municipal Solid Waste Investigator, who currently manages the City of Grapevine's storm water and solid waste programs. He is also the past interim President of D.A.V.I.D., and is currently on the its Board of Directors.²⁴⁷ Mr. Loftice prepared one of the hearing exhibits, D.A.V.I.D. Exhibit 3B (the Loftice Summary), which he

²⁴⁵ 30 TAC § 305.127.

²⁴⁶ 30 TAC § 330.63.

²⁴⁷ D.A.V.I.D. Exhibit 3, Prefiled Testimony of Nathan Loftice (*Loftice Prefiled Testimony*), pp. 1-3.

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testified was a summary of NTMWD's compliance history at the McKinney and Maxwell Creek landfills from 1996 to 2001. He prepared the Exhibit from public information in the TCEQ files.²⁴⁸ The Loftice Summary discloses the following compliance issues:

With respect to the McKinney Landfill the "repeat" offenses concerned inadequate cover, containment of leachate, construction of run-on and runoff berms, detection of hazardous waste, control of landfill gases, collection of windblown litter. (1996-2001)

With respect to the Maxwell Creek Landfill the "repeat" offenses concerned containment of leachate, fire prevention or protection, erosion control, unauthorized discharge of "sediment," inadequate cover, maintenance of markers, construction of run-on and runoff berms, records of daily cover, control of landfill gases. (1996-2001)²⁴⁹

The Compliance History Summary reviewed by the ED is different, and it shows four violations for the Maxwell Creek landfill disposed of by an Agreed Order in 1999. The violations were for daily cover, failure to repair erosion, allowing discharge of sediment from a drainage ditch, and failure to control waste migration and leachate seepage. The landfill was cited in Notice of Violation Letters (NOVs) from 1999 to 2001 for five Category B and one Category C violations. The McKinney landfill was cited in NOVs from 1999 to 2001 for five Category B and two Category C violations.²⁵⁰

The ED stated that NTMWD's Compliance History was reviewed in accordance with the Health and Safety Code and TCEQ regulations.²⁵¹ Those statutory and regulatory provisions state that the Commission *may* deny a new permit if:

²⁴⁸ *Loftice Prefiled Testimony*, p. 4.

²⁴⁹ See David Exhibit 3B. In one form or another the Loftice Summary was attached to a number of the written comments which were reviewed by the ED. See Exhibit ED-1.

²⁵⁰ See Exhibit I.

²⁵¹ Exhibit ED-1, p. 9.

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the applicant has a record of environmental violations in the preceding five years at any site owned, operated or controlled by the applicant; and

that a violation or violations are significant and that the permit holder or applicant has not made a substantial attempt to correct the violations.²⁵²

The ED determined that the violations listed for the Maxwell Creek Landfill and the McKinney Landfill, "do not show a level of compliance problems that would justify . . . recommending denial of the application."²⁵³ They were either not significant or NTMWD made a substantial attempt to correct the violations. The ED further stated that the McKinney landfill is in detection monitoring, which is the basic level of groundwater monitoring. The Maxwell Creek landfill is in assessment monitoring, which is required when there is a "statistically significant change from the background level . . . detected for one or more" contaminants. The results of assessment monitoring can lead to corrective actions.²⁵⁴

3. The Parties' Arguments

Protestants take the position that each matter raised in Mr. Loftice's summary, whether leading to a finding of a violation or not, is a concern. Protestants argue that Mr. Parks has acknowledged to being aware of most, if not all, of the problems set out in Mr. Loftice's summary.²⁵⁵ The cited problems, Protestants assert, are sufficient to limit the term of the permit to ten years, if granted at all.²⁵⁶ They argue that if NTMWD must face renewal every ten years, it would be forced

²⁵² 30 TAC § 305.66 (f)(2), (g)(1); see also Tex. Health & Safety Code §§ 361.084, 361.089 (Vernon 2001) (as effective on September 1, 1995).

²⁵³ Exhibit ED-1, p. 9.

²⁵⁴ *Id.* at p. 10.

²⁵⁵ Tr., Vol. 1, pp. 123-32.

²⁵⁶ D.A.V.I.D. concedes that the TCEQ has not set duration limits on landfill permits, but has "decided to allow some MSW permits to continue for the life of the landfill."

to operate so as to avoid "the types of repetitive problems it has had in the past."

NTMWD attacks the accuracy and credibility of Mr. Loftice's summary.²⁵⁷ Mr. Loftice admitted under cross-examination that he was selective in the documents he chose for the summary, and may have left out inspection materials that did not lead to a NOV. Further, the summary did not include NTMWD's response to the TCEQ allegations, nor did Mr. Loftice ever determine the outcome of the investigations. Mr. Loftice admitted that he did not accurately describe some of the TCEQ allegations and did not review the Summary of Compliance History relied on by the ED.²⁵⁸ NTMWD also offers the ED's responses to comment and responses to discovery as proof that the ED has twice determined that NTMWD's compliance history does not justify a denial of the Application.²⁵⁹

Finally, NTMWD contends that the *BFI* case places the burden on Protestants to establish that "the permit duration should be shorter than the life of the site."²⁶⁰ NTMWD asserts that Mr. Loftice's testimony and exhibits offer no credible basis to reduce the permit's duration and that Protestants have offered no *evidence* to support what the term of the permit, if less than the life of the site, should be.

4. Analysis

The "repeat" violations discovered by Mr. Loftice are mainly those violations that are the

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²⁵⁷ Mr. Loftice was subjected to a withering cross-examination. Tr., Vol. 3, pp. 757-778.

²⁵⁸ Tr., Vol. 3, pp. 757-778.

²⁵⁹ Exhibit ED-1, *Executive Director's Response to Public Comment, Application by North Texas Municipal Water District for Municipal Solid Waste Permit No. MSW-2294*, TCEQ Proposed Permit Application No. MSW-2294, at 9 (Mar. 10, 2003); Exhibit ED-2, *Executive Director's Response to Protestants', the Aligned "D.A.V.I.D. Group," Requests for Admission, Interrogatories, and Production at 6-7* (Apr. 3, 2003).

²⁶⁰ *BFI*, 93 S.W.3d ___, 578.

subject of the Maxwell Creek Agreed Order, and the NOV's issued to Maxwell Creek and McKinney. In themselves, they are not sufficient to require a denial of the permit. The ED has not deemed it appropriate to issue the 121 RDF permit for a specified period of time less than the life of the landfill. Rather than revoke the Maxwell Creek permit for the violations when its detection groundwater monitoring revealed a significant increase in a contaminant, the ED placed the facility on assessment monitoring to determine the extent of the problem and develop a solution. The Application and Site Development Plan address the leachate containment issue, and the so-called "bathtub effect,"²⁶¹ in the basic design of the landfill. The other problems are also addressed in the Application and NTMWD is subject to the Commission's jurisdiction for violations that occur.

The ALJ agrees with NTMWD that the *BFI* case places the burden of proof on Protestants to show the permit, if issued, should be for less than the expected life of the landfill. Protestants have offered no evidence or expert opinion concerning why the violation history it relies upon justifies a 10-year permit. For example, it did not relate the problems at the Maxwell Creek and McKinney landfills to a specific period of time needed to identify leakage of leachate from the fill or other problems that might be similar to those at other sites. Quite simply, Protestants have not met their burden of proving that a permit, if issued, should not be for the life of the landfill but for a lesser period. Therefore, the ALJ recommends the Commission find that the proposed permit be issued for the life of the landfill.

I. Has the Application adequately addressed traffic risks at 121 RDF

1. The Commission's Rules

Commission rule 30 TAC § 330.53(b)(9) requires NTMWD to:

²⁶¹ EPA, in their Subtitle D regulations, coined the term. Basically, it means that when a hole is dug in the ground and lined carefully with a relatively impervious liner, any liquid that gets in fills up the hole and creates a bathtub effect. See Tr., Vol. 2, p. 407.

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in the 40th year as 17.4 percent "of the current traffic volume on SH 121 north of FM 545."²⁶⁵

NTMWD originally sought a deceleration lane for northbound traffic turning right from SH 121 and entering the landfill, and a passing lane for southbound traffic to avoid southbound vehicles stopped to turn left into the landfill. The Texas Department of Transportation (TxDOT) agreed to the deceleration lane, but rejected the southbound pass/turn lanes because their experience showed that such an arrangement would lead to a higher potential for accidents.²⁶⁶ The Application noted the deceleration lane for northbound traffic was not required by TxDOT.²⁶⁷ In fact, correspondence from TxDOT indicates the agency felt the 10-foot shoulders were adequate for acceleration/deceleration lanes. According to TxDOT, there are no "risks created by the vehicles that come to the landfill from the North."²⁶⁸

3. The Dispute

Protestants argue that NTMWD recognized that the entrance and exit to the landfill on SH 121 would create traffic risks. Protestants complain that NTMWD, in light of TxDOT's rejection of the requested pass/turn lanes, proposes to do nothing about the "increased risks of traffic coming from the North." Further, Protestants note that NTMWD simply posits that the majority of its vehicles will travel to the landfill northbound on SH 121 from U.S. Highway 75, but does not provide specific estimates.²⁶⁹ From this statement, and the failure of Mr. Chandler to provide estimates of vehicles coming from the north, Protestants conclude that the number of vehicles

²⁶⁵ App. Ex. 100, Parts I & II, APP00059. The information for the traffic volume was from the 1999 TxDOT District 18 figures. App. Ex. 100, Parts I & II, APP00058.

²⁶⁶ Tr., Vol. 2, pp. 273-74.

²⁶⁷ App. Ex. 100, Parts I & II, APP00057.

²⁶⁸ See App. Ex. 100, Vol. I, Appendix I & II-M, APP00710.

²⁶⁹ Application, Parts I & II, APP00056.

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coming southbound to the landfill (from the north) may be close to the number of vehicles coming from the south.²⁷⁰ Protestants then assert that, "NTMWD apparently hopes that TCEQ will ignore the risks created by the vehicles that come to the landfill from the North and the lack of data to support NTMWD's position." Because the Application does not break down traffic patterns into northbound and southbound groups, Protestants argue that the risks cannot be properly assessed. Protestants also complain because the Application does not project traffic flows in 40 years, and does not provide present traffic figures broken down by hour. Without such information, and without an agreement by NTMWD to restrict receipt of waste during rush hours, Protestants believe that the traffic impact cannot be adequately measured.²⁷¹

NTMWD responds by pointing out that TxDOT is the agency with authority over this issue, and argues that Protestants merely wish to substitute their opinion for TxDOT's expertise. Because TxDOT determined that the southbound pass/turn lane would constitute a hazard, and not eliminate a risk, NTMWD argues that nothing more is needed. NTMWD asserts that, in light of TxDOT's review and conclusions, the Application answers all regulatory questions.

4. Analysis

Nothing in the regulations requires breaking down traffic into directional groups, estimating traffic flows 40 years in the future (if such a projection could reasonably be made), estimating hourly traffic flow, nor calculating figures for traffic during peak flows. The rules do not require the access roads to be the best available, only that they be adequate for the purpose of conveying solid

²⁷⁰ Mr. Chandler's testimony on this issue, cited by D.A.V.I.D., begins with him being asked to *assume* that half of the traffic on Highway 121 will be traveling southbound. When asked, Mr. Chandler was unable to estimate what number of vehicles per hour during any particular hour would pass 121 RDF from the north. Mr. Chandler agreed that as many as 16 vehicles a minute *could* pass by from the north, based on the assumption. Tr., Vol. 2, pp. 289-91.

²⁷¹ NTMWD might have difficulty eliminating waste delivery to the landfill during rush hours and also restricting its operation to 7:00 a.m. to 7:00 p.m., as D.A.V.I.D. wishes. The double restriction would require NTMWD to make all transfers between 9:00 a.m. and 5:00 p.m.

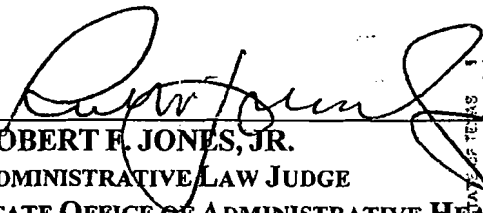
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waste to the landfill. The Application also must offer some idea of how disruptive traffic to the landfill will be. NTMWD's choice of the site took that information into account. The "risk" from southbound traffic, which Protestants claim may exist, is not a risk according to TxDOT and does not require the analysis Protestants demand. In light of the evidence supporting NTMWD's position on this issue, and the lack of evidence to support Protestants' concerns, the ALJ recommends the Commission find that the Application adequately addresses traffic risks at 121 RDF.

V. Conclusion

After reviewing the record and for the reasons provided above, the ALJ recommends that the Commission adopt the Findings of Fact and Conclusions of Law set forth in the attached Order. Specifically, the Administrative Law Judge (ALJ) concludes the Application does not satisfy the Commission's rules in two regards: (1) the Site Operating Plan (SOP) is insufficiently detailed with respect to equipment size and personnel fire-fighting training; and (2) the Application does not provide for a groundwater monitoring system that monitors the nearest aquifer under the site, nor has NTMWD obtained the necessary exception from the requirement to monitor the nearest aquifer. Except for these deficiencies, the evidence establishes that there is a need for the 121 RDF landfill in Collin County, and that the Application meets all other statutory and regulatory criteria. If the Commission accepts the ALJ's conclusions, it should deny the requested permit. In the alternative, the Commission could provide a means by which NTMWD may correct the relatively technical deficiencies. If the Commission disagrees with the ALJ's legal conclusions on the deficiencies noted above, then the permit should be issued.

Signed July 18, 2003.


ROBERT F. JONES, JR.
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



AN ORDER Denying the Application of North Texas Municipal Water District
For Municipal Solid Waste Permit No. MSW-2294
TCEQ Docket No. 2002-0745-MSW

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On October 8, 2003, the Texas Commission on Environmental Quality¹ (Commission) considered the Application of North Texas Municipal Water District (NTMWD or Applicant) for Municipal Solid Waste Permit No. MSW-2294 (the Application). NTMWD seeks authority to construct and operate a municipal solid waste landfill, called the 121 Regional Disposal Facility (121 RDF), to be located in Collin County, Texas. The application was presented to the Commission with a Proposal for Decision by Robert F. Jones, Jr., Administrative Law Judge with the State Office of Administrative Hearings. A preliminary hearing was conducted concerning the application on August 13, 2002, and an evidentiary hearing on the application was convened on March 10, 2003, in the courtroom of County Court at Law #7, 1800 North Graves, McKinney, Collin County, Texas. The hearing ended on March 13, 2003, and the record closed on April 18, 2003.

The following were designated as parties to the proceeding: Applicant NTMWD, represented by Kerry Russell and Angela K. Moorman; the Office of Public Interest Counsel (OPIC), represented by Mary Alice Boehm; and numerous Protestants represented by Richard W. Lowerre, specifically (1) Defenders of Americans' Voice in Decision-Making, Inc. (D.A.V.I.D.) and its members (2) Mr. Wesley Burgess, Individually and for the Burgess Family;² (3) Ms. Rebecca Rollins Bona, Individually and for the Rollins Family Trust; (4) Mr. A.B. Roper, Individually and for the Roper

¹ The Application was filed with the Texas Natural Resource Conservation Commission or TNRCC, which was subsequently renamed the TCEQ. For convenience sake, all references are to either the Commission or the TCEQ.

² Mr. Burgess and his family subsequently withdrew their participation.

Family; (5) Mr. John Airhart, Individually and for Ms. Kimberly Airhart Monk and Ms. Modene Carroll; (6) Ms. Susan Clark, Individually and for the Helen Clark Family Trust. The Executive Director (ED) of the TCEQ did not participate as a party.

After considering the Administrative Law Judge's Proposal for Decision and the evidence and arguments presented, the Commission makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

GENERAL FINDINGS

A. Background

1. The applicant is the North Texas Municipal Water District (NTMWD), P.O. Box 2408, Wylie, Texas, 75098.
2. NTMWD filed an Application with the Commission on April 30, 2001, seeking to permit a new Subtitle D, Type I municipal solid waste (MSW) landfill and associated facilities, known as the 121 Regional Disposal Facility (121 RDF) located in northeastern Collin County, Texas, approximately 1.7 miles northeast of the intersection of State Highway 121 (SH 121) and Farm-to-Market Road 545 (FM 545).
3. NTMWD owns approximately 1,460 acres at the site of 121 RDF (NTMWD Property).
4. NTMWD is a conservation and reclamation district created by the Texas Legislature pursuant to Article XVI, Section 59 of the Texas Constitution at the request of ten cities under the North Texas Municipal Water District Act in 1951. NTMWD provides regional wholesale water service to approximately one million customers, regional wastewater service to approximately 500,000 customers, and regional solid waste disposal services to approximately 400,000 customers within its thirteen member cities and twenty-eight non-

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- member contract entities across four counties north of the City of Dallas, Texas.
5. NTMWD operates a Regional Solid Waste Disposal System (Solid Waste System) in the general area of the East Fork of the Trinity River. NTMWD currently operates two landfills—the McKinney Landfill and the Maxwell Creek Landfill—and three transfer stations—the Lookout Drive Transfer Station in the City of Richardson, Texas, and the Parkway and Custer transfer stations in the City of Plano, Texas.
 6. The Solid Waste System serves the member cities of Richardson, Allen, Frisco, McKinney, and Plano, and provides solid waste disposal services to other participating, but non-member cities, Collin County, private contractors, and area citizens. Such solid waste disposal services are provided at NTMWD's McKinney Landfill.
 7. The McKinney Landfill is the designated landfill for Collin County, Texas.
 8. 121 RDF will replace the McKinney Landfill, which is preparing for final closure. Authorized waste will be accepted at 121 RDF at an initial rate of approximately 1,700 tons per day, six days per week, or approximately 500,000 tons of waste per year.
 9. The permit boundary of 121 RDF encompasses 673.49 acres of NTMWD Property.
 10. The disposal footprint of 121 RDF will encompass approximately 450 acres. The buffer zone is a minimum of 300 feet wide where the permit boundary and the property boundary are coincident. The buffer zone between the permit boundary and the footprint of the landfill is a minimum of 150 feet wide where the permit boundary is inside the property boundary.
 11. The total volume of 121 RDF will be 142 million cubic yards. The total landfill volume available for waste disposal is approximately 110 million cubic yards or 60 million tons.
 12. The site life for 121 RDF is estimated to be in excess of forty years.

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DOCUMENT TITLE: 121 RDF PERMIT BOUNDARY AND FOOTPRINT
 DATE: 12/12/01
 TIME: 10:00 AM
 BY: [Signature]
 FOR: [Signature]

13. NTMWD has sufficient property rights in the site of 121 RDF to ensure right-of-entry until the end of the post-closure care period.
14. The coordinates of the site of the permanent benchmark are latitude N 33° 17' 26.74556", longitude W 96° 30' 51.22736", elevation 654.5 feet msl. The permanent benchmark will be (1) a standard bronze survey marker set in concrete and will have the permanent benchmark elevation and survey date stamped on it; (2) referenced to at least one National Vertical Datum Benchmark; (3) located at the landfill grid origin as State Plane coordinate position N7158500 feet, E2571500 feet; and (4) established at 121 RDF prior to construction in an area that is readily accessible and will not be disturbed during the disposal process.
15. NTMWD has provided a list and map identifying all adjacent property owners and all property owners within 500 feet of 121 RDF as of the date the Application was submitted to the Commission.
16. Under the proposed permit, 121 RDF may accept MSW resulting from municipal, community, commercial, institutional, and recreational activities, including putrescible wastes, rubbish, ashes, brush, and construction and demolition debris.
17. Under the proposed permit, 121 RDF may accept Class II and Class III industrial waste (non-hazardous), provided that receipt of these wastes does not impair the operation of 121 RDF.
18. Under the proposed permit, certain special wastes may be accepted at 121 RDF as specified in the Application.
19. Under the proposed permit, special wastes that require prior written approval from the Commission will not be accepted at 121 RDF until prior written approval from the

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TEL: 512.463.1000
FAX: 512.463.1001
WWW.TXDEH.SITE

Commission has been received. Class I Industrial Waste (non-hazardous) will not be accepted without prior written authorization from the Commission.

20. Under the proposed permit, 121 RDF will not accept any wastes classified as hazardous by the Commission or the U.S. Environmental Protection Agency (EPA), as defined in 40 C.F.R. § 258.20 and part 261, polychlorinated biphenyl (PCB) wastes as defined in 40 C.F.R. § 258.20 and parts 261 and 761, radioactive wastes, wastes transported in bulk containers, liquid wastes, used oil filters, used oil, and lead acid batteries.

B. Procedural and Notice Issues

21. The Application was deemed administratively complete by the Commission on May 10, 2001.
22. The *Notice of Receipt of Application and Intent to Obtain a Municipal Solid Waste Permit, Proposed Permit No. 2294* was published in both the *Plano Star Courier*, the newspaper with the largest circulation published in Collin County, and the *Dallas Morning News*, the newspaper with the largest circulation in Collin County, on May 31, 2001. It was also published in the *McKinney Courier Gazette*, a newspaper published in Collin County and designated as the official newspaper for public notices by the cities of Melissa and Anna, on May 31, June 1, and June 3, 2001.
23. A Commission-sponsored public meeting was held on August 14, 2001, in the City of Melissa, Collin County, Texas.
24. The *Notice of Public Meeting on an Application for Municipal Solid Waste Permit No. 2294* was published on July 26, August 2, and August 9, 2001, in the *Plano Star Courier*, the newspaper with the largest circulation published in Collin County, the *Dallas Morning News*, the newspaper with the largest circulation in Collin County, and the *McKinney Courier*

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Gazette, a newspaper published in Collin County and designated as the official newspaper for public notices by the cities of Melissa and Anna.

25. The Application was deemed Technically Complete by the Commission on May 24, 2002.
26. The *Amended Notice of Application, Preliminary Decision and Contested Case Hearing for a Municipal Solid Waste Permit* was published in the *Plano Star Courier*, the newspaper with the largest circulation published in Collin County, on July 10, 2002. It was also published in the *Dallas Morning News*, the newspaper with the largest circulation in Collin County, and the *McKinney Courier Gazette*, a newspaper published in Collin County and designated as the official newspaper for public notices by the cities of Melissa and Anna, on July 11, 2002.
27. On May 28, 2002, NTMWD requested a direct referral to the State Office of Administrative Hearings (SOAH) for a hearing on the Application.
28. On July 9, 2002, the Office of the Chief Clerk of the Commission mailed the *Amended Notice of Application, Preliminary Decision and Contested Case Hearing for a Municipal Solid Waste Permit* to the then-identified participants to the proceeding, to other potentially affected persons identified in the Application, to the landowners named in the Application, to various state and local agencies and officials, to state legislators for districts in which 121 RDF is located, and to other persons specified in Commission regulations. Potentially affected persons receiving notice generally included those landowners within 500 feet of 121 RDF, but not those landowners outside 500 feet of 121 RDF. All persons intending to request party status at the hearing were requested in the *Amended Notice of Application, Preliminary Decision and Contested Case Hearing for a Municipal Solid Waste Permit* to attend the jurisdictional hearing.

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29. The jurisdictional hearing was held on August 13, 2002, in the City of McKinney, Collin County, Texas.

30. The following were named as parties to this proceeding:

- a. NTMWD.
- b. The Office of Public Interest Counsel (OPIC) of the Commission
- c. Defenders of Americans' Voice in Decision-Making, Inc. (D.A.V.I.D.) and its members; Mr. Wesley Burgess, Individually and for the Burgess Family; Ms. Rebecca Rollins Bona, Individually and for the Rollins Family Trust; Mr. A.B. Roper, Individually and for the Roper Family; Mr. John Airhart, Individually and for Ms. Kimberly Airhart Monk and Ms. Modene Carroll; and Ms. Susan Clark, Individually and for the Helen Clark Family Trust (collectively "Protestants").
- d. Other persons who were named, but subsequently withdrew, as parties were: the Galbraith Trust; Mr. Jim Jake Templin, Individually and for Mr. William L. Templin and Ms. Joyce Roper Templin; the Stoney Point Cemetery Association; the Brinlee Cemetery Association; Mr. John Carter; R.A. Properties; Pate Rehabilitation, Inc.; Mr. Thomas Reaves, Individually and for Ms. Margaret Reaves and Mr. George Reaves; Mr. Byron Stewart; and Mr. John Stewart, Individually and for Ms. Deby Stewart.
- e. The Executive Director (ED) of the Commission filed notice on August 9, 2002, indicating that it did not intend to participate as a party to this proceeding.

31. The contested case hearing on the Application was conducted March 10-13, 2003, in the City of McKinney, Texas. The evidentiary record closed on April 18, 2003.

³ Pursuant to a letter dated March 4, 2003, Mr. Burgess has requested to withdraw as a party to the proceeding. No Order dismissing Mr. Burgess as a party has been issued by the Administrative Law Judge.

C. The Application

32. NTMWD appointed Pierce L. Chandler, Jr., P.E., as the Engineer of Record for the Application. The Application was prepared under Mr. Chandler's direction and supervision, in coordination with a team of technical experts. Dr. Robert S. Kier, Ph.D., was the Project Manager for the development of the Application.
33. The seals of Mr. Pierce L. Chandler, Jr., P.E., Mr. Robert J. Brandes, Ph.D., P.E., and Mr. Carey M. Witt, P.E., professional engineers licensed in the State of Texas, were affixed to all engineering plans, drawings, and calculations, and on the Application cover pages as directed by the Texas Engineering Practice Act.
34. The Application contains verification of NTMWD's legal status.
35. The Title Page of Parts I & II of the Application identifies that: the name of the project is the 121 RDF; the application is for Permit No. MSW-2294; the applicant is NTMWD; 121 RDF is located in Collin County, Texas; and the date that the Application was deemed technically complete by the ED. Parts I & II of the Application include a Supplementary Technical Report, describing the purpose of the 121 RDF and the Application. The Title Page, Table of Contents, and Supplementary Technical Report set out in Parts I & II of the Application are sealed in accordance with the Texas Engineering Practice Act.
36. The Application contains maps identifying the following: the prevailing wind direction; all known water wells and structures within 500 feet of 121 RDF; any schools, licensed day care facilities, churches, hospitals, cemeteries, ponds, lakes, and residential, commercial, and recreational areas within one mile of 121 RDF; the location of all roads within one mile of 121 RDF that will be used for access to 121 RDF; latitudes and longitudes; area streams; airports within five miles of 121 RDF; the permit boundary of 121 RDF; any drainage,

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pipeline, and utility easements within or adjacent to 121 RDF; and any archaeological sites, historical sites, and sites with exceptional aesthetic qualities adjacent to 121 RDF.

37. The Application identifies the location of 121 RDF on the Texas Department of Transportation's (TxDOT) General Highway Map for Collin County, Texas.
38. The Application contains a U.S. Geological Survey 7.5-minute quadrangle general topographic map, identifying the location of 121 RDF.
39. The Application contains a list of adjacent and potentially affected landowners that is keyed to the landownership map. The map shows all property owners within 500 feet of 121 RDF.
40. The Application contains a metes and bounds description, as well as a map depicting the metes and bounds description, of 121 RDF that is signed and sealed by a registered professional land surveyor.
41. The Application contains deed information for NTMWD Property based on Collin County property records.
42. The Application includes a final contour map for 121 RDF depicting the final contours of the completed 121 RDF at the top of the final cover.
43. The Application includes fill cross-sections showing the top of the proposed fill, maximum elevation of the proposed fill, top of the final cover, top of the wastes, existing ground, bottom of the excavations, side slopes of trenches and fill areas, landfill gas monitoring probes, and subsurface water monitoring wells. There are sufficient fill cross-sections, both latitudinally and longitudinally, so as to accurately depict the existing and proposed depths of all fill at 121 RDF.

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COLLIN COUNTY

44. The Application includes maps showing 121 RDF prior to any grading, excavation, and/or fill operations. The maps show the location and quantities of surface drainage entering, exiting, or internal to 121 RDF.
45. The Application contains a property owner affidavit executed by Mr. James M. Parks, P.E., on behalf of NTMWD. The affidavit includes: the legal description of 121 RDF; acknowledges that the State of Texas may hold NTMWD either jointly or severally responsible for the operation, maintenance, and closure and post-closure care of 121 RDF; acknowledges that NTMWD will file an affidavit to the public with the county deed records, at the time 121 RDF begins operating as a MSW landfill, advising that the land where 121 RDF is located has been used for a solid waste facility; and acknowledging that NTMWD and the State of Texas will have access to 121 RDF during the active life and for a period of not less than thirty years after closure for the purpose of maintenance and inspection.
46. The Application contains a listing of all permits or construction approvals received or applied for pursuant to: the National Pollutant Discharge Elimination System (NPDES) program under the federal Clean Water Act (CWA); the waste discharge program under TEX. WATER CODE Chapter 26; the nonattainment program under the federal Clean Air Act (CAA); dredge or fill permits under the federal CWA; and other applicable environmental permits.
47. The Application contains the location restriction certifications of compliance for fault areas, seismic impact zones, unstable areas, airports, floodplains, wetlands, and endangered species.
48. NTMWD appointed Mr. James M. Parks, P.E., the Executive Director of NTMWD, as NTMWD's agent for all purposes related to the Application.
49. The Application provides data of sufficient completeness, accuracy, and clarity demonstrating that the operation of 121 RDF will pose no reasonable probability of adverse

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effects on the health, welfare, environment, or physical property of nearby residents and property owners.

- 50. The Application was signed by Mr. James M. Parks, P.E., Executive Director of NTMWD.
- 51. The ED issued Final Draft Permit No. MSW-2294 on May 24, 2002.
- 52. The ED issued the required Summary of Compliance History on May 24, 2002.
- 53. The ED filed its *Response to Public Comment* on March 10, 2003.

CONTESTED ISSUE FINDINGS

STATE OF TEXAS
COUNTY OF TRAVIS
I HEREBY CERTIFY THAT THE ABOVE IS A TRUE AND CORRECT COPY OF
A TRUE AND CORRECT COPY OF THE ORIGINAL RECORD AS KEPT IN THE COUNTY CLERK'S OFFICE

DEC 12 2007

DEPOSITED IN THE OFFICE OF THE COMMISSIONER OF THE COMMISSION ON ENVIRONMENTAL QUALITY AND THE SEAL OF OFFICE

[Signature]
A. TRAVIS
COUNTY CLERK

D. Site Operating Plan

- 54. The Application contains a Site Operating Plan (SOP) addressing the factors listed in 30 TEX. ADMIN. CODE §§ 330.57, 330.111 through 330.134, and 330.136 through 330.139.
- 55. If the permit is issued, the Site Development Plan, SOP, Final Closure Plan, Post-Closure Care Plan, SLQCP, GWSAP, LGMP, Leachate and Contaminated Water Plan, Subsurface Water and Surface Water Protection Plans and Drainage Plan, Erosion and Sedimentation Control Plan, cost estimate and financial assurance documentation, and other related or required plans or documents listed in 30 TEX. ADMIN. CODE § 330.111 will be part of the Site Operating Record of 121 RDF and will become operational requirements for 121 RDF.
- 56. The Site Operating Record will be maintained at 121 RDF, NTMWD's office in the City of Wylie, or an alternate location, if requested and approved by the ED. All original documents will be maintained at NTMWD's office in the City of Wylie.

57. The SOP specifies operating procedures for site management. Procedures addressed in the SOP include required notices, record keeping, inspections and maintenance, access control, waste screening and enforcement of 121 RDF rules, fill operations, environmental protection measures, and fire control.
58. The SOP includes descriptions of the functions of various landfill operations personnel, descriptions of the types and functions of equipment to be utilized at 121 RDF, and procedures for the detection and prevention of the disposal of regulated hazardous waste and PCBs.
59. Under the proposed permit, 121 RDF will operate 24 hours a day, Monday through Saturday, and will be open to the public from 8:00 a.m. to 5:00 p.m. on those days. 121 RDF will be closed on Sunday.
60. The SOP provides that there will be a site sign, which will identify the type of site, the hours and days of operation, the permit number, and the types of waste that can be received. The sign will state that incoming loads must be covered or entrance to 121 RDF will be refused.
61. Access to 121 RDF will be limited. The 121 RDF entrance off SH 121 will have a security fence with lockable gates. The entrance gate will remain locked during all hours that 121 RDF is closed to the public. All four sides of the 121 RDF site will be fenced with chain link or barbed wire security fencing. Entry to the active portion of 121 RDF is restricted to designated personnel, approved waste haulers, and properly identified personnel whose entry is authorized by NTMWD. During operating hours, NTMWD personnel are to regularly watch for unauthorized persons in the vicinity of the working face and at the 121 RDF entrance, as well as other areas of the site.
62. Large/bulky items not segregated at NTMWD's transfer stations will be directed to the citizens' drop-off and recycling area.

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63. A large/bulky item recycling area will be designated near the 121 RDF entrance for the temporary storage of white goods and other recyclable items.
64. Vectors such as flies, birds, and rodents will be controlled at 121 RDF by minimizing the size of the working face, properly compacting waste, and covering waste with soil at the end of each working day. The SOP also provides that approved pesticides or other means of control will be used, if necessary.
65. The SOP contains procedures to ensure that regulated hazardous waste and PCBs will not be accepted at 121 RDF.
66. To prevent the disposal of regulated hazardous waste at 121 RDF, the SOP requires that NTMWD screen wastes, provide personnel training, reject haulers carrying unauthorized wastes, and perform random sampling.
67. The SOP specifies procedures to ensure that special waste, as that term is defined at 30 TEX. ADMIN. CODE § 330.2, will not be accepted at 121 RDF until prior written approval from the Commission has been obtained, except with respect to certain special wastes the acceptance of which is authorized in accordance with 30 TEX. ADMIN. CODE § 330.136(b).
68. The SOP specifies procedures for random inspections of incoming waste.
69. The SOP contains procedures related to the unloading of wastes, specifying that the Gate Attendant will monitor all incoming loads and record the vehicle number and weight; signs or authorized personnel will direct haulers and citizens to the appropriate unloading area; and Spotters and Equipment Operators will monitor the unloading of the waste at the working face, which will be confined to as small an area as practical.

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70. Under the SOP, windblown material will be collected on a regular basis and returned to the working face. Litter scattered about the site, along fences, across roads, and at the gate will be picked up at least once per week and re-deposited at the working face. NTMWD will be responsible for litter control along the public roads within two miles of the site entrance in either direction along SH 121. Rights-of-way will be policed on a regular basis.
71. All-weather roads will be provided within 121 RDF.
72. A water truck will be available to minimize dust on roadways, and a truck washing station will be constructed to remove mud from the vehicle or clean the entire vehicle, if necessary.
73. Open burning will not be allowed at 121 RDF.
74. The site operator is given authority to take appropriate measures to control odor.
75. The SOP requires that daily cover of six inches of well-compacted earthen material, not previously mixed with garbage, rubbish, or other solid waste will be spread over all exposed and compacted solid waste disposal areas at the end of each day's operations, or at least once every 24 hours, to provide vector, litter, fire, and odor control.
76. The SOP requires that solid waste be spread and compacted evenly by a minimum of three passes of the landfill compactor. Each layer of waste will be thoroughly compacted to a thickness of approximately two feet.
77. As each landfill cell reaches capacity, a minimum of twelve inches of intermediate cover (consisting of on-site soils) will be placed over the waste as intermediate cover and compacted in order to establish a firm base for final cover placement. All intermediate cover will be graded to prevent ponding of water.

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ATTORNEY GENERAL

- 93. In at least one past permitting order, regarding Permit No. MSW-1745B, the TCEQ has allowed deed-restricted drainage areas to be located outside of the permit boundary.
- 94. The designated drainage areas are not part of the 121 RDF facility, as the term is defined in 30 TEX. ADMIN. CODE § 330.2(48).

F. Alteration of Natural Drainage Patterns

- 95. Existing drainage patterns are as follows:
 - a. Almost all of the drainage from the 121 RDF site currently moves into the Brinlee Branch to the north or into the South Tributary to the south;
 - b. After the Brinlee Branch and South Tributary join, the Brinlee flows to the east into Sister Grove Creek, a tributary of Lake Lavon on the East Fork of the Trinity River;
 - c. In the southwest corner of the 121 RDF site, drainage flows west into Stiff Creek, and then into Sister Grove Creek;
 - d. In the Panhandle of the 121 RDF site, drainage flows into Stiff Creek, and then into Sister Grove Creek.
- 96. Post-development drainage patterns are expected to be similar to those currently existing.
- 97. A Surface Water Protection and Drainage Plan was prepared that demonstrates the pre-development and post-development conditions at 121 RDF. Drainage calculations and drainage design plans that contain the matters specified in 30 TEX. ADMIN. CODE §§ 330.55(b)(5) and 330.56(f) are included. The Surface Water Protection and Drainage Plan includes a discussion of drainage areas, the direction of drainage, the potential for flooding, drainage structures, and erosion and sedimentation control.

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98. The Application contains the required general topographic map and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FEMA Map) for the area of 121 RDF, which is shown on each map.
99. Pre-development and post-development hydrologic calculations were performed for the 121 RDF site and included in the Application. Peak flow rates, velocities, and runoff volumes from each of the 121 RDF drainage areas and the water surface profiles for Brinlee Branch and the South Tributary were determined.
100. 121 RDF has been designed with adequate run-on and run-off drainage controls.
101. 121 RDF includes a run-on control system capable of preventing flow onto the active portion of 121 RDF during the peak discharge from at least a 25-year storm.
102. 121 RDF includes a run-off management system from the active portion of 121 RDF that collects and controls the flow from a 24-hour, 25-year storm.
103. Calculations were performed that demonstrate that 121 RDF's perimeter drainage channel and detention pond design will minimize erosion and sediment.
104. Analyses of peak flows, volume, direction of run-off, and velocity of run-off show that natural drainage patterns will not be significantly altered as a result of 121 RDF.
105. The design points used by NTMWD to measure run-off adequately provide run-off measurements at the permit boundary.
 - a. Design Points 3 through 9 are not located at the permit boundary, but adequately provide measurements of run-off at the permit boundary;
 - b. Design Points 10 through 12 are located on the permit boundary.

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106. There are some discrepancies between the lag time calculations reflected in the HEC-1 (used to model existing conditions and the 100-year, 2-hour storm event) and those contained in the Application under the "summary of other calculations for existing conditions."
107. The differences between the lag times used in the HEC-1 and those contained in the Application are not significant and do not affect the validity of the conclusions drawn from the drainage calculations relied on by NTMWD.
108. Peak run-off flow rates are expected to increase at only two points—Design Points 4 and 5—as a result of 121 RDF.
109. The increase of peak flows at Design Points 4 and 5 will not cause an adverse impact downstream.
110. The landfill final cover drainage calculations demonstrate that 121 RDF is designed to convey run-off produced from a 25-year storm, to provide erosion protection, and to minimize sediment loss.
111. Run-off volumes during the critical storm event are expected to increase, as result of the development of 121 RDF, at only four measured locations—Design Points 5, 6, 11, and 12.
112. Increased run-off volume at Design Points 11 and 12 is insignificant in light of the relatively small volumes involved and given the fact that peak flows at those design points will actually decrease through the use of detention ponds.
113. The increased run-off volume at Design Points 5 and 6 is significant but is attributable to the increased size of the areas that will be drained at those design points.

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114. The increased run-off volume at Design Points 5 and 6 will not present a danger of increased erosion or flooding, given the use of detention ponds and other drainage tools at RDF 121.
115. The increased run-off volume at Design Points 5, 6, 11, and 12 is not a significant impact.
116. At Design Point 7, run-off volumes are expected to decrease significantly as a result of the development of 121 RDF.
117. The property located near Design Point 7 that is most likely to be impacted by decreased run-off volume is owned by Albert Fuller.
118. Albert Fuller has not participated in this proceeding and has indicated no formal opposition to the Application.
119. The volume reduction at Design Point 7 with respect to the 100-year flood is not a significant impact.
120. Peak run-off velocity is not expected to increase as a result of the development of 121 RDF.
121. 121 RDF is designed to prevent discharge of pollutants into or adjacent to water in the State and waters of the U.S. Storm water controls for 121 RDF have been designed consistent with Commission regulations for Type I MSW landfills and applicable EPA NPDES regulations.
122. Under the proposed permit, prior to commencing construction at 121 RDF, NTMWD is to submit a Notice of Intent (NOI) to obtain permit coverage pursuant to the general permit for storm water discharges related to construction activities. Prior to operation, NTMWD is to submit a NOI to obtain permit coverage pursuant to the Commission's general permit to

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dispose of wastes from industrial facilities that discharge storm water associated with industrial activity.

123. The 121 RDF drainage plan, including the detention pond, has been designed to reduce the peak run-off from the developed 121 RDF to pre-development flow rates. The outlet structure for the detention portion of the pond, also referred to as the principal spillway, is designed to convey the peak flow for the 100-year flood event.
124. The run-off volumes and peak flood flows under both pre-development and post-development conditions for Brinlee Branch and the South Tributary were calculated utilizing the USACE's HEC-1 run-off model. For describing the variation of rainfall with time in the HEC-1 model, a standard rainfall distribution, developed by the U.S. Soil Conservation Service (SCS) and referred to as the "Standard Emergency Spillway and Freeboard Hydrograph (Table 6)" distribution, was used.
125. Peak flow rates under both pre-development and post-development watershed conditions for drainage areas of less than 200 acres in size were calculated using the Rational Method.

G. Floodplain and Flood Issues

126. 121 RDF is not located within the limits of the regulatory 100-year floodplain as identified on the FEMA Map. A subtitle D Location Restriction Certification of Compliance for Floodplains, signed by Robert J. Brandes, Ph.D., P.E., is included in Parts I & II, Appendix I & II-E, of the Application.
127. To evaluate flooding conditions along Brinlee Branch and the South Tributary, an analysis of water surface profiles corresponding to the 100-year flood event was performed using the USACE's HEC River Analysis System (HEC-RAS) computer program.

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I hereby certify that the project described in the certificate of compliance is in compliance with the provisions of the Texas Flood Control Act, Chapter 263, Texas Government Code, and the rules and regulations promulgated thereunder.
HEC 12 - 2001
Robert J. Brandes, Ph.D., P.E.
Professional Engineer
No. 123456789
Texas State Board of Professional Engineers
Austin, Texas

- 128. The areas around design points 4 and 5, which are alleged to be located in the regulatory limits of the 100-year floodplain, are not lowland nor relatively flat and are not within the floodplain.
- 129. The dams located at Design Points 4 and 5 are designed to capture and hold run-off in those areas. Pre-existing ponds in those areas will not cause higher flooding upstream, nor will waters released from the areas cause faster flow, higher floods or greater potential for water damage downstream.
- 130. The drainage channels on the final cover system are designed to accommodate the 100-year rainfall event.
- 131. The level of perimeter channels around 121 RDF are lower than the elevation of the toe of the landfill. Perimeter berms enclose the perimeter channels, which are designed to contain the 100-year flood waters at depths of less than one and one-half feet.
- 132. 121 RDF will not restrict the flow of the 100-year flood, will not reduce the temporary water storage capacity of the floodplain, and will not result in washout of solid waste posing a hazard to human health and the environment.

H. Geology and Groundwater Monitoring

- 133. Part III, Site Development Plan, Attachment 4, Geology Report, of the Application, with the exception of Section 7.0, Geotechnical Report, was prepared by a certified professional geological scientist and qualified groundwater scientist, as that term is defined by the Commission at 30 TEX. ADMIN. CODE § 330.2(110). Section 7.0, Geotechnical Report, of the Geology Report was prepared by a professional engineer licensed in the State of Texas.

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 PROJECT ENGINEER

134. 121 RDF is located in the East Fork Trinity River Basin in Collin County. Physically, 121 RDF is situated on an upland drainage divide between Brinlee Branch on the north and an unnamed tributary to Brinlee Branch on the south (South Tributary).
135. 121 RDF is located in a belt of Upper Cretaceous sedimentary rocks that crop out along the outer margin of the Gulf Coastal Plain in a physiographic province known as the Blackland Prairie. The Blackland Prairie comprises primarily poorly drained, low hydraulic conductivity clays.
136. The principal Cretaceous System rocks within the first 1,000 feet below the 121 RDF belong to two groups, the Austin Chalk and the Eagle Ford Shale. The Eagle Ford, the lower of the two groups at 121 RDF, is approximately 475 feet thick and is divided into two units, the Britton and the Arcadia Park.
137. The lower part of the Britton consists of moderately hard calcareous clay shale. In the upper part of the Britton, the shale is less calcareous and softer and contains limestone and claystone concretions.
138. The Arcadia Park consists of three parts. The lower part is clayey shale overlain by the middle part consisting of one to three feet of thin flaggy limestone. The upper part consists of clayey shale containing numerous calcareous concretions.
139. The base of the Eagle Ford at 121 RDF is at a depth of about 1,300 feet or about 650 feet below sea level.
140. A detailed discussion of the geology of 121 RDF is located in Part III, Site Development Plan, Attachment 4, Geology Report, of the Application.

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- 141. The Austin Chalk is the geologic unit exposed at the surface of 121 RDF. The Austin Chalk is subdivided into three units: the lower chalk, the middle marl, and the upper chalk. The base of the Austin Chalk at 121 RDF is at a depth of about 975 feet or about 225 feet below sea level. The upper unit of the Austin Chalk underlies the entire 121 RDF.
- 142. 121 RDF is covered by four general soil types: the Houston Black soil association, the Austin Silty Clay, the Stephen-Eddy complex, and the Eddy gravelly clay loam.
- 143. 121 RDF was examined for the presence of faulting through site reconnaissance, examination of boring log data, and a review of geological literature and maps of the area.
- 144. There are no active faults on or within two hundred feet of 121 RDF that have had displacement in Holocene (Recent) geologic time. A Subtitle D Location Restriction Certification of Compliance for Fault Areas, signed by Mr. H.C. Clark, Ph.D., is included in Parts I & II, Appendix I & II-E of the Application.
- 145. 121 RDF was examined for the presence of unstable areas. No poor foundation conditions, no areas susceptible to mass movement, and no karst terrains were found at 121 RDF. There are no unstable areas at 121 RDF. A Subtitle D Location Restriction Certification of Compliance for Unstable Areas, signed by Mr. Pierce L. Chandler, Jr., P.E., is included in Parts I & II, Appendix I & II-E of the Application.
- 146. 121 RDF is located in an area having a maximum horizontal acceleration of less than 0.10 g (force of gravity), with a ninety-percent probability of not being exceeded in 250 years; thus, 121 RDF is not located in a seismic impact risk zone. A Subtitle D Location Restriction Certification of Compliance for Seismic Impact Zones, signed by Mr. H.C. Clark, Ph.D., is included in Parts I & II, Appendix I & II-E of the Application.
- 147. There are no aquifers within the first 1,000 feet of the surface at 121 RDF.

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148. The uppermost aquifer is the Woodbine Aquifer, approximately 1,300 feet below 121 RDF.
149. The intervening materials (confining layers) between 121 RDF and the Woodbine Aquifer consist of chalk and marl of the Austin Chalk and the underlying marl and shale of the Eagle Ford Shale. These materials are essentially impervious and there is little potential for water or any other fluids to move downward from 121 RDF to the Woodbine Aquifer.
150. Under 121 RDF, the Woodbine Aquifer is under artesian conditions, *i.e.*, the water level in a well drilled into the Woodbine Aquifer would rise above the top of aquifer, with the overlying Eagle Ford Shale acting as the upper confining layer.
151. Subsurface conditions at 121 RDF were evaluated using a Commission-approved Soil Boring Plan, which required a total of forty borings spaced on a grid of approximately 1,000 feet on a side. The borings were drilled by a licensed water well driller, and all borings were logged by the same senior professional geologist certified by the American Institute of Professional Geologists.
152. Field activities consisted of drilling, coring, logging, and grouting each borehole, geophysical logging, and setting temporary piezometers. Each of the boreholes was geophysically logged using an array of instruments, including: resistivity, spontaneous potential, natural gamma, caliper, porosity, and neutron density. In accordance with the approved Soil Boring Plan, the suite of geophysical logs selected was based on observations in the field during drilling and visual examination of the cores.
153. The data obtained from the soil borings are adequate to establish subsurface stratigraphy and to determine geotechnical properties of the soils and rocks beneath 121 RDF. Installation, abandonment, and plugging of the borings was accomplished in accordance with Commission rules.

154. Site piezometers were monitored at approximately monthly intervals over a period of approximately one year. A hydrogeologic evaluation of the data and stratigraphy was completed. Limited and scattered occurrences of subsurface water were detected in some of the borings, either during drilling or by later indications of water by the piezometers installed at 121 RDF.
155. An analysis of the potential pathways for pollutant migration was provided in the Application.
156. The physical setting and the design of 121 RDF make leakage and subsequent migration outside of the confines of the composite liner system and final cover system improbable.
157. The lack of water wells in the Austin Chalk, observations during drilling and logging of the borings, water or pressure levels measured by the piezometers installed, and the lack of any springs or seeps emanating from the weathered and unweathered Austin Chalk strongly indicate that what little subsurface water occurs in the weathered and the unweathered Austin Chalk is in isolated, hydraulically disconnected pockets.
158. Should leachate penetrate either the FML component or the compacted soil liner component of the composite liner system on the floor of 121 RDF, it will migrate downslope until it emerges on the east end of 121 RDF where it can be directly observed and contained. Should leakage occur through the sidewalls of the proposed 121 RDF, it will tend to migrate down the steep side slopes and then follow the same pathway to the east end of the landfill as leachate that might leak through the bottom liner.
159. A qualified groundwater scientist, as that term is defined by 30 TEX. ADMIN. CODE § 330.2(110), performed a Ground (Subsurface) Water Characterization Report.

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160. A Soil and Liner Quality Control Plan (SLQCP) has been designed for 121 RDF by a licensed professional engineer to protect subsurface water. The SLQCP provides operating personnel guidance for assuring continuous protection of subsurface water.
161. The SLQCP specifies construction methods employing good engineering practices for compaction of the soil liner component of the composite liner system and addresses the installation and testing of the geosynthetic liner component.
162. The SLQCP details the excavation, examination, and dental work procedures; composite liner system, LCS, and final cover system construction methods and procedures, Quality Assurance/Quality Control (QA/QC); and reporting requirements, specifically SLERs and appropriate portions of the FMLERs.
163. A minimum of two feet of protective soil cover will be placed over the LCS/composite liner system. Permeable "chimneys" through the protective cover will be provided at a nominal 100-foot spacing to allow drainage into the LCS. The chimneys will be covered with rain flaps until waste is actually placed over the chimneys.
164. The leachate storage area is external to the fill area and will be monitored by direct observation. Leachate storage consists of three lined ponds into which the leachate from each of the three leachate collection header pipes can drain by gravity. The LCS is designed to maintain less than thirty centimeters or one foot of liquid head above the bottom liner.
165. The Application contains a Subsurface Water and Surface Water Protection Plan and Drainage Plan.
166. The Ground (Subsurface) Water Sampling and Analysis Plan (GWSAP) included in the Application defines procedures and techniques for subsurface water sample collection, preservation, shipment, analyses, chain-of-custody, and QA/QC procedures.

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167. To monitor the subsurface water conditions at 121 RDF, 13 monitoring wells will be installed around the perimeter of the waste footprint. The wells have been located in consideration of existing topography, landfill design, subsurface conditions, and the absence of any aquifer closer than 1,300 feet below the landfill excavation. The subsurface water monitoring system was designed and certified by a qualified groundwater scientist.
168. No subsurface monitoring wells will extend into the Woodbine Aquifer.
169. NTMWD has provided no means by which to monitor groundwater located in the Woodbine Aquifer.
170. NTMWD has not made a certified demonstration, through a qualified ground-water scientist and approved by the ED, that there is no potential for migration of hazardous constituents from 121 RDF to the Woodbine Aquifer, which is the uppermost aquifer.
171. NTMWD has not presented an alternative design for a groundwater monitoring system that uses other means in conjunction with monitoring wells to ensure detection of groundwater contamination in the uppermost aquifer.
172. The relevant Point of Compliance (POC) will extend around the north, east, and south perimeters of the 121 RDF waste footprint. The relevant POC will be contained within the permit boundary and will be no more than 500 feet horizontally distant from the 121 RDF waste footprint.
173. Subsurface water monitoring will continue throughout the post-closure care period.
174. The subsurface water monitoring wells will be sampled in accordance with the GWSAP and the analyses will be submitted to the Commission for review.

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- 175. The GWSAP contained in the Application provides procedures for collecting representative samples from subsurface water monitoring wells and QA/QC procedures required to ensure valid analytical results. The GWSAP also includes methodology for evaluation of these results so that the occurrence of a statistically significant increase may be detected.
- 176. 121 RDF is not likely to adversely affect or result in a hazard to subsurface water.
- 177. NTMWD's proposed groundwater monitoring system, aside from failing to monitor for detection of groundwater contamination in the uppermost aquifer, is sufficient for detecting migration of contaminants from 121 RDF into local groundwater and for protecting groundwater around 121 RDF.

I. Land Use Compatibility

- 178. The Application contains an existing conditions summary for the area near 121 RDF.
- 179. The Application contains an aerial photograph showing 121 RDF, the waste footprint, and the area in a one-mile radius around 121 RDF.
- 180. Most of 121 RDF is outside the corporate limits of any city, and 121 RDF is not subject to municipal zoning.
- 181. The cities of Anna and Melissa are the closest cities to 121 RDF; they are located to the north and west of 121 RDF, respectively.
- 182. The City of Melissa annexed the right-of-way of County Road 416 (CR 416) where it formerly crossed the "panhandle" portion of 121 RDF. The City of Melissa has abandoned

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the right-of-way of CR 416 and it has reverted to NTMWD. Only the abandoned right-of-way of CR 416 is within the corporate limits of the City of Melissa.

183. Collin County does not exercise zoning authority in the vicinity of 121 RDF.
184. Correspondence from the North Central Texas Council of Governments (NCTOG) dated April 14, 2000, determined that 121 RDF is in conformance with the capacity needs of the Regional Solid Waste Management Plan for North Central Texas.
185. The land uses within a one mile radius of 121 RDF are predominantly (91%) agricultural and vacant.
186. Suburban low-density residential growth is occurring throughout the unincorporated areas of Collin County. Most of the recently occurring residential activity is to the west and south of 121 RDF.
187. The largest property owner in the vicinity of 121 RDF is NTMWD.
188. The nearest community to 121 RDF is the City of Melissa. The City of Melissa has experienced residential development northwest and southeast of its downtown area. Future growth is expected to occur along U.S. Highway 75 (US 75) west of downtown.
189. An estimated 85 residences are observed within one mile of 121 RDF. The nearest residence is located approximately 200 feet northwest of 121 RDF, across SH 121. The residence nearest to the landfill footprint is approximately 500 feet northeast from the waste footprint.
190. At the time the Application was submitted to the Commission, seven industrial/commercial businesses were observed within one mile of the permit boundary, with the closest business to 121 RDF being a trucking company located on CR 416, adjoining the permit boundary.

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COUNTY OF TRAVIS
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PHONE: (512) 477-1000
FAX: (512) 477-1001
WWW: WWW.COUNTYCLERK.TX.GOV

Since the Application was filed with the Commission, the trucking company has closed and NTMWD has purchased the trucking company's property. Other business establishments within one mile include two quarries, a composting operation, and a feedlot.

191. There are no known schools, licensed day care facilities, recreational areas, or sites having exceptional aesthetic qualities within one mile of 121 RDF. Two cemeteries and two churches are within one mile of 121 RDF. The two churches are located more than one-half mile away from 121 RDF.
192. No public use airports exist within a five-mile radius of 121 RDF. A Subtitle D Location Restriction Certification of Compliance for Airports, signed by Pierce L. Chandler, Jr., P.E., is included in Parts I & II, Appendix I & II-E, of the Application.
193. Within one mile of 121 RDF, there are two deep water wells into the underlying Woodbine Group east and southeast of 121 RDF. There are five shallow wells registered within approximately one mile of 121 RDF.
194. Eight "cistern/wells" were located on NTMWD Property during an intensive pedestrian survey. None of these was registered as a well. The cistern/wells functioned more as cisterns than wells.
195. Only one oil well has been drilled within a mile of 121 RDF. The well was dry and was plugged and abandoned.
196. NTMWD coordinated with the FWS and the TPWD and conducted surveys at the site of 121 RDF for federal and state-listed endangered and threatened species and critical habitat.

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197. The FWS recommended that all proposed project areas near creeks, rivers, and wetlands or other waterbodies be checked for the presence of tall trees that may serve as bald eagle (*Haliaeetus leucocephalus*) roosting or nesting sites.
198. A permitted biologist performed a survey for bald eagles and their roosting habitat and determined that the preferred nesting, feeding, and/or roosting habitat was not found in or adjacent to 121 RDF.
199. The FWS concurred with the permitted biologist's determination that bald eagles would not be significantly impacted by the development of 121 RDF and determined that no mitigation plan for the bald eagle was needed.
200. The FWS also determined that 121 RDF was not likely to adversely affect the endangered whooping crane (*Grus americana*).
201. The TPWD noted that the state listed threatened timber/canebrake rattlesnake (*Crotalus horridus*) could be impacted by project activities if suitable habitat is present, and a survey of 121 RDF was conducted to determine whether timber rattlesnakes are present at 121 RDF.
202. No timber rattlesnakes or denning habitat were observed at 121 RDF. Nevertheless, NTMWD proposes mitigation measures to be implemented prior to and during construction and operation of 121 RDF to benefit timber rattlesnakes.
203. The siting and operation of 121 RDF will not result in the destruction or adverse modification of critical habitat for threatened or endangered species, nor will construction and operation of 121 RDF result in a taking of threatened or endangered species.

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[Handwritten Signature]
P. J. [Name]
ATTORNEY AT LAW
TELEPHONE: [Number]

204. A Subtitle D Location Restriction Certification of Compliance for Endangered Species, signed by Mr. Rudi K. Reinecke, is included in Parts I & II, Appendix I & II-E, of the Application.
205. An on-site investigation for potential jurisdictional wetlands and waters of the United States ("waters of the U.S."), conducted by qualified biologists, identified five potential jurisdictional emergent wetlands on NTMWD Property. The delineated jurisdictional waters of the U.S. and associated wetlands on NTMWD Property total approximately 4.46 acres and 12.04 acres of on-channel impoundments. 36,466.27 linear feet (L.F.) of stream channels were mapped.
206. The USACE concurred with the qualified biologists' identification of jurisdictional waters of the U.S.
207. 121 RDF is designed to avoid and minimize impacts to the delineated jurisdictional waters of the U.S., including impacts on any intermittent stream channels, large on-channel impoundments, and jurisdictional wetlands. A total of 5,798.58 L.F. (0.32 acres) of six different ephemeral stream channels and 0.18 acres of wetlands lie within the waste footprint of the 121 RDF, for a total acreage of 0.50 acres.
208. The USACE has authorized 121 RDF pursuant to Nationwide Permit 39, promulgated pursuant to section 404 of the federal Clean Water Act, 33 U.S.C. § 1344. Nationwide Permit 39 requires mitigation for the unavoidable impacts associated with 121 RDF.
209. A Subtitle D Location Restriction Certification of Compliance for Wetlands, signed by Rudi K. Reinecke, is included in Parts I & II, Appendix I & II-E, of the Application.
210. The THC certified that it concurred with the determination that any cultural resources that may be affected by 121 RDF were of no cultural or historical significance and were ineligible

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for inclusion in the National Register of Historic Places or for designation as a State Archaeological Landmark.

- 211. During the development of 121 RDF, measures such as expansive buffer zones, a system of permanent berms, perimeter landscape screening, and push wall screening berms will be used to limit the visibility of waste from SH 121 and FM 545.
- 212. NTMWD's proposal for a 300 foot high landfill at 121 RDF is compatible with surrounding land uses.
- 213. The use of landscaping and buffers will minimize the visual impact of 121 RDF.
- 214. Most of the residential landowners closest to 121 RDF have not presented evidence in opposition to the height of 121 RDF.
- 215. NTMWD's proposal to operate 24 hours a day is compatible with surrounding land uses.
- 216. Light and noise from operations will be screened by push walls, perimeter berms, and vegetation. Moreover, buffer zones will assist in limiting the effect of noise and light from operations at night.
- 217. Surrounding residents are not expected to be disturbed by 24-hour operations at 121 RDF.

J. Permit Duration

- 218. The ED has not deemed it appropriate for the permit for 121 RDF to be issued for a specified period of time less than the life of the landfill.
- 219. NTMWD's compliance history in relation to its other landfill sites does not justify a limitation on the permit term for 121 RDF.

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SHERIFF
TARRANT COUNTY

- 220. There is not competent evidence in the record which would establish why problems reflected in NTMWD's compliance history could be avoided or remedied at 121 RDF by the use of a permit of a limited duration.
- 221. There is not competent evidence in the record to justify limiting the permit for 121 RDF to a period less than the life of the landfill.

K. Traffic Issues

- 222. Access to 121 RDF is via SH 121. In the vicinity of 121 RDF, SH 121 is a two-lane undivided highway, 45 feet in width with one 12-foot travel lane in each direction, with an all-weather paved surface.
- 223. Data on vehicular traffic projections are provided in the Application. The roads are capable of handling the volume of traffic associated with 121 RDF through its site life.
- 224. The entrance to 121 RDF will be along SH 121. The entrance area and approximately 1,000 feet of the permanent interior access road, a two-lane road, will be an all-weather paved surface. The 1,000 feet of all-weather paving of the permanent interior access road will help prevent vehicles from tracking mud onto SH 121. NTMWD will construct a truck/wheel wash to clean vehicles, if needed, before they leave 121 RDF.
- 225. A deceleration lane will be added to the northbound lane of SH 121 to allow for entry into 121 RDF without impeding traffic on SH 121. The basic design of the deceleration lane has been reviewed and approved by TxDOT.

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 OFFICE ON 12/12/2001.

DEC 12 2001

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 PRESENTLY LOCATED AT 1000 W. WASHINGTON ST. AUSTIN, TEXAS 78701

[Signature]
 COUNTY CLERK

- 226. Interior haul roads, other than the permanent interior access road, will be constructed of an all-weather surface such as crushed rock, gravel, or other suitable materials. These roads will be maintained to provide suitable access in most weather conditions.
- 227. Roads leading to the working face will have grades of six percent or less to allow for safe vehicle maneuvering and handling during wet weather conditions. The road leading to the Citizens' Drop-off Area, located near the scale house, will be an all-weather paved surface.
- 228. Currently, SH 121 has traffic volume of 8,600 vehicles per day (vpd), both directions.
- 229. Traffic volume on SH 121 is expected to increase 200 vpd the first year of operation for the landfill and 1,500 vpd by the 40th year of operation. The expected increase in traffic volume in the first year is 2.3 percent, and in the 40th year is 17.4 percent of the current traffic volume on SH 121 north of FM 545.
- 230. The impact of operation of 121 RDF on SH 121 will be minimal.

OTHER GENERAL AND TECHNICAL FINDINGS

L. Site Development and Engineering Considerations

- 231. The design of 121 RDF takes advantage of the natural attributes of the site to protect surface water, which drains into Lake Lavon, a major drinking water supply.
- 232. 121 RDF will be operated using the "area fill" method with the fill being placed below and above-grade.
- 233. The landfill sequence of development, as depicted in Part III, Site Development Plan, Attachment 1, Site Layout Plan (Drawings), Drawing 1.3, Sectorized Fill Layout Plan, of the

STATE OF TEXAS
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 A TEXAS COUNTY PROJECT OF THE COUNTY OF DALLAS

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 DIVISION OF METROPLANNING AND DESIGN
 PROJECT NO. 01-000000-0000-0000-0000-0000

[Signature]
 PROJECT MANAGER

PROJECT NO. 01-000000-0000-0000-0000-0000

Application, depicts the general progression or sequence of the development and filling of the waste footprint of 121 RDF.

234. 121 RDF design incorporates a Commission-approved Subtitle D standard composite liner. The upper component of the liner system is a 60-mil thick high-density polyethylene (HDPE) flexible membrane liner (FML) to which bentonite has been or is applied to one side. This type of FML also is known as a geosynthetic liner. The soil component of the composite liner system consists of two feet of compacted clayey material with a maximum hydraulic conductivity of 1×10^{-7} cm/sec.
235. Based on site-specific conditions, no special liner conditions are necessary.
236. Landfill markers will be installed in accordance with Commission regulations to clearly mark significant features at 121 RDF, such as the site boundary, buffer zone, easements and rights-of-way, the landfill grid system, and approved Soil and Liner Evaluation Report (SLER) or Flexible Membrane Liner Evaluation Report (FMLER) areas. All markers will be steel or wooden posts and will extend at least six feet above ground level. The markers will not be obscured by vegetation. These markers will be installed at locations visible during operating hours and will be repainted, repaired, or replaced as necessary to retain visibility.

M. Leachate Control and Contaminated Water

237. 121 RDF provides for adequate leachate and contaminated water collection. The LCS provides for drainage of fluids by gravity to the east end of 121 RDF, thus avoiding any potential for a "bathtub" effect.
238. The LCS includes a geonet/geotextile drainage composite with laterals and collection header piping. Redundant collector pipes will be used at nominal 1,000-foot spacing.

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1000 BRUNSON DRIVE
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- 239. The Leachate and Contaminated Water Plan for 121 RDF specifies procedures for collection, storage, treatment and disposal of contaminated water and leachate. Leachate intercepted by the geodrain/lateral system will be routed to one of three header pipes that discharge into the leachate storage ponds on the east end of 121 RDF. The entire system is drained by gravity.
- 240. Under the proposed permit, leachate may be applied to the working face of 121 RDF as a compaction aide, evaporated, transferred to an off-site treatment location by tanker truck, or discharged into a sanitary sewer for routing to a publicly owned treatment works ("POTW").
- 241. Two-foot-high contaminated water control berms have been specified for the 25-year, 24-hour storm event to manage contaminated water generated at the working face of 121 RDF, thus causing any water that comes in contact with exposed waste to be confined at the working face. Any run-off from the working face will be allowed to infiltrate the waste and will be collected by the LCS if it penetrates the full thickness of the waste column. A backup containment system for contaminated water is the "curb" at the east or lowest end of the landfill. There will be no off-site discharge of contaminated waters to waters of the U.S. or water in the State.

N. Landfill Gas Monitoring and Control

- 242. The Application contains a Landfill Gas Management Plan (LGMP) to provide management practices for the monitoring and control of landfill gas generated by 121 RDF.
- 243. Permanent monitoring probes will be used to monitor and to measure any subsurface migration of methane gas. Permanent probes will be installed along the permit boundary of 121 RDF. Site specific information such as geology and soil conditions, "perched" subsurface water, the proximity of on-site and off-site structures, locations of any utility

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lines, and the depth of waste were considered in designing the permanent monitoring probes.

- 244. All on-site permanent structures will be equipped with appropriate continuous monitoring devices to detect methane concentrations should they accumulate inside the building. The structures that will be monitored continuously will include the scale house/office and maintenance building, along with any future structures.
- 245. The LGMP provides for landfill gas monitoring to be performed on at least a quarterly basis as waste is placed within 1,000 feet of the respective probe location along the permit boundary of 121 RDF.
- 246. The Contingency Plan for 121 RDF outlines the procedures to be followed if the landfill gas readings at any monitoring location exceed 25% of the lower explosive limit (LEL) for facility structures and/or the LEL at the 121 RDF permit boundary.
- 247. Landfill gas monitoring will continue for thirty years after final closure of 121 RDF is complete.

O. Site Closure

- 248. The Final Closure Plan includes a description of the final cover design, including the methods and procedures used to install the cover, an estimate of the largest area requiring final cover at any time during the active life of 121 RDF, a schedule for completing all activities, an estimate of the maximum inventory of wastes on-site over the active life of 121 RDF, a final contour map, and a detailed written estimate of the cost of hiring a third-party to close the largest area of 121 RDF during the active life of the site.
- 249. NTMWD will commence post-closure care and maintenance upon completion of final closure activities and review and approval by the Commission and will continue for a

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minimum of thirty years, unless otherwise modified by the ED of the Commission. Post-closure activities include maintenance of landfill components, monitoring of groundwater, and monitoring of landfill gas.

- 250. The final cover system design is as an evapotranspiration or "ET" cover design. The final cover for 121 RDF consists of sixty inches of clay soil capable of sustaining natural vegetation. Compaction of the final cover is unnecessary. Within a year or two of placement, it will be expected to achieve a condition much like natural soil. As the cells progress to an aerial fill and reach final contours, final cover will be applied.
- 251. NTMWD has prepared a cost estimate of the total costs of conducting post-closure care operations and maintenance of the entire post-closure care period in accordance with the Post-Closure Care Plan.
- 252. NTMWD has provided evidence of financial assurance, identifying that NTMWD will provide financial assurance for Permit No. MSW-2294 in accordance with the financial assurance schedule developed in Part III, Site Development Plan, Attachment 8, Cost Estimate for Closure and Post-Closure Care, in accordance with 30 TEX. ADMIN. CODE Chapter 330, Subchapter K.

P. Competency of Applicant

- 253. The Application contains sufficient information to demonstrate that NTMWD is familiar with the Site Development Plan and the SOP and is aware of all commitments represented in those plans. NTMWD has stated its intention to develop and operate 121 RDF in accordance with the Site Development Plan, the SOP, and the Draft Permit

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AS SUBMITTED TO THE COMMISSION ON DECEMBER 12, 2007.

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COMMISSION ON DECEMBER 12, 2007. THE COMMISSION HAS REVIEWED THE ABOVE AND HAS APPROVED THE SAME BY OFFICE OF THE COMMISSION ON DECEMBER 12, 2007.

DIRECTOR

DEPUTY DIRECTOR

254. The Application contains sufficient information to demonstrate that NTMWD has proposed adequate equipment and managerial and financial resources to operate in accordance with the Site Development Plan, the SOP, and the Draft Permit.

CONCLUSIONS OF LAW

1. The Commission has jurisdiction over the disposal of MSW and the authority to issue Permit No. MSW-2294 under TEX. HEALTH & SAFETY CODE ANN. § 361.061.
2. SOAH has jurisdiction to conduct a hearing and to prepare a Proposal for Decision on contested cases referred by the Commission pursuant to TEX. GOV'T CODE ANN. § 2003.47.
3. The Application was processed and the proceedings herein described were conducted in accordance with applicable laws and regulations of the Commission, specifically TEX. HEALTH & SAFETY CODE ANN. Chapter 361 and 30 TEX. ADMIN. CODE § 80.1 *et seq.*, and SOAH, specifically 1 TEX. ADMIN. CODE § 155.1 *et seq.* All other applicable procedural requirements relative to notice, hearing, and due process of law were met.
4. The evidence in the record in support of the requested permit is sufficient to meet the requirements set forth in applicable law and regulations of the Commission for issuance of Permit No. MSW-2294.
5. NTMWD had the burden of proof by a preponderance of the evidence of establishing that its Application meets all of the requirements of the Commission's rules and applicable statutory provisions governing MSW facilities.
6. NTMWD has submitted a complete permit application, as required by TEX. HEALTH & SAFETY CODE ANN. §§ 361.066 and 361.068, which demonstrates that NTMWD will comply

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with all applicable requirements in 30 TEX. ADMIN. CODE Chapter 330, except as noted below.

7. No site-specific conditions exist at the site which require special consideration as provided in 30 TEX. ADMIN. CODE §§ 330.51(b)(3) and 330.53(b)(4).
8. NTMWD has not proposed to construct the expansion in a floodplain, and, therefore, is not required to submit the information specified in 30 TEX. ADMIN. CODE §§ 330.51(b)(4).
9. The Application contains the evidence of competency required by 30 TEX. ADMIN. CODE § 330.52(b)(9).
10. The Application contains the information required by 30 TEX. ADMIN. CODE § 305.45.
11. Parts I and II of the Application meet the applicable technical requirements of 30 TEX. ADMIN. CODE Chapters 305 and 330.
12. The Site Development Plan included in the Application as Part III, which supports Parts I and II of the Application, meets the applicable requirements of 30 TEX. ADMIN. CODE Chapter 330.
13. Part III of the Application meets the applicable requirements of 30 TEX. ADMIN. CODE Chapter 330.
14. Part IV of the Application meets the applicable requirements of 30 TEX. ADMIN. CODE Chapter 330.
15. NTMWD coordinated with all required agencies, officials, and authorities that may have a jurisdictional interest in the Application, including the Federal Aviation Administration

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COUNTY CLERK

(FAA), TxDOT, the Texas Historical Commission (THC), the Texas Parks and Wildlife Department (TPWD), NCTCOG, the Watershed Management Division of the Commission, the U.S. Army Corps of Engineers (USACE), the U.S. Department of Interior, specifically the U.S. Fish and Wildlife Service (FWS), the Collin County Engineering Department, and the EPA.

16. The Applicant has submitted wetland determinations required by applicable federal, state and local laws as required by 30 TEX. ADMIN. CODE §§ 330.51(b)(7) and 330.53(b)(12).
17. The Applicant has submitted Endangered Species Act compliance demonstrations under state and federal laws as required by 30 TEX. ADMIN. CODE §§ 330.51(b)(8), 330.53(b)(13), and 330.55(b)(9).
18. The Applicant has submitted a review letter from the Texas Historical Commission as required by 30 TEX. ADMIN. CODE § 330.51(b)(9).
19. The Applicant has submitted a demonstration of compliance with the regional solid waste plan as required by 30 TEX. ADMIN. CODE § 330.51(b)(10).
20. The Application contains information demonstrating compliance with the National Pollutant Discharge Elimination System program under the federal Clean Water Act (CWA).
21. Subsurface water monitoring for 121 RDF generally follow the Commission's regulatory requirements for detection, assessment, and corrective action monitoring as required by 30 TEX. ADMIN. CODE §§ 330.230 - 330.241, except that NTMWD has failed to show that its proposed monitoring system will yield representative groundwater samples from the uppermost aquifer, as required by 30 TEX. ADMIN. CODE § 330.231(a).

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TARRANT COUNTY, TEXAS
RECORDS & INFORMATION SERVICES
1000 WEST 10TH STREET, SUITE 1000, FORT WORTH, TEXAS 76102
TEL: 817.854.2200 FAX: 817.854.2201

22. NTMWD has not shown that it is entitled to an exception, pursuant to 30 TEX. ADMIN. CODE § 330.230(b), to the Commission's rules requiring monitoring of the groundwater in the uppermost aquifer.
23. NTMWD has not shown that it has developed an alternative design, consistent with 30 TEX. ADMIN. CODE § 330.231(c), for a groundwater monitoring system that uses other means in conjunction with monitoring wells to ensure detection of groundwater contamination in the uppermost aquifer.
24. The hydrologic and hydraulic methods employed to complete the drainage calculations are consistent with Commission regulations.
25. The Application contains information demonstrating compliance with Section 208 of the CWA.
26. The Site Operating Plan included in the Application as Part IV meets the applicable requirements of 30 TEX. ADMIN. CODE Chapter 330, Subchapter F, except inasmuch as it (1) fails to provide, consistent with 30 TEX. ADMIN. CODE § 330.114(2), the size of equipment to be utilized at the facility; and (2) fails to provide, consistent with 30 TEX. ADMIN. CODE § 330.114(6), information regarding the training of personnel in fire-fighting techniques.
27. The calculations under Attachment 6 to the Application conform with the requirements of the Commission's *Blue Flats* ruling.
28. The drainage design criteria and analyses used for the drainage calculations for 121 RDF meet the applicable requirements of 30 TEX. ADMIN. CODE Chapter 330.
29. NTMWD may rely on a Federal Emergency Management Agency (FEMA) floodplain map to comply with 30 TEX. ADMIN. CODE § 330.56(f)(B)(i).

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30. The Landfill Gas Monitoring and Control System complies with 30 TEX. ADMIN. CODE § 330.130.
31. NTMWD has demonstrated compliance with the location restrictions set forth in 30 TEX. ADMIN. CODE §§ 330.300 - 330.305.
32. NTMWD has submitted information regarding closure and post-closure which demonstrates compliance with the requirements of 30 TEX. ADMIN. CODE §§ 330.56(l) and (m), 330.253 and 330.254(b).
33. NTMWD has submitted information regarding financial assurance which complies with 30 TEX. ADMIN. CODE §§ 330.52(b)(11) and 330.280-330.286.
34. NTMWD has listed all permits or construction approvals received or applied for under any program listed in 30 TEX. ADMIN. CODE § 305.45(a)(7).
35. The SLQCP complies with 30 TEX. ADMIN. CODE §§ 330.56(j) and 330.205.
36. NTMWD has provided sufficient information concerning its acceptance or disposal of "special waste" as defined by 30 TEX. ADMIN. CODE § 330.2.
37. The Applicant has demonstrated compliance with 30 TEX. ADMIN. CODE § 330.136.
38. If Permit No. MSW-2294 is issued, there is no basis for limiting the permit term to anything less than the life of the site.

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 ENVIRONMENTAL QUALITY DEPARTMENT FOR THE STATE OF TEXAS

[Signature]
 PERMIT DIVISION
 ENVIRONMENTAL QUALITY DEPARTMENT

39. NTMWD has demonstrated that the proposed operation of a MSW landfill is in accordance with applicable laws and regulations and is a proper land use for the 121 RDF described in the Application.
40. As required by TEX. HEALTH & SAFETY CODE § 361.069, the Landfill is compatible with surrounding land uses and will have a minimal visual impact on surrounding landowners.
41. The buffer zones established by Applicant between the edge of fill and the site boundary are compliant with the MSW rules, including 30 TEX. ADMIN. CODE §§ 330.121(b).
42. The approval of the Application and the issuance of Permit No. MSW-2294 will not violate the policies of the State of Texas, as set forth in TEX. HEALTH & SAFETY CODE § 361.002, to safeguard the health, welfare, and physical property of the people of the State of Texas and to protect the environment by controlling the management of solid waste.
43. If the Landfill is operated in compliance with applicable law, issuance of the draft permit will not adversely affect the environment nor will it adversely affect the public health or welfare, nor the physical property of the people of Texas.
44. Except as otherwise set forth herein, Draft Permit No. MSW-2294, as prepared by Commission staff, for the 121 RDF meets all applicable requirements of the Solid Waste Disposal Act, TEX. HEALTH & SAFETY CODE ANN. Chapter 361.
45. NTMWD's Application fails to meet the requirements of the Commission's rules in that the SOP for the proposed Facility does not contain all of the information required by 30 TEX. ADMIN. CODE §§ 330.114(2) and 330.114(6), and in that NTMWD has failed to show that its proposed monitoring system will yield representative groundwater samples from the uppermost aquifer, as required by 30 TEX. ADMIN. CODE § 330.231(a).

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A RECORDING OFFICE

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GENERAL RECORDS SECTION
11:00 AM
12/12/01

46. Pursuant to 30 TEX. ADMIN. CODE § 80.23(d)(2), the Executive Director of the Commission and the Office of Public Interest Council of the Commission may not be assessed any portion of the transcript and court reporting costs.
47. All court reporting and transcript costs should be assessed to NTMWD.

STATE OF TEXAS
COUNTY OF TARRANT
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BY _____
CLERK OF THE COUNTY CLERK'S OFFICE

STATE OF TEXAS
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NOW, THEREFORE, BE IT ORDERED BY THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION THAT:

1. North Texas Municipal Water District's Application for Municipal Solid Waste Permit No. MSW-2294 is denied in accordance with the Findings of Fact and Conclusions of Law contained in this Order.
2. The Chief Clerk of the Texas Natural Resource Conservation Commission will forward a copy of this Order to all parties.
3. If any provision, sentence, clause or phrase of this Order is for any reason held to be invalid, the invalidity of any portion will not affect the validity of the remaining portions of the Order.
4. The effective date of this order is the date the order is final, as provided by 30 TEX. ADMIN. CODE § 80.273 and Section 2001.144 of the Administrative Procedure Act, TEX. GOVT. CODE ANN. ch. 2001.
5. Any other requests for entry of specific findings of fact and conclusions of law, and any other requests for general or specific relief, if not expressly set forth herein, are denied.

Issue Date: _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Robert J. Huston, Chairman

STATE OF TEXAS
COUNTY OF DALLAS
IN PRESENCE OF ME, the undersigned, Clerk of the Commission, I have read the foregoing and certify that the same is a true and correct copy of the original as the same appears in the files of the Commission.

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COMMISSIONER OF ENVIRONMENTAL QUALITY
IN PRESENCE OF ME, the undersigned, Clerk of the Commission, I have read the foregoing and certify that the same is a true and correct copy of the original as the same appears in the files of the Commission.

Robert J. Huston
CHAIRMAN

STATE OF TEXAS
COUNTY OF DALLAS
IN PRESENCE OF ME, the undersigned, Clerk of the Commission, I have read the foregoing and certify that the same is a true and correct copy of the original as the same appears in the files of the Commission.

EXHIBIT I



msw/2294/PA

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Kathleen Hartnett White, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 29, 2003

TO: Persons on the attached mailing list.

RE: North Texas Municipal Water District; Permit No. MSW-2294
TCEQ Docket No. 2002-0745-MSW; SOAH Docket No. 582-02-3386

Decision of the Commission on Application.

The Texas Commission on Environmental Quality ("TCEQ" or "Commission") has made a decision to grant the above-referenced application. Enclosed with this letter is a copy of the Commission's order and a draft copy of the permit. Unless a Motion for Rehearing ("MFR" or "motion") is timely filed with the chief clerk, as described below, this action of the Commission will become final and only appealable in district court. A MFR is a request for the Commission to review its decision on the matter. Any motion must explain why the Commission should review the decision.

Deadline for Filing Motion for Rehearing.

A MFR must be received by the chief clerk's office no later than 20 days after the date a person is notified of the Commission's order on this application. A person is presumed to have been notified on the third day after the date that this order is mailed.

An original and 11 copies of the motion must be sent to the chief clerk at the following address:

LaDonna Castañuela, Chief Clerk
TCEQ, MC-105
P.O. Box 13087
Austin, Texas 78711-3087

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AUSTIN, TEXAS
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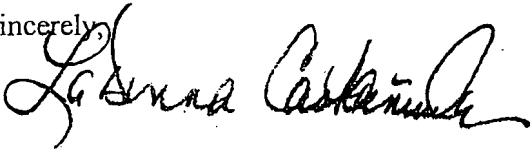
In addition, a copy of the motion must be sent on the same day to each of the individuals on the attached mailing list. A certificate of service stating that copies of the motion was sent to those on the mailing list must also be sent to the chief clerk.

The written motion must contain (1) the name and representative capacity of the person filing the motion; (2) the style and official docket number assigned by SOAH or official docket number assigned by the Commission; (3) the date of the order; and (4) a concise statement of each allegation of error.

Unless the time for the Commission to act on the motion is extended, the MFR is overruled by operation of law 45 days after a person is notified of the Commission's order on this application. If the Commission does not receive a motion for rehearing, the permit will be issued and forwarded to appropriate parties.

If you have any questions or need additional information about the procedures described in this letter, please call the Office of Public Assistance toll free at 1-800-687-4040.

Sincerely,



LaDonna Castañuela
Chief Clerk


LDC/jla

Enclosures

STATE OF TEXAS
COUNTY OF TRAVIS
CLERK OF THE COUNTY CLERK'S OFFICE
A TEMPORARILY CLOSED OFFICE
DURING THE COVID-19 PANDEMIC

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ON DECEMBER 12, 2007 AT 1:20 PM



CLERK OF THE COUNTY CLERK'S OFFICE
COUNTY OF TRAVIS, TEXAS

MAILING LIST
North Texas Municipal Water District
TNRCC Docket No. 2002-0745-MSW
SOAH Docket No. 582-02-3386
Permit No. MSW-2294

FOR THE APPLICANT:

James M. Parks, Executive Director
North Texas Municipal Water District
P.O. Box 2408
Wylie, Texas 75098-2408

Pierce L. Chandler, Jr., P.E.
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Rockwall, Texas 75087

Kerry E. Russell
Russell, Moorman & Rodriguez, L.L.P.
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FOR THE EXECUTIVE DIRECTOR:

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Austin, Texas 78711-3087

Mike Graeber
Texas Commission on Environmental Quality
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FOR OFFICE OF PUBLIC ASSISTANCE:

Jodena Henneke, Director
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FOR PUBLIC INTEREST COUNSEL:

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FOR THE CHIEF CLERK:

LaDonna Castañuela
Texas Commission on Environmental Quality
Office of Chief Clerk MC-105
P.O. Box 13087
Austin, Texas 78711-3087

INTERESTED PERSONS:

See attached list.

* The Honorable Robert F. Jones
Administrative Law Judge
State Office of Administrative Hearings
P. O. Box 13025
Austin, Texas 78711-3025

* Courtesy Copy

STATE OF TEXAS
COUNTY OF TARRANT
ENERGY REGULATORY BOARD
A TEXAS BOARD OF REGULATION
DEC 12 2001

DEC 12 2001

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PUBLIC INTEREST COUNSEL MC-103
AUSTIN, TEXAS
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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MCKINNEY TX 75070

JOHN AIRHART
107 PEACHTREET LN
MCKINNEY TX 75070

JACK AMMONS SUPERINTENDENT
MELISSA ISD
1904 COOPER
MELISSA TX 75454

MELISSA S BAUGHN CHAIRPERSON
COLLIN CO PLANNING BOARD
206 COVEY LN
MCKINNEY TX 75071

CARRIE BELL
8583 CR 419
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GARLAND POWER & LIGHT
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LORI BLACK
C/O DON BUSH
STE 550
3100 MONTICELLO AVE
DALLAS TX 75205

REBECCA ROLLINS BONA
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ANNA TX 75409

WESLEY BURGESS
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DALLAS TX 75219

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3442 LAPALOMA
ANNA TX 75409

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TEXAS SENATE
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AUSTIN TX 78711-2068

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MELISSA TX 75454

MRS WL CARROLL
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JOHN CARTER
6368 FM 545
ANNA TX 75409

MICHAEL CHAMBERLIN
3221 BERRY HOLLOW
MELISSA TX 75454

RYAN CHAMBERLIN
3221 BERRY HOLLOW
MELISSA TX 75454

RONALD E CLARY TOWN ADMINISTRATOR
TOWN OF FAIRVIEW
500 S HWY 5
FAIRVIEW TX 75069

STATE OF TEXAS
COUNTY OF TARRANT
I HEREBY CERTIFY THAT THE SIGNATURE OF THE ABOVE NAMED PERSON IS A TRUE AND CORRECT COPY OF THE ORIGINAL AS FILED IN THE PUBLIC RECORDS OF THE COUNTY OF TARRANT TEXAS ON
DEC 2 2001
MELISSA TX 75454
MICHAEL & CYNTHIA COMBEST
1611 GRANDBERRY DR
MELISSA TX 75454

SELENA J COPELAND PRESIDENT
TRINITY TRAIL PRESERVATION
9797 PRAIRIE FLOWER TRL
PRINCETON TX 75407

JENNIFER CORNETT
110 MARTIN DR
WYLIE TX 75098

THE HONORABLE JOHN CORNYN
SENATOR
ATTN: LESLIE CARON
STE 1150
5005 LBJ FWY
DALLAS TX 75244-6199

PIPPA COUVILLION
6891 MAIN ST
FISCO TX 75034

DAVID DISPENZA
2313 CR 341
MCKINNEY TX 75071

THE HONORABLE DAVID E DORMAN
MAYOR
CITY OF MELISSA
6 MEADOWBROOK CIR
MELISSA TX 75454

CARY ELLIS
806 AUTUMN LAKE DR
ALLEN TX 75002

THE HONORABLE CRAIG ESTES
TEXAS SENATE
PO BOX 12068
AUSTIN TX 78711

THE VILES FAMILY
PO BOX 34
MELISSA TX 75454

CAROL R FLETCHER
STE E
120 EAST MULBERRY
SHERMAN TX 75090

CLAY GOOCH
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RICHARDSON TX 75080

LADONNA GOODWIN
4824 MONTE VISTA
MCKINNEY TX 75070

GAIL GREENE
7916 PINKERTON CT
PLANO TX 75025

JOHN CHARLES HARDIN
11128 SHEFFIELD DR
ANNA TX 75409

ELLEN HARTLEY
PO BOX 324
MELISSA TX 75454

WILLIAM P HEMENWAY
6147 FM 455
ANNA TX 75409

DAN HENRION
2090 EASTWOOD RD
MELISSA TX 75454

CHARLIE & LIZ JAMES
PO BOX 21
ANNA TX 75409

MARVIN JONES
STE 805
101 E PARK BLVD
PLANO TX 75074

CYNTHIA KAMINSKY
500 S HWY 5
FAIRVIEW TX 75069

KENT LAMB
11813 WILD ROSE LN
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THE HONORABLE JODIE LAUBENBERG
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SCOTT LEUTWYLER
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DALLAS TX 75251-5568

BOB LINDBERG
210 S MCDONALD
MCKINNEY TX 75069

NATHAN LOFTICE
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MELISSA TX 75454-0301

RICHARD LOWERRE
LOWERRE & KELLY
STE 101
44 EAST AVE
AUSTIN TX 78701

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TX HOUSE OF REPRESENTIVES
AUSTIN TX

STEPHEN B MASSEY
CITY OF ALLEN
305 CENTURY PKWY
ALLEN TX 75013

TRACY MASTERN
2 CHOICE LN
LUCAS TX 75002

STATE OF TEXAS
COUNTY OF TARRANT
CLERK OF THE COUNTY CLERK'S OFFICE
AUSTIN, TEXAS

DEC 18 2001

JAMES & SUSAN MCCLURE
11658 WILD ROSE LN
ANNA TX 75409

PAUL C MATHES
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RICHARDSON TX 75082

THE HONORABLE BRIAN MCCALL
TX HOUSE OF REPRESENTIVES
AUSTIN TX

BILL MERTZ
10051 LITTLE HORN CR
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DIANE MILLER
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KIMBERLY AIRHART MONK
9553 CR 472
ANNA TX 75409

NANCY NEVIL
CITY OF PLANO
PO BOX 860358
PLANO TX 75086-0358

RANDY OTTO
47 TR RIDGE DR
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GEORGE PAPAGEORGE
STE 216
1800 E SPRING CREEK PKWY
PLANO TX 75074

VICKIE PATTERSON
106 LIBERTY DR
WYLIE TX 75098

THE HONORABLE KEN PAXTON
TX HOUSE OF REPRESENTIVES
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AUSTIN TX 78768

PAUL L & CAROLE E PETERS
367 LONE STAR RD
WHITESBORO TX 76273

GEORGE PUREFOY
15601 BIGHORN TRL
FRISCO TX 75035

GEORGE PUREFOY
CITY OF FRISCO
6891 MAIN ST
FRISCO TX 75035

EDWIN RAY
2504 DEWBERRY CT
MELISSA TX 75454

JD & QUINCY ROLLINS
9262 CR 419
ANNA TX 75409

JD ROSS
5922 FIRECREST
GARLAND TX 75044

ASHLEY SCHUERMANS
9655 CR 472
ANNA TX 75409

ASHLEY SCHUERMANS
9591 CR 472
ANNA TX 75409

THE HONORABLE FLORENCE SHAPIRO
TX HOUSE OF REPRESENTATIVES
RM 3E.2
PO BOX 12068
AUSTIN TX 78711

RM SHERLEY
PO BOX 217
ANNA TX 75409

THAD SHERLEY PRESIDENT ELECT
DAVID
PO BOX 301
MELISSA TX 75454-0301

KELLY SIMPSON
11465 WILD ROSE LN
ANNA TX 75409

THE HONORABLE GARY SLAGEL MAYOR
CITY OF RICHARDSON
PO BOX 830
RICHARDSON TX 75080

PETE SPIROS
PO BOX 516204
DALLAS TX 75251-6204

MATTHEW H STOCKTON
4915 BROOK LN
ANNA TX 75409

STATE OF TEXAS
COUNTY OF TARRANT
I HEREBY CERTIFY THAT THE ABOVE IS A TRUE AND CORRECT COPY OF THE ORIGINAL AS FILED IN MY OFFICE
DATE OF FILING
FILED IN OFFICE OF THE CLERK OF THE COUNTY OF TARRANT TEXAS
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DEBRA HURSTON
1901 THORNBERY RD
MELISSA TX 75454

JOAN HENDRICKS SWALWELL
CR 424
PO BOX 5720
ANNA TX 75409

JIM JAKE TEMPLIN REVEREND
11316 CR 475
ANNA TX 75409

JOANNA VANAUKER
BD PROD CORP
PO BOX 836075
RICHARDSON TX 75083-6075

BEVERLY VICKERS
3221 BERRY HOLLOW DR
MELISSA TX 75454

BONNIE WENK
STE 401
1904 W WHITE AVE
MCKINNEY TX 75069

BEN WHISENANT
6908 SHOREVIEW
MCKINNEY TX 75070

DANIELLE WOELFLE
300 BRIARWOOD
WYLIE TX 75098

KIM AIRHART MONK
9553 CR 472
ANNA TX 75409

BECKY AIRHART SMITH
3770 FM 545
BLUE RIDGE TX 75424

WILLIAM ALGUIRE
10487 CR 419
ANNA TX 75409

CLAIRE ANDERSON
1923 THORNBERRY DR
MELISSA TX 75454

RAY BAKEY
4948 N HIGHWAY 75
MELISSA TX 25454

MELISSA BELANGER
7500 ROLLING BROOK STE 808
FRISCO TX 75034

SUSAN BRADLEY CITY ADMINISTRATOR
CITY OF MELISSA
PO BOX 409
ANNA TX 75454

BOBBY BROOKS
508 TITUS
MCKINNEY TX 75069

DENA BRYANT
PO BOX 309
MELISSA TX 75454

KELLEY BURGESS
11758 CR 509
ANNA TX 75409

KERRY BURLESON
3540 FM 545
MELISSA TX 75454

JAY BURNETT
1310 CR 362
MELISSA TX 75454

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1622 GRANDBERRY DR
MELISSA TX 75454

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MELISSA TX 75454

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CELINA TX 75009

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ANNA TX 75409

HELEN CLARK
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DALLAS TX 75218-1233

HELEN CLARK
11032 SCOTTSMEADOW DR
DALLAS TX 75218-1233

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COPPELL TX 75019

CYNTHIA COMBEST
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MELISSA TX 75454

MIKE COMBEST
1611 GRANDBERRY DR
MELISSA TX 75454

PAT DANIEL
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CAROLYN GIDNEY
9675 SH 121
ANNA TX 75409

CHRIS GRAY
3202 BERRY HOLLOW
MELISSA TX 75454

STATE OF TEXAS
COUNTY OF TARRANT
JULY 1997
DEC 12 2007
MCKINNEY TX 75069
TEWAG

W GRIFFIN
5864 E F 4515
ANNA TX 75409

ERIK HEINZ
2904 BERRY RIDGE CT
MELISSA TX 75454

MARK HELTERBRAND
4201 MEAD
PLANO TX 75024

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RICHARDSON TX 75081

SKIP HILL
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ANNA TX 75409

DON HIXON
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MELISSA TX 75454

BOBBI HOENIGMAN
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MELISSA TX 75454

PAT JONES
5782 CR 471
MCKINNEY TX 75071

J KENNEDY
4958 BROOK LN
ANNA TX 75409

MARK MCCLURE
1921 THORNBERRY
MELISSA TX 75454

MR & MRS AARON MCKINNEY
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MR & MRS LARRY PARKS
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ROCKWALL TX 75087

MR & MRS WAYNE PATTERSON
9385 CR 504
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MELISSA TX 75454

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7711 CR 502
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J ROLLINS
9262 CR 419
ANNA TX 75409

LESA SAMUELLS
12526 CR 511
ANNA TX 75409

BECKY SETTJE
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ANNA TX 75409

THAD SHIRLEY PRESIDENT ELECT
DEFENDERS OF AMERICANS VOICE/DECISION
MAKING
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MELISSA TX 75454-0301

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DALLAS TX 75214

MIKE & CINDY SOLOMAN
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MELISSA TX 75454

JERRI SPARKS
2007 HARRISON ST
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MS ELIZABETH STRANGE
9329 FM 1827
ANNA TX 75409

ANDREW SUDMAN
1924 THORNBERRY
MELISSA TX 754

STATE OF TEXAS
COUNTY OF TARRANT
CLERK OF COURTS
CLERK'S OFFICE
MELISSA, TEXAS
DEC 2 2001
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OF THE COUNTY OF TARRANT
STATE OF TEXAS
AT THE CITY OF MELISSA
TEXAS

LAURA TAYLOR
PO BOX 2013
MCKINNEY TX 75070

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2135 EASTWOOD
MELISSA TX 75454

PAULA & CHRIS TIEDEMANN
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MELISSA TX 75454

JOHN VROMAN
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BONNIE WENK
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MR & MRS RON WINKLER
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CLAUDE WRIGHT
9075 CR 504
BLUE RIDGE TX 75424

DAVID WRIGHT
6920 FM 2933
MELISSA TX 75454

LINDA WRIGHT
3901 QUEENS CT
GARLAND TX 75043

STATE OF TEXAS
COUNTY OF TARRANTS
INDEED I HEREBY CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT COPY OF
A TEXAS INSTRUMENT FILED IN THE PUBLIC RECORDS OF THE COUNTY OF TARRANTS

DEC 12 2007

COMMISSIONER OF THE PUBLIC RECORDS OF THE COUNTY OF TARRANTS
MELISSA, TEXAS 75454

[Signature]

STATE OF TEXAS
COUNTY OF TARRANTS
TEXAS INSTRUMENTS

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



STATE OF TEXAS
COUNTY OF TARRANT
TARRANT COUNTY CLERK
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ATTEST: [Signature]
TARRANT COUNTY CLERK

AN ORDER approving the Application of North Texas Municipal Water District For Municipal Solid Waste Permit No. MSW-2294 TCEQ Docket No. 2002-0745-MSW; SOAH Docket No. 582-02-3386

On October 8, 2003, the Texas Commission on Environmental Quality¹ (Commission) considered the Application of North Texas Municipal Water District (NTMWD or Applicant) for Municipal Solid Waste Permit No. MSW-2294 (the Application). NTMWD seeks authority to construct and operate a municipal solid waste landfill, called the 121 Regional Disposal Facility (121 RDF), to be located in Collin County, Texas. The application was presented to the Commission with a Proposal for Decision by Robert F. Jones, Jr., Administrative Law Judge with the State Office of Administrative Hearings. A preliminary hearing was conducted concerning the application on August 13, 2002, and an evidentiary hearing on the application was convened on March 10, 2003, in the courtroom of County Court at Law #7, 1800 North Graves, McKinney, Collin County, Texas. The hearing ended on March 13, 2003, and the record closed on April 18, 2003.

The following were designated as parties to the proceeding: Applicant NTMWD, represented by Kerry Russell and Angela K. Moorman; the Office of Public Interest Counsel (OPIC), represented by Mary Alice Boehm; and numerous Protestants represented by Richard W. Lowerre, specifically (1) Defenders of Americans' Voice in Decision-Making, Inc. (D.A.V.I.D.) and its members; (2) Mr. Wesley Burgess, Individually and for the Burgess Family;² (3) Ms. Rebecca Rollins Bona, Individually and for the Rollins Family Trust; (4) Mr. A.B. Roper, Individually and for the Roper Family; (5) Mr. John Airhart, Individually and for Ms. Kimberly Airhart Monk and Ms. Modene

¹ The Application was filed with the Texas Natural Resource Conservation Commission or TNRCC, which was subsequently renamed the TCEQ. For convenience sake, all references are to either the Commission or the TCEQ.

² Mr. Burgess and his family subsequently withdrew their participation.

Carroll; (6) Ms. Susan Clark, Individually and for the Helen Clark Family Trust. The Executive Director (ED) of the TCEQ did not participate as a party.

After considering the Administrative Law Judge's Proposal for Decision and the evidence and arguments presented, the Commission makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

GENERAL FINDINGS

A. Background

1. The applicant is the North Texas Municipal Water District (NTMWD), P.O. Box 2408, Wylie, Texas, 75098.
2. NTMWD filed an Application with the Commission on April 30, 2001, seeking to permit a new Subtitle D, Type I municipal solid waste (MSW) landfill and associated facilities, known as the 121 Regional Disposal Facility (121 RDF) located in northeastern Collin County, Texas, approximately 1.7 miles northeast of the intersection of State Highway 121 (SH 121) and Farm-to-Market Road 545 (FM 545).
3. NTMWD owns approximately 1,460 acres at the site of 121 RDF (NTMWD Property).
4. NTMWD is a conservation and reclamation district created by the Texas Legislature pursuant to Article XVI, Section 59 of the Texas Constitution at the request of ten cities under the North Texas Municipal Water District Act in 1951. NTMWD provides regional wholesale water service to approximately one million customers, regional wastewater service to approximately 500,000 customers, and regional solid waste disposal services to approximately 400,000 customers within its thirteen member cities and twenty-eight non-member contract entities across four counties north of the City of Dallas, Texas.

STATE OF TEXAS
COMMISSION ON ENVIRONMENTAL QUALITY
ATLAS COUNTY
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1000 EAST TEXAS STREET, SUITE 1000
DALLAS, TEXAS 75202-4001

5. NTMWD operates a Regional Solid Waste Disposal System (Solid Waste System) in the general area of the East Fork of the Trinity River. NTMWD currently operates two landfills—the McKinney Landfill and the Maxwell Creek Landfill—and three transfer stations—the Lookout Drive Transfer Station in the City of Richardson, Texas, and the Parkway and Custer transfer stations in the City of Plano, Texas.
6. The Solid Waste System serves the member cities of Richardson, Allen, Frisco, McKinney, and Plano, and provides solid waste disposal services to other participating, but non-member cities, Collin County, private contractors, and area citizens. Such solid waste disposal services are provided at NTMWD's McKinney Landfill.
7. The McKinney Landfill is the designated landfill for Collin County, Texas.
8. 121 RDF will replace the McKinney Landfill, which is preparing for final closure. Authorized waste will be accepted at 121 RDF at an initial rate of approximately 1,700 tons per day, six days per week, or approximately 500,000 tons of waste per year.
9. The permit boundary of 121 RDF encompasses 673.49 acres of NTMWD Property.
10. The disposal footprint of 121 RDF will encompass approximately 450 acres. The buffer zone is a minimum of 300 feet wide where the permit boundary and the property boundary are coincident. The buffer zone between the permit boundary and the footprint of the landfill is a minimum of 150 feet wide where the permit boundary is inside the property boundary.
11. The total volume of 121 RDF will be 142 million cubic yards. The total landfill volume available for waste disposal is approximately 110 million cubic yards or 60 million tons.
12. The site life for 121 RDF is estimated to be in excess of forty years.

STATE OF TEXAS
COUNTY OF TARRANTS
COUNTY CLERK
A TEXAS BUSINESS

DEC 12 12007

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PRESIDENT, COUNTY OF TARRANTS
AT THE CLERK'S OFFICE

[Signature]
COUNTY CLERK
COUNTY OF TARRANTS, TEXAS

13. NTMWD has sufficient property rights in the site of 121 RDF to ensure right-of-entry until the end of the post-closure care period.
14. The coordinates of the site of the permanent benchmark are latitude N 33° 17' 26.74556", longitude W 96° 30' 51.22736", elevation 654.5 feet msl. The permanent benchmark will be (1) a standard bronze survey marker set in concrete and will have the permanent benchmark elevation and survey date stamped on it; (2) referenced to at least one National Vertical Datum Benchmark; (3) located at the landfill grid origin as State Plane coordinate position N7158500 feet, E2571500 feet; and (4) established at 121 RDF prior to construction in an area that is readily accessible and will not be disturbed during the disposal process.
15. NTMWD has provided a list and map identifying all adjacent property owners and all property owners within 500 feet of 121 RDF as of the date the Application was submitted to the Commission.
16. Under the proposed permit, 121 RDF may accept MSW resulting from municipal, community, commercial, institutional, and recreational activities, including putrescible wastes, rubbish, ashes, brush, and construction and demolition debris.
17. Under the proposed permit, 121 RDF may accept Class II and Class III industrial waste (non-hazardous), provided that receipt of these wastes does not impair the operation of 121 RDF.
18. Under the proposed permit, certain special wastes may be accepted at 121 RDF as specified in the Application.
19. Under the proposed permit, special wastes that require prior written approval from the Commission will not be accepted at 121 RDF until prior written approval from the Commission has been received. Class I Industrial Waste (non-hazardous) will not be accepted without prior written authorization from the Commission.

STATE OF TEXAS
COUNTY OF DALLAS
DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTE MANAGEMENT DIVISION
A TEXAS COMMISSION

DEC 12 2001

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WASTE MANAGEMENT DIVISION
12/12/01

[Signature]

DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTE MANAGEMENT DIVISION
12/12/01

20. Under the proposed permit, 121 RDF will not accept any wastes classified as hazardous by the Commission or the U.S. Environmental Protection Agency (EPA), as defined in 40 C.F.R. § 258.20 and part 261, polychlorinated biphenyl (PCB) wastes as defined in 40 C.F.R. § 258.20 and parts 261 and 761, radioactive wastes, wastes transported in bulk containers, liquid wastes, used oil filters, used oil, and lead acid batteries.

B. Procedural and Notice Issues

21. The Application was deemed administratively complete by the Commission on May 10, 2001.
22. The *Notice of Receipt of Application and Intent to Obtain a Municipal Solid Waste Permit, Proposed Permit No. 2294* was published in both the *Plano Star Courier*, the newspaper with the largest circulation published in Collin County, and the *Dallas Morning News*, the newspaper with the largest circulation in Collin County, on May 31, 2001. It was also published in the *McKinney Courier Gazette*, a newspaper published in Collin County and designated as the official newspaper for public notices by the cities of Melissa and Anna, on May 31, June 1, and June 3, 2001.
23. A Commission-sponsored public meeting was held on August 14, 2001, in the City of Melissa, Collin County, Texas.
24. The *Notice of Public Meeting on an Application for Municipal Solid Waste Permit No. 2294* was published on July 26, August 2, and August 9, 2001, in the *Plano Star Courier*, the newspaper with the largest circulation published in Collin County, the *Dallas Morning News*, the newspaper with the largest circulation in Collin County, and the *McKinney Courier Gazette*, a newspaper published in Collin County and designated as the official newspaper for public notices by the cities of Melissa and Anna.

STATE OF TEXAS
COUNTY OF COLLIN
CURRENT PERMIT NO. 2294
DATE OF RECEIPT COPY OF
PERMIT NO. 2294
DEC 21 2001
COMMISSIONER OF THE COM.
MUNICIPAL SOLID WASTE PERMITTING AND THE SOLID WASTE OFFICE
MUNICIPAL SOLID WASTE PERMITTING AND THE SOLID WASTE OFFICE
MUNICIPAL SOLID WASTE PERMITTING AND THE SOLID WASTE OFFICE

25. The Application was deemed Technically Complete by the Commission on May 24, 2002.

26. The *Amended Notice of Application, Preliminary Decision and Contested Case Hearing for a Municipal Solid Waste Permit* was published in the *Plano Star Courier*, the newspaper with the largest circulation published in Collin County, on July 10, 2002. It was also published in the *Dallas Morning News*, the newspaper with the largest circulation in Collin County, and the *McKinney Courier Gazette*, a newspaper published in Collin County and designated as the official newspaper for public notices by the cities of Melissa and Anna, on July 11, 2002.

27. On May 28, 2002, NTMWD requested a direct referral to the State Office of Administrative Hearings (SOAH) for a hearing on the Application.

28. On July 9, 2002, the Office of the Chief Clerk of the Commission mailed the *Amended Notice of Application, Preliminary Decision and Contested Case Hearing for a Municipal Solid Waste Permit* to the then-identified participants to the proceeding, to other potentially affected persons identified in the Application, to the landowners named in the Application, to various state and local agencies and officials, to state legislators for districts in which 121 RDF is located, and to other persons specified in Commission regulations. Potentially affected persons receiving notice generally included those landowners within 500 feet of 121 RDF, but not those landowners outside 500 feet of 121 RDF. All persons intending to request party status at the hearing were requested in the *Amended Notice of Application, Preliminary Decision and Contested Case Hearing for a Municipal Solid Waste Permit* to attend the jurisdictional hearing.

29. The jurisdictional hearing was held on August 13, 2002, in the City of McKinney, Collin County, Texas.

STATE OF TEXAS
 COUNTY OF COLLIN
 I HEREBY CERTIFY THAT THE ABOVE IS A TRUE AND CORRECT COPY OF A TEXAS PUBLIC NOTICE AS REQUIRED BY CHAPTER 200A, TEXAS GOVERNMENT CODE

DEC 12 2007

DOUGLAS L. BROWN, CLERK OF THE COURT
 HARRIS COUNTY CLERK'S OFFICE AND THE CLERK OF OFFICE

[Signature]
 AS TESTED BY THE CLERK OF OFFICE
 TEXAS GOVERNMENT CODE CHAPTER 200A, SUBCHAPTER (C), SECTION 200A.004

30. The following were named as parties to this proceeding:
- a. NTMWD.
 - b. The Office of Public Interest Counsel (OPIC) of the Commission.
 - c. Defenders of Americans' Voice in Decision-Making, Inc. (D.A.V.I.D.) and its members; Mr. Wesley Burgess, Individually and for the Burgess Family;³ Ms. Rebecca Rollins Bona, Individually and for the Rollins Family Trust; Mr. A.B. Roper, Individually and for the Roper Family; Mr. John Airhart, Individually and for Ms. Kimberly Airhart Monk and Ms. Modene Carroll; and Ms. Susan Clark, Individually and for the Helen Clark Family Trust (collectively "Protestants").
 - d. Other persons who were named, but subsequently withdrew, as parties were: the Galbraith Trust; Mr. Jim Jake Templin, Individually and for Mr. William L. Templin and Ms. Joyce Roper Templin; the Stoney Point Cemetery Association; the Brinlee Cemetery Association; Mr. John Carter; R.A. Properties; Pate Rehabilitation, Inc.; Mr. Thomas Reaves, Individually and for Ms. Margaret Reaves and Mr. George Reaves; Mr. Byron Stewart; and Mr. John Stewart, Individually and for Ms. Deby Stewart.
 - e. The Executive Director (ED) of the Commission filed notice on August 9, 2002, indicating that it did not intend to participate as a party to this proceeding.
31. The contested case hearing on the Application was conducted March 10–13, 2003, in the City of McKinney, Texas. The evidentiary record closed on April 18, 2003.

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ATTORNEY AT LAW
TEXAS COURT REPORTING AND VIDEO SERVICE

³ Pursuant to a letter dated March 4, 2003, Mr. Burgess has requested to withdraw as a party to the proceeding. No Order dismissing Mr. Burgess as a party has been issued by the Administrative Law Judge.

C. The Application

32. NTMWD appointed Pierce L. Chandler, Jr., P.E., as the Engineer of Record for the Application. The Application was prepared under Mr. Chandler's direction and supervision, in coordination with a team of technical experts. Dr. Robert S. Kier, Ph.D., was the Project Manager for the development of the Application.
33. The seals of Mr. Pierce L. Chandler, Jr., P.E., Mr. Robert J. Brandes, Ph.D., P.E., or Mr. Carey M. Witt, P.E., professional engineers licensed in the State of Texas, were affixed to all engineering plans, drawings, and calculations, and on the Application cover pages as directed by the Texas Engineering Practice Act.
34. The Application contains verification of NTMWD's legal status.
35. The Title Page of Parts I & II of the Application identifies that: the name of the project is the 121 RDF; the application is for Permit No. MSW-2294; the applicant is NTMWD; 121 RDF is located in Collin County, Texas; and the date that the Application was deemed technically complete by the ED. Parts I & II of the Application include a Supplementary Technical Report, describing the purpose of the 121 RDF and the Application. The Title Page, Table of Contents, and Supplementary Technical Report set out in Parts I & II of the Application are sealed in accordance with the Texas Engineering Practice Act.
36. The Application contains maps identifying the following: the prevailing wind direction; all known water wells and structures within 500 feet of 121 RDF; any schools, licensed day care facilities, churches, hospitals, cemeteries, ponds, lakes, and residential, commercial, and recreational areas within one mile of 121 RDF; the location of all roads within one mile of 121 RDF that will be used for access to 121 RDF; latitudes and longitudes; area streams; airports within five miles of 121 RDF; the permit boundary of 121 RDF; any drainage,

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pipeline, and utility easements within or adjacent to 121 RDF; and any archaeological sites, historical sites, and sites with exceptional aesthetic qualities adjacent to 121 RDF.

37. The Application identifies the location of 121 RDF on the Texas Department of Transportation's (TxDOT) General Highway Map for Collin County, Texas.
38. The Application contains a U.S. Geological Survey 7.5-minute quadrangle general topographic map, identifying the location of 121 RDF.
39. The Application contains a list of adjacent and potentially affected landowners that is keyed to the landownership map. The map shows all property owners within 500 feet of 121 RDF.
40. The Application contains a metes and bounds description, as well as a map depicting the metes and bounds description, of 121 RDF that is signed and sealed by a registered professional land surveyor.
41. The Application contains deed information for NTMWD Property based on Collin County property records.
42. The Application includes a final contour map for 121 RDF depicting the final contours of the completed 121 RDF at the top of the final cover.
43. The Application includes fill cross-sections showing the top of the proposed fill, maximum elevation of the proposed fill, top of the final cover, top of the wastes, existing ground, bottom of the excavations, side slopes of trenches and fill areas, landfill gas monitoring probes, and subsurface water monitoring wells. There are sufficient fill cross-sections, both latitudinally and longitudinally, so as to accurately depict the existing and proposed depths of all fill at 121 RDF.

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44. The Application includes maps showing 121 RDF prior to any grading, excavation, and/or fill operations. The maps show the location and quantities of surface drainage entering, exiting, or internal to 121 RDF.
45. The Application contains a property owner affidavit executed by Mr. James M. Parks, P.E., on behalf of NTMWD. The affidavit includes: the legal description of 121 RDF; acknowledges that the State of Texas may hold NTMWD either jointly or severally responsible for the operation, maintenance, and closure and post-closure care of 121 RDF; acknowledges that NTMWD will file an affidavit to the public with the county deed records, at the time 121 RDF begins operating as a MSW landfill, advising that the land where 121 RDF is located has been used for a solid waste facility; and acknowledging that NTMWD and the State of Texas will have access to 121 RDF during the active life and for a period of not less than thirty years after closure for the purpose of maintenance and inspection.
46. The Application contains a listing of all permits or construction approvals received or applied for pursuant to: the National Pollutant Discharge Elimination System (NPDES) program under the federal Clean Water Act (CWA); the waste discharge program under TEX. WATER CODE Chapter 26; the nonattainment program under the federal Clean Air Act (CAA); dredge or fill permits under the federal CWA; and other applicable environmental permits.
47. The Application contains the location restriction certifications of compliance for fault areas, seismic impact zones, unstable areas, airports, floodplains, wetlands, and endangered species.
48. NTMWD appointed Mr. James M. Parks, P.E., the Executive Director of NTMWD, as NTMWD's agent for all purposes related to the Application.
49. The Application provides data of sufficient completeness, accuracy, and clarity demonstrating that the operation of 121 RDF will pose no reasonable probability of adverse

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effects on the health, welfare, environment, or physical property of nearby residents and property owners.

50. The Application was signed by Mr. James M. Parks, P.E., Executive Director of NTMWD.

51. The ED issued Final Draft Permit No. MSW-2294 on May 24, 2002.

52. The ED issued the required Summary of Compliance History on May 24, 2002.

53. The ED filed its *Response to Public Comment* on March 10, 2003.

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D. Site Operating Plan

54. The Application contains a Site Operating Plan (SOP) addressing the factors listed in 30 TEX. ADMIN. CODE §§ 330.57, 330.111 through 330.134, and 330.136 through 330.139.

55. If the permit is issued, the Site Development Plan, SOP, Final Closure Plan, Post-Closure Care Plan, SLQCP, GWSAP, LGMP, Leachate and Contaminated Water Plan, Subsurface Water and Surface Water Protection Plans and Drainage Plan, Erosion and Sedimentation Control Plan, cost estimate and financial assurance documentation, and other related or required plans or documents listed in 30 TEX. ADMIN. CODE § 330.111 will be part of the Site Operating Record of 121 RDF and will become operational requirements for 121 RDF.

56. The Site Operating Record will be maintained at 121 RDF, NTMWD's office in the City of Wylie, or an alternate location, if requested and approved by the ED. All original documents will be maintained at NTMWD's office in the City of Wylie.

57. The SOP specifies operating procedures for site management. Procedures addressed in the SOP include required notices, record keeping, inspections and maintenance, access control, waste screening and enforcement of 121 RDF rules, fill operations, environmental protection measures, and fire control.
58. The SOP includes descriptions of the functions of various landfill operations personnel, descriptions of the types and functions of equipment to be utilized at 121 RDF, and procedures for the detection and prevention of the disposal of regulated hazardous waste and PCBs.
59. Under the proposed permit, 121 RDF will operate 24 hours a day, Monday through Saturday, and will be open to the public from 8:00 a.m. to 5:00 p.m. on those days. 121 RDF will be closed on Sunday.
60. The SOP provides that there will be a site sign, which will identify the type of site, the hours and days of operation, the permit number, and the types of waste that can be received. The sign will state that incoming loads must be covered or entrance to 121 RDF will be refused.
61. Access to 121 RDF will be limited. The 121 RDF entrance off SH 121 will have a security fence with lockable gates. The entrance gate will remain locked during all hours that 121 RDF is closed to the public. All four sides of the 121 RDF site will be fenced with chain link or barbed wire security fencing. Entry to the active portion of 121 RDF is restricted to designated personnel, approved waste haulers, and properly identified personnel whose entry is authorized by NTMWD. During operating hours, NTMWD personnel are to regularly watch for unauthorized persons in the vicinity of the working face and at the 121 RDF entrance, as well as other areas of the site.
62. Large/bulky items not segregated at NTMWD's transfer stations will be directed to the citizens' drop-off and recycling area.

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63. A large/bulky item recycling area will be designated near the 121 RDF entrance for the temporary storage of white goods and other recyclable items.
64. Vectors such as flies, birds, and rodents will be controlled at 121 RDF by minimizing the size of the working face, properly compacting waste, and covering waste with soil at the end of each working day. The SOP also provides that approved pesticides or other means of control will be used, if necessary.
65. The SOP contains procedures to ensure that regulated hazardous waste and PCBs will not be accepted at 121 RDF.
66. To prevent the disposal of regulated hazardous waste at 121 RDF, the SOP requires that NTMWD screen wastes, provide personnel training, reject haulers carrying unauthorized wastes, and perform random sampling.
67. The SOP specifies procedures to ensure that special waste, as that term is defined at 30 TEX. ADMIN. CODE § 330.2, will not be accepted at 121 RDF until prior written approval from the Commission has been obtained, except with respect to certain special wastes the acceptance of which is authorized in accordance with 30 TEX. ADMIN. CODE § 330.136(b).
68. The SOP specifies procedures for random inspections of incoming waste.
69. The SOP contains procedures related to the unloading of wastes, specifying that the Gate Attendant will monitor all incoming loads and record the vehicle number and weight, signs or authorized personnel will direct haulers and citizens to the appropriate unloading area, and Spotters and Equipment Operators will monitor the unloading of the waste at the working face, which will be confined to as small an area as practical.

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70. Under the SOP, windblown material will be collected on a regular basis and returned to the working face. Litter scattered about the site, along fences, across roads, and at the gate will be picked up at least once per week and re-deposited at the working face. NTMWD will be responsible for litter control along the public roads within two miles of the site entrance in either direction along SH 121. Rights-of-way will be policed on a regular basis.
71. All-weather roads will be provided within 121 RDF.
72. A water truck will be available to minimize dust on roadways, and a truck washing station will be constructed to remove mud from the vehicle or clean the entire vehicle, if necessary.
73. Open burning will not be allowed at 121 RDF.
74. The site operator is given authority to take appropriate measures to control odor.
75. The SOP requires that daily cover of six inches of well-compacted earthen material not previously mixed with garbage, rubbish, or other solid waste will be spread over all exposed and compacted solid waste disposal areas at the end of each day's operations, or at least once every 24 hours, to provide vector, litter, fire, and odor control.
76. The SOP requires that solid waste be spread and compacted evenly by a minimum of three passes of the landfill compactor. Each layer of waste will be thoroughly compacted to a thickness of approximately two feet.
77. As each landfill cell reaches capacity, a minimum of twelve inches of intermediate cover (consisting of on-site soils) will be placed over the waste as intermediate cover and compacted in order to establish a firm base for final cover placement. All intermediate cover will be graded to prevent ponding of water.

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78. The SOP prohibits scavenging.
79. Salvaging of recycled materials will be limited to NTMWD personnel and will not be allowed to interfere with prompt sanitary disposal of solid waste or to create a public health nuisance.
80. Salvaging of special wastes, pesticides, rodenticides, fungicides, and herbicides containers, as well as Class I industrial waste, is prohibited.
81. The SOP provides that the ponding of water over waste at 121 RDF, regardless of its origin, will be prevented. Ponding water that occurs in the active portion of a landfill unit or on a closed unit will be eliminated as quickly as possible, and the area in which the ponding occurred will be filled and/or re-graded within seven days of occurrence, weather permitting. Contaminated water that collects on the working face will be allowed to infiltrate the waste. Should contaminated water penetrate the waste column, it will be collected as leachate and managed accordingly.
82. The SOP provides that a minimum of 1,000 cubic yards of soil will be stockpiled within 2,500 feet of the working face to aid in fighting fires. NTMWD will, at all times, maintain sufficient equipment for moving the soil stockpile to the working face. Landfill fires will be extinguished by smothering with cover material spread by a dozer or other suitable equipment.
83. The SOP contains specific fire-fighting and fire prevention procedures, including procedures to be followed to prevent fires and steps to be followed to control fires. All equipment will be equipped with fire extinguishers.
84. The SOP provides sufficient information as to the size of equipment to be used at 121 RDF.

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MANAGEMENT SERVICES DIVISION
REGULATORY SERVICES

85. The SOP provides sufficient information regarding the fire-fighting training requirements and methods of fire-fighting training for all site personnel.

86. The SOP provides sufficient information regarding the method used to document each employee's fire-fighting training, and it requires that fire-fighting training documentation be kept on site, for review by TCEQ inspectors.

E. Location of Surface Water Controls

87. Drainage Channel B-2 does not cross the permit boundary and is not, at any point, located outside of the permit boundary.

88. No drainage channels or other portions of 121 RDF's surface water controls are located outside of the permit boundary.

89. No structures, appurtenances, or improvements that would be used for the storage, processing, or disposal of solid waste at 121 RDF are located outside of the permit boundary.

90. Some designated drainage areas are located outside of the permit boundary on other NTMWD land.

91. The designated drainage areas located outside the permit boundary are not used for activities involving construction, operations, or maintenance for 121 RDF, but are used to prohibit future development to assure that increased flood flows at certain design points will not have flooding impacts on adjacent properties.

92. The designated drainage areas located outside the permit boundary are on property that is or will be deed-recorded to restrict future development.

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- 93. In at least one past permitting order, regarding Permit No. MSW-1745B, the TCEQ has allowed deed-restricted drainage areas to be located outside of the permit boundary.
- 94. The designated drainage areas are not part of the 121 RDF facility, as the term is defined in 30 TEX. ADMIN. CODE § 330.2(48).

F. Alteration of Natural Drainage Patterns

- 95. Existing drainage patterns are as follows:
 - a. Almost all of the drainage from the 121 RDF site currently moves into the Brinlee Branch to the north or into the South Tributary to the south;
 - b. After the Brinlee Branch and South Tributary join, the Brinlee flows to the east into Sister Grove Creek, a tributary of Lake Lavon on the East Fork of the Trinity River;
 - c. In the southwest corner of the 121 RDF site, drainage flows west into Stiff Creek, and then into Sister Grove Creek;
 - d. In the Panhandle of the 121 RDF site, drainage flows into Stiff Creek, and then into Sister Grove Creek.
- 96. Post-development drainage patterns are expected to be similar to those currently existing.
- 97. A Surface Water Protection and Drainage Plan was prepared that demonstrates the pre-development and post-development conditions at 121 RDF. Drainage calculations and drainage design plans that contain the matters specified in 30 TEX. ADMIN. CODE §§ 330.55(b)(5) and 330.56(f) are included. The Surface Water Protection and Drainage Plan includes a discussion of drainage areas, the direction of drainage, the potential for flooding, drainage structures, and erosion and sedimentation control.

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98. The Application contains the required general topographic map and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FEMA Map) for the area of 121 RDF, which is shown on each map.
99. Pre-development and post-development hydrologic calculations were performed for the 121 RDF site and included in the Application. Peak flow rates, velocities, and runoff volumes from each of the 121 RDF drainage areas and the water surface profiles for Brinlee Branch and the South Tributary were determined.
100. 121 RDF has been designed with adequate run-on and run-off drainage controls.
101. 121 RDF includes a run-on control system capable of preventing flow onto the active portion of 121 RDF during the peak discharge from at least a 25-year storm.
102. 121 RDF includes a run-off management system from the active portion of 121 RDF that collects and controls the flow from a 24-hour, 25-year storm.
103. Calculations were performed that demonstrate that 121 RDF's perimeter drainage channel and detention pond design will minimize erosion and sediment.
104. Analyses of peak flows, volume, direction of run-off, and velocity of run-off show that natural drainage patterns will not be significantly altered as a result of 121 RDF.
105. The design points used by NTMWD to measure run-off adequately provide run-off measurements at the permit boundary.
 - a. Design Points 3 through 9 are not located at the permit boundary, but adequately provide measurements of run-off at the permit boundary;
 - b. Design Points 10 through 12 are located on the permit boundary.

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106. There are some discrepancies between the lag time calculations reflected in the HEC-1 (used to model existing conditions and the 100-year, 2-hour storm event) and those contained in the Application under the "summary of other calculations for existing conditions."
107. The differences between the lag times used in the HEC-1 and those contained in the Application are not significant and do not affect the validity of the conclusions drawn from the drainage calculations relied on by NTMWD.
108. Peak run-off flow rates are expected to increase at only two points—Design Points 4 and 5—as a result of 121 RDF.
109. The increase of peak flows at Design Points 4 and 5 will not cause an adverse impact downstream.
110. The landfill final cover drainage calculations demonstrate that 121 RDF is designed to convey run-off produced from a 25-year storm, to provide erosion protection, and to minimize sediment loss.
111. Run-off volumes during the critical storm event are expected to increase, as result of the development of 121 RDF, at only four measured locations—Design Points 5, 6, 11, and 12.
112. Increased run-off volume at Design Points 11 and 12 is insignificant in light of the relatively small volumes involved and given the fact that peak flows at those design points will actually decrease through the use of detention ponds.
113. The increased run-off volume at Design Points 5 and 6 is significant but is attributable to the increased size of the areas that will be drained at those design points.

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114. The increased run-off volume at Design Points 5 and 6 will not present a danger of increased erosion or flooding, given the use of detention ponds and other drainage tools at RDF 121.
115. The increased run-off volume at Design Points 5, 6, 11, and 12 is not a significant impact.
116. At Design Point 7, run-off volumes are expected to decrease significantly as a result of the development of 121 RDF.
117. The property located near Design Point 7 that is most likely to be impacted by decreased run-off volume is owned by Albert Fuller.
118. Albert Fuller has not participated in this proceeding and has indicated no formal opposition to the Application.
119. The volume reduction at Design Point 7 with respect to the 100-year flood is not a significant impact.
120. Peak run-off velocity is not expected to increase as a result of the development of 121 RDF.
121. 121 RDF is designed to prevent discharge of pollutants into or adjacent to water in the State and waters of the U.S. Storm water controls for 121 RDF have been designed consistent with Commission regulations for Type I MSW landfills and applicable EPA NPDES regulations.
122. Under the proposed permit, prior to commencing construction at 121 RDF, NTMWD is to submit a Notice of Intent (NOI) to obtain permit coverage pursuant to the general permit for storm water discharges related to construction activities. Prior to operation, NTMWD is to submit a NOI to obtain permit coverage pursuant to the Commission's general permit to

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dispose of wastes from industrial facilities that discharge storm water associated with industrial activity.

123. The 121 RDF drainage plan, including the detention pond, has been designed to reduce the peak run-off from the developed 121 RDF to pre-development flow rates. The outlet structure for the detention portion of the pond, also referred to as the principal spillway, is designed to convey the peak flow for the 100-year flood event.
124. The run-off volumes and peak flood flows under both pre-development and post-development conditions for Brinlee Branch and the South Tributary were calculated utilizing the USACE's HEC-1 run-off model. For describing the variation of rainfall with time in the HEC-1 model, a standard rainfall distribution, developed by the U.S. Soil Conservation Service (SCS) and referred to as the "Standard Emergency Spillway and Freeboard Hydrograph (Table 6)" distribution, was used.
125. Peak flow rates under both pre-development and post-development watershed conditions for drainage areas of less than 200 acres in size were calculated using the Rational Method.

G. Floodplain and Flood Issues

126. 121 RDF is not located within the limits of the regulatory 100-year floodplain as identified on the FEMA Map. A subtitle D Location Restriction Certification of Compliance for Floodplains, signed by Robert J. Brandes, Ph.D., P.E., is included in Parts I & II, Appendix I & II-E, of the Application.
127. To evaluate flooding conditions along Brinlee Branch and the South Tributary, an analysis of water surface profiles corresponding to the 100-year flood event was performed using the USACE's HEC River Analysis System (HEC-RAS) computer program.

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- 128. The areas around design points 4 and 5, which are alleged to be located in the regulatory limits of the 100-year floodplain, are not lowland nor relatively flat and are not within the floodplain.
- 129. The dams located at Design Points 4 and 5 are designed to capture and hold run-off in those areas. Pre-existing ponds in those areas will not cause higher flooding upstream, nor will waters released from the areas cause faster flow, higher floods or greater potential for water damage downstream.
- 130. The drainage channels on the final cover system are designed to accommodate the 100-year rainfall event.
- 131. The level of perimeter channels around 121 RDF are lower than the elevation of the toe of the landfill. Perimeter berms enclose the perimeter channels, which are designed to contain the 100-year flood waters at depths of less than one and one-half feet.
- 132. 121 RDF will not restrict the flow of the 100-year flood, will not reduce the temporary water storage capacity of the floodplain, and will not result in washout of solid waste posing a hazard to human health and the environment.

H. Geology and Groundwater Monitoring

- 133. Part III, Site Development Plan, Attachment 4, Geology Report, of the Application, with the exception of Section 7.0, Geotechnical Report, was prepared by a certified professional geological scientist and qualified groundwater scientist, as that term is defined by the Commission at 30 TEX. ADMIN. CODE § 330.2(110). Section 7.0, Geotechnical Report, of the Geology Report was prepared by a professional engineer licensed in the State of Texas.

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 DIVISION OF SOILS AND WATER
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 1100 WEST 17TH AVENUE, SUITE 1000
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134. 121 RDF is located in the East Fork Trinity River Basin in Collin County. Physically, 121 RDF is situated on an upland drainage divide between Brinlee Branch on the north and an unnamed tributary to Brinlee Branch on the south (South Tributary).
135. 121 RDF is located in a belt of Upper Cretaceous sedimentary rocks that crop out along the outer margin of the Gulf Coastal Plain in a physiographic province known as the Blackland Prairie. The Blackland Prairie comprises primarily poorly drained, low hydraulic conductivity clays.
136. The principal Cretaceous System rocks within the first 1,000 feet below the 121 RDF belong to two groups, the Austin Chalk and the Eagle Ford Shale. The Eagle Ford, the lower of the two groups at 121 RDF, is approximately 475 feet thick and is divided into two units, the Britton and the Arcadia Park.
137. The lower part of the Britton consists of moderately hard calcareous clay shale. In the upper part of the Britton, the shale is less calcareous and softer and contains limestone and claystone concretions.
138. The Arcadia Park consists of three parts. The lower part is clayey shale overlain by the middle part consisting of one to three feet of thin flaggy limestone. The upper part consists of clayey shale containing numerous calcareous concretions.
139. The base of the Eagle Ford at 121 RDF is at a depth of about 1,300 feet or about 650 feet below sea level.
140. A detailed discussion of the geology of 121 RDF is located in Part III, Site Development Plan, Attachment 4, Geology Report, of the Application.

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 STATE OF TEXAS

141. The Austin Chalk is the geologic unit exposed at the surface of 121 RDF. The Austin Chalk is subdivided into three units: the lower chalk, the middle marl, and the upper chalk. The base of the Austin Chalk at 121 RDF is at a depth of about 975 feet or about 225 feet below sea level. The upper unit of the Austin Chalk underlies the entire 121 RDF.
142. 121 RDF is covered by four general soil types: the Houston Black soil association, the Austin Silty Clay, the Stephen-Eddy complex, and the Eddy gravelly clay loam.
143. 121 RDF was examined for the presence of faulting through site reconnaissance, examination of boring log data, and a review of geological literature and maps of the area.
144. There are no active faults on or within two hundred feet of 121 RDF that have had displacement in Holocene (Recent) geologic time. A Subtitle D Location Restriction Certification of Compliance for Fault Areas, signed by Mr. H.C. Clark, Ph.D., is included in Parts I & II, Appendix I & II-E of the Application.
145. 121 RDF was examined for the presence of unstable areas. No poor foundation conditions, no areas susceptible to mass movement, and no karst terrains were found at 121 RDF. There are no unstable areas at 121 RDF. A Subtitle D Location Restriction Certification of Compliance for Unstable Areas, signed by Mr. Pierce L. Chandler, Jr., P.E., is included in Parts I & II, Appendix I & II-E of the Application.
146. 121 RDF is located in an area having a maximum horizontal acceleration of less than 0.10 g (force of gravity), with a ninety-percent probability of not being exceeded in 250 years; thus, 121 RDF is not located in a seismic impact risk zone. A Subtitle D Location Restriction Certification of Compliance for Seismic Impact Zones, signed by Mr. H.C. Clark, Ph.D., is included in Parts I & II, Appendix I & II-E of the Application.
147. There are no aquifers within the first 1,000 feet of the surface at 121 RDF.

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148. The uppermost aquifer is the Woodbine Aquifer, approximately 1,300 feet below 121 RDF.
149. The intervening materials (confining layers) between 121 RDF and the Woodbine Aquifer consist of chalk and marl of the Austin Chalk and the underlying marl and shale of the Eagle Ford Shale. These materials are essentially impervious and there is little potential for water or any other fluids to move downward from 121 RDF to the Woodbine Aquifer.
150. Under 121 RDF, the Woodbine Aquifer is under artesian conditions, *i.e.*, the water level in a well drilled into the Woodbine Aquifer would rise above the top of aquifer, with the overlying Eagle Ford Shale acting as the upper confining layer.
151. Subsurface conditions at 121 RDF were evaluated using a Commission-approved Soil Boring Plan, which required a total of forty borings spaced on a grid of approximately 1,000 feet on a side. The borings were drilled by a licensed water well driller, and all borings were logged by the same senior professional geologist certified by the American Institute of Professional Geologists.
152. Field activities consisted of drilling, coring, logging, and grouting each borehole, geophysical logging, and setting temporary piezometers. Each of the boreholes was geophysically logged using an array of instruments, including: resistivity, spontaneous potential, natural gamma, caliper, porosity, and neutron density. In accordance with the approved Soil Boring Plan, the suite of geophysical logs selected was based on observations in the field during drilling and visual examination of the cores.
153. The data obtained from the soil borings are adequate to establish subsurface stratigraphy and to determine geotechnical properties of the soils and rocks beneath 121 RDF. Installation, abandonment, and plugging of the borings was accomplished in accordance with Commission rules.

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INSTALLATION OF THE
 121 RDF

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154. Site piezometers were monitored at approximately monthly intervals over a period of approximately one year. A hydrogeologic evaluation of the data and stratigraphy was completed. Limited and scattered occurrences of subsurface water were detected in some of the borings, either during drilling or by later indications of water by the piezometers installed at 121 RDF.
155. An analysis of the potential pathways for pollutant migration was provided in the Application.
156. The physical setting and the design of 121 RDF make leakage and subsequent migration outside of the confines of the composite liner system and final cover system improbable.
157. The lack of water wells in the Austin Chalk, observations during drilling and logging of the borings, water or pressure levels measured by the piezometers installed, and the lack of any springs or seeps emanating from the weathered and unweathered Austin Chalk strongly indicate that what little subsurface water occurs in the weathered and the unweathered Austin Chalk is in isolated, hydraulically disconnected pockets.
158. Should leachate penetrate either the FML component or the compacted soil liner component of the composite liner system on the floor of 121 RDF, it will migrate downslope until it emerges on the east end of 121 RDF where it can be directly observed and contained. Should leakage occur through the sidewalls of the proposed 121 RDF, it will tend to migrate down the steep side slopes and then follow the same pathway to the east end of the landfill as leachate that might leak through the bottom liner.
159. A qualified groundwater scientist, as that term is defined by 30 Tex. ADMIN. CODE § 330.2(110), performed a Ground (Subsurface) Water Characterization Report.

STATE OF TEXAS
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 LICENSE NO. 111111

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160. A Soil and Liner Quality Control Plan (SLQCP) has been designed for 121 RDF by a licensed professional engineer to protect subsurface water. The SLQCP provides operating personnel guidance for assuring continuous protection of subsurface water.
161. The SLQCP specifies construction methods employing good engineering practices for compaction of the soil liner component of the composite liner system and addresses the installation and testing of the geosynthetic liner component.
162. The SLQCP details the excavation, examination, and dental work procedures; composite liner system, LCS, and final cover system construction methods and procedures, Quality Assurance/Quality Control (QA/QC); and reporting requirements, specifically SLERs and appropriate portions of the FMLERs.
163. A minimum of two feet of protective soil cover will be placed over the LCS/composite liner system. Permeable "chimneys" through the protective cover will be provided at a nominal 100-foot spacing to allow drainage into the LCS. The chimneys will be covered with rain flaps until waste is actually placed over the chimneys.
164. The leachate storage area is external to the fill area and will be monitored by direct observation. Leachate storage consists of three lined ponds into which the leachate from each of the three leachate collection header pipes can drain by gravity. The LCS is designed to maintain less than thirty centimeters or one foot of liquid head above the bottom liner.
165. The Application contains a Subsurface Water and Surface Water Protection Plan and Drainage Plan.
166. The Ground (Subsurface) Water Sampling and Analysis Plan (GWSAP) included in the Application defines procedures and techniques for subsurface water sample collection, preservation, shipment, analyses, chain-of-custody, and QA/QC procedures.

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167. To monitor the subsurface water conditions at 121 RDF, 13 monitoring wells will be installed around the perimeter of the waste footprint. The wells have been located in consideration of existing topography, landfill design, subsurface conditions, and the absence of any aquifer closer than 1,300 feet below the landfill excavation. The subsurface water monitoring system was designed and certified by a qualified groundwater scientist.
168. No subsurface monitoring wells will extend into the Woodbine Aquifer.
169. [Omitted.]
170. NTMWD has not made a certified demonstration, through a qualified ground-water scientist and approved by the ED, that there is no potential for migration of hazardous constituents from 121 RDF to the Woodbine Aquifer, which is the uppermost aquifer.
171. NTMWD has presented an alternative design for a groundwater monitoring system that uses other means in conjunction with monitoring wells to ensure detection of groundwater contamination in the uppermost aquifer.
172. The relevant Point of Compliance (POC) will extend around the north, east, and south perimeters of the 121 RDF waste footprint. The relevant POC will be contained within the permit boundary and will be no more than 500 feet horizontally distant from the 121 RDF waste footprint.
173. Subsurface water monitoring will continue throughout the post-closure care period.
174. The subsurface water monitoring wells will be sampled in accordance with the GWSAP and the analyses will be submitted to the Commission for review.

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175. The GWSAP contained in the Application provides procedures for collecting representative samples from subsurface water monitoring wells and QA/QC procedures required to ensure valid analytical results. The GWSAP also includes methodology for evaluation of these results so that the occurrence of a statistically significant increase may be detected.
176. 121 RDF is not likely to adversely affect or result in a hazard to subsurface water.
177. NTMWD's proposed groundwater monitoring system is sufficient for detecting migration of contaminants from the 121 RDF into local groundwater and for protecting groundwater around the 121 RDF.
- 177A. NTMWD will monitor the efficiency of the groundwater protection measures at the 121 RDF through the use of a monitoring system that uses monitoring wells located around the perimeter of the waste unit, daily inspection of the leachate discharge headers and storage ponds, and visual inspection of the east side of the 121 RDF where the floor of the excavation daylights to ensure detection of any contamination prior to it reaching the uppermost aquifer, and the use of standard dental work to ensure that contamination does not reach the Woodbine Aquifer.
- 177B. The groundwater monitoring system for the 121 RDF will be at least as protective of human health and the environment as a monitoring well system yielding representative samples from the Woodbine Aquifer. The proposed groundwater monitoring system is an acceptable alternative design pursuant to 30 TEX. ADMIN. CODE §§ 330.231 (c).

I. Land Use Compatibility

178. The Application contains an existing conditions summary for the area near 121 RDF

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179. The Application contains an aerial photograph showing 121 RDF, the waste footprint, and the area in a one-mile radius around 121 RDF.
180. Most of 121 RDF is outside the corporate limits of any city, and 121 RDF is not subject to municipal zoning.
181. The cities of Anna and Melissa are the closest cities to 121 RDF; they are located to the north and west of 121 RDF, respectively.
182. The City of Melissa annexed the right-of-way of County Road 416 (CR 416) where it formerly crossed the "panhandle" portion of 121 RDF. The City of Melissa has abandoned the right-of-way of CR 416 and it has reverted to NTMWD. Only the abandoned right-of-way of CR 416 is within the corporate limits of the City of Melissa.
183. Collin County does not exercise zoning authority in the vicinity of 121 RDF.
184. Correspondence from the North Central Texas Council of Governments (NCTOG) dated April 14, 2000, determined that 121 RDF is in conformance with the capacity needs of the Regional Solid Waste Management Plan for North Central Texas.
185. The land uses within a one mile radius of 121 RDF are predominantly (91%) agricultural and vacant.
186. Suburban low-density residential growth is occurring throughout the unincorporated areas of Collin County. Most of the recently occurring residential activity is to the west and south of 121 RDF.
187. The largest property owner in the vicinity of 121 RDF is NTMWD.

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 TEXAS PUBLIC RECORDS ACT

188. The nearest community to 121 RDF is the City of Melissa. The City of Melissa has experienced residential development northwest and southeast of its downtown area. Future growth is expected to occur along U.S. Highway 75 (US 75) west of downtown.
189. An estimated 85 residences are observed within one mile of 121 RDF. The nearest residence is located approximately 200 feet northwest of 121 RDF, across SH 121. The residence nearest to the landfill footprint is approximately 500 feet northeast from the waste footprint.
190. At the time the Application was submitted to the Commission, seven industrial/commercial businesses were observed within one mile of the permit boundary, with the closest business to 121 RDF being a trucking company located on CR 416, adjoining the permit boundary. Since the Application was filed with the Commission, the trucking company has closed and NTMWD has purchased the trucking company's property. Other business establishments within one mile include two quarries, a composting operation, and a feedlot.
191. There are no known schools, licensed day care facilities, recreational areas, or sites having exceptional aesthetic qualities within one mile of 121 RDF. Two cemeteries and two churches are within one mile of 121 RDF. The two churches are located more than one-half mile away from 121 RDF.
192. No public use airports exist within a five-mile radius of 121 RDF. A Subtitle D Location Restriction Certification of Compliance for Airports, signed by Pierce L. Chandler, Jr., P.E., is included in Parts I & II, Appendix I & II-E, of the Application.
193. Within one mile of 121 RDF, there are two deep water wells into the underlying Woodbine Group east and southeast of 121 RDF. There are five shallow wells registered within approximately one mile of 121 RDF.

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194. Eight "cistern/wells" were located on NTMWD Property during an intensive pedestrian survey. None of these was registered as a well. The cistern/wells functioned more as cisterns than wells.
195. Only one oil well has been drilled within a mile of 121 RDF. The well was dry and was plugged and abandoned.
196. NTMWD coordinated with the FWS and the TPWD and conducted surveys at the site of 121 RDF for federal and state-listed endangered and threatened species and critical habitat.
197. The FWS recommended that all proposed project areas near creeks, rivers, and wetlands or other waterbodies be checked for the presence of tall trees that may serve as bald eagle (*Haliaeetus leucocephalus*) roosting or nesting sites.
198. A permitted biologist performed a survey for bald eagles and their roosting habitat and determined that the preferred nesting, feeding, and/or roosting habitat was not found in or adjacent to 121 RDF.
199. The FWS concurred with the permitted biologist's determination that bald eagles would not be significantly impacted by the development of 121 RDF and determined that no mitigation plan for the bald eagle was needed.
200. The FWS also determined that 121 RDF was not likely to adversely affect the endangered whooping crane (*Grus americana*).
201. The TPWD noted that the state listed threatened timber/canebrake rattlesnake (*Crotalus horridus*) could be impacted by project activities if suitable habitat is present, and a survey of 121 RDF was conducted to determine whether timber rattlesnakes are present at 121 RDF.

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 DIRECTOR

202. No timber rattlesnakes or denning habitat were observed at 121 RDF. Nevertheless, NTMWD proposes mitigation measures to be implemented prior to and during construction and operation of 121 RDF to benefit timber rattlesnakes.
203. The siting and operation of 121 RDF will not result in the destruction or adverse modification of critical habitat for threatened or endangered species, nor will construction and operation of 121 RDF result in a taking of threatened or endangered species.
204. A Subtitle D Location Restriction Certification of Compliance for Endangered Species, signed by Mr. Rudi K. Reinecke, is included in Parts I & II, Appendix I & II-E, of the Application.
205. An on-site investigation for potential jurisdictional wetlands and waters of the United States ("waters of the U.S."), conducted by qualified biologists, identified five potential jurisdictional emergent wetlands on NTMWD Property. The delineated jurisdictional waters of the U.S. and associated wetlands on NTMWD Property total approximately 4.46 acres and 12.04 acres of on-channel impoundments. 36,466.27 linear feet (L.F.) of stream channels were mapped.
206. The USACE concurred with the qualified biologists' identification of jurisdictional waters of the U.S.
207. 121 RDF is designed to avoid and minimize impacts to the delineated jurisdictional waters of the U.S., including impacts on any intermittent stream channels, large on-channel impoundments, and jurisdictional wetlands. A total of 5,798.58 L.F. (0.32 acres) of six different ephemeral stream channels and 0.18 acres of wetlands lie within the waste footprint of the 121 RDF, for a total acreage of 0.50 acres.

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AT THE COUNTY CLERK'S OFFICE

Rudi K. Reinecke
RUDI K. REINECKE
COUNTY CLERK

208. The USACE has authorized 121 RDF pursuant to Nationwide Permit 39, promulgated pursuant to section 404 of the federal Clean Water Act, 33 U.S.C. § 1344. Nationwide Permit 39 requires mitigation for the unavoidable impacts associated with 121 RDF.
209. A Subtitle D Location Restriction Certification of Compliance for Wetlands, signed by Rudi K. Reinecke, is included in Parts I & II, Appendix I & II-E, of the Application.
210. The THC certified that it concurred with the determination that any cultural resources that may be affected by 121 RDF were of no cultural or historical significance and were ineligible for inclusion in the National Register of Historic Places or for designation as a State Archaeological Landmark.
211. During the development of 121 RDF, measures such as expansive buffer zones, a system of permanent berms, perimeter landscape screening, and push wall screening berms will be used to limit the visibility of waste from SH 121 and FM 545.
212. NTMWD's proposal for a 300 foot high landfill at 121 RDF is compatible with surrounding land uses.
213. The use of landscaping and buffers will minimize the visual impact of 121 RDF.
214. Most of the residential landowners closest to 121 RDF have not presented evidence in opposition to the height of 121 RDF.
215. NTMWD's proposal to operate 24 hours a day is compatible with surrounding land uses.
216. Light and noise from operations will be screened by push walls, perimeter berms, and vegetation. Moreover, buffer zones will assist in limiting the effect of noise and light from operations at night.

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217. Surrounding residents are not expected to be disturbed by 24-hour operations at 121 RDF.

J. Permit Duration

218. The ED has not deemed it appropriate for the permit for 121 RDF to be issued for a specified period of time less than the life of the landfill.

219. NTMWD's compliance history in relation to its other landfill sites does not justify a limitation on the permit term for 121 RDF.

220. There is not competent evidence in the record which would establish why problems reflected in NTMWD's compliance history could be avoided or remedied at 121 RDF by the use of a permit of a limited duration.

221. There is not competent evidence in the record to justify limiting the permit for 121 RDF to a period less than the life of the landfill.

K. Traffic Issues

222. Access to 121 RDF is via SH 121. In the vicinity of 121 RDF, SH 121 is a two-lane undivided highway, 45 feet in width with one 12-foot travel lane in each direction, with an all-weather paved surface.

223. Data on vehicular traffic projections are provided in the Application. The roads are capable of handling the volume of traffic associated with 121 RDF through its site life.

224. The entrance to 121 RDF will be along SH 121. The entrance area and approximately 1,000 feet of the permanent interior access road, a two-lane road, will be an all-weather paved surface. The 1,000 feet of all-weather paving of the permanent interior access road will help

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AUSTIN, TEXAS

prevent vehicles from tracking mud onto SH 121. NTMWD will construct a truck/wheel wash to clean vehicles, if needed, before they leave 121 RDF.

- 225. A deceleration lane will be added to the northbound lane of SH 121 to allow for entry into 121 RDF without impeding traffic on SH 121. The basic design of the deceleration lane has been reviewed and approved by TxDOT.
- 226. Interior haul roads, other than the permanent interior access road, will be constructed of an all-weather surface such as crushed rock, gravel, or other suitable materials. These roads will be maintained to provide suitable access in most weather conditions.
- 227. Roads leading to the working face will have grades of six percent or less to allow for safe vehicle maneuvering and handling during wet weather conditions. The road leading to the Citizens' Drop-off Area, located near the scale house, will be an all-weather paved surface.
- 228. Currently, SH 121 has traffic volume of 8,600 vehicles per day (vpd), both directions.
- 229. Traffic volume on SH 121 is expected to increase 200 vpd the first year of operation for the landfill and 1,500 vpd by the 40th year of operation. The expected increase in traffic volume in the first year is 2.3 percent, and in the 40th year is 17.4 percent of the current traffic volume on SH 121 north of FM 545.
- 230. The impact of operation of 121 RDF on SH 121 will be minimal.

OTHER GENERAL AND TECHNICAL FINDINGS

L. Site Development and Engineering Considerations

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231. The design of 121 RDF takes advantage of the natural attributes of the site to protect surface water, which drains into Lake Lavon, a major drinking water supply.
232. 121 RDF will be operated using the "area fill" method with the fill being placed below and above-grade.
233. The landfill sequence of development, as depicted in Part III, Site Development Plan, Attachment 1, Site Layout Plan (Drawings), Drawing 1.3, Sectorized Fill Layout Plan, of the Application, depicts the general progression or sequence of the development and filling of the waste footprint of 121 RDF.
234. 121 RDF design incorporates a Commission-approved Subtitle D standard composite liner. The upper component of the liner system is a 60-mil thick high-density polyethylene (HDPE) flexible membrane liner (FML) to which bentonite has been or is applied to one side. This type of FML also is known as a geosynthetic liner. The soil component of the composite liner system consists of two feet of compacted clayey material with a maximum hydraulic conductivity of 1×10^{-7} cm/sec.
235. Based on site-specific conditions, no special liner conditions are necessary.
236. Landfill markers will be installed in accordance with Commission regulations to clearly mark significant features at 121 RDF, such as the site boundary, buffer zone, easements and rights-of-way, the landfill grid system, and approved Soil and Liner Evaluation Report (SLER) or Flexible Membrane Liner Evaluation Report (FMLER) areas. All markers will be steel or wooden posts and will extend at least six feet above ground level. The markers will not be obscured by vegetation. These markers will be installed at locations visible during operating hours and will be repainted, repaired, or replaced as necessary to retain visibility.

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COMMISSION ON ENVIRONMENTAL QUALITY
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M. Leachate Control and Contaminated Water

237. 121 RDF provides for adequate leachate and contaminated water collection. The LCS provides for drainage of fluids by gravity to the east end of 121 RDF, thus avoiding any potential for a "bathtub" effect.
238. The LCS includes a geonet/geotextile drainage composite with laterals and collection header piping. Redundant collector pipes will be used at nominal 1,000-foot spacing.
239. The Leachate and Contaminated Water Plan for 121 RDF specifies procedures for collection, storage, treatment and disposal of contaminated water and leachate. Leachate intercepted by the geodrain/lateral system will be routed to one of three header pipes that discharge into the leachate storage ponds on the east end of 121 RDF. The entire system is drained by gravity.
240. Under the proposed permit, leachate may be applied to the working face of 121 RDF as a compaction aide, evaporated, transferred to an off-site treatment location by tanker truck, or discharged into a sanitary sewer for routing to a publicly owned treatment works ("POTW").
241. Two-foot-high contaminated water control berms have been specified for the 25-year, 24-hour storm event to manage contaminated water generated at the working face of 121 RDF, thus causing any water that comes in contact with exposed waste to be confined at the working face. Any run-off from the working face will be allowed to infiltrate the waste and will be collected by the LCS if it penetrates the full thickness of the waste column. A backup containment system for contaminated water is the "curb" at the east or lowest end of the landfill. There will be no off-site discharge of contaminated waters to waters of the U.S. or water in the State.

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N. Landfill Gas Monitoring and Control

242. The Application contains a Landfill Gas Management Plan (LGMP) to provide management practices for the monitoring and control of landfill gas generated by 121 RDF.
243. Permanent monitoring probes will be used to monitor and to measure any subsurface migration of methane gas. Permanent probes will be installed along the permit boundary of 121 RDF. Site specific information such as geology and soil conditions, "perched" subsurface water, the proximity of on-site and off-site structures, locations of any utility lines, and the depth of waste were considered in designing the permanent monitoring probes.
244. All on-site permanent structures will be equipped with appropriate continuous monitoring devices to detect methane concentrations should they accumulate inside the building. The structures that will be monitored continuously will include the scale house/office and maintenance building, along with any future structures.
245. The LGMP provides for landfill gas monitoring to be performed on at least a quarterly basis as waste is placed within 1,000 feet of the respective probe location along the permit boundary of 121 RDF.
246. The Contingency Plan for 121 RDF outlines the procedures to be followed if the landfill gas readings at any monitoring location exceed 25% of the lower explosive limit (LEL) for facility structures and/or the LEL at the 121 RDF permit boundary.
247. Landfill gas monitoring will continue for thirty years after final closure of 121 RDF is complete.

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O. Site Closure

248. The Final Closure Plan includes a description of the final cover design, including the methods and procedures used to install the cover, an estimate of the largest area requiring final cover at any time during the active life of 121 RDF, a schedule for completing all activities, an estimate of the maximum inventory of wastes on-site over the active life of 121 RDF, a final contour map, and a detailed written estimate of the cost of hiring a third-party to close the largest area of 121 RDF during the active life of the site.
249. NTMWD will commence post-closure care and maintenance upon completion of final closure activities and review and approval by the Commission and will continue for a minimum of thirty years, unless otherwise modified by the ED of the Commission. Post-closure activities include maintenance of landfill components, monitoring of groundwater, and monitoring of landfill gas.
250. The final cover system design is as an evapotranspiration or "ET" cover design. The final cover for 121 RDF consists of sixty inches of clay soil capable of sustaining natural vegetation. Compaction of the final cover is unnecessary. Within a year or two of placement, it will be expected to achieve a condition much like natural soil. As the cells progress to an aerial fill and reach final contours, final cover will be applied.
251. NTMWD has prepared a cost estimate of the total costs of conducting post-closure care operations and maintenance of the entire post-closure care period in accordance with the Post-Closure Care Plan.
252. NTMWD has provided evidence of financial assurance, identifying that NTMWD will provide financial assurance for Permit No. MSW-2294 in accordance with the financial assurance schedule developed in Part III, Site Development Plan, Attachment 8; Cost

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Estimate for Closure and Post-Closure Care, in accordance with 30 TEX. ADMIN. CODE Chapter 330, Subchapter K.

P. Competency of Applicant

253. The Application contains sufficient information to demonstrate that NTMWD is familiar with the Site Development Plan and the SOP and is aware of all commitments represented in those plans. NTMWD has stated its intention to develop and operate 121 RDF in accordance with the Site Development Plan, the SOP, and the Draft Permit.
254. The Application contains sufficient information to demonstrate that NTMWD has proposed adequate equipment and managerial and financial resources to operate 121 RDF in accordance with the Site Development Plan, the SOP, and the Draft Permit.

CONCLUSIONS OF LAW

1. The Commission has jurisdiction over the disposal of MSW and the authority to issue Permit No. MSW-2294 under TEX. HEALTH & SAFETY CODE ANN. § 361.061.
2. SOAH has jurisdiction to conduct a hearing and to prepare a Proposal for Decision on contested cases referred by the Commission pursuant to TEX. GOV'T CODE ANN. § 2003.47.
3. The Application was processed and the proceedings herein described were conducted in accordance with applicable laws and regulations of the Commission, specifically TEX. HEALTH & SAFETY CODE ANN. Chapter 361 and 30 TEX. ADMIN. CODE § 80.1 *et seq.*, and SOAH, specifically 1 TEX. ADMIN. CODE § 155.1 *et seq.* All other applicable procedural requirements relative to notice, hearing, and due process of law were met.

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INDUSTRIAL POLLUTION CONTROL DIVISION
AT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DEC 12 2007

DATE: 12/12/07
BY: [Signature]
TITLE: [Title]

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

4. The evidence in the record in support of the requested permit is sufficient to meet the requirements set forth in applicable law and regulations of the Commission for issuance of Permit No. MSW-2294.
5. NTMWD had the burden of proof by a preponderance of the evidence of establishing that its Application meets all of the requirements of the Commission's rules and applicable statutory provisions governing MSW facilities.
6. NTMWD has submitted a complete permit application, as required by TEX. HEALTH & SAFETY CODE ANN. §§ 361.066 and 361.068, which demonstrates that NTMWD will comply with all applicable requirements in 30 TEX. ADMIN. CODE Chapter 330.
7. No site-specific conditions exist at the site which require special consideration as provided in 30 TEX. ADMIN. CODE §§ 330.51(b)(3) and 330.53(b)(4).
8. NTMWD has not proposed to construct the expansion in a floodplain, and, therefore, is not required to submit the information specified in 30 TEX. ADMIN. CODE §§ 330.51(b)(4).
9. The Application contains the evidence of competency required by 30 TEX. ADMIN. CODE § 330.52(b)(9).
10. The Application contains the information required by 30 TEX. ADMIN. CODE § 305.45.
11. Parts I and II of the Application meet the applicable technical requirements of 30 TEX. ADMIN. CODE Chapters 305 and 330.
12. The Site Development Plan included in the Application as Part III, which supports Parts I and II of the Application, meets the applicable requirements of 30 TEX. ADMIN. CODE Chapter 330.

STATE OF TEXAS
 COUNTY OF TARRANT
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 A TEXAS COURT
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 FORT WORTH, TEXAS 76102
 (817) 335-1100

13. Part III of the Application meets the applicable requirements of 30 TEX. ADMIN. CODE Chapter 330.
14. Part IV of the Application meets the applicable requirements of 30 TEX. ADMIN. CODE Chapter 330.
15. NTMWD coordinated with all required agencies, officials, and authorities that may have a jurisdictional interest in the Application, including the Federal Aviation Administration (FAA), TxDOT, the Texas Historical Commission (THC), the Texas Parks and Wildlife Department (TPWD), NCTCOG, the Watershed Management Division of the Commission, the U.S. Army Corps of Engineers (USACE), the U.S. Department of Interior, specifically the U.S. Fish and Wildlife Service (FWS), the Collin County Engineering Department, and the EPA.
16. The Applicant has submitted wetland determinations required by applicable federal, state and local laws as required by 30 TEX. ADMIN. CODE §§ 330.51(b)(7) and 330.53(b)(12).
17. The Applicant has submitted Endangered Species Act compliance demonstrations under state and federal laws as required by 30 TEX. ADMIN. CODE §§ 330.51(b)(8), 330.53(b)(13), and 330.55(b)(9).
18. The Applicant has submitted a review letter from the Texas Historical Commission as required by 30 TEX. ADMIN. CODE § 330.51(b)(9).
19. The Applicant has submitted a demonstration of compliance with the regional solid waste plan as required by 30 TEX. ADMIN. CODE § 330.51(b)(10).

STATE OF TEXAS
COUNTY OF TARRANT
HERSEY SCHEPERS, COUNTY CLERK
A TEXAS NOTARY PUBLIC, COMMISSION EXPIRES 08/01/2007

DEC 12 2001

DEPARTMENT OF TRANSPORTATION
TARRANT COUNTY, TEXAS
1100 W. WILSON ST. SUITE 100
FARGO, TEXAS 76040
TEL: 817.251.2000 FAX: 817.251.2001

[Signature]

20. The Application contains information demonstrating compliance with the National Pollutant Discharge Elimination System program under the federal Clean Water Act (CWA).
21. Subsurface water monitoring for the 121 RDF follows the Commission's regulatory requirements for detection, assessment, and corrective action monitoring as required by 30 TEX. ADMIN. CODE §§ 330.230 – 330.241.
22. NTMWD has not shown that it is entitled to an exception, pursuant to 30 TEX. ADMIN. CODE § 330.230(b), to the Commission's rules requiring monitoring of the groundwater in the uppermost aquifer.
23. NTMWD has demonstrated that it has developed an alternative design, consistent with 30 TEX. ADMIN. CODE § 330.231(c), for a groundwater monitoring system that uses other means in conjunction with monitoring wells to ensure detection of groundwater contamination in the uppermost aquifer.
24. The hydrologic and hydraulic methods employed to complete the drainage calculations are consistent with Commission regulations.
25. The Application contains information demonstrating compliance with Section 208 of the CWA.
26. The Site Operating Plan included in the Application as Part IV meets the applicable requirements of 30 TEX. ADMIN. CODE Chapter 330, Subchapter F.
27. The calculations under Attachment 6 to the Application conform with the requirements of the Commission's *Blue Flats* ruling.
28. The drainage design criteria and analyses used for the drainage calculations for 121 RDF meet the applicable requirements of 30 TEX. ADMIN. CODE Chapter 330.

STATES TEXAS
PLANNING AND CONSERVATION DEPARTMENT
WATER QUALITY DIVISION
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1211 RDF

29. NTMWD may rely on a Federal Emergency Management Agency (FEMA) floodplain map to comply with 30 TEX. ADMIN. CODE § 330.56(f)(B)(i).
30. The Landfill Gas Monitoring and Control System complies with 30 TEX. ADMIN. CODE § 330.130.
31. NTMWD has demonstrated compliance with the location restrictions set forth in 30 TEX. ADMIN. CODE §§ 330.300 - 330.305.
32. NTMWD has submitted information regarding closure and post-closure which demonstrates compliance with the requirements of 30 TEX. ADMIN. CODE §§ 330.56(l) and (m), 330.253 and 330.254(b).
33. NTMWD has submitted information regarding financial assurance which complies with 30 TEX. ADMIN. CODE §§ 330.52(b)(11) and 330.280-330.286.
34. NTMWD has listed all permits or construction approvals received or applied for under any program listed in 30 TEX. ADMIN. CODE § 305.45(a)(7).
35. The SLQCP complies with 30 TEX. ADMIN. CODE §§ 330.56(j) and 330.205.
36. NTMWD has provided sufficient information concerning its acceptance or disposal of "special waste" as defined by 30 TEX. ADMIN. CODE § 330.2.
37. The Applicant has demonstrated compliance with 30 TEX. ADMIN. CODE § 330.136.
38. If Permit No. MSW-2294 is issued, there is no basis for limiting the permit term to anything less than the life of the site.

STATE OF TEXAS
 DEPARTMENT OF ENVIRONMENTAL QUALITY
 AIR QUALITY DIVISION
 1700 NORTH BRASSFIELD BOULEVARD
 AUSTIN, TEXAS 78758

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 DEPARTMENT OF ENVIRONMENTAL QUALITY
 AIR QUALITY DIVISION
 1700 NORTH BRASSFIELD BOULEVARD
 AUSTIN, TEXAS 78758

39. NTMWD has demonstrated that the proposed operation of a MSW landfill is in accordance with applicable laws and regulations and is a proper land use for the 121 RDF described in the Application.
40. As required by TEX. HEALTH & SAFETY CODE § 361.069, the Landfill is compatible with surrounding land uses and will have a minimal visual impact on surrounding landowners.
41. The buffer zones established by Applicant between the edge of fill and the site boundary are compliant with the MSW rules, including 30 TEX. ADMIN. CODE §§ 330.121(b).
42. The approval of the Application and the issuance of Permit No. MSW-2294 will not violate the policies of the State of Texas, as set forth in TEX. HEALTH & SAFETY CODE § 361.002, to safeguard the health, welfare, and physical property of the people of the State of Texas and to protect the environment by controlling the management of solid waste.
43. If the Landfill is operated in compliance with applicable law, issuance of the draft permit will not adversely affect the environment nor will it adversely affect the public health or welfare, nor the physical property of the people of Texas.
44. Draft Permit No. MSW-2294, as prepared by Commission staff, for the 121 RDF meets all applicable requirements of the Solid Waste Disposal Act, TEX. HEALTH & SAFETY CODE ANN. Chapter 361.
45. [Omitted.]
46. Pursuant to 30 TEX. ADMIN. CODE § 80.23(d)(2), the Executive Director of the Commission and the Office of Public Interest Council of the Commission may not be assessed any portion of the transcript and court reporting costs.

STATE OF TEXAS
 COUNTY OF TARRANT
 COMMISSIONERS OF THE STATE OF TEXAS
 DEPARTMENT OF ENVIRONMENTAL QUALITY
 DIVISION OF SOLID WASTE MANAGEMENT
 1000 WEST 11TH STREET, SUITE 1000
 FORT WORTH, TEXAS 76102
 (817) 251-2000
 FAX (817) 251-2001
 DEC 12 2001
 [Signature]

47. All court reporting and transcript costs should be assessed to NTMWD.

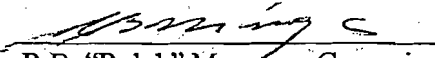
EXPLANATION OF CHANGES TO ALJ'S PROPOSED ORDER

The Commission rejected the ALJ's recommendation to deny NTMWD's application for Municipal Solid Waste Permit No. MSW-2294. Specifically, the Commission rejected the ALJ's recommendation to deny the permit which was based on the following: 1) the Site Operating Plan did not provide sufficient information regarding the size of equipment and the fire-fighting training requirements; and 2) NTMWD had not presented an acceptable alternative design for its groundwater monitoring system in accordance with 30 TEX. ADMIN. CODE § 330.231(c). The Commission concluded that while case law is currently in flux with regard to the specificity required in site operating plans, NTMWD's Site Operating Plan was reviewed and determined to be technically complete in accordance with agency policy and practice under the rules in place at the time the application was processed and its specificity with regard to size of equipment and training of personnel in fire-fighting techniques is consistent with similar plans approved by the agency. The Commission also concluded that the ALJ's interpretation of its groundwater monitoring system rules was incorrect as a matter of law and policy and the evidence in the record demonstrated that the proposed groundwater monitoring system for 121 RDF is an acceptable alternative design as required under 30 TEX. ADMIN. CODE § 330.231(c). Thus, the Commission adopted with amendments certain findings and conclusions recommended by NTMWD in its exceptions or reply and deleted a finding and conclusion recommended by the ALJ. Specifically, the Commission adopted NTMWD's recommended Findings of Fact 84, 85, and 86, as amended by adding the word "sufficient"; deleted the ALJ's Finding of Fact 169; adopted NTMWD's Findings of Fact 171, 177A, and 177B; deleted the ALJ's Conclusion of Law 45; and adopted NTMWD's Conclusion of Law 6, 21, 23, 26, and 44. The Commission also added to the permit a condition that provides as follows: After the date of issuance of this permit and within 180 days following the TCEQ publishing technical guidance for the development of a Site Operating Plan for a municipal solid waste management facility, the permittee shall review their SOP for compliance with the published

5. If any provision, sentence, clause or phrase of this Order is for any reason held to be invalid, the invalidity of any portion will not affect the validity of the remaining portions of the Order.
6. The effective date of this order is the date the order is final, as provided by 30 TEX. ADMIN. CODE § 80.273 and Section 2001.144 of the Administrative Procedure Act, TEX. GOVT. CODE ANN. ch. 2001.
7. Any other requests for entry of specific findings of fact and conclusions of law, and any other requests for general or specific relief, if not expressly set forth herein, are denied.

Issue Date: **OCT 20 2003**

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY


R.B. "Ralph" Marquez, Commissioner

STATE OF TEXAS
COMMISSION ON ENVIRONMENTAL QUALITY
1000 WEST 11TH STREET, SUITE 1000
AUSTIN, TEXAS 78701

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1000 WEST 11TH STREET, SUITE 1000
AUSTIN, TEXAS 78701

TELEPHONE: (512) 389-6000
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WWW.TCEQ.TX.GOV

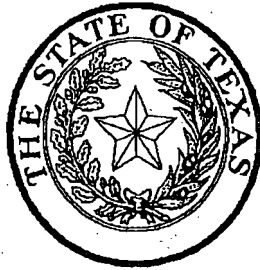
EXHIBIT A

STATE OF TEXAS
COUNTY OF DALLAS
PRESIDENT OF THE BOARD OF COUNTY COMMISSIONERS
ATTEST

DEC 12 2001

GENERAL MANAGER OF THE BOARD OF COUNTY COMMISSIONERS
COUNTY OF DALLAS

ATTEST: COUNTY CLERK
COUNTY OF DALLAS



TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

**PERMIT FOR MUNICIPAL
SOLID WASTE MANAGEMENT SITE**
issued under provisions of Texas
Health & Safety Code Ann.
Chapter 361 (Vernon)

Permit No. MSW-2294

Name of Permittee and Site Owner: North Texas Municipal Water District
P.O. Box 2408
Wylie, Texas 75098

Facility Name: NTMWD 121 Regional Disposal Facility

Classification of Site: Type I Municipal Solid Waste Management Facility

STATE OF TEXAS
COUNTY OF TARRANT
I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF
A PERMIT AS ISSUED BY THE COMMISSION.
DEC 12 2001
COMMISIONER OF THE COMMISSION
MUSCHER, STEPHEN L. (BY THE SEAL OF OFFICE)
ALVIN W. HARRIS, JR.
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

The permittee is authorized to store, process, and dispose of wastes in accordance with the limitations, requirements, and other conditions set forth herein. This permit is granted subject to the rules and orders of the Commission and laws of the State of Texas and it replaces any previously issued permit. Nothing in this permit exempts the permittee from compliance with other applicable rules and regulations of the Texas Natural Resource Conservation Commission. This permit will be valid until canceled, amended, or revoked by the Commission, or until the site is completely filled or rendered unusable, whichever occurs first.

APPROVED, ISSUED AND EFFECTIVE in accordance with 30 Texas Administrative Code Chapter 330.

ISSUED DATE:

For the Commission

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North Texas Municipal Water District
NTMWD 121 Regional Disposal Facility
Permit N^o MSW-2294

PART NO. 1

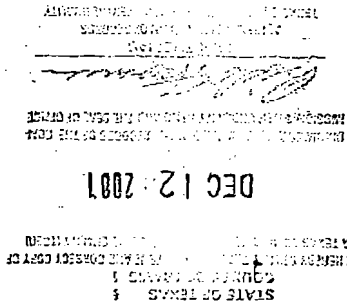
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PART NO. 3

ATTACHMENT B - Minor Amendments, Corrections, and modifications that may be issued 11



PART NO. 1

I. Size and Location of Facility

- A. This Type I municipal solid waste management facility is located on a 673.49 acre site located approximately 1.7 miles northeast of the intersection of State Highway 121 (SH-121) and Farm-to-Market Road 545 (FM-545), along SH-121 in Collin County, Texas.
- B. The legal description is contained in Appendix I&II G of Parts I&II found in Attachment A of this permit.
- C. Coordinates and Elevation of Site Permanent Benchmark:

Latitude: 33° 17' 26.74556" North
Longitude: 96° 30' 51.22736" West
Elevation: 654.5 feet above mean sea level (msl)

The permanent site benchmark will be established prior to construction of the landfill facilities. The permittee shall provide a revision to Attachment 1 of Part III, found in Attachment A of this permit, which shows the location of the benchmark within 30 days after placement of the benchmark.

II. Facilities and Operations Authorized

A. Days and Hours of Operation

The operating hours for receipt of waste and for all landfill related operations at this municipal solid waste facility shall be 24 hours-per-day, Monday through Saturday. The site will be closed on Sunday.

B. Wastes Authorized at this Facility

The permittee is authorized to dispose of municipal solid waste resulting from or incidental to municipal, community, residential, commercial, institutional, agricultural, and recreational activities including street cleanings; rubbish; yard waste; brush; construction-demolition debris from municipal projects; inert material; Class 2 & 3 nonhazardous industrial waste; and certain special wastes that are identified in Part IV found in Attachment A of this permit. The acceptance of the special wastes, indicated in Part IV of Attachment A of this permit, is contingent upon such waste being handled in accordance with 30 Texas Administrative Code (TAC) Section (§) 330.136, and in accordance with the listed and described

procedures in Part IV found in Attachment A of this permit, subject to the limitations and special provisions provided herein.

The permittee is authorized to accept for disposal Class 1 nonhazardous industrial waste only after the approval of the additional design and operational requirements in accordance with 30 TAC §330.137(d), and/or other regulations approved in the future regarding Class 1 nonhazardous industrial waste disposal; and the approval of a Waste Acceptance Plan (WAP) for the Class 1 nonhazardous industrial waste.

C. Wastes Prohibited at This Facility

The permittee shall comply with the waste disposal restrictions set forth in 30 TAC §330.5(e). Class 1 hazardous industrial solid waste, hazardous waste from any source, and any other waste not identified in Section II.B. of this permit shall not be accepted at this facility.

D. Waste Acceptance Rate

Authorized solid waste may be accepted for disposal at this site at an initial rate of approximately, but not limited to, 1700 tons per day. Class 1 nonhazardous industrial waste, if accepted, shall be in accordance with 30 TAC §330.137(f).

E. Waste Volume Available for Disposal

The total waste disposal capacity of the landfill is based upon the information contained in Section 0.5 of Part III found in Attachment A of this permit.

F. Facilities Authorized

The permittee is authorized to operate a Type I municipal solid waste landfill that utilizes a combination of an area excavation fill and aerial fill of the municipal solid waste landfill subject to the limitations contained herein. If Class 1 nonhazardous industrial waste is accepted a dedicated trench will be utilized. All waste disposal activities subject to permitting are to be confined to the following facilities, which shall include disposal units, structures, appurtenances, or improvements: access roads, dikes, berms and temporary drainage channels, permanent drainage structures, landfill gas management system, contaminated water management system, final cover, groundwater monitoring system, landfill liner system, and other improvements. Other improvements within the permitted area that will be allowed include, but are not limited to, a maintenance building, gatehouse/office, scale(s), citizens' drop-off center, material processing facility, composting operation, citizens' reuse area, and a truck wash.

AMERICAN OVERSEAS BANKING CORPORATION
COMMERCIAL BANK
1000 RICE AVENUE
HOUSTON, TEXAS 77001
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STATE OF TEXAS
COMMISSION ON ENVIRONMENTAL QUALITY
PERMITS DIVISION
1000 RICE AVENUE
HOUSTON, TEXAS 77001

G. Changes, Additions, or Expansions

Any proposed facility changes must be authorized in accordance with Texas Natural Resource Conservation Commission (TNRCC) permit amendment or modification rules, 30 TAC Chapter 305 and 30 TAC Chapter 330.

III. Facility Design, Construction, and Operation

- A. Facility design, construction, and operation and/or maintenance must comply with the provisions of this permit; Commission Rules, including 30 TAC §§330.51 through 330.58, 330.62 through 330.64, 330.111 through 330.139, 330.200 through 330.206, 330.230 through 330.242, 330.250 through 330.256, 330.280 through 330.284, and 330.300 through 330.305; special provisions contained in this permit; and Parts I-IV of the application found in Attachment A of this permit, and shall be managed in a manner to protect human health and the environment.
- B. The entire waste management facility shall be designed, constructed, operated, and maintained to prevent the release and migration of any waste, contaminant, or pollutant beyond the point of compliance as defined in 30 TAC §330.2 and to prevent inundation or discharge from the areas surrounding the facility components. Each receiving, storage, processing, and disposal area shall have a containment system that will collect spills and incidental precipitation in such a manner as to:
 - 1. Preclude the release of any contaminated runoff, spills, or precipitation;
 - 2. Prevent washout of any waste by a 100-year storm; and
 - 3. Prevent run-on into the disposal areas from off-site areas.
- C. The site shall be designed and operated so as not to cause a violation of:
 - 1. The requirements of the Texas Water Code §26.121;
 - 2. Any requirements of the Federal Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements §402, as amended, and/or the Texas Pollutant Discharge Elimination System (TPDES), as amended;
 - 3. The requirements under the Federal Clean Water Act §404, as amended; and

4. Any requirement of an area wide or statewide water quality management plan that has been approved under the Federal Clean Water Act §208 or §319, as amended.
- D. All working-face contaminated water shall be handled, stored, treated, disposed of, and managed in accordance with 30 TAC §330.55(b)(6), 30 TAC §§330.56(o)(1) through (4), 30 TAC §330.139, and in accordance with Part III, Attachment 15 found in Attachment A of this permit. Other methods may be considered for approval as a modification to this permit.
- E. Temporary erosion and sedimentation control measures shall remain functional until the permanent vegetative cover has become established or as required to control erosion on areas having completed final cover throughout the post-closure care period in accordance with Part III Attachment 13 found in Attachment A of this permit.
- F. Storm water runoff from the active portion of the landfill shall be managed in accordance with 30 TAC §§330.55(b)(3) and 330.133(b), and as described in Part III found in Attachment A of this permit.
- G. All facility employees and other persons involved in facility operations shall be qualified, trained, educated, and experienced to perform their duties so as to achieve compliance with this permit. The permittee shall comply with 30 TAC §330.52(b)(9) and as described in Part I found in Attachment A of this permit. The permittee shall further ensure that personnel are familiar with safety procedures, contingency plans, the requirements of the Commission's rules and this permit, commensurate with their levels and positions of responsibility, in accordance with Part III and Part IV found in Attachment A of this permit. All facility employees and other persons involved in facility operations, as required, shall be certified and shall obtain the appropriate level of operator certification as required in the statute and applicable regulations.
- H. The facility shall be properly supervised to assure that bird populations will not increase and that appropriate control procedures will be followed. Any increase in bird activity that might be hazardous to safe aircraft operations will require prompt mitigation actions.

IV. Financial Assurance

- A. General. Authorization to operate the facility is contingent upon compliance with provisions contained within the permit and maintenance of financial assurance in accordance with Subchapter K of 30 TAC Chapter 330 and 30 TAC Chapter 37.

- TEXAS DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMITTING DIVISION
12 2001
- B. **Closure Care Cost Estimates.** Within 60 days prior to the initial receipt of waste, the permittee shall provide financial assurance instrument(s) for demonstration of closure of the landfill in accordance with 30 TAC §§330.253(d)(6) and 330.281. The closure cost estimate of \$4,636,750 (2001 dollars) is based on estimates as described in Part III Attachment 8 and Attachment 12 found in Attachment A of this permit. The financial assurance instrument shall be in an amount that includes the inflation factors for each calendar year since 2001 to the year the permit is issued.
- C. **Post-Closure Care Cost Estimates.** Within 60 days prior to the initial receipt of waste, the permittee shall provide financial assurance instrument(s) for demonstration of post-closure care of the landfill in an amount for the entire landfill facility. The post-closure care cost estimate of \$2,990,000 (2001 dollars) is based on estimates as described in Part III Attachment 8 and Attachment 13 found in Attachment A of this permit. The financial assurance instrument shall be in an amount that includes the inflation factors for each calendar year since 2001 to the year the permit is issued.
- D. The owner and/or operator shall annually adjust closure and/or post-closure care cost estimates for inflation within 60 days prior to the anniversary date of the establishment of the financial assurance instrument pursuant to 30 TAC §§330.281 and 330.283, as applicable.
- E. **Modifications.** If the facility's closure and/or post-closure care plan is modified in accordance with 30 TAC §305.70, the permittee shall provide new cost estimates in current dollars in accordance with 30 TAC §§330.253(d)(6), 330.254(b)(3)(D), 330.281, and 330.283, as applicable. The amount of the financial assurance mechanism shall be adjusted within 20 days after the modification is approved. Adjustments to the cost estimates and/or the financial assurance instrument to comply with any financial assurance regulation that is adopted by the TNRCC subsequent to the issuance of this permit, shall be initiated as a modification within 30 days after the effective date of the new regulation.

V. Facility Closure

Closure of the facility shall commence:

- A. Upon completion of the disposal operations and the site is completely filled or rendered unusable in accordance with Part III Attachment 7 found in Attachment A of this permit;
- B. Upon direction by the Executive Director of the TNRCC for failure to comply with the terms and conditions of this permit or violation of State or Federal regulations. The Executive Director is authorized to issue emergency orders to the permittee in

accordance with §§ 5.501 and 5.512 of the Water Code regarding this matter after considering whether an emergency requiring immediate action to protect the public health and safety exists;

- C. Upon abandonment of the site;
- D. For failure to secure and maintain an adequate bond or other financial assurance as required; or
- E. Upon the permittee's notification to the TNRCC that the landfill will cease to accept waste and no longer operate at any time prior to the site being completely filled to capacity.

VI. Site Completion and Closure

The landfill shall be completed and closed in accordance with 30 TAC §330.250 and the applicable portions of 30 TAC §§330.251 through 330.256. Upon closure, the permittee shall submit to the Executive Director documentation of closure as set out in 30 TAC §330.253. Post-closure care and maintenance shall be conducted in accordance with Part III Attachment 13 found in Attachment A of this permit, for a period of 30 years or as otherwise determined by the Executive Director pursuant to 30 TAC §330.254(a).

VII. Standard Permit Conditions

- A. Parts I-IV, as described in 30 TAC §330.51(a), which comprise the Permit Application for Permit N^o MSW-2294 are hereby made a part of this permit as Part No. 2: Attachment A. The permittee shall maintain Parts I-IV and Part V, as described in 30 TAC §330.51(a), at the facility and make them available for inspection by TNRCC personnel. The contents of Attachment A of this permit shall be known as the "Approved Site Development Plan", in accordance with 30 TAC §330.64(a). The Approved Site Development Plan shall include revised pages that correct improper cross references in the text, eliminate incomplete sentences in the text, correct truncated sentences, or correct typographical errors that do not change the intent of the original proposal, that are discovered while printing and copying the "Approved Site Development Plan" copies.
- B. Part No. 3: Attachment B, consisting of minor amendments, modifications, and corrections to this permit, is hereby made a part of this permit.
- C. The permittee shall comply with all conditions of this permit. Failure to comply with any permit condition may constitute a violation of the permit, the rules of the

APPROVED FOR THE DISTRICT BY
[Signature]
DISTRICT ENGINEER
NORTH TEXAS MUNICIPAL WATER DISTRICT
12001

DEC 12 2007

STATE OF TEXAS
COMMISSIONER OF THE STATE DEPARTMENT OF TRANSPORTATION
[Signature]
COMMISSIONER

Commission, and the Texas Solid Waste Disposal Act and its grounds for an enforcement action, revocation, or suspension.

- D. A preconstruction conference shall be held pursuant to 30 TAC §330.64(d) prior to beginning any construction within the permit boundary to ensure that all aspects of this permit, construction activities, and inspections are met. Additional preconstruction conferences may be held prior to the opening of the facility.
- E. The permittee shall monitor sediment accumulations in ditches and culverts on a quarterly basis, and remove sedimentation to re-establish the design flow grades on an annual basis or more frequently if necessary to maintain the design flow.
- F. The tracking of mud off-site onto any public right-of-way shall be minimized.
- G. In accordance with 30 TAC §330.7(a), the permittee shall record in the Deed Records of Collin County, a metes and bounds description of all portions within the permit boundary on which disposal of solid waste has and/or will take place. A certified copy of the recorded document(s) shall be provided to the Executive Director in accordance with 30 TAC §330.7(b).
- H. Daily cover of the waste fill areas shall be performed with clean soil that has not been in contact with waste or with an alternate daily cover which has been approved in accordance with 30 TAC §§330.133(c) and 305.70. Intermediate cover, run-on, and run-off controls shall not be constructed from soil that has been scraped up from prior daily cover or which contains waste.
- I. During construction and operation of the facility, measures shall be taken to control runoff, erosion, and sedimentation from disturbed areas. Erosion and sedimentation control measures shall be inspected and maintained at least monthly and after each storm event that meets or exceeds the design storm event. Erosion and sedimentation controls shall remain functional until disturbed areas are stabilized with established permanent revegetation. The permittee shall maintain the on-site access road and speed bumps/mud control devices in such a manner as to minimize the buildup of mud on the access road and to maintain a safe road surface.
- J. In complying with the requirements of 30 TAC §330.123, the permittee shall consult with the local District Office of the Texas Department of Transportation or other authority responsible for road maintenance, as applicable, to determine standards and frequencies for litter and mud cleanup on state, county, or city maintained roads serving the site. Documentation of this consultation shall be submitted within 30 days after the permit has been issued.

- K. The permittee shall retain the right of entry onto the site until the end of the Post-Closure Care Period as required by 30 TAC §330.62(b).
- L. Inspection and entry onto the site by authorized personnel shall be allowed during the site operating life and until the end of the Post-Closure Care Period as required by §361.032 of the Health and Safety Code.
- M. The provisions of this permit are severable. If any permit provision or the application of any permit provision to any circumstance is held invalid, the remainder of this permit shall not be affected.
- N. Regardless of the specific design contained in Attachments A and B of this permit, the permittee shall be required to meet all performance standards required by the permit, the regulations, and as required by local, State, and Federal laws or ordinances.
- O. If differences arise between these provisions and incorporated Parts I-IV of Attachment A of this permit, these provisions shall prevail.
- P. The permittee shall comply with the requirements of the air permit exemption in 30 TAC §106.534, if applicable, and the applicable requirements of 30 TAC Chapters 106 and 116.
- Q. All discharge of storm water will be in accordance with the U.S. Environmental Protection Agency NPDES requirements and/or the State of Texas TPDES requirements as applicable.
- R. After the date of issuance of this permit and within 180 days following the TCEQ publishing technical guidance for the development of a Site Operating Plan for a municipal solid waste management facility, the permittee shall review their Site Operating Plan for compliance with the published guidance. The permittee shall provide revisions to Part IV, the Site Operating Plan, found in Attachment A of this permit, as necessary as a modification to Part IV of Attachment A of this permit.

VIII. Incorporated Regulatory Requirements

- A. To the extent applicable, the requirements of 30 TAC Chapters 37, 281, 305, and 330 are adopted by reference and are hereby made provisions and conditions of this permit.
- B. The permittee shall comply with all applicable Federal, State, and local regulations and shall obtain any and all other required permits prior to the beginning of any on-site improvements or construction approved by this permit.

APPROVED FOR THE DISTRICT BY THE DISTRICT ENGINEER
DATE: 12/21/2007
DEC 12 2007
STAFF ENGINEER
STAFF ENGINEER
STAFF ENGINEER

IX. Special Provisions

- A. The permittee shall provide a copy of the instrument used to dedicate the offsite drainage areas to the permitted area for protection from future development. The instrument shall be recorded in the Deed Records of Collin County, and a copy of the recorded instrument certified by the County Clerk of Collin County shall be submitted to be included in the Approved Site Development Plan.
- B. The permittee shall consult with the Texas Department of Transportation regarding the possible and future upgrades to the State highway facilities (SH-121 and FM-545) around the landfill site. The permittee shall submit a report of the consultation to include potential impacts to the features of the landfill site and the disposal operations prior to the issuance of the written authorization to accept waste. Revisions to the Approved Site Development Plan will be required if the proposed highway upgrades will necessitate changes to the landfill.

PART NO. 2: ATTACHMENT A.

The "Approved Site Development Plan" effective with the date on the permit.

PART NO. 3: ATTACHMENT B.

Minor Amendments, Modifications, and Corrections may be issued for Permit N^o MSW-2294.

The minor amendment, modification, or correction document prepared and executed with an approval date shall be attached to this attachment. There is no limitation on the number of these documents that may be included in Attachment B of this permit.

EXHIBIT J



and James Roberts (represented by Kelley Haragan, David Frederick and Richard Lowerre, Attorneys)

ISSUES

1. Does the application satisfy regulatory requirements relating to land use compatibility?

Applicant: The application meets requirements relating to land use compatibility.

PIC and Opposing: Proposed landfill is not compatible with agricultural and recreational uses of surrounding land.

ED: The application meets Commission's land use compatibility requirements.

ALJs'

Recommendation: Accept position of Applicant and ED.

2. Does the application satisfy regulatory requirements relating to groundwater monitoring and protection?

Applicant: Application and draft permit satisfy groundwater monitoring and protection requirements.

PIC and Opposing: Monitoring system lacks point of compliance wells for potential groundwater migration pathway to the south.

ED: Staff review indicated that application and draft permit satisfy groundwater monitoring and protection requirements.

ALJs'

Recommendation: Accept position of PIC and Opposing Parties.

3. Does the application satisfy regulatory requirements relating to drainage design?

Applicant: The application meets regulatory requirements related to drainage design because proposed landfill will not significantly alter natural drainage patterns.

PIC and Opposing: Natural drainage patterns will be significantly altered at the south and northeast boundaries of the proposed landfill site.

ED: Staff review indicated that application satisfies regulatory requirements.

ALJs'

Recommendation: Applicant failed to establish that natural drainage patterns will not be significantly altered south and northeast of the site.

4. Does the application satisfy regulatory requirements relating to endangered species?

Applicant: The application satisfies endangered species regulations.

PIC and Opposing: With respect to the Texas Horned Lizard, the application fails to satisfy regulatory requirements.

ED: Staff review indicated that application satisfied such requirements.

ALJs'

Recommendation: Accept general position of PIC and Opposing Parties.

5. Does the application satisfy regulatory requirements relating to operating plans?

Applicant: The application satisfies all such regulatory requirements.

PIC and Opposing: The application contains inadequate operating plans relating to fire protection, endangered species protection, disease vector control, and windblown waste.

ED: Staff review indicated that operating plans are adequate.

ALJs'

Recommendation: Accept position of PIC and Opposing Parties with respect to fire protection, endangered species protection, and disease vector control. Otherwise, operating plans meet regulatory requirements.

6. Does the application satisfy regulatory requirements relating to compliance with the regional solid waste plan?

Applicant: Such requirements satisfied by statement of relevant Council of Governments that application complies with regional solid waste plan.

PIC and Opposing: BFD's proof of compliance applied only to its prior, withdrawn application; BFD failed to prove compliance for its current pending application

ED: Staff review indicated compliance with regional solid waste plan.

ALJs'

Recommendation: Accept position of PIC and Opposing parties.

7. Does the application satisfy regulatory requirements relating to financial assurance and closure costs?

Applicant: The application satisfies regulatory requirements concerning closure and closure-cost estimates; financial assurance not required until 60 days prior to receiving waste.

PIC and Opposing: Closure plans are inadequate; highest possible closure costs underestimated; closure costs not calculated in current dollars.

ED: Staff review indicated closure plans adequate and costs properly estimated.

ALJs'

Recommendation: Accept closure plans and cost estimates, but recommend updating estimates to current dollars. If Commission grants permit, financial assurance must be provided 60 days before receiving waste.

8. Does the application satisfy regulatory requirements relating to wetlands?

Applicant: No regulatory wetlands on the site; application meets wetland regulatory requirements.

Opposing: Take no position concerning wetlands.

PIC: Man-made stock pond on site may constitute a regulatory wetland.

ED: Agrees with Applicant.

ALJs'

Recommendation: Accept position of Applicant and ED.

9. Does the application satisfy regulatory requirements relating to existing conditions?

Applicant: The application satisfies regulatory requirements concerning existing conditions.

PIC and Opposing: Application failed to describe sandstone-quarrying operations conducted on the site for several years.

ED: The application satisfies existing-condition requirements.

ALJs'

Recommendation: Accept position of Applicant and ED.

10. Do various alleged defects in form, certification, and listing of adjacent landowners invalidate the application?

Applicant: The application contains no defects, or alternatively, alleged defects are harmless. Mr. Fawcett not on landowners list because he bought property after application filed; he had notice of application and participated fully in the hearing.

Opposing: Signature by new manager invalid; defective engineer seals on some documents; Mr. Fawcett omitted from landowners list.

PIC: Takes no position.

ED: The application contains no material defects.

ALJs'

Recommendation: Accept position of Applicant and ED; if Commission grants permit, recommend engineer seals be reviewed by ED and corrected by BFD if found defective.

11. Should the duration of any permit issued to BFD be limited to a predetermined term of years rather than to the actual operating life of the facility?

Applicant: The Commission should grant a permit for the life of the facility.

Opposing: If a permit granted, it should be limited to five years, subject to renewal, to promote use of improved technologies and to deter violations of regulations.

PIC: Takes no position.

ED: Permit should be granted for the life of the facility.

ALJs'

Recommendation: If the Commission grants a permit, it should be for the life of the facility.

12. What is the proper allocation of transcript costs?

Applicant: CSPPC should pay a portion of transcript costs because it exceeded its allotted time at hearing and raised unfounded objections to the application.

Opposing: BFD should pay all costs.

ED and PIC: No position stated.

ALJ's

Recommendation: BFD should pay all transcript costs except for transcript copies ordered by participants other than agency parties and the ALJs.

SOAH DOCKET NO. 582-98-1390
TNRCC DOCKET NO. 98-0415-MSW

IN THE MATTER OF THE § BEFORE THE STATE OFFICE
APPLICATION OF BLUE FLATS §
DISPOSAL, L.L.C., FOR § OF
PROPOSED PERMIT NO. MSW-2262 §
 § ADMINISTRATIVE HEARINGS

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IN THE MATTER OF THE	§	BEFORE THE STATE OFFICE
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DISPOSAL, L.L.C., FOR	§	OF
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	§	ADMINISTRATIVE HEARINGS

PROPOSAL FOR DECISION

I. INTRODUCTION

Blue Flats Disposal, L.L.C. ("BFD"), has filed with the Texas Natural Resource Conservation Commission ("Commission" or "TNRCC") an application, pursuant to Chapter 361 of the Texas Health & Safety Code¹ ("the Code"), for a permit to construct and operate a Type I municipal solid waste landfill on a 140-acre site adjacent to U.S. Interstate Highway 20 ("I-20"), six miles east of the City of Gordon in Palo Pinto County, Texas.

Under the authorization sought, the facility would accept general municipal solid wastes. It could also receive Class II or III industrial solid wastes and/or special wastes, but only if handled in accordance with 30 TEXAS ADMINISTRATIVE CODE ("TAC") §§ 330.136 and 330.137 and in accordance with the facility's specific Site Development Plan. Although the site is adjacent to a railway line, the permit presently sought would not authorize receipt of wastes by rail. Total designed capacity of the landfill is approximately 11,800,000 cubic yards of deposited wastes. The applicant estimates the operating life of the facility at 23 years and expects to receive wastes from a 10-county region including Palo Pinto, Comanche, Eastland, Erath, Hood, Jack, Parker, Stephens, Somervell, and Young Counties.

¹ Chapter 361 of the Code is the Texas Solid Waste Disposal Act. TEX. HEALTH & SAFETY CODE ANN. ch. 361 (Vernon 2000). TNRCC rules implementing the Act appear at 30 TAC ch. 330.

BFD is a limited liability company formed in the State of Texas on April 29, 1996. The entity has no previous history of operating a municipal solid waste facility.

TNRCC's Executive Director ("ED") concluded that the applicant has met its burden of proof in demonstrating compliance with the regulatory prerequisites for issuance of the requested permit. Accordingly, the ED recommended issuance of the draft permit prepared by staff for the BFD facility.

II. RECOMMENDATION

The Administrative Law Judges ("ALJs") find that BFD has failed to demonstrate its full satisfaction of several regulatory requirements, as described in detail below. Briefly, BFD has not proposed a sufficiently extensive monitoring well system to cover all major potential pathways for groundwater leaving the site; has failed to demonstrate that the proposed facility will not significantly alter natural drainage patterns; has failed to satisfy all requirements for protection of threatened or endangered species; has proposed inadequate operating plans with respect to fire protection, endangered species, and disease vector control; and has failed to provide a proper showing of compliance with the regional solid waste plan. Accordingly, the ALJs recommend that the application be denied.

III. PROCEDURAL HISTORY

The present application was filed with TNRCC in September of 1996. (A prior, very similar application for the same site was submitted to TNRCC in 1995 but was withdrawn in January of 1996.) TNRCC staff declared the present application administratively complete on October 28, 1996, and technically complete on December 4, 1997. The matter was subsequently referred to the State Office of Administrative Hearings ("SOAH"). On September 2, 1998, a preliminary hearing upon the application was conducted in Gordon, Texas, by Bill Zukauckas, an ALJ with SOAH.

The following were designated as parties: the applicant (represented by Kerry Russell and Chesley Blevins, attorneys); the ED (represented by Anthony Tatu and Suzanne Dupree, staff attorneys); TNRCC's Public Interest Counsel (represented by Katie Price and Kyle Lucas, attorneys); and 15 individuals or other entities opposing the application (collectively, "Protestants"). The Protestants were aligned in two groups for hearing. One group included Citizens to Save Palo Pinto County ("CSPPC"), Brian Birk, Patricia Blackmon, Gem and Susan Brierton, Mrs. Ruby Finch, Robert and Jerrie Rexroat, Robert E. Richards, James Roberts, and Mike and Susan Ruff (generally represented by Kelly Haragan, David Frederick and Richard Lowerre, attorneys). The other group included Roger Fawcett, Judy Fawcett, and X-O Ranch Co., Inc. (represented by Helen Gilbert, Robert Glasgow and Susan Potts, attorneys).²

Fawcett, Ltd., subsequently was substituted as a party for X-O Ranch Co., Inc. Brian Birk, Judy Fawcett, and Mike and Susan Ruff subsequently relinquished their party status.

The initial discovery and procedural schedule was extended by several months upon successive agreements among the parties, in order to accommodate preparation for hearing and settlement discussions. In August and September of 1999, the schedule was further extended by the need to review amendments to the application made by BFD. These changes (relating to the design of drainage control structures, quarrying of sandstone at the site, and other matters) were ruled to be minor amendments, requiring no additional public notice.

In October of 1999, the case was reassigned from ALJs Zukauckas and Bob Jones to ALJs Mike Rogan and Tom Walston. Additional continuances were allowed to accommodate the parties' conduct of a suit in a Palo Pinto County district court relating to the landfill site's initially proposed access route, then to consider another amendment of the application changing that disputed access route. The ALJs again determined that this amendment was minor.

² The group including the Fawcetts is often referred to herein simply as "Fawcett." The group including CSPPC is often referred to simply by that acronym.

The evidentiary hearing was held in Austin, Texas, on June 7 through 9, 12 through 16, 19 and 20, 2000. After the parties submitted briefs and arguments, responses, and proposed Findings of Fact and Conclusions of Law, the record in the proceeding was closed on August 18, 2000.

IV. ISSUES

1. Does the application satisfy regulatory requirements relating to land use compatibility?

The ALJs recommend a conclusion that the application satisfies such requirements.

BFD's site occupies, for the most part, the southern slope of a roughly 120-ft.-high ridge adjacent to I-20 in southern Palo Pinto County. As depicted in the application's maps, the facility would cover an area of about 3,000 ft. by 2,000 ft., with its longer axis running along the southern boundary of the site, parallel to I-20 and the Union Pacific Railroad. This southern boundary lies about 375 ft. north of I-20,³ which is the county's principal east-west highway, and less than 100 ft. north of the Union Pacific, which is the principal railway line between Dallas and El Paso.

The primary economic activity in Palo Pinto County is ranching, and the land surrounding the proposed site is predominantly rangeland, along with some cropland. BFD itself owns some 1,100 additional acres adjoining the site to the west and north. Only three occupied residences have been identified within one mile of the site boundary. (The closest is directly across I-20 from the site, just over a quarter of a mile away) No schools, cemeteries, historical sites, licensed daycare facilities, or significant archeological sites exist within that radius. The nearest non-agricultural commercial buildings are gas stations and restaurants along I-20, more than two miles from the site. The site is outside the corporate and extraterritorial limits of the nearest incorporated municipality (the City of Gordon) and thus is not subject to zoning restrictions.

³ Measurement is from the shoulder of the nearest lane of the highway, the north-side access road.

Testimony indicated that outdoor recreation and tourism are steadily becoming more important sources of income in the area. According to Patricia Blackmon, rancher and president of CSPPC, tourism is now the county's third largest industry. Two camping and recreational vehicle sites are located within three miles of the proposed landfill, while Lake Palo Pinto lies approximately four miles to the north. The area shelters abundant deer, turkey, quail, and dove. Many local ranchers lease parts of their lands for hunting, which is often more lucrative to these landowners than their ranching activities. In addition, historical restorations in the old mining town of Thurber (about seven miles southwest of the site) and in other parts of the county draw visitors to the area.

The final cover for the landfill is designed and would be authorized to reach a maximum elevation of 1,072 ft. above mean sea level ("msl"). Under existing conditions, the highest portion of the ridge within the site boundaries is slightly above 1,030 ft. msl. BFD's project would thus raise the overall silhouette of the site's land forms by 30 to 40 ft. Much of the area now sloping downward from the ridge line would undergo an even greater increase in elevation, in some instances more than 100 ft.

John Worrall, BFD's land planning consultant, sought to depict the appearance of various stages in the project's development by using computer assisted design ("CAD") techniques to superimpose simulations of the contours designed for the landfill's earthen cover upon photographs of the existing site. From immediately across I-20, the view of the completed facility in a CAD photo resembles a half-mile-long wall, closing off a significant arc of the horizon. In a photo taken along I-20, just over a mile west of the site, however, the facility has little visibility. Mr. Worrall also testified that no "sites having exceptional aesthetic quality" exist within a mile of the proposed facility and that the mounded, ridge-like form of the planned landfill would be "sympathetic" with (or blend into) the surrounding topography of hills and ridges.

Several landowners in the vicinity testified to general expectations that the proposed facility would interfere with agricultural and recreational uses of the surrounding land. Ms. Blackmon, who raises thoroughbred horses and leases tracts for hunting on property immediately across I-20 from the site, specifically embodied those concerns. She predicted that she would be unable to continue raising

thoroughbreds—which she characterized as high-strung and delicately balanced animals—in such proximity to BFD’s facility. A thoroughbred would be panicked by the noise of landfill operations and would probably die if it ate windblown trash, she said. Her hunting lessees already have notified her, moreover, that they will find another hunting area if BFD’s landfill is built.

The Protestants concluded, in the words of CSPPC’s closing argument, “A mountain of trash on I-20, the arterial into Palo Pinto County, is simply not compatible with the wildlife and historic tourism that the county depends upon to supplement its ranching income and to preserve the rural, open space character of the county.”

The PIC agreed that BFD has failed to demonstrate the compatibility of the proposed facility with surrounding land uses, given the evident aesthetic impact of the completed landfill, which will be higher than any other natural or manmade feature of the nearby landscape. Additionally, the PIC faulted BFD for considering only the growth patterns of the City of Gordon, while ignoring those of the town of Santo, which is located approximately the same distance from the site.

In response, the ED argued that the application is satisfactory, under a proper evaluation of the specific factors set out in 30 TAC § 330.53(b)(8), which addresses land-use compatibility. That rule states:

(8) Land Use. A primary concern is that the use of any land for a municipal solid waste site not adversely impact human health or the environment. The impact of the site upon a city, community, group of property owners or individuals shall be considered in terms of compatibility of land use, zoning in the vicinity, community growth patterns, and other factors associated with the public interest. To assist the Executive Director in evaluating the impact of the site on the surrounding area, the applicant shall provide the following:

- (A) zoning at the site and in the vicinity;
- (B) character of surrounding land uses within one mile of the proposed facility;
- (C) growth trends of the nearest community with directions of major development;

(D) proximity to residences and other uses (e.g., schools, churches, cemeteries, historic structures and sites, archaeologically significant sites, sites having exceptional aesthetic quality, etc.). Give the approximate number of residences and business establishments within one mile of the proposed facility, including the distances and directions to the nearest residences and businesses; and

(E) description and discussion of all known wells within 500 feet of the proposed site.

According to the ED, the proposed facility conforms with the specifically determinable elements of this rule. It is subject to no zoning requirements. Few residences and none of the other listed structures or sites exist within a mile radius. The City of Gordon reflects no positive growth trends. No usable wells have been identified within the specified radius. Further, the ED insisted that these relatively objective factors are the "controlling issues" that dictate an overall determination upon the acceptability of a facility's land use impact.

With respect to Ms. Blackmon's concerns for the safety of her thoroughbreds, the ED noted that Ms. Blackmon's property is presently subjected to daily noise from continual highway traffic and from intermittent train whistles. The ED also asserted that BFD's operating plan adequately addresses windblown waste.

The ALJs expect that BFD's landfill, if constructed, would be a rather jarring intrusion upon those landowners in the immediately surrounding area (which is today a generally scenic and pastoral landscape). That immediate area, however, already experiences considerable intrusion and noise from the transportation corridor created by I-20 and the railroad. The ALJs also believe that the scope of legitimate inquiry into land-use compatibility is not as circumscribed as the ED's argument seems to suggest; in other words, it is not inevitably confined to a determination of whether a facility would have significant impacts upon nearby land uses that are relatively prominent and *intensive*. The pertinent rule is clearly broad enough to allow consideration of such "other factors" as the potential impact upon more diffuse land uses, including ranching or hunting. Still, based on the record in this case, the ALJs cannot conclude that the existence of the proposed landfill would seriously hamper, in objective terms, the ability of adjoining landowners or others in this sparsely

inhabited area to continue their present economic or domestic activities. The fact that some may be subjectively distressed by the proposed landfill's lack of harmony with its surroundings (particularly its visual intrusion) is not sufficient basis, in this case, for finding a lack of compliance with regulations relating to land use compatibility.

The ALJs acknowledge that the PIC arguably has identified a technical shortcoming in the evaluation of "growth trends of the nearest community," as required by Rule 330.53(b)(8)(C). Based on the scale of the Palo Pinto County Traffic Map submitted with BFD's application, the community of Santo, some six miles to the east of the site, actually is slightly closer to the site boundary, by straight-line distance, than is Gordon (although it is several miles farther away by public road). While BFD provided evidence that Gordon's estimated population (465) had not changed from 1990 to 1998, it offered no information about the population or growth of Santo. (However, the Texas Department of Transportation's Official Travel Map for the year 2000 lists Santo's estimated population as 312.⁴) Because the two population centers are virtually equidistant from the site, because the record indicates that Gordon is the nearest *incorporated* settlement, and because the record reflects little growth overall in the portion of the county surrounding the site, the ALJs believe that BFD has at least substantially complied with the rules' requirements for evaluating growth trends.

2. Does the application satisfy regulatory requirements relating to groundwater monitoring and protection?

The ALJs recommend a conclusion that the application fails to satisfy such requirements, on the basis that the proposed "point of compliance" for the facility must be extended to encompass the southern boundary of the site.

⁴ The ALJs take official notice of the contents of this state publication.

A crucial objective of landfill regulation is to prevent any subterranean movement of water from carrying contaminants beyond the boundaries of a facility. The pertinent rules and statutes generally reflect the premise that this objective is best met by monitoring and protecting the aquifers underlying a facility. This case is somewhat anomalous, however, in that no aquifer exists beneath BFD's proposed site (nor, for the most part, beneath any of Palo Pinto County).⁵

The subsurface at the site consists primarily of thick layers of relatively impermeable shale interbedded with sandstone and limestone—a structure classified geologically as the Mingus Formation of Upper Pennsylvanian sediments.⁶ In most of the surrounding area, the bedding planes of this formation tilt slightly downward toward the northwest. This orientation (a slope of about one-half degree, or 30 to 50 ft. per mile) is described as the “regional dip.” Any water entering a stratum within the formation would be expected, typically, to move downgradient through that stratum—*i.e.*, in the downward direction of the regional dip (assuming, that is, that such water was able to move at all). Consistent with this geological structure, BFD has proposed a line of monitoring wells near the northern and western edges of the site, which would intercept, in theory, any water migrating out of the facility along the bedding planes of the Mingus Formation. In BFD's view (affirmed by the ED), this proposed monitoring system would satisfy the requirements of 30 TAC § 330.231 (which calls for groundwater monitoring that is based upon a thorough characterization of a site's geology).

Based upon the geological information available for BFD's site, however, the Protestants and PIC have questioned (1) whether BFD, by proposing to construct a landfill in an area of relatively impermeable formations that lacks an aquifer, has conformed with 30 TAC § 330.231 or with the general regulatory scheme applicable to the project; (2) whether BFD's proposal ignores other potential pathways for the migration of contaminated groundwater; and (3) whether BFD has failed

⁵ All parties agreed that the limited and laterally discontinuous areas of groundwater beneath the site (which are characteristic of the Mingus Formation in general) do not constitute an “aquifer”—defined by 30 TAC § 330.2(6) as “a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs.” Evidence indicates that the four pockets of groundwater BFD identified beneath the site would not yield water of generally usable quantity or quality.

⁶ The capstone at the top of the site's ridge consists of Dobbs Valley Sandstone, a subclassification of the Mingus Formation.

to address properly a particular site condition (the presence of crude oil) that may require special design considerations. These issues are discussed in sequence below.

A. General suitability of site and monitoring well system.

The Protestants, particularly the CSPPC group, reasoned that, because no aquifer exists in the area, BFD could not possibly satisfy 30 TAC § 330.231, which requires installation of a monitoring well system sufficient to yield “representative samples” of groundwater from the “uppermost aquifer” beneath the site.⁷ This monitoring is required to encompass a specific “point of compliance,” which is defined by 30 TAC § 330.2(99) as “A vertical surface located no more than 500 ft. from the hydraulically downgradient limit of the waste management unit boundary, extending down through the uppermost aquifer underlying the regulated units, and located on land owned by the owner of the permitted facility.” Again, CSPPC noted that the lack of a relevant aquifer makes the point of compliance established by BFD (*i.e.*, at the site boundary that is downgradient along the regional dip of the Mingus Formation) clearly inconsistent with the literal terms of this rule.⁸

Further, CSPPC complained that, because the Mingus Formation is relatively impermeable and exhibits very low conductivity,⁹ BFD could not “ensure” the detection of any leakage from the landfill into the formation—as required by 30 TAC § 330.231(a)(2)—within a reasonable period of time. All evidence in the record indicates that groundwater would move very slowly, if at all, through the unweathered Mingus Formation. In probably the most striking example cited at the hearing, Becky Richards, a hydrogeology consultant for BFD, estimated that water hypothetically

⁷ For purposes of this case, the crux of Rule 330.231 is contained in § 330.231(a)(2), which states: “The downgradient monitoring system shall include monitoring wells installed to allow determination of the quality of groundwater passing the relevant point of compliance as defined in § 330.2 of this title . . . The downgradient monitoring system shall be installed to ensure the detection of groundwater contamination in the uppermost aquifer.”

⁸ Similarly, CSPPC argued that BFD had failed to comply with the requirement of 30 TAC § 330.231(e) for a thorough characterization of “groundwater flow rate” and “groundwater flow direction”; in the absence of an aquifer, BFD did not find that these elements could be meaningfully determined.

⁹ Measurements of hydraulic conductivity in the unweathered portion of the formation ranged from 1.5×10^{-7} to 1×10^{-9} centimeters per second (“cm/sec”). This conductivity is thus generally equal to (or even less than) the level required for a landfill’s recompacted soil liner material.

leaking from the landfill 1,200 ft. upgradient from BFD's proposed line of monitoring wells would not reach those wells for about 35,000 years.¹⁰ Although, in the scenario described by Ms. Richards, contaminated water would not leave the site before theoretically being detected, the fact that natural conditions would so drastically retard groundwater movement toward that point where monitoring wells could finally sample the water represents, by CSPPC's reasoning, not an admirable containment of such contamination, but rather a failure, as a practical matter, to ensure its timely detection.

In closing argument, the ED responded, "Protestants are effectively arguing that this site is too good. To deny this application and require the Applicant to locate the landfill at a site with more permeable soils and more groundwater simply would not make sense. The record shows that the proposed site is naturally protective, and it is unlikely that contamination, should it occur, would ever leave the site."

Acknowledging that TNRCC rules generally are designed to regulate sites above aquifers, hydrogeology experts for both the ED and applicant nonetheless concluded that such rules reasonably can be interpreted and extrapolated to apply, as well, when a site poses no need for protecting any aquifer beneath it. Dr. Robert Kier, a geologist testifying for BFD, stated that the proposed monitoring well system provides the functional equivalent of a "point of compliance" as specified in the rules. Dr. Kier testified that periodic samples from each of the monitoring wells to be maintained adjacent to the facility will be statistically analyzed according to BFD's formal Ground Water Sampling and Analysis Plan ("GWSAP"), ensuring that the migration of contaminants past any of the wells can be detected by a comparison of past and present readings from that well.

¹⁰ The estimate was based upon assumptions that the stratum transmitting the fluid exhibited porosity of 3 percent and conductivity of 1×10^{-7} cm/sec and that the dip of the formation is about 1 percent (which is slightly greater than the actual dip of the Mingus Formation, on a regional basis).

CSPPC conceded in closing argument that its position on this issue “may not sound like common sense.” At least in terms of the group’s effort to portray the proposed site’s natural advantages as theoretical deviations from the mandates of the rules, the ALJs must agree. The provisions of law may at times need to be interpreted and applied counter-intuitively, but the ALJs are reluctant to believe that they should ever be interpreted in such a counter-productive manner as this. The record reflects that, in general, the site’s lack of an underlying aquifer and its relatively impermeable subsurface matrix contribute markedly to its suitability; certainly, these features do not in themselves render the site unusable or inadequately characterized.

The ALJs are thus generally in accord with the following statement by the ED (insofar, that is, as it applies to the migration of fluids along the regional dip): “The Applicant has met the regulatory requirements of 30 TAC § 330.231 by designing a groundwater monitoring system which could detect contamination in ground water. The fact that the geologic conditions at the site are such that it is unlikely that contamination would move off the site does not mean that the Applicant’s design does not meet the regulatory requirements.” The ALJs perceive that, in accordance with regulatory demands, all landfill designs must seek to avoid the leakage and migration of fluids. In the normal lifespan of any monitoring well, then, the detection of contamination should be a relatively unusual event. The fact that, in this case, contaminated fluids may be even less likely than usual to reach the designated monitoring wells (and much slower to reach them, as well) is a desirable condition, not a failure of compliance. In context, the logical adaptation of the rules urged by BFD and the ED is only reasonable. Provisions of the rules relating to the protection of an aquifer should be read as applicable only where an aquifer actually exists, not as defining the existence of an aquifer to be a prerequisite for a permit.

CSPPC has implied, though, that the *structure* of the rules shows an intention to apply wholly different monitoring requirements to sites with and without underlying aquifers. According to this interpretation, while provisions that define the more “standard” system of monitoring wells refer consistently to aquifers and are therefore applicable only where an aquifer is present, 30 TAC §

330.231(c) provides for alternative methods of detection (*e.g.*, sensors installed in or beneath a landfill liner) and therefore would logically be applicable in other situations, including those where no aquifer exists. However, in fact, the pertinent text of Rule 330.231(c) reads as follows:

The executive director may approve an alternative design for a groundwater monitoring system that uses other means in conjunction with monitoring wells to ensure detection of groundwater contamination *in the uppermost aquifer* from an MSWLF unit. . . .[emphasis added]

Thus, the distinction suggested by CSPPC does not exist. Rule 330.231(c) is as applicable to sites with underlying aquifers as are any other provisions of the rules. The rule provides no example of a structural parallelism that would distinguish between the proper treatment of sites with and without aquifers.

Moreover, in at least one key point, the text of the rules explicitly reflects a willingness to forego the detailed examination of certain groundwater characteristics where the aquifer in question is so deep and so insulated from surface impacts as to be beyond realistic concern—that is, in situations fundamentally analogous to the complete *absence* of an aquifer. Specifically, in the outline of requirements for the subsurface investigation portion of a site's geology report, 30 TAC § 330.56(d)(5)(A)(ii) provides:

Borings shall be sufficiently deep to allow identification of the uppermost aquifer and underlying hydraulically interconnected aquifers. Borings shall penetrate the uppermost aquifer and all deeper hydraulically interconnected aquifers and be deep enough to identify the aquiclude at the lower boundary. . . . If no aquifers exist within 50 feet of the elevation of the deepest excavation, at least one test hole shall be drilled to the top of the first perennial aquifer beneath the site, if sufficient data does not exist to accurately locate it. The Executive Director may accept data equivalent to a deep boring on the site to determine information for aquifers more than 50 feet below the site. Aquifers more than 300 feet below the lowest excavation and where estimated travel times for constituents to the aquifer are in excess of 30 years plus the estimated life of the site, need not be identified through borings.

In this case, no aquifer exists within 300 ft. below the proposed excavation, and groundwater travel time from the proposed landfill to any aquifer exceeds that specified in the rule. The applicant thus

would not be required to identify or characterize in detail an aquifer below such depth, even if one existed at this site. By logical necessity, the applicant likewise would not be required to monitor directly any such unidentified aquifer.

Even though logic and the general structure of the rules do support BFD's overall concept of adapting the standard monitoring well system to this relatively waterless site, the ALJs perceive that the most problematic point about the absence of an aquifer may be the consequent lack of clear reference points for the vertical positioning of point-of-compliance wells. When aquifers are present, they define rather obviously those levels of the subsurface upon which monitoring should focus. In this case, on the other hand, BFD has identified the whole geological formation encompassing the facility as a primary conduit for groundwater movement. While this seems reasonable enough, it is not very precise, and the record provides little explanation of how BFD has determined which portion of the formation's vertical expanse should be monitored.

The Mingus Formation in Palo Pinto County is generally about 230 ft. thick. The excavated floor and sidewalls of the landfill would intersect about 160 ft. of the formation, from a lowest depth of 870 ft. msl to a highest point at about 1,030 ft. msl. (Because the excavation would at places slope roughly parallel to the south face of the site's ridge and would at other places be "stair-stepped," the bottom of the facility would vary substantially in elevation from point to point.) The four wells designated by BFD to delineate the point of compliance would be completed still lower within the Mingus Formation.¹¹ The two deepest of these wells would penetrate to 777 ft. msl, and (beginning two feet above that depth) each would be screened upward for 30 ft. The well bottomed at the highest elevation (the already existing MW-21) extends to 814 ft. msl and is screened from the bottom upward for 30 ft. Thus, BFD proposes to monitor water movement through the formation with wells screened, in the aggregate, from elevations of about 779 to 844 ft msl—that is, with detection capability directly covering about 65 vertical feet of the formation.

¹¹ The proposed point of compliance includes one existing well (MW-21), located about 600 ft. from the northeast corner of the site, and three proposed wells—including MW-1R (near the westernmost point on the site boundary) and MW-6R and MW-13R (which would be spaced roughly equidistant between MW-1R and MW-21).

The ALJs have some question as to whether (or how) the applicant has selected the right portion—or a sufficient portion—of the down-dip Mingus Formation for such monitoring. However, BFD's uncontroverted evidence indicates (albeit in quite general terms) that the proposed point-of-compliance wells would detect any movement of fluids along the bedding planes of the formation. The parties opposing the application do not appear to have taken real issue with this contention, arguing instead that the low conductivity of the Mingus Formation makes this detection system essentially superfluous. The ALJs thus have accepted the conclusion of BFD and the ED that the proposed system is adequate for monitoring any downgradient migration of fluids within the formation.

B. Other pathways for groundwater migration.

The Protestants and PIC have identified a second purported pathway for potential groundwater migration out of the landfill—*i.e.*, along the generally southward slope of the site's dominant ridge, where a subsurface interface between weathered and unweathered rock might force groundwater to move parallel to the local topography rather than in the direction of the regional dip.

Where the Mingus Formation outcrops at the surface, exposure to the elements over time changes its character and consistency. The effects of such weathering (which include increased fracturing and brittleness) extend somewhat below ground level. At the site, cross-sections based on BFD's subsurface characterization show the interface between weathered and unweathered rock at a varying depth of about 40 to 80 ft. Accordingly, the contour or directional orientation of the weathered zone is not the same as that of the underlying geological formation to which it is connected; rather, its contour generally mirrors that of the land's surface in the immediate area.

As noted previously, the hydraulic conductivity of the *unweathered* portions of the Mingus Formation is very low. And while debate apparently exists about how different the conductivity of the *weathered* portions of the formation may be, the objective evidence in the record (based upon formation pressure testing) indicates that the conductivity of at least some portions of the weathered

zone averages about 1,000 to 10,000 times greater than that of the adjoining unweathered zone.¹² Thus, water would be expected to move much more readily and more quickly through the weathered part of the formation. In addition, as noted by Dr. H.C. Clark (a geologist who testified on behalf of Fawcett), any interface or abrupt line of transition between geological strata of different character tends to act as a barrier to the movement of groundwater between such strata.¹³ For that reason, water moving downward through the weathered zone, upon reaching the interface with the underlying unweathered zone, would tend to stay within the weathered zone, while being diverted laterally and downgradient. (This generally would be true even if the weathered zone actually was *not* more conductive and thus more receptive to water movement than is the unweathered zone.)

BFD's planned excavation of the site would remove much of the weathered layer of rock there. In places, however, the bottoms and sides of waste-containing cells would still lie within intact portions of the weathered zone, which would extend downslope—that is, toward the southern boundary of the site and beyond. In Dr. Clark's view, if water within these cells ever penetrated the landfill's liner and entered the weathered zone, it probably would migrate through that zone, generally to the south, rather than following the northwest-ward regional dip of the Mingus Formation as a whole. Ms. Richards responded, though, that while this "might be a natural presumption," she does not regard the weathered zone as a potential conduit for groundwater. As a basis for her conclusion she cited a general lack of indications that the "weathered/unweathered shale interface functions as a hydraulic barrier along which groundwater flows." She also noted that the isolated groundwater pockets beneath the site generally occur in unweathered material, rather than in the weathered zone.

While BFD thus ultimately has taken the position that the northwest tilt of the main formation represents the only significant potential pathway for groundwater leaving the site, portions of BFD's

¹² While borings done by BFD produced samples with hydraulic conductivity averaging about 1×10^{-8} cm/sec in the unweathered zone, one of only two tests done in the weathered zone showed conductivity of 1.1×10^{-4} cm/sec.

¹³ Both Dr. Kier and Ms. Richards noted that hydraulic conductivity is roughly two orders of magnitude greater parallel to bedding planes than perpendicular to bedding planes; however, their testimony apparently referred to geological layers created at different times or through different processes, rather than to initially homogeneous masses that are subsequently differentiated into layers by weathering.

record testimony lend support to the view that a plausible pathway exists in almost the opposite direction, down the south slope of the ridge. Such testimony includes the following:

If pooling were to occur, it is possible that it would occur at the weathered/unweathered transition zone due to the decrease in hydraulic conductivity moving from weathered to unweathered shales (10^{-4} cm/sec to 10^{-7} cm/sec during formation pressure testing). Three wells on the south side of the site (MW-1A, MW-5A, and MW-11) are screened across the weathered/unweathered transition zone. Therefore, if pooling of leachate occurs, it can be detected rapidly by the existing monitoring well network.¹⁴

(The ALJs note that wells MW-1A and MW-5A are located within the proposed fill limits of the facility and would be plugged and abandoned when excavation of disposal cells reaches those points.)

Given these circumstances, the PIC and Fawcett argued that BFD has insufficiently delineated the point of compliance for the proposed facility. By this view, the point of compliance should encompass much or all of the southern boundary of the site, as well as the monitoring line to the north and west previously identified by BFD. The PIC urged that if BFD is allowed to cure this asserted deficiency in its application, it should be required to add monitoring wells along the southern edge of the proposed facility—including one immediately south of each of the planned sump pump installations¹⁵ and one south of Sector 1 (the 16-acre area in the southeast corner of the facility where excavation and deposit of wastes is scheduled to begin first¹⁶). The recommended wells would be screened across the interface between the weathered and unweathered shale.

The ALJs are persuaded that the weathered, southern sloping face of the site's dominating ridge logically presents a potential major pathway for the movement of fluids out of the proposed facility.

¹⁴ Exh. 119, p. 5.16, sec. 5.5.

¹⁵ The sumps, at an elevation of 870 ft. msl, represent the lowest points of planned excavation at the site; as part of the leachate collection system, they would be predictable points for the concentration (and possibly the escape) of water within the facility.

¹⁶ Dr. Clark urged the location of a monitoring well near Sector 1 on the grounds, in part, that problems in executing designs are more likely to occur in early stages of a project.

Although Ms. Richards called the absence of groundwater pockets in the site's weathered zone an indication that water did not move readily through the zone, Dr. Kier acknowledged that BFD, in fact, did find groundwater in weathered material at the southeast corner of the site (where the MW-11 cluster of wells is located). Moreover, T. Wesley McCoy, the TNRCC geologist who evaluated the application, noted that the sparse groundwater in the Mingus Formation is usually found in the formation's upper 40 to 50 ft. of weathered shales. On the whole, then, the evidence in the record on this issue (which is not extensive) suggests that the geological structure of the site warrants systematic monitoring of the weathered zone, and particularly of the interface between weathered and unweathered zones, along the southern boundary of the property.

The general locations for southern point-of-compliance wells, as suggested by the parties opposing the application, appear reasonable. Still, the record obviously does not provide sufficient information to enable the ALJs to prescribe the character of these monitoring wells in detail. The application proposes the installation of an additional monitoring well (MW-5R) near the center of the property's southern boundary. This well would be screened at an interval of 50 to 75 ft. below the surface. Thus, it probably would encompass the interval between weathered and unweathered material and might be readily incorporated into an extended point of compliance. However, further review of the site by BFD (or at least further presentation of information already available) is necessary to develop a proper rationale for the specific placement of wells sufficient to monitor the southern boundary of the site.

C. Presence of crude oil.

The Fawcett group characterized the presence of crude oil within the geological formation at the southeastern corner of the site as a condition that BFD has failed to address in accordance with the requirements of 30 TAC § 330.51(b)(3). That rule states:

The applicant is responsible for determining and reporting to the executive director any site-specific conditions that require special design considerations.

Small deposits of crude oil naturally occur at places within the Mingus formation, and the weight of evidence indicates that hydrocarbons encountered in two adjacent borings on the site represent such a deposit or deposits. Fawcett noted that the presence of natural petroleum can sometimes thwart groundwater monitoring systems, obscuring whether hydrocarbons detected in a well have originated from such deposits or from landfill wastes.

Accordingly, Fawcett urged that BFD should have included a specific plan or procedure for distinguishing naturally occurring petroleum from other substances detected by the monitoring system. Such a procedure presumably would augment or be a part of the project's required GWSAP. The Protestants pointed out that the Commission has at times in the past incorporated into landfill permits a detailed methodology for such analysis known as the "Corsicana Protocol." The GWSAP submitted by BFD, on the other hand, includes no specific provisions relating to crude oil, petroleum, or hydrocarbons generally.¹⁷ Fawcett also criticized as unenforceable BFD's proposal to continue voluntary monitoring for petroleum in the two wells where it previously had been detected.

Given the prospect that excavation at the site may encounter additional pockets of the crude oil scattered through the Mingus Formation, the ALJs suggest that the Commission consider directing the applicant and the ED to develop an appropriate plan or protocol for groundwater monitoring within that specific context. However, while such a special condition would be worthwhile to assure more expeditious assessment of any hydrocarbons detected in the monitoring of the site, the ALJs do not regard the lack of such a plan or protocol as constituting a violation of the rules or a basis for denial of the permit sought. The record does not demonstrate that the presence of small amounts of petroleum on or near the site represents a condition requiring "special design considerations," as specified by Rule 330.51(b)(3). Nonetheless, to the extent that such a condition *might* exist at the site because of the documented presence of crude oil, BFD appears to have complied with that rule's requirements of "determining" the nature of the condition and "reporting" it to the ED.

¹⁷ The plan does provide, however, where a significant increase in a monitored parameter is detected, "If the increase over background of any constituent is believed to originate from a source other than the landfill . . . a report providing such documentation will be prepared by a qualified professional and submitted to the TNRCC within ninety (90) days of the sampling event." Exh. 183, p. 11.13.

In reviewing TNRCC regulations, the ALJs could find almost no explicit references to petroleum deposits and no prohibitions against locating a landfill on a site containing such deposits. The most notable requirements on the subject—outlining studies that must include data on “crude oil and natural gas accumulations”—appear in 30 TAC § 330.303(b), which demands the detailed assessment of areas potentially subject to differential subsidence—including subsidence caused by the withdrawal of petroleum. Such withdrawal and subsidence has not been shown to be pertinent in this case.

Often, a special procedural mechanism for determining the source of those monitored hydrocarbons that might represent natural petroleum deposits would appear to be of limited importance to the public at large, because the detection of many such substances (from *any* source) would oblige the landfill operator, under TNRCC regulations, to take prompt action to protect groundwater and to determine whether the substances in question were escaping from the landfill (particularly where designated point of compliance wells are involved). Such a protocol would appear, in many instances, to be more significant as a potential benefit to the operator, since it presumably would map an efficient and accepted procedure through which that operator could limit its responsibility by demonstrating that detected substances were naturally occurring. The ALJs are thus unable to conclude that BFD’s failure to include such a plan or protocol invalidates its application.

3. Does the application satisfy regulatory requirements relating to drainage design?

The ALJs recommend a conclusion that BFD has failed to demonstrate that the proposed facility will not significantly alter natural drainage patterns.

The Commission’s rules require an applicant “to demonstrate that natural drainage patterns will not be significantly altered as a result of the proposed landfill development.”¹⁸ BFD and the ED contend that the Blue Flats landfill will not cause such alteration, while the parties opposing the project contend that it will. The ALJs’ conclusion on this issue is based, in particular, upon findings that BFD has not adequately evaluated the impact of increased peak flows and increased volumes leaving

¹⁸ 30 TAC § 330.56(f)(4)(A).

the site to the northeast, nor has it adequately evaluated the impact of installing additional culverts under Old Santo Road south of the site. The ALJs emphasize that they do not find that the landfill definitely *will* alter natural drainage patterns significantly. Rather, they simply find that BFD has not met its burden of proof on this issue, as required by the Commission's rules.

Existing Drainage: (A depiction of the site's pre-developed conditions, including designated subareas relevant to surface drainage, appears in Attachment 1 to this Proposal for Decision. This figure was taken from hearing Exh. 177.)

South: In its existing condition, the site drains primarily to the south. BFD's application shows that 134.85 acres¹⁹ currently drain south, out of a total of 150.99 acres,²⁰ and the peak flow rate²¹ to the south is 301.42 cubic feet per second ("cfs") during a 100-year storm event. After leaving the landfill site, the southbound drainage crosses the unpaved Old Santo Road, the Union Pacific Railroad tracks, and I-20. It then flows into Sunday Creek approximately one mile south of I-20. One 36-inch culvert is currently in place under Old Santo Road, but it cannot handle the existing flow during significant rainfall events. As a result, stormwater runoff frequently pools to the north of Old Santo Road and occasionally overflows the road. The runoff then flows under the railroad tracks through two five-foot box culverts. The evidence does not establish how drainage passes under I-20. Ms. Blackmon, who lives immediately south of I-20, testified that her pastures and roads occasionally flood under current conditions.

North: Two smaller areas totaling 16.14 acres currently drain generally to the north. Subarea D (6.59 acres) drains northwest with a peak flow rate of 21.20 cfs during a 100-year storm. This northwest drainage leaves the site and flows onto another piece of property owned by BFD, where it runs into

¹⁹ The acreage draining south includes on-site areas Subareas F, G, H, and I (126.8 acres) and off-site Subareas A and C (8.05 acres). Exh. 177, Calculation No. 6.2.

²⁰ The total existing drainage area includes on-site Subareas D, E, F, G, H, and I (140.88 acres) and off-site Subareas A, B, and C (10.11 acres). Exh. 177, Calculation No. 6.1.

²¹ "Peak flow rate" refers to the maximum stormwater runoff flow rate for a given storm event. For existing conditions, all peak flow rates were calculated under the Rational Method, as required by TNRCC rules for drainage areas under 200 acres. 30 TAC § 330.55(b)(5)(A).

Saline Creek. Saline Creek then flows generally to the northeast off BFD's property and onto Roger Fawcett's property.

Off-site Subarea B (2.07 acres) and on-site Subarea E (7.48 acres) drain to the northeast, with a peak flow rate of 25.23 cfs²² during a 100-year storm. The northeast drainage leaves the site and crosses additional property owned by BFD, but then enters Mr. Fawcett's property, where it, too, runs into Saline Creek. Thus, the northwest and the northeast drainage both enter Saline Creek about 1,300 ft. north of the site boundary, but at different points along an approximately quarter-mile segment of the creek.²³

Post-Development Drainage: (A depiction of the site subsequent to development, including designated subareas relevant to surface drainage, appears in Attachment 2 to this Proposal for Decision. This figure was taken from hearing Exh. 177.)

All parties agreed that development of the landfill will cause some alteration to existing drainage patterns, but they disputed whether the alteration will be "significant." Critical as this standard appears to be, no statute, rule, formal policy, or other guidance document defines it. After full development of the site, approximately 20 acres that currently drain to the south will be diverted to the northeast, and about five acres that currently drain to the northwest will also be diverted to the northeast. In addition, the total volume of stormwater runoff leaving the site will increase, because the landfill is designed to promote drainage and to limit percolation through the buried waste. The purpose of this standard "dry-tomb" design is to keep the buried waste as dry as possible.

²² BFD offered this northeast peak-flow calculation of 25.23 cfs, but its witness Dr. Brandes testified that it is actually for Subarea E only. Apparently, BFD failed to combine the flow from Subarea B to the flow from Subarea E when calculating the existing drainage to the northeast. But Dr. Brandes testified that the drainage from Subarea B is the same both before and after development, and that BFD's post-development drainage calculation also omitted Subarea B. Therefore, according to Dr. Brandes, because the same peak flow for Subarea B is omitted in both the existing and post-development calculations, its omission has no effect in calculating the *change* in drainage to the northeast due to development of the landfill. Tr. Vol. 5, p. 1199

²³ See Exh. F-47 for the clearest depictions of drainage routes to the northeast and northwest and their confluences with Saline Creek.

To control the increased drainage after development, BFD proposes to install a detention pond south of the site (Pond A) and another to the northeast (Pond B).²⁴ Various berms and channels are planned to direct uncontaminated runoff from the developed landfill into the ponds. These detention ponds are not designed to hold stormwater runoff for any lengthy period. Instead, they temporarily delay the runoff in order to moderate the flow rates leaving the site. BFD designed Pond A to release stormwater through a stepped-triangular weir outlet that gradually releases a larger volume of water as the water level rises in the pond. It designed Pond B, which regulates a smaller volume of water, to release runoff through a single 18-inch reinforced concrete discharge pipe.

South: After development, 114.86 acres²⁵ will drain south into Pond A, with a peak flow rate of 502.34 cfs into the pond during a 100-year storm. The parties disputed the peak flow rate out of Pond A. For a 100-year storm, BFD calculated the peak flow rate out of Pond A at 276 cfs, but Protestant Fawcett calculated it at 367 cfs.²⁶ (These post-development calculations compare to 134.85 acres and a 301.42 cfs peak flow rate under existing conditions.)

To improve drainage to the south beyond the landfill site, BFD plans to replace the single 36-inch culvert under Old Santo Road with five 36-inch culverts. These added culverts would eliminate overflows across Old Santo Road during most rainfall events and would reduce erosion of the road. According to BFD, the Union Pacific Railroad requested the additional culverts to improve access to its right-of-way.

North: After development, 34.21 acres would drain to the northeast compared to 9.55 acres under existing conditions. Of this total, 28.95 acres would drain into Pond B,²⁷ while 5.26 acres of post-

²⁴ BFD does not propose to build a detention pond for drainage to the northwest. As will be discussed later, Subarea D drains only small amount of runoff, and the landfill design will result in a decrease in drainage to the northwest. A detention pond is not needed for that subarea.

²⁵ The acreage draining into Pond A includes on-site Subareas F, G, H, I, J, K, L, M, N, O and U (106.81 acres) and off-site Subareas A and C (8.05 acres). Exh. 177, Calculation 6.6.

²⁶ The ED did not make 100-year storm calculations. Instead, the ED made 25-year storm calculations in accordance with the Commission's rules.

²⁷ The drainage area for Pond B would include post-development drainage Subareas P, Q, R, S, and T. It would not include post-development Subareas B, D, or E. See Exh. 177, Calculation No. 6.6.

development Subareas B and E would drain northeast without contributing to Pond B. Subarea E is located on the far northeast side of the landfill site, but it will remain undeveloped. Subarea B, which flows onto Subarea E from the east, is an undeveloped area outside the permit boundary.

BFD calculated peak flow rates of 26 cfs out of Pond B and 21.52 cfs from Subarea E for a 100-year storm. Fawcett calculated post-development peak runoff to the northeast of 29 cfs out of Pond B, plus 16.5 cfs for Subareas B and E for a 100-year storm. In addition, 1.4 acres will drain to the northwest from Subarea D after development, for which BFD calculated a 100-year storm peak flow rate of 9.45 cfs, and Fawcett calculated 5 cfs. As described previously, the northwest drainage enters Saline Creek on BFD's property, while the northeast drainage would cross a portion of Mr. Fawcett's property before entering Saline Creek.

Drainage Calculations:

The following charts summarize the drainage before and after development and show the changes in acreage and peak flow rates:

100-Year Storm

South Drainage (Into Sunday Creek)	Acreage	BFD's Peak Flow Calculation	Fawcett's Peak Flow Calculation
Existing	134.85 acres	301.42 cfs	301.42 cfs
Post Development (Out of Pond A)	114.86 acres	276.00 cfs	367.00 cfs
Change	- 19.99 acres	- 25.42 cfs	+ 65.58 cfs

100-Year Storm

Northeast Drainage (Into Saline Creek)	Acreage	BFD's Peak Flow Calculation	Fawcett's Peak Flow Calculation
Existing	9.55 acres (Subareas B & E)	25.23 cfs (Omits Subarea B) ²⁸	31 cfs (Includes Subarea B)
Post Development (Pond B drainage area, plus Subarea B and revised E)	28.95 acres (Pond B) + <u>5.26 acres (B & E)</u> 34.21 acres (Includes Subarea B)	24 cfs + <u>22 cfs</u> 46 cfs ²⁹ (Omits Subarea B) ³⁰	29 cfs + <u>16.5 cfs</u> 45.5 cfs (Includes Subarea B)
Change	+ 24.66 acres	+ 20.77 cfs	+ 14.5 cfs

100-Year Storm

Northwest Drainage (Into Saline Creek)	Acreage (Subarea D)	BFD's Peak Flow Calculation	Fawcett's Peak Flow Calculation
Existing	6.59 acres	21.20 cfs	22 cfs
Post Development	1.40 acres	9.45 cfs	5 cfs
Change	- 5.19 acres	- 11.75 cfs	- 17 cfs

²⁸ See Footnote 22. BFD agreed that the existing peak flow rate for Subareas B and E combined equals 31.1 cfs. Exh. 218.

²⁹ BFD's expert, Dr. Brandes, attempted to calculate a total peak flow rate to the north by combining the discharge from Pond B with the runoff from Subareas D and E, which do not drain into Pond B. In contrast, this chart combines the separately calculated peak flow rates for Pond B and Subarea E only, using a 100-year/2-hour storm. This design storm produces 24 cfs for Pond B plus 22 cfs for subarea E (46 cfs). The peak flow rate for Pond B alone is actually 26 cfs during a 100-year/12-hour storm, but during that storm event the peak flow rate for Subarea E is only 10 cfs, producing a lower combined peak flow rate. Exh. 160, Item 1.

³⁰ See Footnote 22.

100-Year Storm

NE & NW Drainage Combined	Acreage	BFD's Peak Flow Calculation	Fawcett's Peak Flow Calculation
Existing	16.14 acres	46.43 cfs (Omits Subarea B)	53 cfs ³¹ (Includes Subarea B)
Post Development	35.61 acres	56.97 cfs (Omits Subarea B)	50.5 cfs (Includes Subarea B)
Change	+ 19.47 acres	+ 10.54 cfs	- 2.5 cfs

BFD's Arguments: BFD contended that the detention ponds will moderate stormwater runoff so that the developed landfill will not significantly alter the existing natural drainage patterns. Because landfills are designed to enhance runoff in order to prevent percolation through the buried waste, BFD suggested that all landfills cause some increase in runoff volume. Therefore, BFD argued that the critical factor to consider is the peak flow rate of the runoff. According to BFD's 100-year storm calculations, the peak flow rates before and after development are 301.42 cfs and 276 cfs to the south, 25.23 cfs and 47.52 cfs to the northeast,³² and 21.20 cfs and 9.45 cfs to the northwest. BFD also calculated a combined peak flow rate for the northeast and northwest, since both areas drain into Saline Creek within a relatively short distance. When these drainage areas are combined, they produce overall before-and-after peak flow rates to the north of 46.43 cfs and 56.97 cfs.³³

BFD noted that the Commission's rules do not define "significant alteration," and it contended that this determination must be based on professional engineering judgment. In BFD's view, the Commission should accept the professional judgment of its engineer and the ED's engineer that no

³¹ Fawcett's attorney and expert witness argued that the northeast and northwest drainage should not be combined. The ALJs have added Fawcett's expert's calculations for these drainage areas simply for purposes of comparison to BFD's calculations.

³² See Footnotes 22 and 29.

³³ See Footnote 29.

significant alteration of natural drainage will occur and should reject the contrary opinion of Protestants' expert. BFD characterized Fawcett's expert, Mr. Larry Dunbar, as a "part-time engineer and part-time lawyer" whose technical analysis "contained a fundamental flaw." To attack the credibility of Mr. Dunbar, BFD pointed out that Mr. Dunbar originally evaluated the uncontaminated stormwater detention ponds by using the wrong regulations (*i.e.*, those that apply to *contaminated* stormwater retention ponds). The regulation that applies to contaminated storm water³⁴ requires a pond that will contain a 25-year/24-hour storm event, but the regulation that applies to uncontaminated stormwater³⁵ requires a design that will control runoff from a 25-year storm event, without specifying a critical storm duration.

BFD argued that, because of this mistake, Mr. Dunbar erroneously used a 100-year/24-hour storm for his calculations using the HEC-1 computer model. BFD also contended that Mr. Dunbar used abnormally high Soil Conservation Service ("SCS") curve numbers³⁶ in his calculations and improperly adjusted the Time of Concentration ("TOC")³⁷ to calibrate his model. BFD's expert testified that the TOC is a site-specific, derived number that should not be used to calibrate the HEC-1 model. According to BFD, these errors resulted in a much higher calculated flow rate from the detention ponds than will actually occur under "real world conditions." Therefore, BFD argued that Mr. Dunbar's opinions are not credible and should be disregarded.

BFD further argued that its engineering witnesses, Jeff Arrington and Dr. Robert Brandes, and the ED's witness, Nevzat Turan, are more experienced and more competent in surface hydrology and landfill design. BFD asserted that Dr. Brandes applied the appropriate variables in his HEC-1 model, which produced more realistic results.

³⁴ 30 TAC § 330.55(b)(3).

³⁵ 30 TAC § 330.56(f)(4)(A)(ii).

³⁶ Under the HEC-1 computer model, a higher SCS curve number indicates surface cover conditions that increase the amount of stormwater runoff.

³⁷ In general terms, time of concentration is the amount of time for a water particle to travel across the longest distance of a specific drainage area.

ED's Arguments: The ED agreed with BFD that the developed landfill will not significantly alter natural drainage patterns. The ED's expert witness calculated peak runoff to the northeast for a 25-year storm event before and after development at 30 cfs and 44 cfs, respectively. The ED also noted that the two detention ponds (Ponds A and B) were designed for a 100-year storm event, which exceeds the minimum 25-year storm event referenced in the rules.

The ED disputed Protestants' contention that the TNRCC staff considers any increase in runoff of more than 10 percent as a significant alteration of natural drainage. The ED pointed out that this 10-percent threshold is not in the Commissions regulations, and Mr. Turan testified that no such general rule of thumb exists among TNRCC engineers. Rather, the ED concurred with BFD that whether a significant alteration will occur from development of a landfill is a matter of professional engineering judgment.

OPIC's Arguments: OPIC argued that drainage patterns should be evaluated at the permit boundary and accused BFD of shifting the focus downstream to Saline Creek in order to provide a rationale for combining the northeast and northwest drainage. Combining these two drainage areas tends to obscure the increase in peak flow rate to the northeast because the peak flow rate to the northwest actually declines after development. Thus, the net increase in the peak flow rate when the northeast and northwest areas are combined is less than the increase in the peak flow rate for the northeast alone. OPIC pointed out that the ED, protestants, and BFD's application (as contrasted with its testimony at hearing) all evaluated the northeast and northwest drainage patterns separately at the boundary and it argued that examining each area separately at the permit boundary is the best method for evaluating drainage patterns.

Ultimately, OPIC stated that it could not give an unqualified opinion on whether the landfill will result in a significant alteration of natural drainage patterns, due to the lack of guidance in the Commission's rules. Nevertheless, OPIC suggested that a significant alteration would occur due to the increase in stormwater draining across the northeast boundary under post-developed conditions.

Fawcett's Arguments: Fawcett suggested that the three fundamental issues are: (1) what degree of change constitutes a significant alteration of natural drainage patterns; (2) whether changes to natural drainage patterns should be evaluated at the permit boundary or somewhere else downstream; and (3) whether BFD should be allowed to offer evidence at hearing about changes to drainage patterns off-site and downstream, when its application reflects calculations only at the permit boundary. In general, Fawcett argued that development of the landfill would significantly alter natural drainage patterns because of both increased peak flow rate and increased total volume at the northeast boundary.

Fawcett stated that in determining whether a significant alteration would occur, the Commission must consider peak flow, volume, velocity, direction of flow, erosion, and flooding. Fawcett pointed out that the area draining to the northeast would increase after development from 9.55 acres to 34.21 acres (258 percent). For total volume of run-off to the northeast from a 25-year storm event, Fawcett calculated an increase from 3.8 acre-feet to 16 acre-feet (321 percent), and the ED calculated an increase from 3 acre-feet to 13 acre-feet (333 percent).³⁸ Finally, Fawcett calculated an increase in peak flow rate to the northeast for a 25-year storm from 25 cfs to 39 cfs (56 percent), and for a 100-year storm from 31 cfs to 45 cfs (45 percent), while the ED calculated an increase for a 25-year storm event from 30 cfs to 44 cfs (47 percent). Fawcett emphasized that all of these calculations were made at the site boundary and accused BFD of trying to divert attention away from the site boundary to a point downstream. Fawcett suggested that this change in position by BFD amounts to a tacit admission that a significant alteration in natural drainage patterns would occur at the site boundary.

Fawcett also criticized BFD for combining the flows leaving the site to the northwest with flows leaving the site to the northeast. Fawcett asserted that BFD did this to "manipulate its results by forcing the existing or pre-development conditions to agree with the final or post-development conditions." According to Fawcett, combining the peak flows to the northwest and northeast is

³⁸ BFD did not prepare separate calculations of runoff volume, which Fawcett claims violates 30 TAC § 330.56(f)(4)(A)(i).

improper because the runoff from each subarea crosses the northern boundary at a different point and flows in a distinctly different direction. Mr. Fawcett also claimed that erosion already occurs on his property along the northeast drainage path and suggested that the increased flows to the northeast after development will exacerbate the erosion.

Fawcett disputed BFD's claim that Mr. Dunbar used an improper rain distribution pattern in his HEC-1 model. Fawcett stated that Mr. Dunbar used the same rainfall pattern as the ED's witness, Mr. Turan, and that this distribution pattern has been long accepted by TNRCC. And Fawcett criticized Dr. Brandes' modeling because he testified that a 12-hour storm was the critical storm duration, while his model used only a 500-minute (8.32-hour) storm duration. In addition, Fawcett stated that Mr. Dunbar used both the HEC-1 model and the SCS triangular hydrograph method and reached essentially the same result under both methods.

Fawcett further argued that the effects of drainage beyond the permit boundary should not be considered, because the ED has no enforcement authority beyond the boundary. Fawcett noted that BFD's application does not contain any information or calculations relating to conditions beyond the permit boundary, and Fawcett vehemently objected to BFD's offering any such evidence at hearing, since BFD had not revealed during discovery that it would attempt to address that subject. Further, Fawcett stated that its expert, Mr. Dunbar, also did not consider drainage beyond the permit boundary, because none of the calculations in BFD's permit applications did so.

CSPPC's Arguments: CSPPC summarized its position by stating: "Despite the disagreements among the experts regarding modeling details, they all basically agree that the landfill will increase peak flow rates going to the north by approximately 50 percent. Clearly this is not an insignificant alteration." CSPPC disagreed with BFD's argument that whether an alteration is significant depends on the offsite impacts. It noted that neither BFD's application nor the Commission's regulations make any mention of offsite impact.

CSPCC also argued that BFD's placement of four additional 36-inch culverts under Old Santo Road would cause a significant alteration to natural drainage patterns south of the landfill. The application does not consider the effects of this change, but CSPPC claimed that it would cause a higher peak flow south of Old Santo Road and would worsen the flooding that already occurs on Ms. Blackmon's land immediately south of I-20.

Analysis: The ALJs do not accept arguments that impact on drainage patterns must be determined solely at the permit boundary. The Commission's rules do not limit where this determination should be made. Instead, they allow flexibility in examining drainage patterns. Considering the diverse topography of the state, the evaluation of drainage patterns should not be so restricted. Depending on the circumstances of each case, it may be appropriate to examine the impact of changed drainage patterns near the permit boundary, well beyond the permit boundary, or both. In this case, for example, the project appears to pose little impact on drainage patterns at the immediate south boundary of the proposed landfill, but the addition of four culverts under Old Santo Road may have a significant impact on drainage patterns beyond that boundary. In contrast, the alteration of peak flow rates at the northeast boundary appears considerable in abstract terms, but the actual impact of this change may be insignificant because that runoff, entering a stream after only a short distance, may become an inconsequential fraction of that stream's natural flow.

The ALJs also reject the arguments of Protestants and OPIC that a 10-percent change should be the rigid threshold for defining a significant alteration. Such an artificial percentage threshold does not evaluate the actual impact of a change in drainage patterns. Depending on circumstances, a small percentage change to a large runoff volume or peak flow rate could have devastating effects, while a large percentage change to a small runoff volume or peak flow rate might have little or no impact. Instead, the determination of whether an alteration to drainage patterns is significant should be based on the effects of the change—such as flooding, erosion, reduction of water supply, or large-scale modification of the plant life supported by a watershed.

In this case, the parties expended a large amount of energy attacking their opponent's methods and calculations. The ALJs conclude that Dr. Brandes' HEC-1 computer models are probably more accurate in general. Dr. Brandes evaluated various 100-year storm events to determine which one would produce the greatest peak flow (the critical storm event) while neither Mr. Dunbar nor Mr. Turan made this determination.³⁹ In addition, Dr. Brandes calibrated his HEC-1 model to correspond to the peak flow rates under the Rational Method by adjusting the SCS curve numbers, while Mr. Dunbar calibrated his HEC-1 models by adjusting lag times. Although the precise impact of these adjustments is unclear, the ALJs were persuaded by the evidence that adjusting the SCS curve numbers was likely to produce a more reliable result. As Dr. Brandes explained, time of concentration is based on the fixed physical characteristics of a watershed, and in the HEC-1 model TOC has a direct impact on the shape of the hydrograph and the peak flow rate calculation. In addition, TOC has an unvarying mathematical relationship to lag time in the HEC-1 model, such that a change to lag time causes an even greater change in TOC.⁴⁰ As a result, Mr. Dunbar's changes in lag time resulted in unrealistic times of concentration in his HEC-1 model. In contrast, the SCS curve numbers only concern surface conditions, and Dr. Brandes' modified SCS curve numbers remained realistic for this watershed.

But problems also exist with Dr. Brandes' and BFD's calculations. First, BFD and Dr. Brandes failed to include the runoff from Subarea B in their calculations of runoff to the northeast. Dr. Brandes explained that this omission occurred in both the existing and post-development calculations and that it did not affect the analysis of the change in drainage patterns. Although this may be true, the fact remains that the application fails to accurately represent the maximum peak flow rate to the northeast before and after development.

³⁹ Because the duration of a rainfall event will affect the hydrological and hydraulic behavior of the ponds, Dr. Brandes analyzed a range of storm durations to verify that the ponds will function properly under the unique conditions of the critical storm duration. He analyzed 100-year storms with a variety of storm durations ranging from 15 minutes to 24 hours and determined that the peak outflows for Ponds A and B occurred during a 12-hour storm event.

⁴⁰ Lag Time = 0.6 X Time of Concentration; Time of Concentration = 1.666 X Lag Time. Tr. Vol. 5, p. 1262.

In addition, the ALJs are not persuaded by Dr. Brandes' attempt to calculate a single HEC-1 modeled peak flow rate for drainage to the north by combining the northeast drainage with the northwest drainage. Both the northeast runoff and northwest runoff eventually enter Saline Creek, but the northeast drainage flows over a different path than the northwest drainage, and it has the greatest increase in peak flow rate of all the areas. In contrast, the northwest drainage will actually decline after development.

The ALJs agree that the combined changes in the northwest and northeast drainage should be considered to determine their impact on Saline Creek. But the changes in drainage patterns to the northeast and northwest should also be evaluated separately to determine their impact before reaching Saline Creek. Otherwise, the impact of changes to the drainage patterns cannot be fully evaluated. In this case, however, the ALJs conclude that BFD did not adequately evaluate either the northeast drainage alone or the northeast and northwest combined drainage into Saline Creek. Instead, BFD's application and evidence simply showed that runoff from the northeast and northwest drainage areas flow into Saline Creek. There was no evidence on Saline Creek's size or capacity, or on the impact of the increased volume flowing into the creek.⁴¹ It may be that changes in drainage from the landfill site will not have a significant impact on Saline Creek, but there is insufficient evidence in the record to make that determination.

The ALJs are also concerned that BFD did not present calculations of runoff volume or velocity before and after development. Under 30 TAC § 330.56(f)(4)(A)(i), an application must include "calculations used to estimate peak flow rates *and run-off volumes*" Dr. Brandes stated that his HEC-1 models calculated volume, but BFD did not present this information in a meaningful way, either in the application or in the evidence offered at hearing. Fawcett and the ED presented evidence of an increase in volume to the northeast, but the impact of this change is unknown. Further, it is unclear what change in runoff volume will occur to the northwest or to the south.

⁴¹ Dr. Brandes did testify on redirect examination that Saline Creek had a total drainage area of approximately 1,200 acres. However, this information was not contained in BFD's application or in Dr. Brandes' prefiled testimony, and BFD offered no other information about Saline Creek or its watershed.

In addition, evidence at hearing established that erosion is affected by the velocity of stormwater runoff, but BFD failed to offer any evidence about runoff velocity. This lack of evidence is troubling to the ALJs because it seems logical that velocity to the northeast will increase due to the higher runoff volume and peak flow rate and because Mr. Fawcett complained that the northeast runoff route already suffers from erosion.

In short, the ALJs find that BFD failed to adequately evaluate the changes in drainage patterns that would occur after development of the landfill. In particular, BFD failed to calculate runoff volumes or velocities draining to the south, northwest, and northeast; it failed to include the runoff from Subarea B in its northeast drainage calculations; it failed to analyze the impact of installing additional culverts under Old Santo Road south of the landfill site; and it offered no evidence about the Saline Creek watershed or the creek's capacity to handle increased runoff. For these reasons, the ALJs find that BFD failed to meet its burden to demonstrate that the proposed landfill will not significantly alter natural drainage patterns.

4. Does the application satisfy regulatory requirements relating to endangered species?

The ALJs recommend a conclusion that, with respect to the Texas horned lizard, the application does not satisfy such requirements.

In the context of TNRCC landfill permitting, the essential requirements for the protection of endangered species appear in 30 TAC §§ 330.53(b)(13)(B) and 330.129, both of which provide:

The facility and the operation of the facility shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.

According to the definition in 30 TAC § 330.2(42), "endangered or threatened species" are those so listed pursuant to either the Federal or the Texas Endangered Species Act. Applicants are also advised by 30 TAC § 330.53(b)(13)(C) that "The United States Fish and Wildlife Service ["FWS"]

and the Texas Parks and Wildlife Department ["TPWD"] should be contacted for locations and specific data relating to endangered and threatened species in Texas."

In this case, BFD consulted listings maintained by the two wildlife agencies and determined that 12 species of endangered or threatened animals may inhabit Palo Pinto County. These include eight types of bird, three types of snake, and the Texas horned lizard. BFD's primary investigator on this subject (Peter McKone, an environmental scientist with Freese and Nichols, Inc.) visited the site on one occasion (on November 21, 1991), finding it to be "unimproved rangeland" with brush dominated by post oak and, in some areas, by mesquite or juniper. Based in part upon these observations, Mr. McKone concluded that the site included no natural habitat suitable for any of the endangered or threatened birds and snakes listed as potential Palo Pinto County residents. He made a somewhat oblique acknowledgment, however, that the site could provide habitat for the horned lizard--asserting, nonetheless, that "Loss of habitat resulting from development of the site is insignificant to the species as a whole or to individuals within Palo Pinto County."

Mr. McKone observed no individual specimens of any endangered or threatened species during his one on-site visit. His report then concluded:

None of the federally or state-listed threatened or endangered species are known to occur in the vicinity of the proposed project site. However, in the event the Texas horned lizard is observed at the site, BFD will record the occurrence and notify the TPWD. In addition, the observed specimen will be managed in accordance with the TPWD letter dated January 2, 1996.

This letter from TPWD, addressed to Mr. McKone, contained the following directives:

The Texas Horned Lizard, listed as a federally threatened species, is stated to occur within the immediate area.⁴² Specimens should be relocated to suitable sites outside

⁴² The Texas horned lizard (*Phrynosoma cornutum*) is a state-listed threatened species, as designated by the TPWD at 31 TAC § 65.172. Despite the statement in TPWD's letter, the record indicates that this species is not at this time federally listed as endangered or threatened.

plant operations. Contact this agency for permits needed to handle or relocate specimens found.

Occurrence or sighting of any other endangered or threatened state or federal listed species should be reported immediately to the TPWD.

The Protestants and PIC criticized as inadequate BFD's examination of the project's potential impact upon endangered or threatened species. They noted that Mr. McKone's single site visit took place during a time of year—late November—when migratory birds would be expected to be absent and reptiles dormant. According to information compiled by TPWD, Texas horned lizards hibernate in underground burrows from September or October until April or May. Thus, the Protestants and PIC contended, Mr. McKone's failure to observe endangered species at the site was inevitable and supports no inference that the habitat there is unsuitable for such species during their active seasons. In contrast, two witnesses for the Protestants (Patricia Blackmon and Max Wheeler) testified that they regularly see horned lizards on their rangeland properties, situated within one to two miles of BFD's site.

In its written response to closing arguments, BFD summarized its final position on this issue as follows:

BFD, taking the conservative approach once again, *assumed* the presence of the Texas Horned Lizard . . . on site because it recognized the presence of suitable Texas Horned Lizard habitat. The record reflects that the plan set out in BFD's application to address the possibility of a Texas Horned Lizard being found on the site satisfies . . . all endangered and threatened species regulatory requirements. This finding is confirmed in the correspondence with [TPWD and FWS], which is a part of the evidentiary record. . . .

Overall, the ALJs find BFD's presentation on this subject somewhat confusing. Certainly, the limited correspondence in the record from TPWD and FWS does not constitute, on its face, any approval by those agencies of BFD's investigation or planning process with respect to endangered or threatened species, much less any confirmation that the proposed project as a whole meets regulatory requirements on the subject. On the basis of what appears to be a somewhat cursory investigation (including a site visit at a time when the species of concern most likely to appear on

the site would be inactive, underground, and virtually undetectable), BFD first concluded that no protected species were "known" to occur in the vicinity; but now has "assumed" that the horned lizard is present. BFD's general plan for preventing harm to any horned lizards encountered on the site—*i.e.*, relocating them outside the operations area—will require a TPWD permit; however, BFD acknowledged that it presently has no such permit and provided no evidence about its ability to get one.

In seeking to apply Chapter 330's general requirements for endangered species protection, the ALJs have been able to find little specific guidance in either TNRCC or TPWD rules. However, once a site has been shown to include habitat suitable for a threatened species, logic would dictate that an applicant make at least some realistic effort to determine whether a population of that species actually does live there—and if so, what the general character of that population is. Without some knowledge of how horned lizards may be distributed over the 140 acres of the BFD site, a plan that simply cautions heavy equipment operators to be on the lookout for a slow-moving, highly camouflaged, toad-sized lizard is not likely to afford meaningful protection. Under the circumstances, BFD has failed to show full compliance with the mandate of the rules that the facility not "cause or contribute to the taking" of a protected species.⁴³ Nor has it satisfied the requirement of 30 TAC § 330.51(b)(8): "The applicant shall submit Endangered Species Act compliance demonstrations under state and federal laws."

The ALJs are not presupposing that horned lizards are present at the site or that BFD's activities necessarily would result in the taking of such lizards if any are present. The record indicates, though, that BFD has effectively done nothing to learn whether a population of the species actually is present on the site. And in this informational vacuum, BFD has proposed a plan that effectively has no content, amounting to no more than a resolution to remove horned lizards if, by chance, any are encountered.

⁴³ In 30 TAC § 330.53(b)(13)(A)(ii), "taking" is defined as "harassing, harming, pursuing, hunting, wounding, trapping, capturing, or collecting an endangered or threatened species or attempting to engage in such conduct."

Setting aside the horned lizard to address the 11 other endangered or threatened species that potentially may occur in Palo Pinto County, the ALJs are satisfied that BFD has performed a reasonable investigation and has shown a lack of prospective impact. Although Mr. McKone's field investigation on the site occurred at a relatively inactive time of year (in biological terms), it apparently did enable him to observe the character of the permanent habitat there. His conclusion that this existing habitat would not support any of these other 11 species is thus plausible, as well as uncontroverted in the record.

5. Does the application satisfy regulatory requirements relating to operating plans?

The ALJs recommend a conclusion that, with respect to plans for fire protection, endangered species protection, and disease vector control, the application does not satisfy such requirements.

The rules, at 30 TAC § 330.57, require an application to include a site operating plan. Further, 30 TAC § 330.114 prescribes the following:

The site operating plan (SOP) shall provide operating procedures for the site management and the site operating personnel in sufficient detail to enable them to conduct the day-to-day operations of the facility. The SOP shall be retained during the active life of the site and throughout the post-closure maintenance period. As a minimum, the SOP shall include specific guidance, procedures, instructions, and schedules on the following:

. . . . (3) a detailed description of the procedures that the operating personnel shall follow concerning the operational requirements of this subchapter;and

(6) a fire protection plan that shall identify the fire protection standards to be used at the facility and the training of personnel in fire-fighting techniques.

In addition, the definition of SOP at 30 TAC § 330.2(135) states that a plan should be drawn to enable personnel to conduct day-to-day operations "throughout the life of the site in a manner consistent with the engineer's design and with the commission's regulations." Rule 330.113

clarifies that the SOP is to be maintained at the landfill facility or at "an alternate location approved by the Executive Director."

The CSPPC group argued that a SOP is insufficient if it "generically describes" how operational goals will be achieved or merely tracks the general language of the pertinent rules.⁴⁴ On this basis, the group called BFD's operating plan deficient with respect to four subjects, all of which the rules require such a plan to address: *i.e.*, fire protection, endangered species, disease vector control, and windblown waste.

A. Fire protection plan.

The fire protection aspects of the required SOP are specified more fully in 30 TAC § 330.115, as follows:

The owner or operator shall maintain a stockpile of earth within 2,500 feet of the working face or active disposal area. The stockpile shall be sized to cover the entire working face or active disposal area. Sufficient on-site equipment for movement of that earth shall be provided at all landfill sites. The executive director may approve alternate methods of fire protection. Accidental fires shall be promptly extinguished. The potential for accidental fires shall be minimized by use of proper compaction and earth cover.

By comparison, BFD's fire control plan, in its entirety, states:

The City of Gordon Fire Department will provide safety training to all landfill personnel. Open burning at the landfill will be prohibited. Landfill fires will be extinguished by smothering with cover material spread by a dozer or other suitable equipment. A minimum of 1,000 cubic yards of soil will be stockpiled within 2,500

⁴⁴ CSPPC cited a decision from the 126th District Court of Travis County case, *Brazoria County, Texas, and Citizens in Protest of Browning-Ferris Waste v. TNRCC*, Case No. 357,114, Letter Opinion dated May 2, 1996, pertaining to a disposal well, in which the court concluded that "Several of the plans . . . fall short of regulatory requirements . . . For example, the Contingency Plan, while referring to 'arrangements made' with local police, hospitals, and emergency response teams, does not actually describe any 'arrangements' . . . The only reference in the Contingency Plan to the mandatory evacuation plan . . . is that it 'will be prepared.'"

feet of the working face for this purpose. Stockpile amount may vary dependent upon size of the working face. Stockpile volume will be adequate to cover the working face. All equipment will be equipped with fire extinguishers. In the event that a major fire hazard exists, the City of Gordon Fire Department will be summoned to the site.

The CSPPC group contended that this part of the plan amounts to little more than a restatement of Rule 330.115 and provides insufficient instruction for on-site personnel—failing to include even something so basic as the phone number of the fire department. In general, the ALJs must agree. This sketchy fire control plan can hardly be said to offer facility personnel "specific procedures" or "instructions" for handling this subject "in sufficient detail to enable them to conduct the day-to-day operations," as Rule 330.114 requires. That rule, in demanding "a detailed description" of procedures for meeting the subchapter's "operational requirements" (*i.e.*, Rules 330.115 through 330.139, which outline the main subjects to be addressed by a SOP), necessarily contemplates more than a mere repetition of those "operational requirements."

BFD's fire protection plan, however, is very little more than such a repetition. Essentially, Rule 330.114 directs an applicant to define *how* its personnel will meet the objectives set out in Rule 330.115. However, BFD's plan, for the most part, simply reiterates that those objectives will be met, in some general way. It describes no sequence of concrete steps to be taken in fighting specific types of fires. It describes no precautions to be observed for avoiding fires in the first place (not even so obvious a point as prohibition of smoking at active areas of the facility). It describes no procedures for checking or maintaining fire equipment.⁴⁵

Moreover, Rule 330.114's requirement for identifying "the fire protection standards to be used at the facility" receives little if any attention in BFD's plan. "Standards" must mean primarily criteria or rules for on-site personnel to observe in preventing or extinguishing fires. At best, BFD's plan provides a broad framework for approaching the problem and leaves the staff to interpolate almost all of the operational details.

⁴⁵ In contrast, the SOP in Texas Ecologists, Inc.'s application for Permit MSW-2267 (TNRCC Docket No. 1998-1058-MSW; SOAH Docket No. 582-98-1652), issued December 22, 1999, includes a four-page breakdown of practices for fire prevention, maintenance procedures, and sequential actions for responding to fires.

In this context, particularly, the setting of "standards" also would suggest a systematic effort to make distinctions for treating different types of fire hazards. CSPPC noted that the testimony of BFD's general manager, Jim Lattimore, illustrated well the fact that landfill fires tend to fall within a handful of typical scenarios—*e.g.*, a burning load of waste detected at the facility entrance, such a "hot load" detected when initially deposited at the landfill's working face, or a fire that develops within accumulated waste in the landfill. Mr. Lattimore explained that these different circumstances call for different operational responses, but BFD's plan includes no mention of such varying contingencies or of the specific steps relevant to addressing each. Another element of the plan that appears on its face to call for greater elaboration of applicable standards is the provision that the local fire department will be summoned in the event of a "major fire hazard." Some definable criteria for determining such a "major" hazard seem warranted—especially in the light of Mr. Lattimore's testimony that fire departments typically lack the type of equipment needed for moving enough dirt to suppress any kind of landfill fire.

The ALJs recognize that no operating plan can be expected to cover every contingency or detail (even every *important* detail), but the content of BFD's fire protection plan is simply too sparse and superficial to meet the rules' mandate for "detailed description" and "specific guidance."

B. Endangered species protection plan.

The following is the entire portion of BFD's operating plan related to the protection of endangered or threatened species:

BFD personnel will record any observation of [the horned lizard] at the site and will notify the TPWD accordingly. Any specimens of the horned lizard found during development of the site will be relocated to areas outside the landfill development. BFD will contact the TPWD regarding permits needed to handle or relocate specimens found.

Given BFD's failure to examine the distribution of the horned lizard at its site—and thus its failure to determine the potential impact of the project upon this species (as noted in Section IV.4, above), the lack of sufficient specificity in this aspect of the SOP is predictable.⁴⁶

The existing plan does not even outline the more obviously crucial operational issues relating to this subject—*i.e.*, how personnel will be instructed to recognize and spot the horned lizard, what routine will be used to scan working areas for the species, how specimens will be cared for while being transported to new locations, and how BFD will ascertain proper locations for the release of such specimens. While BFD should not be required to obtain a TPWD permit for handling horned lizards prior to issuance of a landfill permit from TNRCC, it nevertheless should have examined the requirements associated with such a TPWD permit and incorporated means for satisfying such requirements into the SOP.

C. Disease vector control plan.

In its entirety, the portion of BFD's operating plan related to disease vector control states as follows:

Vectors such as flies, birds and rodents will be controlled by minimizing the size of the working face, properly compacting waste, and covering waste with soil at the end of each working day. Approved pesticides will be used if necessary.

This text would seem to suggest that vector control is largely incidental or integral to the basic process of compacting and covering waste at a landfill. To the extent this is true, the ALJs believe that these compacting and covering processes are adequately addressed by the application as a

⁴⁶ In the subchapter for operational planning, operational requirements relating to endangered species appear at 30 TAC § 330.129, which states, "The facility and the operation of the facility shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species."

whole and need not be reiterated in detail in this portion of the SOP.⁴⁷ On the other hand, additional or alternative means of control (*i.e.*, "Approved pesticides will be used if necessary") are not outlined in any detail whatsoever.

In the ALJs' view, a reasonable plan should attempt at least some specific listing of the vectors present in the vicinity of the site,⁴⁸ identification of circumstances under which the use of controls other than compacting and covering would become necessary, and procedures for safely using pesticides or other alternative means of control in such circumstances.

D. Windblown waste control plan.

The SOP's operational requirements with respect to control of windblown waste are specified in 30 TAC § 330.120, as follows:

Windblown material and litter shall be collected and returned to the active disposal area or working face as necessary to minimize unhealthy, unsafe, or unsightly conditions.

(1) A portable fence may be employed to confine windblown material resulting from unloading, spreading, and compaction operations. If a portable fence is not practical, other suitable practices shall be employed to control windblown materials.

(2) Litter scattered throughout the site, along fences and access roads, and at the gate due to wind or as a result of waste falling from vehicles shall be picked up at least weekly and returned to the active disposal area or working face.

⁴⁷ In the subchapter for operational planning, operational requirements for disease vector control appear at 330 TAC § 330.126.

⁴⁸ During the hearing, several witnesses testified that raccoons, armadillos, and wild hogs are common in the countryside around the site, and that these (as well as the other vectors noted in BFD's plan) might carry waste or contamination from a landfill to nearby land and stock tanks.

BFD's plan for control of windblown waste, in its entirety, states:

Windblown material will be confined to the smallest area practical at the bottom of the working face near the toe of the fill. Any windblown materials will be collected and returned to the working face at the end of each working day. Daily cover will be placed over the working face at the end of the day to minimize windblown materials. The site will be inspected daily for windblown litter and any litter that is discovered will be returned to the active disposal area or working face. Portable litter fencing shall be used down wind of the working face when active filling is above natural ground elevations.

CSPPC again argued that this aspect of the SOP represents little more than a restatement of the rule's operational requirements. While this may be true to an extent, the ALJs are unable to identify any obvious way in which expanding this description of procedures would be notably useful. Nor does the record indicate any specific deficiency with this aspect of the plan, at least insofar as it relates to clean-up on the actual 140-acre tract owned by BFD.

However, CSPPC's principal concern with this subject relates to creating a workable legal and logistical mechanism for retrieving the wastes that may blow from BFD's site onto surrounding privately owned land, in the event that BFD ultimately receives a permit for the proposed facility. The group worries that BFD either may do nothing about such escaped trash or, in retrieving it, may act without sufficient care—*e.g.*, failing to drive slowly to avoid harming livestock, allowing stock to escape when opening gates, or ignoring necessary precautions when hunters are using the land. CSPPC concluded that, without a retrieval plan to protect adjacent landowners' interests, waste may accumulate on those lands until TNRCC transfers the responsibility of collecting it to the landowners. The group cited an instance in which TNRCC staff notified a landowner living adjacent to a landfill near Amarillo that unless personnel from that facility were admitted *unconditionally* onto the adjacent land to retrieve windblown waste, the landowner would become liable for that waste and could be prosecuted by TNRCC.

In order to avoid circumstances like this, CSPPC urged that the following special condition be included in any permit issued for the BFD facility:

The operator shall prepare and submit to the TNRCC a plan for the identification of waste blown from the site or from vehicles bringing waste to the site that enters private property. The plan shall provide for notice to surrounding landowners of the phone number of permittee's representative to be called in case such waste enters their property. Notice can be by an annual mailing to landowners within one half mile of the landfill boundary or by a sign on the corners of permittee's property in prominent locations. The plan shall include a procedure for retrieving waste from private land in a reasonable time and shall include a proposed entry agreement that protects the landowner from liability for the acts of the agents of the permittee while they are on the property of the landowner. Such an entry agreement shall be subject to review and comment by the TNRCC Office of Public Interest Counsel to assure that it is a fair agreement and protects the landowner's rights.

The authority governing this aspect of the interaction between a facility and adjacent land does not appear to be altogether clear. In order to promote a more stable and productive relationship at this interface, therefore, the ALJs suggest that the Commission consider placing a provision substantially similar to the above in any permit that may be issued to BFD. The provision should include a time line for initial submission of a plan—perhaps 120 days from the date of a permit's issuance (subject to extensions granted by the ED on the basis of demonstrated necessity).

While the ALJs agree that an arrangement for collecting windblown waste outside site boundaries may be important to the welfare of the surrounding community, such a provision is not obviously a necessary component of the standard site operating plan, as defined by TNRCC rules. As a whole, the relevant rules focus upon management of the site itself, and the specific operational requirements in 30 TAC § 330.120 refer only to waste "scattered throughout the site, along fences and access roads, and at the gate . . ." The ALJs conclude that failure to specifically address off-site accumulations of waste is not a deficiency that invalidates BFD's operating plan with respect to control of windblown waste.

6. Does the application satisfy regulatory requirements relating to compliance with the regional solid waste plan?

The ALJs recommend a conclusion that BFD's proffered proof on this issue does not satisfy such requirements.

As part of the "basic elements" of a landfill permit application, 30 TAC § 330.51(b)(10) directs that "The applicant shall submit demonstration of compliance with regional solid waste plan." Producing such a plan is primarily the responsibility of the council of government ("COG") for the area in question.

Palo Pinto County lies within the jurisdiction of the North Central Texas Council of Governments ("NCTCOG"). To demonstrate compliance with the regional plan encompassing Palo Pinto County, BFD submitted a letter from NCTCOG dated May 15, 1995, which stated the following:

At their May 11, 1995, meeting, the North Central Texas Council of Governments' Resource Conservation Council reviewed the application for a new Type I MSW Landfill permit for the Blue Flats Disposal Facility in Palo Pinto County, Texas. National Environmental Systems, Inc. intends to site a 140 acre Type I MSW landfill in Palo Pinto near Gordon, Texas. Based on the Executive Summary received from Freese and Nichols, Inc., the consultants on the project, and a presentation made by Mr. Bill Allanach of Freese and Nichols, Inc., the RCC found the proposed expansion to be in conformance with the capacity needs of the *Regional Solid Waste Management Plan for North Central Texas*.

The Protestants and PIC noted, however, that the application to which this letter refers is not the one now under consideration in this proceeding. Rather, at the time of NCTCOG's approval, an earlier BFD application for the same site was pending before TNRCC. That application was withdrawn in January of 1996, to be succeeded by the filing of the present application in September of 1996. Accordingly, the Protestants and PIC concluded that BFD has presented no evidence that its *current* application conforms to NCTCOG's regional solid waste plan.

In closing argument, BFD responded that its earlier application "was merely withdrawn for additional site-characterization studies related to geology, not location and service, which are the main thrust of a regional plan." BFD concluded, "NCTCOG is fully aware of the application before this Court and the TNRCC, and has not withdrawn its favorable evaluation."

The ALJs are unable to perceive any reasonable basis for assuming that NCTCOG's approval would carry over from a contemporaneous application to any successive application. The cited letter of approval explicitly relates to the then-pending application. It does not indicate what aspects of the application then under review could be changed without affecting the council's positive view of the application—or what aspects could not be so changed. Even if the council had made this distinction, the record contains little if any specific information comparing the contents of the two successive BFD applications.

By statute,⁴⁹ the contents of a regional solid waste management plan must emphasize the minimization and reuse of waste, as well as requiring an inventory of municipal solid waste landfill units and an assessment of need for new waste disposal capacity. Even when no direct amendments are made to a plan, evolving circumstances clearly may change, over time, the context in which these subjects (and others addressed by a plan) are applied to evaluate a landfill application. The ALJs cannot presume, then, that in the year and a half between NCTCOG's approval of BFD's first application and the submission of BFD's second application, changed circumstances would not have led NCTCOG to evaluate the two applications differently, even if they had been identical. BFD's simple assertion that its new application would still satisfy NCTCOG carries no evidentiary weight. Since the 1995 letter from NCTCOG represents essentially the only evidence offered by BFD on this issue, the ALJs must conclude that BFD has failed to demonstrate compliance with the regional solid waste plan applicable to this project.

Parties also have asserted that because several of BFD's consultants in this permit proceeding also assisted NCTCOG in developing its regional solid waste management plan, conflicts of interest on the part of these consultants must invalidate any approval of BFD's proposals by NCTCOG. In the ALJs' view, it has not been shown to be within the Commission's jurisdiction to determine whether any legally significant conflict of interest exists in this case; nor has any other entity with authority to make such a determination done so.

⁴⁹ TEX. HEALTH & SAFETY CODE § 363.064.

The Fawcett group contended, further, that BFD should be required to demonstrate compliance not only with the regional waste plan prepared by the COG with jurisdiction over the county in which the proposed site is located, but also with the regional plans of other COGs with jurisdiction over counties that might be the origin of solid waste ultimately transported to the BFD site. The ALJs can find no support in authority or logic for this contention. Chapter 363 of the Health & Safety Code, which governs the regional planning process, is consistently structured to make areas of planning responsibility coterminous with specific geographical boundaries of jurisdiction—whether of regional groupings of counties, subregions, or localities. The statutes provide for the coordination of such plans through their mandated consistency with the state solid waste management plan⁵⁰ (prepared by the Texas Department of Health) and through the Commission's review of the various regional plans.⁵¹ Nothing in the law suggests that individual applicants must further such coordination by demonstrating compliance with the plans of multiple regions.

7. Does the application satisfy regulatory requirements relating to financial assurance and closure costs?

The ALJs recommend a conclusion that the application satisfies such requirements.

The Commission's rules require an applicant to estimate the costs of hiring a third party to close the largest area of the landfill that will require final closure at any time during the life of the landfill.⁵² An applicant must also estimate the costs to maintain the landfill site by a third party for 30 years after the landfill is closed.⁵³ Finally an applicant must provide financial assurance to the TNRCC to cover these costs at least 60 days prior to the initial receipt of waste.⁵⁴

⁵⁰ TEX. HEALTH & SAFETY CODE § 363.062.

⁵¹ TEX. HEALTH & SAFETY CODE § 363.061.

⁵² 30 TAC § 330.281.

⁵³ 30 TAC § 330.283.

⁵⁴ 30 TAC §§ 330.52(b)(11) and 330.285.

BFD's application and prefiled testimony stated that it will have not less than five acres nor more than 25 that will require final cover at any time during the life of the landfill. It then calculated third-party costs to close the landfill and apply the final cover to 25 acres at \$1,778,233. It also calculated third-party post-closure care costs for 30 years at \$2,497,000. When combined, BFD's estimated closure and post-closure care costs totaled \$4,275,223, based on 1995 dollars.⁵⁵ BFD also provided the Commission a letter dated December 16, 1999, stating that it will provide financial assurance for these costs, through either a trust fund or a surety bond, at least 60 days before the initial receipt of waste at the site.⁵⁶

Protestant Fawcett argued that BFD failed to offer sufficient proof of closure and post-closure care costs or sufficient evidence of financial responsibility. In particular, Fawcett complained that BFD's closure-cost estimates are based on 1995 dollars, while 30 TAC §§ 330.281(a) and 330.283(a) require estimates in "current dollars." Fawcett also argued that BFD's letter concerning financial assurance failed to satisfy the requirements of 30 TAC § 330.285(a), because BFD did not offer the letter in evidence for the truth of the matter asserted.⁵⁷

CSPPC also criticized BFD's closure-cost estimate because the closure plan failed to identify the most costly time of closure and failed to include sufficient detail about action that would be necessitated in the event of premature closure of the facility. CSPPC argued that BFD witness Anthony Bosecker testified that the highest cost to close the landfill will occur when Sector 6 is open, but BFD's application does not contain a closure plan for Sector 6. Instead, the only closure plan presented by BFD is for Sector 10, at the end of the anticipated operating life of the landfill.

⁵⁵ Exh. 121, pp. 26-27; Exhs. 134, 135, 179, 180, and 181.

⁵⁶ Exh. 111. BFD did not offer this exhibit for the truth of the matters stated in the exhibit, but simply to establish that it informed TNRCC that financial assurance would be provided 60 days before receipt of waste at the site, as required by TNRCC rules.

⁵⁷ Exh. 111.

Decrying a general lack of detail in the closure plan, CSPPC especially complained that BFD failed to include any closed-landfill contour maps (other than for the normal end of the landfill's life) and failed to include any discussion about melding completed sectors of the landfill with undeveloped portions if premature closure occurs.

BFD made a terse response to Protestants, simply stating that it met TNRCC's requirements to estimate worst-case closure costs and post-closure care costs and that evidence of a financial assurance mechanism is not required until 60 days prior to the receipt of waste.

The ALJs find that BFD's closure and post-closure cost estimates meet the Commission's minimum requirements. BFD's application and testimony state that no more than 25 acres will require final cover at any time during the life of the landfill. Although some of the designated sectors are larger than 25 acres, Mr. Bosecker explained that BFD will not excavate such a sector entirely at one time, nor will it make such a sector a single cell. Rather, the numbered sectors simply indicate the general sequence of filling the landfill.⁵⁸ No evidence was offered to contradict BFD's explanation, nor was any evidence offered to challenge the accuracy of BFD's cost calculations. Further, the Commission's rules do not require a detailed final closure plan for every sector or for every possible open cell, as suggested by CSPPC. Therefore, the lack of such closure plans do not invalidate BFD's closure cost estimate.

The ALJs agree with Fawcett that BFD's cost estimates need to be updated, but this is not a factor that would weigh in favor of denying the application. BFD's cost estimates were stated in current dollars when the calculations were made, but the passage of time has dated them. In addition, 30 TAC § 330.52 does not require BFD to provide the actual financial assurance instruments until 60 days prior to receiving waste, so BFD was not required to offer evidence of these instruments in its application or at hearing. BFD's letter to the Commission stating that it will provide financial assurance through either a trust fund or a surety meets the Commission's requirements at this time.

⁵⁸ Tr. Vol. 3, p. 781.

In summary, the ALJ's find that BFD has met the minimum requirements to calculate third-party closure costs and post-closure care costs. If the Commission grants a permit to BFD, the ALJs recommend that the Commission require BFD to update its cost estimates to current dollars and to provide its financial assurance instruments based on the updated cost estimates at least 60 days before receiving waste.

8. Does the application satisfy regulatory requirements relating to wetlands?

The ALJs recommend a conclusion that the application satisfies such requirements.

A Commission rule, 30 TAC § 330.302, prohibits the location of a landfill within wetlands (with exceptions not relevant to this proceeding). The PIC has questioned whether BFD would violate this rule through its plan to include an existing man-made stock pond within the area excavated for its proposed facility.

In a letter of December 21, 1995, the U.S. Army Corps of Engineers (which regulates dredge and fill work affecting all waters of the United States, including wetlands) notified BFD that the proposed project would not involve activities subject to the Corps' regulation. Additionally, Barbara Nickerson (an environmental scientist with Freese and Nichols) testified that, because the pond in question is small and man-made, it is excluded by the applicable TNRCC definition of "wetland," at 30 TAC § 307.3(49). That definition includes the following statements:

The term 'wetland' does not include . . . a man-made wetland of less than one acre. . . . If this definition of wetland conflicts with the federal definition in any manner, the federal definition prevails.⁵⁹

While Ms. Nickerson conceded on cross-examination that she was unsure as to the details of how Freese and Nichols personnel determined the size and origin of the pond, the ALJs believe that her conclusions, corroborated by the Corps of Engineers' evaluation of the project, are sufficient to

⁵⁹ The 30 TAC ch. 330 definition of "wetland" cross-references the 30 TAC ch. 307 definition of the term.

establish that regulated wetlands will not be affected by the application. Even if Ms. Nickerson had been shown to be incorrect in applying the exception noted in the TNRCC's definition of wetland, a federal definition of wetland, implicit in the Corps' conclusion that wetlands will not be affected by the project, would prevail.

9. Does the application satisfy regulatory requirements relating to existing conditions?

The ALJs recommend a conclusion that the application satisfies such requirements.

Protestants and PIC asserted that BFD has failed to comply with TNRCC rules requiring that the application include a summary of the site's existing condition. BFD's summary stated only that its land is privately owned and currently utilized for livestock grazing, omitting any mention of sandstone-quarrying operations that have been conducted on the site over the past several years.

This subject is addressed in broad terms by 30 TAC § 330.53(a)(1), which states (under the heading "General"), "Part II of the application shall describe the existing conditions and character of the site and surrounding area." Identical language also appears in 30 TAC § 330.51(a)(2). This general requirement is elaborated upon slightly by 30 TAC § 330.53(b)(4), which states (under the heading "Requirements of Part II"), "Existing conditions summary. The applicant may discuss any land use, environmental or special issues he desires in an existing conditions summary."

Taken together, these rules provisions appear to allow an applicant considerable latitude in determining what level of detail to include in a description of existing conditions. Other provisions in § 330.53 of the rules indicate that the public's primary concern, in this context, is not the exhaustive description of the proposed site—which, after all, the applicant is seeking to transform—but rather a reasonably comprehensive survey of the surrounding lands whose use and character may be affected, against the will of their owners, by a new landfill. Where existing aspects of a site provide important amenities or support for activities on surrounding land, specific inclusion of those aspects in the existing conditions summary should be expected. Quarrying operations would not appear to fall into this category, however.

In the ALJs' view, nothing in record indicates that the quarrying on the BFD site is a matter of such significance that it needs to be flagged in a portion of the application that largely amounts to an introductory overview. To the extent that quarrying has affected the contours or methods of proposed construction at the site, those changes have been depicted in amendments (which ALJ Zukauckas ruled to be minor amendments) to the pertinent technical portions of the application. If BFD's summary of existing conditions reflects a failure to satisfy fully some aspect of the cited rules, it is an inconsequential failure.

10. Do various alleged defects in form, certification, and listing of adjacent landowners invalidate the application?

The ALJs recommend a conclusion that these alleged defects either do not represent regulatory violations or are not sufficiently significant to have bearing upon whether the application should be approved or denied.

Fawcett complained that BFD's application contains several defects, including an improper signature, lack of certification of amendments, and a signature without proof of corporate authority or authorized representative capacity. Fawcett also complained that several technical drawings lack an engineer seal date or contain other engineer seal defects, while several revised drawings fail to explain what revision had been made.⁶⁰ According to Fawcett, some of these defects violate the Texas Engineering Practice Act and the rules of the Texas Board of Professional Engineers.

Protestant Fawcett asserted, as well, that BFD failed to provide an accurate list of persons owning land adjacent to the facility or within a reasonable distance of proposed disposal areas, as required by 30 TAC § 305.45(6)(D). In particular, Fawcett complained that BFD Exhibits 163 and 171 fail

⁶⁰ Fawcett argued that the following exhibits contain errors: Exh. 177, Att. 6H.2 does not have a seal date; Exhs. 134, 178, 179, and 180 are not sealed such that all engineering can be clearly attributed to the responsible engineer or engineers; Exhs. 128, Att. 1; 131, Att. 7A; 133, Att. 6A, 6A.2; 135, Att. 12A; 136, Att. 15A; 163, Fig. 1-5; 171, Fig. 1-5; 177, Atts. 6A, 6A.2, 6H.2, 6H.5, 6H.6, 6H.7 and 6H.8; 179 Att.12; and 182, Att. 15A were revised but no notation of the revision or its date was made and they are not clearly attributable to each engineer who worked on the document; and Exhs. 178, Att. 8A; 181, Att. 14E; 134, Att. 8A; and 128, Capacity Analysis fail to show the new access road.

to include Mr. Fawcett as an adjacent landowner, even though he purchased property adjacent to the landfill before the BFD application was declared technically complete.

With respect to Fawcett's complaints about signatures, BFD explained that Jodie Collins, its original general manager, resigned after BFD submitted its application to TNRCC and after staff declared the application technically complete. BFD then hired James Lattimore as general manager and substituted Mr. Lattimore's signature for Mr. Collins' when it seemed logical to do so. BFD stated that the ALJs have already accepted these changes and ruled that the corporate change in authority was a minor amendment. BFD also argued that Fawcett cited no legal authority to support its arguments and suggested that Fawcett's contentions would make it virtually impossible for a company to have personnel changes while an application proceeded through the administrative process. In addition, BFD contended that Fawcett's alleged violations of the Engineering Practices Act and Board rules are irrelevant in this contested case hearing.

The ALJs find that Mr. Lattimore had authority to sign BFD's application after Mr. Collins resigned. Fawcett's argument that an application must be refiled when the original authorized representative dies, resigns, or otherwise becomes unavailable, is impractical and unnecessary and elevates form over substance. The evidence established that BFD's representative possessed the necessary corporate authority, and BFD's application and supporting affidavits have been properly signed.

Fawcett's complaints about defective engineering seals are more troubling, because the Commission's rules at 30 TAC § 330.51(d) expressly provide that engineering plans and drawings shall be sealed as required by the Engineering Practices Act.⁶¹ Nevertheless, the ALJs conclude

⁶¹ 30 TAC § 330.51(d) provides:

Preparation. Preparation of the application shall conform with Texas Civil Statutes, Article 3271a, Engineering Practices Act.

(1) The responsible engineer shall affix her seal, sign her name, place the date of execution and state intended purpose on each sheet of engineering plans, drawings, and on the titled or contents page of the application as required by the Texas Engineering Practice Act, § 15c, and in accordance with 22 TAC §131,138 (concerning Engineer's Seal).

that these alleged errors do not require denial of the application. Initially, the ALJs note that very little evidence was offered on this issue and it is not clear whether the alleged errors actually violate the Act or Board rules. In addition, even if the alleged errors do violate the Act or rules, they are simply technical errors of form concerning the engineering seal rather than substantive errors in the drawings or calculations themselves.⁶²

The ALJs find that these alleged engineer-seal violations are not substantive issues that affect the merits of BFD's application. However, because the Commission's rules require that engineering documents and drawings comply with the Act and Board rules, the ALJs recommend that the Commission require BFD to correct any defective engineer seals that the ED determines violate the Act or Board rules, in the event that the Commission grants BFD a permit.

With respect to the landowner list, BFD noted that it included Earl Waddell, who owned the Fawcett property at the time BFD filed its application. BFD also pointed out that Mr. Fawcett fully participated in the hearing, and that he knew about the proposed landfill when he purchased Mr. Waddell's property. BFD also stated that all nearby residents and landowners were either parties to the proceeding or chose not to be parties. Therefore, if any error occurred in the landowners list or land use map, the error was harmless.

The ALJs find that BFD's landowner list is adequate. Mr. Fawcett testified that he knew about the proposed landfill when he bought the property, and he has fully participated in this administrative proceeding. In addition, Fawcett has not shown that any other landowner was unaware of BFD's landfill application or was otherwise prejudiced by BFD's landowner list.

(2) Applications that have not been sealed shall be considered incomplete for the intended purpose and shall be returned to the applicant.

⁶² See Footnote 60.

11. Should the duration of any permit issued to BFD be limited to a predetermined term of years rather than to the actual operating life of the facility?

The ALJs recommend that any permit, if issued, be for the operating life of the facility.

Protestant CSPPC urged denial of the permit but asked, alternatively, for a recommendation that the Commission limit the duration of any permit issued to five years, subject to renewal. CSPPC stated that the Commission has authority to limit the term of the permit under § 361.087 of the Code, and it cited the permit renewal for the Texas Ecologist, Inc. (TECO)⁶³ hazardous waste landfill as precedent. In the TECO case, the Commission limited the permit to five years, even though the normal hazardous waste permit has a 10-year duration.

CSPPC noted that the TNRCC rules do not give explicit criteria for establishing the duration of a permit. However, it noted that other types of permits (including hazardous waste, wastewater, injection wells, and air-emission permits) have limited durations and renewal requirements. CSPPC suggested that new technologies, new technical data, and changing conditions favor limiting permit durations. In this case, new technologies might provide for better detection of leaks, better technical data might become available to characterize groundwater, changes may occur in available landfill space, or alternatives to landfill disposal might develop. In CSPPC's view, a five-year renewal process will allow periodic review of the landfill site and its operation and will provide an incentive for the operator to comply with TNRCC rules.

In response, BFD accused CSPPC of seeking regulatory changes through a contested-case hearing rather than the rule-making process. It also argued that the duration of the permit is not properly before the ALJs because CSPPC did not raise the issue at hearing.

The ALJs find that CSPPC has not presented sufficient grounds to limit the duration of BFD's requested permit. Although Texas law and Commission rules authorize the Commission to limit

⁶³ Application of Texas Ecologist, Inc., Permit No. HW-50052-001 (1989).

the duration of a municipal landfill permit, the rules also state that a permit will normally be issued for the life of the site. Code § 361.087 provides:

A permit issued under this chapter must include: . . . (3) the terms and conditions on which the permit is issued, including the duration of the permit.

The Commission's rules provide at 30 TAC § 330.63(a) and (b):

(a) A permit is normally issued for the life of the site.

(b) When deemed appropriate by the executive director a permit may be issued for a specific period of time. When an owner or operator has made timely and sufficient application for the renewal of a permit, the existing permit does not expire until the application has been finally determined by the commission.

At most, CSPPC suggested that possible advancements in technology might improve monitoring capabilities that should be required in future permit renewals. But this argument could be made about any solid-waste landfill application and would require limited permit durations for all landfills. Yet the Commission's rule at § 330.63 clearly states that such a permit is normally issued for the life of the site. CSPPC's proposal to limit the permit based on possible future advancements in technology would effectively supplant this formal determination of Commission's policy. In addition, imposing a permit expiration date would likely subject the applicant, the ED, and other state resources to a lengthy, recurring, and often merely repetitive process of considering renewal applications.

Likewise, the ALJs find unpersuasive CSPPC's argument that a limited duration permit would encourage BFD to comply with TNRCC regulations. That argument can also be made about any permit application. Further, enforcement action can be brought against BFD if it fails to comply with TNRCC regulation, regardless of the duration of the permit. The risk of fines or license revocation through an enforcement action provides sufficient motivation for a landfill operator to

comply with the Commission's rules and regulations. In short, the ALJs find that CSPCC has not offered sufficient evidence or argument to justify limiting the duration of the requested permit--in the event it is issued--and they recommend that the Commission deny CSPCC's request.

12. What is the proper allocation of transcript costs?

The ALJs recommend a finding that the applicant should bear the full costs of transcription in this matter, as well as the costs for those copies of the transcript furnished as a normal matter of course to the ALJs and to agency parties.

The Commission's rules, at 30 TAC § 80.23(d), enumerate factors that the Commission "shall consider . . . in assessing reporting and transcription costs." Factors pertinent to this case include the following:

(A) "The party who requested the transcript." The applicant made the initial request in this case.

(B) "The financial ability of the party to pay costs." The applicant's demonstration of financial resources for closure costs, access road construction, and other aspects of the project indicates that it exceeds other parties in its ability to defray what amounts, after all, to a cost of doing business.

(C) "The extent to which the party participated in the hearing." The extent of participation by applicant and protestants was roughly comparable, given the dynamics of a proceeding in which the pre-filing of direct testimony was required and the great majority of such testimony was submitted by the applicant.

(D) "The relative benefits to the various parties of having a transcript." As the party bearing the burden of proof, the applicant could anticipate the greatest potential benefit from an ability to cite and reassemble the information within the record.

(E) "The budgetary constraints of a state or federal administrative agency participating in the proceeding." The broad responsibilities and limited budgets of the agency parties in this case make it unreasonable to assess costs against them. The rules also preclude the Commission from assessing costs against statutory parties (the ED and PIC), which cannot appeal a Commission decision.

(F) "Any other factor which is relevant to just and reasonable assessment of costs." The applicant is the only party that could anticipate a direct, new benefit from the outcome of the proceeding (*i.e.*, authorization to operate a new facility); other parties could at best hope for preservation of the status quo that antedated the initiation of the application. Moreover, in proceedings that may result in impact upon environmental conditions and upon publicly owned resources (such as surface water), public participation should not be discouraged by assessment of costs, absent strong countervailing factors.

In accordance with usual Commission practice, BFD should *not* be required to pay for additional copies of the transcript ordered by participants other than the agency parties and the ALJs.

V. SUMMARY

In the ALJs' opinion, the hearing process has not revealed, in the proposed site itself, any physical deficiencies that could be termed clearly intrinsic or fundamental. However, the applicant has failed in a number of instances to demonstrate its satisfaction of specific requirements for the issuance of a landfill permit. Some of these failures relate to prerequisites that the ALJs regard as basic—such as failures to delineate a wholly adequate groundwater monitoring system or to demonstrate that significant alteration of natural drainage patterns will not occur. Others might reasonably be described as relating primarily to operational details. Most or all might be subject to prompt cure if the application was referred for further staff review. Given the application's present condition and content, though, the ALJs cannot recommend its approval.

VI. ADDITIONAL FACTS

In addition to the facts addressed in the preceding discussion of the major issues, the Findings of Fact contained in the proposed Order (attached to this Proposal for Decision) include other facts, as established during the proceeding, that are necessary to show compliance with regulatory requirements applicable to this administrative process. These additional facts are incorporated by reference into this Proposal for Decision.

VII. CONCLUSION

After a review of the record and for the reasons given above, the ALJs recommend that the Commission adopt the proposed Order attached to this Proposal for Decision and deny the pending application from Blue Flats Disposal, L.L.C.

Signed this 2nd day of October, 2000.

STATE OFFICE OF ADMINISTRATIVE HEARINGS



THOMAS H. WALSTON
ADMINISTRATIVE LAW JUDGE



MIKE ROGAN
ADMINISTRATIVE LAW JUDGE

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION



AN ORDER denying the application by Blue Flats Disposal, L.L.C., for Permit No. MSW-2262; TNRCC Docket No. 98-0415-MSW; SOAH Docket No. 582-98-1390

On December 6, 2000, the Texas Natural Resource Conservation Commission ("Commission") considered the application of Blue Flats Disposal, L.L.C. ("Applicant") for a permit authorizing the construction and operation of a Type I municipal solid waste landfill, approximately six miles east of the City of Gordon in Palo Pinto County, Texas, pursuant to the Chapter 361 of the Texas Health & Safety Code.

Administrative Law Judge ("ALJ") Bill Zukauckas, with the State Office of Administrative Hearings ("SOAH"), conducted a preliminary hearing upon this action on September 2, 1998. ALJs Mike Rogan and Tom Walston conducted evidentiary hearings on June 7 through 9, 12 through 16, 19 and 20, 2000. The following were designated as parties to the proceeding: the Applicant, Blue Flats Disposal, L.L.C.; the Executive Director of the Commission; the Public Interest Counsel of the Commission; and 15 individuals or entities opposing the application, including Citizens to Save Palo Pinto County, Brian Birk, Patricia Blackmon, Geni and Susan Brierton, Judy Fawcett, Roger Fawcett, Ruby Finch, Robert and Jerrie Rexroat, Robert E. Richards, James Roberts, Mike and Susan

Ruff and X-O Ranch Co., Inc., Fawcett, Ltd., subsequently was substituted for X-O Ranch Co., Inc. as a party. Brian Birk, Judy Fawcett, and Mike and Susan Ruff subsequently withdrew as parties.

After considering the ALI's Proposal for Decision and the evidence and arguments presented, the Texas Natural Resource Conservation Commission makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. Applicant is a limited liability company, for which the State of Texas issued a Certificate of Organization on April 29, 1996. Applicant remains fully authorized to do business in Texas.
2. In September of 1998, the Applicant filed an application with the Commission for a permit to construct and operate a Type I municipal solid waste landfill. Commission staff declared the application administratively complete on October 28, 1996, and technically complete on December 4, 1997.
3. Applicant provided proper notice of the application as follows:
 - a. Notice of intent to obtain a permit was published in *The Mineral Wells Index* on March 8, 1998; and in *The Quad City Messenger* on January 23, 1998. Each of these publications is a newspaper of general circulation published and regularly circulated in Palo Pinto County, Texas.
 - b. Copies of the application were provided to agencies, officials, and authorities with a jurisdictional interest in the case and the comments or recommendations of those entities were solicited.

4. Applicant provided proper notice of the initial public hearing on the application as follows:
 - a. Notice of the preliminary hearing was published on July 31, 1998, in *The Mineral Wells Index*, a newspaper regularly published and generally circulated in Palo Pinto County, Texas.
 - b. Notice of the preliminary hearing was mailed to each residence, business, and owner of real property located within one-half mile from the property line of the proposed landfill on July 31, 1998, by certified mail, return receipt requested. Notice was also sent to all persons who requested a public hearing in response to the notice of application.
5. A preliminary public hearing on the application was held in Gordon, Texas, on September 2, 1998.
6. The Evidentiary hearing in the proceeding was held in Austin, Texas, on June 7 through 9, 12 through 16, 19 and 20, 2000.
7. The proposed site of the facility is a 140-acre tract of land owned in fee simple by the Applicant and located adjacent to Interstate Highway 20 ("I-20"), approximately six miles east of the City of Gordon in Palo Pinto County, Texas. The site is currently utilized for livestock grazing and limited sandstone quarrying.
8. The land immediately surrounding the site is rural, predominantly rangeland, with some cropland. Three occupied residences exist within a one-mile radius of the site, the nearest approximately 0.3 mile from the site boundary.
9. The site lies outside the corporate limits or extra-territorial jurisdiction of any city. Gordon, the nearest incorporated city (population 465) has experienced no net population change from 1990 to 1998.

Groundwater protection:

10. The site is situated upon (and the facility would be excavated into) thick strata of shale interbedded with sandstone and limestone, a structure classified geologically as the Mingus Formation of Upper Pennsylvanian sediments. Higher elevations of the site are capped by the Dobbs Valley Sandstone, a subclassification (or lentil) of the Mingus Formation.
11. Hydraulic conductivity of the unweathered portions of the Mingus Formation on site is low, ranging from 1.5×10^{-7} to 1×10^{-7} cm/sec, which is generally equal to (or even lower than) the level of conductivity required for a landfill's recompacted soil liner material.
12. In the area surrounding the site, the Mingus Formation generally slopes downward to the northwest at an angle of about one-half degree (or 30 to 50 ft. per mile), an orientation described as the "regional dip."
13. No major or minor aquifers are present within Palo County or beneath the site. No recharge areas for aquifers are located within 7.5 miles of the site. Groundwater beneath the site occurs in isolated, discontinuous pockets of poor quality, which are incapable of yielding significant quantities of usable water.
14. If groundwater (including any leachate that might escape through the liner of the proposed landfill) is able to enter and move through the unweathered portion of the Mingus Formation, it will move parallel to bedding planes and downgradient, in the direction of the regional dip.
15. Applicant's proposed "point of compliance" system of monitoring wells, situated on the northern and western boundaries of the site (i.e., downgradient along the regional dip from the proposed waste disposal cells), will detect groundwater migrating from the proposed facility through the unweathered portion of the Mingus Formation.

16. Where the Mingus Formation is exposed to the elements, at or near the surface, weathering alters its character. Portions of the formation's weathered zone at the site exhibit conductivity of 1.1×10^{-3} cm/sec or approximately 1,000 to 10,000 times greater than that of the adjacent unweathered zone. Accordingly, water would move much more readily and more quickly through the weathered zone than through the unweathered zone.
17. Most of the site lies on the face of a ridge that slopes generally downward toward the south. The weathered zone here extends to a depth of approximately 40 to 80 feet beneath the surface and is oriented generally parallel to the local topography, so that it, too, slopes downward toward the south—i.e., in a direction essentially opposite that of the regional dip.
18. Under the Applicant's plan for excavating the site, portions of the floors and sidewalls of disposal cells would be situated in the weathered zone.
19. Any leachate that escaped from portions of the disposal cells excavated into the weathered formation at the site would likely move downgradient through the weathered zone—i.e., in the direction of the zone's southward slope. Water moving downward within the weathered zone, upon reaching the interface with the underlying and less hydraulically conductive unweathered zone, would tend to remain within the weathered zone and to move laterally and downgradient within that zone.
20. Applicant's proposed monitoring system, particularly its "point of compliance" monitoring wells, will not monitor the southern boundary of the site sufficiently to assure detection of groundwater migrating from the proposed facility through the potential pathway represented by the weathered portion of the Mingus Formation.

Surface Drainage:

21. Under existing conditions, 134.85 acres drain south of the proposed landfill site, out of a total of 150.99 acres affected by the project, and the existing peak flow rate to the south during a 100-year storm is 301.42 cfs.
22. After leaving the site, the southbound drainage crosses the unpaved Old Santo Road, Union Pacific Railroad tracks, and I-20, and eventually flows into Sunday Creek about one mile south of I-20.
23. Currently, one 36-inch culvert is in place under Old Santo Road, but it cannot handle the existing flow during significant rainfall events. Two five-foot box culverts are in place under the railroad tracks. These box culverts can handle existing stormwater flow.
24. The property and roads located immediately south of I-20 occasionally flood under current conditions.
25. If the proposed landfill is constructed in accordance with the application, a detention pond (Pond A) would be constructed south of site. Pond A would release stormwater runoff through a stepped-triangular weir outlet that would moderate flow rates leaving the site to the south.
26. If the proposed landfill is constructed in accordance with the application, 114.86 acres would drain south into Pond A upon completion of the landfill. The peak flow rate into Pond A during a 100-year 12-hour storm would be 502.34 cfs; the peak flow rate out of Pond A during a 100-year 12-hour storm would be 276 cfs.
27. If the proposed landfill is constructed in accordance with the application, BFD would replace the single culvert under Old Santo Road with five 36-inch culverts. The record contains

insufficient evidence to determine what impact the addition of four 36-inch culverts under Old Santo Road would have on natural drainage patterns south of the proposed landfill site.

28. Under existing conditions, 9.55 acres drain northeast of the proposed landfill site, and the existing peak flow rate to the northeast during a 100-year storm is 31.1 cfs.
29. After leaving the site, the northeast drainage crosses an additional piece of property owned by BFD and property owned by Roger Fawcett. It then enters Saline Creek on Mr. Fawcett's property, about a quarter mile from the proposed landfill site.
30. The northeast drainage causes minor erosion to Mr. Fawcett's property under existing conditions.
31. If the proposed landfill is constructed in accordance with the application, a detention pond (Pond B) would be constructed northeast of site. Pond B would release stormwater runoff through a single 18-inch reinforced concrete pipe that would moderate flow rates leaving the site to the northeast.
32. If the proposed landfill is constructed in accordance with the application, 34.21 acres would drain into Pond B upon completion of the landfill. The peak flow rate into Pond B during a 100-year/2-hour storm would be 195.31 cfs, the peak flow rate out of Pond B during a 100-year/2-hour storm would be 24 cfs.
33. If the proposed landfill is constructed in accordance with the application, an additional 5.26 acres would drain to the northeast along the same path as the northeast drainage from Pond B. This additional acreage would have a peak flow rate of at least 22 cfs during a 100-year/2-hour storm. The precise post-development peak flow rate cannot be determined because

BFD omitted offsite Subarea B, which is a portion of the additional 5.26 acres, from its calculation of such peak flow rate.

34. If the proposed landfill is constructed in accordance with the application, Pond B and the additional 5.26 acres would have a combined peak flow rate to the northeast of at least 46 cfs during a 100-year, 2-hour storm. The precise combined post-development peak flow rate cannot be determined because BFD omitted offsite Subarea B, which is a portion of the combined northeast drainage area, from its calculations.
35. The record contains insufficient evidence to determine what impact this increased peak flow rate would have on natural drainage patterns northeast of the site, if the proposed landfill is constructed in accordance with the application.
36. Under existing conditions, 6.59 acres drain northwest of the landfill site, and the existing peak flow rate to the northwest during a 100-year, 12-hour storm is 21.20 cfs.
37. After leaving the landfill site, the northwest drainage crosses an additional piece of property owned by BFD and enters Saline Creek approximately one quarter mile from the site.
38. If the proposed landfill is constructed in accordance with the application, 1.40 acres would drain to the northwest upon completion of the proposed landfill and the peak flow rate to the northwest during a 100-year, 12-hour storm would be 9.45 cfs.
39. The northwest drainage and the northeast drainage enter Saline Creek about one quarter mile from each other. The record contains insufficient evidence to determine the net effect on natural drainage patterns when the increased drainage to the northeast and the decreased drainage to the northwest combine in Saline Creek, if the proposed landfill is constructed in accordance with the application.

40. BFD's application does not include any calculations or analyses of existing or post-development runoff volumes to the northwest or northeast.
41. BFD's application does not include any calculations or analyses of existing or post-development runoff velocities to the northwest, northeast, or south.
42. BFD's application does not include any calculations, discussion, or analyses using 25-year rainfall intensities.
43. BFD's application does not include any calculations, discussion, or analyses regarding the carrying or assimilative capacity of Saline Creek.
44. BFD's application does not include any calculations, discussion, or analyses regarding the impact on natural drainage patterns south of the proposed landfill site that may result from the replacement of the single 30-inch culvert under Old Santo Road with five 36-inch culverts.
45. BFD's application and the evidence admitted in the record provide insufficient information to make a reasoned determination of whether development of the proposed landfill will significantly alter natural drainage patterns.

Endangered Species:

46. At the proposed site, suitable habitat exists for the Texas horned lizard (*Phrynosoma cornutum*), a species classified by the State of Texas as "threatened."
47. Applicant's only substantive on-site biological investigation occurred on November 21, 1991—that is, during the time of year when Texas horned lizards hibernate in underground burrows, and failure of the Applicant's investigators to observe any specimens therefore does not support a conclusion that Texas horned lizards do not inhabit the site. Based on the

content of its scientific investigation of the subject. Applicant has no knowledge of the character of any population of this species on the site.

48. Texas horned lizards have been observed regularly on rangeland located within one to two miles of the site.
49. Applicant's plan to prevent harm to any Texas horned lizard specimens found on the site is to relocate the specimen outside the landfill operations area.
50. Because Applicant's plan is founded on a lack of information about any population of the Texas horned lizard that may exist on the site and because it wholly lacks specificity for executing its objective of removing individual lizards encountered in the operations area, the plan articulates no meaningful measures for assuring protection of this species.

Site Operating Plans:

51. Applicant's fire protection plan fails to provide sufficiently detailed procedures or instructions for facility personnel to handle fires during the day-to-day operations of the facility. Among other things, the proposed fire protection plan fails to describe precautions to be observed for avoiding fires, a concrete sequence of steps to be taken in fighting specific types of fires, or procedures for checking or maintaining fire equipment.
52. Applicant's endangered species protection plan fails to provide sufficiently detailed procedures or instructions for facility personnel to handle endangered or threatened species during the day-to-day operations of the facility. Among other things, the proposed endangered species protection plan fails to describe how personnel will be instructed to spot and recognize the Texas horned lizard; what routine will be used to scan working areas for the species; how specimens will be handled while being transported to new locations; or how

personnel will determine a suitable location for the release of such specimens. The plan also fails to address requirements that the Applicant will need to fulfill in order to obtain the Texas Parks and Wildlife Department permit required handling endangered or threatened species.

53. Applicant's disease vector control plan fails to provide sufficiently detailed procedures or instructions for facility personnel to handle disease vectors during the day-to-day operations of the facility. Among other things, the proposed disease vector control plan fails to list significant vectors in the vicinity of the site, fails to identify circumstances that would necessitate using means of control other than the routine compacting and covering of waste, and lacks procedures for safely using pesticides or other alternative means of control.

Regional Solid Waste Plan:

54. To demonstrate compliance with the applicable regional solid waste plan, BFD provided only a letter of approval from the North Central Texas Council of Governments (NCTCOG), which encompasses Palo Pinto County, dated May 15, 1995. The NCTCOG letter referred only to a prior BFD application, which was withdrawn in January of 1996; it did not refer to BFD's application under consideration in this proceeding.

Transcript Costs:

55. With respect to hearing transcription costs, the Applicant possesses greater resources and ability to pay such costs than any other parties; the Applicant initially requested transcription of the proceedings; and the Applicant is the only party in this action who could anticipate any direct increased benefit from the proceedings--i.e., new authorization for landfill construction and operation--as opposed to preservation of the *status quo ante*.

CONCLUSIONS OF LAW

1. The public hearings on this permit application were held under the authority of, and in accordance with, the Texas Solid Waste Disposal Act, Chapter 361 of the TEXAS HEALTH & SAFETY CODE; TEXAS GOVERNMENT CODE § 2003.047, the Commission's rules (Title 30 of the TEXAS ADMINISTRATIVE CODE), and SOAH's procedural rules (Title 1, Chapter 155 of the TEXAS ADMINISTRATIVE CODE).
2. Proper notice of these matters was given as required by the Act and by Commission rules.
3. In failing to delineate a "point of compliance" system of monitoring wells that assures the detection of groundwater migrating toward the southern boundary of the proposed facility through the weathered portion of the Mingus Formation, as noted in Findings of Facts Nos. 10 through 20, the Applicant has failed to comply with 30 TAC § 330.231, which requires installation of a monitoring well system capable of assuring the detection of groundwater contamination escaping the site.
4. In failing to analyze substantively the impact of changes that the proposed project would produce in the flow rate and volume of surface water draining off the site, as noted in Findings of Fact Nos. 21 through 45, the Applicant has failed to comply with 30 TAC § 330.56(D)(4)(A), which requires demonstration that natural drainage patterns will not be significantly altered by proposed landfill development.
5. In failing to conduct a reasonable investigation of the status of the Texas horned lizard on the site and in failing to produce a plan articulating meaningful measures for protecting the species on the site, as noted in Findings of Fact Nos. 46 through 50, the Applicant has failed to comply with 30 TAC §§ 330.53(b)(13)(B) and 330.129, which require that proposed

landfill operations not cause or contribute to the taking of a protected species, and has failed to comply with 30 TAC § 330.51(b)(8), which requires an applicant to submit adequate demonstrations of compliance under state and federal endangered species laws.

6. In failing to submit a site operating plan with sufficient substantive provisions relating to fire protection, endangered species protection, and disease vector control, as noted in Findings of Fact Nos. 51 through 53, the Applicant has failed to comply with 30 TAC § 330.114, which requires sufficiently detailed plans to give operating personnel specific guidance on conducting day-to-day operations.
7. In failing to submit a letter of approval or other documentation relevant to the pending application, as noted in Finding of Fact No. 54, the Applicant has failed to comply with 30 TAC § 330.51(b)(10), which requires an applicant to demonstrate compliance with the regional solid waste plan.
8. In accordance with 30 TAC § 80.23, transcription costs in this proceeding are reasonably borne by the Applicant.
9. Based on the foregoing Findings of Fact and Conclusions of Law, Applicant has failed to demonstrate that construction and operation of the proposed landfill will not result in adverse effects upon the health, welfare, environment, or physical property of the public and has failed to demonstrate that the pending application complies with all statutory and regulatory requirements.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION THAT:

1. The application of Blue Flats Disposal, L.L.C., for a permit to authorize the construction and operation of a Type I municipal solid waste landfill be denied, and all exceptions inconsistent therewith be overruled.
2. Transcription costs in this matter be assessed against the Applicant.
3. The chief clerk of the Texas Natural Resource Conservation Commission shall forward a copy of this Order to all parties.
4. If any provision, sentence, clause or phrase of this Order is for any reason held to be invalid, the invalidity of any portion shall not affect the validity of the remaining portions of the Order.
5. All other motions, requests for entry of specific Findings of Fact or Conclusions of Law, and other requests for general or specific relief, if not expressly granted herein, are hereby denied for want of merit.

Issue date:

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION

Robert J. Huston, Chairman

EXHIBIT K

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION



AN ORDER denying the application by Blue Flats Disposal, L.L.C., for Permit No. MSW-2262 ; TNRCC Docket No. 98-0415-MSW; SOAH Docket No. 582-98-1390

On December 20, 2000, the Texas Natural Resource Conservation Commission ("Commission") considered the application of Blue Flats Disposal, L.L.C., ("Applicant") for a permit authorizing the construction and operation of a Type I municipal solid waste landfill, approximately six miles east of the City of Gordon in Palo Pinto County, Texas, pursuant to the Chapter 361 of the Texas Health & Safety Code.

Administrative Law Judge ("ALJ") Bill Zukauckas, with the State Office of Administrative Hearings ("SOAH"), conducted a preliminary hearing upon this action on September 2, 1998. ALJs Mike Rogan and Tom Walston conducted evidentiary hearings on June 7 through 9, 12 through 16, 19 and 20, 2000. The following were designated as parties to the proceeding: the Applicant, Blue Flats Disposal, L.L.C.; the Executive Director of the Commission; the Public Interest Counsel of the Commission; and 15 individuals or entities opposing the application, including Citizens to Save Palo Pinto County, Brian Birk, Patricia Blackmon, Gem and Susan Brierton, Judy Fawcett, Roger Fawcett, Ruby Finch, Robert and Jerrie Rexroat, Robert E. Richards, James Roberts, Mike and Susan Ruff, and X-O Ranch Co., Inc.; Fawcett, Ltd., subsequently was substituted for X-O Ranch Co., Inc., as a party. Brian Birk, Judy Fawcett, and Mike and Susan Ruff subsequently withdrew as parties.

After considering the ALJs' Proposal for Decision and the evidence and arguments presented, the Texas Natural Resource Conservation Commission makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. Applicant is a limited liability company, for which the State of Texas issued a Certificate of Organization on April 29, 1996. Applicant remains fully authorized to do business in Texas.
2. In September of 1996, the Applicant filed an application with the Commission for a permit to construct and operate a Type I municipal solid waste landfill. Commission staff declared the application administratively complete on October 28, 1996, and technically complete on December 4, 1997.
3. Applicant provided proper notice of the application as follows:
 - a. Notice of intent to obtain a permit was published in *The Mineral Wells Index* on March 8, 1998, and in *The Quad City Messenger* on January 23, 1998. Each of these publications is a newspaper of general circulation published and regularly circulated in Palo Pinto County, Texas.
 - b. Copies of the application were provided to agencies, officials, and authorities with a jurisdictional interest in the case and the comments or recommendations of those entities were solicited.
4. Applicant provided proper notice of the initial public hearing on the application as follows:
 - a. Notice of the preliminary hearing was published on July 31, 1998, in *The Mineral Wells Index*, a newspaper regularly published and generally circulated in Palo Pinto County, Texas.

- b. Notice of the preliminary hearing was mailed to each residence, business, and owner of real property located within one-half mile from the property line of the proposed landfill on July 31, 1998, by certified mail, return receipt requested. Notice was also sent to all persons who requested a public hearing in response to the notice of application.
5. A preliminary public hearing on the application was held in Gordon, Texas, on September 2, 1998.
6. The evidentiary hearing in the proceeding was held in Austin, Texas, on June 7 through 9, 12 through 16, 19 and 20, 2000.
7. The proposed site of the facility is a 140-acre tract of land owned in fee simple by the Applicant and located adjacent to Interstate Highway 20 ("I-20"), approximately six miles east of the City of Gordon in Palo Pinto County, Texas. The site is currently utilized for livestock grazing and limited sandstone quarrying.
8. The land immediately surrounding the site is rural, predominantly rangeland, with some cropland. Three occupied residences exist within a one-mile radius of the site, the nearest approximately 0.3 mile from the site boundary.
9. The site lies outside the corporate limits or extra-territorial jurisdiction of any city. Gordon, the nearest incorporated city (population 465) has experienced no net population change from 1990 to 1998.

Groundwater Protection:

10.-20.[Omitted.]

Surface Drainage:

21. Under existing conditions, 134.85 acres drain south of the proposed landfill site, out of a total of 150.99 acres affected by the project, and the existing peak flow rate to the south during a 100-year storm is 301.42 cfs.

22.-24. [Omitted.]

25. If the proposed landfill is constructed in accordance with the application, a detention pond (Pond A) would be constructed south of site. Pond A would release stormwater runoff through a stepped-triangular weir outlet that would moderate flow rates leaving the site to the south.

26. If the proposed landfill is constructed in accordance with the application, 114.86 acres would drain south into Pond A upon completion of the landfill. The peak flow rate into Pond A during a 100-year/12-hour storm would be 502.34 cfs; the peak flow rate out of Pond A during a 100-year/12-hour storm would be 276 cfs.

27. [Omitted.]

28. Under existing conditions, 9.55 acres drain northeast of the proposed landfill site, and the existing peak flow rate to the northeast during a 100-year storm is 31.1 cfs.

29.-30. [Omitted.]

31. If the proposed landfill is constructed in accordance with the application, a detention pond (Pond B) would be constructed northeast of site. Pond B would release stormwater runoff through a single 18-inch reinforced concrete pipe that would moderate flow rates leaving the site to the northeast.

32. If the proposed landfill is constructed in accordance with the application, 34.21 acres would drain into Pond B upon completion of the landfill. The peak flow rate into Pond B during a 100-year/12-hour storm would be 195.31 cfs; the peak flow rate out of Pond B during a 100-year/12-hour storm would be 24 cfs.

33. [Amended.] If the proposed landfill is constructed in accordance with the application, an additional 5.26 acres would drain to the northeast along the same path as the northeast

drainage from Pond B. This additional acreage would have a peak flow rate of at least 22 cfs during a 100-year/12-hour storm.

34. [Amended] If the proposed landfill is constructed in accordance with the application, Pond B and the additional 5.26 acres would have a combined peak flow rate to the northeast of at least 46 cfs during a 100-year/12-hour storm.

35. [Combined with FOF no. 45.]

36. Under existing conditions, 6.59 acres drain northwest of the landfill site, and the existing peak flow rate to the northwest during a 100-year/12-hour storm is 21.20 cfs.

37. [Omitted.]

38. If the proposed landfill is constructed in accordance with the application, 1.40 acres would drain to the northwest upon completion of the proposed landfill and the peak flow rate to the northwest during a 100-year/12-hour storm would be 9.45 cfs.

39. [Omitted.]

40. BFD's application does not include any calculations or analyses of existing or post-development runoff volumes to the northwest or northeast.

41. BFD's application does not include any calculations or analyses of existing or post-development runoff velocities to the northwest, northeast, or south.

42. BFD's application does not include any calculations, discussion, or analyses using 25-year rainfall intensities.

43.-44. [Omitted.]

45. BFD's application and the evidence admitted in the record provide insufficient information to make a reasoned determination of what impact this increased peak flow rate would have on natural drainage patterns at the northeast boundary of the site and, thus, whether the proposed landfill will significantly alter natural drainage patterns.

Endangered Species:

46. At the proposed site, suitable habitat exists for the Texas horned lizard (*Phrynosoma cornutum*), a species classified by the State of Texas as “threatened.”
47. Applicant’s only substantive on-site biological investigation occurred on November 21, 1991—that is, during the time of year when Texas horned lizards hibernate in underground burrows, and failure of the Applicant’s investigators to observe any specimens therefore does not support a conclusion that Texas horned lizards do not inhabit the site. Based on the content of its scientific investigation of the subject, Applicant has no knowledge of the character of any population of this species on the site.
48. Texas horned lizards have been observed regularly on rangeland located within one to two miles of the site.
49. Applicant’s plan to prevent harm to any Texas horned lizard specimens found on the site is to relocate the specimen outside the landfill operations area.
50. Because Applicant’s plan is founded on a lack of information about any population of the Texas horned lizard that may exist on the site and because it wholly lacks specificity for executing its objective of removing individual lizards encountered in the operations area, the plan articulates no meaningful measures for assuring protection of this species.

Site Operating Plans:

51.-53. [Omitted.]

Regional Solid Waste Plan:

54. [Omitted.]

Transcript Costs:

55. [Amended] The Applicant does not oppose the payment of transcription costs.

CONCLUSIONS OF LAW

1. The public hearings on this permit application were held under the authority of, and in accordance with, the Texas Solid Waste Disposal Act, Chapter 361 of the TEXAS HEALTH & SAFETY CODE; TEXAS GOVERNMENT CODE § 2003.047; the Commission's rules (Title 30 of the TEXAS ADMINISTRATIVE CODE), and SOAH's procedural rules (Title 1, Chapter 155 of the TEXAS ADMINISTRATIVE CODE).
2. Proper notice of these matters was given as required by the Act and by Commission rules.
3. [Omitted.]
4. [Amended] As noted in Findings of Fact Nos. 21, 25-26, 28, 31-34, 36, 38, 40-42, and 45, the Applicant has failed to comply with 30 TAC § 330.56(f)(4)(A), which requires demonstration that natural drainage patterns will not be significantly altered by proposed landfill development.
5. In failing to conduct a reasonable investigation of the status of the Texas horned lizard on the site and in failing to produce a plan articulating meaningful measures for protecting the species on site, as noted in Findings of Fact Nos. 46 through 50, the Applicant has failed to comply with 30 TAC §§ 330.53(b)(13)(B) and 330.129, which require that proposed landfill operations not cause or contribute to the taking of a protected species, and has failed to comply with 30 TAC § 330.51(b)(8), which requires an applicant to submit adequate demonstrations of compliance under state and federal endangered species laws.
6. [Omitted.]
7. [Omitted.]
8. [Amended.] In accordance with FOF no. 55, transcription costs in this proceeding should be borne by the Applicant.

9. Based on the foregoing Findings of Fact and Conclusions of Law, Applicant has failed to demonstrate that construction and operation of the proposed landfill will not result in adverse effects upon the health, welfare, environment, or physical property of the public and has failed to demonstrate that the pending application complies with all statutory and regulatory requirements.

EXPLANATION OF CHANGES TO THE ALJs' PROPOSED

FINDINGS OF FACT AND CONCLUSIONS OF LAW

The following findings of fact (FOFs) were omitted or amended because the ALJs incorrectly interpreted agency rules and; thus, incorrectly evaluated the evidence:

-FOFs nos. 10-20, omitted, relating to groundwater protection [In particular, FOF nos. 15 and 20 incorrectly put the burden of establishing the "point of compliance" on the Applicant when Commission rules require that the Executive Director establish the point of compliance];

-FOFs nos. 22-24, 27, 29-30, 33-34, 37, 39, and 43- 44, omitted, relating to surface drainage *off site* [Note: All these omitted FOFs relate to impacts measured off site and have been omitted because Commission rules and precedent require that the determination of significant alteration be made at the permit boundary, not off site; notwithstanding the omission of these findings, the Applicant did not meet its burden of proof on this issue];

-FOFs nos. 33-34, amended, portions of which relate to calculation of the post-development peak flow rate;

-FOF no. 35, combined with FOF no. 45, relating to the lack of proof on the issue of the alteration of drainage patterns;

-FOFs nos. 51-53, omitted, relating to the site operating plan;

-FOF no. 54, omitted, relating to compliance with the regional solid waste plan; and

-FOF no. 55, amended, relating to the assessment of transcript costs.

All FOFs referencing the “100-year/2-hour” storm were amended to reflect a “100-year/12-hour” storm to more accurately reflect the evidence in the record. [See PFD, footnote 39, p. 32.]

The following conclusions of law (COLs) have been omitted or amended as they are clearly erroneous in light of precedent and applicable rules:

-COL no. 3, omitted, relating to groundwater protection;

-COL no. 4, amended, relating to drainage patterns;

-COL no. 6, omitted, relating to the site operating plan; and

-COL no. 7, omitted, relating to compliance with the regional solid waste plan.

The ALJs’ ultimate recommendation of denial has not been changed.

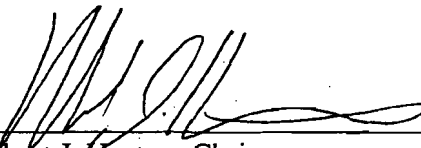
~~NOW, THEREFORE, BE IT ORDERED BY THE TEXAS NATURAL RESOURCE~~
CONSERVATION COMMISSION THAT:

1. The application of Blue Flats Disposal, L.L.C., for a permit to authorize the construction and operation of a Type I municipal solid waste landfill be denied, and all exceptions inconsistent therewith be overruled.
2. Transcription costs in this matter be assessed against the Applicant.
3. The chief clerk of the Texas Natural Resource Conservation Commission shall forward a copy of this Order to all parties.
4. If any provision, sentence, clause or phrase of this Order is for any reason held to be invalid, the invalidity of any portion shall not affect the validity of the remaining portions of the Order.

5. All other motions, requests for entry of specific Findings of Fact or Conclusions of Law, and other requests for general or specific relief, if not expressly granted herein, are hereby denied for want of merit.

Issue date: **JAN 02 2001**

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION



Robert J. Huston, Chairman

EXHIBIT L



U.S. Department
of Transportation

Federal Aviation
Administration

Advisory Circular

Subject: CONSTRUCTION OR
ESTABLISHMENT OF LANDFILLS NEAR
PUBLIC AIRPORTS

Date: January 26, 2006
Initiated by: AAS-300

AC No: 150/5200-34A
Change:

1. Purpose.

This advisory circular (AC) contains guidance on complying with Federal statutory requirements regarding the construction or establishment of landfills near public airports.

2. Application.

The guidance contained in the AC is provided by the Federal Aviation Administration (FAA) for use by persons considering the construction or establishment of a new municipal solid waste landfill (MSWLF) near a public airport. Guidance contained herein should be used to comply with MSWLF site limitations contained in 49 U.S.C. § 44718(d), as amended by section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century, Pub. L. No. 106-181 (April 5, 2000), "Structures interfering with air commerce." In accordance with § 44718(d), as amended, these site limitations are not applicable in the State of Alaska.

In addition, this AC provides guidance for a state aviation agency desiring to petition the FAA for an exemption from the requirements of § 44718(d), as amended.

3. Cancellation

This AC cancels AC 150/52300-34, *Construction or Establishment of Landfills Near Public Airports*, dated August 8, 2000.

This revision contains no substantive changes to the original. Changes include revised and new website addresses, revised strike statistics, and regulation titles.

4. Related Reading Materials.

AC - 150/5200-33, *Hazardous Wildlife Attractions On or Near Airports*.

Wildlife Strikes to Civil Aircraft in the United States. FAA Wildlife Aircraft Strike Database Serial Reports.

Report to Congress: *Potential Hazards to Aircraft by Locating Waste Disposal Sites in the Vicinity of Airports*, April 1996, DOT/FAA/AS/96-1.

Title 14, Code of Federal Regulation, Part 139, Certification of Airports.

Title 40, Code of Federal Regulation, Part 258, Municipal Solid Waste Landfill Criteria.

Some of these documents and additional information on wildlife management, including guidance on landfills, are available on the FAA's Airports web site at <http://www.faa.gov/airports/airtraffic/airports/> or <http://wildlife-mitigation.tc.faa.gov>

5. Definitions.

Definitions for the specific purpose of this AC are found in Appendix 1.

6. Background.

The FAA has the broad authority to regulate and develop civil aviation under the Federal Aviation Act of 1958, 49 U.S.C. § 40101, et. seq., and other Federal law. In section 1220 of the Federal Aviation Reauthorization Act of 1996, Pub. L. No. 104-264 (October 9, 1996), the Congress added a new provision, section (d), to 49 U.S.C. § 44718 to be enforced by the FAA and placing limitations on the construction or establishment of landfills near public airports for the purposes of enhancing aviation safety. Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21), Pub. L. No. 106-181 (April 5, 2000) replaced section 1220 of the 1996 Reauthorization Act, 49 U.S.C. § 44718 (d), with new language. Specifically, the new provision, § 44718(d), as amended, was enacted to further limit the construction or establishment of a municipal solid waste landfill (MSWLF) near certain smaller public airports.

In enacting this legislation, Congress expressed concern that a MSWLF sited near an airport poses a potential hazard to aircraft operations because such a waste facility attracts birds. ~~Statistics support the fact that bird strikes pose a real danger to aircraft. An estimated 87 percent of the collisions between wildlife and civil aircraft occurred on or near airports when aircraft are below 2,000 feet above ground level (AGL). Collisions with wildlife at these altitudes are especially dangerous as aircraft pilots have minimal time to recover from such emergencies.~~

The FAA National Wildlife Aircraft Strike Database shows that more than 59,000 civil aircraft sustained reported strikes with wildlife from 1990 to 2004. Between 1990-2004, aircraft-wildlife strikes involving U. S. civil aircraft resulted in over \$495 million/year worth of aircraft damage and associated losses and over 631,000 hours/year of aircraft down time.

From 1990 to 2004, waterfowl, gulls and raptors were involved in 77% of the 3,493 reported damaging aircraft-wildlife strikes where the bird was identified. Populations of Canada geese and many species of gulls and raptors have increased markedly over the last several years. Further, gulls and Canada geese have adapted to urban and suburban environments and, along with raptors and turkey vultures, are commonly found feeding or loafing on or near landfills.

In light of increasing bird populations and aircraft operations, the FAA believes locating landfills in proximity to airports increases the risk of collisions between birds and aircraft. To address this concern, the FAA issued AC 150/5200-33, *Hazardous Wildlife Attractions On or Near Airports*, to provide airport operators and aviation planners with guidance on minimizing wildlife attractants. AC 150/5200-33 recommends against locating municipal solid waste landfills within five statute miles of an airport if the landfill may cause hazardous wildlife to move into or through the airport's approach or departure airspace.

7. General.

Using guidance provided in the following sections, persons considering construction or establishment of a landfill should first determine if the proposed facility meets the definition of a new MSWLF (see Appendix 1). Section 44718(d), as amended, applies only to a new MSWLF. It does not apply to the expansion or modification of an existing MSWLF, and does not apply in the State of Alaska. If the proposed landfill meets the definition of a new MSWLF, its proximity to certain public airports (meeting the criteria specified in Paragraph 8 below) should be determined. If it is determined that a new MSWLF would be located within six miles of such a public airport, then either the MSWLF should be planned for an alternate location more than 6 miles from the airport, or the MSWLF proponent should request the appropriate State aviation agency to file a petition for an exemption from the statutory restriction.

In addition to the requirements of § 44718(d), existing landfill restrictions contained in AC 150/5200-33, *Hazardous Wildlife Attractions On or Near Airports* (see Paragraph 5, Background) also may be applicable. Airport operators that have accepted Federal funds have obligations under Federal grant assurances to operate their facilities in safe manner and must comply with standards prescribed in advisory circulars, including landfill site limitations contained in AC 150/5200-33.

8. Landfills Covered by the Statute.

The limitations of § 44718(d), as amended, only apply to a new MSWLF (constructed or established after April 5, 2000). The statutory limitations are not applicable where construction or establishment of a MSWLF began on or before April 5, 2000, or to an existing MSWLF (received putrescible waste on or before April 5, 2000). Further, an existing MSWLF that is expanded or modified after April 5, 2000, would not be held to the limitations of § 44718(d), as amended.

9. Airports Covered by the Statute.

The statutory limitations restricting the location of a new MSWLF near an airport apply to only those airports that are recipients of Federal grants (under the Airport and Airway Improvement Act of 1982, as amended, 49 U.S.C. § 47101, *et seq.*) and primarily serve general aviation aircraft and scheduled air carrier operations using aircraft with less than 60 passenger seats.

While the FAA does not classify airports precisely in this manner, the FAA does categorize airports by the type of aircraft operations served and number of annual passenger enplanements. In particular, the FAA categorizes public airports that serve air carrier operations. These airports are known as commercial service airports, and receive scheduled passenger service and have 2,500 or more enplaned passengers per year.

One sub-category of commercial service airports, nonhub primary airports, closely matches the statute requirement. Nonhub primary airports are defined as commercial service airports that enplane less than 0.05 percent of all commercial passenger enplanements (0.05 percent equated to 352,748 enplanements in 2004) but more than 10,000 annual enplanements. While these enplanements consist of both large and small air carrier operations, most are conducted in aircraft with less than 60 seats. These airports also are heavily used by general aviation aircraft, with an average of 81 based aircraft per nonhub primary airport.

In addition, the FAA categorizes airports that enplane 2,500 to 10,000 passengers annually as non-primary commercial service airports, and those airports that enplane 2,500 or less passengers annually as general aviation airports. Both types of airports are mainly used by general aviation but in some instances, they have annual enplanements that consist of scheduled air carrier operations conducted in aircraft with less than 60 seats. Of the non-primary commercial service airports and general aviation airports, only those that have scheduled air carrier operations conducted in aircraft with less than 60 seats would be covered by the statute. The statute does not apply to those airports that serve only general aviation aircraft operations.

To comply with the intent of the statute, the FAA has identified those airports classified as nonhub primary, non-primary commercial service and general aviation airports that:

1. Are recipients of Federal grant under 49 U.S.C. § 47101, et. seq.;
2. Are under control of a public agency;
3. Serve scheduled air carrier operations conducted in aircraft with less than 60 seats; and
4. Have total annual enplanements consisting of at least 51% of scheduled air carrier enplanements conducted in aircraft with less than 60 passenger seats.

Persons considering construction or establishment of a new MSWLF should contact the FAA to determine if an airport within six statute miles of the new MSWLF meets these criteria (see paragraph 11 below for information on contacting the FAA). If the FAA determines the airport does meet these criteria, then § 44718(d), as amended, is applicable.

An in-depth explanation of how the FAA collects and categorizes airport data is available in the FAA's National Plan of Integrated Airport Systems (NPIAS). This report and a list of airports classified as nonhub primary, non-primary commercial service and general aviation airports (and associated enplanement data) are available on the FAA's Airports web site at http://www.faa.gov/airports_airtraffic/airports/planning_capacity/.

10. Separation distance measurements.

Section 44718(d), as amended, requires a minimum separation distance of six statute miles between a new MSWLF and a public airport. In determining this distance separation, measurements should be made from the closest point of the airport property boundary to the closest point of the MSWLF property boundary. Measurements can be made from a perimeter fence if the fence is co-located, or within close proximity to, property boundaries. It is the responsibility of the new MSWLF proponent to determine the separation distance.

11. Exemption Process.

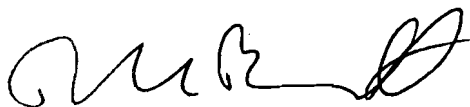
Under § 44718(d), as amended, the FAA Administrator may approve an exemption from the statute's landfill location limitations. Section 44718(d), as amended, permits the aviation agency of the state in which the airport is located to request such an exemption from the FAA Administrator. Any person desiring such an exemption should contact the aviation agency in the state in which the affected airport is located. A list of state aviation agencies and contact information is available at the National Association of State Aviation Officials (NASAO) web site at www.nasao.org or by calling NASAO at (301) 588-1286.

A state aviation agency that desires to petition the FAA for an exemption should notify the Regional Airports Division Manager, in writing, at least 60 days prior to the construction of a MSWLF. The petition should explain the nature and extent of relief sought, and contain information, documentation, views, or arguments that demonstrate that an exemption from the statute would not have an adverse impact on aviation safety. Information on contacting FAA Regional Airports Division Managers can be found on the FAA's web site at www.faa.gov.

After considering all relevant material presented, the Regional Airports Division Manager will notify the state agency within 30 days whether the request for exemption has been approved or denied. The FAA may approve a request for an exemption if it is determined that such an exemption would have no adverse impact on aviation safety.

12. Information.

For further information, please contact the FAA's Office of Airport Safety and Standards, Airport Safety and Operations Division, at (800) 842-8736, Ext. 7-3085 or via email at WebmasterARP@faa.gov. Any information, documents and reports that are available on the FAA web site also can be obtained by calling the toll-free telephone number listed above.



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APPENDIX 1. DEFINITIONS.

The following are definitions for the specific purpose of this advisory circular.

Construct a municipal solid waste landfill (MSWLF) means excavate or grade land, or raise structures, to prepare a municipal solid waste landfill as permitted by the appropriate regulatory or permitting authority.

Establish a municipal solid waste landfill (MSWLF) means receive the first load of putrescible waste on site for placement in a prepared municipal solid waste landfill.

Existing municipal solid waste landfill (MSWLF) means a municipal solid waste landfill that received putrescible waste on or before April 5, 2000.

General aviation aircraft means any civil aviation aircraft not operating under 14 CFR Part 119, Certification: Air carriers and commercial operators.

Municipal solid waste landfill (MSWLF) means publicly or privately owned discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 CFR § 257.2. A MSWLF may receive other types of RCRA subtitle D wastes, such as commercial solid waste, nonhazardous sludge, small quantity generator waste and industrial solid waste, as defined under 40 CFR § 258.2. A MSWLF may consist of either a standalone unit or several cells that receive household waste.

New municipal solid waste landfill (MSWLF) means a municipal solid waste landfill that was established or constructed after April 5, 2000.

Person(s) means an individual, firm, partnership, corporation, company, association, joint-stock association, or governmental entity. It includes a trustee, receiver, assignee, or similar representative of any of them (14 CFR Part 1).

Public agency means a State or political subdivision of a State; a tax-supported organization; or an Indian tribe or pueblo (49 U.S.C. § 47102(15)).

Public airport means an airport used or intended to be used for public purposes that is under the control of a public agency; and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft is publicly owned (49 U.S.C. § 47102(16)).

Putrescible waste means solid waste which contains organic matter capable of being decomposed by micro-organisms and of such a character and proportion as to be capable of attracting or providing food for birds (40 CFR § 257.3-8).

Scheduled air carrier operation means any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier or commercial operator for which the air carrier, commercial operator, or their representatives offers in advance the departure location, departure time, and arrival location. It does not include any operation that is conducted as a supplemental operation under 14 CFR Part 119, or is conducted as a public charter operation under 14 CFR Part 380 (14 CFR § 119.3).

Solid waste means any garbage, or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 U.S.C. § 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923) (40 CFR § 258.2).